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June 20, 2011 Project Number: 11-97460

Ms. Shari Hammond, Senior Planner Office of Campus Planning and Design Facilities Management - MC 1030 University of California Santa Barbara Santa Barbara, CA 93106

# Subject:Wetland Delineation Results for the San Joaquin Student Housing Project,<br/>University of California Santa Barbara, County of Santa Barbara, CA

Dear Ms. Hammond,

Rincon Consultants, Inc. (Rincon) has completed a wetland delineation for the proposed San Joaquin Student Housing project, located on El Colegio Road at the University of California, Santa Barbara (UCSB). The project is in a preliminary design phase, and includes student housing, dining facilities, and associated infrastructure such as roads and bike paths. Rincon conducted the wetland delineation to determine the location and extent of sensitive wetland resources in the vicinity of the project site which may constrain project design. Specifically, the delineation evaluated a coastal freshwater marsh system in the parcel east of the project site (study area or site) to confirm the extent of areas that meet California Coastal Commission's (CCC) wetland definition. The CCC wetland boundaries provide the basis for defining the limits of a 100-foot avoidance buffer.

The wetland delineation methods were based on the United States Army Corps of Engineers' (Corps) vegetation, soils and hydrology criteria for wetlands, pursuant to Section 404 of the Clean Water Act (1972). These criteria were adapted and utilized as the foundation for a delineation of areas that meet CCC criteria for wetlands, as described below. Following delineation of the extent of CCC wetlands, the location of the 100-foot avoidance buffer was calculated utilizing GIS software (Figure 1). Additional discussion of applicable regulatory policies and delineation methods is provided at the end of this report.

# METHODOLOGY

Rincon biologists Brett Hartman and Steve Hongola conducted the San Joaquin Housing wetland delineation on April 27, 2011. The delineation was completed in accordance with the methods described in the Corps Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Corps 2008), and adapted to meet CCC criteria. The entire study area was walked to determine the extent of potential wetland areas. Data was then collected from soil pits at seven (7) sample points to determine if jurisdictional waters, including



wetlands, exist onsite. Sample points focused on the western parcel boundary adjacent to the project site for the purpose of precisely delineating the wetland boundary and associated buffer. The wetland boundary was mapped on a more general scale based on the presence of hydrophytic vegetation in the eastern and northern portions if the study area.

Following soil pit analyses, a soil probe was used to sample adjacent areas to aid in the determination of the wetland boundary. Data collected at each point included plant species composition (to determine the presence/absence of hydrophytic vegetation), presence/absence of positive indicators of wetland hydrology, and presence/absence of positive indicators of hydric soils. All field data collected onsite were entered on the Wetland Determination Data Forms (Arid West Region), which are attached at the end of this report.

Although a data point is considered to be within a Corps jurisdictional wetland if the area meets all three wetland parameters, the CCC generally requires the presence of only one wetland parameter for an area to qualify as a wetland. Areas that contained one of the three wetland parameters (hydrophytic vegetation, hydric soils, wetland hydrology) were considered to be potential areas of Coastal Commission defined wetlands, and are included on the attached map. In some cases, the CCC delineated wetlands exceeded what would normally be considered Corps jurisdiction. Examples include 1) swale or drainage systems with indicators of hydrologic flows but lacking the associated hydric soils and/or hydrophytic vegetation, or isolated stands of hydrophytes that may persist due to the presence of a shallow water table. By definition facultative (FAC) species are equally likely to occur in wetlands or non-wetlands. Therefore, in isolated stands where FAC species are observed without associated facultative wetland (FACW) or obligate wetland (OBL) species, or without connectivity to hydric soils or wetland hydrology, hydrophytic vegetation for the purposes of CCC wetland delineation is assumed to be absent.

Aerial photographs, topographic maps, soil survey, general site observations, wetland delineation results, and other available background information were used to better characterize the nature of the project site and to map the extent of potential wetlands on the subject parcel. Rincon biologists recorded observations of vegetation, hydrology, and soils, and delineated wetlands on the ground using field measurements, general wetland observations, and pin flags. Once the parameters of determining wetlands were established, the extent of wetlands was delineated and mapped on an aerial photograph, aided by data points taken by a Trimble® Geo XT GPS unit. Although hydric soils were determined present at several points within the extended wetland system located on-site, the wetland boundary was mapped in the field based on the extent of continuous hydrophytic vegetation and the location of non-wetland sample points. Note that a Significant Nexus Evaluation was not performed for this wetland delineation.

# RESULTS

The study area contains a system of swales and depressional wetlands that collect water in a drainage in the northeastern portion of the property. The extent of the wetland complex,



location of culverts, and location of Sample Points 1 – 7 and associated soil probes are shown in Figure 1. Completed field data sheets are attached at the end of this report. Representative photos of the site are included as Photographs 1 – 4.

The results of each wetland parameter and the jurisdictional delineation are discussed in more detail in the following subsections. For clarity of presentation, hydrology is presented first to describe the drainage features and patterns on-site, followed by soils and vegetation.

# Hydrology

The study area is situated within the drainage area for Goleta Slough, which discharges into the Pacific Ocean at Goleta Beach, approximately 1.6 miles to the east. The site contains a system of swales and depressional wetlands that ultimately collect water in a drainage located on the northeastern portion of the property.

At the southern end of the site, water from surface runoff and a culvert that discharges from under El Colegio Road collects and flows through via two swales before discharging into the drainage on the northeast portion of the property. In the northwestern portion of the property, water collects in a large depression, with overflows discharging into the drainage in the northeast portion of the property. Water is then discharged through a culvert under the access road to Mesa Road and the Storke family student housing complex. The hydrologic observations recorded in April 2011 indicated that the majority of the network of depressions and swales had indicators of wetland hydrology, included ponded water, a high water table, saturated soils, oxidized rhizospheres, and few and infrequent sediment and debris deposits.

In one portion of the site indicators of wetland hydrology were present, but hydric soils and hydrophytic vegetation were absent. Specifically, a small depression surrounding Sample Point 5 appears to have been created in part by vehicular traffic, with evidence of a remnant access road that has since been replaced by a route further south. Surface soil cracks and a salt crust were observed at the time of survey. However, this area was completely devoid of vegetation and lacked hydric soil indicators. Given that this area is situated at the upper limits of and is hydrologically connected with the swale system, it was included as part of the delineation area for CCC wetlands.

# Soils

Hydric soil criteria are typically met when indicators demonstrate that the soil is saturated or flooded for a sufficient duration during the growing season to generate anaerobic conditions. Soils were evaluated primarily for the presence of low chroma and/or gleyed coloration, with other indicators such as the presence of mottles and organic layers. Upland areas generally lack these distinctive hydric soils field indicators, making it possible to delineate a wetland/upland boundary.

Upland soils on site (Sample Points 4, 5 and 6) are predominantly reddish brown (7.5 YR 4/3) sandy loam to dark brown (10YR 3/3) silty clay loam soils, with slight organic

enrichment. In contrast, positive indicators for hydric soils were observed within the large depression at the northern end of the property, and in the system of swales at the southern end of the property (Sample Point 7), a histic epipedon (surface organic layer at least 8 inches deep) over low chroma sandy loam soils (7.5 YR 2.5/1) was observed. Both the histic epipedon and the low chroma soils are positive indicators of hydric soil conditions. In addition, soils were saturated at time of survey. The soils in the swale system in the southern portion of the property (Sample Points 1 – 3) are predominantly very dark brown (10 YR 4/3) organically enriched silty clay loam soils with blue-gray mottles (5 YR 4/1) as distinct streaks along the pore linings and indiscrete mottles covering 30% of the matrix. Few areas within the swale system are dark brown (10 YR 3/2) gravelly sandy loams over fine silty sand soils with faint stratification layers indicating past deposition. Below 4 inches, these soils have a low chroma (10 YR 4/1) and have 10% prominent and distinct red mottles (2.5 YR 4/6) and 2.5% prominent gleyed mottles (10 Y 6). The stratified layers and the presence of a depleted matrix below a dark surface are both positive indicators of hydric soils.

The United States Department of Agriculture identified three soil types within the project boundary (NRCS 1981). From north to south these include Milpitas-Positas fine sandy loams, 2 to 9 percent slopes (MeC), Camarillo fine sandy loam (Ca), and Concepcion fine sandy loam, 2 to 9 percent slopes, eroded (CgC2). Of these, only Camarillo fine sandy loam (Ca), which are alluvial soils in depressions derived from calcerous rock, is listed on the NRCS Hydric Soils List for Santa Barbara County, California (NRCS 2009).

# Vegetation

Vegetation within the study area is comprised of a diverse mixture of ornamental species, non-native species, and native vegetation. Planted Canary Island Date palms (Phoenix *canariensis*) and Monterey pines (*Pinus radiata*) are common, with stands of Pampas grass (Cortaderia selloana), non-native grassland, and remnant coastal sage scrub dominated by coyote brush (Baccharis pilularis) in the upland portions of the site. Within the swale system in the southern portion of the study area, hydrophytic vegetation includes a stand of arroyo willow (Salix lasiolepis) located at the discharge point of the culvert under El Colegio Road, and herbaceous vegetation dominated by saltgrass (Distichlis spicata), willow dock (Rumex salicifolius), curly dock (Rumex crispus), common spikerush (Eleocharis macrostachya), alta fescue (Festuca arundinacea), sedges (Cyperus spp.), bristly ox-tongue (Picris echiodies), prickly sowthistle (Sochus asper), and alkali heath (Frankenia salina). An additional stand of mulefat (Baccharis salicifolia) was observed just north of the willow stand in the southern portion of the site. Although a soil probe revealed this area lacked indicators of hydric soils and wetland hydrology, this stand was included in the delineation of CCC wetlands due to the fact that mulefat is a FACW species and would therefore indicate a potential high water table.

Bulrushes (*Scirpus spp.*), cattails (*Typha latifolia*) and arroyo willows are present in the large depression in the northern portion of the study area. These species also occur within the standing water adjacent to the culvert that discharges water from the northeastern portion of the site. In addition, portions of the depressional wetland in the northern portion of the



site contain open areas with a salt crust on the surface. Elements of salt marsh vegetation were observed, including pickleweed (*Salicornia virginica*) and saltgrass (*Distichlis spicata*), indicating this parcel may form part of the upper limits of the Goleta Slough system.

## CONCLUSION

The study area contains an extensive system of swales, depressional wetlands and drainages that collect and discharge water through a culvert located in the northeastern portion of the site. This wetland system is dominated by hydrophytic vegetation and ponds sufficiently during the winter to exhibit wetland hydrology and hydric soil characteristics. The features constitute the limit of CCC wetlands as depicted on Figure 1, with the associated 100-foot buffer zone calculated using GIS software. The adjacent areas that surround the wetland do not contain dominant hydrophytic vegetation, hydric soils, or wetland hydrology and therefore do not constitute CCC wetlands.

If you have any questions regarding this report or its findings, please contact us.

Sincerely, RINCON CONSULTANTS, INC.

Steven J. Hongola Biological Program Manager

John Dreher Jr.

Principal Biologist

Attachments:

References Regulatory Background and Definitions Wetland Delineation Map Site Photographs Wetland Determination Data Forms (Arid West Region)

## REFERENCES

- Bossard, CC, JM Randall and MC Hoshovsky, ed. 2000. *Invasive Plants of California's Wildlands*, 360 pgs.
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- U.S. Army Corps of Engineers (Corps). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region.* Environmental Laboratory, U.S. Army Engineer Research and Development Center, Wetlands Regulatory Assistance Program, Vicksburg, Mississippi.

## **REGULATORY BACKGROUND AND DEFINITIONS**

Rincon conducted this wetland delineation in accordance with the methods described in the Corps' *Wetland Delineation Manual* (Corps Manual [Environmental Laboratory 1987]), and additional local guidance released in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Supplement [Corps 2008]). According to the Corps Manual, identification of wetlands is based on a three-criterion approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. The Arid West Supplement presents regional wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. However, identification of CCC qualifying wetlands was based on a one-criteria approach involving the presence of hydrophytic vegetation, hydric soils, <u>or</u> wetland hydrology.

## **U.S.** Army Corps of Engineers

Specific data is needed to determine the presence or absence of wetlands. Such data are generally collected using the routine methods described in the Corps Manual and Arid West Supplement. The Corps requires that positive indicators for three criteria must be present (hydrophytic vegetation, hydric soil, and hydrology [described below]) to be considered a jurisdictional wetland for the purpose of federal regulations.

### **California Coastal Commission**

The California Coastal Commission (CCC), with the assistance of California Department of Fish and Game (CDFG), is responsible for determining the presence of wetlands subject to regulation under the California Coastal Act. As the primary wetland consultant to the CCC, the CDFG essentially relies on the U.S. Fish and Wildlife Service (USFWS) wetland definition and classification system as the methodology for wetland determinations, with some minor changes in classification terminology. A major difference is that the CDFG and the CCC require the presence of only one wetland parameter (e.g., hydrology, hydric soils, or hydrophytic vegetation) for an area to qualify as a wetland. Section 30121 of the California Coastal Act (1976), the statute governing the CCC, broadly defines wetlands as:

"Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens."

However, the CCC Administrative Regulations (Section 13577 (b)) provides a more explicit definition:

"Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be



recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats."

In addition, Coastal Plan Policy 9-9 specifically regulates wetlands, and provides a definition of those so regulated, as relevant to the current project:

"A buffer strip, a minimum of 100 feet in width, shall be maintained in natural condition along the periphery of all wetlands. No permanent structures shall be permitted within the wetland or buffer area except structures of a minor nature, i.e., fences, or structures necessary to support the uses in Policy 9-10. The upland limit of a wetland shall be defined as: 1) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover; or 2) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or 3) in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation and land that is not. Where feasible, the outer boundary of the wetland buffer zone should be established at prominent and essentially permanent topographic or man-made features (such as bluffs, roads, etc.). In no case, however, shall such a boundary be closer than 100 feet from the upland extent of the wetland area, nor provide for a lesser degree of environmental protection than that otherwise required."

# Hydrophytic Vegetation

Hydrophytic vegetation is one of the three criteria necessary for wetland consideration and is defined as macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (or plants typically adapted to growing in areas possessing hydrologic conditions and saturated soils). Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on indicator species. Vegetation is considered to be hydrophytic when more than 50 percent of the dominant plant species of all vegetative strata (or those species making up at least 20 percent of absolute cover) have a Wetland Indicator Status of Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL) according to the USFWS' *National List of Wetland Plants that Occur in Wetlands* (Reed 1988). Plant species are assigned a wetland indicator status according to their probability of occurring in wetlands.

The *National List* separates vascular plants into the following six basic categories based on plant species frequency of occurrence in wetlands:

- Obligate Wetland (OBL). Occur almost always (estimated probability >99%) under natural conditions in wetlands.
- Facultative Wetland (FACW). Usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.



- Facultative (FAC). Equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- Facultative Upland (FACU). Usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- Obligate Upland (UPL). May occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in non-wetlands in the region specified.
- Non-Indicator Plants (NI). Status not assigned. Species is assumed to be upland.

The Corps considers dominance by OBL, FACW and FAC species to be a positive indicator of hydrophytic vegetation. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories.

To determine presence of hydrophytic vegetation, data on vegetation is recorded on field data forms, including the percent absolute cover and the Wetland Indicator Status of each species. The vegetation present is divided, when appropriate, into four strata (tree, sapling/shrub, herb, and woody vine), and plant species in each stratum are ranked according to their dominance. A stratum, for sampling purposes, is defined as having 5 percent or more total plant cover; if not, that stratum is not included in the data for that observation point. Absolute cover percentage for individual species is estimated for the entire area of concern. Absolute cover is converted to relative cover to determine which species comprised at least 20 percent of the total dominant coverage within a stratum, plus any species that comprised at least 20 percent of the total dominant coverage within a stratum, are noted on wetland delineation field data sheets. More than 50 percent of dominant species at each data point has to possess a Wetland Indicator Status of FAC, FACW, or OBL in order for the data point to be dominated by hydrophytic vegetation.

# Hydric Soil

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. In California, sufficient duration is considered a minimum of two weeks during the growing season. The hydric soil field indicators applicable for all regions, and indicators specifically designed for the Arid West, include (but are not limited to) inundation or saturation, stratified layers, thick dark surfaces, dark (low chroma) soil colors, bright redoximorphic concentrations (concentrations of oxidized minerals such as iron), and gleying, which indicates reducing conditions by a blue-grey color. Soils of each data point must possess at least one positive indicator of hydric soils in order to determine that a data point possesses hydric soils. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in local soils surveys, both of which must be verified in the field.

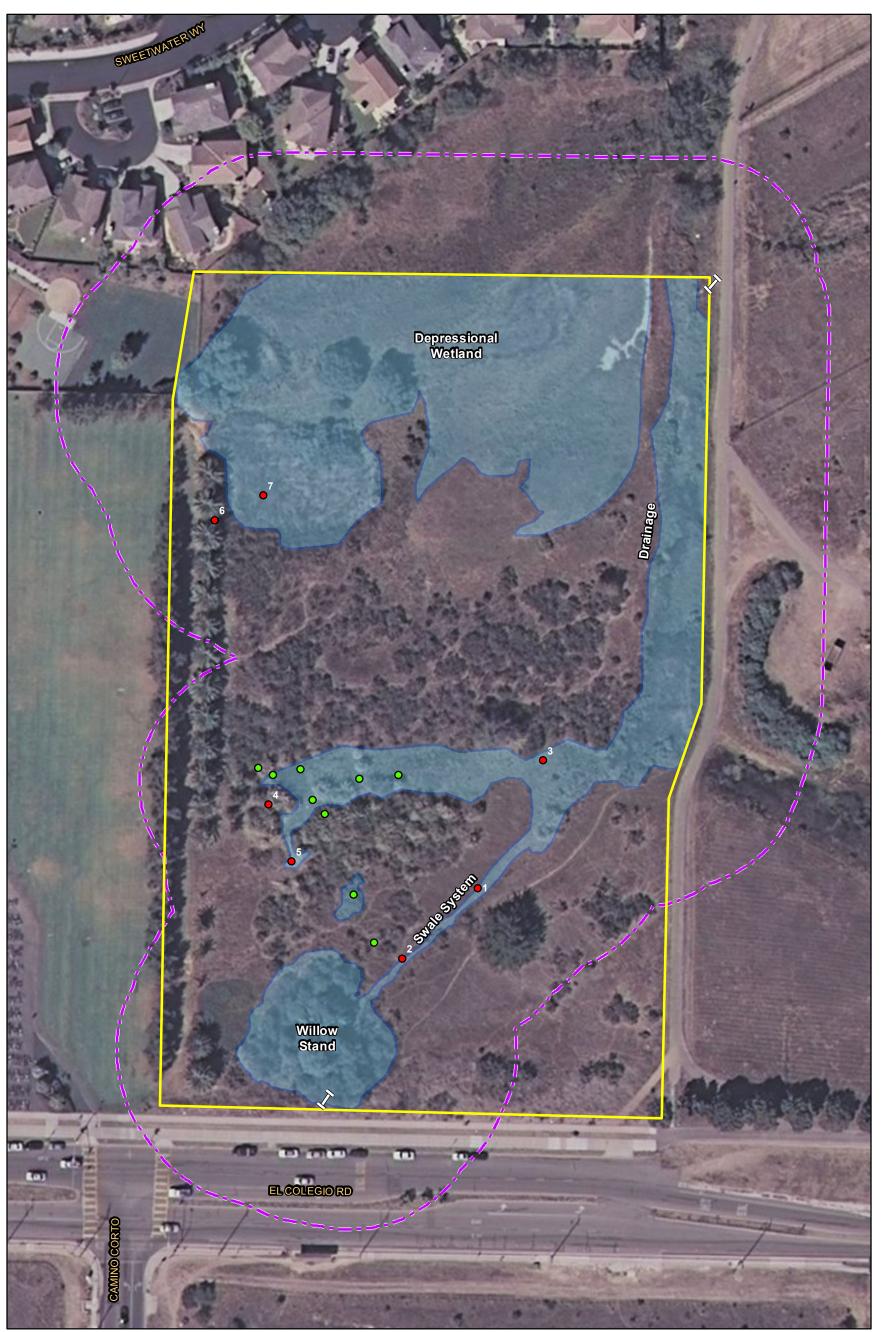


Soil testing is conducted at data observation points (or soil pits) to determine whether or not the local soil profile contains hydric soil morphologies. Soil pits are dug to the level necessary to establish whether or not hydric characteristics were present within typical rooting depths (up to 18 inches deep). Indicators of hydric soils, such as buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils, or sulfidic odor, are recorded if present. Soils at each data point need to possess at least one positive indicator of hydric soils to be considered a hydric soil. Soil color is evaluated with a Munsell soil color chart. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish) resulting from soil development under anoxic (without oxygen) conditions. Bright redox concentrations within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. The soil matrix is the portion of the soil layer that has the predominant color. Hydric soils are typically identified by the presence of redox concentrations associated with reduced iron or manganese.

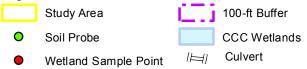
# Wetland Hydrology

Wetland hydrology is indicated when inundation or soil saturation occurs with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. Hydrology conditions are met if (1) an area is inundated permanently or periodically, (2) has soil saturated to the surface at some time during the growing season of the prevalent vegetation, and/or (3) the area at least shows evidence of drainage patterns (well-defined bed and banks). Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively. Hydrology of the selected locations within the study area was evaluated through direct observation of primary and/or secondary indicators (including Arid West Supplement indicators) of hydrology. At least one of the primary indicators of hydrology or at least two of the secondary indicators of hydrology have to exist at each data point in order to determine that a point possessed indicators of hydrology in the field.

Hydrology of the selected locations within the study area is evaluated through direct observation of indicators of hydrology (including all Arid West Supplement indicators). Positive evidence of wetland hydrology indicators are evaluated in the field, including (but not limited to) oxidized root channels, soil saturation, surface water, and drainage patterns. Per the Arid West Supplement, hydrology indicators are separated into primary and secondary groups, with only one primary indicator and two or more secondary indicators necessary to indicate wetland hydrology.



## Legend



Ĵ	100-ft Buffer
	CCC Wetlands
	Culvert

Image Source: I3\_Imagery\_Prime\_World\_2D. Copyright:© 2010 i-cubed.



Wetland Delineation

Figure 1

University of California Santa Barbara



**Photograph 1**. View north of the study area from El Colegio Road. Vegetation within the site is comprised of a mix of non-native species as well as native wetland and upland plants.



**Photograph 2.** View southwest of the swale constructed to accommodate flows from the culvert under El Colegio Road. Note the hydrophytic vegetation in the foreground and stand of willows in the background.



**Photograph 3.** View west of Sample Point 3. This area receives flows from two swale systems. Note the dense cover of *Distichlis spicata*.



**Photograph 4.** View west from the culvert located in the northeast portion of the parcel. *Typha latifolia* associated with the drainage can be seen in the foreground, with the depressional wetland dominated by *Scirpus* spp. and associated willow stands in the background.

Wetland and Othe	r Waters	Determination	Data Form
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Wetland and Other Waters Determination Data For	m	Habitat Type Wetland/Other Waters Type	
Project/Site: San Joaquin Housing project	City/County:	Santa Barbara	Sampling Date: 27Apr11
Applicant/Owner: U.C. Santa Barbara		State: CA	Sampling Point: 1
Investigator(s): Brett D. Hartman, Steve Hongola		NWI Classification: Freshwater Er	mergent Wetland
Landform (hillslope, terrace, etc.) Marine terrace Subregion (LRR) Mediterranean CA (LRR C) So		(concave, convex, none) Undulating	
Are climatic/hydrologic conditions on the site typical for this time of year Are vegetation $\frac{No}{No}$ , soil $\frac{No}{No}$ , or hydrology $\frac{No}{No}$ significantly disturbed Are vegetation $\frac{No}{No}$ , soil $\frac{No}{No}$ , or hydrology $\frac{No}{No}$ naturally problem	rbed? Are nor	mal circumstances present? Yes	
Summary of Findings (Attach site map showing sampling p Hydrophytic vegetation? Yes Hydric soil? Yes Wetland hydrold			Other waters?

#### **USACE** Jurisdiction

Abutting Waters Adjacent to Waters Tributary to Waters Yes Isolated (with interstate commerce) Isolated (non-jurisdictional). Explain:

#### Evaluation of Features Designated "Other Waters of the United States"

Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank Shelving Changes in Character of Soil Bed and Bank Destruction of Terrestrial Vegetation Presence of Litter and Debris Socur Deposition Other (please specify) Feature Designation: Perennial Intermittent Ephemeral Blue-line on USGS Quad Natural Drainage Artificial Drainage Navigable Water

#### Remarks

3' wide swale, accomodates flows from culvert under El Colegio Rd; drains through culvert in north of property, part of Goleta Slough system

ree Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: 2(A)
				that are OBL, FACW, or FAC: _2 (A)
				Total number of dominant species
				across all strata: <u>2</u> (B)
				Percent of dominant species that
50%= 20%= Total Cover				are OBL, FACW, or FAC: 100% (AB)
apling/Shrub Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?	Status	Prevalence Index Worksheet Total % Cover of: Multiply by
				OBL Species x 1 =
				FACW Species x 2 =
				FAC Species x 3 =
50%= 20%= Total Cover				FACU Species x 4 =
erb Stratum (use scientific names)	Absolute % Cover	Dominant Species?		UPL Species x 5 =
Rumex salicifolius	35%	Yes	OBL	Column Totals (A) (B)
Festuca arundinacea	20%	Yes	FAC	Prevalence Index = B/A =
Sonchus asper	5%	No	FAC	
Digitaria sanguinalis	2%	No	FACU	Hydrophytic Vegetation Indicators Dominance Text is >50%
Picris echioides	1%	No	FAC	Prevalence Index is $\leq 3.0^{1}$
				Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
50%= <u>32%</u> 20%= <u>12.5%</u> Total Cover				be present.
/oody/Vine Stratum (use scientific names)	Absolute % Cover	Dominant Species?		Hydrophytic Vegetation? Yes
woody/vine Stratum (use scientific hances)			Status	

## Soils

Depth _ inches)	Matr Color (mo		%	Color (I	x Features moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
"	7.5YR 3/1	-	10	00101 (1	moist	_/0_	190	<u>L00</u>	Texture	Silty clay loam, dark OM surf
8"	10YR 4/3			5YR 4/1			С	PL, M		Silty clay loam
ydric Hi Hi Bi Hy St 1 c	C = Concentration <b>Soil Indicate</b> istosol (A1) stic Epipedon ( <i>i</i> ack Histic (A3) ydrogen Sulfide ratified Layers ( cm Muck (A9) (I epleted Below D nick Dark Surfac andy Mucky Min	(A4) (A4) (AG) (LRR ( .RR D) ark Surfact e (A12)	icable t			erwise r eyed Mar dox (S5) Matrix (S ncky Min eyed Ma watrix (F rk Surfac Dark Surfac	trix (S4) 6) eral (F1) eral (F1) eral (F2) 53) ce (F6) erface (F7)	L = Pore Lir	Indicators for 1 cr 2 cr Rec Rec Veg Oth <sup>3</sup> Indicators	Root Channel M = Matrix or Problematic Hydric Soils <sup>3</sup> in Muck (A9) (LRR C) in Muck (A10) (LRR B) duced Vetric (F18) d Parent Materials (TF2) letated Sand/Gravel Bars er (Explain in Remarks) of hydrophytic vegetation and drology must be present.
	e Layer (if pres		:		Vernal Poo		. ,	Hydric	Soil? Yes	
estrictiv emarl ydro	re Layer (if pres ks		:		Vernal Poo	ols (F9)	. ,	_ Hydric		
estrictiv emark ydro /etlan	e Layer (if pres ks logy d Indicators ndicators (Any c	ent): Type		ficient)	Vernal Poo	pls (F9)	. ,		Soil? Yes	ndicators (2 or more required)
ydro ydro fetland imary li Su Hig Su Su Linu Ae	e Layer (if pres ks logy d Indicators	ent): Type ne indicato ) (A2) (Nonriverine s (B2) (Non (Nonriverin ss (B6) on 7)	or is suf		Vernal Poo De Salt Crust Biotic Crust Aquatic Im Hydrogen Oxidized F	(B11) (B11) (B12) vertebra Sulfide ( Rhizosph of Reduc n Reduc oils (C6) Surface	tes (B13) Odor (C1) heres (C3) ced Iron (C ction in e (C7)		Soil? Yes Secondary Secondary Wat Sed Drift Drai Dry Cray Satu Aer Sha	
estrictiv emark iydro /etlan rimary li Su Hit Su Su Su L Su L Ma ield O urface W	te Layer (if pres ks blogy d Indicators ndicators (Any of urface Water (A' gh Water Table aturation (A3) ater Marks (B1) ediment Deposits (B3) urface Soil Crack undation Visible erial Imagery (B ater-Stained Lea bservations ater Present?	ent): Type ne indicato ) (A2) (Nonriverine s (B2) (Non (Nonriverin ss (B6) on 7)	or is suf		Vernal Poo De De Salt Crust Biotic Crus Aquatic Inv Hydrogen Oxidized F Presence o Recent Iro Plowed So Thin Muck	(B11) (B11) (B11) (B12) vertebra Sulfide ( Rhizosph of Reduc n Reduc oils (C6) Surface olain in F	tes (B13) Odor (C1) heres (C3) ced Iron (C ction in e (C7)	4)	Secondary   Secondary   Secondary   Sed Drift Drai Dry- Cray Satu Aer Sha FAC	ndicators (2 or more required) er Marks (B1) (Riverine) iment Deposits (B2) (Riverine) Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on ial Imagery (C9) Ilow Aquitard (D3)

#### Remarks

Pit located in 3' wide swale, appears to have been dredged to accommodate flows from culvert under El Colegio Rd.

Wetland and Othe	r Waters Detei	mination Data Form
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Wetland and Other Waters Determination Dat	ta Form Wetland/Other Water	rs Type Coast	al freshwater marsh
Project/Site: San Joaquin Housing project	City/County: Santa Barbara	San	npling Date: 27Apr11
Applicant/Owner: U.C. Santa Barbara	State	e: CA San	npling Point: 2
Investigator(s): Brett D. Hartman, Steve Hongola	NWI Classification: Fresh	water Emerger	nt Wetland
Landform (hillslope, terrace, etc.) Marine terrace	Local relief (concave, convex, none) U	ndulating	Slope % 2%
Subregion (LRR) Mediterranean CA (LRR C)	Soil Map Unit Name: Concepcion fine sandy loa	am, 2 to 9 percent	t slopes, eroded (CgC2).
Are climatic/hydrologic conditions on the site typical for this time	of year? Yes (If no, explain in remarks.)		
Are vegetation <u>No</u> , soil <u>No</u> , or hydrology <u>No</u> significant	tly disturbed? Are normal circumstances present?	Yes	
Are vegetation <u>No</u> , soil <u>No</u> , or hydrology <u>No</u> naturally p	problematic? (If needed, explain any answers in F	Remarks.)	
Summary of Findings (Attach site map showing sam	mpling point locations, transects, important features	s, etc.)	
Hydrophytic vegetation? Yes Hydric soil? Yes Wetland	d hydrology? Yes Is sampled area a wetland?	Yes Other	waters?

Habitat Type

#### **USACE** Jurisdiction

Abutting Waters \_\_\_\_\_ Adjacent to Waters \_\_\_\_\_ Tributary to Waters Yes\_ Isolated (with interstate commerce) \_\_\_\_\_ Isolated (non-jurisdictional) Explain:

#### Evaluation of Features Designated "Other Waters of the United States"

Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank A Shelving Changes in Character of Soil Bed and Bank Destruction of Terrestrial Vegetation Presence of Litter and Debris Scour Deposition O Other (please specify) Feature Designation: Perennial Intermittent Ephemeral Blue-line on USGS Quad Natural Drainage 🗌 Artificial Drainage 🔽 Navigable Water 🗌

#### Remarks

2' wide swale, accomodates flows from culvert under El Colegio Rd; drains through culvert in north of property, part of Goleta Slough system

Vegetation Tree Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test Workshee Number of dominant species that are OBL, FACW, or FAC		(A)
1 2 3				Total number of dominant spe across all strata:	ecies 1	(B)
4	Absolute	Dominant	Indicator	Percent of dominant species are OBL, FACW, or FAC:	100%	(AB)
Sapling/Shrub Stratum (use scientific names) 1	<u>% Cover</u>	Species?		Prevalence Index Workshee Total % Cover of:	-	iply by
2.				OBL Species	x 1 =	
3				FACW Species	x 2 =	
4				FAC Species	x 3 =	
50%= 20%= Total Cover:				FACU Species	x 4 =	
Herb Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?	Status	UPL Species	x 5 =	
1. Eleocharis macrostachya	90%	Yes	OBL		(A)	(B)
2. Sonchus asper	1%	No	FAC	Prevalence Index = B/A =		
3.	Absolute % Cover	Dominant Species?	Indicator	Hydrophytic Vegetation Ind         Dominance Text is >5         Prevalence Index is ≤         Morphological Adapta         data in Remarks or on         Problematic Hydrophy <sup>1</sup> Indicators of hydric soil and be present.         Hydrophytic Vegetation?	0% 3.0 <sup>1</sup> a separate tic Vegetatio wetland hyd	sheet) on <sup>1</sup> (Explain)
2.						
50%= 20%= Total Cover:						
% Bare Ground in Herb Stratum % Cover of Bio	tic Crust _					

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# Soils

Depth .	Matrix	0/	Redox Fea		- 1	. 2	-	-
nches)	a second and the second se	%	Color (moist	_%_	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
8"	10YR 3/1 7.5YR 4/2	>60%						Silty clay loam, OM enrichmer
	<u>7.51K 4/2</u>							Silty clay loam
ypes:	C = Concentration D	= Depletion	RM = Reduced Ma	trix 2	2 Location: PL	= Pore Li	ning RC =	Root Channel M = Matrix
ydric	Soil Indicators	(Applicabl	e to all LRRs, unle	ss otherwise	noted)		Indicators f	or Problematic Hydric Soils <sup>3</sup>
Пн	istosol (A1)		San	dy Gleyed Ma	atrix (S4)		1 c	m Muck (A9) (LRR C)
Н	istic Epipedon (A2)		San	dy Redox (S5	i)		<u>2 c</u>	m Muck (A10) (LRR B)
В	lack Histic (A3)		Strip	ped Matrix (S	66)		Re	duced Vetric (F18)
Н	ydrogen Sulfide (A4	)	Loar	ny Mucky Mir	neral (F1)		C Re	d Parent Materials (TF2)
St	tratified Layers (AG)	(LRR C)	Loar	ny Gleyed Ma	atrix (F2)		U Ve	getated Sand/Gravel Bars
	cm Muck (A9) (LRR			eted Matrix (I				ner (Explain in Remarks)
	epleted Below Dark			ox Dark Surfa				
	hick Dark Surface (A			eted Dark Su			<sup>3</sup> Indicators	s of hydrophytic vegetation and
	andy Mucky Mineral	<u></u>		ox Depression				ydrology must be present.
	, , ,	()			. ,			
	ve Layer (if present <b>ks</b>	: Туре:	Verr	al Pools (F9)		_ Hydrid	Soil? Yes	<u> </u>
emar ydro	ks blogy	: Туре:	Verr			_ Hydrid	Soil? Yes	<u></u>
emar ydro etlan	ks					_ Hydrid		Indicators (2 or more required)
/dro etlan	ks blogy d Indicators		sufficient)			_ Hydrid	Secondary	Indicators (2 or more required)
/dro etlan mary I	ks blogy d Indicators Indicators (Any one	indicator is s	sufficient)	_ Depth (Inc	ches)	_ Hydrid	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine)
ydro etlan mary I Su Hi	ks blogy Id Indicators Indicators (Any one urface Water (A1)	indicator is s	sufficient) Salt Bioti	_ Depth (Inc	shes)	_ Hydrid	Secondary	Indicators (2 or more required)
ydro etlan mary I J Si Hi Si	ks blogy d Indicators indicators (Any one urface Water (A1) igh Water Table (A2	indicator is s	sufficient) Salt Bioti	_ Depth (Inc Crust (B11) c Crust (B12)	ches)	_ Hydrid	Secondary	Indicators (2 or more required) tter Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
ydro etlan mary I Hi Sa	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3)	indicator is s	sufficient) Salt Aqu Aqu	Crust (B11) c Crust (B12) atic Invertebra	ates (B13) Odor (C1)	_ Hydrid	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine)
ydro etlan mary I Su Hi Sa W	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) fater Marks (B1) (No	indicator is s ) nriverine) 2) (Nonriveri	sufficient) Salt Bioti Aqu. Hydi ne)Oxic	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide	ates (B13) Odor (C1) heres (C3)		Secondary Ua Sec Drit	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10)
ydrcc etlan mary 1 Si Si Si Si Si Si Si Si Si Si Si Si Si	ks blogy Id Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) /ater Marks (B1) (No ediment Deposits (B	indicator is s ) nriverine) 2) (Nonriveri onriverine)	sufficient) Salt Bioti Aqu. Hydi ne)Oxic Pres	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp	ates (B13) Odor (C1) heres (C3) uced Iron (C-		Secondary	Indicators (2 or more required) tter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) r-Season Water Table (C2)
ydrcc etlan mary     Si   Hi   Si Si V V V Si C   D   Si	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) later Marks (B1) (No ediment Deposits (B rift Deposits (B3) (N	indicator is s ) nriverine) 2) (Nonriveri onriverine)	sufficient)  Salt Bioti Aqui Hydi ne) Oxic Rec Plov	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp ence of Redu ent Iron Redu ved Soils (C6	ates (B13) Odor (C1) heres (C3) uced Iron (C- ction in		Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) A-Season Water Table (C2) ayfish Burrows (C8) turation Visible on rial Imagery (C9)
ydrcc etlan mary     Si   Si   Si   Si   Si   Si   In	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) /ater Marks (B1) (No ediment Deposits (B3) (Nith Deposits (B3) (Nith Deposits (B3)) urface Soil Cracks (International States)	indicator is s ) nriverine) 2) (Nonriveri onriverine)	sufficient)  Salt  Sufficient  Salt  Sufficient  Salt  Aqui  Aqui  Aqui  Pres  Rec  Plov  Thin	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp ence of Redu ent Iron Redu ved Soils (C6 Muck Surfac	ates (B13) Odor (C1) heres (C3) uced Iron (C- ction in ) e (C7)		Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) r-Season Water Table (C2) ayfish Burrows (C8) turation Visible on
ydrccetlan mary Si Si Si Si Si Si Si Si Si Si Si Si	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) dater Marks (B1) (No ediment Deposits (B3) (Nurface Soil Cracks (I undation Visible on	indicator is s ) nriverine) 2) (Nonriveri pnriverine) 36)	sufficient)  Salt  Sufficient  Salt  Sufficient  Salt  Aqui  Aqui  Aqui  Pres  Rec  Plov  Thin	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp ence of Redu ent Iron Redu ved Soils (C6	ates (B13) Odor (C1) heres (C3) uced Iron (C- ction in ) e (C7)		Secondary Wa Sec Dri Cra Cra Cra Ae Sha	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) A-Season Water Table (C2) ayfish Burrows (C8) turation Visible on rial Imagery (C9)
ydrcc etlan mary Si Si Si Si Si Si Si Si Si Si Si Si Si	ks blogy d Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) dater Marks (B1) (No ediment Deposits (B1) (No ediment Deposits (B3) (No urface Soil Cracks (I) undation Visible on erial Imagery (B7)	indicator is s nriverine) 2) (Nonriveri porriverine) 36) 5 (B9)	sufficient) Salt Bioti Aqui Hydi Oxic Pres Rec Plov Thin Othe	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp ence of Redu ent Iron Redu ved Soils (C6 Muck Surfac er (Explain in	ates (B13) Odor (C1) heres (C3) uced Iron (C- ction in ) e (C7) Remarks)	4)	Secondary Ua Sec Dri Dri Dri Dri Cra Sat Ae Sha FA	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) A-Season Water Table (C2) ayfish Burrows (C8) turation Visible on rial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)
emari ydrcc etlan mary 1 Si Si Si Si Si Si Si Si Si Si Si Si Si	ks blogy Id Indicators Indicators (Any one urface Water (A1) igh Water Table (A2 aturation (A3) 'ater Marks (B1) (No ediment Deposits (B3) (N urface Soil Cracks (I undation Visible on erial Imagery (B7) 'ater-Stained Leave	indicator is s nriverine) 2) (Nonriveri porriverine) 36) 5 (B9)	sufficient)  Salt  Sufficient  Salt  Sufficient  Suffi	Crust (B11) c Crust (B12) atic Invertebra rogen Sulfide ized Rhizosp ence of Redu ent Iron Redu ved Soils (C6 Muck Surfac	ates (B13) Odor (C1) heres (C3) uced Iron (C- ction in ) e (C7) Remarks)	4)	Secondary Ua Sec Dri Dri Dri Dri Cra Sat Ae Sha FA	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) ft Deposits (B3) (Riverine) ainage Patterns (B10) 4-Season Water Table (C2) ayfish Burrows (C8) turation Visible on rial Imagery (C9) allow Aquitard (D3)

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

### Remarks

Pit located in 2' wide swale,

Wetland	and	Other	Waters	Determination	Data	Form
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Wetland and Other Waters Determination Data Form	Habitat Type Wetland/Other Waters Type	
Project/Site: San Joaquin Housing project City/County:	Santa Barbara	Sampling Date: 27Apr11
	State: CA	
Investigator(s): Brett D. Hartman, Steve Hongola	NWI Classification: Freshwater E	mergent Wetland
Landform (hillslope, terrace, etc.)       Marine terrace       Local relief         Subregion (LRR)       Mediterranean CA (LRR C)       Soil Map Unit Na	(concave, convex, none) Undulating	ng Slope % _1%
Are climatic/hydrologic conditions on the site typical for this time of year? Yes       (If         Are vegetation No, soil No, or hydrology No significantly disturbed? Are nor       Are vegetation No, soil No, or hydrology No naturally problematic?       (If needed)	mal circumstances present? Yes	.)
Summary of Findings (Attach site map showing sampling point locations, Hydrophytic vegetation? Yes Hydric soil? Yes Wetland hydrology? Yes		Other waters?
USACE Jurisdiction Abutting Waters Adjacent to Waters Yes Tributary to Waters Yes Isolated Explain:	(with interstate commerce) Is	olated (non-jurisdictional)
Evaluation of Features Designated "Other Waters of the Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank St Destruction of Terrestrial Vegetation Presence of Litter and Debris Scour Feature Designation: Perennial Intermittent Ephemeral Blue-line on Natural Drainage Artificial Drainage Navigable Water	nelving Changes in Character of Deposition Other (please s	

	-
Remarks	5

Pit located in wide depression that collects runoff from two swales located upslope; part of Goleta Slough system

Vegetation Tree Stratum (use scientific names)	Absolute % Cover	Dominant Species?		Dominance Test Worksheet Number of dominant species
1		0000001	otatas	that are OBL, FACW, or FAC: (A)
2.				Total number of dominant species
3				across all strata:(B)
4				Percent of dominant species that
50%= 20%= Total Cover:				are OBL, FACW, or FAC: <u>100%</u> (AB)
Sapling/Shrub Stratum (use scientific names) 1		Dominant Species?	Status	Prevalence Index Worksheet Total % Cover of: Multiply by
2. 10%				OBL Species x 1 =
3. 2.5%				FACW Species x 2 =
4				FAC Species x 3 =
50%= 20%= Total Cover:				FACU Species x 4 =
Herb Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?	Status	UPL Species x 5 =
1. Distichlis spicata	90%	Yes	FACW	Column Totals (A) (B)
2. Festuca arundinacea	5%	No	FAC	Prevalence Index = B/A =
3. Rumex salicifolius	2% 1%	No	FAC	Hydrophytic Vegetation Indicators
4. Picris echioides		No		Dominance Text is >50%
5				Prevalence Index is $\leq 3.0^{1}$ Morphological Adaptations <sup>1</sup> (provide supporting
6				data in Remarks or on a separate sheet)
7				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>7</sup> Indicators of hydric soil and wetland hydrology must
8				be present.
Woody/Vine Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?		Hydrophytic Vegetation? Yes
1				
2				
50%= 20%= Total Cover: % Bare Ground in Herb Stratum % Cover of Bio				

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# Soils

Depth _ inches)	Color (moist)	%	Redox Feature Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
."	10YR 3/2			<u></u>	<u>.,,,,,,</u>			Gravelly sandy loam; OM streakir
8"	10YR 4/1		2.5 YR 4/6	10%	С	RC		Fine silty sand; faint stratified laye
			10Y 6	2.5%	D	M		
	C = Concentration D =		RM = Reduced Matrix		<sup>2</sup> Location: P	L = Pore Li		Root Channel M = Matrix
-	Soil Indicators	(Applicable						or Problematic Hydric Soils <sup>3</sup>
_	istosol (A1)			Gleyed Ma				m Muck (A9) (LRR C)
	istic Epipedon (A2)			Redox (S5				m Muck (A10) (LRR B)
_	lack Histic (A3)			d Matrix (S				duced Vetric (F18)
_	ydrogen Sulfide (A4)			Mucky Mir				d Parent Materials (TF2)
	tratified Layers (AG) (L			Gleyed Ma				getated Sand/Gravel Bars
_	cm Muck (A9) (LRR D	·		d Matrix (I				er (Explain in Remarks)
	epleted Below Dark Su hick Dark Surface (A12			Dark Surfa	Irface (F6)		3Indicators	s of hydrophytic vegetation and
								drology must be present.
50	andy Mucky Mineral (S	51)		Depressio Pools (F9)				
				-0015 (1-9)				
strictiv	ve Layer (if present):	Туре:		Depth (Inc	ches)	Hydric	Soil? Yes	_
		Туре:		Depth (Inc	ches)	Hydric	Soil? Yes	
estrictiv emar		Туре:		Depth (Inc	ches)	Hydrid	Soil? Yes	_
		Туре:		Depth (Inc	ches)	Hydrid	Soil? Yes	
emar		Туре:		Depth (Inc	ches)	Hydric	Soil? Yes	
emar ydro	ks	Туре:		Depth (Inc	ches)	Hydric	Soil? Yes	
emar ydro etlan	ks blogy			Depth (Inc	ches)	Hydric		Indicators (2 or more required)
emar ydro etlan	ks blogy id Indicators Indicators (Any one ind		ufficient)		ches)	Hydric	Secondary	Indicators (2 or more required)
ydro vetlan imary I	ks blogy Id Indicators Indicators (Any one ind urface Water (A1)		ufficient)	ust (B11)		Hydric	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine)
ydro ydro /etlan imary I Si Hi	ks blogy Ind Indicators Indicators (Any one ind urface Water (A1) igh Water Table (A2)		ufficient) Salt Cru Biotic C	ust (B11) rrust (B12)		Hydric	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine) timent Deposits (B2) (Riverine)
ydro ydro Yetlan imary I Si Hi	ks blogy Ind Indicators Indicators (Any one ind urface Water (A1) igh Water Table (A2) aturation (A3)	dicator is s	ufficient) Salt Cru Biotic C Aquatic	ust (B11) rust (B12) Invertebra	) ates (B13)	Hydric	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine) timent Deposits (B2) (Riverine) t Deposits (B3) (Riverine)
emar ydro /etlan imary I 	ks blogy Id Indicators Indicators (Any one ind urface Water (A1) igh Water Table (A2) aturation (A3) /ater Marks (B1) (Nonri	dicator is s	ufficient) Salt Cru Biotic C Aquatic Hydrog	ust (B11) irust (B12) Invertebra en Sulfide	) ates (B13) Odor (C1)	Hydric	Secondary Wa Sec Drif Dra	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10)
emar ydro fetlan imary Hi Si Si W	ks blogy Id Indicators Indicators (Any one ind urface Water (A1) igh Water Table (A2) aturation (A3) //ater Marks (B1) (Nonri ediment Deposits (B2)	dicator is s iverine) (Nonriverin	ufficient) Salt Cru Biotic Cru Aquatic Hydrogu te)	ust (B11) rust (B12) Invertebra en Sulfide d Rhizosp	) ates (B13) Odor (C1) heres (C3)		Secondary Wa Sec Drif Dra Dry	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2)
ydro Vetlan imary I Si Hi Si Si Si Si Si Si Si Si Si Si Si Si Si	ks blogy Indicators Indicators (Any one indi- urface Water (A1) igh Water Table (A2) aturation (A3) /ater Marks (B1) (Nonri- ediment Deposits (B2) rift Deposits (B3) (Nonri-	dicator is s iverine) (Nonriverin riverine)	ufficient) Salt Cru Biotic C Aquatic Hydrogu ne) Oxidize Presend	ust (B11) rust (B12) Invertebra en Sulfide d Rhizosp ce of Redu	) ates (B13) Odor (C1) heres (C3) uced Iron (C		Secondary Wa Sec Drif Dra Dry Cra	Indicators (2 or more required) ter Marks (B1) (Riverine) timent Deposits (B2) (Riverine) t Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8)
	ks blogy id Indicators Indicators (Any one ind Indicators (Any one ind urface Water (A1) igh Water Table (A2) aturation (A3) /ater Marks (B1) (Nonri ediment Deposits (B2) rift Deposits (B3) (Nonri urface Soil Cracks (B6)	dicator is s iverine) (Nonriverin riverine)	ufficient)  Ufficient  Salt Cru Biotic C Aquatic Hydrogu Hydrogu Oxidize Presend Recent Plowed	ust (B11) rust (B12) Invertebra en Sulfide d Rhizosp ce of Redu Iron Redu I Soils (C6	) ates (B13) Odor (C1) heres (C3) uced Iron (C uction in s)		Secondary          Secondary         Sec         Drif         Drif         Drif         Drif         Drif         Sec         Sec	Indicators (2 or more required) ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2)
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Remarks

Wetland and (	Other Waters	Determination	Data Form
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Wetland and Other Waters Determination Data Form	Habitat Type Wetland/Other Waters Type
Project/Site: San Joaquin Housing project Cit	ty/County: Santa Barbara Sampling Date: 27Apr11
Applicant/Owner: U.C. Santa Barbara	State: CA Sampling Point: 4
Investigator(s): Brett D. Hartman, Steve Hongola	NWI Classification: Freshwater Forested/SCrub
Landform (hillslope, terrace, etc.)       Marine terrace       L         Subregion (LRR)       Mediterranean CA (LRR C)       Soil Ma         Are climatic/hydrologic conditions on the site typical for this time of year?       Ye         Are vegetation       No, soil       No_, or hydrology       No significantly disturbed?         Are vegetation       No, soil       No, or hydrology       No naturally problematic?	es (If no, explain in remarks.) ?? Are normal circumstances present? Yes
Summary of Findings (Attach site map showing sampling point Hydrophytic vegetation? No Hydric soil? No Wetland hydrology? USACE Jurisdiction Abutting Waters Adjacent to Waters Tributary to Waters Explain:	

# Evaluation of Features Designated "Other Waters of the United States" Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank Shelving Changes in Character of Soil Bed and Bank Destruction of Terrestrial Vegetation Presence of Litter and Debris Scour Deposition Other (please specify) Feature Designation: Perennial Intermittent Ephemeral Blue-line on USGS Quad Natural Drainage Navigable Water

#### Remarks

Pit located at upper end of swale system; in adjacent uplands

Vegetation Tree Stratum (use scientific names) 1	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC:(A)
2				Total number of dominant species across all strata: 2 (B)
4 50%= Total Cover:				Percent of dominant species that are OBL, FACW, or FAC: 0% (AB)
Sapling/Shrub Stratum (use scientific names) 1	Absolute <u>% Cover</u>	Dominant Species?	Status	Prevalence Index Worksheet Total % Cover of: Multiply by
2				OBL Species x 1 =
3				FACW Species         x 2 =           FAC Species         x 3 =
50%= 20%= Total Cover:				FACU Species x 4 =
Herb Stratum (use scientific names)	Absolute <u>% Cover</u> 60%	Dominant Species? Yes	Indicator Status	UPL Species x 5 = Column Totals (A) (B)
2. Digitaria sanguinalis	30%	Yes	FACU	Prevalence Index = B/A =
3.       Picris echioides         4.				Hydrophytic Vegetation Indicators         Dominance Text is >50%         Prevalence Index is ≤ 3.01         Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation1 (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be senared.
50%= 47%         20%= 19%         Total Cover:           Woody/Vine Stratum (use scientific names)         1.	Absolute <u>% Cover</u>		Status	be present. Hydrophytic Vegetation? No
2 50%= Total Cover:				

Sampling Point 4

Depth	Description: (Des Matrix		Redox Features					
nches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
3"	7.5YR 3/3							Sandy loam
								Few iron stains, OM streakin
ypes:	C = Concentration D =	Depletion I	RM = Reduced Matrix	<sup>2</sup> Loc	ation: PL	= Pore Lir	ning RC = I	Root Channel M = Matrix
_	Soil Indicators:	(Applicable 1		Contraction Contract	Sector Content			or Problematic Hydric Soils <sup>3</sup>
	istosol (A1)			eyed Matrix	(S4)			m Muck (A9) (LRR C)
	istic Epipedon (A2)		Sandy Re					m Muck (A10) (LRR B)
_	lack Histic (A3)			Matrix (S6)				duced Vetric (F18)
_	ydrogen Sulfide (A4)			ucky Minera				d Parent Materials (TF2)
S	tratified Layers (AG) (I	_RR C)		leyed Matrix	(F2)			getated Sand/Gravel Bars
1	cm Muck (A9) (LRR D	))	Depleted	Matrix (F3)			Oth	er (Explain in Remarks)
D	epleted Below Dark S	urface (A11)		ark Surface				
T	hick Dark Surface (A1	2)	Depleted	Dark Surfac	ce (F7)			of hydrophytic vegetation and
S	andy Mucky Mineral (S	51)	Redox De	epressions (	(F8)		wetland hy	drology must be present.
			Vernal Po	ools (F9)				
strictiv	ve Layer (if present):	Туре:		ools (F9) epth (Inches	s)	_ Hydric	Soil? No	
estrictiv emar		Туре:			s)	_ Hydric	Soil? No	
		Туре:			s)	_ Hydric	Soil? No	
		Туре:			s)	_ Hydric	Soil? <u>No</u>	
emar		Туре:			s)	_ Hydric	Soil? <u>No</u>	-
emar ydro etlar	ks blogy nd Indicators		D		s)	_ Hydric		
emar ydro etlar	ks blogy		D		s)	_ Hydric		
emar ydro etlar	ks blogy nd Indicators		D	epth (Inches	s)	_ Hydric	Secondary	Indicators (2 or more required) ter Marks (B1) (Riverine)
ydro vetlar imary	ks blogy nd Indicators Indicators (Any one in urface Water (A1)		fficient)	epth (Inches t (B11)	s)	_ Hydric	Secondary	
ydro ydro (etlar imary	ks blogy Ind Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2)		fficient)	epth (Inches t (B11) ust (B12)		_ Hydric	Secondary	ter Marks (B1) (Riverine)
ydro ydro etlar imary S H S	ks blogy hd Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3)	dicator is su	fficient)	t (B11) t (B12) nvertebrates	s (B13)	_ Hydric	Secondary	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine)
ydro /etlan imary	ks blogy hd Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr	dicator is su	fficient)	t (B11) t (B12) nvertebrates n Sulfide Odd	s (B13) or (C1)	_ Hydric	Secondary U Wa Sec Drit	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) iinage Patterns (B10)
emar	ks blogy Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) /ater Marks (B1) (Nonr ediment Deposits (B2)	dicator is su iverine) ) (Nonriverine	fficient) Salt Crus Biotic Cru Aquatic In Hydroger )Oxidized	t (B11) ust (B12) nvertebrates a Sulfide Ode Rhizosphere	s (B13) or (C1) es (C3)		Secondary U Wa Sec Drit Dra Dra Dry	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) ninage Patterns (B10) -Season Water Table (C2)
emar	ks blogy Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non	dicator is su iverine) (Nonriverine riverine)	fficient)  fficient)  Salt Crus Biotic Cru Aquatic In Aquatic In Aquatic In Oxidized Presence	t (B11) ust (B12) nvertebrates Sulfide Ode Rhizosphere of Reduced	s (B13) or (C1) es (C3) d Iron (C4		Secondary Wa Sec Drit Drit Dri Dry Cra	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) t Deposits (B3) (Riverine) ninage Patterns (B10) -Season Water Table (C2) nyfish Burrows (C8)
emar	ks blogy hd Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non urface Soil Cracks (B6)	dicator is su iverine) (Nonriverine riverine)	fficient)	t (B11) tst (B12) nvertebrates Sulfide Odu Rhizosphere of Reduced on Reductio Soils (C6)	s (B13) or (C1) es (C3) d Iron (C4) on in		Secondary Wa Sec Dri Dra Dry Cra Sat	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) ainage Patterns (B10) -Season Water Table (C2)
emar ydro (etlar S S H S S S S S S S S S S S S S S S S	ks blogy Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non	dicator is su iverine) (Nonriverine riverine)	fficient)	t (B11) tst (B12) nvertebrates Sulfide Odd Rhizosphere of Reduced on Reductio	s (B13) or (C1) es (C3) d Iron (C4) on in		Secondary Wa Sec Drit Dry Cra Sat Ae	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) ninage Patterns (B10) -Season Water Table (C2) nyfish Burrows (C8) uration Visible on
emar	ks blogy hd Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non urface Soil Cracks (B6 hundation Visible on	dicator is su iverine) ( (Nonriverine riverine) 3)	fficient)  fficient)  Salt Crus Biotic Cru Aquatic In Aquatic In Aquatic In Oxidized Presence Recent Ir Plowed S Thin Muc	t (B11) tst (B12) nvertebrates Sulfide Odu Rhizosphere of Reduced on Reductio Soils (C6)	s (B13) or (C1) es (C3) d Iron (C4 on in C7)		Secondary  Wa Sec Drit Drit Drit Cra Sat Ae Sha	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) anage Patterns (B10) -Season Water Table (C2) ayfish Burrows (C8) uration Visible on rial Imagery (C9)
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emar ydro /etlar S S H S S S S S S S S S S S S S S S S	ks blogy Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non urface Soil Cracks (B6) nundation Visible on Aerial Imagery (B7) Vater-Stained Leaves (	dicator is su iverine) ( (Nonriverine riverine) 3)	fficient)	t (B11) t (B12) nvertebrates a Sulfide Odd Rhizosphere of Reduced on Reductio Soils (C6) k Surface (C cplain in Ren	s (B13) or (C1) es (C3) d Iron (C4 on in C7)	4)	Secondary U Wa Sec Drit Drit Drit Cra Sat Ae Sha FA	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) inage Patterns (B10) -Season Water Table (C2) ayfish Burrows (C8) uration Visible on rial Imagery (C9) allow Aquitard (D3)
emar ydrc /etlar imary S H S V S D S C V V S C V V C C V V C C C C C C C C C C C C C	ks blogy hd Indicators Indicators (Any one in urface Water (A1) igh Water Table (A2) aturation (A3) Vater Marks (B1) (Nonr ediment Deposits (B2) rift Deposits (B3) (Non urface Soil Cracks (B6 hundation Visible on Aerial Imagery (B7) Vater-Stained Leaves ( Dbservations	dicator is su iverine) (Nonriverine riverine) 3) (B9)	fficient)	t (B11) t (B12) nvertebrates n Sulfide Odd Rhizosphere of Reduced on Reductio Soils (C6) k Surface (C splain in Ren	s (B13) or (C1) es (C3) d Iron (C4 on in C7)	4)	Secondary U Wa Sec Drit Drit Drit Cra Sat Ae Sha FA	ter Marks (B1) (Riverine) diment Deposits (B2) (Riverine) it Deposits (B3) (Riverine) ninage Patterns (B10) -Season Water Table (C2) hyfish Burrows (C8) uration Visible on rial Imagery (C9) allow Aquitard (D3) C-Neutral Test (D5)

Remarks

	Habitat Type	
Wetland and Other Waters Determination Data Form	Wetland/Other Waters Type	
Project/Site: San Joaquin Housing project City/County	Santa Barbara	Sampling Date: 27Apr11
Applicant/Owner: U.C. Santa Barbara	State: CA	
Investigator(s): Brett D. Hartman, Steve Hongola	NWI Classification: Freshwater F	orested/SCrub
Landform (hillslope, terrace, etc.) Marine terrace Local relie Subregion (LRR) Mediterranean CA (LRR C) Soil Map Unit N	ef (concave, convex, none) Undulati	ngSlope % _1%
Are climatic/hydrologic conditions on the site typical for this time of year? Yes (// Are vegetation No, soil No, or hydrology No significantly disturbed? Are no Are vegetation No, soil No, or hydrology No naturally problematic? (// nee	f no, explain in remarks.) rmal circumstances present? Yes	-
Summary of Findings (Attach site map showing sampling point locations Hydrophytic vegetation? <u>No</u> Hydric soil? <u>No</u> Wetland hydrology? <u>Yes</u>		Other waters? No
USACE Jurisdiction Abutting Waters Adjacent to Waters Tributary to Waters Isolated Explain:	I (with interstate commerce) Is	solated (non-jurisdictional)

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Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank Shelving Changes in Character of Soil Bed and Bank
Destruction of Terrestrial Vegetation Depresence of Litter and Debris Scour Deposition Other (please specify)
Feature Designation: Perennial 🔲 Intermittent 🔄 Ephemeral 🦳 Blue-line on USGS Quad 🗌
Natural Drainage 🗌 Artificial Drainage 🔲 Navigable Water 🔲 🦳 👘

Pit located in small depression that appears to be a result of OHV activity; evidence of remnant road

Vegetation Tree Stratum (use scientific names) 1.	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test Worksheet           Number of dominant species           that are OBL, FACW, or FAC:
2				Total number of dominant species across all strata:(B)
4 50%= Total Cover: Sapling/Shrub Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?		Percent of dominant species that are OBL, FACW, or FAC:(AB) Prevalence Index Worksheet
2				Total % Cover of:         Multiply by           OBL Species         x 1 =
3				FACW Species x 2 =
4				FAC Species x 3 =
50%= 20%= Total Cover:				FACU Species x 4 =
Herb Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	UPL Species x 5 =
1. None		opecies:		Column Totals (A) (B)
2.				Prevalence Index = B/A =
3.	Absolute % Cover	Dominant Species?	Indicator	Hydrophytic Vegetation Indicators         Dominance Text is >50%         Prevalence Index is ≤ 3.01         Morphological Adaptations1 (provide supporting data in Remarks or on a separate sheet)         Problematic Hydrophytic Vegetation1 (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.         Hydrophytic Vegetation?
2				Sample point devoid of vegetation

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Depth	otion: (Deso Matrix	ribe to th	e depth needed to docu Redox Features	ment the	e indicator o	or confirm	the absence of in	dicators.
(inches) Col	lor (moist)	_%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
18" 7.5YR 3	3/3		5YR 4/3 (faint, few)				Sar	ndy loam
Types: C = Conce	ntration D = D	epletion	RM = Reduced Matrix	2	Location: PL	. = Pore Lir	ing RC = Root C	Channel M = Matrix
1 cm Muck     Depleted Be     Thick Dark	edon (A2) (A3)	face (A1	Sandy Gle     Sandy Gle     Sandy Re     Stripped N     Loamy Mu     Loamy Gle     Depleted	dox (S5) Matrix (S ucky Min eyed Ma Matrix (F rk Surfa Dark Sur pression	6) eral (F1) trix (F2) (3) ce (F6) face (F7)		2 cm Mu Reduced Red Pare Vegetate Other (E:	ck (A9) (LRR C) ck (A10) (LRR B) Vetric (F18) ent Materials (TF2) d Sand/Gravel Bars xplain in Remarks) vdrophytic vegetation and gy must be present.
Restrictive Layer (	(if present): T	ype:	De	pth (Inc	hes)	_ Hydric	Soil? No	
Remarks								
Hydrology								

Primary Indicators (Any one indicator is sufficient	nt)	Secondary Indicators (2 or more required)
Surface Water (A1)     High Water Table (A2)     Saturation (A3)     Water Marks (B1) (Nonriverine)     Sediment Deposits (B2) (Nonriverine)     Drift Deposits (B3) (Nonriverine)     Surface Soil Cracks (B6)     Inundation Visible on     Aerial Imagery (B7)     Water-Stained Leaves (B9)	Salt Crust (B11) Biotic Crust (B12) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Water Marks (B1) (Riverine)         Sediment Deposits (B2) (Riverine)         Drift Deposits (B3) (Riverine)         Drainage Patterns (B10)         Dry-Season Water Table (C2)         Crayfish Burrows (C8)         Saturation Visible on Aerial Imagery (C9)         Shallow Aquitard (D3)         FAC-Neutral Test (D5)
Field Observations		
Surface Water Present? Yes No	Depth (inches) Wetland	Hydrology? Yes V No
Water Table Present? Yes No	Depth (inches)	
Saturation Present? Yes No Ves	Depth (inches) (includes capilla	ry fringe)
Describe Recorded Data (stream gauge, n	nonitoring well, aerial photos, and previous inspect	tions), if available:

Salt crust and soil cracking evident

Wetland and Other Waters Determination Data Form Wetland/Oth	Habitat Type her Waters Type	Ornamental
Project/Site:       San Joaquin Housing project       City/County:       Santa Barbara         Applicant/Owner:       U.C. Santa Barbara       Investigator(s):       Brett D. Hartman, Steve Hongola       NWI Classification         Landform (hillslope, terrace, etc.)       Marine terrace       Local relief (concave, convex, onvex, onv	State: <u>CA</u> None none) <u>Undulatir</u>	Sampling Point: <u>6</u>
Subregion (LRR)       Mediterranean CA (LRR C)       Soil Map Unit Name: Milpitas-Posita         Are climatic/hydrologic conditions on the site typical for this time of year?       Yes (If no, explain in remains a remain of year?         Are vegetation       No, soil       No, or hydrology       No naturally problematic?       (If needed, explain any ans a remains a remain	r <i>ks.)</i> present? Yes	-
Summary of Findings (Attach site map showing sampling point locations, transects, important Hydrophytic vegetation? <u>No</u> Hydric soil? <u>No</u> Wetland hydrology? <u>No</u> Is sampled area a w		Other waters? No
USACE Jurisdiction Abutting Waters Adjacent to Waters Tributary to Waters Isolated (with interstate com Explain:	merce) Is	olated (non-jurisdictional)
Evaluation of Features Designated "Other Waters of the United State         Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank Shelving Chang         Destruction of Terrestrial Vegetation Presence of Litter and Debris Scour Deposition         Feature Designation: Perennial Intermittent Ephemeral Blue-line on USGS Quad         Natural Drainage Artificial Drainage Navigable Water	es in Character o	

Pit located adjacent to depressional wetland on north side of property; in adjacent uplands under a row of canary island date plams

Vegetation	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (use scientific names)	<u>% Cover</u> 80%	Species? Yes	Status	Number of dominant species that are OBL, FACW, or FAC: 0 (A)
1				
2				Total number of dominant species across all strata: 3 (B)
3				
4				Percent of dominant species that are OBL, FACW, or FAC: 0% (AB)
30 /0 20 /0 Total Cover	Absolute	Dominant	Indicator	are OBL, FACW, or FAC: (AB)
Sapling/Shrub Stratum (use scientific names) 1	<u>% Cover</u>	Species?	Status	Prevalence Index Worksheet Total % Cover of: Multiply by
2				OBL Species x 1 =
3				FACW Species x 2 =
4				FAC Species x 3 =
50%= 20%= Total Cover	:			FACU Species x 4 =
Herb Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	UPL Species x 5 =
1. Digitaria sanguinalis	25%	Yes	FACU	Column Totals (A) (B)
2. Bromus diandrus	10%	Yes		Prevalence Index = B/A =
3. Bromus molis	2%	No	_	
4.				Hydrophytic Vegetation Indicators Dominance Text is >50%
5	1.1.1			Prevalence Index is $\leq 3.0^{1}$
6				Morphological Adaptations <sup>1</sup> (provide supporting
7				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
50%= 18 20%= 7 Total Cover	:			be present.
	Absolute	Dominant		Hydrophytic Vegetation? No
Woody/Vine Stratum (use scientific names)	<u>% Cover</u>	Species?	Status	
1				
2				
50%= 20%= Total Cover % Bare Ground in Herb Stratum % Cover of Bi				

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#### Soils

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators. Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Remarks Texture 4.5" 10YR 3/3 Silty clay loam 18" 7.5YR 3/2 - 3/5 Sandy loams <sup>1</sup>Types: C = Concentration D = Depletion RM = Reduced Matrix <sup>2</sup>Location: PL = Pore Lining RC = Root Channel M = Matrix Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted) Indicators for Problematic Hydric Soils<sup>3</sup> Histosol (A1) Sandy Gleyed Matrix (S4) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Sandy Redox (S5) 2 cm Muck (A10) (LRR B) Black Histic (A3) Stripped Matrix (S6) Reduced Vetric (F18) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Red Parent Materials (TF2) Stratified Layers (AG) (LRR C) Loamy Gleyed Matrix (F2) Vegetated Sand/Gravel Bars 1 cm Muck (A9) (LRR D) Depleted Matrix (F3) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present. Sandy Mucky Mineral (S1) Redox Depressions (F8) Vernal Pools (F9) Restrictive Layer (if present): Type: Depth (Inches) Hydric Soil? No Remarks Hydrology Wetland Indicators Primary Indicators (Any one indicator is sufficient) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Saturation Visible on Plowed Soils (C6) Inundation Visible on Aerial Imagery (C9) Thin Muck Surface (C7) Shallow Aquitard (D3) Aerial Imagery (B7) Other (Explain in Remarks) Water-Stained Leaves (B9) FAC-Neutral Test (D5) **Field Observations** 1 Wetland Hydrology? Yes No Surface Water Present? Yes No Depth (inches) ~ Water Table Present? Yes No Depth (inches) 1 Saturation Present? Yes No Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, and previous inspections), if available:

Remarks

Wetland and Oth	er Waters Det	ermination D	ata Form
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	Hat	pitat lype		
Wetland and Other Waters Determination Da	ta Form Wetland/Other Wa	ters Type	Coastal freshwater marsh	
Project/Site: San Joaquin Housing project	City/County: Santa Barbara		Sampling Date: 27Apr11	
Applicant/Owner: U.C. Santa Barbara	Sta	ate: CA	Sampling Point: 7	
Investigator(s): Brett D. Hartman, Steve Hongola	NWI Classification: Fres	hwater er	mergent wetland	
Landform (hillslope, terrace, etc.) Marine terrace	Local relief (concave, convex, none)	Undulati	ng Slope % <u>1%</u>	
Subregion (LRR) Mediterranean CA (LRR C)	Soil Map Unit Name: Milpitas-Positas fine s	andy loam	is, 2 to 9 percent slopes (MeC)	
Are climatic/hydrologic conditions on the site typical for this time	e of year? Yes (If no, explain in remarks.)			
Are vegetation <u>No</u> , soil <u>No</u> , or hydrology <u>No</u> significant	ntly disturbed? Are normal circumstances presen	t? Yes		
Are vegetation <u>No</u> , soil <u>No</u> , or hydrology <u>No</u> naturally	problematic? (If needed, explain any answers in	n Remarks	.)	
Summary of Findings (Attach site map showing sa	mpling point locations, transects, important featu	res, etc.)		
Hydrophytic vegetation? Yes Hydric soil? Yes Wetlan	d hydrology? Yes Is sampled area a wetland	? Yes	Other waters?	
USACE Jurisdiction				
Abutting Waters Adjacent to Waters Tributary to V	Naters Isolated (with interstate commerce	) (c	(land (non-jurisdictional)	

Abutting Isolated (with inters Explain:

## Evaluation of Features Designated "Other Waters of the United States"

Ordinary High Water Mark (OHWM) Characteristics: Line Impressed on Bank 🔄 Shelving 🔄 Changes in Character of Soil 🗋 Bed and Bank
Destruction of Terrestrial Vegetation Presence of Litter and Debris Scour Deposition Other (please specify)
Feature Designation: Perennial Intermittent Ephemeral Blue-line on USGS Quad
Natural Drainage 🗌 Artificial Drainage 🦳 Navigable Water 🔲 🦳 👘

#### Remarks

Pit located in depressional wetland on north side of property; part of Goleta Slough wetland system

Vegetation Tree Stratum (use scientific names)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test Worksheet Number of dominant species
1				that are OBL, FACW, or FAC:(A)
2				Total number of dominant species
3				across all strata: (B)
4				Percent of dominant species that
50%= 20%= Total Cover:				are OBL, FACW, or FAC:(AB)
Sapling/Shrub Stratum (use scientific names) 1	Absolute <u>% Cover</u>	Dominant Species?	Status	Prevalence Index Worksheet Total % Cover of: Multiply by
2				OBL Species x 1 =
3				FACW Species x 2 =
ł				FAC Species x 3 =
50%= 20%= Total Cover:				FACU Species x 4 =
Herb Stratum (use scientific names)	Absolute % Cover	Dominant Species?	Indicator Status	UPL Species x 5 =
Scirpus spp.	100%	Yes	OBL	Column Totals (A) (B)
2				Prevalence Index = B/A =
3				Ibidee butic Verstation Indianton
l				Hydrophytic Vegetation Indicators Dominance Text is >50%
j				Prevalence Index is $\leq 3.0^{1}$
				Morphological Adaptations <sup>1</sup> (provide supporting data in Remarks or on a separate sheet)
·				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
50%= <u>18</u> 20%= <u>7</u> Total Cover:				be present.
Voody/Vine Stratum (use scientific names)	Absolute % Cover	Dominant Species?		Hydrophytic Vegetation? Yes
			Julus	
2				
50%= 20%= Total Cover:				Veg consists of dense Scripus cover, including the
% Bare Ground in Herb Stratum % Cover of Bio	and the second second			

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0/	Redox Features	0/	Turnel	1002	Tautura	Demedia
_%_	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	<u>Remarks</u> Histic epipedon
						Sandy loam
RR C)	all LRRs, unless oth         Sandy Gle         Sandy Red         Stripped N         Loamy Mu         Loamy Gle         Depleted N         Depleted D         Depleted D	erwise n eyed Matu dox (S5) Matrix (S6 ocky Mine eyed Mat Matrix (F3 rk Surfac Dark Surfac	oted) rix (S4) eral (F1) rix (F2) 3) e (F6) face (F7)	- rore Li	Indicators fo	Root Channel M = Matrix <u>or Problematic Hydric Soils<sup>3</sup></u> n Muck (A9) (LRR C) n Muck (A10) (LRR B) luced Vetric (F18) I Parent Materials (TF2) letated Sand/Gravel Bars er (Explain in Remarks) of hydrophytic vegetation and drology must be present.
уре:	De	pth (Inch	es)	_ Hydric	Soil? Yes	
cator is suffi	cient)				Secondary	Indicators (2 or more required
	Salt Crust					er Marks (B1) (Riverine) iment Deposits (B2) (Riverine)
erine) Nonriverine) rerine) 9)	Biotic Crus  Aquatic Inv  Hydrogen  Oxidized R  Presence o  Recent Iroo  Plowed So  Thin Muck Other (Exp	vertebrate Sulfide C Rhizospho of Reduct n Reduct bils (C6) Surface	Odor (C1) eres (C3) ed Iron (C4 tion in (C7)	4)	Drai	Deposits (B3) (Riverine) nage Patterns (B10) Season Water Table (C2) yfish Burrows (C8) uration Visible on ial Imagery (C9) Ilow Aquitard (D3) C-Neutral Test (D5)
	RR C) face (A11) ) ype:	Applicable to all LRRs, unless oth Sandy Gle Sandy Rec Stripped M Coamy Mu Coamy Co	Applicable to all LRRs, unless otherwise m Sandy Gleyed Matri Sandy Redox (S5) Stripped Matrix (S6 Loamy Mucky Mine Loamy Gleyed Matrix (F3 face (A11) Redox Dark Surfac Depleted Matrix (F3 face (A11) Redox Dark Surfac Depleted Dark Surfac Cator is sufficient	Applicable to all LRRs, unless otherwise noted)         Sandy Gleyed Matrix (S4)         Sandy Redox (S5)         Stripped Matrix (S6)         Loamy Mucky Mineral (F1)         Loamy Gleyed Matrix (F2)         Depleted Matrix (F3)         face (A11)         Redox Dark Surface (F6)         Depleted Dark Surface (F7)         Redox Depressions (F8)         Vernal Pools (F9)         ype:         Depth (Inches)	Applicable to all LRRs, unless otherwise noted)         Sandy Gleyed Matrix (S4)         Sandy Redox (S5)         Stripped Matrix (S6)         Loamy Mucky Mineral (F1)         Loamy Gleyed Matrix (F2)         Depleted Matrix (F3)         face (A11)         Redox Dark Surface (F6)         Depleted Dark Surface (F7)         Redox Depressions (F8)         Vernal Pools (F9)         ype:         Depth (Inches)         Hydric	upplicable to all LRRs, unless otherwise noted)       Indicators for         Image: Sandy Gleyed Matrix (S4)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)         Image: Sandy Redox (S5)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)         Image: Sandy Redox (S5)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)       Image: Sandy Redox (S5)         Image: Sandy Redox (S5)       Image