**APPROVED JURISDICTIONAL DETERMINATION FORM**
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** October 31, 2016

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Los Angeles District, SPL-2016-00160-ERS

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**
State: California
County/parish/borough: Orange
City: Newport Beach
Center coordinates of site (lat/long in degree decimal format): Lat. 33.651511, Long. -117.852769
Universal Transverse Mercator: N/A
Name of nearest waterbody: San Diego Creek
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: San Diego Creek and Upper Newport Bay
Name of watershed or Hydrologic Unit Code (HUC): Newport Bay
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**
☒ Office (Desk) Determination. Date: October 31, 2016
☐ Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There are "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☒ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

There are 4.95 acres of section 10 wetlands and 25.29 acres of section 10 non-wetland areas within the review area. Based on a previous approved JD that identified the section 10/404 boundary within San Diego Creek (Corps File No. SPL-2008-00437-CJF), the boundary separating section 10 and 404 jurisdictional waters was placed at the downstream end of the weir passing under Campus Drive (Exhibit 1c). A delineation report from 2007 documenting the presence of section 10 waters of the U.S. within the review area is provided as Exhibit 5, with an email from the applicant's consultant verifying the current validity of the delineation report received May 9, 2016 (Exhibit 6).

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There are "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: 25.29 acres (section 10) and 0.51 acre (non-section 10)
      Wetlands: 4.95 acres (section 10) and 0.66 acre (non-section 10)
   A delineation report from 2007 documenting the presence of non-section 10 waters of the U.S. within the review area is provided as Exhibit 5, with an email from the applicant's consultant verifying the current validity of the delineation report provided as Exhibit 6.
   c. **Limits (boundaries) of jurisdiction** based on: The previous approved JD that identified the boundary between section 10 and non-section 10 waters (Corps File No. SPL-2008-437-CJD; Exhibit 2) referenced IRWD conductivity monitoring data showing that

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

a tidal prism is muted but detectable between MacArthur Blvd and Campus Drive (Exhibits 3 and 4). This approved JD further indicated that "at high tide, tidal flow likely reaches as far [upstream] as Campus Dr. before Basin 2 weir"). Therefore, at high tide, tidal flows likely reach as far upstream as the downstream extent of this weir (Exhibit 1c).
Elevation of established OHWM (if known): N/A

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   - ☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: N/A

[3] Supporting documentation is presented in Section III.F.

## SECTION III: CWA ANALYSIS

### A. TNWs AND WETLANDS ADJACENT TO TNWs

**The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below**.

**1. TNW**

Identify TNW: San Diego Creek between Newport Bay outlet and Campus Drive weir.

Summarize rationale supporting determination: The previous approved JD that identified the boundary between section 10 and non-section 10 waters (Corps File No. SPL-2008-437-CJD; Exhibit 2) referenced IRWD conductivity monitoring data showing that a tidal prism is muted but detectable between MacArthur Blvd and Campus Drive (Exhibits 3 and 4). This approved JD further indicated that "at high tide, tidal flow likely reaches as far [upstream] as Campus Dr. before Basin 2 weir"). Therefore, at high tide, tidal flows likely reach as far upstream as the downstream extent of this weir (Exhibit 1c).

**2. Wetland adjacent to TNW**

Summarize rationale supporting conclusion that wetland is "adjacent": Wetlands directly abutting the TNW were identified within San Diego Creek in the report entitled, "San Diego Creek Flood Control Channel (Upper Newport Bay to I-405) Programmatic Operations and Maintenance Project: Delineation of State and Federal Jurisdictional Waters," by RBF Consulting, dated December 2007 (Exhibit 5). An email from the applicant's consultant verifying the current validity of this delineation was received May 9, 2016.

### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

**This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.**

**The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.**

**A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.**

**If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.**

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

**(ii) Physical Characteristics:**

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
**Tributary** is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

**Tributary** properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

**(iii) Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

**(iv) Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List.**

Estimate approximate location of wetland as within the **Pick List** floodplain.

**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

**(iii) Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

**3. Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

| Directly abuts? (Y/N) | Size (in acres) | Directly abuts? (Y/N) | Size (in acres) |
|---|---|---|---|

Summarize overall biological, chemical and physical functions being performed: .

## C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: 25.29 acres
   - ☒ Wetlands adjacent to TNWs: 4.95 acre

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: The delineation of the project area provided as Exhibit 6 indicates on page 31 that the review area within San Diego Creek "is perennial, containing water year-round."
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: 0.51 acre
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: The position of the non-section 10 wetlands adjacent to the San Diego Creek RPW is shown in Exhibit 1c.

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: 0.66 acre.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]**
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

[8] See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
**[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

**Identify water body and summarize rationale supporting determination:** .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**
☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

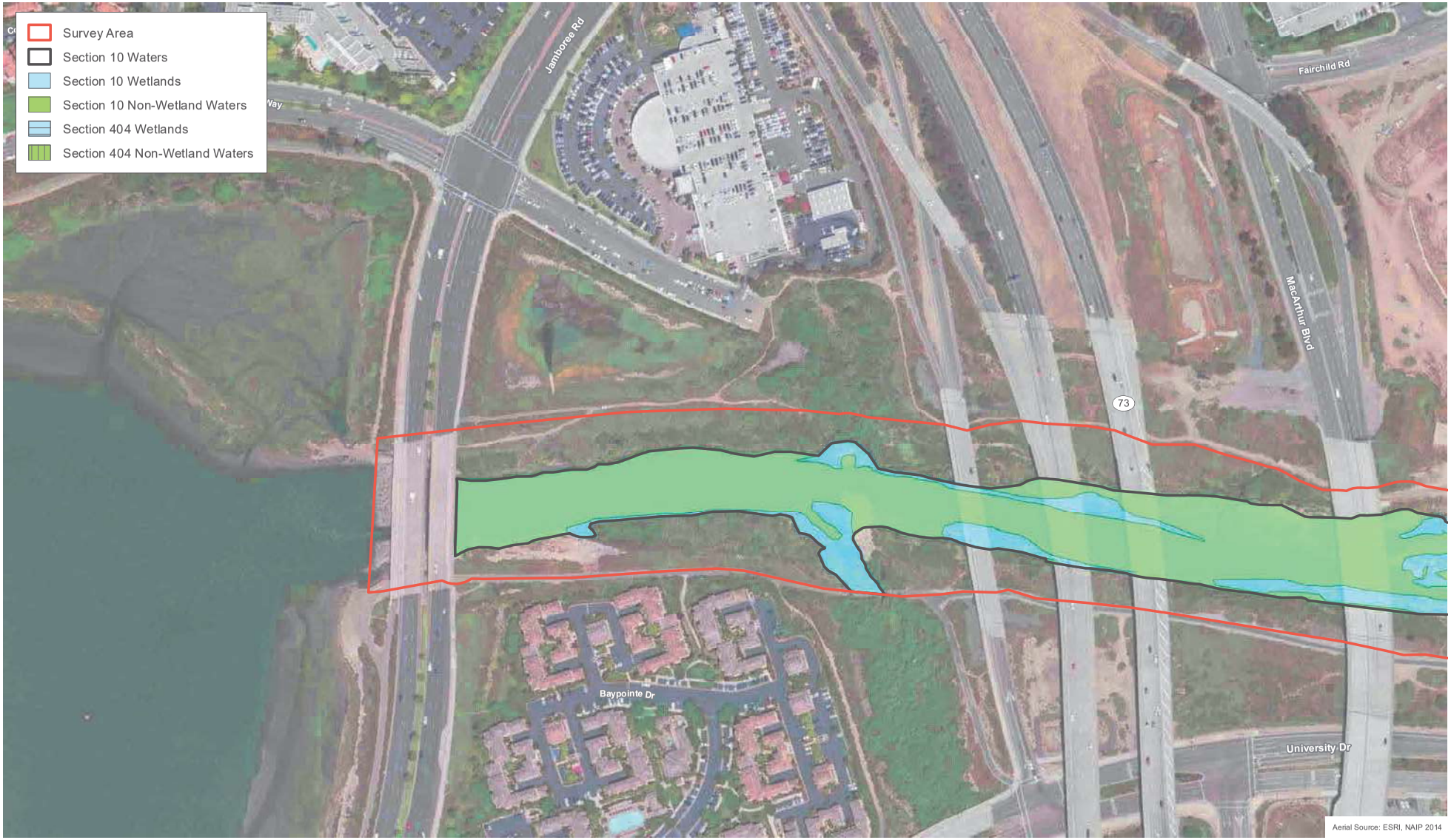
## SECTION IV: DATA SOURCES.

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply -** checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: A map showing the jurisdictional wetland and non-wetland section 10/404 waters is provided as Exhibit 1. The IRWD figure provided depicts the areal extent upstream of the Newport Bay outlet where tidal flows are likely to reach (Exhibit 4).
☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☒ Data sheets prepared by the Corps: Wetland delineation data sheets were included in the report entitled, "San Diego Creek Flood Control Channel (Upper Newport Bay to I-405) Programmatic Operations and Maintenance Project: Delineation of State and Federal Jurisdictional Waters," by RBF Consulting, dated December 2007 (Exhibit 5). The consultant verified the current validity of the 2007 delineation report in an email received May 9, 2016 (Exhibit 6).
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☐ Photographs: ☐ Aerial (Name & Date): .
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .

☒ Other information (please specify): Electrical conductivity data consisting of IRWD monitoring data shows the extent of tidally-included area upstream of the outlet to Newport Bay (Exhibit 3).
☒ Other information (please specify): N/A

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** .

# Exhibit 1

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## Jurisdictional Waters

Exhibit 1a

*San Diego Creek Reach I Operations and Maintenance Program*

N W E S

200 100 0 200 Feet

PSOMAS

(Rev: 08-18-2016 LEW) R:\Projects\COO\3COO010302\Graphics\Reg_Permitting\USACE\USFWS_Consultation\Ex1_JD_20160801.pdf


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## Jurisdictional Waters

Exhibit 1b

*San Diego Creek Reach I Operations and Maintenance Program*

N W E S

200 100 0 200 Feet

PSOMAS

(Rev: 08-18-2016 LEW) R:\Projects\COO\3\COO010302\Graphics\Reg_Permitting\USACE\USFWS_Consultation\Ex1_JD_20160801.pdf


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## Jurisdictional Waters

Exhibit 1c

*San Diego Creek Reach I Operations and Maintenance Program*

N W E S 200 100 0 200 Feet

PSOMAS

(Rev: 08-18-2016 LEW) R:\Projects\COO\3COO010302\Graphics\Reg_Permitting\USACE\USFWS_Consultation\Ex1_JD_20160801.pdf

**Exhibit 2**

**APPROVED JURISDICTIONAL DETERMINATION FORM**
**U.S. Army Corps of Engineers**

## SECTION I: BACKGROUND INFORMATION

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):** 30-Apr-2008

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Los Angeles District, SPL-2008-00437-CJF-JD1

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

| | |
|---|---|
| State : | CA - California |
| County/parish/borough: | Orange |
| City: | Newport Beach |
| Lat: | 33.651 |
| Long: | -117.867 |
| Universal Transverse Mercator: | [ ] |
| Name of nearest waterbody: | San Diego Creek |
| Name of nearest Traditional Navigable Water (TNW): | San Diego Creek and Upper Newport Bay |
| Name of watershed or Hydrologic Unit Code (HUC): | Newport Bay |

☑ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc¿) are associated with the action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION:**

☑ Office Determination Date: 01-May-2008

☐ Field Determination Date(s): ☐

## SECTION II: SUMMARY OF FINDINGS

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION**

There are "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area.

☑ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There [ ] "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area.

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area:[1]**

| Water Name | Water Type(s) Present |
|---|---|
| San Diego Creek - Lower Creek | TNWs, including territorial seas |

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Area: (m²)
Linear: (m)

**c. Limits (boundaries) of jurisdiction:**

based on: Established by mean(average) high waters.
OHWM Elevation: 4.27 (if known)

**2. Non-regulated waters/wetlands:[3]**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

## SECTION III: CWA ANALYSIS

### A. TNWs AND WETLANDS ADJACENT TO TNWs

**1.TNW**

| TNW Name | Summarize rationale supporting determination: |
|---|---|
| San Diego Creek - Lower Creek | Tidal prism is muted but detectable from mouth u/s to between MacArthur Blvd and Campus Dr using IRWD conductivity monitoring data, which is u/s of County Basin 2. Weir u/s of County Basin 2 prevents tidal flow farther u/s. At high tide, tidal flow likely reaches as far u/s as Campus Dr before Basin 2 weir. Documentatic CJF 5/1/08 |

**2. Wetland Adjacent to TNW**
Not Applicable.

### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

**1. Characteristics of non-TNWs that flow directly or indirectly into TNW**

**(i) General Area Conditions:**

Watershed size: [ ]
Drainage area: [ ]
Average annual rainfall: inches
Average annual snowfall: inches

**(ii) Physical Characteristics**
**(a) Relationship with TNW:**

☐ Tributary flows directly into TNW.
☐ Tributary flows through [ ] tributaries before entering TNW.
:Number of tributaries

Project waters are [ ] river miles from TNW.
Project waters are [ ] river miles from RPW.
Project Waters are [ ] aerial (straight) miles from TNW.

Project waters are [ ] aerial(straight) miles from RPW.

Project waters cross or serve as state boundaries.
Explain:

Identify flow route to TNW:[5]

**Tributary Stream Order, if known:**
Not Applicable.

**(b) General Tributary Characteristics:**
**Tributary is:**
Not Applicable.

**Tributary properties with respect to top of bank (estimate):**
Not Applicable.

**Primary tributary substrate composition:**
Not Applicable.

**Tributary (conditions, stability, presence, geometry, gradient):**
Not Applicable.

**(c) Flow:**
Not Applicable.

**Surface Flow is:**
Not Applicable.

**Subsurface Flow:**
Not Applicable.

**Tributary has:**
Not Applicable.

**If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction:**

**High Tide Line indicated by:**
Not Applicable.

**Mean High Water Mark indicated by:**
Not Applicable.

**(iii) Chemical Characteristics:**
**Characterize tributary (e.g., water color is clear, discolored, oily film; water quality;general watershed characteristics, etc.).**
Not Applicable.

**(iv) Biological Characteristics. Channel supports:**
Not Applicable.

**2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

**(i) Physical Characteristics:**
**(a) General Wetland Characteristics:**
**Properties:**
Not Applicable.

**(b) General Flow Relationship with Non-TNW:**
**Flow is:**
Not Applicable.

**Surface flow is:**
Not Applicable.

**Subsurface flow:**
Not Applicable.

**(c) Wetland Adjacency Determination with Non-TNW:**
Not Applicable.

**(d) Proximity (Relationship) to TNW:**
Not Applicable.

**(ii) Chemical Characteristics:**
**Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).**
Not Applicable.

**(iii) Biological Characteristics. Wetland supports:**
Not Applicable.

**3. Characteristics of all wetlands adjacent to the tributary (if any):**
**All wetlands being considered in the cumulative analysis:**
Not Applicable.

**Summarize overall biological, chemical and physical functions being performed:**
Not Applicable.

## C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Significant Nexus:** Not Applicable

## D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT

## WATERS/WETLANDS ARE:

**1. TNWs and Adjacent Wetlands:**

| Wetland Name | Type | Size (Linear) (m) | Siz |
|---|---|---|---|
| San Diego Creek - Lower Creek | TNWs, including territorial seas | - | 404.6 |
| **Total:** | | **0** | **404.6** |

**2. RPWs that flow directly or indirectly into TNWs:**
Not Applicable.

**Provide estimates for jurisdictional waters in the review area:**
Not Applicable.

**3. Non-RPWs that flow directly or indirectly into TNWs:**[8]
Not Applicable.

**Provide estimates for jurisdictional waters in the review area:**
Not Applicable.

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
Not Applicable.

**Provide acreage estimates for jurisdictional wetlands in the review area:**
Not Applicable.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs:**
Not Applicable.

**Provide acreage estimates for jurisdictional wetlands in the review area:**
Not Applicable.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs:**
Not Applicable.

**Provide estimates for jurisdictional wetlands in the review area:**
Not Applicable.

**7. Impoundments of jurisdictional waters:**[9]
Not Applicable.

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS:**[10]
Not Applicable.

**Identify water body and summarize rationale supporting determination:**
Not Applicable.

**Provide estimates for jurisdictional waters in the review area:**
Not Applicable.

**F. NON-JURISDICTIONAL WATERS. INCLUDING WETLANDS**

If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements:

Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce:

Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based soley on the "Migratory Bird Rule" (MBR):

Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (Explain):

Other (Explain):

**Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (ie., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment:**
Not Applicable.

**Provide acreage estimates for non-jurisdictional waters in the review area, that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction.**
Not Applicable.

## SECTION IV: DATA SOURCES.

**A. SUPPORTING DATA. Data reviewed for JD**
(listed items shall be included in case file and, where checked and requested, appropriately reference below):

| Data Reviewed | Source Label | Source Description |
|---|---|---|
| --Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant | IRWD figure and data | IRWD data trends of electrical conductivity at monitoring station sh u/s of basin 2. Figure depicts areal extent u/s of mouth where tidal likely to reach, i.e., between MacArthur Blvd and Campus Dr cross |
| --Data sheets prepared/submitted by or on behalf of the applicant/consultant | Data Sheets | wetland data sheets prepared by LSA 6/9/06 show wetlands prese outside impact area; submitted with app package |
| ----Office concurs with data sheets/delineation report | - | - |
| --U.S. Geological Survey map(s). | - | - |
| --Other information | Tide planes and Tidal Data | NOAA Tidal Datum Sheet for Newport Bay, pub 7/17/89 shows MH MLLW for Section 10 and MHHW at +5.40' MLLW as approx. High |
| --Other information | Electrical conductivity data | IRWD monitoring data for electrical conductivity shows extent of ti influenced area |

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**
Not Applicable.

[1]-Boxes checked below shall be supported by completing the appropriate sections in Section III below.

[2]-For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

[3]-Supporting documentation is presented in Section III.F.

[4]-Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

[5]-Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

[6]-A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

[7]-Ibid.

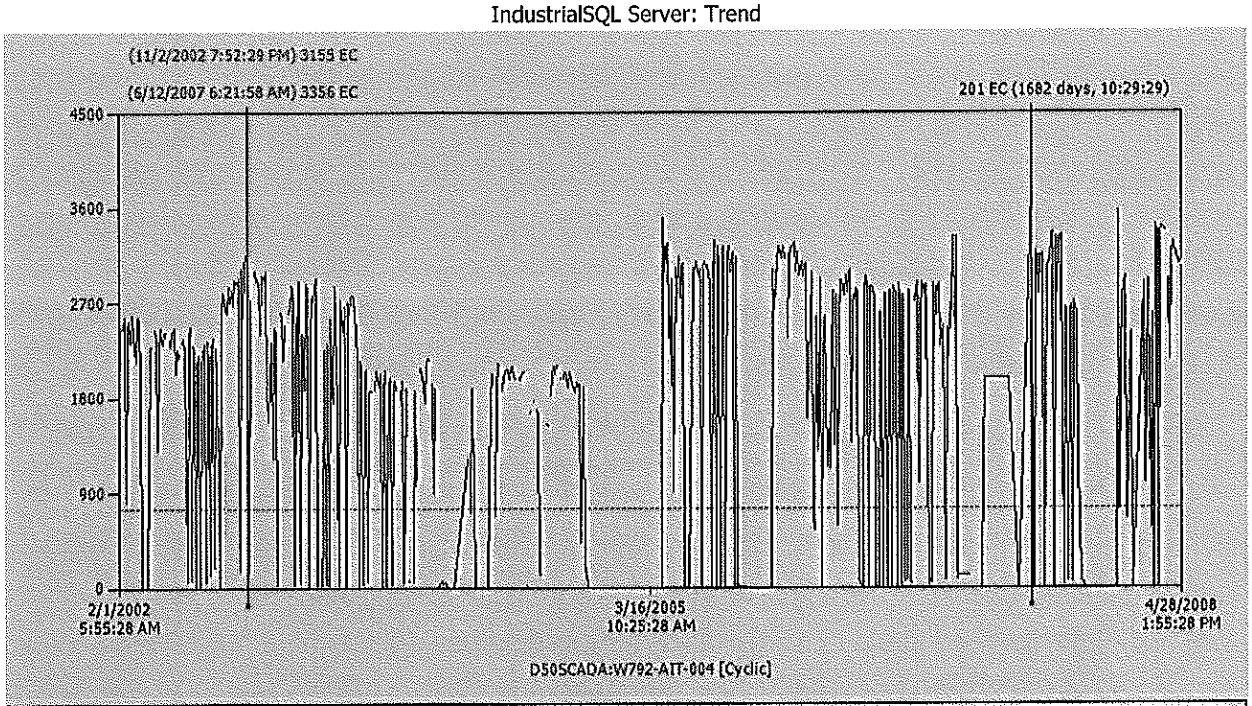
[8]-See Footnote #3.

[9] -To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10]-Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

# Exhibit 3

IndustrialSQL Server: Trend




| Tag Name | Description | Ser... | Color | Units | Minimum | Maximum | IO Address | Time Off... |
|---|---|---|---|---|---|---|---|---|
| ☑ W792-AIT-004 | Creek Station Conductivity | D50... | | EC | 0 | 4500 | \\commserver1\stacser... | 0:00:00.000 |
| ☐ W792-FI-101 | Wetlands Discharge Flow | D50... | | gpm | 0 | 6000 | \\commserver1\stacser... | 0:00:00.000 |
| ☐ W792-FI-504 | Wetlands Discharge Flow to Creek | D50... | | MG | 0 | 6000 | \\commserver1\stacser... | 0:00:00.000 |
| ☐ W792-FI-506 | Creek influent to ponds flow | D50... | | GPM | 0 | 6000 | \\commserver1\stacser... | 0:00:00.000 |
| ☐ W792-LI-510 | Wetlands Pump Wetwell Level | D50... | | ft | 0.0 | 20.0 | \\commserver1\stacser... | 0:00:00.000 |
| ☐ W792-PI-508 | Wetlands Pump Discharge Pressure | D50... | | psi | 0.0 | 60.0 | \\commserver1\stacser... | 0:00:00.000 |

4/28/2008 2:01:31 PM
C:\Documents and Settings\Denger\Desktop\SJM Operations\Marsh Operations - Trends.aaTrend

**Exhibit 4**

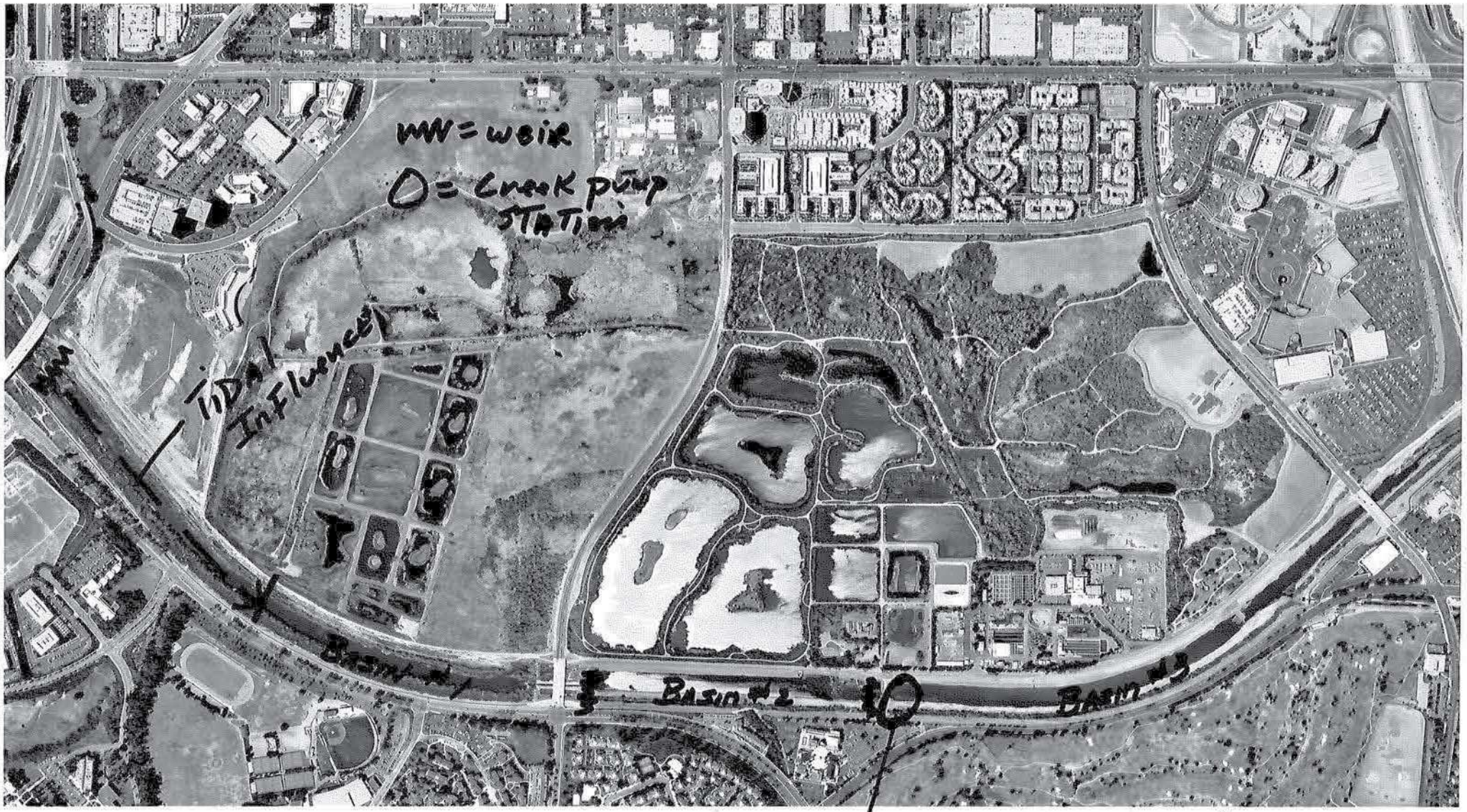

WW = weir
O = Creek pump station
Tidal Influence
Basin #1
Basin #2
Basin #3
Ec Reading (chart)

**Exhibit 5**

# SAN DIEGO CREEK FLOOD CONTROL CHANNEL (UPPER NEWPORT BAY TO I-405) PROGRAMMATIC OPERATIONS AND MAINTENANCE PROJECT

## COUNTY OF ORANGE, CALIFORNIA

## Delineation of State and Federal Jurisdictional Waters

Prepared For:

**County of Orange**
**Resources and Development Management Department**
300 North Flower Street
Santa Ana, California 92703-5000
*Contact: Ms. Nardy Khan*
714/834-2340

Prepared By:

**RBF Consulting**
14725 Alton Parkway
Irvine, California 92618
*Contact: Mr. Richard Beck*
949/855-3687

December 2007

# SAN DIEGO CREEK FLOOD CONTROL CHANNEL
# (UPPER NEWPORT BAY TO I-405)
## PROGRAMMATIC OPERATIONS AND MAINTENANCE PROJECT
## COUNTY OF ORANGE, CALIFORNIA

## Delineation of State and Federal Jurisdictional Waters

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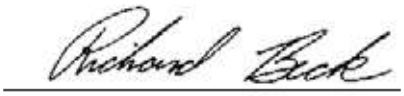
The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional "waters of the U.S." (including wetlands) and "waters of the State" determination for the above-referenced project.

RBF CONSULTING

Lauren See
Regulatory Specialist
Planning and Environmental Services



Regulatory Manager
Planning and Environmental Services

December 19, 2007

# Executive Summary

At the request of the County of Orange Resources and Development Management Department (RDMD), RBF Consulting (RBF) has prepared this Delineation of Jurisdictional Waters for the San Diego Creek Flood Control Channel (Facility F05), from Jamboree Road to Interstate 405 (I-405), located within the Cities of Newport Beach and Irvine, County of Orange, California. This delineation is the first to be completed after the interim maintenance activities that concluded in early March 2007. This delineation was conducted on March 14, and April 11, 18, and 19, 2007 to document the regulatory authority of the U.S. Army Corps of Engineers (ACOE); the Santa Ana Regional Water Quality Control Board (RWQCB); the California Department of Fish and Game (CDFG); and the California Coastal Commission (CCC). Applicable state and federal regulations include the Federal Clean Water Act (CWA), the California Fish and Game Code, the California Porter-Cologne Act, and California Coastal Act. The project area was surveyed pursuant to the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE, 2006), to identify evidence of hydrology, hydrophytic vegetation, and hydric soils; and the *Field Guide to Lake and Streambed Alteration Agreements Section 1600-1607* (CDFG, 1994) to identify evidence of streambed(s) and associated riparian vegetation.

This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction. Generally, this would be a written concurrence in the form of a Jurisdictional Determination (JD) letter.

Table ES-1, below, indicates each regulatory agency and their corresponding jurisdictional acreage located within the project site.

**TABLE ES-1. Summary Table**

| Agency | Total Jurisdictional Impact Acreage |
|---|---|
| U.S. Army Corps of Engineers | 62.12 |
| Regional Water Quality Control Board | Same as ACOE |
| California Department of Fish and Game | 83.88 |
| California Coastal Commission | 26.89 |

# Table of Contents

## LIST OF EXHIBITS



## TABLES



## APPENDIX

## ACRONYMS

| | |
|---|---|
| ACOE | Army Corps of Engineers |
| BGS | Below Ground Surface |
| CCC | California Coastal Commission |
| CCMP | California Coastal Management Plan |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CDP | Coastal Development Permit |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| CWA | Clean Water Act |
| CZMP | California Zone Management Plan |
| EPA | Environmental Protection Agency |
| FAC | Facultative Vegetation |
| FACU | Facultative Upland Vegetation |
| FACW | Facultative Wetland Vegetation |
| GPS | Global Positioning System |
| IP | Individual Permit |
| MSL | Mean Sea Level |
| NRCS | Natural Resources Conservation Service |
| NOD | Notice of Determination |
| NWP | Nationwide Permit |
| OBL | Obligate Wetland Vegetation |
| OHWM | Ordinary High Water Mark |
| OU | Operable Unit |
| RBF | RBF Consulting |
| RDMD | Resources and Development Management Department |
| RWQCB | Regional Water Quality Control Board |
| SAA | Streambed Alteration Agreement |
| SWANCC | Solid Water Agency of Northern Cook County |
| UPL | Obligate Upland Vegetation |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |

# Section 1 Introduction and Purpose

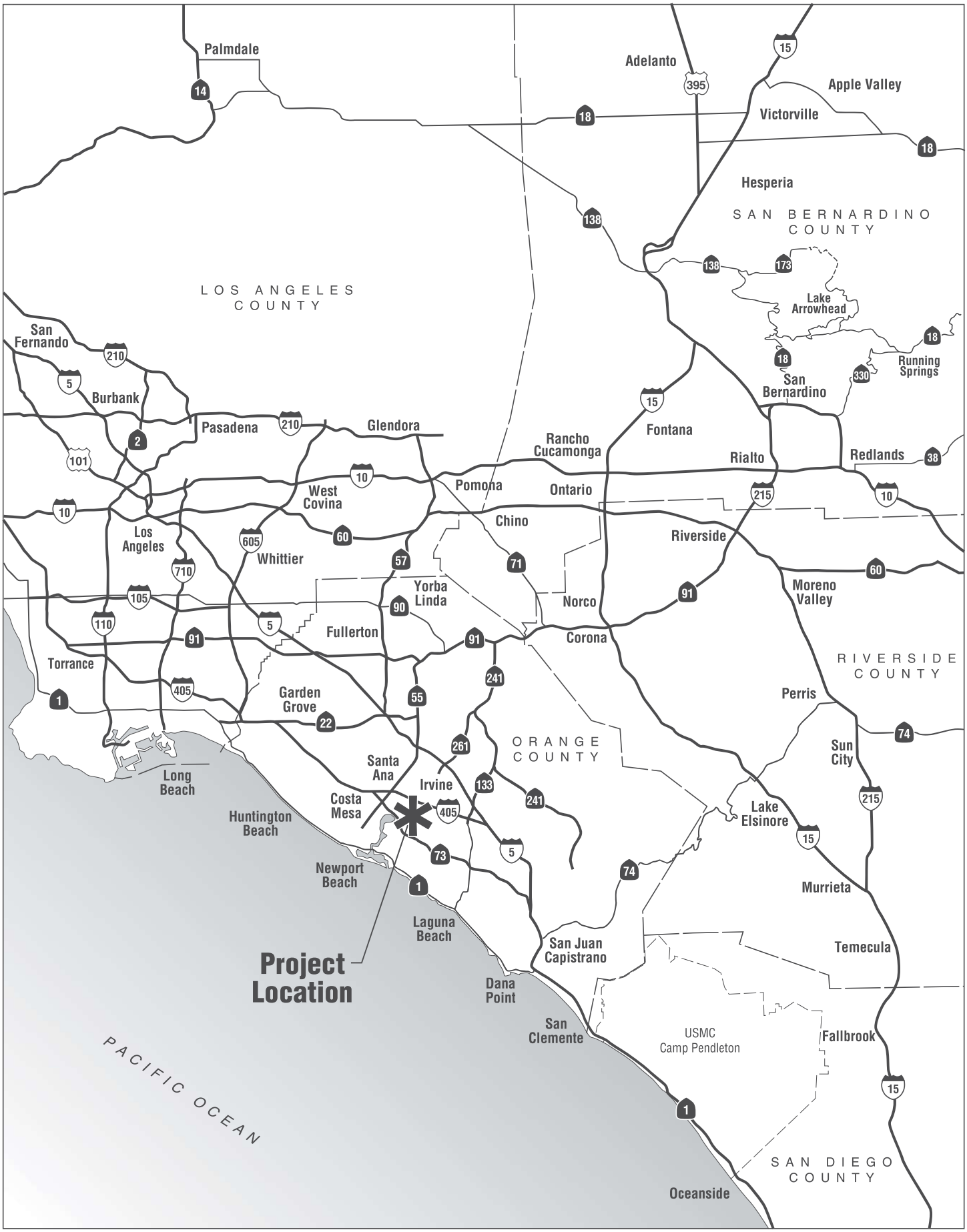
This delineation was prepared for the County of Orange Resources and Development Management Department (RDMD), in order to delineate the U.S. Army Corps of Engineers' (ACOE), Regional Water Quality Control Board's (RWQCB), California Department of Fish and Game's (CDFG), and California Coastal Commission's (CCC) jurisdictional authority within the San Diego Creek Flood Control Channel (Facility F05), from Jamboree Road to Interstate 405 (I-405), herein referred to as the project site.

The project site is located along the San Diego Creek Flood Control Channel within the Cities of Newport Beach and Irvine, County of Orange, State of California (T.6S, R.9W, Sections 51, 57, 58, 59, and 60; San Bernardino Base and Meridian [SBBM]) (refer to Exhibit 1, *Regional Vicinity*). Basins 1, 2, and 3 are generally located south of Interstate 405 (I-405) and extend approximately 15,000 linear feet southwest towards Jamboree Road. The Lower Channel area extends from Jamboree Road to upstream of MacArthur Boulevard; Basin 1 is situated upstream of MacArthur Boulevard and extends northeast to Campus Drive; Basin 2 is situated upstream of Campus Drive and extends 1,800 feet to the northeast; Basin 3 extends from the northeast end of Basin 2 to approximately 1,000 feet downstream of Michelson Drive; and the Upper Channel Area is situated from the end of Basin 3 upstream to the I-405 (Refer to Exhibit 2, *Site Vicinity* and Exhibit 3, *Project Site*).

Existing uses in the vicinity of the project site include the San Joaquin Marsh Wildlife Sanctuary, William R. Mason Regional Park, Rancho San Joaquin Golf Course, industrial, residential, commercial, and the University of California, Irvine. On-site elevations range from approximately 0.0 feet above mean sea level (msl) in the invert of the creek and basins to 20.0 feet above msl for the channel banks and surrounding area.

**TABLE 1. Lower San Diego Creek Channel Features**

| Feature | Descriptive limits |
|---|---|
| Lower Channel | Jamboree Rd. to U/S MacArthur Blvd. |
| Basin 1 | U/S MacArthur Blvd. to Campus Dr. |
| Basin 2 | Campus Drive to 1,800' U/S of Campus Dr. |
| Basin 3 | 1,800' U/S Campus Dr. to 1,000' D/S Michelson Dr. |
| Upper Channel | 1,000' D/S Michelson Dr to I-405 Freeway |




RBF CONSULTING

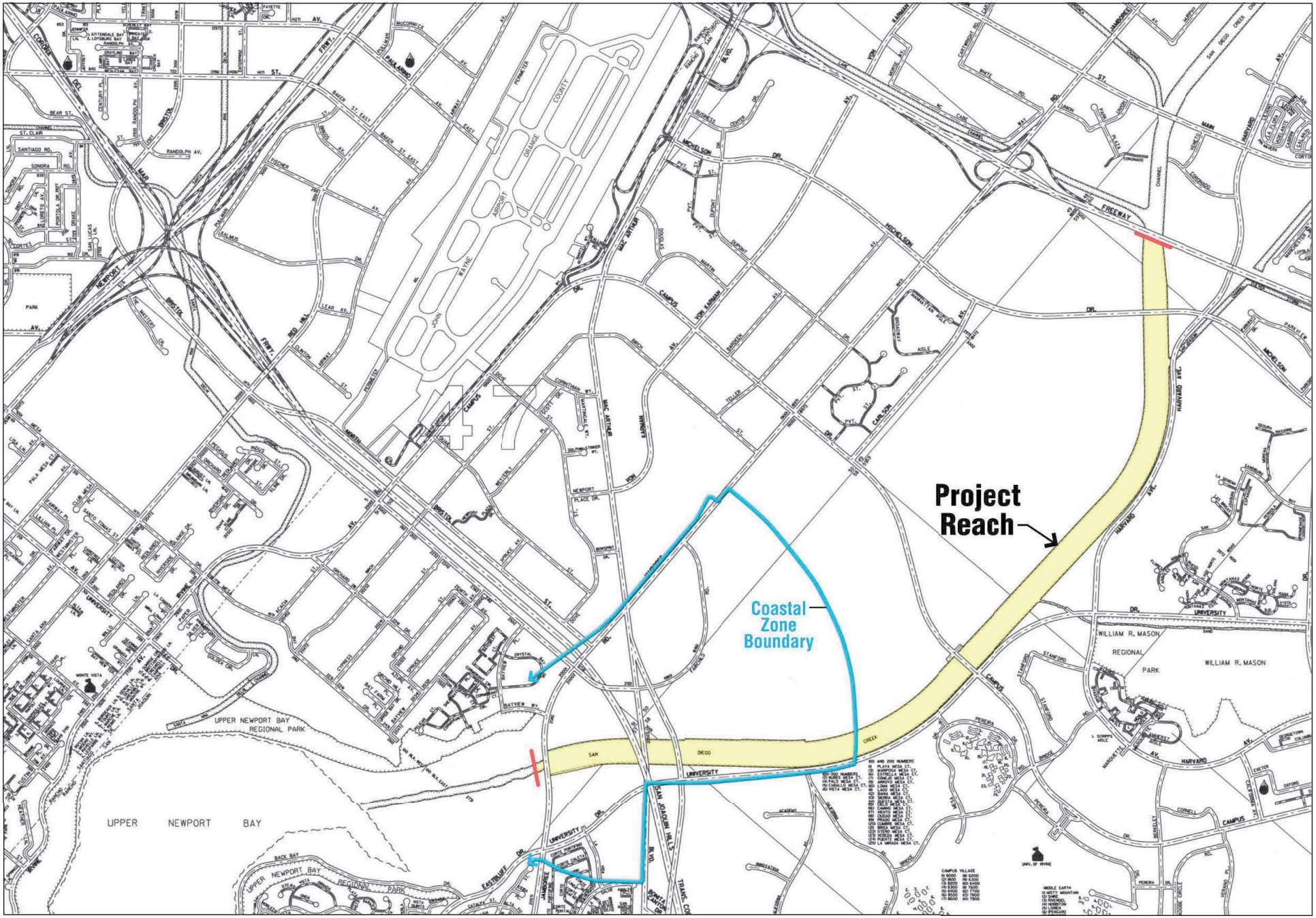
0 5 11 miles
APPROXIMATE

4/30/07 JN 10-103795-13931

SAN DIEGO CREEK CHANNEL (F05) POST-INTERIM MAINTENANCE • JURISDICTIONAL DELINEATION

# Regional Vicinity

Exhibit 1




SAN DIEGO CREEK CHANNEL (F05) POST-INTERIM
MAINTENANCE • JURISDICTIONAL DELINEATION

# Site Vicinity

**Exhibit 2**

RBF CONSULTING

8/21/07 JN 10-103795-13931


Project Reach

In-Channel Basin Limits

SAN DIEGO CREEK CHANNEL (F05) POST-INTERIM MAINTENANCE • JURISDICTIONAL DELINEATION

# Project Site

RBF CONSULTING

8/21/07 JN 10-103795-13931

Exhibit 3

This delineation has been designed to document the authority of the regulatory agencies, the methodology undertaken by RBF Consulting (RBF) to document jurisdictional authority, and the findings made by RBF within the boundaries of the project site. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

## 1.1 PROJECT SITE BACKGROUND

San Diego Creek is the primary freshwater input into Newport Bay and also provides a corridor for wildlife movement between the Bay, Marsh, and upland areas. Since the late 1970s excess sediment entering Newport Bay from San Diego Creek has been identified as creating impairment to the beneficial uses of the Bay, impacting habitat, recreation, and navigational uses. To reduce sediment, three in-line sediment basins (Basins 1, 2, and 3) were built in the lower reach of the San Diego Creek Flood Control Channel. Basin 1 was built in 1983 and Basins 2 and 3 were constructed in 1985 and 1986. Lengthy retention times in these basins allow soil particles to settle out of the water column before San Diego Creek discharges into Upper Newport Bay. A report entitled *Enhancement Plan For Lower San Diego Creek* (July 2000) recommended modifications to the basins to reduce the scour potential during high storm flow events. In January 2004 Basin 2 was partially deepened in order to increase the basin's sediment trapping capability.

The in-line basins have been periodically dredged since their original construction. In 1997 the Irvine Ranch Water District (IRWD) dredged the basins and used the sediment to construct the San Joaquin Marsh Sanctuary. Dredging operation also occurred in 1998 after the 1997/1998 El Niño season. Since that time, dredging of the basins was not needed because of the record subnormal rainfall seasons. Consequently, vegetation growth crept into the basin areas. The additional vegetation in the basins resulted in a significant reduction of channel flood capacity.

In fall of 2003, the Orange County Flood Control District (OCFCD) evaluated the hydraulic affects of the increased vegetation and sediment on the channel flood capacity. The results of the hydraulic analysis indicated that Lower San Diego Creek Flood Control Channel could only convey 54 percent of its original design capacity. The consequential loss of channel flood capacity could result in flooding of the Michelson Wastewater Reclamation Plant (MWRP), an assisted care facility and community church. The IRWD adopted a resolution supporting the emergency project on December 15, 2003. The MWRP would be at risk during flooding from significant storm events causing the plant to shut down with loss of sewer service to over 40,000 residents. The study also estimated that approximately four

million gallons per day of raw sewage could potentially flow into Upper Newport Bay. With this information, RDMD prepared an Emergency Action Plan to restore the channel capacity. On December 16, 2003, the Board of Supervisors of the OCFCD declared an emergency project for the Lower San Diego Creek Flood Control Channel between Jamboree Road and I-405. Implementation of the emergency project consisted of maintaining a 40-foot wide vegetated habitat corridor on the east side of the channel, selective vegetation removal within the 40-foot wide habitat area, vegetation removal in the channel bottom and side slopes, and removal of accumulated sediment in the channel area to restore flood conveyance capability. The work area was limited to the extreme northwestern slope of Basin 1 (by Campus Bridge), and both sides of Basins 2 and 3. Work downstream of Basin 1 within the Coastal Zone was not allowed; however, work upstream of Basin 3 to I-405 was authorized. Vegetation removal began in December 2003 and sediment removal operations stopped on March 28, 2004. The emergency contractor was unable to remove all the sediment within Basins 2 and 3 because of the arrival of a federally listed endangered species, the least Bell's vireo (LBV).

Removal of the remaining sediment and routine vegetation management in the emergency project footprint was necessary to achieve the goal of the emergency project. The remaining work was conducted in early 2007, and included removing the remaining sediment within the channel area, reestablishing the basin capacity on the east side of Basins 2 and 3, and routine vegetation management of areas disturbed within the emergency project footprint (including the upstream portion to I-405). The vegetation management activities consisted of establishing native grassland on the west side slope of a portion of Basin 1, channel side slopes and west side channel bottom in Basins 2 and 3, and on both side slopes in the channel from Basin 3 up to I-405; and the established 40-foot wide vegetation area in Basins 2 and 3 and up to I-405 was maintained, which included removing non-native vegetation and thinning the trees that were greater than 3 inches diameter at breast height. Four (4) trees per one hundred lineal feet of channel were left to provide top story structure to the habitat area. In Basins 2 and 3, a portion of the accumulated sediment that was not removed during the emergency project, was excavated to restore flood control capacity. To date, Basin 1 and the lower channel near the Bay have not been maintained.

## 1.2 PROJECT DESCRIPTION

Long-term routine vegetation management and sediment removal in the channel areas is necessary to prevent excessive vegetation growth that would significantly reduce the channel flood control capacity. This delineation has been conducted in order to establish a baseline to be used in the Operations and Maintenance (O&M) Manual and Environmental Impact Report (EIR) for the long-term maintenance, which are currently being prepared under

separate covers. Per the O&M Manual, the project site is divided into two Reaches. Reach I (Station 6+05 to Station 58+00) is located within the Coastal Zone. Reach II (Station 58+00 to Station 158+00) is located outside of the Coastal Zone.

# Section 2 Summary of Regulations

There are four (4) key agencies that regulate activities within streams, wetlands, and riparian areas in California. The ACOE Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, the RWQCB pursuant to Section 401 of the CWA and the California Porter-Cologne Act, and the California Coastal Commission regulates activities under the California Coastal Act of 1976.

## 2.1 U.S. ARMY CORPS OF ENGINEERS

The ACOE has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The ACOE and Environmental Protection Agency (EPA) recently clarified and simplified the definition of "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." The term "waters of the United States" includes the following:

(1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;

(2) wetlands;

(3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce;

(4) all impoundments of water mentioned above;

(5) all tributaries of waters mentioned above;

(6) the territorial seas; and

(7) all wetlands adjacent to the waters mentioned above.

Under this definition, and in the absence of wetlands, the limits of the ACOE's jurisdiction in non-tidal waters extend to the ordinary high water mark (OHWM), which is defined as "*. . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas* (33 CFR §328.3(e))*."*

Wetlands, a subset of jurisdictional waters, are jointly defined by the ACOE and EPA as *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions* (33 CFR §328.3(b))*"*. Wetlands generally include swamps, marshes, bogs, and similar areas. The process in which jurisdictional areas (if any) are identified is further discussed in Section 3.0, *Methodology*.

## 2.2 REGIONAL WATER QUALITY CONTROL BOARD

The nine (9) Regional Boards have the responsibility for protecting water quality in California. The RWQCB regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands (isolated and non-isolated conditions).

Section 401 of the CWA gives the RWQCB the authority to regulate through 401 Certification any proposed federally permitted activity, which may affect water quality. Among such activities are discharges of dredged or fill material permitted by the ACOE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide "certification that there is reasonable assurance that an activity which may result in the discharge to waters of the United States will not violate water quality standards." Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, of which are found as numeric and narrative objectives in each of the nine (9) Regional Board's Basin Plan.

The Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne has become an important tool in the post *Solid Waste Agency of Northern Cook County* (SWANCC) *v. U.S. Army Corps of Engineers et al* era, with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a

Report of Waste Discharge (should there be no Section 404 nexus). Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB also interprets this to include fill discharged into water bodies.

## 2.3 CALIFORNIA DEPARTMENT OF FISH AND GAME

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the California Fish and Game Code. Legislation that took effect on January 1, 2004 repealed Fish and Game Code sections 1600-1607 and added Fish and Game Code sections 1600-1616. The most important issue to note with this change is that now there is no separation between private/public notifications (previously 1601/1603). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;

(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or

(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

This notification process is referred to as a 1602 Streambed Alteration Agreement (SAA). Fish and Game Code section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the ACOE. While they closely resemble the limits described by ACOE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFG takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

## 2.4 CALIFORNIA COASTAL COMMISSION

The CCC was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the California Coastal Act of 1976. The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and

water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the CCC or the local government.

The Coastal Act includes specific policies that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the CCC and by local governments, pursuant to the Coastal Act.

Jurisdictional Areas within the Coastal Zone:

A comprehensive classification system of wetlands and deepwater habitats (also referred to as the "Cowardin Wetland Classification System") was developed for the U.S. Fish and Wildlife Service (USFWS) in order to create the National Inventory of Wetlands. Under this hierarchical system, classification is based on hydrologic regime, vegetative community, and to a lesser extent on water chemistry and soils. The classification includes both wetlands and deepwater habitats. The Cowardin system includes several layers of detail for wetland classification including: a subsystem of water flow, classes of substrate types, subclasses of vegetation types and dominant species, as well as flooding regimes and salinity levels within the system. Overall, the Cowardin system and the ACOE Section 404 regulations define wetlands differently. The most significant difference is that the Cowardin system defines wetlands to include mudflats and other wet areas that lack vegetation.

According to the classification, the USFWS defines wetlands as follows: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominately hydrophytes; (2) the substrate is predominately undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year."

At the State and regional levels, the CDFG and the CCC, accept the USFWS definition and use it as a guide in identifying wetlands and in implementing their wetland policies. The Coastal Act (PRC Section 30121) 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, and fens." In addition, the Coastal Act (PRC Section 30107.5) defines environmentally sensitive areas in a manner that would include rivers, streams or other aquatic habitat. The Coastal Act defines wetland fill (Section 30233(a)) as the following:

The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing or restoring previously dredged depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland, provided, however, that in no event shall the size of the wetland area used for such boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, be grater than 25 percent of the total wetland area to be restored.

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource-dependent activities.

Flood Control Maintenance Activities:

Pursuant to Section 30236, channelization, dams, or other substantial alterations (such as vegetation removal) of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to:

(1) Necessary water supply projects.

(2) Flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development.

(3) Developments where the primary function is the improvement of fish and wildlife habitat.

## 2.5 ACTIVITIES REQUIRING PERMITS

Any development proposal (including maintenance) that involves impacting drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the ACOE, the RWQCB, the CDFG, and the CCC before any development could commence on the project site. Both permanent and temporary impacts are regulated and would therefore trigger the need for permits.

There are two (2) different permit categories utilized by the ACOE, which include either a Nationwide Permit (NWP) or Individual Permit (IP). The specific permit required is primarily based on project description and jurisdictional impacts. The ACOE will not issue its authorization until the RWQCB completes the Section 401 Water Quality Certification. Processing of the 401 Certification with the RWQCB and SAA with the CDFG can occur concurrently with the ACOE permit process, since the agencies can utilize the same information and analysis. Applications to both the RWQCB and the CDFG require submittal of a valid California Environmental Quality Act (CEQA) document along with the application.

New development or maintenance within the Coastal Zone that requires a permit from the CCC or the appropriate local government includes the placement of any solid material or structure; a change in land use density or intensity (including any land division); change in the intensity of water use or access to water; and removal of vegetation.

# Section 3 Methodology

Prior to visiting the project site, RBF conducted a review of United States Geological Survey (USGS) topographic maps, aerial photographs, and the State of California Hydric Soils List, (dated 1995), and existing studies, to identify areas that may fall under an agency's jurisdiction (refer to Section 3.5, *Literature Review*, for a complete discussion).

ACOE jurisdictional wetlands are delineated using the methods outlined in the ACOE *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2006). The methodology set forth in the Interim Regional Supplement is based on the following three (3) indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters. As described in Section 2.0, ACOE non-wetland waters of the U.S. are delineated based on the limits of the OHWM as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. The RWQCB shares ACOE jurisdiction, unless isolated conditions are present. In the presence of isolated conditions, the RWQCB takes jurisdiction via the OHWM and/or the 3-parameter wetland methodology utilized by the ACOE. The CDFG's and CCC's jurisdiction is defined to the top of bank of the stream/channel or to the limit of the adjacent riparian vegetation.

Analysis presented in this document consists of field surveys and verification of current conditions conducted on March 14, and April 11, 18, and 19, 2007. While in the field, jurisdictional areas were recorded onto a base map at an approximate scale of 1"= 80' using the topographic contours and visible landmarks as guidelines. Data points were taken with a Trimble Geo XT Ground Positioning System (GPS) with ESRI Arc Pad 6.0/7.0 in order to record and identify specific jurisdictional OHWM areas, soil pits, picture locations, and drainage features. This data was then transferred via a USB port as a .shp file and added to the project's jurisdictional map and included in the delineation report. In the field, vegetation, soils, and evidence of hydrology were examined via the methodology listed below:

## 3.1 VEGETATION

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, known as hydrophytic vegetation, are listed in regional publications of the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community

is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West.

- *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH).
- *Sapling/shrub stratum:* Consists of woody plants less than 3 inches in DBH, regardless of height.
- *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size.
- *Woody vines:* Consists of all woody vines, regardless of size.

The following indicators are applied in the sequence presented. Hydrophytic vegetation is present if any of the indicators is satisfied.

### 3.1.1 Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage are recorded on a wetland data sheet (included in Appendix A). Wetland indicator status is assigned to each species using *The List of Plant Species that Occur in Wetlands* (USFWS, 1988). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation was considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that occur almost always (estimated >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated <1 percent) in non-wetlands (i.e., cattail or pickleweed).
- *Facultative Wetland (FACW):* Plants that occur usually (estimated >67 to 99 percent) in wetlands, but also occur (estimated 1 to 33 percent) in non-wetlands (i.e., mulefat or willow).

- *Facultative (FAC):* Plants with similar likelihood (estimated 33 to 67 percent) of occurring in both wetlands and non-wetlands.
- *Facultative Upland (FACU):* Plants that occur sometimes (estimated 1 to <33 percent) in wetlands, but occur more often (estimated >67 to 99 percent) in non-wetlands.
- *Obligate Upland (UPL):* Plants that occur rarely (estimated 1 percent) in wetlands, but occur almost always (estimated >99 percent) in non-wetlands under natural conditions.

### 3.1.2 Indicator 2 – Prevalence Index

The prevalence index is used to determine whether hydrophytic vegetation is present on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test. The prevalence index takes in consideration all plant species in the community, not just a few dominants. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighing is abundance (percent cover). Hydrophytic vegetation is present if the prevalence index is 3.0 or less.

### 3.1.3 Indicator 3 – Plant Morphological Adaptations

Plant morphological adaptations can be used to distinguish certain wetland plant communities in the Arid West, when indicators of hydric soil and wetland hydrology are present. Some hydrophytes develop easily recognized physical characters, or morphological adaptations, when they occur in wetland areas. Common morphological adaptations include, but are not necessarily limited to, adventitious roots and shallow root systems developed on or near the soil surface. To apply this indicator, these morphological features must be observed on more than 50 percent of the individuals of a FACU species living in an area where indicators of hydric soil and wetland hydrology are present.

## 3.2 HYDROLOGY

Wetland hydrology indicators are presented in four (4) groups, which include:

### 3.2.1 Group A – Observation of Surface Water or Saturated Soils

Group A are based on the direct observation of surface water or groundwater during the site visit.

### 3.2.2 Group B – Evidence of Recent Inundation

Group B consist of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

### 3.2.3 Group C – Evidence of Recent Soil Saturation

Group C consist of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizopheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

### 3.2.4 Group D – Evidence from Other Site Conditions or Data

Group D consist of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

## 3.3 SOILS

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16 inches. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 16 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to a depth of at least 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with

standard plates within a *Munsell Soil Chart* (1994). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables-hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation; iron reduction, translocation, and accumulation; and sulfate reduction are also recorded.

Hydric soil indicators are present in three (3) groups, which include:

### 3.3.1 All Soils

All soils refers to soils with any USDA soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

### 3.3.2 Sandy Soils

Sandy soils refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

### 3.3.3 Loamy and Clayey Soils

Loamy and clayey soils refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

## 3.4 LITERATURE REVIEW

RBF conducted a review of USGS topographic maps, *Tustin, California Quadrangle*, dated 1965 (photorevised 1981); *aerial photographs*, provided by Eagle Aerial (2006) and Vertical Mapping Resources, Inc. (2007); and the *State of California Hydric Soils List* (1995) prior to visiting the site. Review of relevant literature and materials often help preliminarily identify areas that may fall under an agency's jurisdiction. Examples of relevant information include, USGS blueline streams, ponding, vegetation maps or aerial photographs, and hydric soils as listed within the U.S. Department of Agriculture (USDA) Soil Surveys. A summary of RBF's literature review is provided below (refer to Section 7.0, for a complete list of references used during the course of this delineation):

### 3.4.1 USGS Topographic Quadrangle

The USGS maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within a project site.

**TABLE 2. Topographic Summary**

| | |
|---|---|
| Map Name | Tustin, California |
| Map Year | 1965 (photorevised 1981) |
| Map Provider | USGS |
| Property Elevation (feet) | 0.0 to 20.0 feet above msl |
| Property Slope Type | Sloping |
| Property Slope Direction | Southwest |
| Map Contour Interval (feet) | 10 |

The project site consists of the San Diego Creek Flood Control Channel (F05), located between Jamboree Road and the I-405. Duck Ponds are noted to the north of the project site and the University of California Irvine is located to the south. Based on the USGS Tustin, California Quadrangle, on-site elevations range from approximately 0.0 feet above msl in the invert of the creek and basins to 20.0 feet above msl for the channel banks and surrounding area.

### 3.4.2 Aerial Photograph

Prior to the March 14, and April 11, 18, and 19, 2007 field visits, RBF reviewed aerial photographs, provided by Eagle Aerial (2006). Additionally, in order to delineate the most current on-site conditions, RBF requested an ortho aerial photograph to be flown for the project site. The aerial, flown on March 13, 2007 by Vertical Mapping Resources, Inc., illustrates the project site and was flown after the most recent interim maintenance activities. Aerial photographs can be useful during the delineation process, as the photographs often indicate drainages and vegetation (i.e. riparian vegetation) present within the boundaries of the project site (if any).

According to the aerial photograph, the project site consists of the San Diego Creek Flood Control Channel, located between Jamboree Road and the I-405. Open water is noted on-site within San Diego Creek Flood Control Channel. Significant riparian vegetation is visible along the banks of the channel within Basin 1. Basins 2 and 3 appear to be maintained, noted by the lack of vegetation along the western bank and the 40-foot riparian buffer along the eastern bank. Surrounding uses appear to consist of the San Joaquin Marsh Wildlife

Sanctuary, William R. Mason Regional Park, Rancho San Joaquin Golf Course, industrial, residential, commercial, and the University of California, Irvine.

### 3.4.3 Soil Survey

On-site soils were researched prior to the March 14, and April 11, 18, and 19, 2007 field visits. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. Soil surveys furnish soil maps and interpretations originally needed in giving technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color).

According to the *Orange County and Western Part of Riverside County, California* Soil Survey, dated 1978, the project site is situated on the Chino-Omni and Myford associations. The Chino-Omni association consists of nearly level, somewhat poorly drained and poorly drained, calcareous silt loams to clays on alluvial fans and flood plains and in basins. The Myford association consists of moderately well drained soils on marine terraces. Seven (7) soil series (with multiple phases) are reported within the boundaries of the project site, and consist of the following:

**Balcom clay loam, 9 to 15 percent slopes (111):** This strongly sloping soil generally occurs on hill ridgetops and some concave side slopes. The profile is similar to the one described as typical of the series, but it is 2 to 6 inches thicker. The Balcom series consists of well drained soils that have formed in material weathered from soft fine grained sandstones, calcareous soft shale, and marl. In a typical profile, the upper 30 inches is dark grayish-brown (10YR 4/2) moist light clay loam, violently effervescent. The soil is moderately alkaline and calcareous throughout, and is moderately slowly permeable. The depth to the high water table is greater than 6.0 feet. Available water capacity is 4 to 6 inches. If the soil is bare, runoff is medium and the erosion hazard is high. This soil used for urban development, dryland barley, and dryland pasture.

**Balcom clay loam, 15 to 30 percent slopes (112):** This moderately steep soil generally occurs on hill ridgetops. The profile is similar to the one described as typical of the series, but it is 2 to 6 inches thicker. The Balcom series consists of well drained soils that have formed in material weathered from soft fine grained sandstones, calcareous soft shale, and marl. In a typical profile, the upper 30 inches

is dark grayish-brown (10YR 4/2) moist light clay loam, violently effervescent. The soil is moderately alkaline and calcareous throughout, and is moderately slowly permeable. The depth to the high water table is greater than 6.0 feet. Available water capacity is 4 to 6 inches. If the soil is bare, runoff is rapid and the erosion hazard is high. This soil used for urban development, dryland barley, and dryland pasture.

**Chino silty clay loam (139):** This nearly level soil generally occurs on large alluvial fans. The Chino series consists of somewhat poorly drained soils, formed in sedimentary alluvium. The typical surface layer is very dark gray (10YR 3/1) moist silty clay loam, about 24 inches thick. The underlying material is grayish brown silty clay loam mottled with light brownish gray. The depth to the high water table is 3.5 to 5.0 feet. Permeability is moderately slow. Runoff is very slow, and the hazard for erosion is none to slight. This soil is used for row crops, field crops, and urban development.

**Corralitos loamy sand, moderately fine substratum (147):** This nearly level to gently sloping soil generally occurs as long narrow areas along stream channels. The profile is similar to the one described as typical for the series, but there is a silt loam or silty clay loam layer 2 to 6 inches thick at a depth of 36 to 60 inches. The Corralitos series consists of somewhat excessively drained soils, formed in mixed coarse texture alluvium. The typical surface layer is very dark grayish brown (10YR 3/2) moist loamy sand and loamy fine sand, about 9 inches thick. The underlying material is stratified light brownish gray and light gray loamy coarse sand, sand, and loamy fine sand to a depth of 60 inches or more. The depth to the high water table is 3.0 to 5.0 feet. Permeability is rapid in the upper 40 inches. An intermittent water table is perched just above the finer textured stratum if rainfall is above normal or if the soils are overirrigated. Runoff is very slow, and the hazard for erosion is slight. This soil is used for irrigated row crops, citrus, pasture, and range.

**Myford sandy loam, 2 to 9 percent slopes (173):** This gently sloping to moderately sloping soil generally occurs on broad terraces. The profile is described as typical for the series. The Myford series consists of moderately well drained soils, formed in sandy sediments. The typical surface layer is brown (7.5YR 4/2) moist, medium acid sandy loam, about 8 inches thick. The upper 6 inches of the subsoil is brown (7.5YR 4/2), medium acid sandy clay; the next 17 inches is dark brown sandy (7.5YR 3/2) clay loam. The depth to the high water table is greater than 6.0 feet. Permeability is very slow. Runoff is medium, and the hazard for erosion is moderate. This soil is used for range, pasture, and urban development.

**Myford sandy loam, 15 to 30 percent slopes (176):** This moderately steep soil generally occurs on side slopes of terraces. The Myford series consists of moderately well drained soils, formed in sandy sediments. The typical surface layer is brown (7.5YR 4/2) moist, medium acid sandy loam, about 8 inches thick. The upper 6 inches of the subsoil is brown (7.5YR 4/2), medium acid sandy clay; the next 17 inches is dark brown sandy (7.5YR 3/2) clay loam. The depth to the high water table is greater than 6.0 feet. Permeability is very slow. Runoff is rapid, and the hazard for erosion is high. This soil is used for range, barley, and urban development.

**Myford sandy loam, 9 to 30 percent slopes, eroded (177):** This strongly sloping to moderately steep soil generally occurs on side slopes of terraces. The profile is described as typical for the series, but is very shallow because of erosion. The Myford series consists of moderately well drained soils, formed in sandy sediments. The typical surface layer is brown (7.5YR 4/2) moist, medium acid sandy loam, about 8 inches thick. The upper 6 inches of the subsoil is brown (7.5YR 4/2), medium acid sandy clay; the next 17 inches is dark brown sandy (7.5YR 3/2) clay loam. The depth to the high water table is greater than 6.0 feet. Permeability is very slow. Runoff is rapid, and the hazard for erosion is high. This soil is used for range, watershed, wildlife, and urban development.

**Omni clay, drained (184):** This nearly level soil generally occurs in basins. It has a profile described as typical of the series. The Omni series are poorly drained soils, formed in mixed alluvium. The surface layer is typically very dark gray (10YR 3/1) moist clay, about 17 inches thick. The subsoil is light gray clay with prominent olive brown mottles, about 33 inches thick. The depth to the high water table is 3.5 to 6.0 feet. Permeability is slow. Available water capacity is 8.5 to 12.0 inches. Runoff is very slow, and the hazard for erosion is slight. This soil is used for row crops, field crops, and urban development.

**Thapto-Histic Fluvaquents (210):** This nearly level soil generally occurs in basins. Slopes are less than 2 percent. Thapto-Histic Fluvaquents are poorly drained soils, formed in mixed mineral alluvium and organic deposits. In a typical profile, the surface layer is black (2.5Y 2/0) moist clay loam about 9 inches thick, and 12 inches of black (2.5Y 2/0) silty clay. The underlying layers are 35 inches of black peat, and 12 inches or more of light gray silty clay loam with many fine distinct light yellowish brown mottles. The depth to the high water table is 2.0 to 3.5 feet. Available water capacity is 6.0 to 10.0 inches. Permeability is slow in this soil. If the soil is bare, runoff is slow and the hazard of erosion is slight. This soil is used for row crops and field crops.

**Tidal Flats (211):** Tidal flats are nearly level areas adjacent to bays and lagoons along the coast. Periodically they are covered by tidal overflows. Some of the higher areas are covered only during very high tides. Tidal flats are stratified clayey to sandy deposits. They are poorly drained and high in salts. Runoff generally ponds, and deposition from surrounding areas is a hazard. This soil is used mainly for recreation and wildlife habitat. Some areas have been dredged or filled and converted to beaches for urban use.

Based on the Soil Survey, the soil series present on-site may have the potential to have hydric soil characteristics (refer to Section 4, *Site Conditions*, for a discussion of on-site soils).

### 3.4.4 Hydric Soils List of California

RBF reviewed the Hydric Soils List of California, provided by the NRCS, dated December 15, 1995 in an effort to verify whether or not on-site soils are considered to be hydric. Lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but as expected, they are not a substitute for on-site investigations. According to list, none of the above-mentioned soil series are listed as hydric.

### 3.4.5 Local Climate

The local climate is typical of a mild Mediterranean climate. Winters are cool and moist with average temperatures between the mid 40's and mid 50's. Summers are mild, warm, and dry with average temperatures between the mid 60's and mid 70's. Light fog or clouds, or both, are common along the coast late in spring and early in summer, but rarely remain during the entire day. Some fog generally occurs every month of the year. Maximum summer temperatures seldom exceed 80° F, and nights are generally cool throughout the year. Winter temperatures seldom drop below freezing. Average annual rainfall for the region is approximately 1 inch and nearly all falls in the winter months. For the purposes of this delineation, the growing season is considered to be 365 days a year. Table 3, below, identifies additional on-site physical setting characteristics.

### 3.4.6 Flood Zone

According to the existing FEMA flood maps, the project site is located within the 100-year flood zone (Zone A and AE). The proposed project site contains San Diego Creek, which is tributary to the Newport Bay and Pacific Ocean.

### 3.4.7 Coastal Zone

A portion of the project site, downstream of Campus Drive, is located within the Coastal Zone.

**TABLE 3. Project Site Summary**

| Is the Project Site | Yes | No | Unknown |
|---|---|---|---|
| Within a 100-year floodplain? | X | | |
| A blue line stream? | X | | |
| Within the California Coastal Zone? | X | | |
| Reported groundwater level <6 feet bgs? | X | | |

### 3.4.8 Baseline Literature

According to the *Draft Report for Results of the Biological Reconnaissance Survey for San Diego Creek Watershed Special Area Management Plan* (Chambers Group, Inc., 2004), vegetation communities located within the project site include mulefat scrub, southern willow scrub, willow riparian forest, cattail series, ruderal, disturbed/developed areas, and open water.

Mulefat Scrub: The mulefat scrub community included mulefat, arroyo willow, mugwort, western sycamore, and Mexican elderberry.

Southern Willow Scrub: The southern willow scrub community included arroyo willow and narrow-leaved willow, and smaller amounts of mulefat and black willow, and can also include an understory of mugwort, curly dock, nettle, and western ragweed.

Willow Riparian Forest: The willow riparian forest consists of arroyo willow, black willow, sycamore, cottonwood, ash, tree of heaven, Peruvian pepper tree, mulefat, mugwort, poison hemlock, giant reed, and tamarisk.

Cattail Series: The cattail series is dominated by cattail and also included bulrush, veronica, and smartweed.

Ruderal: Ruderal areas occurred continuously along the north and northwestern side of the channel. Species observed included castor bean, Russian thistle, white sweetclover, fennel, tamarisk, Peruvian pepper tree, giant reed, and tree tobacco. Additionally, a sparse cover or mulefat, mugwort, western ragweed, and watercress were observed.

Disturbed/Developed: Disturbed areas either lack vegetation or are dominated by ruderal vegetation, and developed areas include roads, parks, ornamental landscaping, and clear and graded sites. At the time of this report, these areas occurred mostly along the south and southeastern side of the channel.

# Section 4 Site Conditions

As described in Section 1.0, the proposed project is located in the Cities of Newport Beach and Irvine, County of Orange, California. Refer to Sections 4.1 through 4.3, below, for a discussion with respect to the three (3) wetland parameters or evidence of water flow defined in Section 3.0. Refer to Exhibits 4A through 4C, *On-Site Photographs*, for representative photographs taken throughout each basin. Additionally, refer to Exhibit 5, *Jurisdictional Map*, for specific locations of photographs and soil pits.

## 4.1 BASIN 1 (INCLUDING LOWER CHANNEL)

### 4.1.1 Vegetation

Due to the lack of maintenance, significant riparian vegetation was noted on-site within Basin 1, surrounding San Diego Creek, during the March 14, and April 11, 18, and 19, 2007 field visits. Riparian vegetation noted on-site included arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), mulefat (*Baccharis salicifolia*), mugwart (*Artemisia douglasiana*), broadleaf cattail (*Typha latifolia*), bulrush (*Scirpus* ssp.), brassbuttons (*Cotula coronopifolia*), and pickleweed (*Salicornia virginica*).

### 4.1.2 Hydrology

The San Diego Creek Flood Control Channel is a Relatively Permanent Water (RPW) and is tributary to Newport Back Bay, a Traditional Navigable Water (TNW). Water flow ranging in depth, was noted within the Basin 1 during the field visits. Portions of the water within Basin 1 and the lower channel are tidally influenced. The on-site drainage flows in a northeast/southwest direction, and is tributary to the Newport Bay and Pacific Ocean. Evidence of hydrology was noted within the drainage via flowing water, high water table, saturation, drift deposits, salt crust, aquatic invertibrates, and erosional cuts.

### 4.1.3 Soils

Approximately nineteen (19) soil pits were dug within Basin 1 during the field visits due to the presence of riparian vegetation. All three wetland parameters, as described in Section 3.0, were met within portions of Basin 1. On-site soils within Basin 1 consisted of clay, silt, silt loam, clay silt loam, silty clay loam, sandy loam, and sand. The soils within the boundary of the project site were found to be consistent with those previously mentioned during the literature review in Section 3.4. Multiple hydric soil indicators (e.g., hydrogen sulfide, sandy redox, and redox dark surface) were noted within the soil samples within portions of Basin 1 (refer to Appendix A, *Wetland Data Sheets*).

View looking at on-site channel and Jamboree Road bridge.

View of 40-foot vegetated buffer.

View looking north at the channel within Basin 1.

Drift lines indicating evidence of hydrology within Basin 1.

View looking north at the channel within Basin 2.

View of water flow on-site.

Hydraulic soils within Basin 2.

View of on-site hydrophytic vegetation.

View looking at the channel and associated riparian vegetation within Basin 3.

On-site wetland near the MacArthur Boulevard bridge.

View looking upstream at Basin 3.

On-site wetland located south of I-405.

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1/4/08 JN 10-103795-13931

SAN DIEGO CREEK CHANNEL (F05) POST-INTERIM MAINTENANCE • JURISDICTIONAL DELINEATION

# On-Site Photographs - Basin 3

**Exhibit 4C**

## 4.2 BASIN 2

### 4.2.1 Vegetation

Riparian vegetation was noted within Basin 2 during the March 14, and April 11, 18, and 19, 2007 field visits. Riparian vegetation noted on-site included arroyo willow, black willow, (narrow-leaved willow), mulefat, mugwart, broadleaf cattail, bulrush, and brassbuttons. The majority of the vegetation appeared to be situated within the 40-foot riparian buffer area. Vegetation was limited within the western portion of the channel and side slope due to past maintenance activities.

### 4.2.2 Hydrology

Water flow ranging in depth, was noted within Basin 2 during the field visits. Evidence of hydrology was noted within the drainage via flowing water, high water table, drift deposits, and erosional cuts.

### 4.2.3 Soils

Due to the presence of riparian vegetation, approximately two (2) soil pits were dug within Basin 2 during the field visits. Portions of Basin 2 contained all three wetland parameters. On-site soils within Basin 2 consisted of silty clay, silty clay loam, and sand. Hydric soil indicators (e.g., sandy redox and redox dark surface) were noted within the soil samples within portions of Basin 2.

## 4.3 BASIN 3 (INCLUDING UPPER CHANNEL)

### 4.3.1 Vegetation

Similar to Basin 2, due to past maintenance activities, the majority of the vegetation was located within the 40-foot riparian buffer area and vegetation was limited within the western portion of the channel and side slope. Riparian vegetation noted within Basin 3, during the March 14, and April 11, 18, and 19, 2007 field visits, included arroyo willow, black willow, mulefat, broadleaf cattail, bulrush, and brassbuttons.

### 4.3.2 Hydrology

Water flow within Basin 3, ranging in depth, was noted during the field visits. Evidence of hydrology was noted within the drainage via flowing water, high water table, saturation, drift deposits, and erosional cuts.

### 4.3.3 Soils

Approximately seven (7) soil pits were dug within Basin 3 during the field visits. All three wetland parameters were met within portions of Basin 3. Soils within Basin 3 consisted of silt loam, silty clay loam, loam, sandy loam, and sand. A layer of muck was noted within one soil pit. Multiple hydric soil indicators (e.g., hydrogen sulfide and hystic epipedon) were noted within the soil samples within portions of Basin 3.

# Section 5 Findings

This delineation was prepared for the RDMD in order to delineate the ACOE, RWQCB, CDFG, and CCC jurisdictional authority for drainages located within the project site. This report presents RBF's best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property. Jurisdictional boundaries are broken down specifically by agency and are described below.

## 5.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

### 5.1.1 Wetland Determination

As previously noted in Section 2.1, an area must exhibit all three (3) of the wetland parameters described in the ACOE Interim Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field investigations, it was determined that portions of the project site contained all three parameters. Based on the literature review and soil samples obtained during the field visit, hydric soils are present within portions of the project site and hydrophytic vegetation was noted surrounding the creek. Based on the site conditions, approximately 8.86-acres of ACOE jurisdictional wetlands are located within the boundaries of the project site (refer to Exhibits 5A-5G, *Jurisdictional Maps*). Approximately 8.72-acres are anticipated to be permanently impacted by the proposed long-term maintenance; however, emerging vegetation should be allowed to grow in between maintenance episodes as identified within the O&M Manual (refer to Table 4, *ACOE Jurisdictional Impact Acreage Summary*). Approximately 0.14-acre of Crops wetlands will be preserved on-site within the mandatory and voluntary 40-foot wide buffer.

### 5.1.2 "Waters of the U.S." (Non-Wetland) Determination

Evidence of hydrology was noted within the project site and consisted of flowing water, salt crust, erosional features, and debris lines. The on-site drainage is perennial, containing water year-round. A total of approximately 65.51-acres of ACOE "waters of the U.S." are located within the boundaries of the project site. Approximately 53.40-acres are anticipated to be permanently impacted by the proposed long-term maintenance. Approximately 12.11-acres of Crops water of the U.S. will be preserved on-site within the mandatory and voluntary 40-foot wide buffer.

## 5.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

No isolated conditions were observed within the boundaries of the project site; therefore, the RWQCB follows that of ACOE jurisdiction.

## 5.3 CALIFORNIA DEPARTMENT OF FISH AND GAME DETERMINATION

The on-site streambed is considered jurisdictional by the CDFG. The CDFG jurisdiction is similar to the ACOE jurisdiction, but also encompasses portions of the channel's slopes as well as associated riparian vegetation (to the outer dripline) when present. Approximately 96.15-acres of CDFG jurisdiction are located within the boundaries of the project site. Approximately 83.88-acres are anticipated to be permanently impacted by the proposed long-term maintenance (refer to Table 5, *CDFG Jurisdictional Impact Acreage Summary*). Approximately 12.27-acres of CDFG jurisdiction will be preserved on-site within the mandatory and voluntary 40-foot wide buffer.

## 5.4 CALIFORNIA COASTAL COMMISSION DETERMINATION

A portion of the project site (Reach I), between Jamboree Road and slightly downstream of Campus Drive, is located within the coastal zone. The open water within San Diego Creek drainage is considered a streambed within the Coastal Zone. Additionally, areas with riparian vegetation and/or hydric soils are considered coastal wetlands. A total of approximately 31.23-acres of CCC jurisdiction are located within the boundaries of the project site; approximately 13.18-acres are coastal wetlands. Approximately 26.89-acres of CCC jurisdiction are anticipated to be permanently impacted by the proposed long-term maintenance activities (refer to Table 6, *CCC Jurisdictional Impact Acreage Summary*). Approximately 4.33-acres of CCC jurisdiction will be preserved on-site within the mandatory and voluntary 40-foot wide buffer.

**Table 4. ACOE Jurisdictional Impact Acreage Summary**

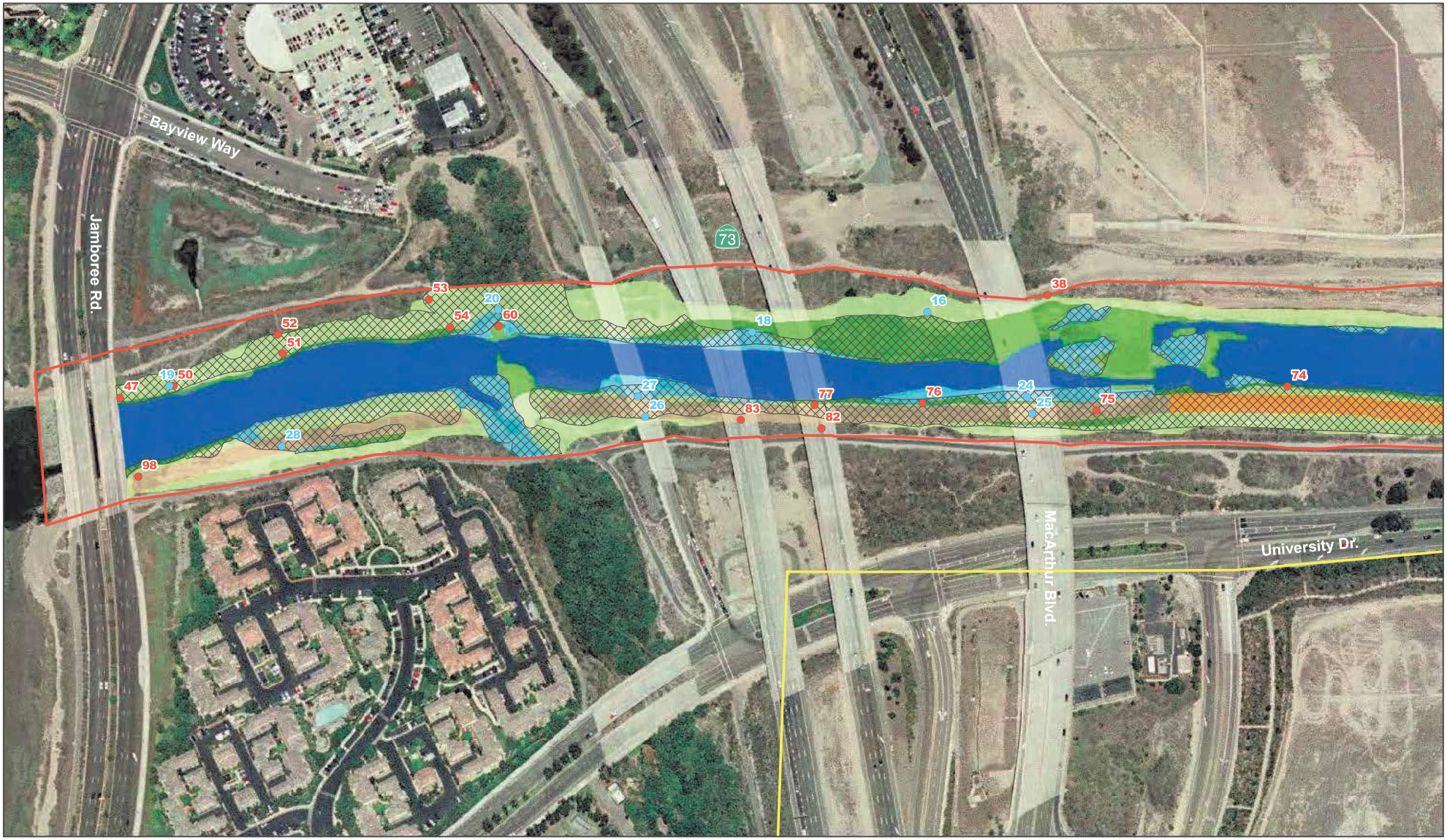
| Vegetation Type | Impact Acreage | |
|---|---|---|
| | Wetland | Non-Wetland |
| Coastal Sage Scrub | 0.00 | 0.22 |
| Developed | 0.00 | 0.57 |
| Disturbed | 1.69 | 11.04 |
| Freshwater Marsh | 1.16 | 0.00 |
| Mulefat Scrub | 0.37 | 1.64 |
| Open Water | 1.50 | 33.73 |
| Rip-Rap | 0.00 | 0.29 |
| Ruderal | 0.14 | 0.59 |
| Ruderal/Mulefat Scrub | 0.49 | 0.19 |
| Saltwater Marsh | 1.03 | 0.00 |
| Willow Scrub | 2.06 | 4.99 |
| Willow Scrub/Mulefat Scrub | 0.28 | 0.14 |
| **Total** | **8.72** | **53.40** |

**Table 5. CDFG Jurisdictional Impact Acreage Summary**

| Vegetation Type | Impact Acreage |
|---|---|
| Coastal Sage Scrub | 1.53 |
| Developed | 0.63 |
| Disturbed | 19.89 |
| Freshwater Marsh | 2.11 |
| Mulefat Scrub | 7.94 |
| Open Water | 35.32 |
| Ornamental | 0.04 |
| Rip-Rap | 0.37 |
| Ruderal | 3.60 |
| Ruderal/Coastal Sage Scrub | 0.04 |
| Ruderal/Mulefat Scrub | 0.69 |
| Saltwater Marsh | 0.19 |
| Willow Scrub | 10.94 |
| Willow Scrub/Mulefat Scrub | 0.59 |
| **Total** | **83.88** |

## TABLE 6. CCC Jurisdictional Impact Acreage Summary

| Vegetation Type | Impact Acreage | |
|---|---|---|
| | Wetland | Non-Wetland |
| Coastal Sage Scrub | 0.08 | 1.44 |
| Disturbed | 0.26 | 0.58 |
| Freshwater Marsh | 0.54 | 0.00 |
| Mulefat Scrub | 4.94 | 1.17 |
| Open Water | 0.59 | 11.34 |
| Ornamental | 0.00 | 0.04 |
| Rip-Rap | 0.00 | 0.22 |
| Ruderal | 0.10 | 1.83 |
| Ruderal/Coastal Sage Scrub | 0.00 | 0.04 |
| Ruderal/Mulefat Scrub | 0.29 | 0.13 |
| Saltwater Marsh | 0.19 | 0.00 |
| Willow Scrub | 2.39 | 0.49 |
| Willow Scrub/Mulefat Scrub | 0.02 | 0.20 |
| **Total** | **9.41** | **17.48** |




# San Diego Creek
# Jurisdictional Delineation

200 100 0 200 400 600 Feet

- ACOE Jurisdictional Boundary
- ACOE Jurisdictional Wetland
- CDFG Jurisdictional Boundary
- Jurisdictional Open Water (All Agencies)
- 40 Foot Vegetated Corridor
- 40 Foot Voluntary Riparian Mitigation Buffer
- CCC Jurisdictional Wetland
- Soil Pits
- Picture Points
- Project/Impact Boundary
- Coastal Zone Boundary

Exhibit No. 5a

Date: *December 19, 2007*

*JN 10103795 SDC_MapBookL.mxd JM*

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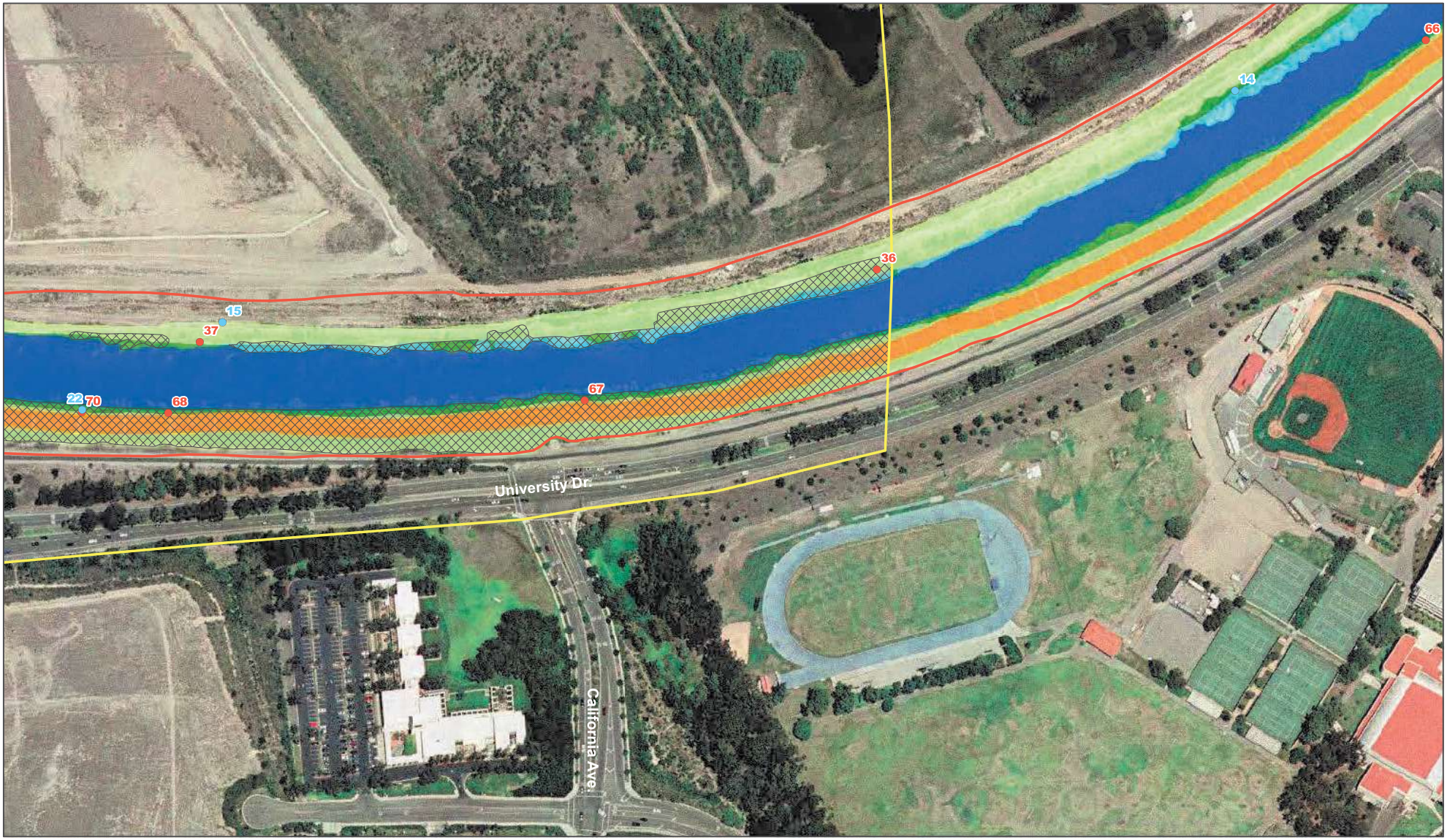


# San Diego Creek
# Jurisdictional Delineation

200 100 0 200 400 600
Feet

- ACOE Jurisdictional Boundary
- ACOE Jurisdictional Wetland
- CDFG Jurisdictional Boundary
- Jurisdictional Open Water (All Agencies)
- 40 Foot Vegetated Corridor
- CCC Jurisdictional Wetland
- Soil Pits
- Picture Points
- Coastal Zone Boundary
- Project/Impact Boundary

Exhibit No.
5b

Date: *December 19, 2007*

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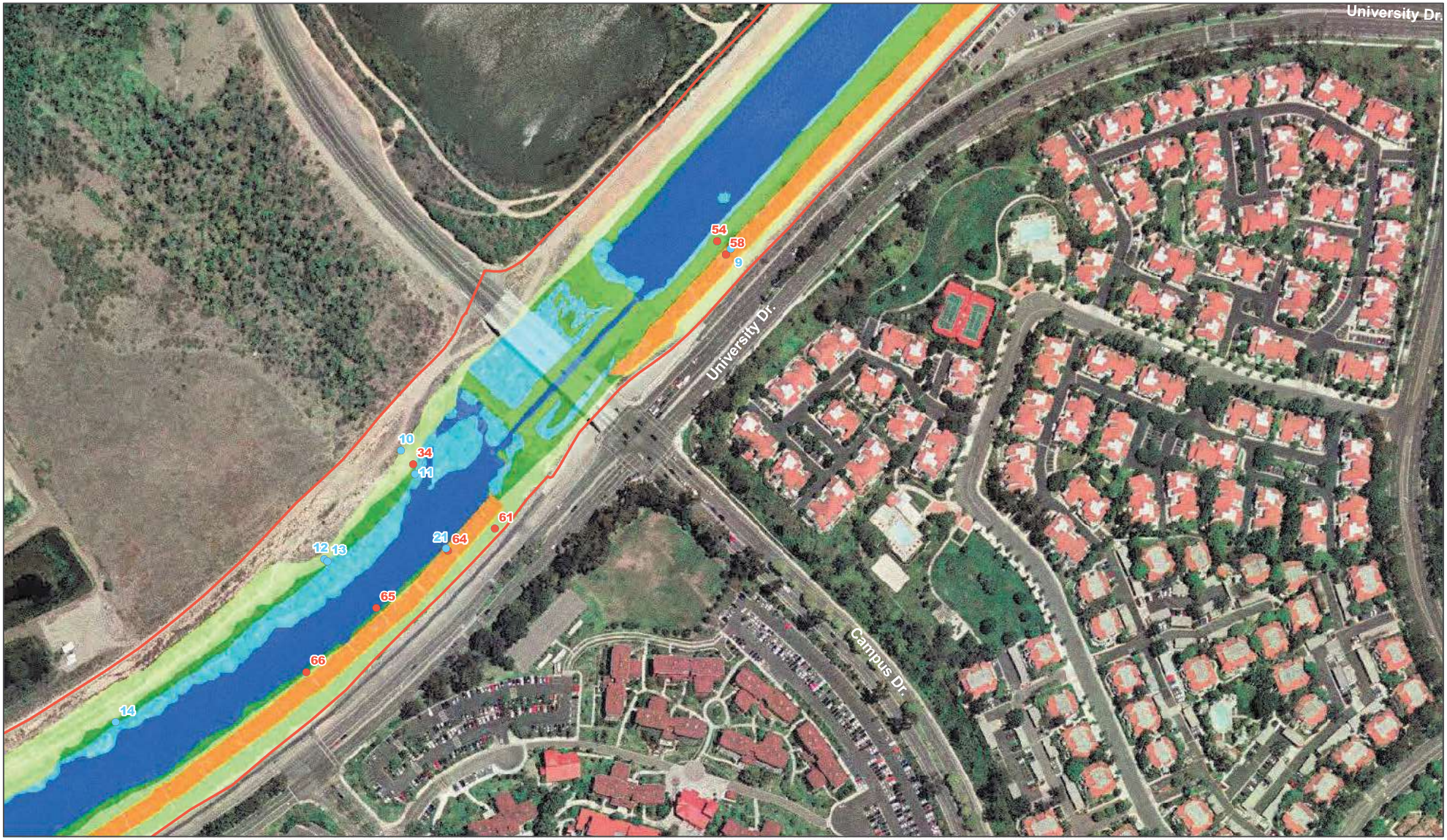


# San Diego Creek
# Jurisdictional Delineation

200 100 0 200 400 600 Feet

ACOE Jurisdictional Boundary
ACOE Jurisdictional Wetland
CDFG Jurisdictional Boundary
Jurisdictional Open Water (All Agencies)
40 Foot Vegetated Corridor
Soil Pits
Picture Points
Project/Impact Boundary

Date: *December 19, 2007*

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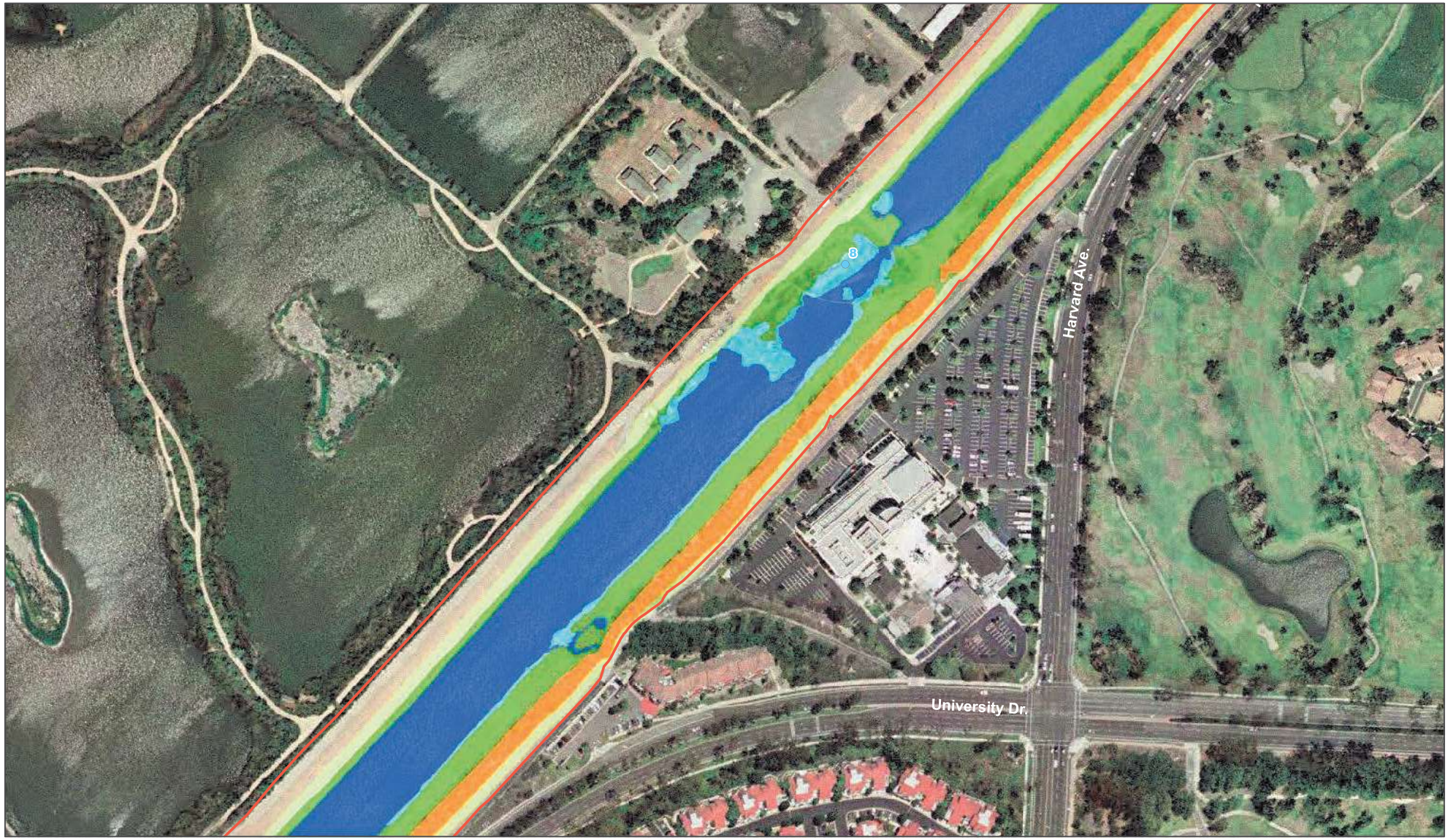


## San Diego Creek
## Jurisdictional Delineation

200 100 0 200 400 600
Feet

ACOE Jurisdictional Boundary
ACOE Jurisdictional Wetland
CDFG Jurisdictional Boundary
Jurisdictional Open Water (All Agencies)
40 Foot Vegetated Corridor
Soil Pits
Picture Points
Project/Impact Boundary

Exhibit No.
5d

Date: *December 19, 2007*

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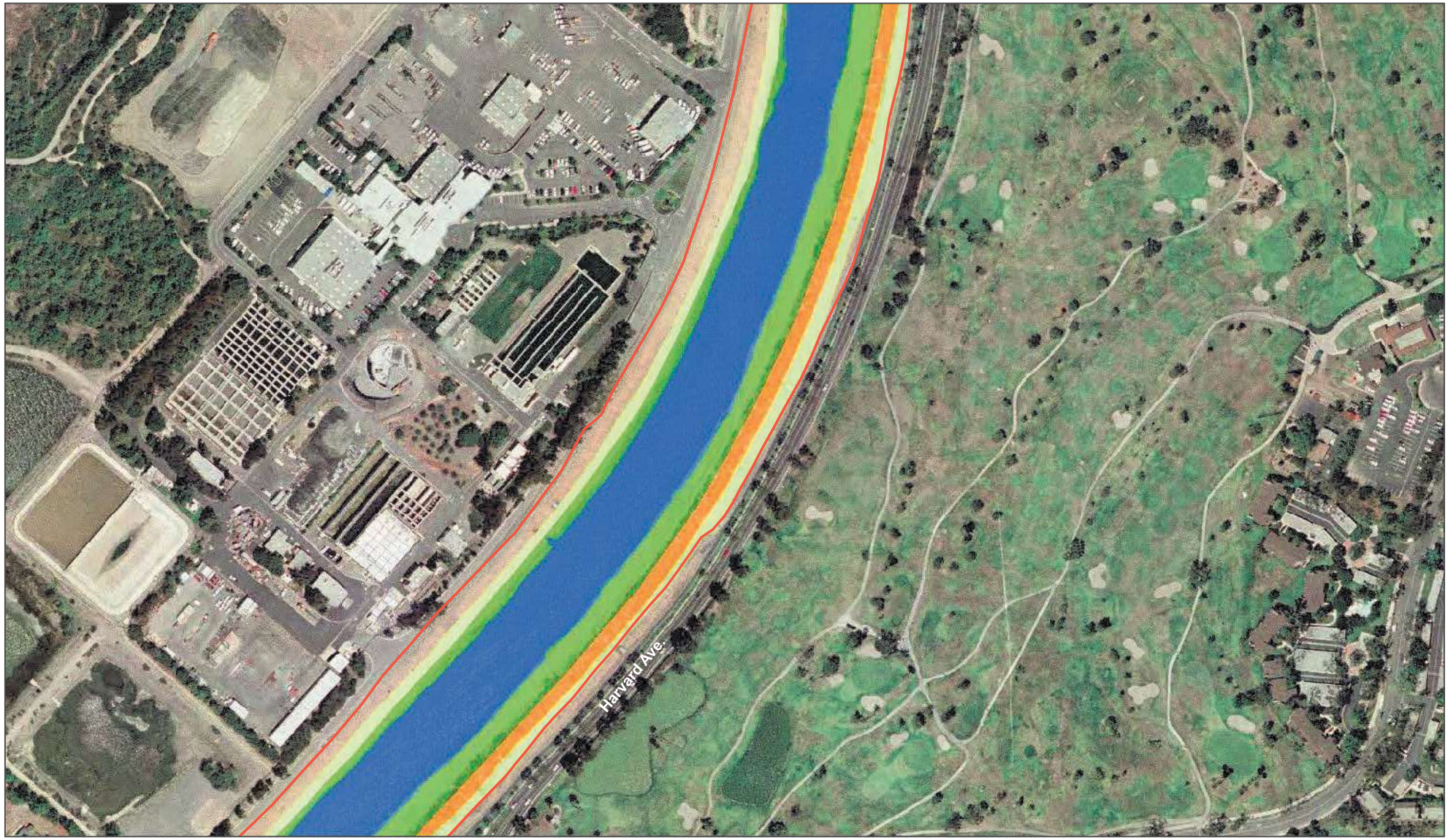


# San Diego Creek
# Jurisdictional Delineation

200 100 0 200 400 600 Feet

ACOE Jurisdictional Boundary
ACOE Jurisdictional Wetland
CDFG Jurisdictional Boundary
Jurisdictional Open Water (All Agencies)
40 Foot Vegetated Corridor
Soil Pits
Picture Points
Project/Impact Boundary

Date: *December 19, 2007*

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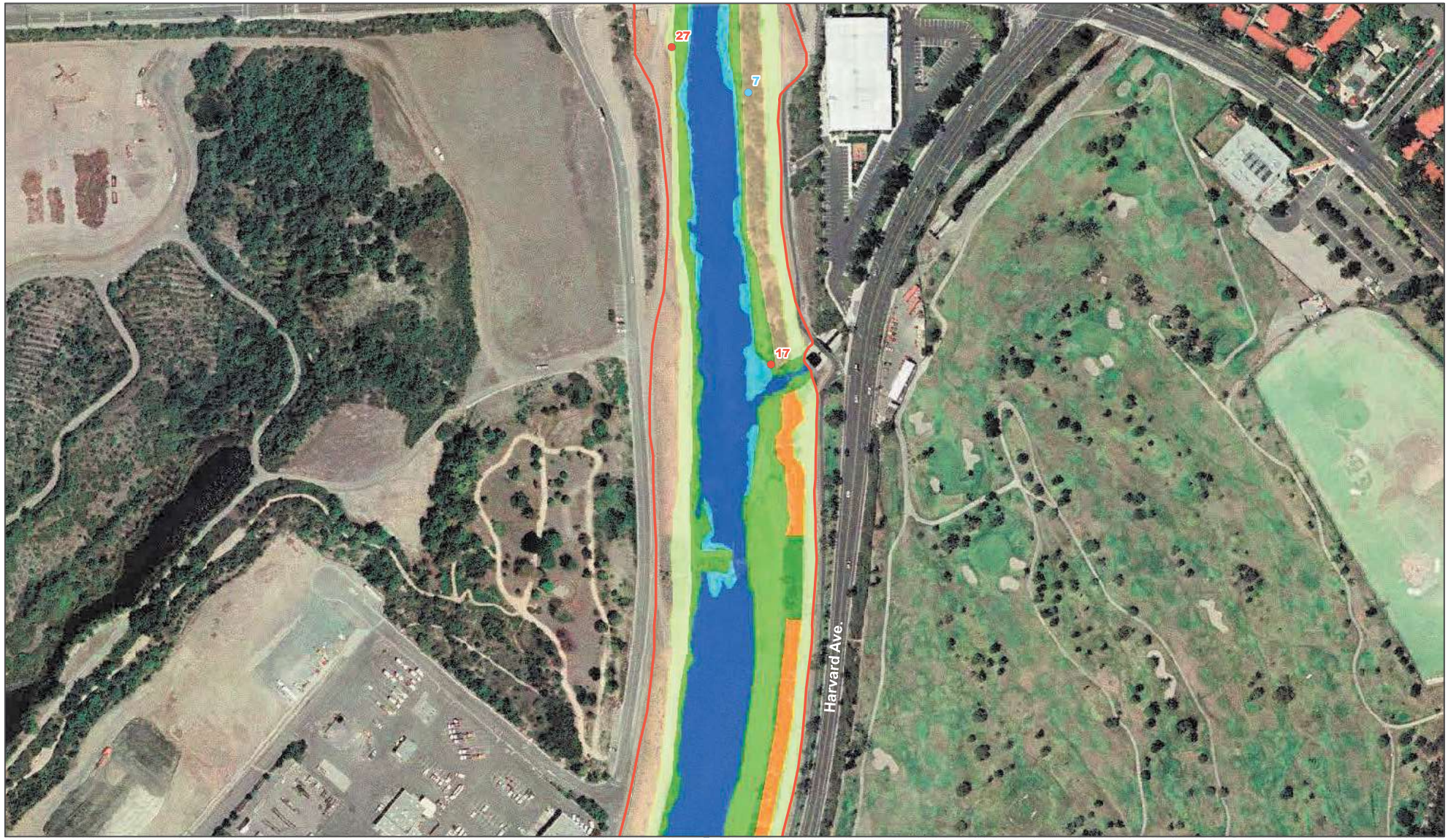


## San Diego Creek
## Jurisdictional Delineation

200 100 0 200 400 600
Feet

- ACOE Jurisdictional Boundary
- ACOE Jurisdictional Wetland
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- Picture Points
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Date: *December 19, 2007*

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Exhibit No.
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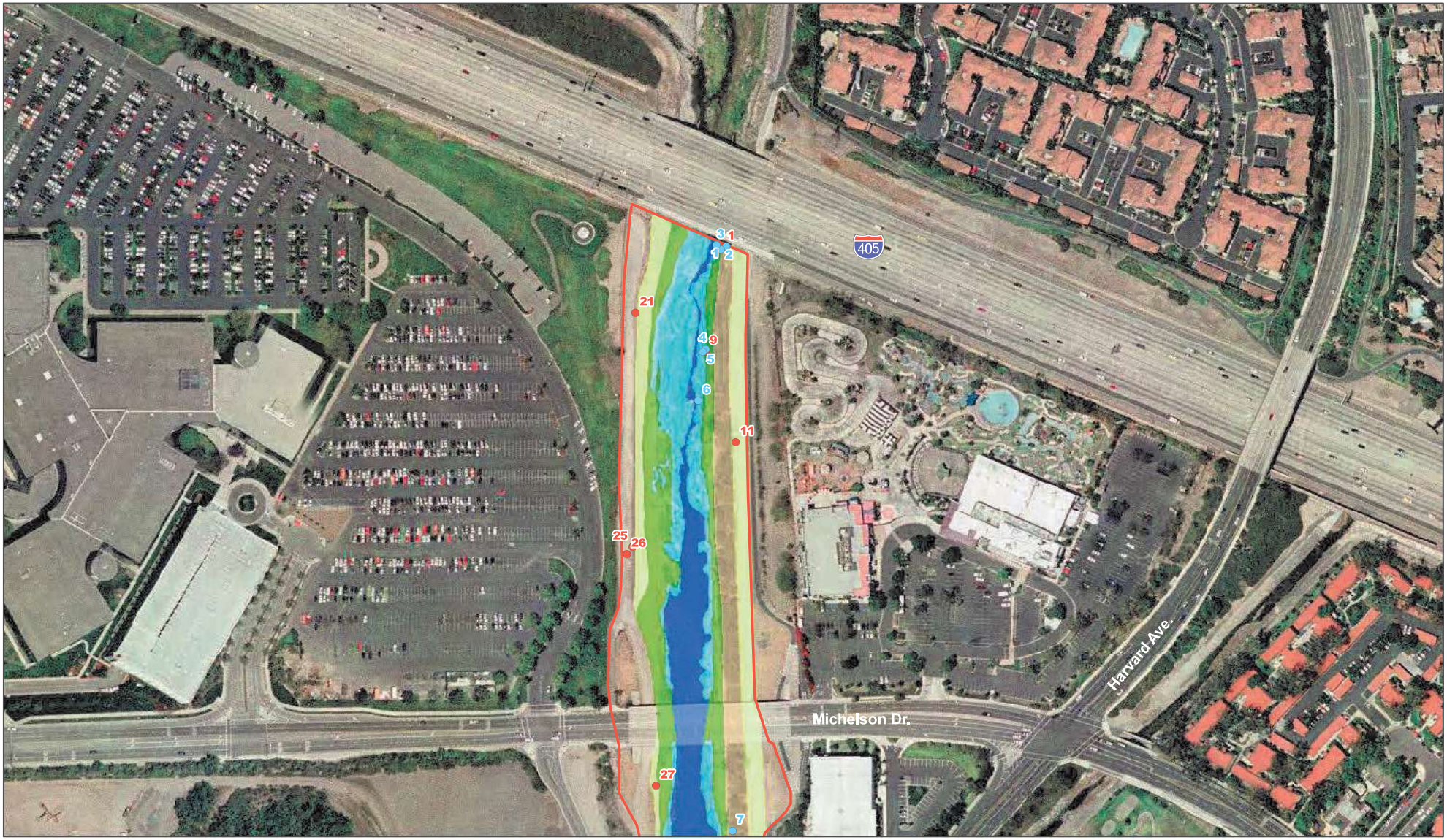


## San Diego Creek
## Jurisdictional Delineation

200 100 0 200 400 600 Feet

ACOE Jurisdictional Boundary
ACOE Jurisdictional Wetland
CDFG Jurisdictional Boundary
Jurisdictional Open Water (All Agencies)
40 Foot Vegetated Corridor
40 Foot Voluntary Riparian Mitigation Buffer
Soil Pits
Picture Points
Project/Impact Boundary

Exhibit No. 5g

Date: *December 19, 2007*

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# Section 6 Regulatory Approval Process

The following is a summary of the various permits, agreements, and certifications required before construction activities take place within the above-mentioned jurisdictional areas.

## 6.1 U.S. ARMY CORPS OF ENGINEERS

The ACOE regulates discharges of dredged fill materials into "waters of the United States" and wetlands pursuant to Section 404 of the Clean Water Act (CWA). A permit will be required from the ACOE Regulatory Branch-Los Angeles District Office should maintenance activities within the San Diego Creek Flood Control Channel result in the discharge of material within the ACOE's jurisdiction.

### 6.1.1 Section 404 Permit Identification

Based on the current conditions of the San Diego Creek Flood Control Channel and the nature of the activities (long-term maintenance), it is anticipated that the proposed project can be authorized through an Individual Permit (IP).

### 6.1.2 Section 10 Permit Identification

Due to the fact that a portion of Basin 1 and the lower channel consists of tidally influenced waters, a Section 10 permit would be required pursuant to the Rivers and Harbors Act. The approval would be processed concurrently with the Section 404 notification.

### 6.1.3 Coastal Zone Management Consistency

Since a portion of the San Diego Creek Flood Control Channel is located within the Coastal Zone, the ACOE shall obtain from the applicant a certification that the proposed activity complies with and will be conducted in a manner that is consistent with the approved state Coastal Zone Management Plan (CZMP). Upon receipt of the certification, the ACOE will forward a copy of the public notice (which will include the applicant's certification statement) to the CCC and request its concurrence or objection. If the CCC objects to the certification or issues a decision indicating that the proposed activity requires further review, the ACOE shall not issue the permit until the CCC concurs with the certification statement. If the CCC fails to concur or object to a certification statement within six (6) months of the CCC's receipt of the certification statement, CCC concurrence with the certification statement shall be conclusively presumed. District engineers will seek agreements with the CCC that the agency's failure to provide comments during the public notice comment period

will be considered as a concurrence with the certification or waiver of the right to concur or non-concur.

## 6.2 REGIONAL WATER QUALITY CONTROL BOARD

For an ACOE 404 permit to be approved, a 401 Water Quality Certification from the Santa Ana RWQCB will be required. The RWQCB also requires that CEQA compliance be obtained prior to obtaining the 401 Certification.

Once an application has been deemed complete, the RWQCB has between 60 days and 1 year in which to make a decision. According to regulations of the ACOE, the State has 60 days from the date of receipt of a valid request for water quality standards certification (33 CFR Section 325.2 (b) (1) (ii)). The ACOE district engineer may specify a longer (up to one year) or shorter time, if he or she determines that a longer or shorter time is reasonable (33 CFR Section 325.2 (b) (1) (ii)). If processing and review of the 401 application will take more than 60 days, the RWQCB will request additional time from the ACOE. Please note that even when an application has been deemed complete, the RWQCB has the option of denial without prejudice. This is not a reflection on the project, but a means to stop the clock until the required information has been received.

As required by 23 California Code of Regulations (CCR) § 3858 (a), the RWQCB is required to have a minimum 21-day public comment period before any action is taken on a 401 application. The period closes when the RWQCB acts on the 401 application. The public comment period does not close after a certain number of days because proposed projects tend to change through the 401 process and the public is allowed to review and comment on the changed project. The public comment period starts as soon as an application has been received. Additionally, the RWQCB requires that water quality concerns related to urban storm water runoff be addressed. Any 401 Certification application submitted to the RWQCB should incorporate the use of Best Management Practices (BMPs) for the treatment of pollutants carried by storm water runoff in order to be considered a complete application. The RWQCB also requires a 401 Certification Application Fee, which is dependent on the amount and type of impacts.

## 6.3 CALIFORNIA DEPARTMENT OF FISH AND GAME

The project site would be considered jurisdictional by the CDFG; a 1602 Streambed Alteration Agreement (SAA) must be obtained prior to any jurisdictional impact. Upon a formal notification, the CDFG will determine whether the notification package (application) is complete. The CDFG will make this determination within 30 calendar days of receiving

the notification package if the application is for a regular agreement (i.e., an agreement for a term of five years or less). However, the 30-day time period does not apply to notifications for long-term agreements (i.e., agreements for a term greater than five years). Once the notification package is deemed complete, the CDFG will process a Draft Agreement as described below.

If a SAA is required, the CDFG may require an onsite inspection, and a draft agreement. The draft agreement will include measures to protect fish and wildlife resources while conducting the project. For regular agreements, the CDFG will submit a draft agreement to the applicant within sixty (60) calendar days after the notification is deemed complete. Again, the 60-day time period does not apply to notifications for long-term agreements, since these are often large or complex projects.

The applicant then has 30 calendar days to notify the CDFG whether the measures in the draft agreement are acceptable. After the CDFG receives the signed draft agreement, it will make it final by signing it. The CDFG Application fee associated with the notification package varies and is dependent upon the total cost of the project and type of Agreement (i.e., Regular or Long-Term).

## 6.4 CALIFORNIA COASTAL COMMISSION

Since a portion of the San Diego Creek Flood Control Channel is located within the Coastal Zone, a CDP is required from the CCC prior to approval of the maintenance activities. The purpose of the CDP is to ensure consistency with the Local Coastal Program. Issuance of a CDP requires compliance with Chapter 3 of the Coastal Act, Coastal Resources Planning and Management Policies, which outlines the policies/standards by which the permissibility of proposed development are determined.

## 6.5 GLOBAL RECOMMENDATIONS

### 6.5.1 Agency Concurrence and Pre-Application Field Meeting

It is highly recommended that the delineation be forwarded to each of the regulatory agencies for their concurrence. Once the delineation is approved, RBF has found it extremely beneficial and pro-active to have an on-site meeting with the ACOE, RWQCB, CDFG, and CCC to discuss potential permitting strategies. In short, these Pre-Application Field Meetings often help streamline the permitting process.

### 6.5.2 Concurrent Permit Processing

Prior to issuance of the ACOE permit, a Section 401 Water Quality Certification from the Santa Ana RWQCB and a CDP from the CCC must be obtained. Obtaining the Certification and CDP can result in substantial delays in issuing an ACOE permit. To avoid unreasonable delays in ACOE permit processing, the following actions are recommended. In cases where the ACOE has finished its evaluation of a permit proposal and the only action remaining is the issuance of the Section 401 Certification and CDP, the ACOE should send a provisional permit to the applicant. Sending a provisional permit completes the ACOE action on the proposal and notifies the applicant of the need to obtain a Section 401 Certification and a CDP from the appropriate State certifying agency before the Section 404 permit is valid. The provisional permit also places the only remaining action with the certifying agencies, properly focusing the applicant on the State.

# Section 7 References

The following references were utilized during preparation of this Delineation of State and Federal Jurisdictional Waters:


*Aerial Photograph*, provided by Eagle Aerial, 2006.

*Biological Monitoring Report*, prepared by UltraSystems, 2004.

*California Department of Fish and Game*, A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607, January 1994.

*California Department of Fish and Game*, Lake and Streambed Alteration Program, http://www.dfg.ca.gov/1600/index.html

*Common Riparian Plants of California*, Pickleweed Press 1996.

*Common Wetland Plants of Coastal California*, Pickleweed Press 1996.

*Draft Biological Assessment,* Chambers Group, Inc., June 2005.

*Draft Operations and Maintenance Manual*, RBF Consulting, November 10, 2004.

*Draft Report for Results of the Biological Reconnaissance Survey for San Diego Creek Watershed Special Area Management Plan*, Chambers Group, Inc., April 2004.

*Final Jurisdictional Delineation*, Chambers Group, Inc., November 2004.

*Mitigated Negative Declaration*, prepared by RBF Consulting, 2005.

*Munsell Soil Color Charts*, 1994.

*Natural Resources Conservation Services, Hydric Soils List of California*, 1995. http://soils.usda.gov/soil_use/hydric/main.htm

*Ortho Aerial Photograph*, Project No. 07-776, Scale 1:8040, provided by Vertical Mapping Resources, Inc., flown on March 13, 2007.

*Site Visits* conducted on March 14, and April 11, 18, and 19, 2007.

*Thomas Brothers Map*, Los Angeles and Orange Counties, 2006.

*U.S. Army Corps of Engineers*, Los Angeles District Regulatory Program, http://www.spl.usace.army.mil/

*U.S. Army Corps of Engineers*, Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, 2006.

*U.S. Army Corps of Engineers*, Wetland Delineation Manual, 1987.

*United States Department of Agriculture*, Soil Survey, Orange County and Western Part of Riverside County, California, 1978.

*U.S. Fish and Wildlife Service*, http://endangered.fws.gov/consultations/index.html.

*U.S. Fish and Wildlife Service*, National List of Vascular Plant Species that Occur in Wetlands, 1988.

*USGS Topographic Quadrangle*, Tustin, CA, 1965 (photorevised 1981).

# APPENDIX

# A) WETLAND DATA FORMS

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 1
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 60, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835815 Long: 33.673543 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | |
|---|---|---|
| Hydrophytic Vegetation Present? | Yes X No ____ | Is the Sampled Area within a Wetland? Yes ____ No X |
| Hydric Soil Present? | Yes ____ No X | |
| Wetland Hydrology Present? | Yes X No ____ | |

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 10 | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: 10 | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix lasiolepis | 15 | | FACW |
| 2. Baccharis salicifolia | 40 | ✓ | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 55 | | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 15 | | NI |
| 2. Isocoma menziesii var veroniodides | 20 | ✓ | FAC+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 35 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:

## SOIL

Sampling Point: 1

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/3 | 100 | | | | | sand | |
| 5-16 | 7.5Y 3/2 | 100 | | | | | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes X No ____

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 2
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 60, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835853 Long: 33.673505 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | |
|---|---|---|
| Hydrophytic Vegetation Present? | Yes X No ____ | Is the Sampled Area within a Wetland? Yes ____ No X |
| Hydric Soil Present? | Yes ____ No X | |
| Wetland Hydrology Present? | Yes X No ____ | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix lasiolepis | 25 | ✓ | FACW |
| 2. Baccharis salicifolia | 35 | ✓ | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 60 | | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 20 | ✓ | NI |
| 2. Isocoma menziesii v. Veronioides | 20 | ✓ | FAC+ |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 40 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
X Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No ____

Remarks:

## SOIL

Sampling Point: 2

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 10YR4/2 | 100 | | | | | sand | |
| 7-18 | 10YR4/2 | 100 | | | | | loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No X

Remarks:

Darker chunks of soil randomly throughout (5Y 2.5/1)

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes X No _____

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 3
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 60, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835886 Long: 33.673530 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: R2UBCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | |
|---|---|---|
| Hydrophytic Vegetation Present? | Yes X No _____ | Is the Sampled Area within a Wetland? Yes X No _____ |
| Hydric Soil Present? | Yes X No _____ | |
| Wetland Hydrology Present? | Yes X No _____ | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 40 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 40 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix lasiolepis | 25 | ✓ | FACW |
| 2. Baccharis salicifolia | 25 | ✓ | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 50 | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 10 | | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 10 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No _____

Remarks:

## SOIL

Sampling Point: 3

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/3 | 100 | | | | | sand | |
| 5-6 | 10YR 4/2 | 100 | | | | | sand | |
| 6-12 | 10YR 4/3 | 100 | | | | | sand | |
| 12-20 | N 2.5/0 | 100 | | | | | silt loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes X No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes X No ___ Depth (inches): 18.0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 12.0

**Wetland Hydrology Present?** Yes X No ___

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 4
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 59, T 6S, R 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835952 Long: 33.672901 Datum: NAD 83
Soil Map Unit Name: Balcom clay loam, 9-15% slopes NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | |
|---|---|---|
| Hydrophytic Vegetation Present? | Yes X No ____ | Is the Sampled Area within a Wetland? Yes ____ No X |
| Hydric Soil Present? | Yes ____ No X | |
| Wetland Hydrology Present? | Yes X No ____ | |

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 80 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 80 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. Typha latifolia | 20 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 20 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes X No ____

Remarks:

## SOIL

Sampling Point: 4

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10 YR 3/2 | 100 | | | | | silty clay loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No X

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes X No _____ Depth (inches): 22.0

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 18.0

**Wetland Hydrology Present?** Yes X No _____

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 5
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 59, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835973 Long: 33.672885 Datum: NAD 83
Soil Map Unit Name: Balcom clay loam, 9-15% slopes NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. Typha latifolia | 100 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 5

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | | | | | | | muck | |
| 6-12 | 10YR 6/2 | 100 | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

Strong sulfitic odor.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 1.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 6
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 59, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835998 Long: 33.672588 Datum: NAD 83
Soil Map Unit Name: Balcom clay loam, 9-15% slopes NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix goodingii | 30 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 30 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix goodingii | 70 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 6

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-1 | 10YR 3/1 | 100 | | | | | Silty clay loam | |
| 1-10 | 10G 2.5/0 | 100 | | | | | sand | |
| 10-14 | 10YR 5/3 | 100 | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 12.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 5.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 7
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 59, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.835706 Long: 33.6069991 Datum: NAD 83
Soil Map Unit Name: Balcom clay loam, 9-15% slopes NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 60 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 60 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix lasiolepis | 40 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No ____

Remarks:

## SOIL

Sampling Point: 7

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-16 | 10YR 5/3 | 100 | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 8
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 59, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.840307 Long: 33.660305 Datum: NAD 83
Soil Map Unit Name: Chino silty clay loam NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

**VEGETATION**

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix goodingii | 15 | | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 15 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix goodingii | 5 | | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 5 | | |
| **Herb Stratum** | | | |
| 1. Typha latifolia | 50 | ✓ | OBL |
| 2. Scirpus ssp. | 30 | ✓ | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 80 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 8

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 10YR 5/2 | 70 | 7.5YR 5/8 | 30 | | | sand | |
| 7-16 | N 2.5/0 | 100 | | | | | silty clay loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 6.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 3.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 3/14/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 9
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.844063 Long: 33.656158 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 50 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 50 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 50 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 50 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:
Located within 80-foot buffer

## SOIL

Sampling Point: 9

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-16 | 2.5Y 3/2 | 95 | 10YR 5/8 | 5 | | RC | SiC | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 6.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 2.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 10
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 58, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): LRR C Lat: -117.846424 Long: 33.654908 Datum: NAD 83
Soil Map Unit Name: Omni Clay, drained NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 70 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 70 | | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 30 | ✓ | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 30 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: | |
|---|---|---|
| OBL species | x 1 = | |
| FACW species 70 | x 2 = | 140 |
| FAC species | x 3 = | |
| FACU species | x 4 = | |
| UPL species 30 | x 5 = | 150 |
| Column Totals: 100 (A) | | 290 (B) |

Prevalence Index = B/A = 2.9

**Hydrophytic Vegetation Indicators:**
___ Dominance Test is >50%
✓ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 10

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 4/3 | 100 | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 11
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.846319 Long: 33.654768 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Salix goodingii | 20 | ✓ | OBL |
| 2. Baccharis salicifolia | 20 | ✓ | FACW |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 40 | | | |
| **Herb Stratum** | | | |
| 1. Scirpus ssp. | 40 | ✓ | OBL |
| 2. Brassica nigra | 10 | | NI |
| 3. Isocoma menziisii v. vernonioides | 10 | | FAC+ |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 60 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 11

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR 4/3 | 100 | | | | | Sand | |
| 5-16 | 10YR 3/2 | 95 | 10YR 6/8 | 5 | | PL | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photographs

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 12
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.846964 Long: 33.654245 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix goodingii | 85 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 85 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 5 | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 5 | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 10 | | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 10 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No ____

Remarks:

## SOIL

Sampling Point: 12

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 2.5Y 4/3 | 100 | | | | | Sand | |
| 7-12 | 10YR 4/3 | 98 | 10YR 5/8 | 2 | | RC | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 13
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Section 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.846942 Long: 33.654232 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Heavy leaf matter on ground surface about 1.5 inches

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix goodingii | 100 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 100 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 13

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 3/2 | 100 | | | | | clay | |
| 3-12 | 10YR4/3 | 95 | 10YR 4/6 | 5 | | PL | sand | |
| | 10YR3/2 | 95 | 10YR4/6 | 5 | | PL | clay | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

Second horizon intermixed with sand and clay.

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

Located along toe of slope.

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 14
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.848453 Long: 33.653240 Datum: NAD 83
Soil Map Unit Name: Omni clay, drained NWI classification: R2USCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 85 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 85 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 10 | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 10 | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 5 | | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 5 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No ____

Remarks:

## SOIL

Sampling Point: 14

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR4/3 | 100 | | | | | sand | |
| 6-12 | 10YR3/2 | 95 | 10YR4/6 | | PL | 5 | silty clay loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/11/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 15
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.856744 Long: 33.651744 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 90 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ____ No ____

Remarks:

## SOIL

Sampling Point: 15

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 4/3 | 100 | | | | | Sand | |
| | 10YR 2/2 | < 1 | | | | | Silty clay loam | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ____ No ✓

Remarks:

Pockets of darker soil in very few areas

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ____ No ✓

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 16
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.860703 Long: 33.651703 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 100 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 100 | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 16

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 10YR 3/3 | 98 | 10YR 5/6 | 2 | | PL | sandy loam | |
| | 10YR 3/2 | 98 | 10YR 5/6 | 2 | | PL | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: Rip-Rap

Depth (inches): 10 in

**Hydric Soil Present?** Yes ____ No ✓

Remarks:

Darker soils intermixed throughout

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ____ No ✓

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 17
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Se. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.861853 Long: 33.651630 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 85 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 85 | | | |
| **Herb Stratum** | | | |
| 1. Mesembryanthemum nodiflorum | 15 | | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 15 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 17

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-15 | 10YR 4/3 | 99 | 10YR 4/6 | <1 | | PL | sand | |
| | 10YR 3/2 | 100 | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

Redox at 0-5 inches

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 18
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.861966 Long: 33.651565 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 60 | ✓ | FACW |
| 2. Salix goodingii | 10 | | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 70 | | |
| **Herb Stratum** | | | |
| 1. Scirpus ssp. | 30 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 30 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 18

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-16 | 2.5Y 3/2 | 95 | 10YR 4/6 | 5 | | PL | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 14.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 8.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 19
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.8661168 Long: 33.651184 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 100 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 100 | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 19

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-15 | 10YR 4/3 | 100 | | | | | sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 20
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.863805 Long: 33.651677 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: PFOC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 70 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 70 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. Scirpus ssp. | 20 | ✓ | OBL |
| 2. Brassica nigra | 10 | | NI |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 30 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 20

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 2/1 | 100 | | | | | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 7.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 4.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 21
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.846087 Long: 33.654320 Datum: NAD 83
Soil Map Unit Name: Corralitos loamy sand, moderately fine substratum NWI classification: PSSCx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

## VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 25 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 25 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 60 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 60 | | |
| **Herb Stratum** | | | |
| 1. Brassica nigra | 15 | | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 15 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = ____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No ____

Remarks:

## SOIL

Sampling Point: 21

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 10YR 4/3 | 100 | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 22
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.856747 Long: 33.651200 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: R2UBHx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. Salix lasiolepis | 20 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | 20 | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 40 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 40 | | |
| **Herb Stratum** | | | |
| 1. Cnamaebatia foliolosa | 40 | ✓ | NI |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 40 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 22

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-18 | 10YR 4/3 | 100 | | | | | Sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/18/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 23
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): footslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.859376 Long: 33.65487 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 60 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 60 | | | |
| **Herb Stratum** | | | |
| 1. Scirpus ssp. | 40 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 40 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 23

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-24 | 10YR4/3 | 90 | 10YR3/6 | 10 | | | sandy loam | |
| | 10YR3/2 | 90 | 10YR3/6 | 10 | | | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

Water Table Present? Yes ✓ No ___ Depth (inches): 22.0

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 12.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/19/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 24
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T.6S, R.9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.859971 Long: 33.651196 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 10 | | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 10 | | | |
| **Herb Stratum** | | | |
| 1. Cotula coronopifolia | 80 | ✓ | FACW+ |
| 2. Scirpus ssp. | 10 | | OBL |
| 3. Isocoma menziisii v. vernonioides | 10 | | FAC+ |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 90 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 24

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR4/3 | 100 | | | | | sand | |
| 4-7 | 10YR 3/2 | 90 | 7.5 Y 3/4 | 10 | | PL | silt loam | |
| 7-18 | 10YR 3/2 | 90 | 7.5 Y 3/4 | 10 | | PL | clay silt loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/19/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 25
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.859931 Long: 33.651097 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: R2UBHx
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 90 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | 90 | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 25

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-15 | 10YR 4/3 | 100 | | | | | Sand | |
| 15-18 | 10YR 3/2 | 99 | 10YR 4/6 | 1 | | PL | silt | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes _____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No _____

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

Aerial Photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/19/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 26
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.862728 Long: 33.651043 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 70 | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 70 | | | |
| **Herb Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust _____

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 26

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-20 | 10YR 5/3 | 100 | | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ____ No ✓

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ____

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/19/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 27
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.862783 Long: 33.651164 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. Baccharis salicifolia | 30 | ✓ | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: 30 | | | |
| **Herb Stratum** | | | |
| 1. Scirpus ssp. | 60 | ✓ | OBL |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: 60 | | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 27

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-9 | 2.5Y 3/2 | 95 | 10YR4/6 | 5 | | PL,RC | sandy loam | |
| 9-20 | N 2.5/0 | 100 | | | | | sandy loam | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

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

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: San Diego Creek Post-Interim City/County: Orange County Sampling Date: 4/19/07
Applicant/Owner: County of Orange RDMD State: CA Sampling Point: 28
Investigator(s): R. Beck, L. See, W. Salter Section, Township, Range: Sec. 58, T. 6S, R. 9W, SBBM
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 1
Subregion (LRR): LRR C Lat: -117.865352 Long: 33.650829 Datum: NAD 83
Soil Map Unit Name: Tidal flats NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

### VEGETATION

| Tree Stratum (Use scientific names.) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| **Sapling/Shrub Stratum** | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| **Herb Stratum** | | | |
| 1. Salicornia Virginica | 60 | ✓ | OBL |
| 2. Scirpus ssp. | 40 | ✓ | OBL |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| **Woody Vine Stratum** | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

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

**Dominance Test worksheet:**
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

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

Prevalence Index = B/A = _____

**Hydrophytic Vegetation Indicators:**
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

## SOIL

Sampling Point: 28

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-20 | 10YR 3/2 | 85 | 7.5YR 4/6 | 15 | | PL | silt | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

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

**Indicators for Problematic Hydric Soils[3]:**

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ✓ No ___

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Thin Muck Surface (C7)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

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

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

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 16.0

**Wetland Hydrology Present?** Yes ✓ No ___

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

Aerial photo

Remarks:

# Exhibit 6

**From:** David T. Hughes
**To:** Sweeney, Eric R SPL
**Cc:** Weaver, Denise
**Subject:** [EXTERNAL] RE: San Diego Creek Reach I Maintenance Program - SPL-2016-00160-ERS
**Date:** Monday, May 09, 2016 1:26:59 PM

---

Thanks Eric,
I'll work up a map and send it over to you. The channel is a pretty static system given that it's a highly engineered storm channel. The main change over time is the vegetation growth that is a flood control hazard. Could you please clarify what a 'clean excavation' would be?

David Hughes
BonTerra Psomas | Balancing the Natural and Built Environment
Senior Project Manager
Environmental Planning and Resource Management
225 South Lake Avenue, Suite 1000
Pasadena, CA 91101 | 626.351.2000
Blockedwww.Psomas.com

-----Original Message-----
From: Sweeney, Eric R SPL [mailto:Eric.R.Sweeney@usace.army.mil]
Sent: Monday, May 09, 2016 1:20 PM
To: David T. Hughes <david.t.hughes@psomas.com>
Cc: Weaver, Denise <Denise.Weaver@ocpw.ocgov.com>
Subject: RE: San Diego Creek Reach I Maintenance Program - SPL-2016-00160-ERS

Thanks David - sorry but I actually just realized that I'm going to need to do an AJD for this, rather than a PJD, but I'll still use information you provided on the PJD form.

Could you please also provide me with the map showing the boundaries of wetlands the other waters (as demarcated by the OHWM) within the project area between Jamboree and Campus? The delineation maps you provided include a lot of information and for clarity it would be useful to have just the Corps wetlands and waters indicated.

Also, when was this area last dredged? I noticed that your delineation forms are from 2007. Can you please justify why these delineation forms from nine years ago would still accurately describe Corps jurisdictional resources in the project area?

Additionally, one other possibility I asked about was whether you might attempt clean excavation, in which case you would only need a section 10 LOP for the work. Could you please describe the process that would be used to remove the material and confirm that a discharge of dredged/fill material would be taking place?

Thanks,

--
Eric Sweeney
Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
213-452-3002 (Office)
eric.r.sweeney@usace.army.mil

**Please email or FTP all documentation submittals. Email can accept file sizes up to 15mb. For larger files, use the Corps' FTP site at Blockedhttps://safe.amrdec.army.mil/safe/Default.aspx.**

-----Original Message-----
From: David T. Hughes [mailto:david.t.hughes@psomas.com]
Sent: Thursday, May 05, 2016 3:25 PM
To: Sweeney, Eric R SPL <Eric.R.Sweeney@usace.army.mil>
Subject: [EXTERNAL] RE: San Diego Creek Reach I Maintenance Program - SPL-2016-00160-ERS

Hi Eric,
I revised our PJD for San Diego Creek as indicated below. Please confirm that we want to call everything Section 10, because the NWI indicates estuarine up to the beginning of the lower basin as we showed in the previous PJD (and riverine/palustrine above that point). I don't know that it makes a huge difference in the larger scheme of things, but I just wanted to confirm with you.

Secondly on the issue of pursuing the Individual Permit, if you think we can get this accomplished on a similar time frame as a NWP/LOP process, then we would like to pursue that option (as it obviously makes sense as a longer term and less complicated solution). Please let me know what information you may need from me to prepare the necessary NEPA documentation.

We are currently performing least Bell's vireo surveys for the project site - please indicate what you may need from me to initiate consultation with USFWS for either a B.O. or ITP.

Thanks!

David Hughes
BonTerra Psomas | Balancing the Natural and Built Environment Senior Project Manager Environmental Planning and Resource Management
225 South Lake Avenue, Suite 1000
Pasadena, CA 91101 | 626.351.2000
Blockedwww.Psomas.com

-----Original Message-----
From: Sweeney, Eric R SPL [mailto:Eric.R.Sweeney@usace.army.mil]
Sent: Monday, April 25, 2016 12:02 PM
To: David T. Hughes <david.t.hughes@psomas.com>
Subject: RE: San Diego Creek Reach I Maintenance Program - 404 application status

David, the Corps has established that section 10 jurisdiction extends as far as Campus Drive. Could you please revise your PJD to include all aquatic resources as section 10 waters?

Thanks,

--
Eric Sweeney
Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
213-452-3002 (Office)
eric.r.sweeney@usace.army.mil

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-----Original Message-----
From: David T. Hughes [mailto:david.t.hughes@psomas.com]
Sent: Tuesday, April 12, 2016 2:09 PM
To: Sweeney, Eric R SPL <Eric.R.Sweeney@usace.army.mil>
Subject: [EXTERNAL] RE: San Diego Creek Reach I Maintenance Program - 404 application status

Hi Eric,
I've attached a few items related to your inquiries below. Please find the following:
1. Signed PJD form
2. Map that shows the footprint for Basin 1 (this the area for dredging excess sediment).

Let me know what I else I can provide for your project analysis. Also, I'd like to talk later this week about initiating consultation with USFWS about a B.O. or Take Permit. We are starting least Bell's vireo surveys shortly. Are you available Friday for a discussion about where we stand?

David Hughes
BonTerra Psomas | Balancing the Natural and Built Environment Senior Project Manager Environmental Planning and Resource Management
225 South Lake Avenue, Suite 1000
Pasadena, CA 91101 | 626.351.2000
Blockedwww.Psomas.com

-----Original Message-----
From: Sweeney, Eric R SPL [mailto:Eric.R.Sweeney@usace.army.mil]
Sent: Thursday, March 24, 2016 12:36 PM
To: David T. Hughes <david.t.hughes@psomas.com>
Cc: Weaver, Denise <Denise.Weaver@ocpw.ocgov.com>
Subject: RE: San Diego Creek Reach I Maintenance Program - 404 application status

Hi David,

In addition to the map for the PJD, could you please also make another map showing the proposed footprint for the dredging operation (i.e., Basin 1) relative to the jurisdictional aquatic resources called out in the PJD? What acreage of each type of aquatic resource would be impacted?

Thanks,

--
Eric Sweeney
Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
213-452-3002 (Office)
eric.r.sweeney@usace.army.mil

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-----Original Message-----
From: Sweeney, Eric R SPL
Sent: Thursday, March 24, 2016 12:00 PM
To: 'David T. Hughes' <david.t.hughes@psomas.com>
Subject: RE: San Diego Creek Reach I Maintenance Program - 404 application status

David, could you please complete the PJD form, attached?

Please specify the acreage of the following "sites" on page 2:
1) Section 10 non-wetland waters (up to mean high tide line)
2) Section 404 non-wetland waters (areas between mean high and HTL)
3) Section 10 wetland

Please also provide a short comment in "notes" on how the delineated boundaries were determined.

Could you please also make a new map, based on the map you already provided (attached), that shows each of these "sites" for just ACOE jurisdiction?

Thanks,

--
Eric Sweeney
Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
213-452-3002 (Office)
eric.r.sweeney@usace.army.mil

**Please email or FTP all documentation submittals. Email can accept file sizes up to 15mb. For larger files, use the Corps' FTP site at Blockedhttps://safe.amrdec.army.mil/safe/Default.aspx.

-----Original Message-----
From: David T. Hughes [mailto:david.t.hughes@psomas.com]
Sent: Wednesday, March 16, 2016 12:24 PM
To: Sweeney, Eric R SPL <Eric.R.Sweeney@usace.army.mil>
Subject: [EXTERNAL] RE: San Diego Creek Reach I Maintenance Program - 404 application status

Hi Eric,
I just sent you a link to the Psomas ftp site. You should have just received an email from "italerts@psomas.com" which will provide you a password to access project files. Please feel free to contact me with any additional questions.

Thanks!

David Hughes
BonTerra Psomas | Balancing the Natural and Built Environment Senior Project Manager Environmental Planning and Resource Management
225 South Lake Avenue, Suite 1000
Pasadena, CA 91101 | 626.351.2000
BlockedBlockedwww.Psomas.com

-----Original Message-----
From: Sweeney, Eric R SPL [mailto:Eric.R.Sweeney@usace.army.mil]
Sent: Tuesday, March 15, 2016 1:16 PM
To: David T. Hughes <david.t.hughes@psomas.com>
Subject: RE: San Diego Creek Reach I Maintenance Program - 404 application status

Hi David,

Could you please provide me with an FTP link for the currently available supporting documentation (bio report, etc.) for this project?

Thanks,

--
Eric Sweeney
Project Manager
Regulatory Division, Los Angeles District
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
213-452-3002 (Office)
eric.r.sweeney@usace.army.mil

**Please email or FTP all documentation submittals. Email can accept file sizes up to 15mb. For larger files, use the Corps' FTP site at BlockedBlockedhttps://safe.amrdec.army.mil/safe/Default.aspx.

-----Original Message-----
From: Estes, Stephen M SPL
Sent: Monday, March 07, 2016 9:38 AM
To: David T. Hughes <david.t.hughes@psomas.com>
Cc: Sweeney, Eric R SPL <Eric.R.Sweeney@usace.army.mil>
Subject: RE: San Diego Creek Reach I Maintenance Program - 404 application status

David,

This application is being reviewed by Eric Sweeney (213-452-3002; Eric.R.Sweeney@usace.army.mil) and is Corps File No. SPL-2016-00160-ERS. Eric is out of the office this week but should be back on Monday, March 14th.

Thank you,
Steve

**********
Stephen M. Estes
Senior Project Manager & Biologist
Orange and Riverside Counties Section
South Coast Branch, Regulatory Division
U.S. Army Corps of Engineers
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017
stephen.m.estes@usace.army.mil
213-452-3660

-----Original Message-----
From: David T. Hughes [mailto:david.t.hughes@psomas.com]

Sent: Friday, March 04, 2016 4:15 PM
To: Estes, Stephen M SPL <Stephen.M.Estes@usace.army.mil>
Subject: [EXTERNAL] San Diego Creek Reach I Maintenance Program - 404 application status

Mr Estes,

OC Public Works submitted an application for maintenance activities and sediment removal in San Diego back in January. I'm working as their consultant on the project, and I haven't received any correspondence from the Corps. I'm wondering if you all sent something back to the County where it might have gotten misplaced(?). Can you tell me the best way to check on status of this application, to see if its been logged into your system?

Appreciate any help - thanks!

David Hughes

BonTerra Psomas | Balancing the Natural and Built Environment

Senior Project Manager

Environmental Planning and Resource Management

225 South Lake Avenue, Suite 1000
Pasadena, CA 91101 | 626.351.2000

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