

# **Wetland Delineation Report**

## **Los Banos Creek Channel Vegetation Removal**

**Vegetation and Sediment Maintenance Program at  
Los Banos Detention Dam**

**Prepared for:**

**San Luis Field Division  
Department of Water Resources**

**Prepared by:**

**Environmental Services Section  
South Central Regional Office  
Department of Water Resources  
June 2009**

## Introduction

The Department of Water Resources (DWR) releases water from the Los Banos Creek Reservoir at the Los Banos Detention Dam (LBDD) through outlet works that spill into the Los Banos Creek channel. DWR is proposing to clear the vegetation from the Los Banos Creek channel downstream of the outlet works and spillway. Vegetation removal from the Los Banos Creek channel will allow safe downstream channel capacity (1000 cubic feet per second) below the dam.

The Los Banos Creek channel was inspected by CA Department of Water Resources, South Central Regional Office, Environmental Scientists. Between March 14 and May 12, 2009, a wetland delineation was made to clearly determine wetland boundaries. Project impacts will be assessed through the delineation.

## Project Location

Los Banos Creek, an ephemeral creek, begins in the Diablo Range in San Benito County. It then flows into the Los Banos Creek Reservoir. The project area, at the LBDD and channel, is approximately 7 miles southwest of Los Banos, California.

From CA-99 take CA-152 West, turn Left onto Ortigalita Rd., Right onto Pioneer Rd., Left onto Canyon Rd.



## Site Conditions

### Vegetation

Vegetative communities on the project site include cottonwood riparian, scrub, and non-native grassland.

## **Soils**

The Natural Resources Conservation Service (NRCS) describes the soils in the project area as channeled Mollic Xerofluvents (CMX) and extremely gravelly Xerofluvents (EGX).

According to the NRCS, CMX are characterized as deep, poorly drained soils on flood plains of mountain and foothill streams. CMX are formed in gravelly alluvium derived from various kinds of rock. The slope is 0 to 2 percent. There is no typical profile; however, brown sandy loam, about 24 inches thick, is commonly observed. The underlying material to a depth of 60 inches or more is extremely gravelly sand that is 30 percent cobbles and 60 percent gravel. In some areas the surface layer is fine sandy loam or loam.

EGX are characterized as deep, poorly drained to well-drained soils in channels and on flood plains in and adjacent to streams on mountains and foothills. EGX formed in gravelly alluvium derived from various kinds of rock. The slope is 0 to 2 percent. There is no typical profile; however, brown and grayish brown extremely gravelly loamy and clayey material to a depth of 60 inches or more is commonly observed. It is 60 to 90 percent gravel and cobbles.

## **Climate**

On average, there are 260 sunny days per year in Los Banos, CA. The area receives an annual average of 9 to 10 inches of precipitation. The climate is semiarid with hot, dry summers and cool, foggy winters.

## **Survey Methodology**

A data form for the Arid West Region (see appendix for field data) was used to determine hydrophytic vegetation, hydric soils, and wetland hydrology.

### **Determination of Hydrophytic Vegetation**

Vegetation and percent cover within a 40 foot radius of soil pit sites was recorded on the Arid West Region data form.

In the southwestern area of the project site, transects were laid out and vegetation was recorded every 2 feet. Transects started at the edge of the water in the channel and continued to 200 feet or just after exiting the floodplain area, whichever was first. Vegetative percent cover was recorded within a 40 foot radius from the center of each transect. A list of species for each transect is found in the appendix, Table 1.

The presence of hydrophytic vegetation was determined using indicators stated in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual. The primary indicator of hydrophytic vegetation is areas having more than 50 percent of the dominant species being obligate wetland plants (OBL), facultative wetland plants (FACW), or facultative plants (FAC).

### **Determination of Hydric Soils**

Soil survey information was obtained from the United States Department of Agriculture Web Soil Survey site, and from Natural Resources Conservation Soil Survey Manuscripts. Soil pits were dug using procedures outlined in the Field Guide for Wetland Delineation: 1987 Corps of

Engineers Manual. However, most pits were dug to a depth of 7 or more inches, but not more than 14 inches deep. Soils were difficult to dig through because of the quantity of cobbles and pebbles.

Soil samples were examined in the field by hand texturing, using the Munsell Soil Color Charts and Pocket Guide to Hydric Soil Field Indicators, and assessing soil features such as mottling. Results were recorded on the data form.

### **Determination of Wetland Hydrology**

Wetland hydrology was determined to be present if water tended to collect or flow, either permanently or periodically, from a direct water source, or if the soils and local conditions were such that groundwater remained close to the soil surface during the hydrophytic vegetation growing season. Hydrologic indicators were recorded on the data form.

### **Determination of Wetland Boundaries**

Wetland boundaries were determined based on the presence or inference of positive indicators of wetland criteria. Soil samples were examined in both wetlands and adjacent uplands, particularly in areas difficult to define.

In most cases, wetland boundaries could be identified visually using abrupt vegetative community changes and topographic divisions, such as slope, for determination. But, pits were dug and vegetative communities were evaluated to confirm assessment.

## **Results**

All areas immediately surrounding the project site were assessed for wetland hydrology, soils, and vegetation, even those outside the project boundaries. Wetland boundaries are defined and described in Map 1 found in the appendix.

However, final calculations for wetland impacts were measured only within the engineer boundary specifications.

### **Vegetation**

Vegetation in the channel consists of dense *Typha* sp., *Juncus balticus*, and *Scirpus americanus*. The project area also has a large amount of *Lepidium latifolium*. Other dominant vegetation on the project site includes *Heliotropium curassavicum*, *Atriplex lentiformis*, *Melilotus indica*, *Senecio vulgaris*, *Prosopis velutina*, *Frankenia salina*, *Cotula coronopifolia*, *Hemizonia pungens* ssp. *pungens*, and various non-native grasses. Native trees in the channel and surrounding area were recorded and mapped (see Map 2 in the appendix).

The southwestern portion provided a challenge in that it had irregular topography, a toe drain with intermittent discharge, possible overflow from the channel at high flows, and scattered hydrophytic vegetation with upland species. Although some edge areas within the south western portion of the floodplain consisted of more than 50 percent *Lepidium latifolium*, a FACW species, the soils it inhabited could not be considered hydric. However, much of this area is not within the engineer boundary specifications of the project.

All remaining vegetative communities in proximity to the Los Banos Creek channel area had clearer vegetative boundaries, and therefore assessment was straightforward and unproblematic.

### **Soils**

Outside of the water channel, but within the wetland boundary, the majority of the project area consists of a matrix with redoximorphic features, and a clay loam or sandy clay loam texture with a moderate amount of pebbles and cobbles. Outside the wetland boundary, the area consists primarily of clay loam, loam, and silt loam with a very high percentage of pebbles and cobbles.

Some hydric soils in the project area were indicated by a redoximorphic dark surface in the soil matrix.

At some localities within the southwestern portion there were solid indications of hydrology and hydric soils, while just a few feet away in a similar location, with similar vegetation, slope, elevation, and topography, soils did not exhibit wetland characteristics such as low chroma or mottling. The irregularity made delineating a boundary a challenge. But, again, most of this area was outside the project site boundaries.

### **Hydrology**

The overall flow or ponding of water remains within a clearly defined creek channel. However, in the southwestern area there are topographic inconsistencies, intermittent releases of water from a toe drain, as well as occasional or seasonal flooding. There is also obvious seasonal flooding and ponding of other areas tied to, but just outside of, the project site; obvious because these areas plainly show an ordinary high water mark.

In the southwestern area, we speculate that water tends to move and flow in an unpredictable pattern. The topography creates several high and low points. Therefore, it was necessary to separate upland areas within the wetland boundary created in this section of the project site. Areas within the wetland boundary determined to be non-wetland, or upland, will be subtracted from final wetland delineation measurements.

Soils in some of the drier areas of the wetland showed obvious signs of wetland hydrology, like a salt crust.

### **Conclusion on Impacts**

The total wetland area delineated and measured within the engineer boundary specifications and the total area directly impacted by the project is approximately 12,105 square meters, or 3 acres.

## References

Environmental Laboratory. 1987. U.S. Army Corps of Engineers Wetlands Delineation Manual. (Technical Report Y-87-1). U.S. Army Waterways Experiment Station, Vicksburg, MS.

United States Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Field Indicators of Hydric Soils in the United States, Version 6.0. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

United States Department of Agriculture, Soil Conservation Service. 1990. Soils Survey of Merced County, California, Western Part. National Cooperative Soil Survey and Regents of the University of California (Agricultural Experiment Station).

United States Department of Agriculture. 2008. Web Soil Survey. <<http://websoilsurvey.nrcs.usda.gov/app/>>

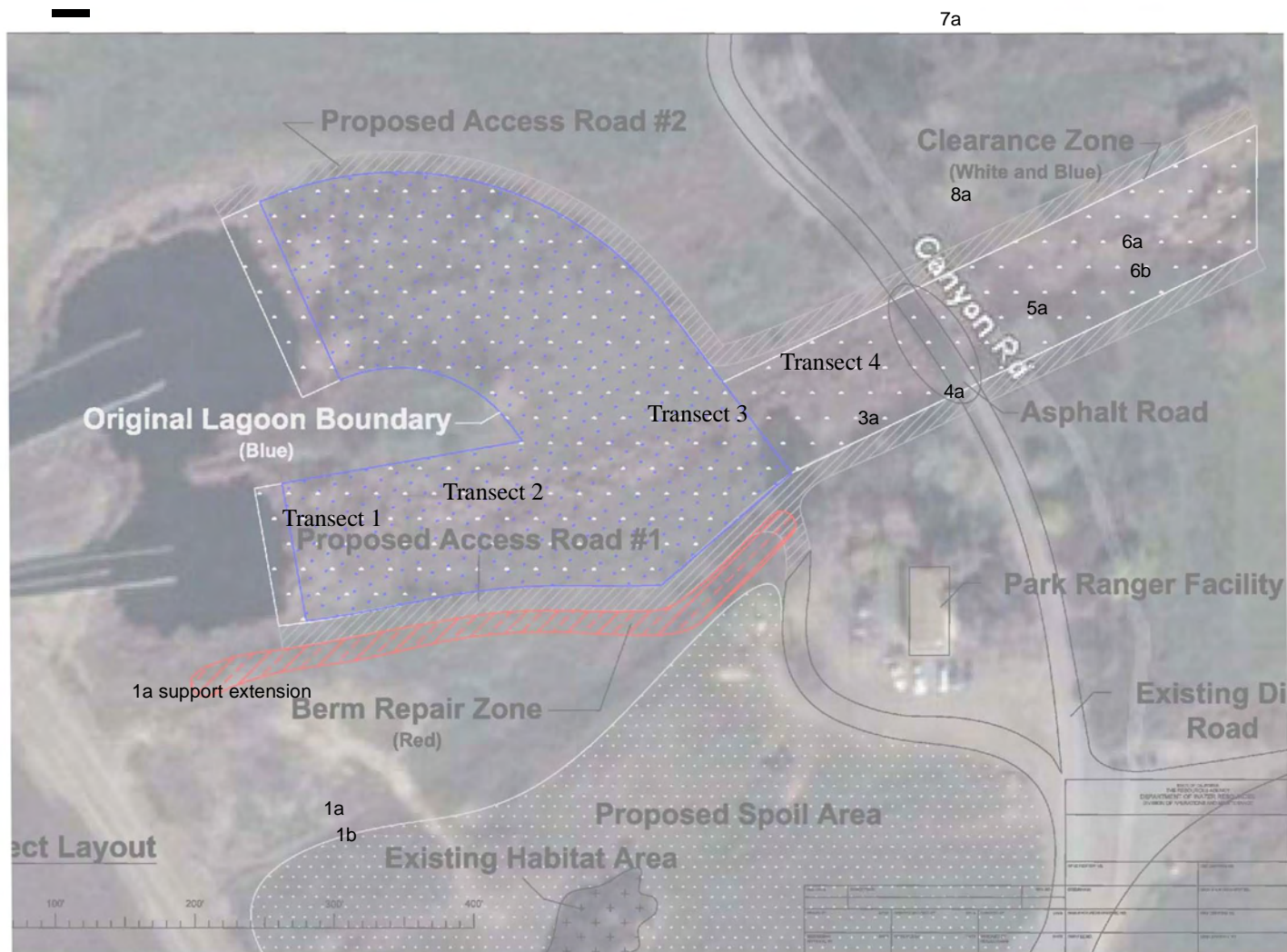
Wetland Training Institute, Inc. 1995. Field Guide for Wetland Delineation; 1987 Corps of Engineers Manual, Glenwood, NM. WTI 02-1.

Wetland Training Institute, Inc. 2006. Pocket Guide to Hydric Soil Field Indicators v. 6.0. Robert J. Pierce (ed.). Wetland Training Institute, Inc., Glenwood, NM. WTI 2006-1.

# **APPENDIX**

# Los Banos Detention Dam Wetland Delineation

0 12.5 25 50 75 100  
Meters



## Legend

- transect start-end
- soil profile dig holes
- engineers boundary specifications
- entire wetland perimeter
- upland areas within delineation



Map 2

# Los Banos Detention Dam Native Trees

0 10 20 40 60 80 100  
Yards

cot 1  
cot 2  
wil 1  
wil 2  
wil 3  
wil 4  
cot 3 and wil 5  
cot 4 fallen

wil 6  
wil 7

cot 5

cot 6

cot 13

cot 11

cot 12

cot 9

cot 10

cot 8

cot 7

cot 14

syc 1

cot 15 pos dead

cot 16

## Legend

cot = *Populus fremontii*

wil = *Salix* species

syc = *Platanus racemosa*

entire wetland perimeter

native trees

channel riparian area

Table 1

## Plant, Shrub, and Tree Species On and Around Transects

### Los Banos Detention Dam Wetland Delineation

**Plant Species (transects begin at waters edge and do no include species in water)**

Transect 1	Transect 2	Transect 3	Transect 4
<i>Atriplex lentiformis</i> <i>Bromus diandrus</i> <i>Bromus hordeaceus</i> <i>Bromus madritensis</i> <i>Centaurea solstitialis</i> <i>Cirsium vulgare</i> <i>Cotula coronopifolia</i> <i>Cynodon dactylon</i> <i>Distichlis spicata</i> <i>Frankenia salina</i> <i>Grindelia camporum</i> <i>Hemizonia pungens</i> <i>Hordeum marinum</i> <i>Lepidium Latifolium</i> <i>Melilotus indica</i> <i>Prosopis velutina</i> <i>Salsola tragus</i> <i>Scirpus americanus</i> <i>Senecio vulgare</i> unknown <i>Asteracea</i>	<i>Bromus diandrus</i> <i>Bromus hordeaceus</i> <i>Bromus madritensis</i> <i>Centaurea solstitialis</i> <i>Cynodon dactylon</i> <i>Digitaria sanguinalis</i> <i>Distichlis spicata</i> <i>Frankenia salina</i> <i>Hordeum marinum</i> <i>Lepidium latifolium</i> <i>Melilotus indica</i> <i>Scirpus americanus</i> small unknown herb <i>Vulpia myuros</i>	<i>Bromus diandrus</i> <i>Bromus hordeaceus</i> <i>Bromus madritensis</i> <i>Cynodon dactylon</i> <i>Epilobium brachycarpum</i> <i>Eucalyptus grandis</i> <i>Frankenia salina</i> <i>Heliotropium curassavicum</i> <i>Hemizonia pungens</i> <i>Lepidium latifolium</i> little grass in water <i>Marrubium vulgare</i> <i>Melilotus indica</i> <i>Picris echioides</i> <i>Prosopis velutina</i> <i>Scirpus americanus</i> <i>Vulpia myuros</i>	<i>Brassica</i> sp. <i>Carduus tenuiflorus</i> <i>Centaurea solstitialis</i> <i>Cynodon dactylon</i> <i>Frankenia salina</i> <i>Juncus balticus</i> <i>Lepidium latifolium</i> <i>Marrubium vulgare</i> <i>Melilotus indica</i> <i>Populus fremontii</i> <i>Prosopis velutina</i> <i>Scirpus americanus</i> <i>Vulpia myuros</i>

**Herbaceous and Shrub Dominants in 40 Meter Circle (from center of transect)**

Lepidium 30% grasses 30% Prosopis 15% Senecio 10% Atriplex 5% Heliotrope <5%	Lepidium 35% Distichlis 20% Frankenia 15% Cynodon 10% Bromus & Hordeum 5% Digitaria < 2%	Scirpus 45% Juncus balticus 15% Prosopis 15% Typha latifolia 15% Lepidium 10% Populus fremontii <5% Melilotus 2% Baccharis salicifolia 1%	Lepidium 45% Frankenia 15% Scirpus 15% Prosopis 10% grasses 5% Juncus 3% Typha 2% Hemizonia 2% Eucalyptus <2% Marrubium 1%
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# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Norcal Sampling Date: 5-8-09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 1a  
 Investigator(s): LC, CV Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): valley channel Local relief (concave, convex, none): concave Slope (%): 2  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: Orthoglypta Peak LNW NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>40m radius</u>			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Prosopis juliflora</u>	<u>8%</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. _____			
3. _____			
4. _____			
Total Cover: _____ %			
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Atriplex trichomanis</u>	<u>1</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. _____			
3. _____			
4. _____			
5. _____			
Total Cover: _____ %			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Hordeum</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
2. <u>Lepidium</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Cotula</u>	<u>1</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
4. <u>Hemizonia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
5. <u>Habitat</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>
6. <u>pernuda</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
7. <u>Gambusia</u>	<u>11</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
8. <u>Melilotus</u>	<u>11</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
9. <u>Brodiaea</u>	<u>27</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
10. <u>Encelia</u>	<u>12%</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
Total Cover: _____ %			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Encelia</u>	<u>12%</u>	<input checked="" type="checkbox"/>	<u>UPL</u>
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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:	Result
OBL species <u>1</u>	x 1 =	<u>0</u>
FACW species <u>3</u>	x 2 =	<u>6</u>
FAC species <u>3</u>	x 3 =	<u>9</u>
FACU species <u>1</u>	x 4 =	<u>4</u>
UPL species <u>5</u>	x 5 =	<u>25</u>
Column Totals: <u>13</u> (A)		<u>45</u> (B)

Prevalence Index = B/A = 45/13 = 3.46

**Hydrophytic Vegetation Indicators:**

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ☐ No ☒

Remarks: Giron drain - drainage channel

## SOIL

Sampling Point: 1a

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

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
0-1"	2.5Y 3/2		2.5Y 5/6	10	C	M	SCL	slightly darker than other
1-9"	2.5Y 4/2		2.5Y 5/6	3	C	M	SCL	lots of rocks 55% layers
9-11"			7.5YR 5/4		C			
9-	2.5Y 4/2		7.5YR 5/4	12	C			
9-			5Y 3/1	3	C			

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

*Moist Soil*<sup>4</sup>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)

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

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): \_\_\_\_\_

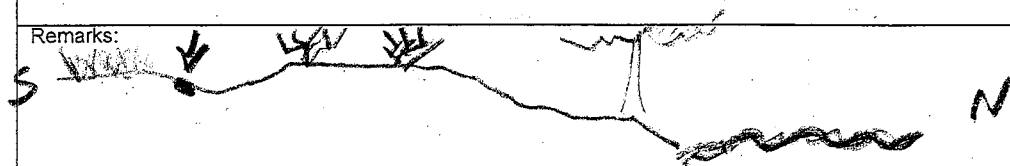
Saturation Present? Yes ☐ No ☒  
(includes capillary fringe)

Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Merced Sampling Date: 5/8/09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 1b  
 Investigator(s): LC, CV Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): none Slope (%): 0  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:  <u>Support area 1a wetland north of drainage channel</u>		

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> % (A/B)																					
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																								
OBL species	x 1 =	<u>0</u>																							
FACW species	x 2 =	<u>0</u>																							
FAC species	x 3 =	<u>0</u>																							
FACU species	x 4 =	<u>0</u>																							
UPL species	x 5 =	<u>0</u>																							
Column Totals:	(A)	<u>0</u> (B)																							
<b>Sapling/Shrub Stratum</b> 1. <u>A. nolex</u> <u>10</u> <u>FACW</u> 2. <u>P. monophyllus</u> <u>7</u> <u>UPL</u> 3. _____ 4. _____ 5. _____ Total Cover: _____ %																									
<b>Herb Stratum</b> 1. <u>Frankenia</u> <u>1</u> <u>FACW</u> 2. <u>Leptochloa</u> <u>12</u> <u>FACW</u> 3. <u>Yucca</u> <u>1</u> <u>UPL</u> 4. <u>Yucca</u> <u>1</u> <u>FAC</u> 5. <u>Silene</u> <u>1</u> <u>AG</u> 6. <u>Grindelia</u> <u>1</u> <u>FACU</u> 7. <u>Heliotropis</u> <u>1</u> <u>OBL</u> 8. <u>Croton</u> <u>2</u> <u>FAC</u> Total Cover: _____ %																									
<b>Woody Vine Stratum</b> 1. <u>Salsola</u> <u>1</u> <u>FACU</u> 2. <u>Brodiaea</u> <u>1</u> <u>UPL</u> Total Cover: _____ %																									
% Bare Ground in Herb Stratum <u>55</u> % Cover of Biotic Crust _____ %																									
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		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
0-1 1/2"	10YR 2/1		10YR 4/6	<1	C	M	CL	lots of organic matter
1 1/2-	2.5Y 3/2	20					S(gavel)	too rocky to dig deeper

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>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)

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

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? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Merced Sampling Date: 5-8-09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 2a  
 Investigator(s): LL, CV Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): gully 5%+ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 25%  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 3</u> (A) Total Number of Dominant Species Across All Strata: <u>0 4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0 %</u> (A/B) <u>75%</u>																					
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																								
OBL species	x 1 =	<u>0</u>																							
FACW species	x 2 =	<u>0</u>																							
FAC species	x 3 =	<u>0</u>																							
FACU species	x 4 =	<u>0</u>																							
UPL species	x 5 =	<u>0</u>																							
Column Totals:	(A)	<u>0</u> (B)																							
<b>Sapling/Shrub Stratum</b>																									
1. <u>Prosopis</u>	<u>5</u>		<u>UPL</u>																						
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %																									
<b>Herb Stratum</b>																									
1. <u>Lepidium</u>	<u>25</u>		<u>FACW</u>																						
2. <u>Melilotus indica</u>	<u>5</u>		<u>FAC</u>																						
3. <u>Grass</u>	<u>20</u>		<u>UPL</u>																						
4. <u>Mammillaria</u>	<u>15</u>		<u>FAC</u>																						
5. <u>Platanus mon</u>	<u>1</u>		<u>FACW+</u>																						
6. <u>Frankia</u>	<u>17</u>		<u>FACW</u>																						
7. <u>Pteris</u>	<u>1</u>		<u>FAC*</u>																						
8. <u>Heliotrop</u>	<u>&lt;1</u>		<u>OBL</u>																						
Total Cover: <u>7 %</u>			<u>OBL</u>																						
<b>Woody Vine Stratum</b>																									
1. <u>brodia</u>	<u>&lt;1</u>		<u>UPL</u>																						
Total Cover: <u>97 %</u>																									
% Bare Ground in Herb Stratum <u>10 %</u> % Cover of Biotic Crust _____ %																									
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																									
Remarks:																									

## SOIL

Sampling Point: 2a

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

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
11	2.5Y 3/2	79%					CL	Horizon all looks same
	2.5Y 3/2		2.5Y 5/6	<1%	C	M		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>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)

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

Secondary Indicators (2 or more required)

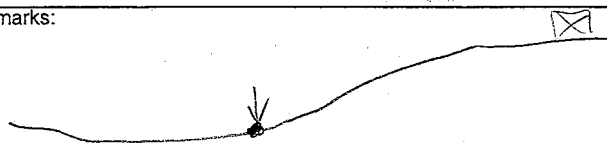
- ☐
- Water Marks (B1) (Riverine)
- 
- ☐
- Sediment Deposits (B2) (Riverine)
- 
- ☐
- Drift Deposits (B3) (Riverine)
- 
- ☐
- Drainage Patterns (B10)
- 
- ☐
- Dry-Season Water Table (C2)
- 
- ☐
- Thin Muck Surface (C7)
- 
- ☐
- Crayfish Burrows (C8)
- 
- ☐
- Saturation Visible on Aerial Imagery (C9)
- 
- ☐
- 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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks: \_\_\_\_\_





# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LB00 City/County: Murced Sampling Date: 5-10-09  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: 3a  
 Investigator(s): LC, CV, HM Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 2</u> (A) Total Number of Dominant Species Across All Strata: <u>0 3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0 %</u> (A/B) <b>67%</b> <b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____ <b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																								
OBL species	x 1 =	<u>0</u>																							
FACW species	x 2 =	<u>0</u>																							
FAC species	x 3 =	<u>0</u>																							
FACU species	x 4 =	<u>0</u>																							
UPL species	x 5 =	<u>0</u>																							
Column Totals:	(A)	<u>0</u> (B)																							
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %																									
<b>Sapling/Shrub Stratum</b>																									
1. _____																									
2. _____																									
3. _____																									
4. _____																									
5. _____																									
Total Cover: _____ %																									
<b>Herb Stratum</b> <u>Baccharis</u>																									
1. <u>Scirpus</u>	<u>30</u>		<u>OBL</u>																						
2. <u>Lepidium</u>	<u>10</u>		<u>FACW</u>																						
3. <u>Prosopis</u>	<u>40</u>		<u>UPL</u>																						
4. <u>Larrea</u>	<u>&lt;1</u>		<u>FAC</u>																						
5. <u>Lotus</u>	<u>1</u>		<u>FACW OBL</u>																						
6. <u>Juncus</u>	<u>5</u>		<u>FACW OBL</u>																						
7. <u>Picris</u>	<u>1</u>		<u>FAC *</u>																						
8. <u>Muhlenbergia</u>	<u>1</u>		<u>FAC</u>																						
Total Cover: <u>2 %</u>																									
<b>Woody Vine Stratum</b> <u>Heliotropis</u> <u>Typha</u>																									
1. _____	<u>&lt;1</u>		<u>OBL</u>																						
2. _____																									
Total Cover: <u>92 %</u>																									
% Bare Ground in Herb Stratum <u>8 %</u>	% Cover of Biotic Crust _____ %	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																							
Remarks:																									

## SOIL

Sampling Point: 3a

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

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
0-1	2.5Y3/2						Loam	
1-4	2.5Y4/2			41			CL	
4-7	2.5Y4/2		10YR 5/6	78			CL	
			2.5Y 5/1					

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>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)

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

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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:



OBL - FACW - FAC - FACU UPL

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Los Brios/Murad Sampling Date: 5/12/09  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: 4a  
 Investigator(s): LC, CV, HM Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	
Remarks:			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 2</u> (A) Total Number of Dominant Species Across All Strata: <u>0 5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0 40</u> % (A/B)														
1. <u>...</u>																		
2. <u>...</u>																		
3. <u>...</u>																		
4. <u>...</u>																		
Total Cover: <u>...</u> %				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>2</u></td> <td>x 1 = <u>0 2</u></td> </tr> <tr> <td>FACW species <u>21</u></td> <td>x 2 = <u>0 42</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>0 75</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>48</u> (A)</td> <td><u>0 119</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>119/48 = 2.5</u> < 3	Total % Cover of:	Multiply by:	OBL species <u>2</u>	x 1 = <u>0 2</u>	FACW species <u>21</u>	x 2 = <u>0 42</u>	FAC species <u>25</u>	x 3 = <u>0 75</u>	FACU species	x 4 = <u>0</u>	UPL species	x 5 = <u>0</u>	Column Totals: <u>48</u> (A)	<u>0 119</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>2</u>	x 1 = <u>0 2</u>																	
FACW species <u>21</u>	x 2 = <u>0 42</u>																	
FAC species <u>25</u>	x 3 = <u>0 75</u>																	
FACU species	x 4 = <u>0</u>																	
UPL species	x 5 = <u>0</u>																	
Column Totals: <u>48</u> (A)	<u>0 119</u> (B)																	
<b>Sapling/Shrub Stratum</b>																		
1. <u>Mesquite</u>	<u>7%</u>																	
2. <u>...</u>																		
3. <u>...</u>																		
4. <u>...</u>																		
Total Cover: <u>...</u> %																		
<b>Herb Stratum</b>																		
1. <u>Typha</u>			OBL															
2. <u>Alkali weed</u>	<u>2</u>		OBL															
3. <u>...</u>	<u>4</u>		FACW															
4. <u>Brassica or ...</u>	<u>20</u>	<u>1/2</u>	FACW															
5. <u>Little bluest</u>	<u>25</u>	<u>1/2</u>	FAC															
6. <u>...</u>																		
7. <u>...</u>																		
8. <u>...</u>																		
Total Cover: <u>47%</u>			<u>23.5</u> <u>9.4</u>															
<b>Woody Vine Stratum</b>																		
1. <u>...</u>																		
2. <u>...</u>																		
Total Cover: <u>...</u> %																		
% Bare Ground in Herb Stratum <u>53</u> %		% Cover of Biotic Crust <u>...</u> %																
Remarks:																		

## SOIL

Sampling Point: 4a

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

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
12	10Y3/2	100					Loam Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Depleted but less than #s needed for hydric soils

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 1600 City/County: Merced Sampling Date: 5-12-09  
 Applicant/Owner: \_\_\_\_\_ State: \_\_\_\_\_ Sampling Point: 5a  
 Investigator(s): CC, CV, HM Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Populus f.</u>	<u>25</u>		<u>FACW</u>
2. _____			
3. _____			
4. _____			
Total Cover: <u>25</u> %			
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Populus</u>	<u>45</u>		<u>UPL</u>
2. _____			
3. _____			
4. _____			
5. _____			
Total Cover: <u>45</u> %			
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. <u>Bromus</u>	<u>&lt;2</u>		<u>UPL</u>
3. <u>Lepidium</u>	<u>13</u>		<u>FACW</u>
4. <u>Melilotus</u>	<u>2</u>		<u>FAC</u>
5. <u>Lotus</u>	<u>&lt;1</u>		<u>FACW/OBL</u>
6. <u>Bermuda</u>	<u>5</u>		<u>FAC</u>
7. _____			
8. _____			
Total Cover: <u>67</u> %			
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
Total Cover: _____ %			
% Bare Ground in Herb Stratum <u>8</u> %	% Cover of Biotic Crust _____ %		

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)  
 Total Number of Dominant Species Across All Strata: 7 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B) **71%**

**Prevalence Index worksheet:**  
 Total % Cover of: Multiply by:  
 OBL species x 1 = 0  
 FACW species x 2 = 0  
 FAC species x 3 = 0  
 FACU species x 4 = 0  
 UPL species x 5 = 0  
 Column Totals: (A) 0 (B) 0  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
☒ Dominance Test is >50%  
☒ Prevalence Index is ≤3.0<sup>1</sup>  
☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

Remarks:

## SOIL

Sampling Point: 5a

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks <sup>4</sup>
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
10-2	2.5Y 3/2		2.5Y 5/6	2			CL	
2-7	2.5Y 4/2						SL	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils<sup>4</sup>:

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

<sup>4</sup>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)

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

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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Los Banos / Merced Sampling Date: 5/12/09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 60a  
 Investigator(s): J.C. CV. H.M. Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input type="radio"/>	
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input type="radio"/>	
Remarks:			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 2</u> (A) Total Number of Dominant Species Across All Strata: <u>0 3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> % (A/B) <b>67%</b>																					
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %																									
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																								
OBL species	x 1 =	<u>0</u>																							
FACW species	x 2 =	<u>0</u>																							
FAC species	x 3 =	<u>0</u>																							
FACU species	x 4 =	<u>0</u>																							
UPL species	x 5 =	<u>0</u>																							
Column Totals:	(A)	<u>0</u> (B)																							
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %																									
<b>Herb Stratum</b>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)																					
1. <u>Bermuda</u>																									
2. <u>Lepidium</u>	<u>20</u>	<u>FAC</u>																							
3. <u>Melilotus</u>	<u>27</u>	<u>FACW</u>																							
4. <u>Scirpus</u>	<u>7</u>	<u>FAC</u>																							
5. <u>Turpha</u>	<u>7</u>	<u>OBL</u>																							
6. <u>Grindelia</u>	<u>8</u>	<u>OBL</u>																							
7. <u>Lotuca</u>	<u>7</u>	<u>FACU</u>																							
8. <u>Polypodon</u>	<u>&lt;1</u>	<u>FAC</u>																							
9. <u>Helianthus</u>	<u>5</u>	<u>FACW+</u>																							
10. <u>Picrus</u>	<u>&lt;1</u>	<u>FAC-</u>																							
Total Cover: <u>41</u> %																									
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>																					
1. <u>Bromus hor.</u>																									
2. <u>Lotus</u>	<u>10</u>	<u>FAC*</u>																							
3. _____		<u>UPL</u>																							
4. _____		<u>FACW/OBL</u>																							
Total Cover: <u>93</u> %																									
% Bare Ground in Herb Stratum <u>7</u> %      % Cover of Biotic Crust _____ %																									
Remarks:																									

## SOIL

Sampling Point: 6a

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1.5	2.5Y 4/2						SCL	
1.5-7	5Y 4/2		5Y 4/1	20			CL	
	2.5Y 3/2		5Y 3/2	8				
			10YR 6/8	2				

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

- |   |
|---|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR C)     |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR B)    |
| <input type="checkbox"/> Reduced Vertic (F18)       |
| <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Other (Explain in Remarks) |

<sup>4</sup>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)

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

Secondary Indicators (2 or more required)

- |  |
|--|
| <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Thin Muck Surface (C7)                    |
| <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |

Field Observations:

- |  |  |                       |
|--|--|-----------------------|
| Surface Water Present?                             | Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ |
| Water Table Present?                               | Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="checkbox"/> No <input type="checkbox"/> | Depth (inches): _____ |

on the hydric soils list

Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:



# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: LBDD City/County: Los Banos/Merced Sampling Date: 5-12-09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: lob  
 Investigator(s): LC, CV, HAA Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 30%  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>	
Remarks:			

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0 4</u> (A) Total Number of Dominant Species Across All Strata: <u>0 8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0 %</u> (A/B) <b>50%</b> <b>Prevalence Index worksheet:</b> <table border="1"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> <th></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td>x 3 =</td> <td><u>0</u></td> </tr> <tr> <td>FACU species</td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td>(A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____ <b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present. <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input type="radio"/>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	x 2 =	<u>0</u>	FAC species	x 3 =	<u>0</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	(A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																								
OBL species	x 1 =	<u>0</u>																							
FACW species	x 2 =	<u>0</u>																							
FAC species	x 3 =	<u>0</u>																							
FACU species	x 4 =	<u>0</u>																							
UPL species	x 5 =	<u>0</u>																							
Column Totals:	(A)	<u>0</u> (B)																							
1. _____																									
2. _____																									
3. _____																									
4. _____																									
Total Cover: _____ %																									
<b>Sapling/Shrub Stratum</b>																									
1. <u>PROSPER</u>	<u>10</u>		<u>UPL</u>																						
2. _____																									
3. _____																									
4. _____																									
5. _____																									
Total Cover: <u>10</u> %																									
<b>Herb Stratum</b>																									
1. <u>Lepidium</u>	<u>30</u>		<u>FACW</u>																						
2. <u>Heliotropoe</u>	<u>2</u>		<u>OBL</u>																						
3. <u>Bromus mad</u>	<u>20</u>		<u>UPL</u>																						
4. <u>Bromus h.</u>	<u>15</u>		<u>UPL</u>																						
5. <u>Melilotos</u>	<u>5</u>		<u>FAC</u>																						
6. <u>Grindelia</u>	<u>10</u>		<u>FACU</u>																						
7. <u>Chenopodium</u>	<u>&lt;1</u>		<u>UPL</u>																						
8. _____																									
Total Cover: <u>82</u> %																									
<b>Woody Vine Stratum</b>																									
1. _____																									
2. _____																									
Total Cover: _____ %																									
% Bare Ground in Herb Stratum <u>8</u> %	% Cover of Biotic Crust _____ %																								
Remarks:																									

## SOIL

Sampling Point: LB

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-5	2.5Y 4/2		5Y 2.5/2	6			Loam	
5-?	5Y 4/3		5Y 2.5/2	6			silt loam	
			2.5Y 5/6	3				

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

10% Rock in matrix

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Bueyes DD City/County: Murced Sampling Date: 5/12/09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 2a  
 Investigator(s): LC, CV, HV Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
Total Cover: _____ %			
<b>Sapling/Shrub Stratum</b>			
1. <u>Prosopis</u>	<u>15</u>		<u>UPL</u>
2. _____			
3. _____			
4. _____			
5. _____			
Total Cover: <u>15</u> %			
<b>Herb Stratum</b>			
1. <u>Heliotropes</u>	<u>3</u>		<u>OBL</u>
2. <u>Franklinia</u>	<u>12</u>		<u>FACW</u>
3. <u>Lepidium</u>	<u>3</u>		<u>FACW</u>
4. <u>Brassica n.</u>	<u>1</u>		<u>UPL</u>
5. <u>Polypodium</u>	<u>5</u>		<u>FACW+</u>
6. <u>Lactuca</u>	<u>&lt;1</u>		<u>FAC</u>
7. <u>Atriplex</u>	<u>&lt;1</u>		<u>FAC</u>
8. <u>Hemizonia</u>	<u>1</u>		<u>FAC</u>
9. <u>Cotula</u>			
Total Cover: <u>8</u> %			<u>FACW</u>
<b>Woody Vine Stratum</b>			
1. <u>unknown Alkaliwood</u>	<u>2</u>		
2. <u>Hordeum sp.</u>	<u>20</u>		<u>FAC</u>
Total Cover: <u>55</u> %			
% Bare Ground in Herb Stratum <u>30</u> %	% Cover of Biotic Crust _____ %		

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 2 (A)

Total Number of Dominant Species Across All Strata: 0 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B) 67%

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species	x 1 = <u>0</u>
FACW species	x 2 = <u>0</u>
FAC species	x 3 = <u>0</u>
FACU species	x 4 = <u>0</u>
UPL species	x 5 = <u>0</u>
Column Totals:	(A) <u>0</u> (B) <u>0</u>

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐

## SOIL

Sampling Point: 7a

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

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	2.5Y 3/2		2.5Y 3/1	60			CL	
			2.5Y 4/3	5				
			10YR 4/6	1				
6-14	2.5Y 3/2		5Y 2.5/2	45			CL	
			Gley 2 5/10S	1				
			2.5Y 4/4	20				

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

- |   |
|---|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR C)     |
| <input type="checkbox"/> 2 cm Muck (A10) (LRR B)    |
| <input type="checkbox"/> Reduced Vertic (F18)       |
| <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Other (Explain in Remarks) |

<sup>4</sup>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)

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

Secondary Indicators (2 or more required)

- |  |
|--|
| <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Thin Muck Surface (C7)                    |
| <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_Water Table Present? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_Saturation Present? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks:

salt crust is cracking

# WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Los Banos Detention Dam City/County: Los Banos/Merced Sampling Date: 5/15/09  
 Applicant/Owner: \_\_\_\_\_ State: CA Sampling Point: 8a  
 Investigator(s): L. Castro C. Verdugo Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): 1  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Cottonwood</u>				
2.				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> % (A/B)
4.				
Total Cover: _____ %				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. <u>Albizia procera</u>				
2.				OBL species x 1 = <u>0</u>
3.				FACW species x 2 = <u>0</u>
4.				FAC species x 3 = <u>0</u>
5.				FACU species x 4 = <u>0</u>
Total Cover: _____ %				UPL species x 5 = <u>0</u>
				Column Totals: (A) <u>0</u> (B) <u>0</u>
Herb Stratum				Prevalence Index = B/A = _____
1. <u>Leucaena</u>	<u>10</u>		FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0' <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Brodia</u>	<u>5</u>		UPL	
3. <u>Grindelia camp</u>	<u>2</u>		FACU	
4. <u>Cynodon</u>	<u>17</u>		FAC	
5. <u>Muhlenbergia indica</u>	<u>1</u>		FAC	
6. <u>Pennisetum</u>	<u>&lt;1</u>		FACU	
7. <u>Juncus</u>	<u>40</u>		FACU	
8. <u>Suaeda</u>	<u>2</u>		OBL	
Total Cover: _____ %				
Woody Vine Stratum				
1. <u>Fraxinus</u>	<u>&lt;1</u>		FACU	
2. <u>Brodia</u>	<u>&lt;1</u>		UPL	
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>3</u> %	% Cover of Biotic Crust _____ %			

Remarks:

Transition area only one hole dug

hole 8b not continued Picture taken

## SOIL

Sampling Point: 8a

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

Depth (inches)	Matrix		Redox Features				Texture <sup>3</sup>	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	2.5Y 3/2	10	2.5Y 5/4	41%	C	M	SL	very little nodding
3-	2.5Y 4/2		2.5Y 5/4	41%	C	M	SCL	lots of gravel
			5Y 2.5/2	1%	C	M		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.<sup>3</sup>Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

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

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

Indicators for Problematic Hydric Soils:

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

<sup>4</sup>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)

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

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? Yes ☐ No ☐ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes ☐ No ☐

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

Remarks: