



Memorandum

To: Michael LaDouceur
U.S. Army Corps of Engineers, Los Angeles District
Regulatory Division

From: R.J. Van Sant, ICF

Date: June 18, 2018; updated October 8, 2018

Re: **Otay River Mitigation Bank Jurisdictional Delineation Memorandum**

Dear Mr. LaDouceur,

This memorandum discusses the results of a jurisdictional delineation completed for the proposed Otay River Mitigation Bank (Mitigation Bank) project. ICF, on behalf of Homefed (the Mitigation Bank sponsor), is requesting your review of this jurisdictional delineation memo and approval of an approved jurisdictional determination (AJD). The jurisdictional delineation was completed to determine the extent of potential waters of the U.S. (WOUS) and California Department of Fish and Wildlife (CDFW) jurisdiction and the memo was completed in accordance with the March 16, 2017 Special Public Notice *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*.

Project Description

The Mitigation Bank project is a proposed approximately 135-acre mitigation bank that would result in the restoration of the Otay River, its floodplain, and adjacent upland habitat. The project will provide compensatory mitigation for unavoidable impacts to WOUS, including wetlands, and CDFW jurisdiction that result from activities authorized under Sections 401 and 404 of the Clean Water Act and Section 1602 of the Fish and Game Code.

Project Location

The Mitigation Bank project is located in the Otay River Valley in southwestern San Diego County, California (Figures 1-1 and 1-2) (center of project at lat.: 32.60028433, long.: -116.94257337). The Mitigation Bank occurs within the upper portion of the Lower Otay River Watershed, approximately 1 mile downstream of Savage Dam and within the Otay Mesa U.S. Geological Survey (USGS) 7.5-minute quadrangle map.

Watershed Characteristics

The Mitigation Bank site is located within the approximately 145-square-mile (92,920-acre) Otay River Watershed, which is situated between the Sweetwater River Watershed to the north and the Tijuana River Watershed to the south. The 25-mile-long Otay River originates at San Miguel Mountain, flows through the Upper and Lower Otay Reservoirs, continues west, and empties into San Diego Bay (Aspen 2006). The Mitigation Bank is situated approximately in the middle of the Otay River Watershed and contains a floodplain and the Otay River main channel up to the Savage Dam and Lower Otay Reservoir. The Mitigation Bank exists in a post-disturbance state; the river and floodplain was mined for sand/gravel in the 1980s, and a portion near the Savage Dam was most recently burned in 2003.

Historic Hydrologic Conditions

Historically, the Mitigation Bank site was part of a large watershed that drained into San Diego Bay at the river's western terminus. The Upper and Lower Otay Dams currently impound flow from the Otay River. The Upper Otay Dam was built in 1901; it forms the Upper Otay Reservoir, which serves as a municipal water supply. The Lower Otay Dam, which is approximately 1.75 miles upstream of the Mitigation Bank, was originally built in 1897, as rock- and earth-fill based on massive masonry with a riveted steel plate diaphragm. It was erected by the Southern California Mountain Water Company to provide water storage. Information about the Otay River Watershed before the construction of the original dam is extremely limited (Aspen 2006). The original Lower Otay Dam failed catastrophically during a high rain event in 1916. The canyon immediately downstream of the dam was completely scoured of vegetation and boulders (McGlashan and Ebert 1918).

The Lower Otay Reservoir Dam was replaced in 1919, after the flood of 1916, with a concrete gravity-arch structure known as the Savage Dam, which still stands today. Savage Dam forms the approximately 49,510-acre-foot Lower Otay Reservoir and supplies drinking water to parts of Southern California. The Lower Otay Reservoir was designed primarily to provide a water supply for the local community; it impounds approximately 60% of the Otay River's tributary watershed along with its sediment supply and has limited flood control capacity (Aspen 2006). However, both the Upper and Lower Otay Reservoirs effectively handle increased flow from small rain events in the upper watershed and have mostly eliminated major flood events along the Otay River; dam spills are infrequent and minor.

Existing Hydrologic Conditions

Existing conditions for the project site are primarily defined by the construction of Savage Dam in 1919 as development in the immediate watershed has remained minimal. The dam has experienced spillovers resulting in water entry to the lower Otay River a total of 27 times since 1919 (Aspen 2006), including most recently in February 2017 when the area experienced a 500-1,000 year storm event (calculated from National Weather Service data). As such, Otay River immediately downstream of the dam does not receive water from the upper watershed except from the adjacent slopes and infrequent minor over-spills. The dam and reservoir have distorted the sediment equilibrium of Otay River by retaining all of the upstream sediment, causing a sediment deficit and channel degradation for the portion of the mainstem below Savage Dam. The 1916 dam failure had temporary effects on the shape of the river, and channel-forming events have not occurred since the flood of 1916; therefore, the planform of

Otay River below Savage Dam has remained largely stable during the twentieth century. The Lower Otay River currently has a low degree of sinuosity and consists of braided streams with multiple bars and islands. However, sand and gravel extraction activities have affected the topography of the Otay River mainstem and make braiding patterns difficult to evaluate (Aspen 2006).

The impounding of river waters by the installation of Savage Dam has changed the hydrological functions of the Otay River mainstem, and sand and gravel extraction activities and migration of foreign materials into the area have changed the original sediment distribution on the Otay River (Aspen 2006). In-stream mining typically degrades and destabilizes streambeds by causing a reduction of downstream sediment supply and also dilutes and removes soil organic matter, nutrients, and native seed banks. Disruption of the soil profile leads to leaching of nutrients and soil moisture loss (Aspen 2006).

Similarly, because the Mitigation Bank site is situated immediately below Savage Dam it no longer receives perennial water. It is, therefore, no longer fully functional as a river and river floodplain and primarily provides hydrologic, biogeochemical, and habitat functions associated with intermittent/ephemeral streambeds and dry alluvial fans, although several scattered areas persist that support riparian and wetland habitat. The river channel immediately south of the dam runs through a deep canyon and contains scattered areas of riparian habitat that support native trees, such as willows. However, due to dry conditions, it also supports Diegan coastal sage scrub species, such as laurel sumac (*Malosma laurina*). The river channel contains abundant nonnative species such as eucalyptus (*Eucalyptus* spp.), pepper tree (*Schinus* spp.), palm trees (*Arecaceae* spp.), and tamarisk (*Tamarix* spp.).

The downstream floodplain area that was mined for sand, of which the Mitigation Bank is located within, was not restored to natural conditions. The departure of the mining company Nelson and Sloan Materials from the river valley potentially preceded laws requiring reclamation after site abandonment, and site conditions indicate that the company removed its equipment and left the floodplain in a highly disturbed condition. Literature indicates that at least the top 15 feet of soil was removed from the site (Aspen 2006); conditions on site indicate that at least the top 20 feet of soil was removed from some areas, thereby reducing the elevation of possibly a majority of the floodplain area and removing topsoil along with associated native seedbank, microorganisms, and nutrients. Sediment and gravel piles appear in abundance throughout the floodplain, and several deep pits and large berms remain. In addition, dozens of smaller, roughly parallel gravel "berms" exist in the floodplain that run in a north-south direction, opposite to that of flow, and are easily seen in aerial photographs.

Previous studies of the Otay River Watershed have concluded that it is not a major source of groundwater. Groundwater in the watershed occurs within unconsolidated alluvium, semi-consolidated sedimentary bedrock and bedrock surrounding the alluvium, and the flow generally mimics surface topography. Most of the groundwater in the watershed occurs west and downstream of the Mitigation Bank. Significant changes to the hydrologic and sediment regimes of the Otay River mainstem have occurred as a result of the curtailment of channel discharge and sediment deposit due to the installation of the Savage Dam. Because of these changes, it is expected that over time the Otay River would experience flattening of slopes and downcuts in the upper reaches and aggrade in the lower reaches.

Soils

Soils in the Otay East subbasin are predominantly clay, with some pockets of loam in O'Neal Canyon. The riparian areas and previously active floodplains of the Otay River lack distinct layers and are generally well drained and poorly developed (Aspen 2006). Soils in the floodplain area are characterized as having a high infiltration rate when thoroughly wetted, comprising primarily deep, well-drained sand and gravel. The water transmission rate is high, while runoff potential is low. The California Division of Mines and Geology has classified lands according to the presence or absence of significant sand and gravel deposits and crushed rock source areas in the form of Mineral Resource Zones (MRZs). The Otay River Valley in the Mitigation Bank area is classified as MRZ-2, which consists of Quaternary river channel and floodplain deposits, Tertiary and Quaternary conglomerate and alluvial fans, Cretaceous granitic rocks, and Jurassic meta-volcanic rocks (California Department of Conservation 1982).

Otay River well logs indicate that the depth of sand and gravel is approximately 90 feet; however, mining did not occur much below 15 feet due to a clay layer that was reported by mining companies to occur at approximately that depth. The sand-to-gravel ratio was reported to be 50:50 (California Department of Conservation 1982). Five soil types, as defined by the U.S. Department of Agriculture (USDA), are mapped within the Mitigation Bank (Bowman 1973; NRCS 2014), which include Olivenhain-cobbly loam, Huerhuero loam, Visalia gravely sandy loam, Riverwash, San Miguel-Exchequer rocky silt loams, and Terrace escarpments (Figure 2).

- **Olivenhain cobbly loam.** Olivenhain cobbly loam soils are well-drained, moderately deep to deep, cobbly loams with a cobbly clay subsoil and form in old gravelly or cobbly alluvium. They occur on gentle to strong slopes on dissected marine terraces at elevations of 100 to 600 feet. They are generally well-drained with slow or medium runoff and very slow permeability.
- **Huerhuero loam.** Huerhuero loam soils are moderately well-drained loams with a clay subsoil that have developed in sandy marine sediments at elevations of 10 to 400 feet and slopes of 2 to 30%.
- **Visalia gravely sandy loam.** Visalia gravely sandy loam soils consist of moderately well-drained, very deep sandy loams that occur on alluvial fans and floodplains and are derived from granitic alluvium. They occur on slopes of 0 to 15% at elevations of 100 to 2,000 feet.
- **Riverwash.** Riverwash typically occurs in intermittent stream channels. The material is typically sandy, gravelly, or cobbly and is well-drained and rapidly permeable. Shrubs and forbs occur in patches and many areas are bare. This soil type is often mined for sand and gravel.
- **San Miguel-Exchequer rocky silt loam** is about 50% San Miguel silt loam and 40% Exchequer silt loam. Soils in the San Miguel series consist of well-drained shallow to moderately deep silt loams that have a clay subsoil. Soils in the Exchequer series consist of shallow and very shallow, well-drained silt loams. This soil type occurs throughout the upstream area of the mitigation site.
- **Terrace escarpments.** Terrace escarpments consist of steep to very steep escarpments and escarpment-like landscapes. The terrace escarpments typically occur on the nearly even fronts of terraces or alluvial fans between narrow floodplains and adjoin uplands, often

with four to 10 inches of loamy or gravelly soil over soft marine sandstone, shale, or gravelly sediments. They occur typically on the coastal plain and small areas in foothills.

Methodology

Prior to beginning the field delineation, aerial photography, USGS topographic maps, the national hydrography dataset (NHD), and National Wetland Inventory (NWI) maps were analyzed to determine the locations of potential WOUS and CDFW jurisdiction. Based on the pre-field analysis it was determined that there was a potential for both wetland and non-wetland features to occur within the project area.

A jurisdictional delineation was performed by ICF biologists within the Mitigation Bank on November 12 and 13, 2014; July 16 and 28, 2015; August 7 and 12, 2015; May 3 and 4, and September 20, 2018. Several jurisdictional delineations have been completed over the last several years due to changes in project limits. Potential jurisdictional features were evaluated for the presence of a definable channel and/or wetland vegetation, soils, and hydrology. The project was analyzed for potential wetlands using the methodology set forth in the 1987 *Corps of Engineers Wetland Delineation Manual* (1987 Manual; Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). Lateral limits of non-wetland waters were identified using field indicators (e.g., ordinary high water mark [OHWM]) pursuant to *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States: A Determination Manual* (USACE 2008b). While in the field, potential jurisdictional features were recorded on an iPad using ESRI Collector and a Trimble hand-held Global Positioning System (GPS) unit with sub-meter accuracy. Vascular plants were identified using *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012) and *The National Wetland Plant List* (USACE 2016).

Areas identified during the pre-field investigation, as described above, as potential depressions and/or riverine features were assessed first. During field investigations, it was observed that the Otay River did not continue through the entire project area. The river loses definition of a channel just as it enters the eastern project boundary and does not begin to show signs of an actual river channel again until near the confluence with Salt Creek at the downstream end of the project. This is due to the fact that Savage Dam is located immediately upstream which has significantly truncated the watershed, as well as the fact that the project site was historically mined for several decades and was never restored when mining ended, thus leaving a highly disturbed river valley with no defined channels, except for a few remnants.

Results

A total of 19 jurisdictional features were delineated on site, including the Otay River, and several ephemeral drainages and wetland depressions. Figure 3 shows the location and extent of WOUS and CDFW jurisdiction. Below is a brief description of each feature delineated.

Feature 1 (Otay River) is a well-defined wetland supported primarily by shallow groundwater near the eastern portion of the Mitigation Bank. The Otay River forms a well-defined channel as it flows west which supports a large wetland floodplain consisting of freshwater marsh habitat within the primary channel and cismontane alkali marsh, tamarisk scrub, and willow riparian forest within the active floodplain. The freshwater marsh is dominated by southern cattails (*Typha domingensis*) and California bulrush (*Schoenoplectus californicus*); the cismontane alkali marsh is dominated by yerba mansa (*Anemopsis californica*), spiny rush (*Juncus acutus*), and saltgrass (*Distichlis spicata*); while the willow riparian forest is dominated by tamarisk (*Tamarix ramosissima*), black willow (*Salix gooddingii*), mulefat (*Baccharis salicifolia*), San Diego marsh-elder (*Iva hayesiana*), and coast goldenbush (*Isocoma menziesii*). There is also a small portion of Feature 1 at the eastern end of the project area where the Otay River is still a discernable channel. Feature 1 is a non-wetland in this location. Between this non-wetland portion of Feature 1 and the western wetland portion the Otay River loses all definition of a channel and a wetland, most likely due to past mining activities and because of the truncated watershed.

Feature 2 is a linear wetland on the north side of the Otay River floodplain created by two berms on either side of the feature. This wetland appears to be primarily supported by subsurface groundwater and is dominated by cattails and arroyo willows (*Salix lasiolepis*). Standing water was observed during field visits.

Feature 5, also known as O'Neal Canyon Creek, is an intermittent drainage on the south side of the Otay River floodplain near the center of the Mitigation Bank that flows in a northwestern direction. It supports an OHWM and is characteristic of a desert wash, until it hits the river valley floor when a defined channel no longer exists and the channel sheetflows west. This drainage is dominated by upland coastal sage scrub species.

Feature 6 is an ephemeral drainage on the south side of the Mitigation Bank that flows in a northwestern direction. An OHWM was observed throughout the length of the drainage and the drainage is dominated by upland coastal sage scrub species.

Feature 7 is an ephemeral drainage at the south-western end of the Mitigation Bank and flows in a northwest direction before entering the Otay River floodplain. The drainage ends at a patch of tamarisk and then likely sheetflows as there is no defined OHWM or bed and bank. The drainage is dominated by coastal sage habitat and supports a cobble bottom. Only a very small portion of Feature 7 is within the Mitigation Bank boundaries.

Feature 8 is an ephemeral drainage at the south-western end of the Mitigation Bank and begins north of an access road and flows north for approximately 130 linear feet. The drainage appears to sheetflow towards the bottom of the valley and no longer supports a defined OHWM or bed and bank. The drainage supports a cobble bottom and is dominated by coastal sage scrub habitat.

Feature 9 is an ephemeral drainage at the northeast end of the Mitigation Bank that flows south along a hillside before turning west, paralleling an access road. The feature eventually loses definition and sheetflows along the road, no longer supporting a defined OHWM or bed and bank. Only a very small portion of Feature 9 is within the Mitigation Bank boundaries.

Feature 10, also known as Salt Creek, is located in the north west end of the Mitigation Bank. This feature supports both an OHWM and wetland habitat, dominated by mule fat.

Features 11 and 12 are human-made depressional wetlands on the northern Otay River floodplain that formed due to past mining activities and are primarily unvegetated open water habitat with a freshwater marsh fringe dominated by southern cattail, California bulrush, and tamarisk species.

Feature 13 is a human-made depressional wetland on the northern Otay River floodplain that formed due to past mining activities and supports freshwater marsh habitat.

Feature 17 is a depressional wetland area on the southern side of the Otay River floodplain dominated by Rabbit's foot grass (*Polypogon monspeliensis*) and spike rush (*Eleocharis palustris*).

Feature 18 is a 4-6 foot wide channel on the southern side of the Otay River floodplain that appears to potentially be a relic primary or secondary channel of the Otay River but that still conveys minor surface flows and possibly is a point where groundwater reaches the surface and flows for a short period. The upstream portion of this feature is ephemeral and OHWM indicators included a bed and bank and sediment cracks. The downstream area is a wetland dominated by Rabbit's foot grass and spike rush.

Feature 19 is a 10 foot wide ephemeral drainage on the southern side of the Otay River floodplain similar to Feature 18 in that it may be a relic channel but appears to still have some flow. OHWM indicators included a bed and bank and sediment cracks.

Feature 20 is a wetland depressional area on the southern side of the Otay River floodplain dominated by Rabbit's foot grass, spike rush, and brass buttons (*Cotula coronopifolia*).

Feature 21 is a 5 foot wide ephemeral drainage on the southern side of the Otay River floodplain similar to Feature 18 in that it may be a relic channel but appears to still have some flow. OHWM indicators included a bed and bank, sediment sorting and sediment cracks.

Feature 23 is a wetland area on the northern Otay River floodplain dominated by southern cattail and San Diego marsh elder (*Iva hayesinana*).

Feature 24 is a 1.5 foot wide ephemeral drainage on the eastern side of the site that is discernable as a channel for only a short distance. Flow upstream and downstream of this feature is not frequent enough to form a channel. OHWM indicators included sediment sorting and cracking.

Feature 25 is a 2 foot wide ephemeral channel on the eastern side of the site that is dominated by annual grasses. Feature 25 also includes a ponded area just upstream of the channel segment. OHWM indicators included a break in slope in the channel portion and sediment cracks in the ponded portion.

Features 22 and 24 are shown on Figure 3 but are not discussed here as they are outside the project limits.

In addition to the above features there are several areas on the project site which were determined to not be aquatic resources because they either did not meet all wetland criteria

(hydrology, soils, and vegetation) or did not exhibit an OHWM. These features were either depressional features which have some wetland characteristics but not all three, or were swale-like features which likely convey water very rarely or not often enough to show signatures of an OHWM. For more information on these features see wetland delineation forms SP 2.1LC, SP 1.1 LC, SP 5-rjv, and photos ATT 9, ATT 10, ATT 22, ATT 28 and ATT 29.

Table 1. Waters of the U.S.

Feature #	Stream Length (LF)	Waters of the U.S.		OHWM Indicator(s)	Wetland Type	Cowardin Classification	Latitude	Longitude
		Non-Wetland (acres)	Wetland (acres)					
1	218	0.035	15.432	NA	Freshwater marsh, Cismontane alkali marsh, Tamarisk scrub, Willow riparian forest	Palustrine	32.5977	-116.9480
2	-	-	0.337	NA	Freshwater marsh	Palustrine	32.5995	-116.9449
5	457	0.212	-	Bed and bank, sediment sorting	NA	Riverine	32.5994	-116.9420
6	348	0.024	-	Bed and bank	NA	Riverine	32.5975	-116.9445
7	67	0.009	-	Bed and bank	NA	Riverine	32.5951	-116.9492
8	130	0.008	-	Bed and bank	NA	Riverine	32.5972	-116.9452
9	9	0.0001	-	Bed and bank	NA	Riverine	32.6034	-116.9390
10	-	-	0.484	NA	Freshwater marsh	Palustrine	32.5992	-116.9486
11	707	0.008	0.737	NA	Freshwater marsh	Palustrine	32.6023	-116.9403
12	-	-	0.023	NA	Freshwater marsh	Palustrine	32.6012	-116.9423
13	-	-	0.124	NA	Freshwater marsh	Palustrine	32.6009	-116.9431
17	-	-	0.084	NA	Freshwater Marsh	Palustrine	32.5994	-116.9371
18	310	0.028	0.3	Bed and bank, sediment cracks	Freshwater marsh	Palustrine, Riverine	32.5994	-116.9384
19	435	0.102	-	Bed and bank, sediment cracks	NA	Riverine	32.5990	-116.9388
20	-	-	0.066	NA	Freshwater marsh	Palustrine	32.5994	-116.9398
21	146	0.017	-	Bed and bank, sediment cracks, sediment sorting	NA	Riverine	32.5994	-116.9406
23	-	-	0.150	NA	Freshwater marsh	Palustrine	32.5990	-116.9450
24	63	0.002	-	Sediment sorting and sediment cracks	NA	Riverine	32.6019	-116.9384
25	269	0.037	-	Break in slope and sediment	NA	Riverine	32.6017	-116.9391

				cracks				
Total	3,159	0.481	17.737	-	-	-	-	-

Table 2. CDFW Jurisdiction

Feature #	Stream Length (LF)	CDFW Jurisdiction		Latitude	Longitude
		Riparian (acres)	Streambed (acres)		
1	1,873	18.021	9.409	32.5977	-116.9480
2	-	0.337	-	32.5995	-116.9449
5	457	-	0.406	32.5994	-116.9420
6	348	-	0.057	32.5975	-116.9445
7	67	-	0.009	32.5951	-116.9492
8	130	-	0.015	32.5972	-116.9452
9	9	-	0.001	32.6034	-116.9390
10	-	0.811	-	32.5992	-116.9486
11	109	-	0.008	32.6023	-116.9403
12	-	-	-	32.6012	-116.9423
13	-	-	-	32.6009	-116.9431
17	-	-	-	32.5994	-116.9371
18	310	0.03	0.028	32.5994	-116.9384
19	435		0.102	32.5990	-116.9388
20	-	-	-	32.5994	-116.9398
21	146	-	0.039	32.5994	-116.9406
23	-	0.150	-	32.5990	-116.9450
24	63	-	0.002	32.6019	-116.9384
25	269	-	0.037	32.6017	-116.9391
Total	4,216	19.349	10.113	-	-

Conclusion

The Mitigation Bank project is within the Lower Otay River hydrologic unit code (HUC) 10 watershed. The Otay River flows into the Pacific Ocean (a Traditional Navigable Waterway [TNW]). All features are tributary to the Otay River or occur within the Otay River and therefore would be subject to jurisdiction under Sections 404 and 401 of the Clean Water Act. All features that are associated with a streambed/riparian would be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code.

If you have any questions about this memorandum, please contact me at (858) 444-3928 or email at RJ.VanSant@icf.com.

Sincerely,



Richard J Van Sant III
Regulatory and Mitigation Specialist

Figures

- 1-1 Regional Vicinity
- 1-2 Project Location
- 2 Soils
- 3 Waters of the U.S.
- 4 CDFW Jurisdiction

Attachments

- 1. Figures
- 2. Photo Log
- 3. WETS Table
- 4. Wetland Data Forms
- 5. Request for Corps Jurisdictional Determination Form
- 6. Approved Jurisdictional Determination Form

References

Aspen Environmental Group

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University of California, Berkeley

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Attachment 1 Figures

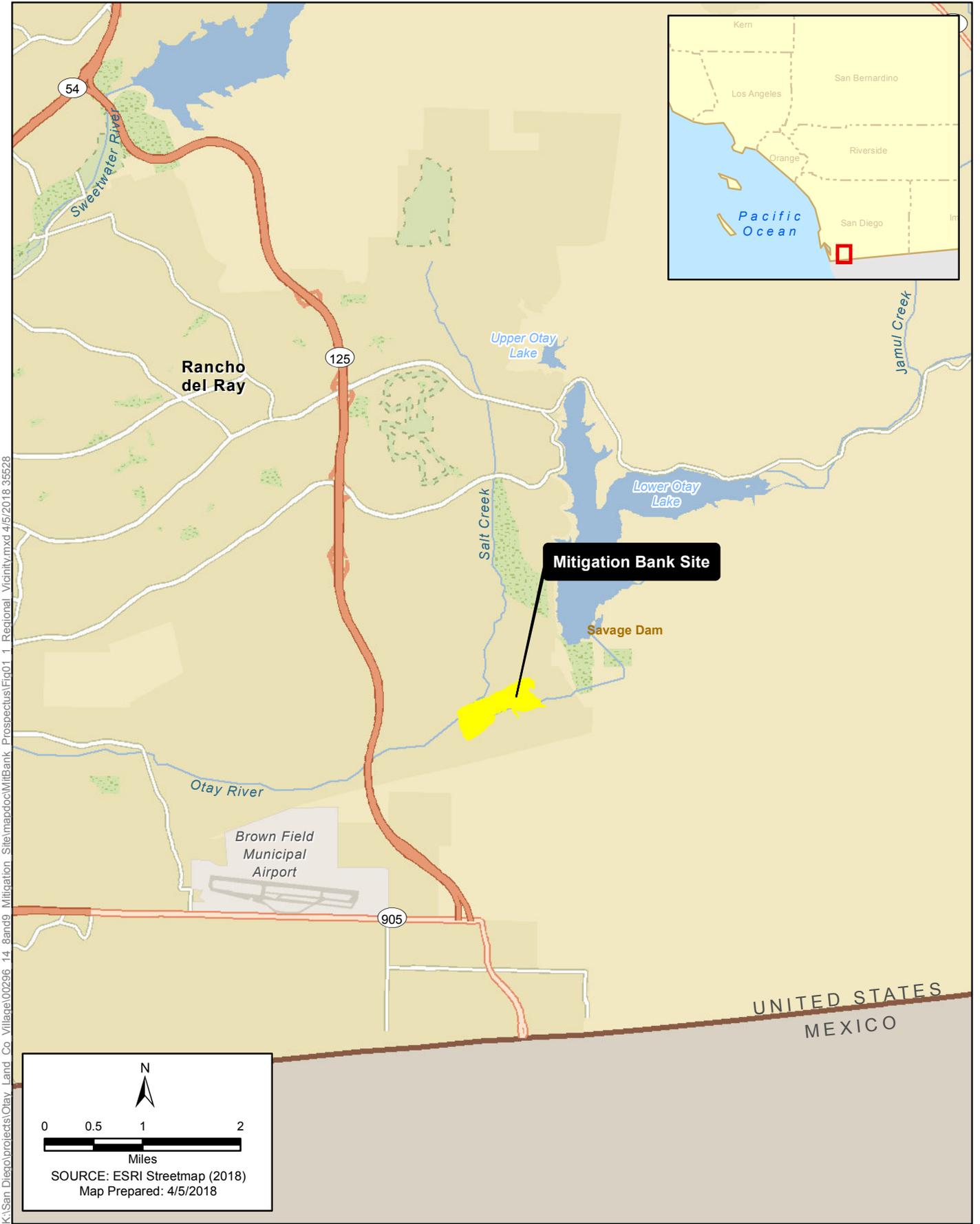
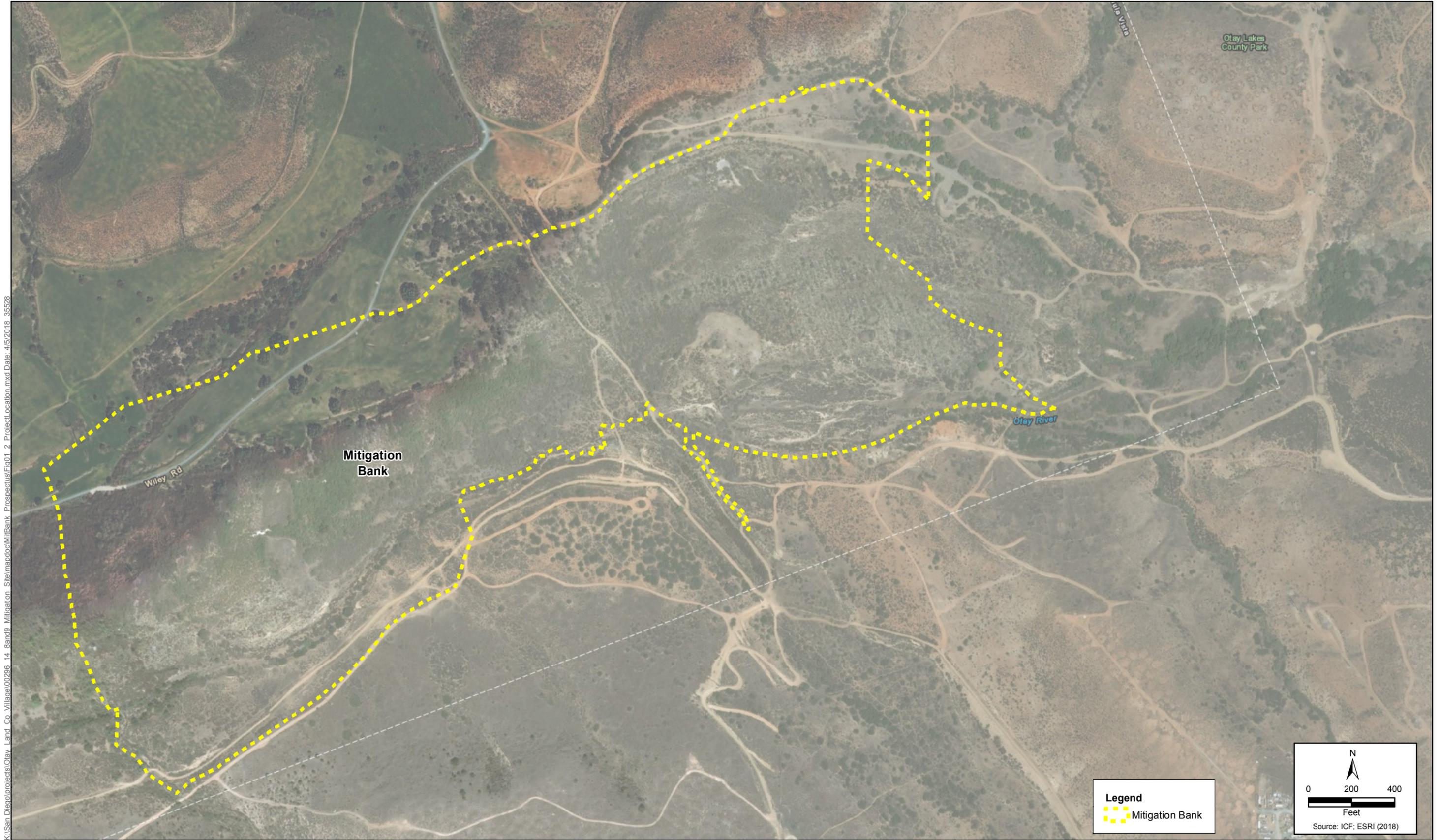


Figure 1-1
Regional Vicinity
Otay River Mitigation Bank





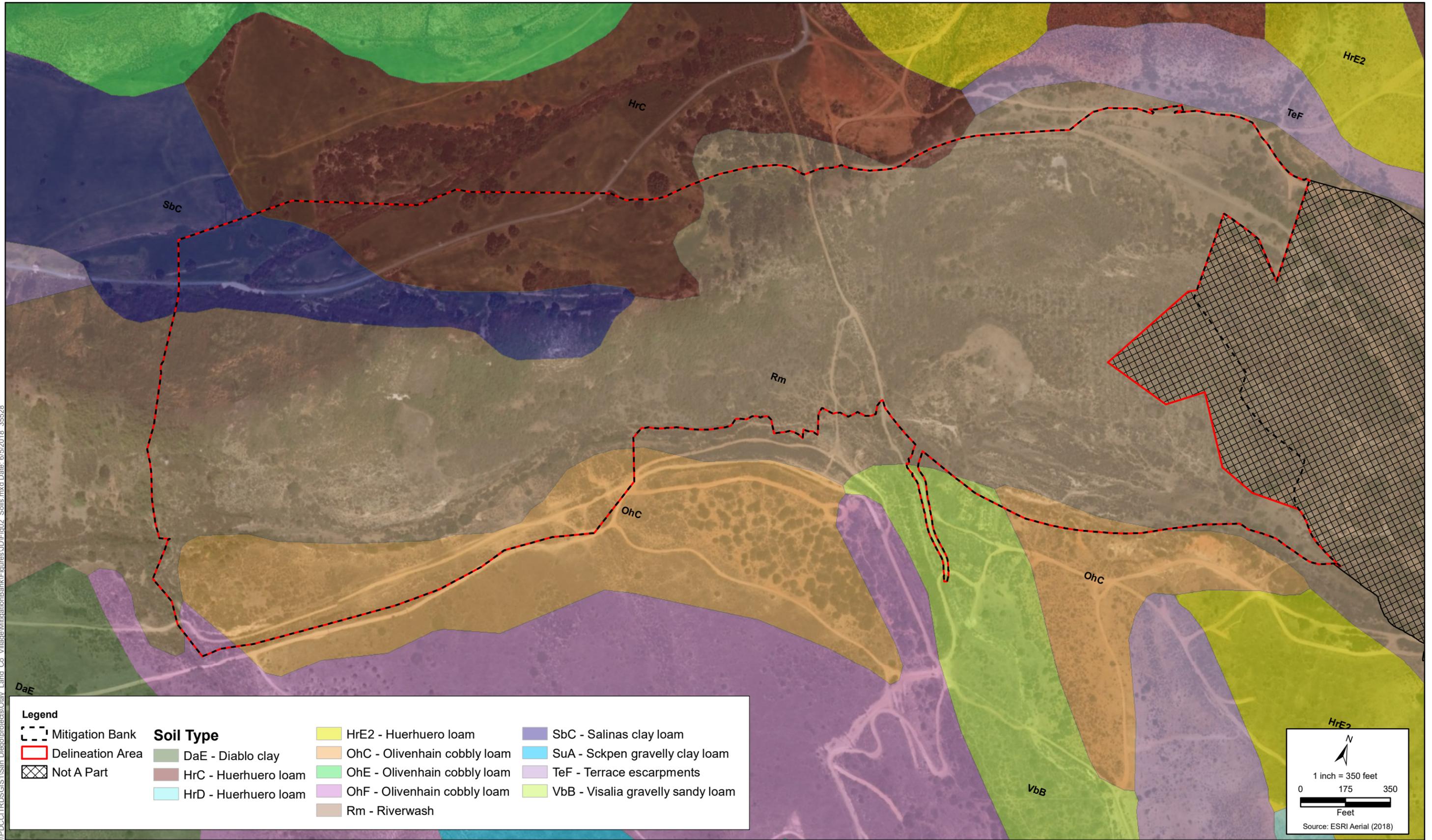
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*As part of construction the road will be closed and revegetated with the exception of a 4-6 foot swath for potential future trail creation. The trail is not included as part of this HMMP.

Figure 1-2
Project Location
Otay River Mitigation Bank

\\PDC\ITRDS\GIS\1\San_Diego\projects\Clay_Land_Co_Village\MitigationBank\Figures\JD\Fig02_Soils.mxd Date: 6/5/2018 3:55:28



Legend	
Mitigation Bank	Soil Type
Delineation Area	DaE - Diablo clay
Not A Part	HrC - Huerhuero loam
	HrD - Huerhuero loam
	HrE2 - Huerhuero loam
	OhC - Olivenhain cobbly loam
	OhE - Olivenhain cobbly loam
	OhF - Olivenhain cobbly loam
	Rm - Riverwash
	SbC - Salinas clay loam
	SuA - Sckpen gravelly clay loam
	TeF - Terrace escarpments
	VbB - Visalia gravelly sandy loam

1 inch = 350 feet

0 175 350

Feet

Source: ESRI Aerial (2018)



Figure 2
Soil Types
Otay River Mitigation Bank

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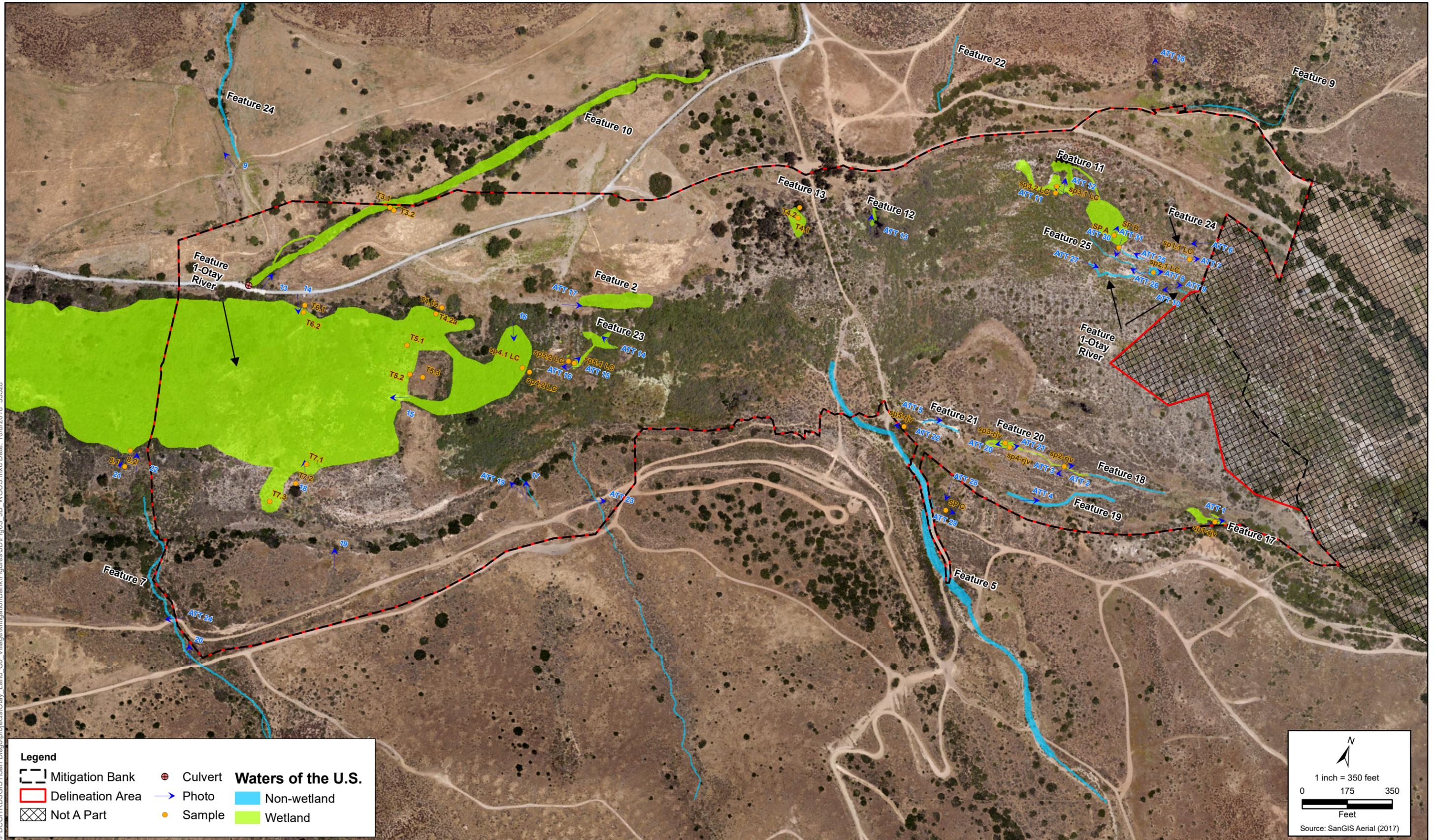
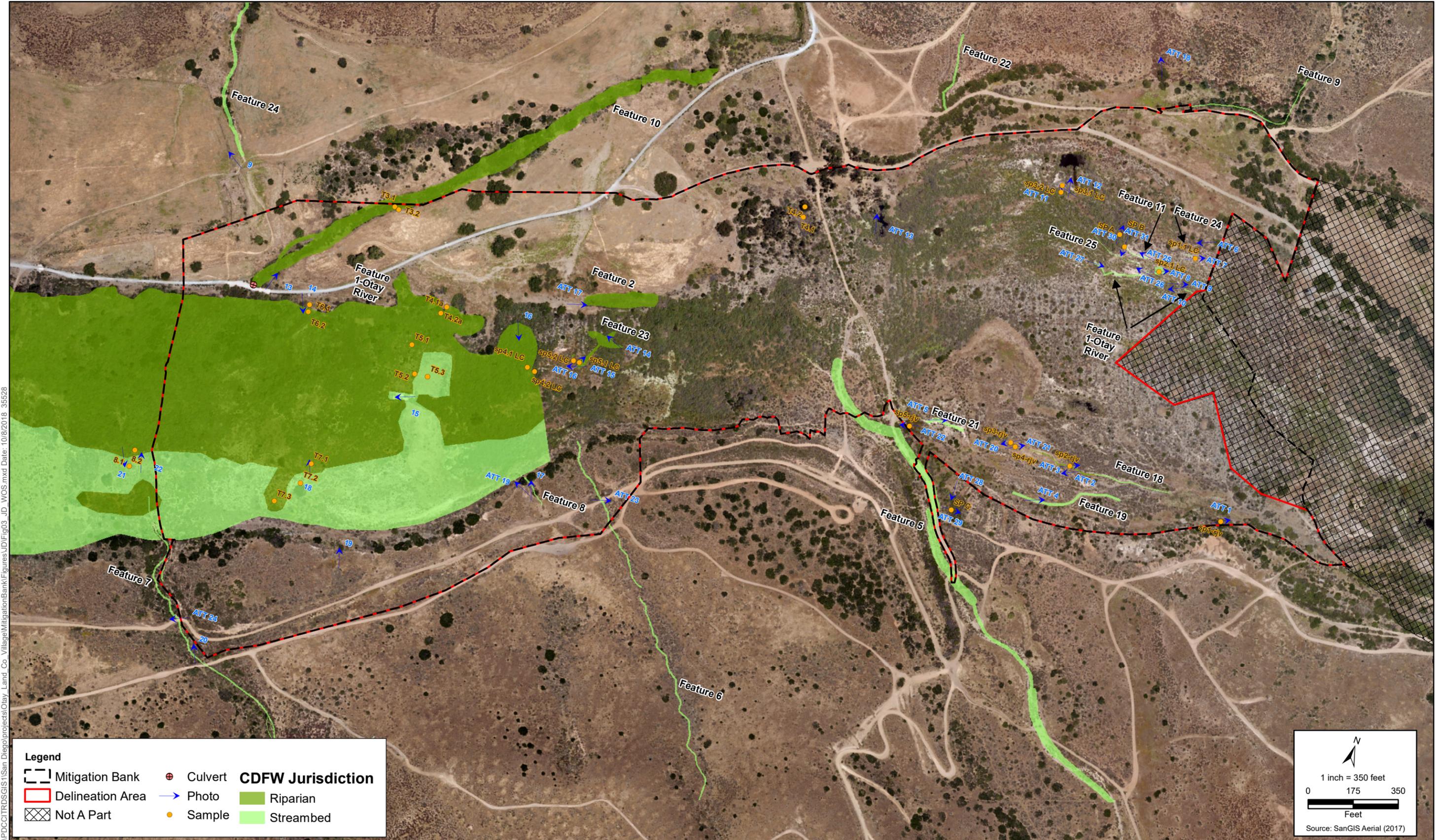


Figure 3
Waters of the U.S.
Otay River Mitigation Bank



\\PDC\ITRDS\GIS\San_Diego\projects\Otay_Land_Co_Village\MitigationBank\Figures\JDFig03_JD_WCS.mxd Date: 10/18/2018 35528



Figure 4
CDFW Jurisdiction
Otay River Mitigation Bank

Attachment 2 Photo Log

Photo log



Photograph # 9

Photo Date: July 16, 2015

Direction: Northwest

Comment: Looking upstream at Feature 24, near the end of a defined OHWM. After this area, the drainage begins to sheetflow and no longer has a defined OHWM. No swale feature was observed.



Photograph # 13

Photo Date: August 7, 2015

Direction: Northeast

Comment: Looking upstream at Salt Creek (Feature 10). The center of the drainage is dominated by cattails with sparse patches of willows and tamarisk.



Photograph # 14

Photo Date: August 12, 2015

Direction: South

Comment: Looking at the wetlands/riparian habitat supported by the Otay River (Feature 1). A berm lines both the northern and southern edge of the larger Otay Floodplain.



Photograph # 15

Photo Date: July 28, 2015

Direction: West

Comment: Looking downstream at the Otay River (Feature 1). The river is confined within this area due to two constructed berms on either side and is also unvegetated.



Photograph # 16

Photo Date: July 28, 2015

Direction: South

Comment: This is where groundwater resurfaces and the Otay River becomes defined again. Large areas of wetlands are supported by subsurface groundwater throughout the site.



Photograph # 17

Photo Date: August 7, 2015

Direction: North

Comment: Looking downstream of Feature 8. A clearly defined OHWM and the bed and bank occur throughout this feature. Once the drainage hits the valley floor it dissipates into sheetflow.



Photograph # 18

Photo Date: August 12, 2015

Direction: North

Comment: Looking at data point T7.1, near the edge of the wetland habitat. The area is dominated by rabbits foot grass, tamarisk, and goldenbush.



Photograph # 19

Photo Date: August 12, 2015

Direction: North

Comment: Looking north at the upland terrace of the Otay River within CDFW streambed jurisdiction. The limits were taken from berm to berm which includes the entire Otay floodplain. The row of tamarisk in the background is the approximate edge of USACE wetlands.



Photograph # 20

Photo Date: August 7, 2015

Direction: North

Comment: Looking downstream of Feature 7. A clearly defined OHWM and bed and bank was observed throughout the drainage.



Photograph # 21

Photo Date: August 7, 2015

Direction: South

Comment: Looking at the upland data point 8.1 near the edge of the wetland habitat within Otay River.



Photograph # 22

Photo Date: August 12, 2015

Direction: North

Comment: Looking north near the edge of the wetland habitat within Otay River where data point 8.2 was taken. The area is dominated by tamarisk and San Diego marsh-elder.



Photograph # 23

Photo Date: August 12, 2015

Direction: South

Comment: Looking south near the edge of the wetland habitat within Otay River dominated by the yerba mansa and cattails.



Photograph #ATT1

Photo Date: May 3, 2018

Direction: East

Comment: Looking east along a depression wetland (Feature 17) at the south side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT2

Photo Date: May 3, 2018

Direction: West

Comment: Looking west at Feature 18 at the south side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT3

Photo Date: May 3, 2018

Direction: East

Comment: Looking east at Feature 18 at the south side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT4

Photo Date: May 3, 2018

Direction: East

Comment: Looking east at Feature 19 at the south side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT5

Photo Date: May 3, 2018

Direction: East

Comment: Looking east at Feature 21 at the south side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT6

Photo Date: May 3, 2018

Direction: West

Comment: Looking west across the Otay River floodplain



Photograph #ATT7

Photo Date: May 3, 2018

Direction: East

Comment: Looking east at a Feature 24 in the middle of the Otay River floodplain near the upstream end of the project.



Photograph #ATT8

Photo Date: May 3, 2018

Direction: East

Comment: Looking at the ponded portion of Feature 25 where SP2.1 LC was dug. Hydrophytic vegetation and hydrology was seen but not hydric soils.



Photograph #ATT26

Photo Date: September 20, 2018

Direction: West

Comment: Looking at the channel portion of Feature 25.



Photograph #ATT9

Photo Date: May 3, 2018

Direction: East

Comment: Looking upstream near where the Otay River loses definition of a channel and enters project site.



Photograph #ATT10

Photo Date: May 3, 2018

Direction: West

Comment: Looking downstream near where the Otay River loses definition of a channel and enters project site.



Photograph #ATT27

Photo Date: September 20, 2018

Direction: East

Comment: Looking downstream from within Feature 1 near the eastern end of the project. Feature 1 loses definition of a channel at this point.



Photograph #ATT11

Photo Date: May 3, 2018

Direction: North

Comment: Looking north at Feature 11, a depression wetland, on the northern side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT12

Photo Date: May 3, 2018

Direction: North-west

Comment: Looking north-west at Feature 11, a depression wetland, on the northern side of the Otay River floodplain near the upstream end of the project.



Photograph #ATT25

Photo Date: September 20, 2018

Direction: West

Comment: Looking at the non-wetland portion of Feature 11.



Photograph #ATT30

Photo Date: September 20, 2018

Direction: North-west

Comment: Wetland area of Feature 11 where SP A is located.



Photograph #ATT31

Photo Date: September 20, 2018

Direction: South

Comment: Upland data pit (SP B) located adjacent to Feature 11 and SP A.



Photograph #ATT13

Photo Date: May 3, 2018

Direction: North

Comment: Looking north at Feature 12 wetland on the northern side of the Otay River floodplain.



Photograph #ATT14

Photo Date: May 3, 2018

Direction: North-west

Comment: Looking north-west at Feature 23 wetland located in the Otay River floodplain near the center of the project.



Photograph #ATT15

Photo Date: May 3, 2018

Direction: North-east

Comment: Looking north-east at Feature 23 wetland located in the Otay River floodplain near the center of the project.



Photograph #ATT16

Photo Date: May 3, 2018

Direction: West

Comment: Looking west near Feature 23



Photograph #ATT17

Photo Date: May 3, 2018

Direction: East

Comment: Looking east towards wetland Feature 2 located on the northern side of the Otay River floodplain.



Photograph #ATT18

Photo Date: May 3, 2018

Direction: North

Comment: Looking north outside of the project area at the adjacent hillsides/uplands.



Photograph #ATT19

Photo Date: May 3, 2018

Direction: North-west

Comment: Looking north-west from the upland area on the southern side of the Otay River floodplain toward the Otay River.



Photograph #ATT20

Photo Date: May 3, 2018

Direction: West

Comment: Looking west at sp3-rjv and a depressional wetland (Feature 21) on the southern side of the Otay River floodplain.



Photograph #ATT21

Photo Date: May 3, 2018

Direction: East

Comment: Looking east at upland data pit (sp4-rjv) just outside Feature 21.



Photograph #ATT22

Photo Date: May 3, 2018

Direction: West

Comment: Looking west at sp5-rjv. The area had hydrophytic vegetation but lacked hydric soils and wetland hydrology.



Photograph #ATT23

Photo Date: May 3, 2018

Direction: East

Comment: Looking east where a dirt access road crosses Feature 6 in the uplands on the southern side of the project.



Photograph #ATT24

Photo Date: May 3, 2018

Direction: West

Comment: Looking west where a dirt access road crosses Feature 7 in the uplands on the southern side of the project.



Photograph #ATT28

Photo Date: September 20, 2018

Direction: South

Comment: Mulefat area in foreground with Feature 5 in the background



Photograph #ATT29

Photo Date: September 20, 2018

Direction: East

Comment: Location of SP C at the south end of the project site. No wetland hydrology, hydric soils or hydrophytic vegetation were found.

Attachment 3 WETS Table

WETS Table

WETS Station: CHULA VISTA, CA								
Requested years: 1998 - 2018								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	-	-	-	1.36	0.42	1.54	3	-
Feb	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-
Aug	-	-	-	0.02	0.00	0.00	0	-
Sep	-	-	-	0.06	0.00	0.03	0	-
Oct	-	-	-	-	-	-	-	-
Nov	-	-	-	0.55	0.00	0.56	1	-
Dec	-	-	-	-	-	-	-	-
Annual:					-	-		
Average	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-

GROWING SEASON DATES			
Years with missing data:	24 deg = 10	28 deg = 10	32 deg = 10
Years with no occurrence:	24 deg = 11	28 deg = 11	32 deg = 11
Data years used:	24 deg = 11	28 deg = 11	32 deg = 11
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	Insufficient data	Insufficient data	Insufficient data
70 percent *	Insufficient data	Insufficient data	Insufficient data

* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1918									0.03	0.85	1.22	1.23	3.33
1919	0.61	1.72	1.61	0.50	0.08	0.00	0.00	0.15	0.38	0.58	1.06	0.93	7.62
1920	0.53	4.01	2.67	0.34	0.51	0.05	0.00	T	0.04	0.34	0.49	0.41	9.39
1921	3.14	0.44	0.75	T	2.71	0.01	T	0.04	1.60	0.60	0.09	8.26	17.64
1922	2.93	2.23	1.25	0.36	0.23	0.00	0.02	0.02	0.00	0.03	0.77	2.21	10.05
1923	1.22	1.91	0.65	M0.69	0.00	0.03	T	0.01	0.19	0.46	0.46	1.50	7.12
1924	0.16	T	1.84	0.84	0.00	0.00	0.00	0.00	0.00	0.32	0.35	1.74	5.25
1925	0.07	0.38	1.95	1.69	0.02	0.09	0.00	0.00	0.00	3.92	1.35	1.54	11.01
1926	1.56	1.27	0.41	2.97	0.00	0.00	0.00	0.01	0.00	0.27	0.32	4.72	11.53
1927	0.38	7.25	2.34	0.36	0.17	0.09	T	0.00	0.00	2.94	0.04	3.97	17.54

1928	0.44	0.64	0.67	0.14	0.62	0.06	0.00	0.03	0.00	0.85	0.57	2.30	6.32
1929	1.42	0.83	0.61	1.17	T	0.00	0.00	0.00	0.36	0.00	0.00	0.00	4.39
1930	3.68	0.61	3.56	1.31	2.54	0.03	0.03	0.11	0.02	0.26	1.01	0.00	13.16
1931	3.85	4.92	0.04	1.77	0.49	0.01	0.02	0.08	T	0.05	2.43	3.32	16.98
1932	2.02	5.11	0.22	0.62	T	0.08	0.00	T	0.00	0.77	0.17	2.90	11.89
1933	4.76	0.03	0.11	1.12	0.92	0.04	T	0.00	0.00	0.07	0.06	0.86	7.97
1934	0.24	1.16	0.36	0.00	0.00	0.33	T	0.11	0.17	0.45	1.33	2.44	6.59
1935	2.44	5.69	1.48	0.87	0.03	0.00	0.03	0.18	T	0.09	0.10	0.81	11.72
1936	1.07	4.06	0.97	0.69	0.00	T	0.07	0.35	0.00	2.06	0.22	4.20	13.69
1937	1.35	3.86	2.89	0.57	0.36	0.00	0.09	0.00	0.00	T	0.04	1.13	10.29
1938	1.86	3.67	2.70	0.66	0.18	0.07	T	0.05	0.00	0.19	0.02	1.93	11.33
1939	2.76	1.68	1.37	0.76	T	0.00	T	T	2.93	0.35	1.64	0.47	11.96
1940	1.60	2.81	0.97	0.31	0.00	0.00	0.00	T	0.05	1.22	1.06	6.74	14.76
1941	1.41	3.16	6.65	4.83	0.45	0.00	0.06	0.06	0.32	3.79	1.62	2.50	24.85
1942	0.47	1.31	1.26	1.79	0.01	0.00	0.00	T	0.00	0.50	0.24	0.69	6.27
1943	3.68	1.45	1.32	1.08	T	0.05	0.00	0.11	0.02	0.17	0.05	6.93	14.86
1944	0.64	4.36	0.89	0.72	0.09	0.03	0.00	0.00	0.00	0.01	1.58	1.44	9.76
1945	0.41	1.49	2.70	0.05	0.03	0.05	0.00	0.67	0.05	0.01	0.21	2.84	8.51
1946	0.57	0.88	1.59	0.44	0.01	0.00	0.00	0.00	0.01	0.61	2.59	0.87	7.57
1947	0.14	0.47	0.61	0.07	0.10	0.04	0.00	0.00	0.17	0.11	0.72	3.53	5.96
1948	0.02	1.33	1.42	0.19	0.02	0.00	0.00	0.00	0.00	0.93	0.09	2.39	6.39
1949	3.85	1.66	1.07	0.08	0.15	0.00	T	0.00	0.00	0.13	0.59	1.00	8.53
1950	2.11	1.00	0.66	0.22	0.07	0.00	0.01	0.00	0.01	0.01	0.49	0.10	4.68
1951	1.64	0.46	0.43	1.08	0.00	T	0.00	1.05	0.02	0.68	1.41	2.97	9.74
1952	4.32	0.32	4.22	1.04	0.00	T	0.00	0.00	0.05	0.00	2.46	2.30	14.71
1953	0.24	0.69	0.85	0.22	0.07	0.07	0.00	0.00	0.00	0.00	0.85	0.05	3.04
1954	3.18	0.64	4.88	0.02	T	0.03	0.00	T	0.00	0.00	0.49	0.52	9.76
1955	3.13	0.59	1.09	0.32	1.54	0.00	0.00	0.02	0.00	0.00	0.47	0.52	7.68
1956	0.93	0.52	0.00	1.51	0.15	0.00	0.00	0.00	0.00	0.46	0.00	0.18	3.75
1957	5.65	0.21	1.01	1.27	0.60	0.43	0.00	0.00	0.03	1.76	0.95	0.62	12.53
1958	0.48	2.89	3.01	2.36	0.57	0.00	0.00	0.07	0.28	0.00	0.55	0.05	10.26
1959	0.16	3.30	0.00	0.40	0.02	T	0.04	0.00	0.00	0.22	0.00	1.46	5.60
1960	3.31	1.35	0.42	0.45	0.11	0.00	0.00	0.00	0.14	0.10	0.89	0.17	6.94
1961	0.81	0.02	1.28	0.00	T	T	0.00	0.07	0.00	0.16	0.56	1.84	4.74

1962	2.42	2.59	0.68	0.00	0.55	0.06	0.01	0.00	0.00	0.00	0.01	0.40	6.72
1963	T	0.86	0.88	0.65	0.07	0.37	0.00	0.00	2.22	0.08	1.99	0.02	7.14
1964	1.55	0.50	1.25	0.51	0.20	0.05	0.00	T	0.00	T	1.62	0.98	6.66
1965	0.42	0.50	1.04	3.84	T	0.05	0.02	T	0.18	0.00	6.00	5.04	17.09
1966	1.36	1.09	0.22	0.00	0.01	T	0.09	0.00	0.01	0.68	1.58	2.12	7.16
1967	1.67	T	0.46	3.22	0.04	0.09	0.06	T	0.05	0.00	3.66	2.09	11.34
1968	0.40	0.56	3.15	0.46	0.02	0.04	0.16	0.00	0.00	0.03	0.21	0.86	5.89
1969	3.27	3.08	1.08	0.25	0.21	T	T	0.01	0.00	0.05	0.90	0.36	9.21
1970	0.84	0.83	2.48	0.21	0.03	T	0.00	0.00	0.00	0.07	1.68	2.22	8.36
1971	0.31	0.72	0.13	0.54	0.63	0.06	T	T	0.13	0.33	0.86	2.16	5.87
1972	0.00	0.19	0.00	0.10	0.13	0.47	0.00	0.03	0.17	0.80	1.37	1.33	4.59
1973	1.73	1.83	2.58		0.04	0.00	0.00	T	T	T	1.57	0.11	7.86
1974	2.13	0.10	1.60	0.02	0.02	0.02	0.14	0.00	0.00	0.80	0.13	1.17	6.13
1975	0.33	0.70	2.54	1.96	0.03	T	T	0.00	0.04	0.21	0.37	0.24	6.42
1976	T	4.82	0.96	1.12	0.27	0.01	T	0.00	1.46	1.04	1.19	0.85	11.72
1977	2.48	0.08	0.84	0.03	1.42	0.03	T	2.00	0.00	0.74	0.12	2.11	9.85
1978	4.30	2.55	4.35	0.96	0.05	0.00	0.00	0.00	0.14	0.08	2.88	1.95	17.26
1979	4.56	2.14	2.50	0.04	0.12	0.02	T	0.02	0.00	0.44	0.27	0.02	10.13
1980	4.75	2.24	3.01	1.01	0.19	0.00	0.00	0.00	T	0.29	0.00	0.26	11.75
1981	1.03	0.79	4.03	0.53	0.09	0.00	0.01	0.00	0.02	0.20	1.05	0.44	8.19
1982	2.63	0.53	3.87	0.78	0.05	0.11	0.00	0.01	0.69	0.04	2.84	1.00	12.55
1983	M1.90	3.92	7.39	1.80	T	0.01	0.00	0.08	0.03	0.31	1.95	1.72	19.11
1984	0.18	T	0.02	0.78	0.00	MT	0.07	0.00	0.00	M0.09	2.01	5.25	8.40
1985	0.39	0.96	0.32	0.07	0.05	0.00	0.00	0.00	0.20	M0.42	8.13	1.63	12.17
1986	M2.14	4.17	M3.12	0.46	0.00	0.00	T	0.00	0.90	1.10	0.54	0.98	13.41
1987	1.26	1.76	1.07	0.64	0.03	0.00	M0.04	0.07	0.69	2.66	1.10	1.98	11.30
1988	1.06	1.69	0.75	2.53	0.09	0.00	0.00	0.00	0.00	0.00	1.03	1.93	9.08
1989	0.48	0.89	0.63	0.05	0.10	T	0.00	M0.00	0.21	0.42		0.37	3.15
1990	2.23	M1.28	0.67	0.53	0.18	0.60	0.00	0.00	0.00	0.01	0.66	0.63	6.79
1991	0.60	1.35	5.33	T	0.00	0.00	0.20	T	T	0.00	0.00	1.79	9.27
1992	2.43	5.29	4.28	0.03	0.13	0.00	0.00	0.00	0.00	0.14	0.00		12.30
1993	M8.25	3.08	1.34	0.00	T	0.48	0.00	0.00	0.00	0.16	0.78	0.69	14.78
1994	0.40	3.48	2.51	1.39	0.00	0.04	0.00	0.02	0.00	0.02	0.43	0.87	9.16
1995	5.75	1.90	M3.01	1.27	0.23	0.40	T	0.00	0.00	0.00	0.05	0.22	12.83

1996	0.61	1.74	1.12	0.33	0.00	0.00	0.00	0.00	0.00	0.00	1.33	1.60	0.88	7.61
1997	3.44	0.41	0.00	0.58	T	0.00	0.00	0.00	0.00	1.33	T	1.47	1.99	9.22
1998		7.77	2.13	1.65			0.00	0.15	0.00	0.00	M0.00	0.00	0.00	11.70
1999	2.28	0.53	0.89	1.47	0.00	0.08	0.43	0.00	0.00	0.00	0.00	0.00	0.00	5.68
2000	0.20	M2.92	1.17	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.02	4.39
2001	4.33	3.14	0.69	0.23	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.64	M0.48	9.53
2002	0.48	M0.15	M0.07	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	M0.57	1.85	3.62
2003	0.01	4.08	1.43	1.20	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.28	M0.76	7.78
2004	0.39	2.82	0.07	M0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.14	M2.18	1.91	12.51
2005	M2.70	M5.65	M1.52	M0.06	0.00	0.00	M0.00	0.00	0.00	0.00	M0.18	M0.00	M0.00	10.11
2006	M0.00	M0.96	M1.47	1.03	M0.00	0.01	M0.02	0.00	0.00	0.00	M0.00	M0.00	M0.00	3.49
2007	1.22	M1.32	M0.50	0.31	0.03	0.00	0.00	0.00	0.00	0.00	M0.00	M0.00	0.00	3.38
2008	M0.58	M0.57	0.00	0.02	1.53	0.00	M0.00	M0.00	0.00	0.00	0.00	0.21	M2.07	4.98
2009	0.35	M2.48	0.18	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	2.29	5.70
2010	4.06	2.39	0.95	1.55	0.00	0.00	0.00	0.00	0.17	2.06	0.45	4.92	16.55	
2011	0.47	2.05	1.52	0.58	0.26	0.02	0.00	0.00	0.11	0.32	M3.71	0.84	9.88	
2012	0.67	1.30	1.69	0.81	0.00	0.00	0.00	0.05	0.02	0.65	0.19	2.69	8.07	
2013	1.70	0.60	1.24	0.11	0.49	0.00	0.03	0.00	0.00	0.40	0.38	0.58	5.53	
2014	0.12	1.49	1.23	0.40	0.00	0.00	0.02	0.05	0.00	0.00	0.41	3.57	7.29	
2015	0.42	0.34	0.87	0.08	1.05	0.01	1.18	0.00	0.29	0.40	1.35	1.16	7.15	
2016	2.34	0.43	0.84	0.88	0.69	0.00	0.00	0.00	0.50	0.07	0.38	3.98	10.11	
2017	3.75	3.60	0.05	0.00	1.06	0.00	0.00	0.07	0.02	0.00	0.00	0.03	8.58	
2018	1.20	0.50	1.06	0.05	M0.17								2.98	

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22

Attachment 4 Wetland Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP1.1 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): shallow swale Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.60192418 Long: -116.93831990 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point taken within short swale feature approx 30 feet in length</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
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>100.0 %</u> (A/B)
4. _____				Prevalence Index worksheet:	
Total Cover: _____ %				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum				OBL species	x 1 = <u>0</u>
1. <u>Iva Hayesiana</u>	<u>15</u>	Yes	FACW	FACW species	<u>20</u> x 2 = <u>40</u>
2. <u>Tamarix chinensis</u>	<u>5</u>	Yes	FAC	FAC species	<u>5</u> x 3 = <u>15</u>
3. _____				FACU species	x 4 = <u>0</u>
4. _____				UPL species	x 5 = <u>0</u>
5. _____				Column Totals:	<u>25</u> (A) <u>55</u> (B)
Total Cover: <u>20 %</u>				Prevalence Index = B/A = <u>2.20</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Juncus acutus</u>	<u>5</u>	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: <u>5 %</u>					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>80 %</u>		% Cover of Biotic Crust _____ %			

Remarks: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP 2.1 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): shallow depression Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.60166581 Long: -116.93869625 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point taken within shallow depression. Evidence of flow and ponding in area</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
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>100.0 %</u> (A/B)
4. _____				Prevalence Index worksheet:	
Total Cover: _____ %				Total % Cover of: _____ Multiply by: _____	
Sapling/Shrub Stratum				OBL species	<u>20</u> x 1 = <u>20</u>
1. <u>Tamarix chinensis</u>	<u>15</u>	Yes	FAC	FACW species	<u>5</u> x 2 = <u>10</u>
2. <u>Iva heyasiana</u>	<u>5</u>	Yes	FACW	FAC species	<u>15</u> x 3 = <u>45</u>
3. _____				FACU species	_____ x 4 = <u>0</u>
4. _____				UPL species	_____ x 5 = <u>0</u>
5. _____				Column Totals:	<u>40</u> (A) <u>75</u> (B)
Total Cover: <u>20 %</u>				Prevalence Index = B/A = <u>1.88</u>	
Herb Stratum				Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis palustris</u>	<u>20</u>	Yes	OBL	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
6. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
7. _____					
8. _____					
Total Cover: <u>20 %</u>					
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum <u>80 %</u>		% Cover of Biotic Crust <u>40 %</u>			

Remarks: Sparse vegetation but veg present is hydrophytic

SOIL

Sampling Point: SP 2.1 LC

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-13	10YR 3/3	100					loamy clay	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p>Indicators for Problematic Hydric Soils:⁴</p> <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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Small and large cobbles throughout soil. No redox observed

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input checked="" 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)
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Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks: Drift deposits present but may be from last years 500 year storm event in the area. Biotic crust and soil cracks throughout

SOIL

Sampling Point: SP 3.1 LC

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/1	100					loamy clay	
5-8	Gley 1 5/10Y	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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)	Indicators for Problematic Hydric Soils:⁴ <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)
<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 checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)		

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Sand layer continued below 8 inches but groundwater at 8 inches

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	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)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	
<input checked="" 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 checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input checked="" 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)		

Field Observations:

Surface Water Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	1	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	8	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>	Depth (inches):	4	

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

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP3.2 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): C - Mediterranean California Lat: 32.60211598 Long: -116.94019098 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sample point taken on terrace just outside depression and SP 3.1 LC</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <u>Tamarix chinensis</u>	20	Yes	FAC	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: 20 %				
Herb Stratum				
1. <u>Melilotus indicus</u>	90	Yes	FACU	
2. <u>Ambrosia psilostachya</u>	10	No	FACU	
3. <u>Bromus madritensis</u>	5	No	UPL	
4. <u>Hirschfeldia incana</u>	5	No	UPL	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 110%				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species _____ x 1 = 0
 FACW species _____ x 2 = 0
 FAC species 20 x 3 = 60
 FACU species 100 x 4 = 400
 UPL species 10 x 5 = 50
 Column Totals: 130 (A) 510 (B)
 Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP3.2 LC

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-16	10YR 3/2	100				loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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 <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____		
Remarks: No hydrology indicators		

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP4.1 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 32.59846522 Long: -116.94581037 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point taen in dense stand of vegetation with ponded water</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Tamarix chinensis</u>	70	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
Total Cover: <u>70 %</u>				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>60</u> x 2 = <u>120</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>70</u> x 3 = <u>210</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>130</u> (A) <u>330</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.54</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species	x 1 = <u>0</u>	FACW species	<u>60</u> x 2 = <u>120</u>	FAC species	<u>70</u> x 3 = <u>210</u>	FACU species	x 4 = <u>0</u>	UPL species	x 5 = <u>0</u>	Column Totals:	<u>130</u> (A) <u>330</u> (B)	Prevalence Index = B/A = <u>2.54</u>	
Total % Cover of:	Multiply by:																			
OBL species	x 1 = <u>0</u>																			
FACW species	<u>60</u> x 2 = <u>120</u>																			
FAC species	<u>70</u> x 3 = <u>210</u>																			
FACU species	x 4 = <u>0</u>																			
UPL species	x 5 = <u>0</u>																			
Column Totals:	<u>130</u> (A) <u>330</u> (B)																			
Prevalence Index = B/A = <u>2.54</u>																				
Sapling/Shrub Stratum																				
1. <u>Iva hayesiana</u>	10	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
Total Cover: <u>10 %</u>																				
Herb Stratum																				
1. <u>Juncus acutus</u>	50	Yes	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
Total Cover: <u>50 %</u>																				
Woody Vine Stratum																				
1. _____																				
2. _____																				
Total Cover: _____ %																				
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust _____ %																		

Remarks: _____

SOIL

Sampling Point: SP4.1 LC

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		Indicators for Problematic Hydric Soils:⁴ <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 checked="" type="checkbox"/> Other (Explain in Remarks)
--	--	---	--	---

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
--	---

Remarks: No soil pit dug. Pounded water during time of investigation. Assumed hydric soils

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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 <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>6</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Pounded and saturated soils

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP 4.2 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.59844775 Long: -116.94570721 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sample point approx 3 feet higher in elevation than SP 4.1 LC</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. <u>Tamarix chinensis</u>	20	Yes	FAC	Dominance Test worksheet: 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>100.0 %</u> (A/B)																								
2. _____																												
3. _____																												
4. _____																												
Total Cover: <u>20 %</u>				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th colspan="2" style="text-align: center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>60</u> x 2 =</td> <td style="text-align: center;"><u>120</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>20</u> x 3 =</td> <td style="text-align: center;"><u>60</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>80</u> (A)</td> <td style="text-align: center;"><u>180</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A =</td> <td style="text-align: center;"><u>2.25</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:		OBL species	x 1 =	<u>0</u>	FACW species	<u>60</u> x 2 =	<u>120</u>	FAC species	<u>20</u> x 3 =	<u>60</u>	FACU species	x 4 =	<u>0</u>	UPL species	x 5 =	<u>0</u>	Column Totals:	<u>80</u> (A)	<u>180</u> (B)	Prevalence Index = B/A =		<u>2.25</u>
Total % Cover of:	Multiply by:																											
OBL species	x 1 =	<u>0</u>																										
FACW species	<u>60</u> x 2 =	<u>120</u>																										
FAC species	<u>20</u> x 3 =	<u>60</u>																										
FACU species	x 4 =	<u>0</u>																										
UPL species	x 5 =	<u>0</u>																										
Column Totals:	<u>80</u> (A)	<u>180</u> (B)																										
Prevalence Index = B/A =		<u>2.25</u>																										
Sapling/Shrub Stratum																												
1. <u>Iva hayesiana</u>	60	Yes	FACW																									
2. _____																												
3. _____																												
4. _____																												
5. _____																												
Total Cover: <u>60 %</u>																												
Herb Stratum																												
1. _____																												
2. _____																												
3. _____																												
4. _____																												
5. _____																												
6. _____																												
7. _____																												
8. _____																												
Total Cover: <u> %</u>																												
Woody Vine Stratum																												
1. _____																												
2. _____																												
Total Cover: <u> %</u>																												
% Bare Ground in Herb Stratum <u>40 %</u>		% Cover of Biotic Crust <u> %</u>																										

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP 4.2 LC

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10 YR 3/2	100					loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <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)
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Restrictive Layer (if present): Type: <u>cobbles/rocks</u> Depth (inches): <u>8 inches</u>	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>No redox observed</u>	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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 <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <u>No hydro indicators</u>		

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP 5.1 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): C - Mediterranean California Lat: 32.59869933 Long: -116.94521258 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point within a depression area</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <i>Iva hayesiana</i>	20	Yes	FACW	
2. <i>Tamarix chinensis</i>	5	Yes	FAC	
3. _____				
4. _____				
5. _____				
Total Cover: 25 %				
Herb Stratum				
1. <i>Typha domingensis</i>	25	Yes	OBL	
2. <i>Juncus acutus</i>	5	No	FACW	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 30 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>70 %</u>		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	25	x 1 =	25	
FACW species	25	x 2 =	50	
FAC species	5	x 3 =	15	
FACU species		x 4 =	0	
UPL species		x 5 =	0	
Column Totals:	55	(A)	90	(B)
Prevalence Index = B/A =			1.64	

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP 5.1 LC

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	2.5Y 2.5/1	100					muck	
2-12	10 YR 6/2	60					loamy clay	
	10 YR 6/6	40					loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		Indicators for Problematic Hydric Soils:⁴ <input checked="" 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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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 <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP 5.2 LC
 Investigator(s): Lanika Cervantes, Nicole Salas Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.59869875 Long: -116.94528895 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater forest/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sample point taken approx 2 feet higher in elevation than SP 5.1 LC</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <i>Iva hayesiana</i>	10	Yes	FACW	
2. <i>Tamarix chinensis</i>	5	Yes	FAC	
3. _____				
4. _____				
5. _____				
Total Cover: 15 %				
Herb Stratum				
1. <i>Cotula coronopifolia</i>	50	Yes	OBL	
2. <i>Bromus madritensis</i>	30	Yes	UPL	
3. <i>Melilotus indicus</i>	5	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 85 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 4 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by: _____
 OBL species 50 x 1 = 50
 FACW species 10 x 2 = 20
 FAC species 5 x 3 = 15
 FACU species 5 x 4 = 20
 UPL species 30 x 5 = 150
 Column Totals: 100 (A) 255 (B)
 Prevalence Index = B/A = 2.55

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP1-rjv
 Investigator(s): RJ Van Sant, Ford Bendall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): High floodplain Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.59937290 Long: -116.93691624 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Emergent

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sampled area consists of a low lying depression area within the southern outer floodplain of the Otay River. Boundary between wetland and non-wetland very distinctive therefore only one sample point for this area.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Hazardia squarrosa</u>	2	No	UPL	
2. <u>Polypogon monspeliensis</u>	75	Yes	FACW	
3. <u>Rumex crispus</u>	10	No	FAC	
4. <u>Eleocharis palustris</u>	15	No	OBL	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 102%				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	15	x 1 = 15
FACW species	75	x 2 = 150
FAC species	10	x 3 = 30
FACU species	_____	x 4 = 0
UPL species	2	x 5 = 10
Column Totals:	102 (A)	205 (B)

Prevalence Index = B/A = 2.01

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP1-rjv

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-14	10YR 5/2	96	2.5YR 2.5/4	4	C	PL	Loamy clay	
14-20	10YR 3/6	100					Sandy	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	<p>Indicators for Problematic Hydric Soils:⁴</p> <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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

<p>Restrictive Layer (if present):</p> Type: _____ Depth (inches): _____ Remarks: _____	<p>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p>Primary Indicators (any one indicator is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (2 or more required)</p> <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)
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<p>Field Observations:</p> Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	<p>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP2-rjv
 Investigator(s): RJ Van Sant, Ford Bendall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): outer floodplain Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.5994008 Long: -116.93894799 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater emergent

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point located in a low lying linear depression. Transition between upland and wetland distinctive due to veg and topography therefore only one sample point recorded.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Polypogon mospeliensis</u>	15	Yes	FACW	
2. <u>Eleocharis palustris</u>	10	Yes	OBL	
3. <u>Elymus triticoides</u>	7	Yes	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>32</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>15</u> %		% Cover of Biotic Crust <u>10</u> %		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	10	x 1 =	10	
FACW species	15	x 2 =	30	
FAC species	7	x 3 =	21	
FACU species	_____	x 4 =	0	
UPL species	_____	x 5 =	0	
Column Totals:	<u>32</u>	(A)	<u>61</u>	(B)
Prevalence Index = B/A =			<u>1.91</u>	

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP2-rjv

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 2.5/1	92	2.5YR 4/8	8	C	PL	loamy clay	
2-16	10YR 5/4	94	2.5YR 3/6	6	C	PL	loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)		Indicators for Problematic Hydric Soils:⁴ <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)	
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	<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 <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3, 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP3-rjv
 Investigator(s): RJ Van Sant, Ford Bendall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): outer floodplain Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.59942097 Long: -116.93974505 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater emergent

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample point located in a low lying depression area just below SP4-rjv</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Polypogon monspeliensis</u>	20	Yes	FACW	
2. <u>Distichlis spicata</u>	10	No	FAC	
3. <u>Eleocharis palustris</u>	25	Yes	OBL	
4. <u>Leymus triticoides</u>	2	No	FAC	
5. <u>Cotula coronopifolia</u>	25	Yes	OBL	
6. _____				
7. _____				
8. _____				
Total Cover: 82 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>40 %</u>		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	50	x 1 =		50
FACW species	20	x 2 =		40
FAC species	12	x 3 =		36
FACU species		x 4 =		0
UPL species		x 5 =		0
Column Totals:	82	(A)		126 (B)
Prevalence Index = B/A =				1.54

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: _____

SOIL

Sampling Point: SP3-rjv

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-6	10YR 5/3	78	2.5YR 4/8	22	C	PL	loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input checked="" type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks: Could not dig down more than 6 inches do to thick cobble/rock layer

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 3 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP4-rjv
 Investigator(s): RJ Van Sant, Ford Bendall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): outer floodplain Local relief (concave, convex, none): convex/flat Slope (%): 3
 Subregion (LRR): C - Mediterranean California Lat: 32.59939644 Long: -116.93967565 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater emergent

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 type="radio"/> No <input checked="" 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"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sample point located on an elevated mound approx 12-24 inches higher than SP3-rjv</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Tamarix spp.</u>	10	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	4 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	50.0 % (A/B)
4. _____					
Total Cover:			10 %		
Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Distichlis spicata</u>	20	Yes	FAC	Total % Cover of:	Multiply by:
2. <u>Bromus madritensis</u>	15	Yes	UPL	OBL species	x 1 = 0
3. <u>Melilotus indicus</u>	30	Yes	FACU	FACW species	x 2 = 0
4. _____				FAC species	30 x 3 = 90
5. _____				FACU species	30 x 4 = 120
				UPL species	15 x 5 = 75
Total Cover:			65 %	Column Totals:	75 (A) 285 (B)
Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.	
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____				Prevalence Index = B/A = 3.80	
Total Cover:			%		
Woody Vine Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
1. _____					
2. _____					
Total Cover:			%		
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	%		

Remarks: _____

SOIL

Sampling Point: SP4-rjv

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-17	10YR 5/2	99	2.5YR 3/6	1	C	PL	loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <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)
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Restrictive Layer (if present): Type: _____ Depth (inches): _____ Remarks: Very minor redox concentrations	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (any one indicator is sufficient) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Other (Explain in Remarks)	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)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No hydrology indicators

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Mitigation Bank City/County: Chula Vista/San Diego Sampling Date: May 4 2018
 Applicant/Owner: Homefed State: CA Sampling Point: SP5-rjv
 Investigator(s): RJ Van Sant, Ford Bendall Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): outer floodplain Local relief (concave, convex, none): convex Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.59923256 Long: -116.94102031 Datum: _____
 Soil Map Unit Name: Riverwash NWI classification: Freshwater scrub/shrub

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Sample point taken in a somewhat low lying/depression area on the outer floodplain of the Otay River</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Tamarix spp</u>	7	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
2. _____				Total Number of Dominant Species Across All Strata:	2 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	100.0% (A/B)
4. _____					
Total Cover:	7 %				
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <u>Eleocharis palustris</u>	50	Yes	OBL	Total % Cover of: _____ Multiply by: _____	
2. <u>Hazardia squarrosa</u>	1	No	UPL	OBL species	50 x 1 = 50
3. <u>Lolium perenne</u>	1	No	FAC	FACW species	x 2 = 0
4. <u>Matricaria discoidia</u>	1	No	FACU	FAC species	8 x 3 = 24
5. _____				FACU species	1 x 4 = 4
Total Cover:	53 %			UPL species	1 x 5 = 5
Herb Stratum				Column Totals:	60 (A) 83 (B)
1. _____				Prevalence Index = B/A = 1.38	
2. _____				Hydrophytic Vegetation Indicators:	
3. _____				<input checked="" type="checkbox"/> Dominance Test is >50%	
4. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹	
5. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present.	
8. _____					
Total Cover:	%			Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Woody Vine Stratum					
1. _____					
2. _____					
Total Cover:	%				
% Bare Ground in Herb Stratum	0 %	% Cover of Biotic Crust	0 %		

Remarks: _____

SOIL

Sampling Point: SP5-rjv

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

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	96	2.5YR 3/6	4	C	PL	loamy clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.
³Soil 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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)		<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils:⁴ <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)
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⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Could not dig more than 12 inches due to cobbles/rocks

HYDROLOGY

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

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

Wetland Hydrology Present? Yes No

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

Remarks: No hydro indicators

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay River Restoration Project City/County: Chula Vista/San Diego Sampling Date: 12/9/2016
 Applicant/Owner: Homefed State: CA Sampling Point: T4.1
 Investigator(s): L. Woolley, N. Salas Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Terrace/marsh Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.600992 Long: -116.943138 Datum: NAD 1963
 Soil Map Unit Name: Riverwash NWI classification: PSSA

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Sample Point taken within a drossional wetland</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																									
1. <u>Tamarix chinensis</u>	5	Yes	FAC	Dominance Test worksheet: 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>100.0 %</u> (A/B)																																								
2.																																												
3.																																												
4.																																												
Total Cover: <u>5 %</u>																																												
Sapling/Shrub Stratum																																												
1.				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="width: 10%;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">80</td> <td>x 1 =</td> <td style="text-align: center;">80</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">5</td> <td>x 2 =</td> <td style="text-align: center;">10</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">5</td> <td>x 3 =</td> <td style="text-align: center;">15</td> <td></td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>UPL species</td> <td></td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">90</td> <td>(A)</td> <td style="text-align: center;">105</td> <td>(B)</td> </tr> <tr> <td colspan="5" style="text-align: right;">Prevalence Index = B/A = <u>1.17</u></td> </tr> </table>	Total % Cover of:		Multiply by:			OBL species	80	x 1 =	80		FACW species	5	x 2 =	10		FAC species	5	x 3 =	15		FACU species		x 4 =	0		UPL species		x 5 =	0		Column Totals:	90	(A)	105	(B)	Prevalence Index = B/A = <u>1.17</u>				
Total % Cover of:		Multiply by:																																										
OBL species	80	x 1 =	80																																									
FACW species	5	x 2 =	10																																									
FAC species	5	x 3 =	15																																									
FACU species		x 4 =	0																																									
UPL species		x 5 =	0																																									
Column Totals:	90	(A)	105	(B)																																								
Prevalence Index = B/A = <u>1.17</u>																																												
2.																																												
3.																																												
4.																																												
5.																																												
Total Cover: <u> %</u>																																												
Herb Stratum																																												
1. <u>Typha sp.</u>	80	Yes	OBL	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																																								
2. <u>Juncus acutus</u>	5	No	FACW																																									
3.																																												
4.																																												
5.																																												
6.																																												
7.																																												
8.																																												
Total Cover: <u>85 %</u>																																												
Woody Vine Stratum																																												
1.																																												
2.																																												
Total Cover: <u> %</u>																																												
% Bare Ground in Herb Stratum <u>15 %</u> % Cover of Biotic Crust <u> %</u>																																												

Remarks: Point is located within a freshwater marsh.

SOIL

Sampling Point: T4.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR C)**
- 1 cm Muck (A9) **(LRR D)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No pit was dug due to the standing water and rocky soil. Soils assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) **(Nonriverine)**
- Sediment Deposits (B2) **(Nonriverine)**
- Drift Deposits (B3) **(Nonriverine)**
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) **(Riverine)**
- Sediment Deposits (B2) **(Riverine)**
- Drift Deposits (B3) **(Riverine)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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): 6
 Water Table Present? Yes No Depth (inches): surface
 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: Otay River Restoration Project City/County: Chula Vista/San Diego Sampling Date: 12/9/2016
 Applicant/Owner: Homefed State: CA Sampling Point: T4.2
 Investigator(s): L. Woolley, N. Salas Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.601096 Long: -116.943163 Datum: NAD 1963
 Soil Map Unit Name: Riverwash NWI classification: PSSA

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

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Tamarix chinensis</i>	5	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)																																
2. <i>Eucalyptus sp.</i>	35	Yes	FACU																																	
3. _____																																				
4. _____																																				
Total Cover: 40 %																																				
Sapling/Shrub Stratum																																				
1. <i>Rhus integrifolia</i>	50	Yes	NI	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; text-align: right;">Total % Cover of:</td> <td style="width: 20%;"></td> <td style="width: 20%; text-align: right;">Multiply by:</td> <td style="width: 20%;"></td> </tr> <tr> <td>OBL species</td> <td style="background-color: #cccccc; width: 40px;"></td> <td>x 1 =</td> <td style="background-color: #cccccc; text-align: right;">0</td> </tr> <tr> <td>FACW species</td> <td style="background-color: #cccccc;"></td> <td>x 2 =</td> <td style="background-color: #cccccc; text-align: right;">0</td> </tr> <tr> <td>FAC species</td> <td style="background-color: #cccccc; text-align: center;">5</td> <td>x 3 =</td> <td style="background-color: #cccccc; text-align: right;">15</td> </tr> <tr> <td>FACU species</td> <td style="background-color: #cccccc; text-align: center;">35</td> <td>x 4 =</td> <td style="background-color: #cccccc; text-align: right;">140</td> </tr> <tr> <td>UPL species</td> <td style="background-color: #cccccc; text-align: center;">55</td> <td>x 5 =</td> <td style="background-color: #cccccc; text-align: right;">275</td> </tr> <tr> <td>Column Totals:</td> <td style="background-color: #cccccc; text-align: center;">95</td> <td>(A)</td> <td style="background-color: #cccccc; text-align: right;">430 (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A =</td> <td></td> <td style="background-color: #cccccc; text-align: right;">4.53</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species		x 2 =	0	FAC species	5	x 3 =	15	FACU species	35	x 4 =	140	UPL species	55	x 5 =	275	Column Totals:	95	(A)	430 (B)	Prevalence Index = B/A =			4.53
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species		x 2 =	0																																	
FAC species	5	x 3 =	15																																	
FACU species	35	x 4 =	140																																	
UPL species	55	x 5 =	275																																	
Column Totals:	95	(A)	430 (B)																																	
Prevalence Index = B/A =			4.53																																	
2. <i>Eriogonum fasciculatum</i>	5	No	NI																																	
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: 55 %																																				
Herb Stratum																																				
1. _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: %																																				
Woody Vine Stratum																																				
1. _____				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>																																
2. _____																																				
Total Cover: %																																				
% Bare Ground in Herb Stratum %		% Cover of Biotic Crust %																																		

Remarks:

SOIL

Sampling Point: T4.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR C)**
- 1 cm Muck (A9) **(LRR D)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Soil was too rocky; unable to dig sample pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) **(Nonriverine)**
- Sediment Deposits (B2) **(Nonriverine)**
- Drift Deposits (B3) **(Nonriverine)**
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) **(Riverine)**
- Sediment Deposits (B2) **(Riverine)**
- Drift Deposits (B3) **(Riverine)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/7/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T3.1
 Investigator(s): L. Cervantes, N. Salas Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Drainage Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C - Mediterranean California Lat: 32.59961 Long: -116.94806 Datum: NAD 1987
 Soil Map Unit Name: Huerhuero loam, 2 to 9 percent slopes NWI classification: Riverine

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Data point is near the edge of the OHWM.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <u>Baccharis sarothroides</u>	10		FACU	
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: 10 %				
Herb Stratum				
1. <u>Conyza canadensis</u>	10	No	FACU	
2. <u>Centaurea solstitialis</u>	10	No	Not Listed	
3. <u>Typha domingensis</u>	50	Yes	OBL	
4. <u>Convolvulus arevensis</u>	15	No	Not Listed	
5. <u>Epilobium hirsutum</u>	10	No	FACW	
6. <u>Foeniculum vulgare</u>	5	No	Not Listed	
7. _____				
8. _____				
Total Cover: 100%				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	50	x 1 =	50	
FACW species	10	x 2 =	20	
FAC species		x 3 =	0	
FACU species	20	x 4 =	80	
UPL species	30	x 5 =	150	
Column Totals:	110	(A)	300	(B)
Prevalence Index = B/A =			2.73	

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Area is dominated by Typha and a mixture of hydrophytic and upland species. Steep slopes and wetlands are confined to near the OHWM.

SOIL

Sampling Point: T3.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/2	100					Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR C)**
- 1 cm Muck (A9) **(LRR D)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No redox features observed within the soils, but soils were moist. Site met hydrophytic vegetation and hydrology indicators, therefore soils were assumed hydric.
Huerhuero loam, 2 to 9 percent slopes are not listed as hydric.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) **(Nonriverine)**
- Sediment Deposits (B2) **(Nonriverine)**
- Drift Deposits (B3) **(Nonriverine)**
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) **(Riverine)**
- Sediment Deposits (B2) **(Riverine)**
- Drift Deposits (B3) **(Riverine)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: Several hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/7/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T3.2
 Investigator(s): L. Cervantes, N. Salas Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 10
 Subregion (LRR): C - Mediterranean California Lat: 32.599596 Long: -116.947999 Datum: NAD 1987
 Soil Map Unit Name: Huerhuero loam, 2 to 9 percent slopes NWI classification: Riverine

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 type="radio"/> No <input checked="" 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"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>Data point taken at the top of bank of Salt Creek.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <i>Foeniculum vulgare</i>	10	No	Not Listed	
2. <i>Bromus diandrus</i>	50	Yes	Not Listed	
3. <i>Bromus madritensis</i>	15	No	Not Listed	
4. <i>Convolvulus arevensis</i>	1	No	Not Listed	
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 76 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum _____ %	% Cover of Biotic Crust _____ %			

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: **0** (A)
 Total Number of Dominant Species Across All Strata: **1** (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: **0.0 %** (A/B)

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 **76** x 5 = **380**
 Column Totals: **76** (A) **380** (B)
 Prevalence Index = B/A = **5.00**

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Site is dominated by nonnative grasses.

SOIL

Sampling Point: T3.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					Loam	Drier soils

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact soils
Depth (inches): 4 inches

Hydric Soil Present? Yes No

Remarks: Soils were compact and difficult to dig past 4 inches. Soils much drier than wetland data point and no redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: No wetland hydrology present and point is about 5 feet higher than the wetland data point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T4.1a
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.355533 Long: -116.564942 Datum: NAD 1987
 Soil Map Unit Name: Salinas clay loam, 2 to 9 percent slopes NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Data point taken near the edge of the northern wetland limit.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Tamarix ramosissima</u>	30	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A) Total Number of Dominant Species Across All Strata: 4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)																																
2.																																				
3.																																				
4.																																				
Total Cover: 30 %																																				
Sapling/Shrub Stratum																																				
1. <u>Baccharis salicifolia</u>	40	Yes	FAC	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td></td> <td style="text-align: right;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td style="background-color: #cccccc;"></td> <td>x 1 =</td> <td style="background-color: #cccccc;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">25</td> <td>x 2 =</td> <td style="background-color: #cccccc;">50</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">70</td> <td>x 3 =</td> <td style="background-color: #cccccc;">210</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">50</td> <td>x 4 =</td> <td style="background-color: #cccccc;">200</td> </tr> <tr> <td>UPL species</td> <td style="background-color: #cccccc;"></td> <td>x 5 =</td> <td style="background-color: #cccccc;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">145</td> <td>(A)</td> <td style="text-align: center;">460 (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A =</td> <td></td> <td style="background-color: #cccccc; text-align: center;">3.17</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species		x 1 =	0	FACW species	25	x 2 =	50	FAC species	70	x 3 =	210	FACU species	50	x 4 =	200	UPL species		x 5 =	0	Column Totals:	145	(A)	460 (B)	Prevalence Index = B/A =			3.17
Total % Cover of:		Multiply by:																																		
OBL species		x 1 =	0																																	
FACW species	25	x 2 =	50																																	
FAC species	70	x 3 =	210																																	
FACU species	50	x 4 =	200																																	
UPL species		x 5 =	0																																	
Column Totals:	145	(A)	460 (B)																																	
Prevalence Index = B/A =			3.17																																	
2.																																				
3.																																				
4.																																				
5.																																				
Total Cover: 40 %																																				
Herb Stratum																																				
1. <u>Juncus acutus</u>	25	Yes	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																																
2. <u>Ambrosia psilostachya</u>	50	Yes	FACU																																	
3.																																				
4.																																				
5.																																				
6.																																				
7.																																				
8.																																				
Total Cover: 75 %																																				
Woody Vine Stratum																																				
1.				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																
2.																																				
Total Cover: %																																				
% Bare Ground in Herb Stratum <u>25 %</u>		% Cover of Biotic Crust <u>%</u>																																		

Remarks: Area is dominated by hydrophytic vegetation.

SOIL

Sampling Point: T4.1a

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5 Y 4/4	90	5 YR 4/6	10	C	M	Loamy/Clay	Cobble soils

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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 Soils³:

<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 checked="" type="checkbox"/> Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: Cobble and rock
 Depth (inches): 6 inches

Hydric Soil Present? Yes No

Remarks: The soil pit was terminated at 6 inches due to too much cobbles present making it difficult to dig deeper. redox was observed within the top layer of the soils.
 Soils are a bit light and do not specifically meet any of the hydric soil indicators, but are assumed hydric due to the presence of redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks: Only salt crust were observed on the base of the vegetation.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T4.2a
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 10
 Subregion (LRR): C - Mediterranean California Lat: 32.355562 Long: -116.564923W Datum: NAD 1987
 Soil Map Unit Name: Salinas clay loam, 2 to 9 percent slopes NWI classification: Freshwater Forested

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 type="radio"/> No <input checked="" 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"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>This upland data point was located on a berm.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Hirschfeldia incana</u>	10	Yes	Not Listed	
2. <u>Centaurea solstitialis</u>	10	Yes	Not Listed	
3. <u>Bromus madritensis</u>	15	Yes	Not Listed	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: <u>35</u> %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>65</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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

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 <u>35</u>	x 5 = <u>175</u>
Column Totals: <u>35</u> (A)	<u>175</u> (B)
Prevalence Index = B/A = <u>5.00</u>	

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Only upland weed species observed within the area.

SOIL

Sampling Point: T4.2a

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10 YR 3/2	100			C	M	Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: No redox features observed within the upland data point. In addition, Salinas clay loam, 2 to 9 percent slopes are not listed as hydric by NRCS.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: There was no wetland hydrology present and this data point was about 5 feet higher than the wetland.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T5.1
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.355382 Long: -116.565015 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>This data point was located within the wetland habitat.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Tamarix ramosissima</u>	5	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)																																
2. <u>Salix gooddingii</u>	10	Yes	FACW																																	
3. _____																																				
4. _____																																				
Total Cover: <u>15 %</u>				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u> </u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>80</u></td> <td align="center">x 2 =</td> <td align="center"><u>160</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>5</u></td> <td align="center">x 3 =</td> <td align="center"><u>15</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u> </u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u> </u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>85</u></td> <td align="center">(A)</td> <td align="center"><u>175</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.06</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u> </u>	x 1 =	<u>0</u>	FACW species	<u>80</u>	x 2 =	<u>160</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u> </u>	x 4 =	<u>0</u>	UPL species	<u> </u>	x 5 =	<u>0</u>	Column Totals:	<u>85</u>	(A)	<u>175</u> (B)	Prevalence Index = B/A = <u>2.06</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u> </u>	x 1 =	<u>0</u>																																	
FACW species	<u>80</u>	x 2 =	<u>160</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u> </u>	x 4 =	<u>0</u>																																	
UPL species	<u> </u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>85</u>	(A)	<u>175</u> (B)																																	
Prevalence Index = B/A = <u>2.06</u>																																				
Sapling/Shrub Stratum																																				
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
Total Cover: <u> </u> %																																				
Herb Stratum																																				
1. <u>Juncus acutus</u>	20	Yes	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.																																
2. <u>Iva hayesiana</u>	50	Yes	FACW																																	
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
Total Cover: <u>70 %</u>																																				
Woody Vine Stratum																																				
1. _____																																				
2. _____																																				
Total Cover: <u> </u> %																																				
% Bare Ground in Herb Stratum <u>30 %</u> % Cover of Biotic Crust <u> </u> %																																				

Remarks: Area is dominated by hydrophytic vegetation.

SOIL

Sampling Point: T5.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	90	5 YR 4/6	10	C	PL	Loamy/Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Compact and Cobble soils
 Depth (inches): 2 inches

Hydric Soil Present? Yes No

Remarks: The soil pit was terminated at 2 inches due to too much cobbles present in the surface layers. Redox was observed within the soils samples, soil meets the Redox Dark Surface indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Several hydrology indicators observed. Area is located near the main channel of Otay River.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T5.2
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.355280 Long: -116.564960 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Data point taken further out in the floodplain. Area was determined to still occur within the active floodplan of Otay River and met a 3-parameter wetland.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <u>Tamarix ramosissima (sapling)</u>	5	No	FAC	
2. <u>Isocoma menziesii</u>	25	Yes	FAC	
3. <u>iva hayesiana</u>	10	Yes	FACW	
4. _____				
5. _____				
Total Cover: 40 %				
Herb Stratum				
1. <u>Hirschfeldia incana</u>	5	Yes	Not Listed	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 5 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>95 %</u>		% Cover of Biotic Crust _____ %		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	_____	x 1 =	0
FACW species	10	x 2 =	20
FAC species	30	x 3 =	90
FACU species	_____	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	45	(A)	135 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Area was sparsely vegetated, however vegetation present was dominated by hydrophytic species.

SOIL

Sampling Point: T5.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100	-				Loamy/Clay	
3-4	10 YR 2/2	90	5YR 4/6	10	C	PL	Loamy/Clay	More silty

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hardpan
Depth (inches): 4 inches

Hydric Soil Present? Yes No

Remarks: There was a hard pan at 4 inches. Site supported redox features and met Depleted Dark Surface indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Very light soil cracks were present on the surface layer, sediment deposition was observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T5.3
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.355286 Long: -116.564901 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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 type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: <u>This data point was located about 4 feet away from the wetland area on a small terrace approximately 3 feet higher than the surrounding wetlands.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
Total Cover: _____ %				
Herb Stratum				
1. <u>Hirschfeldia incana</u>	20	Yes	Not Listed	
2. <u>Brassica nigra</u>	30	Yes	Not Listed	
3. <u>Chenopodium album</u>	15	No	FACU	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 65 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>35</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: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

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 <u>15</u>	x 4 = <u>60</u>
UPL species <u>50</u>	x 5 = <u>250</u>
Column Totals: <u>65</u> (A)	<u>310</u> (B)
Prevalence Index = B/A = <u>4.77</u>	

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

Hydrophytic Vegetation Present? Yes No

Remarks: Area is dominated by black mustard within this small terrace.

SOIL

Sampling Point: T5.3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Loamy/Clay	
8-18	10 YR 3/2	90	7.5 YR 4/6	10	C	M	Loamy/Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (**LRR C**)
- 1 cm Muck (A9) (**LRR D**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Deeper soils supported redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (**Nonriverine**)
- Sediment Deposits (B2) (**Nonriverine**)
- Drift Deposits (B3) (**Nonriverine**)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (**Riverine**)
- Sediment Deposits (B2) (**Riverine**)
- Drift Deposits (B3) (**Riverine**)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: No wetland hydrology indicators were present at this data point.

SOIL

Sampling Point: T6.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/2	100					Loamy/Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: no redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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: No wetland hydrology present on berm and this point is 5 feet higher than the wetland data point.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T6.2
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.355368 Long: -116.565509 Datum: NAD 1987
 Soil Map Unit Name: Salinas clay loam, 2 to 9 percent slopes NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Wetland data point.</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
Total Cover: _____ %				
Sapling/Shrub Stratum				
1. <i>Baccharis salicifolia</i>	10	Yes	FAC	
2. <i>Iva hayesiana</i>	20	Yes	FACW	
3. _____				
4. _____				
5. _____				
Total Cover: 30 %				
Herb Stratum				
1. <i>Schoenoplectus californicus</i>	40	Yes	OBL	
2. <i>Anemopsis californica</i>	40	Yes	OBL	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
Total Cover: 80 %				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____ %				
% Bare Ground in Herb Stratum <u>20 %</u>	%		%	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	80	x 1 =	80	
FACW species	20	x 2 =	40	
FAC species	10	x 3 =	30	
FACU species		x 4 =	0	
UPL species		x 5 =	0	
Column Totals:	110	(A)	150	(B)
Prevalence Index = B/A =			1.36	

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0¹

Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Area dominated by hydrophytic vegetation.

SOIL

Sampling Point: T6.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/2	100	-				Loamy/Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR C)**
- 1 cm Muck (A9) **(LRR D)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Cobbles and rock
 Depth (inches): 2 inches

Hydric Soil Present? Yes No

Remarks: Cobbles at surface layer restricted digging. There was also surface water present. No redox observed, however soils were saturated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) **(Nonriverine)**
- Sediment Deposits (B2) **(Nonriverine)**
- Drift Deposits (B3) **(Nonriverine)**
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) **(Riverine)**
- Sediment Deposits (B2) **(Riverine)**
- Drift Deposits (B3) **(Riverine)**
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- 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): 1 inch
 Water Table Present? Yes No Depth (inches): Surface
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): At surface

Wetland Hydrology Present? Yes No

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

Remarks: Several hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Raanch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T7.1
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.354829 Long: -116.565272 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Wetland data point</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																																									
1. <u>Tamarix ramosissima</u>	20	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)																																								
2.																																												
3.																																												
4.																																												
Total Cover: <u>20 %</u>																																												
Sapling/Shrub Stratum																																												
1.				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="width: 10%;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td></td> <td>x 1 =</td> <td></td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">20</td> <td>x 2 =</td> <td></td> <td style="text-align: center;">40</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">30</td> <td>x 3 =</td> <td></td> <td style="text-align: center;">90</td> </tr> <tr> <td>FACU species</td> <td></td> <td>x 4 =</td> <td></td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">30</td> <td>x 5 =</td> <td></td> <td style="text-align: center;">150</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">80</td> <td>(A)</td> <td></td> <td style="text-align: center;">280 (B)</td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index = B/A =</td> <td style="text-align: center;">3.50</td> </tr> </table>	Total % Cover of:		Multiply by:			OBL species		x 1 =		0	FACW species	20	x 2 =		40	FAC species	30	x 3 =		90	FACU species		x 4 =		0	UPL species	30	x 5 =		150	Column Totals:	80	(A)		280 (B)	Prevalence Index = B/A =				3.50
Total % Cover of:		Multiply by:																																										
OBL species		x 1 =			0																																							
FACW species	20	x 2 =			40																																							
FAC species	30	x 3 =			90																																							
FACU species		x 4 =		0																																								
UPL species	30	x 5 =		150																																								
Column Totals:	80	(A)		280 (B)																																								
Prevalence Index = B/A =				3.50																																								
2.																																												
3.																																												
4.																																												
5.																																												
Total Cover: <u> %</u>																																												
Herb Stratum																																												
1. <u>Iva hayesiana</u>	20	Yes	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																																								
2. <u>Isocoma menziesii</u>	10	No	FAC																																									
3. <u>Bromus madritensis</u>	30	Yes	Not Listed																																									
4.																																												
5.																																												
6.																																												
7.																																												
8.																																												
Total Cover: <u>60 %</u>																																												
Woody Vine Stratum																																												
1.				¹ Indicators of hydric soil and wetland hydrology must be present.																																								
2.																																												
Total Cover: <u> %</u>																																												
% Bare Ground in Herb Stratum <u>40 %</u>		% Cover of Biotic Crust <u> %</u>		Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>																																								

Remarks: Area is dominated by hydrophytic vegetation.

SOIL

Sampling Point: T7.1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	85	4.5 YR 4/6	15	C	M	C/L	Hard pan at 4 inches

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hard Pan
Depth (inches): 4 inches

Hydric Soil Present? Yes No

Remarks: There appears to be a hardpan along the southern edge of the Otay River making it difficult to dig within these areas. Site met Depleted Dark Surface.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Salt crusts along base of vegetation and sediment deposition observed within this area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/ San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T7.2
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 32.354746 Long: -116.565288 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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 type="radio"/> No <input checked="" 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"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: Upland data point	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
2. _____				Total Number of Dominant Species Across All Strata:	3 (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	0.0 % (A/B)
4. _____					
Total Cover: _____ %					
Sapling/Shrub Stratum				Prevalence Index worksheet:	
1. <i>Baccharis sarathroides</i>	10	Yes	FACU	Total % Cover of: _____ Multiply by: _____	
2. <i>Artemisia californica</i>	10	Yes	Not Listed	OBL species	x 1 = 0
3. <i>Eriogonum maculatum</i>	30	Yes	Not Listed	FACW species	x 2 = 0
4. _____				FAC species	x 3 = 0
5. _____				FACU species	10 x 4 = 40
Total Cover: 50 %				UPL species	40 x 5 = 200
Herb Stratum				Column Totals:	50 (A) 240 (B)
1. _____				Prevalence Index = B/A = 4.80	
2. _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.	
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
Total Cover: _____ %					
Woody Vine Stratum				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
1. _____					
2. _____					
Total Cover: _____ %					
% Bare Ground in Herb Stratum 100%		% Cover of Biotic Crust _____ %			

Remarks: No herb layer within this area. Area located within the upper terrace of the floodplain.

SOIL

Sampling Point: T7.2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100	-				Loamy/Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Hard pan
Depth (inches): 4 inches

Hydric Soil Present? Yes No

Remarks: Hardpan at 4 inches, could not dig past this. No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: No wetland hydrology present. very minimal soil cracks observed near this area.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Otay Ranch Village 10 City/County: Chula Vista/San Diego Sampling Date: 8/12/15
 Applicant/Owner: Homefed OTLC State: CA Sampling Point: T7.3
 Investigator(s): L. Cervantes, Z. West Section, Township, Range: Undefined
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR): C - Mediterranean California Lat: 32.354648 Long: -116.565375 Datum: NAD 1987
 Soil Map Unit Name: Riverwash NWI classification: Freshwater Forested

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"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology 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"/>
Remarks: <u>Wetland data point</u>	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <i>Tamarix ramosissima</i>	45	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A) Total Number of Dominant Species Across All Strata: 4 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 % (A/B)																
2. _____																				
3. _____																				
4. _____																				
Total Cover: 45 %				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td>x 1 = 0</td> </tr> <tr> <td>FACW species</td> <td>x 2 = 120</td> </tr> <tr> <td>FAC species</td> <td>x 3 = 150</td> </tr> <tr> <td>FACU species</td> <td>x 4 = 32</td> </tr> <tr> <td>UPL species</td> <td>x 5 = 0</td> </tr> <tr> <td>Column Totals:</td> <td>118 (A) 302 (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = 2.56</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species	x 1 = 0	FACW species	x 2 = 120	FAC species	x 3 = 150	FACU species	x 4 = 32	UPL species	x 5 = 0	Column Totals:	118 (A) 302 (B)	Prevalence Index = B/A = 2.56	
Total % Cover of:	Multiply by:																			
OBL species	x 1 = 0																			
FACW species	x 2 = 120																			
FAC species	x 3 = 150																			
FACU species	x 4 = 32																			
UPL species	x 5 = 0																			
Column Totals:	118 (A) 302 (B)																			
Prevalence Index = B/A = 2.56																				
Sapling/Shrub Stratum																				
1. <i>Baccharis sarothroides</i>	8	Yes	FACU																	
2. <i>Baccharis salicifolia</i>	5	Yes	FAC																	
3. _____																				
4. _____																				
5. _____																				
Total Cover: 13 %																				
Herb Stratum																				
1. <i>Polypogon monspeliensis</i>	60	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
Total Cover: 60 %																				
Woody Vine Stratum																				
1. _____																				
2. _____																				
Total Cover: %																				
% Bare Ground in Herb Stratum 40 %		% Cover of Biotic Crust %																		

Hydrophytic Vegetation Indicators:
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks: Area is dominated by hydrophytic vegetation.

SOIL

Sampling Point: T7.3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 4/1	85	7.5 YR 3/3	15	C	M	Loamy/Clay	Hard pan

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (**LRR C**)
- 1 cm Muck (A9) (**LRR D**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils:

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

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: hard pan
Depth (inches): 4 inches

Hydric Soil Present? Yes No

Remarks: Surface area is covered with cobbles and there is a hard pan layer. Soils sampled supported redox features and meet the Depleted Matrix indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (**Nonriverine**)
- Sediment Deposits (B2) (**Nonriverine**)
- Drift Deposits (B3) (**Nonriverine**)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Recent Iron Reduction in Plowed Soils (C6)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? (includes capillary fringe) Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

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

Remarks: Several hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: OTAY MT. BANK City/County: ~~CHULA VISTA~~ CHULA VISTA / SD Sampling Date: 9/20/18
 Applicant/Owner: HOMERED State: CA Sampling Point: SPA
 Investigator(s): L. CEBALANDES, R. VAN SANT Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR): C Lat: 32.60187892 Long: -116.93932162 Datum: _____
 Soil Map Unit Name: Rm NWI classification: FRESHWATER FOREST/SRUB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>TAMARIX CHINENSIS</u>	<u>55</u>	<u>Y</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
<u>55</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>BACCHARIS SAUSAFOUA</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>TAMARIX CHINENSIS</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>JUCUS ACUTUS</u>	<u>8</u>	<u>Y</u>	<u>FACW</u>	
2. <u>JUCUS MEXICANUS</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>23</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. <u>NA</u>	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____		Hydrophytic Vegetation Present? Yes <u>X</u> No _____		

Remarks:

SOIL

Sampling Point: SPA

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/1	90	7.5YR 5/8	10	C	PL	CLC	
5-14	10YR 3/2	92	2.5YR 4/8	8	C	PL	SANDY	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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

<input type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: REDOX CONCENTRATIONS IN BOTH LAYERS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Salt Crust (B11)	
<input checked="" type="checkbox"/> Biotic Crust (B12)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

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: EVIDENCE OF SOME PUMPING

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: OTAY MTL. BANK City/County: CHULA VISTA/SD Sampling Date: 9/20/18
 Applicant/Owner: HOMEFED State: CA Sampling Point: SP B
 Investigator(s): L. CERVAJATES, R. VAN SANT Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): CONVEX Slope (%): 3
 Subregion (LRR): C Lat: 32.60178394 Long: -116.93920990 Datum: _____
 Soil Map Unit Name: Rm NWI classification: FRESHWATER FORESTED/SHRUB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <u>SP LOCATED SLIGHTLY ABOVE SPA IN UPLAND AREA</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 FT</u>)				Prevalence Index worksheet:
1. <u>ERIGONUM FASCICULATUM</u>	<u>15</u>	<u>Y</u>	<u>NI</u>	Total % Cover of: _____ Multiply by: _____
2. <u>BACCHARIS SARATHROIDES</u>	<u>5</u>	<u>N</u>	<u>FAW</u>	OBL species _____ x 1 = _____
3. <u>ARTEMISIA CALIFORNICA</u>	<u>20</u>	<u>Y</u>	<u>NI</u>	FACW species _____ x 2 = _____
4. <u>ACMISPON GLABER</u>	<u>5</u>	<u>N</u>	<u>NI</u>	FAC species _____ x 3 = _____
5. <u>RAUS INTEGRIFOUA</u>	<u>15</u>	<u>Y</u>	<u>NI</u>	FACU species _____ x 4 = _____
<u>ISOCOMA MENZ.</u>	<u>5</u>	<u>N</u>	<u>FAW</u>	UPL species _____ x 5 = _____
= Total Cover				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5 FT</u>)				Prevalence Index = B/A = _____
1. <u>BROMUS HORLACEUS</u>	<u>10</u>	<u>Y</u>	<u>FAW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	___ Dominance Test is >50%
2. _____	_____	_____	_____	___ Prevalence Index is ≤3.0 ¹
				___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				___ Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks: _____				

SOIL

Sampling Point: SP B

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 7/4	39	10YR 7/8	1	C	M	L/C	2 COULES IN MATRIX. VERY SMALL AREAS OF REDOX, DIFFICULT TO SEE
	2.5Y 7/3	60						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<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)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<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? (includes capillary fringe) Yes _____ No Depth (inches): _____

Wetland Hydrology Present? Yes No _____

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

Remarks:

SOIL CRACKS ON SURF, MAY BE FROM PONDING OF AREA, BUT MAY ALSO NOT BE A PONDING INDICATOR

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: OTAY MIT. BANK City/County: SAN DIEGO CHULA VISTA/SD Sampling Date: 9/20/18
 Applicant/Owner: HOMEFED State: CA Sampling Point: SPC
 Investigator(s): L. CERVANTES, R. VAN SANT Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): LOW AREA Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR): C Lat: 32.59853536 Long: -116.94017414 Datum: _____
 Soil Map Unit Name: Rm NWI classification: FRESHWATER FOREST/SHRUB

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? NO Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>SALIX LAEVIGATA</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____				
<u>20</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>BACCHARIS SALICIFOLIA</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____
2. <u>BACCHARIS SPATHULOIDES</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
<u>70</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>5 FT</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>HIRSCUTELLA INCANA</u>	<u>5</u>	<u>Y</u>	<u>NI</u>	<input type="checkbox"/> Dominance Test is >50%
2. _____				<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Footnote:
1. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

Remarks: _____

SOIL

Sampling Point: SPC

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydic Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)	Indicators for Problematic Hydric Soils³: <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)
---	---	--

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydic Soil Present? Yes _____ No

Remarks: NO REDOX

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	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"/> 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 <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
--	---

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

Remarks: NO HYDRO INDICATORS

Attachment 5 Request for Jurisdictional Determination Form

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: Los Angeles District

• I am requesting a JD on property located at: NA
City/Township/Parish: _____ County: San Diego State: CA
Acreage of Parcel/Review Area for JD: 135
Section: _____ Township: _____ Range: _____
Latitude (decimal degrees): 33.60028433 Longitude (decimal degrees): -116.94257337
(For linear projects, please include the center point of the proposed alignment.)

• Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

• I currently own this property. I plan to purchase this property.

I am an agent/consultant acting on behalf of the requestor.

Other (please explain): _____

• Reason for request: (check as many as applicable)

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.

I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.

A Corps JD is required in order to obtain my local/state authorization.

I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.

I believe that the site may be comprised entirely of dry land.

Other: _____

• Type of determination being requested:

I am requesting an approved JD.

I am requesting a preliminary JD.

I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.

I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature:  Date: October 3, 2018

• Typed or printed name: Richard J. Van Sant III

Company name: ICF

Address: 525 B Street, Suite 1700
San Diego, CA 92101

Daytime phone no.: 858-444-3928

Email address: RJ.VanSant@icf.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Attachment 6 Approved Jurisdictional Determination Form

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

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

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: CA County/parish/borough: San Diego City: Chula Vista
Center coordinates of site (lat/long in degree decimal format): Lat. 32.60028433° **N**, Long. 116.94257337° **W**.
Universal Transverse Mercator:

Name of nearest waterbody: Otay River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Pacific Ocean

Name of watershed or Hydrologic Unit Code (HUC): Lower Otay River HUC 10

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

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

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

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

Waters subject to the ebb and flow of the tide.

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

Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

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

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

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

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **Pick List**

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

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

Explain: .

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

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

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW

Identify TNW: _____

Summarize rationale supporting determination: _____

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: _____

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

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

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

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

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

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

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: _____ inches

Average annual snowfall: _____ inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

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

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

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

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

Project waters cross or serve as state boundaries. Explain: _____

Identify flow route to TNW⁵: _____

Tributary stream order, if known: _____

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

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

(b) General Tributary Characteristics (check all that apply):

- Tributary is:** Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

- | | | |
|--|--|-----------------------------------|
| <input type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

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

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

- Dye (or other) test performed:

Tributary has (check all that apply):

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

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) **Chemical Characteristics:**

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

Explain:

Identify specific pollutants, if known:

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

⁷Ibid.

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

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

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

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

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

Surface flow is: **Pick List**

Characteristics:

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

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

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

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

Flow is from: **Pick List**.

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

(ii) **Chemical Characteristics:**

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

Identify specific pollutants, if known:

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

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

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

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

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

For each wetland, specify the following:

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

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

C. SIGNIFICANT NEXUS DETERMINATION

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

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

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

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

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

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

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
- Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

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

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

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

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

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain: .
 Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

⁸See Footnote # 3.

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

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

