

# Appendix C

## Wetland Delineation & Preliminary Jurisdictional Report

---

---



# Wetland Delineation and Preliminary Jurisdictional Determination

## VA Outpatient Clinic and National Cemetery Project at the Former Naval Air Station Alameda



Prepared for:  
Department of Veterans Affairs

**AECOM**

September 2012



Wetland Delineation and Preliminary Jurisdictional Determination  
**VA Outpatient Clinic and National Cemetery Project  
at the Former Naval Air Station Alameda**



Prepared for:  
US Department of Veterans Affairs  
Contact:  
Mr. Larry Janes  
Capital Asset Manager, VISN 21  
201 Walnut Avenue  
Mare Island, CA 94592  
707.333.8350

And

Department of the Navy  
Contact:  
Dr. Robert Lovich  
BRAC PMO West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108  
619.532.1478

Prepared by:  
AECOM  
Contact:  
Kristin Asmus  
2020 L Street, Suite 400  
Sacramento, CA 95811  
916.414.5800

The information provided in this document is intended solely for the use and benefit of Department of Veterans Affairs, Department of the Navy, and U.S. Fish and Wildlife Service. No other person or entity shall be entitled to rely on the services, opinions, recommendations, plans, or specifications provided herein, without the express written consent of the USN and VA.

**AECOM**

September 2012



# TABLE OF CONTENTS

Section	Page
<b>1 INTRODUCTION AND SETTING .....</b>	<b>1-1</b>
<b>2 DELINEATION METHODS .....</b>	<b>2-1</b>
<b>3 DELINEATION RESULTS .....</b>	<b>3-1</b>
3.1 Soils .....	3-1
3.2 Jurisdictional Habitat Types .....	3-2
3.3 Nonjurisdictional Habitats.....	3-7
3.4 Preliminary Findings .....	3-9
<b>4 PERMITTING IMPLICATIONS .....</b>	<b>4-1</b>
4.1 Federal Jurisdiction – United States Army Corps of Engineers .....	4-1
4.2 Federal Jurisdiction - United States Fish and Wildlife Service & National Marine Fisheries Service.....	4-2
<b>5 REFERENCES .....</b>	<b>5-1</b>
 <b>Appendices</b>	
A Wetland Delineation Data Forms	
B Representative Photographs	
C Habitat Map	
D Species Observed	
E Wetland Delineation Maps	
 <b>Exhibits</b>	
1-1 Regional Location .....	1-2
1-2 Study Area.....	1-3
3-1 Wetland Delineation Overview Map.....	3-5
 <b>Tables</b>	
3-1 Potentially Jurisdictional Features.....	<b>Error! Bookmark not defined.</b>
3-2 Potentially Non-jurisdictional Features.....	3-8

## ACRONYMS AND ABBREVIATIONS

CWA	Clean Water Act
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GPS	Global Positioning System
IR	Installation Restoration
NAS	Naval Air Station
NI	No Indicator
NL	Not Listed
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OBL	Obligate
OHWM	Ordinary High Water Mark
Project	Navy to VA transfer and VA Outpatient Clinic and National Cemetery Project
RPW	Relatively Permanent Water
TNW	Traditional Navigable Water
UPL	Obligate Upland
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USN	U.S. Department of the Navy
VA	Veterans Affairs

# 1 INTRODUCTION AND SETTING

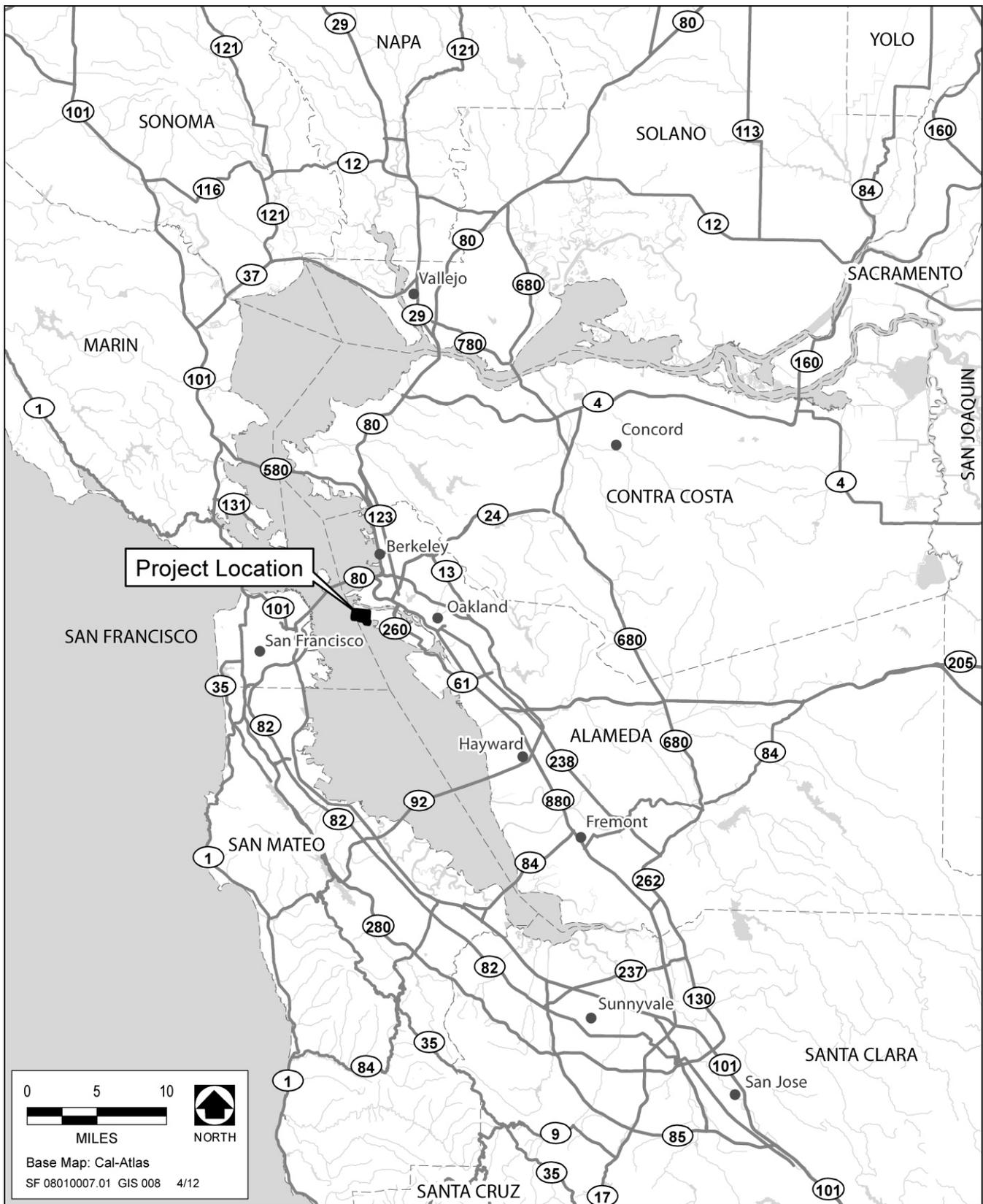
The proposed VA Outpatient Clinic and National Cemetery Project (project) is located on the western end of Alameda Island (Alameda Point) west of the City of Alameda (Exhibit 1-1). The land proposed for the project would be transferred from the Navy to VA as part of the process to close and realign military bases wherein the U.S. Department of the Navy (USN) will dispose of excess property at former Naval Air Station (NAS) Alameda, closed in 1997, via a fed-to-fed transfer to the U.S. Department of Veterans Affairs (VA). The VA proposes to construct and operate VA facilities including an Outpatient Clinic and National Cemetery. The VA is only seeking verification on the potential jurisdictional elements within the proposed project area where development is proposed. The Navy is only transferring the land and is not proposing any future use on the site.

The larger 623-acre area that was investigated encompasses the potential transfer parcels including the development area. The proposed VA Development Area is situated on 112.4 acres. (Exhibit 3-1). The study area is situated on the west end of Alameda Island, and is adjacent to the City of Alameda (bordered by former NAS aircraft hangars) on the east, the San Francisco Bay to the south and west, and Oakland Inner Harbor to the north. The study area lies chiefly within the County of Alameda with the exception of the southwest portion of the property lying in the County of San Francisco (Exhibit 1-2).

The study area is built primarily on bay fill and is characterized by abandoned runways, taxiways, and related building structures, including guard/watch towers, concrete buildings, a quonset hut, and several small bunkers formerly used for ammunition storage. Other structures or facilities include runway lighting, a helicopter wash pad, electrical vaults (concrete holes 2 to 10 feet deep), storm sewers, blast fence ruins, fences, power poles, and a tetrahedron shaped wind vane. The area is currently inactive and the majority of buildings and other structures are not in use. The topography is flat and the elevation is at or slightly above sea level. (Exhibit 1-2).

The approximately 32-acre Runway Wetland lies in the southeast corner of the study area and encompasses two perennial ponds, surrounded by salt marsh and ruderal-disturbed lands. These two ponds are hydrologically connected to the San Francisco Bay through three openings in the southern rock seawall, and are connected to each other during periods of elevated water levels. The West Wetland is comprised of a linear, channel-like pond to the south and a second pond to the north, both of which are perennial. A strip of land ranging from 100 to 150 feet wide lies adjacent to the seawall, and separates the ponds from the Bay (Battelle and BBL, Inc. 2008 and Tetra Tech 2004). The Main Runway area comprises consists of runways and roadways interspersed with unpaved areas. Most of the existing infrastructure in the study area occurs in the Main Runway area. Some of the other areas on the site were used as a landfill and disposal areas.

This report presents the results of the delineation of waters of the United States for the study area, as defined by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). It is considered a draft until verified by the San Francisco District of USACE.



Source: Data compiled by AECOM in 2011

**Exhibit 1-1**

**Regional Location**



Source: Data compiled by AECOM in 2011

## Exhibit 1-2 Study Area

This page intentionally left blank.

## 2 DELINEATION METHODS

A formal wetland delineation and preliminary jurisdictional determination was initially conducted by Kristin Asmus and Jason Phillips on February 20, March 3, March 10, and April 3, 2008 and reviewed with additional areas delineated by Sarah Bennett and Vick Germany on March 21, 2012. The routine wetlands delineation and preliminary jurisdictional determination was performed in accordance with the procedures outlined in USACE *Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). The 1987 manual and 2008 Arid West Supplement provides technical guidelines and methods for identifying wetlands and other waters of the United States.

Waters of the United States were delineated based on the ordinary high water mark (OHWM). Field indicators of OHWMs include features such as shelving, scour lines, sedimentary deposits, drift lines, exposed roots, destruction of terrestrial vegetation, the presence of litter or debris, and clear and natural lines on opposite sides of the banks, which define the bed and bank portion of the channel that floods under normal conditions (USACE 2005). The width of a “waters” is defined as that portion which falls within the limits of ordinary high water and typically corresponds to the two-year flood event.

As defined by USACE the three-parameter approach to determining the location and boundaries of jurisdictional wetlands requires that an area must support positive field indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be classified as a wetland. Hydrophytic vegetation includes those plant species that possess physiological features or reproductive adaptations that allow them to persist in soils subject to prolonged inundation and anaerobic soil conditions. Hydric soils include non-drained organic soils, mineral soils with a high water table, ponded soils, and flooded soils. For the hydrology parameter to be met, a site must show evidence of recent episodes of inundation or saturation. Wetland hydrology indicators provide evidence that the site has a continuing wetland hydrologic regime and that hydric soils and hydric vegetation are not relicts of a past hydrologic regime.

To determine whether hydrophytic vegetation dominated the area, all plant species at sample sites were identified and the wetland indicator status was recorded using the *National List of Plants that Occur in Wetlands: California (Region 0)* (Reed 1988). Plant species are classified by their probability of being associated with wetlands or uplands:

- ▶ Obligate (OBL) species almost always (greater than 99 percent of the time) occur in wetlands,
- ▶ Facultative Wetland (FACW) species occur in wetlands 67 to 99 percent of the time,
- ▶ Facultative (FAC) species have an equal probability (33 to 66 percent) to occur in wetlands,
- ▶ Facultative Upland (FACU) species occur in wetlands one to 33 percent of the time, and
- ▶ Obligate Upland (UPL) species occur less than one percent of the time.

All plus (+) or minus (-) modifiers found in Reed 1998 were removed per the Interim Regional Supplement: Arid West Region (USACE 2006), which only uses the five basic levels of wetland indicator status (OBL, FACW, FAC, FACU, and UPL). A no indicator (NI) designation is recorded for those species for which insufficient information was available to determine an indicator status. A not listed (NL) designation indicates a species is not listed in Reed (1988). According to standard protocol, a species with an NL designation is considered UPL when

completing the wetland determination data form (USACE 2008a). An asterisk is assigned to species that have limited ecological information available.

Hydrophytic species include those listed as OBL, FACW, FACW\*, FAC, or FAC\*. A sample site was considered to have hydrophytic vegetation if greater than 50% of the dominant species had an indicator status of FAC or wetter (50/20 Rule or Dominance Test). If the sample point does not pass the Dominance Test, the Prevalence Index, a weighted average using wetland indicator status, is calculated to determine if a sample point meets the hydrophytic vegetation criterion (USACE 2008a). Botanical nomenclature used in this report conforms to *The Jepson Manual: Vascular Plants of California*, Second Edition (Baldwin et. al. 2012). Plant community names conform to Holland (1986) and Sawyer, Keeler-Wolf, and Evens (2009) where applicable; wetland community names conforming to Cowardin et. al. (1979) are also given where appropriate.

Soils were examined by digging soil test pits to determine whether hydric soils exist in a sampling location. Soils were described in terms of depth, matrix color, redoxymorphic color (when present), and moisture status at each sampling location. Other diagnostic features indicative of hydric soils, such as the presence of concretions and oxidized rhizospheres (a redoximorphic feature, according to Vepraskas [1992]), were also recorded on data forms. Hydric soil determinations were based on the indicators provided by the 1987 delineation manual, 2008 Arid West Supplement, the *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils* (NRCS 2010), and Vepraskas (1992). Soil units mapped to the study area by the soil survey were cross-referenced to *The National Hydric Soils List* (NRCS 2012a) to determine if the soil was listed as a hydric map unit. Soils information was compared with the soil survey of Alameda County, Western Part (USDA 1981; NRCS 2012b).

Wetland hydrology was assessed by recording observations such as watermarks, flooded or saturated soil conditions, drift and debris lines, sediment deposits, drainage patterns, and other indicators of wetland hydrology. In addition, potentially jurisdictional areas were all evaluated in terms of the feature's status as a navigable waterway, adjacency, or hydrological connection to a navigable waterway.

Before conducting the wetland delineations of the study area, an AECOM wetland ecologist reviewed recent color aerial photographs of the study area at a scale of 1 inch = 200 feet and the soil survey of Alameda County, Western Part (USDA 1981; NRCS 2012b) to determine areas of potential USACE jurisdiction. The current site visit was conducted on March 21, 2012. The nearest tipping bucket precipitation rain gauge is the San Leandro Bay, located approximately 8 miles to the southeast of the study area at Oakland International Airport. At the time of the field investigation, 15.32 inches of precipitation had been recorded for the water year, which began on October 1 (DWR 2012). The last measureable precipitation event prior to the field survey was recorded on March 18, measuring 0.04 inches of rainfall (DWR 2012). Approximately 2.12 inches of rain was recorded in the 10 days prior to the field investigation (DWR 2012).

Based on topography and the presence or absence of field indicators including vegetation, hydrology, and soils, the limits of potential jurisdictional areas were identified and mapped in the field and later digitized onto an aerial photograph. Sample point locations were recorded digitally using a global positioning system (GPS) data logger (Trimble XH) and imported onto an electronic version of the aerial photograph. GPS data were recorded in North American Datum 83 (NAD 83). Routine wetland determination data forms were completed for 31 sample points and are provided in Appendix A. Data forms from the 2008 delineation were retained on the 11-1-2006 version of the forms. Photos of the site are presented in Appendix B.

The *U.S Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* was consulted to aid the preliminary determination that an area would be subject to USACE jurisdiction under Section 404 of the CWA (USACE 2007). To facilitate jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a Traditional Navigable Water (TNW), Relatively Permanent Water (RPW), or non-RPW based on the following definitions:

- ▶ TNWs include all waters subject to the ebb and flow of the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose. All TNWs and adjacent wetlands are subject to CWA jurisdiction.
- ▶ RPWs are waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs. RPWs that are tributaries of TNWs and wetlands with a continuous surface connection to such tributaries are subject to CWA jurisdiction.
- ▶ Non-RPWs are waters that do not have continuous flow at least seasonally. Non-RPWs that are tributaries of TNWs and adjacent wetlands are subject to CWA jurisdiction if they have a significant nexus to a TNW.
- ▶ Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW. The significant nexus test—outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency (EPA) and USACE—was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008).

This page intentionally left blank.

### 3 DELINEATION RESULTS

The study area sits on Alameda Island in San Francisco Bay. The elevation is at or immediately above sea level, and the topography is flat, reflecting its history as filled baylands and use as an airfield. Natural hydrology on site is a combination of direct precipitation, upland runoff, high groundwater table, and tidal inundation from San Francisco Bay through sea wall culverts and storm drains located throughout the site. Saturated soils and ponding water were observed at several locations throughout the site several days following a rain event in 2008 and a few days following a rain event in 2012.

Vegetation communities identified within the study area consist of ruderal-disturbed vegetation, nonnative grasslands, seasonal wetlands, and salt marsh. The lowest lying portions of the study area are inundated and classified as open water, the depth of which is tidally influenced. Slightly higher in elevation are unvegetated mudflats that are submerged part of the time due to tidal influence and surface water runoff. The salt marsh on site is dominated by pickleweed (*Salicornia pacifica*) and saltgrass (*Distichlis spicata*) and the ruderal-disturbed habitat is dominated by iceplant (*Carpobrotus edulis*). The rock seawall on the southern and eastern edge of the runway wetland separates Bay waters from Alameda Point and is largely unvegetated.

The nonnative grassland found in the Runway Wetland area is typical of the nonnative grasslands across the study area, with some areas of the grassland well developed and other areas where the vegetation appears stunted. In addition, the Runway Wetland area contains highly scattered coyote brush (*Baccharis pilularis*) and a cluster of cypresses (*Cupressus* sp.). The unpaved portions of the Main Runway Area includes ruderal-disturbed habitat and nonnative grasslands interspersed with seasonal wetlands and salt marsh, with a few areas supporting small stands of willows (*Salix* sp.). The vegetation of the remainder of the area consists of mostly disturbed-ruderal lands and nonnative grasslands with scattered seasonal and permanent wetland features similar to those described above (Tetra Tech 2004).

Delineation sample sites are depicted on an overview map of the delineation on Exhibit 3-1; sample sites are cross-referenced to the wetland determination data forms provided in Appendix A. Habitat descriptions are included below and a habitat map is provided in Appendix C. A list of vegetation observed during the field survey is provided in Appendix D. Appendix E contains a large format wetland delineation map at a 1-inch equals 200-foot scale.

#### 3.1 SOILS

Two soil units are mapped as occurring within the study area according to the soil survey for western Alameda County, California (USDA 1981) and the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2012b). These include Urban Land and Xeropsamment-fill, 0 to 2 percent slope. Soils mapped that occur on site are described in more detail below. Xeropsamment-fill soils that occur within the study area contain minor hydric inclusions (NRCS 2012b).

During field reconnaissance, 31 sample soil points were examined to a depth of at least 18 inches. All exposed soils on site are Xeropsamment-fill soils, which are considered hydric in depressions according to the hydric soils list (USDA 2012). Soils on site were determined to be hydric according to the procedures outlined in Problematic Hydric Soils in the *Regional Supplement: Arid West Region* (USACE 2008a).

## **URBAN LAND**

Urban land is a classification referring to the portions of the site that are covered by buildings, roads, parking lots, runways, and other urban structures. The soil in this region is heterogeneous fill, and the areas tend to be adjacent to the San Francisco Bay.

## **XEROPSAMMENT-FILL**

The Xeropsamment-fill soil type consists of sandy material dredged from old beach areas. Slopes range from 0 to 2 percent, and elevations range from sea level to 10 feet. The average annual rainfall is 17 inches and the mean annual temperature is 57°F. The average frost-free season ranges from 300 to 320 days. Xeropsamment-fill soils are typically moderately alkaline sands extending in depths of up to 60 inches. In some areas, they can be as much as 5 percent shells, less than one inch in diameter. These soils are rapidly permeable, with a root zone of 60 inches in depth for water-tolerant plants. The water table restricts the root zone for water-sensitive plants to a depth of 40 to 60 inches. The available water capacity is 3 to 4 inches, and runoff is slow, with a slight danger of erosion. This series is classified as hydric (USDA 2012).

## **3.2 JURISDICTIONAL HABITAT TYPES**

Wetlands and other waters of the United States are present within the study area and include the unvegetated waters of the Runway Wetland and the West Wetland (Exhibit 3-1). Salt marsh is present within the Runway Wetland, the Main Runway Area and in areas along the western side of the site. Seasonal wetlands are present in the grassland areas between the runways and roads of the former airfield in the Main Runway Area and along the western side of the site. A breakdown of the acreages of features within the VA Development Area, remaining Study Area and other features outside the Study Area are included on Exhibit 3-1. A summary by feature type within the Study area and the VA Development Area is included in Table 3-1 .

### **3.2.1 UNVEGETATED WATERS - TRADITIONALLY NAVIGABLE WATER**

Waters of the United States classified as traditionally navigable water (TNW)s within the study area include the unvegetated waters of the Runway Wetland and the West Wetland. The Runway Wetland lies in the southeast corner of the study area and encompasses one perennial pond (U3), approximately 5.88 acres, surrounded by salt marsh and ruderal-disturbed lands. This pond is hydrologically connected to the San Francisco Bay through three openings in the southern rock seawall, and becomes divided in two during periods of low water levels. The pond is connected to the Bay via a deep channel-like feature, which runs approximately 50 feet from the westernmost opening in the seawall to the edge of the pond. The southeastern edge of the pond is connected to the Bay via a culvert and gate valve in the seawall that has fallen into disrepair. A third smaller opening in the seawall is located about 300 feet west of the culvert. The pond in the Runway Wetland was delineated using the limits of ordinary high water as indicated by scouring, drift lines, water marks, and the presence of litter and debris. This unvegetated waters is subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act up to the mean high tide line and in its entirety under Section 404 of the CWA as a TNW subject to tidal influence.

The West Wetland area lies in the western portion of the study area and is bordered on the north and east by the Main Runway area. The West Wetland is comprised of a linear, channel-like pond to the south (U2), approximately 4.89 acres, and a second pond to the north (U1), approximately 4.54 acres, both of which are

perennial. The channel-like pond was created by removing dredged materials to cover the landfill/disposal area. Within the West Wetland, the northernmost pond is connected to the Bay by a culvert; both ponds are connected when inundated during high tides. A strip of land ranging from 100 to 150 feet wide lies adjacent to the seawall, and otherwise separates the ponds from the Bay (Battelle and BBL, Inc. 2008 and Tetra Tech 2004). Unvegetated waters in the West Wetlands were delineated using a 2005 NAIP aerial photograph and topographic maps, Google Earth imagery, and descriptions of ordinary high water from the Tetra Tech report (Tetra Tech 2004). The West Wetland ponds are subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act up to the mean high tide line and in their entirety under Section 404 of the CWA as a TNW subject to tidal influence.

**Table 3-1  
Potentially Jurisdictional Features**

	<b>Study Area</b>	<b>VA Development Area</b>
<b><i>Traditional Navigable Waters</i></b>	<b><i>19.51</i></b>	
Unvegetated Waters – West Wetland	9.43	
Unvegetated Waters – Runway Wetland	5.88	
San Francisco Bay Water	4.20	
<b><i>Wetlands Abutting or Adjacent to TNW</i></b>	<b><i>55.83</i></b>	<b><i>11.53</i></b>
Northern Coastal Saltmarsh	24.13	1.10
Seasonal Wetland	31.70	10.43
<b>Total Potentially Jurisdictional Features</b>	<b><i>75.34</i></b>	<b><i>11.53</i></b>
Source: Data compiled by AECOM 2012		





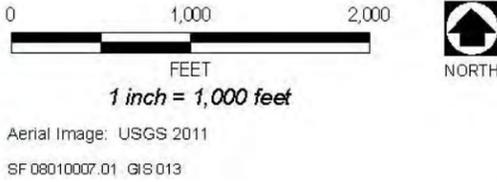
# Wetland Delineation Map

9/17/2012

**Direction:**  
 From Webster Street in Downtown Oakland take the Webster Street Tube, turn right on Atlantic Avenue, right on Ferry Point, and left on Avenue F to 1st St.

**Delineated by:**  
 S. Bennett on 3/19/2012.  
 K. Asmus in 2008.  
 Tetra Tech 2004.

- LEGEND**
- Sample Points
  - ▭ VA Development Area (112.4 ac)
  - ▭ Study Area (623.22 ac)
  - Potentially Jurisdictional Features
    - ▭ Northern Coastal Saltmarsh
    - ▭ Seasonal Wetland
    - ▭ Unvegetated Water



Features Within VA Development Area					
<b>Wetlands Abutting or Adjacent to TNW</b>					
Northern Coastal Saltmarsh					
11.53					
S2	0.21	S4	0.08		
S3	0.21	S5	0.60		
Seasonal Wetland					
10.43					
W1	1.24	W23	1.19	W27	0.11
W2	2.51	W24	0.68	W28	0.20
W3	1.89	W25	2.22		
W4	0.13	W26	0.26		
<b>Total Potentially Jurisdictional Features:</b>					
11.53					

Remaining Features Within Study Area					
<b>Traditional Navigable Waters</b>					
19.51					
Unvegetated Waters – West Wetland					
9.43					
U1	4.54	U2	4.89		
Unvegetated Waters – Runway Wetland					
5.88					
U3	5.88				
SF Bay Water					
4.20					
<b>Wetlands Abutting or Adjacent to TNW</b>					
44.30					
Northern Coastal Saltmarsh					
23.03					
S1	0.10	S8	0.04	S13	0.02
S4	0.97	S9	0.59	S14	0.01
S5	0.91	S10	0.04	S15	6.02
S6	5.61	S11	0.08	S16	3.93
S7	1.18	S12	0.04	S17	3.49
Seasonal Wetland					
21.27					
W2	0.49	W7	3.11	W12	0.13
W3	2.01	W8	6.13	W13	0.03
W4	1.52	W9	0.08	W14	0.10
W5	0.23	W10	2.42	W15	4.34
W6	0.23	W11	0.06	W16	0.39
<b>Total Potentially Jurisdictional Features:</b>					
63.81					

Other Features Outside Study Area					
<b>Traditional Navigable Waters</b>					
1.97					
SF Bay Water					
1.97					
<b>Wetlands Abutting or Adjacent to TNW</b>					
19.10					
Northern Coastal Saltmarsh					
0.94					
S18	0.20	S19	0.19	S20	0.55
Seasonal Wetland					
18.16					
W17	1.06	W21	0.27	W30	0.00
W18	1.43	W22	1.71	W31	0.03
W19	7.09	W23	0.20	W32	0.64
W20	5.70	W29	0.03		
<b>Total Potentially Jurisdictional Features:</b>					
21.07					

Source: AECOM 2011

Exhibit 3-1 Wetland Delineation Overview Map

This page intentionally left blank.

## 3.2.2 WETLANDS ABUTTING OR ADJACENT TO TRADITIONALLY NAVIGABLE WATERS

### NORTHERN COASTAL SALT MARSH

Northern coastal salt marsh consists of highly productive, herbaceous and suffrutescent perennials up to 4 feet tall. Usually found along sheltered margins of bays, lagoons and estuaries, this plant community develops a dense to moderate cover. Subject to continuously fluctuating salinity and water levels, northern coastal salt marsh is typically dominated by a low diversity of salt tolerant hydrophytes. Northern coastal salt marsh occurs extensively in the San Francisco Bay, Morro Bay, Elkhorn Slough, Humboldt Bay, and Tomales Bay and extends from near Point Conception to the Oregon state line (Holland 1986).

Within the study area, northern coastal salt marsh is located within the Runway Wetland, the Main Runway area and along the western side of the site (Exhibit 3-1). On site, the salt marsh is dominated by pickleweed and saltgrass (Photo 3, Appendix B). Characteristic nonnative species include cranesbill (*Geranium dissectum*), red-stemmed filaree (*Erodium cicutarium*), Mediterranean barley, bird's-foot trefoil, red sandspurry (*Spergularia rubra*), and bull thistle (*Cirsium vulgare*), among others. Northern coastal salt marsh conforms to the saltgrass flats and pickleweed flats as described in Sawyer, Keeler-Wolf, and Evens (2009) and would be classified as estuarine intertidal emergent persistent wetland following Cowardin et al. (1979).

In addition to hydrophytic vegetation, northern coastal saltmarsh identified on site generally displayed low chroma color soils, inundated and/or saturated soils, free water where soil pits were dug, watermarks, drift lines, and drainage patters. These areas meet the three parameter wetland criteria. The Runway Wetland and West Wetland saltmarshes are tidally influenced and are subject to USACE jurisdiction under Section 404 of the CWA as wetlands adjacent to a TNW. Most if not all of the remaining saltmarsh areas are hydrologically connected to San Francisco Bay through storm drains. Additionally their adjacency to the Bay could be considered to provide significant nexus; therefore these wetlands are likely subject to USACE jurisdiction under Section 404 of the CWA.

### SEASONAL WETLAND

Seasonal wetlands support annual and perennial native and nonnative wetland indicator plant species. This plant association typically resembles a wetland community only following the wet season; it dries up rapidly with the onset of summer and the wetland indicator species go dormant. During the dry season, such sites may not be readily recognizable as wetland species go to seed and typical upland grasses and forbs become established.

On site, seasonal wetlands occur where water ponds and soils remain saturated during the growing season (Photos 1, 4, and 5, Appendix B). Seasonal wetlands are found primarily in the Main Runway Area between the runways of the former airfield and along the western side of the site (Exhibit 3-1). Plant species found in seasonal wetlands on site include nonnative species such as tall fescue (*Festuca arundinacea*), velvet grass (*Holcus lanatus*), Bermuda grass (*Cynodon dactylon*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), annual bluegrass (*Poa annua*), Italian ryegrass (*Lolium multiflorum*), and loosestrife (*Lythrum hyssopifolia*). Native species present include common nut-sedge (*Cyperus eragrostis*), Baltic rush (*Juncus balticus*), creeping spikerush (*Eleocharis macrostachya*), and toad rush (*Juncus bufonius*). Dominant vegetation documented along the western side of the site includes willow dock (*Rumex salicifolius*), bird's foot trefoil (*Lotus corniculatus*), creeping spikerush, and saltgrass (Tetra Tech 2004). Seasonal wetland is not specifically described in Holland (1986). On site, seasonal wetland does not conform to any specific series as classified by Sawyer,

Keeler-Wolf, and Evens (2009); it would be classified as estuarine seasonally flooded wetland following Cowardin *et al.* (1979).

In addition to hydrophytic vegetation, seasonal wetlands identified on site generally displayed low chroma color soils, inundated and/or saturated soils, a high groundwater table, free water where soil pits were dug, watermarks, drift lines, and drainage patterns. These areas meet the three parameter wetland criteria and most if not all are hydrologically connected to San Francisco Bay through storm drains. Additionally their adjacency to the Bay could be considered to provide significant nexus, therefore these wetlands are likely subject to USACE jurisdiction under Section 404 of the CWA.

### 3.3 NONJURISDICTIONAL HABITATS

The larger study area totals approximately 623.33 acres. Most of the study area is composed of potentially nonjurisdictional habitats (Table 3-2). Potentially nonjurisdictional habitats within the study area include ruderal-disturbed and nonnative grassland (Appendix C). These habitats are potentially nonjurisdictional under Section 404 of the CWA because they lack one or more of the three criteria, which define wetlands: a hydrophytic plant assemblage, hydric soils, and/or wetland hydrology. The conclusions of this delineation are contingent upon verification by the San Francisco District USACE.

#### 3.3.1 RUDERAL-DISTURBED

Ruderal vegetation is typical of disturbed lands on which the native vegetation has been completely removed by human activities such as grading, disking, cultivation, or other surface disturbances. Disturbed areas, if left undeveloped, may become recolonized by exotic species as well as native species. Native vegetation may ultimately become at least partially restored if the soils are left intact and there is no further disturbance. The entire study area sits on fill. The majority of the study area has been severely disturbed by cut and fill operations and by grading and paving in the Main Runway area. Limited vegetation is present in the paved areas in cracks and potholes and the paved areas are displayed separately from the ruderal-disturbed vegetated areas in the exhibit in Appendix C.

<b>Table 3-2 Potentially Non-jurisdictional Features</b>	
<b>Upland Habitats</b>	
Nonnative Annual Grassland	234.13
Ruderal - Disturbed Vegetated	61.89
Ruderal - Disturbed Paved	372.46
Rip rap	7.05
<b>Total Potentially Nonjurisdictional Features</b>	<b>675.53</b>
Source: Data compiled by AECOM 2012	

Ruderal-disturbed vegetation on-site is characterized by large expanses of nearly solid iceplant to large patches of iceplant interspersed with bare ground (Photo 1, Appendix B). Other species present are rosy iceplant (*Drosanthemum floribundum*) and wooly sunflower (*Eriophyllum* sp.). In the upland areas ruderal-disturbed habitat intergrades with nonnative grassland habitat. In these areas, patches of iceplant are interspersed with grasses and forbs typical of the nonnative grassland habitat described below.

On site, ruderal-disturbed vegetation most closely conforms to the Iceplant series as described by Sawyer, Keeler-Wolf, and Evens (2009). Ruderal vegetation on site would be classified as upland following Cowardin et al. (1979). No evidence of wetland hydrology was identified at the time of the field survey in ruderal areas. Because this habitat type lacks an assemblage of hydrophytic plants and lacks evidence of wetland hydrology, this area is not likely subject to USACE jurisdiction under Section 404 of the CWA.

### **3.3.2 NONNATIVE GRASSLAND**

Nonnative grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland 1986). Nonnative grasses and weedy annual and perennial forbs, primarily of Mediterranean origin, dominate this vegetation type, probably as a result of human disturbance. Scattered native grass and wildflower species, representing remnants of the original vegetation may also be common.

Within the study area, nonnative grassland occurs in the upland areas across the site.

On site, nonnative grassland is a patchwork of perennial and annual grasses that intergrades or forms ecotones with ruderal-disturbed habitat, seasonal wetlands, and salt marsh (Photos 1-4, Appendix B). Highly scattered coyote brush is also present. Characteristic perennial and annual grasses commonly found include tall fescue (*Festuca arundinacea*), velvet grass (*Holcus lanatus*), Mediterranean barley, Bermuda grass (*Cynodon dactylon*), saltgrass, Italian ryegrass (*Lolium multiflorum*), soft chess (*Bromus hordeaceus*), pampas grass (*Cortaderia selloana*), and annual bluegrass (*Poa annua*). Common forbs found include cranesbill (*Geranium dissectum*), red-stemmed filaree (*Erodium cicutarium*), vetch (*Vicia* sp.), English plantain (*Plantago lanceolata*), iceplant, mustard (*Brassica* sp.), curly dock (*Rumex crispus*), and field bindweed (*Convolvulus arvensis*).

The dominant forbs documented along the western side of the site includes seaside trefoil (*Lotus formosissimus*), fennel (*Foeniculum vulgare*), yellow star thistle (*Centaurea solstitialis*), mustard (*Brassica rapa*), ice plant, and coyote along the west side of the site include Bermuda grass, broad-leaf peppergrass (*Lepidium latifolium*), hare barley (*Hordeum murinum* ssp. *leporinum*), rip-gut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*), bull thistle, annual fescue (*Vulpia* spp.) red-stemmed filaree, and white sweet-clover (*Melilotus alba*), among others (Tetra Tech 2004). On site, nonnative grassland does not conform to any specific series as classified by Sawyer, Keeler-Wolf, and Evens (2009) and would be classified as an upland following Cowardin et al. (1979). Nonnative grassland habitat is not likely subject to USACE jurisdiction under Section 404 of the CWA because this habitat type lacks evidence of wetland hydrology.

## **3.4 PRELIMINARY FINDINGS**

As indicated on Exhibit 3-1 and in Table 3-1 there are 75.34 acres of potentially jurisdictional features within the study area. The study area contains 19.51 acres of TNW including the San Francisco Bay and unvegetated waters and 55.83 acres of northern coastal saltmarsh and seasonal wetland habitat located adjacent to and may directly

connect to San Francisco Bay and are therefore likely subject to USACE jurisdiction under Section 404 of the CWA as wetlands. The VA Development Area includes wetlands abutting and adjacent to TNW consisting of 1.10 acres of northern coastal saltmarsh and 10.42 acres of seasonal wetland habitat which may directly connect to San Francisco Bay and are therefore likely subject to USACE jurisdiction under Section 404 of the CWA as wetlands. The results of this delineation are contingent upon verification by the San Francisco District USACE.

## 4 PERMITTING IMPLICATIONS

Riparian areas, wetlands, other waters of the United States, waters of the State, special-status species, and sensitive natural communities are considered sensitive biological resources and fall under the jurisdiction of several federal and state regulatory agencies. Impacts or potential impacts to these resources often require federal, state, and/or local permits, depending on the type and extent of project impacts. As this project is proposed by a federal agency on federal property, this discussion will focus only on federal agencies.

### 4.1 FEDERAL JURISDICTION – UNITED STATES ARMY CORPS OF ENGINEERS

Section 404 of the Clean Water Act of 1972 regulates activities that result in the discharge of dredged or fill material into waters of the United States, including wetlands. The primary intent of the Clean Water Act is to authorize the U.S. Environmental Protection Agency to regulate water quality through the restriction of pollution discharges, which includes sediments. USACE has the principal authority to regulate discharges of dredged or fill material into waters of the United States. However, the U.S. Environmental Protection Agency has oversight authority over USACE and retains veto power over USACE decision to issue permits.

Waters of the United States include: (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; (4) tributaries of the above; and (5) territorial seas.

Federal jurisdictional wetlands are defined as those areas that are inundated or saturated by surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, vernal pools, seeps, marshes and similar areas.

Because of the Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, USACE no longer takes jurisdiction over “isolated” wetlands and waters. USACE does take jurisdiction over “adjacent wetlands,” which are hydrologically connected to navigable waters or tributaries of navigable water, even if such wetlands appear to otherwise be “isolated.”

Any discharge of dredged or fill material into waters of the United States must be approved by USACE pursuant to Section 404 of the Clean Water Act. Two permit types are possible:

1. Individual Permits; or
2. Nationwide Permits, which cover specific categories of activities. Nationwide Permits are generally less time-consuming than the Individual Permit. Nationwide Permits may be grouped together or “stacked” with certain limitations.

For residential, commercial, and institutional development projects, a standard Individual Permit is required if there are:

1. discharges that will result in the fill of any tidal waters or wetlands; or
2. impacts to more than one-half acre of non-tidal waters or wetlands, and/or impacts to greater than 300 linear feet of non-tidal waters or wetlands, including creeks (either perennial, intermittent or ephemeral), arroyos or vegetated and unvegetated tributaries.

In contrast, such projects that result in impacts of less than one-half acre and/or less than 300 linear feet may be authorized under one of the existing USACE Nationwide Permits if they meet all of the Nationwide Permit General Conditions.

Regardless of the permits required, it is understood that careful project design and efforts to avoid and minimize impacts to special-status species and wetland resources will streamline the permitting process and significantly improve the likelihood of project approval.

## **4.2 FEDERAL JURISDICTION - UNITED STATES FISH AND WILDLIFE SERVICE & NATIONAL MARINE FISHERIES SERVICE**

The Federal Endangered Species Act (ESA) prohibits “take” of federally listed threatened or endangered wildlife species. The ESA defines “take” to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct” (16 U.S.C. §1532(19)). The ESA requires that actions authorized, funded or carried out by federal agencies do not jeopardize the continued existence of a federally listed species or adversely modify designated critical habitat for such species. If a federal agency determines that a proposed federal action (i.e., issuance of a Clean Water Act Section 404 permit for wetland fill) “may affect” a listed species and/or designated critical habitat, the agency must consult with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) for protected marine and anadromous fish species in accordance with Section 7 of the ESA. If take of a federally listed species may occur, the applicant may be required to obtain an Incidental Take Permit from USFWS and/or NMFS. Such take authorization is available through the Section 7 consultation process for projects involving a federal action. The Incidental Take Permit allows taking of federally listed species if the take is “incidental to and not the purpose of, the carrying out of an otherwise lawful activity” (16 U.S.C. §1539(a)(1)(B)).

The USFWS has been intimately involved in the review of proposed development options that have been explored on the site for several years. The Navy and the VA requested formal section 7 consultation for the VA proposed project and the City’s redevelopment at NAS Alameda on May 24, 2012. A signed Biological Opinion (BO) was issued by USFWS on August 29, 2012 concluding formal consultation which included an Incidental Take Statement with reasonable and prudent measures and terms and conditions along with Conservation Recommendations.

## 5 REFERENCES

- Baldwin, Bruce G, Douglas H. Goldman, David J Keil, Robert Patterson, Thomas J. Rosatti, Editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley.
- Battelle and BBL, Inc. 2008. *Feasibility Study Report IR Site 2, West Beach Landfill and Wetlands, Alameda Point, California. Contract No. N68711-01-D-6009, Project No. G601507, DCN: BATL-6009-0007-0002.R1*. Prepared for Base Alignment and Closure Program Management Office West, San Diego, California. April 10, 2008.
- California Department of Water Resources. 2012. California Data Exchange Center. Daily accumulated precipitation data for San Leandro Bay. Available: < [http://cdec.water.ca.gov/cgi-progs/staMeta?station\\_id=SLE](http://cdec.water.ca.gov/cgi-progs/staMeta?station_id=SLE)>. Accessed April 3, 2012.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 131 pp.
- DWR. *See* California Department of Water Resources.
- Environmental Laboratory. 1987. *U.S. Army Corps of Engineers Wetlands Delineation Manual*. (Technical Report Y-87-1.) Vicksburg, MS: U.S. Army Corps of Engineers, Waterways Experiment Station. Vicksburg, Miss. January. 100 pp.
- Grumbles, B. H., and J. P. Woodley, Jr. 2008 (December 2). *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States*. Memorandum to U.S. Environmental Protection Agency regions and U.S. Army Corps of Engineers districts. Washington, DC.
- Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency. 156 pp.
- Natural Resource Conservation Service (NRCS). 2012a. *Hydric Soils of the United States* Available: <<http://soils.usda.gov/use/hydric/>>. April.
- . 2012b. Web Soil Survey (Version 2.2). Available: <<http://websoilsurvey.nrcs.usda.gov/>>. Accessed April 3, 2012
- NRCS. *See* Natural Resource Conservation Service.
- Reed, P. B., Jr. 1988. *National List of Plant Species That Occur In Wetlands: California (Region 0)*. Biological report 88 (26.10). National Wetlands Inventory, U.S. Fish and Wildlife Service. Fort Collins, CO.
- Robertson-Bryan, Inc. 2011 (March). *Lower Cosumnes River Floodplain Restoration Project: 10-Year Flood Modeling Results*. Elk Grove, CA.

- Sawyer, J.O., T. Keeler-Wolf and J. M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. California Native Plant Society, Sacramento. 1300 pp.
- Tetra Tech, Inc. 2004. *Wetland Delineation Report for Installation Restoration Site 1. 1943-1956 Disposal Area and Site 2, (1952-1978) West Beach Landfill, Alameda Point, Alameda, California*. CTO-0087. DCN: FWSA-RAC-05-0037. Prepared for: Department of the Navy, Base Realignment and Closure Program Management Office West, San Diego, California. December.
- USACE. *See* U.S. Army Corps of Engineers.
- U.S. Army Corps of Engineers. 2005 (December 7). *Ordinary High Water Mark Identification*. Regulatory Guidance Letter No. 05-05.
- . 2006. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- . 2007. *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*. Washington, DC.
- . 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- . 2008b (June 26). *Jurisdictional Determinations* Regulatory Guidance Letter No. 08-02.
- USDA. *See* U.S. Department of Agriculture.
- United States Department of Agriculture. 1981. *Soil Survey of Alameda County, Western Part, California*. Natural Resource Conservation Service. March.
- . 2010. *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils*, Version 7.0. Natural Resources Conservation Service.
- . 2012. (April). National Hydric Soils List. Natural Resources Conservation Service. Available: < <http://soils.usda.gov/use/hydric/> >. Accessed April 3, 2012.
- Vepraskas, M. J. 1992. *Redoximorphic Features for Identifying Aquic Conditions*. Technical bulletin 301. North Carolina Agricultural Research Service, North Carolina State University. Raleigh, NC.

# **APPENDIX A**

---

Wetland Delineation Data Forms



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 2/20/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P1  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	
Total Cover: _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
<u>Sapling/Shrub Stratum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				<b>Prevalence Index worksheet:</b>
1. <u>Distichlis spicata</u>	<u>45</u>	<u>Y</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Salicornia virginica</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
6. _____	_____	_____	_____	UPL species _____ x 5 = _____
7. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = _____
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>50%</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 2/20/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P2  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Distichlis spicata</u>	35	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Hordeum marinum ssp. gussonionum</u>	65	Y	FAC	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>100%</u>				
<b>Woody Vine Stratum</b>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 2/20/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P3  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Distichlis spicata</u>	40	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Festuca arundinacea</u>	50	Y	FAC	
3. <u>Geranium dissectum</u>	10	N	Not Listed	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>100%</u>				
<u>Woody Vine Stratum</u>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 2/20/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P4  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</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>0.0%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Bromus hordeaceus</u>	40	Y	FACU	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Erodium cicutarium</u>	15	Y	Not Listed	
3. <u>Geranium dissectum</u>	5	N	Not Listed	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>60%</u>				
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>40%</u> Cover of Biotic Crust _____				
Remarks: _____				

**SOIL**

Sampling Point:  P4

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	2.5 Y 4/2						Sand/Gravel	

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 2/20/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P5  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Holcus lantus</u>	30	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Geranium dissectum</u>	5	N	Not Listed	
3. <u>Hordeum marinum ssp gussonianum</u>	30	Y	FAC	
4. <u>Festuca arundinacea</u>	25	Y	FAC	
5. <u>Vicia sativa</u>	1	N	FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>91%</u>				
<u>Woody Vine Stratum</u>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P6  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Holcus lantus</u>	85	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Rumex acetosella</u>	5	N	FAC	
3. <u>Hordeum marinum ssp gussonianum</u>	5	N	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>95%</u>				
<b>Woody Vine Stratum</b>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>5%</u> Cover of Biotic Crust _____				
Remarks:				



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P7  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Holcus lantus</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Erodium cicutarium</u>	<u>1</u>	<u>N</u>	<u>Not Listed</u>	
3. <u>Hordeum marinum ssp gussonianum</u>	<u>80</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Convolvulus arvensis</u>	<u>5</u>	<u>N</u>	<u>Not Listed</u>	
5. <u>Geranium dissectum</u>	<u>3</u>	<u>N</u>	<u>Not Listed</u>	
6. <u>Distichlis spicata</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>109%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____		Cover of Biotic Crust _____		
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P8  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Cyperus eragrostis</u>	<u>5</u>	<u>Y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>5%</u>				
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>95%</u> Cover of Biotic Crust _____				
Remarks:				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P9  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Carpobrotus edulis</u>	<u>60</u>	<u>Y</u>	<u>Not Listed</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>60%</u>				
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>40%</u> Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P10  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### 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>2</u> (A)
2. _____	_____	_____	_____	
Total Cover: _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
<b>Sapling/Shrub Stratum</b>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				<b>Prevalence Index worksheet:</b>
1. <u>Distichlis spicata</u>	<u>15</u>	<u>N</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Festuca arundinacea</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	OBL species _____ x 1 = _____
3. <u>Cynodon dactylon</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
6. _____	_____	_____	_____	UPL species _____ x 5 = _____
7. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = _____
9. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
Total Cover: <u>70%</u>				<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
<b>Woody Vine Stratum</b>				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
1. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____	Cover of Biotic Crust _____			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks:				

**SOIL**

Sampling Point:  P10

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 <sup>1</sup>	Loc <sup>2</sup>		
0-2	10 YR 3/2						Sand	
2-18	2.5 Y 4/2						Sand	

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P11  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Cortaderia selloana</u>	30	Y	Not Listed	
2. <u>Epilobium ciliatum</u>	15	Y	FACW	
3. <u>Anagallis arvensis</u>	5	N	FAC	
4. <u>Gnaphalium canescens ssp</u>	1	N	Not Listed	
5. <u>Juncus bufonius var bufonius</u>	15	Y	FACW	
6. <u>Lotus corniculatus</u>	5	N	FAC	
7. <u>Geranium dissectum</u>	1	N	Not Listed	
8. <u>Paraentocellia latifolia</u>	1	N	Not Listed	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>73%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>10%</u> Cover of Biotic Crust _____				
Remarks: _____				

**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 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: \_\_\_\_\_ (A) \_\_\_\_\_ (B)  
 Prevalence Index = B/A = \_\_\_\_\_

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

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

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

**SOIL**

Sampling Point:  P11

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-1	10 YR 3/2						Sand	
1-18	2.5 Y 4/2						Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

- 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<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

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

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks: Soil is xeropsamment fill (beach sand). Soil is hydric in depressions. Point is elevated slightly above p10.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

**Secondary Indicators (2 or more required)**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No \_\_\_\_\_ Depth (inches):  11  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches):  0  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

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

Remarks: Free water at 11". Surface moist but not saturated. Soil does not remain saturated for a significant portion of the growing season.

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P12  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03" W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Cyperus eragrostis</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Holcus lanatus</u>	<u>75</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Cynodon dactylon</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>81%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks:				

**SOIL**

Sampling Point:  P12

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-1.5	10 YR 3/2						Sand	
2.5-18	2.5 Y 4/2						Sand	
				</				

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P13  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Holcus lantus</u>	50	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Erodium cicutarium</u>	1	N	Not Listed	
3. <u>Plantago lanceolata</u>	10	N	FAC	
4. <u>Plantago coronopus</u>	1	N	FAC	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>62%</u>				
<u>Woody Vine Stratum</u>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/3/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P14  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Holcus lantus</u>	10	N	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Erodium cicutarium</u>	3	N	Not Listed	
3. <u>Juncus bufonius</u>	40	Y	FACW	
4. <u>Plantago coronopus</u>	1	N	FAC	
5. <u>Lotus corniculatus</u>	40	Y	FAC	
6. <u>Cerastium fontanum</u>	1	N	FACU	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>95%</u>				
<b>Woody Vine Stratum</b>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P15  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)														
2. _____	_____	_____	_____															
Total Cover: _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)														
<u>Sapling/Shrub Stratum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
Total Cover: _____																		
<u>Herb Stratum</u>				<b>Prevalence Index worksheet:</b>														
1. <u>Bromus hordeaceus</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Total % Cover of: _____</td> <td style="width: 50%;">Multiply by: _____</td> </tr> <tr> <td>OBL species _____ x 1 = <u>0</u></td> <td></td> </tr> <tr> <td>FACW species _____ x 2 = <u>0</u></td> <td></td> </tr> <tr> <td>FAC species <u>33</u> x 3 = <u>99</u></td> <td></td> </tr> <tr> <td>FACU species <u>20</u> x 4 = <u>80</u></td> <td></td> </tr> <tr> <td>UPL species <u>16</u> x 5 = <u>80</u></td> <td></td> </tr> <tr> <td>Column Totals: <u>69</u> (A)</td> <td><u>259</u> (B)</td> </tr> </table>	Total % Cover of: _____	Multiply by: _____	OBL species _____ x 1 = <u>0</u>		FACW species _____ x 2 = <u>0</u>		FAC species <u>33</u> x 3 = <u>99</u>		FACU species <u>20</u> x 4 = <u>80</u>		UPL species <u>16</u> x 5 = <u>80</u>		Column Totals: <u>69</u> (A)	<u>259</u> (B)
Total % Cover of: _____	Multiply by: _____																	
OBL species _____ x 1 = <u>0</u>																		
FACW species _____ x 2 = <u>0</u>																		
FAC species <u>33</u> x 3 = <u>99</u>																		
FACU species <u>20</u> x 4 = <u>80</u>																		
UPL species <u>16</u> x 5 = <u>80</u>																		
Column Totals: <u>69</u> (A)	<u>259</u> (B)																	
2. <u>Erodium cicutarium</u>	<u>15</u>	<u>Y</u>	<u>Not Listed</u>															
3. <u>Rumex acetosella</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>															
4. <u>Plantago lanceolata</u>	<u>3</u>	<u>N</u>	<u>FAC</u>															
5. <u>Lupinus nanus</u>	<u>1</u>	<u>N</u>	<u>NI</u>															
6. <u>Lotus corniculatus</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
Total Cover: <u>69%</u>				Prevalence Index = B/A = <u>3.75</u>														
<u>Woody Vine Stratum</u>				<b>Hydrophytic Vegetation Indicators:</b>														
1. _____	_____	_____	_____	_____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)														
2. _____	_____	_____	_____															
Total Cover: _____																		
% Bare Ground in Herb Stratum <u>15%</u>	Cover of Biotic Crust _____			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.														
				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>														
Remarks: _____																		



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P16  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Festuca arundinacea</u>	75	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Holcus lanatus</u>	20	Y	FAC	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>95%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks:				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P17  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03" W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### 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>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
Total Cover: _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
<b>Sapling/Shrub Stratum</b>				<b>Prevalence Index worksheet:</b> 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 = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Distichlis spicata</u>	80	Y	FACW	
2. <u>Erodium cicutarium</u>	3	N	Not Listed	
3. <u>Rumex acetosella</u>	10	N	FAC	
4. <u>Holcus lanatus</u>	5	N	FAC	
5. <u>Vicia sativa</u>	1	N	FACU	
6. <u>Geranium dissectum</u>	1	N	Not Listed	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>100%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____	Cover of Biotic Crust _____			
<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____				
Remarks: _____				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P18  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Distichlis spicata</u>	40	Y	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Erodium cicutarium</u>	2	N	Not Listed	
3. <u>Rumex acetosella</u>	10	N	FAC	
4. <u>Holcus lanatus</u>	5	N	FAC	
5. <u>Lotus corniculatus</u>	1	N	FAC	
6. <u>Geranium dissectum</u>	1	N	Not Listed	
7. <u>Juncus bufonicus var bufornicus</u>	30	Y	FACW	
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>89%</u>				
<b>Woody Vine Stratum</b>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks:				



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P19  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### 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>2</u> (A)	
2. _____	_____	_____	_____		
Total Cover: _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
<b>Sapling/Shrub Stratum</b>				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
Total Cover: _____					Total % Cover of: _____ Multiply by: _____
<b>Herb Stratum</b>				OBL species _____ x 1 = _____	
1. <u>Festuca arundinacea</u>	20	Y	FAC	FACW species _____ x 2 = _____	
2. <u>Vicia sativa</u>	1	N	FACU	FAC species _____ x 3 = _____	
3. <u>Plantago coronopus</u>	1	N	FAC	FACU species _____ x 4 = _____	
4. <u>Holcus lanatus</u>	3	N	FAC	UPL species _____ x 5 = _____	
5. <u>Lotus corniculatus</u>	10	Y	FAC	Column Totals: _____ (A) _____ (B)	
6. <u>Juncus bufonicus var bufornicus</u>	2	N	FACW	Prevalence Index = B/A = _____	
7. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b>	
8. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
9. _____	_____	_____	_____		<input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
10. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Total Cover: <u>37%</u>				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
% Bare Ground in Herb Stratum <u>30%</u> Cover of Biotic Crust _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
<b>Woody Vine Stratum</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
Total Cover: _____					
Remarks: _____					



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P20  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>50%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>12</u> x 5 = <u>60</u> Column Totals: <u>43</u> (A) <u>154</u> (B) Prevalence Index = B/A = <u>3.58</u>
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Cynodon dactylon</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Raphanus lanceolata</u>	<u>2</u>	<u>N</u>	<u>Not Listed</u>	
3. <u>Rumex acetosella</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Vicia sativa</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5. <u>Geranium dissectum</u>	<u>10</u>	<u>Y</u>	<u>Not Listed</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
Total Cover: <u>43%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>30%</u> Cover of Biotic Crust _____				
Remarks: _____				



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P21  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> 1. _____ 2. _____ Total Cover: _____				
<b>Herb Stratum</b> 1. <u>Epilobium ciliatum</u> 1 N FACW 2. <u>Holcus lanatus</u> 35 Y FAC 3. <u>Festuca arundinacea</u> 15 Y FAC 4. <u>Melilotus alba</u> 15 Y FACU 5. <u>Cortaderia selloana</u> 10 N Not Listed 6. <u>Carpobrotus edulis</u> 5 N Not Listed 7. <u>Brassica nigra</u> 5 N Not Listed 8. <u>Anagallis arvensis</u> 3 N FAC 9. <u>Plantago lanceolata</u> 5 N FAC 10. <u>Geranium dissectum</u> 2 N Not Listed 11. <u>Lotus corniculatus</u> 1 N FAC Total Cover: <u>97%</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<b>Woody Vine Stratum</b> 1. _____ 2. _____ Total Cover: _____  % Bare Ground in Herb Stratum _____ Cover of Biotic Crust _____				
Remarks: _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P22  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<u>Sapling/Shrub Stratum</u>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Distichlis spicata</u>	5	N	FACW	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Festuca arundinacea</u>	90	Y	FAC	
3. <u>Holcus lanatus</u>	5	N	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>100%</u>				
<u>Woody Vine Stratum</u>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks: _____				

**SOIL**

Sampling Point:  P22

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 <sup>1</sup>	Loc <sup>2</sup>		
10	10 YR 3/2						Sand	
>10	2.5 Y 4/2						Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix.    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Other (Explain in Remarks)
<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)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

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

Remarks: Soil is xeropsamment fill (beach sand). Soil is hydric in depressions. Data point is a low spot.

**HYDROLOGY**

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<b>Primary Indicators (any one indicator is sufficient)</b> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Biotic Crust (B12) <input 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 type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)	<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 checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No free water to 18", but surface saturation. Water table is at or above 12" for a significant portion of the growing season.	

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P23  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

### VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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 = _____
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Carpobrotus edulis</u>	35	Y	Not Listed	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Lotus corniculatus</u>	10	N	FAC	
3. <u>Anagallis arvensis</u>	1	N	FAC	
4. <u>Plantago lanceolata</u>	5	N	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover: <u>51%</u>				
<b>Woody Vine Stratum</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum <u>20%</u> % Cover of Biotic Crust _____				
Remarks:				



**WETLAND DETERMINATION DATA FORM – Arid West Region**

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/10/2008  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: P24  
 Investigator(s): Kristin Asmus and Jason Phillips Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): coastal flat Local relief (concave, convex, none): none Slope (%): <5  
 Subregion (LRR): C – Mediterranean California Lat: 37°47'08" N Long: 122°19'03"W Datum: \_\_\_\_\_  
 Soil Map Unit Name: xeropsamment fill NWI classification: \_\_\_\_\_

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

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

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

**VEGETATION**

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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%</u> (A/B)
2. _____	_____	_____	_____	
Total Cover: _____				
<b>Sapling/Shrub Stratum</b>				
1. _____				<b>Prevalence Index worksheet:</b> 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 = _____
2. _____				
Total Cover: _____				
<b>Herb Stratum</b>				
1. <u>Carpobrotus edulis</u>	<u>1</u>	<u>N</u>	<u>Not Listed</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Lotus corniculatus</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Anagallis arvensis</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
4. <u>Plantago coronopus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
5. <u>Parentucellia latifolia</u>	<u>5</u>	<u>N</u>	<u>Not Listed</u>	
6. <u>Rumex acetosella</u>	<u>2</u>	<u>N</u>	<u>FAC</u>	
7. <u>Bromus madritensis ssp Medritensis</u>	<u>1</u>	<u>N</u>	<u>NI</u>	
8. _____				
9. _____				
10. _____				
11. _____				
Total Cover: <u>49%</u>				
<b>Woody Vine Stratum</b>				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum <u>40%</u> % Cover of Biotic Crust _____				
Remarks: _____				

**SOIL**

Sampling Point:  P24

**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 <sup>1</sup>	Loc <sup>2</sup>		
0-1	10 YR 3/2						Sand	
>1	2.5 Y 4/2						Sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix. <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

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

- 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<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present.

**Restrictive Layer (if present):**

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

**Hydric Soil Present?** Yes \_\_\_\_\_ No

Remarks: Soil is xeropsamment fill (beach sand). Soil is hydric in depressions. Point is elevated above P21.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? (includes capillary fringe) Yes  No \_\_\_\_\_ Depth (inches): 10

**Wetland Hydrology Present?** Yes \_\_\_\_\_ No

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

Remarks: Soil is moist to 10" and saturated >10". Soil does not remain saturated for a significant portion of the growing season.

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 26  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks:	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> 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</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum (Plot size: <u>20'x20'</u>)</b>				
1. <u>Salix lasiolepis</u>	<u>5</u>	<u>y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>10'x10'</u>)</b>				
1. <u>Distichlis spicata</u>	<u>70</u>	<u>y</u>	<u>FACW</u>	
2. <u>Eleocharis macrostachys</u>	<u>30</u>	<u>y</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____				
Remarks:  photo 221.				

**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 <sup>1</sup>	Loc <sup>2</sup>		

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

<p><b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) <b>(LRR C)</b></p> <p><input type="checkbox"/> 1 cm Muck (A9) <b>(LRR D)</b></p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> Vernal Pools (F9)</p>	<p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> 1 cm Muck (A9) <b>(LRR C)</b></p> <p><input type="checkbox"/> 2 cm Muck (A10) <b>(LRR B)</b></p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
---	--	---

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

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

Remarks:  
No soil pit. Surface water present.

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (minimum of one required; check all that apply)</p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b></p> <p><input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b></p> <p><input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p>Secondary Indicators (2 or more required)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Biotic Crust (B12)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b></p> <p><input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b></p> <p><input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b></p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Shallow Aquitard (D3)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><b>Field Observations:</b></p> <p>Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3"</u></p> <p>Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____</p>		<p><b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b></p>	

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 27  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>x</u> Hydric Soil Present? Yes _____ No <u>x</u> Wetland Hydrology Present? Yes _____ No <u>x</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>x</u>
Remarks: <b>Ruderal habitat with compacted soils associated with past land use.</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>0</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				<b>Prevalence Index worksheet:</b> _____ 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 = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>10x10</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>
1. <u>Bromus madritensis</u>	10	y	NI	
2. <u>Lactuca serriola</u>	4	n	FAC	
3. <u>Brassica nigra</u>	20	y	NL	
4. <u>Hordeum murinum</u>	5	n	NL	
5. <u>Geranium dissectum</u>	10	y	NL	
6. _____	1	n	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
50 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>50</u> % Cover of Biotic Crust _____				

Remarks:  
**photo 223**

**SOIL**

Sampling Point: 27

**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 <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: 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<sup>3</sup>:**

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

<sup>3</sup>Indicators 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   x  

Remarks:

No soil pit. Surface is compacted fill with gravel on top.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

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

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

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 28  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>x</u> No _____ Hydric Soil Present? Yes <u>x</u> No _____ Wetland Hydrology Present? Yes <u>x</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>x</u> No _____
Remarks: <b>Seasonal Wetland (F)</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum (Plot size: <u>10x10</u>)</b>				
1. <u>Salix lasiolepis</u>	<u>3</u>	<u>n</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>3</u> = Total Cover				
<b>Herb Stratum (Plot size: <u>10'x10'</u>)</b>				
1. <u>Distichlis spicata</u>	<u>7</u>	<u>y</u>	<u>FACW</u>	
2. <u>Lotus corniculatus</u>	<u>3</u>	<u>n</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>10</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>		% Cover of Biotic Crust _____		
<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
<b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____				

Remarks:  
 mostly unvegetated.  
 (photo 226)

**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 <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: 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<sup>3</sup>:**

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

<sup>3</sup>Indicators 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 soil pit. Surface water present.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

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

- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- 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): \_\_\_\_\_  
 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: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 29  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>x</u> No _____ Hydric Soil Present? Yes <u>x</u> No _____ Wetland Hydrology Present? Yes <u>x</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>x</u> No _____
Remarks: <b>Seasonal Wetland (C &amp; B)</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Hydrophytic Vegetation Present?</b> Yes <u>x</u> No _____
Herb Stratum (Plot size: <u>10'x10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Distichlis spicata</u>	<u>20</u>	<u>y</u>	<u>FACW</u>	
2. <u>Lotus corniculatus</u>	<u>40</u>	<u>y</u>	<u>OBL</u>	
3. <u>Cortaderia seloana</u>	<u>10</u>	<u>n</u>	<u>NL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>30</u> % Cover of Biotic Crust _____				

Remarks:  
**photo 227.**



## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 30  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>x</u> Hydric Soil Present? Yes _____ No <u>x</u> Wetland Hydrology Present? Yes _____ No <u>x</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>x</u>
Remarks: <b>Ruderal habitat with compacted soils associated with past land use.</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>12</u> x 3 = <u>36</u> FACU species _____ x 4 = _____ UPL species <u>8</u> x 5 = <u>40</u> Column Totals: <u>20</u> (A) <u>76</u> (B) Prevalence Index = B/A = <u>3.8</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>10x10</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Lotus corniculatus</u>	<u>10</u>	<u>y</u>	<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Anagalis arvensis</u>	<u>2</u>	<u>n</u>	<u>FAC</u>	
3. <u>Erodium cicutarium</u>	<u>3</u>	<u>n</u>	<u>NL</u>	
4. <u>Brassica nigra</u>	<u>5</u>	<u>n</u>	<u>NL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>x</u>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust _____				

Remarks:  
**photo 229**

**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 <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: 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<sup>3</sup>:**

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

<sup>3</sup>Indicators 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   x  

Remarks:

No soil pit. Surface is compacted fill with gravel on top.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

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

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

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 31  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: <b>Seasonal Wetland (J)</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<b>Herb Stratum (Plot size: <u>10'x10'</u>)</b>				
1. <u>Distichlis spicata</u>	30	y	FACW	
2. <u>Eleocharis macrostachys</u>	10	y	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
40 = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60</u> % Cover of Biotic Crust _____				
Remarks: <b>Conyza canadensis</b> thatch also prevalent in wetland (FAC) photo 240.				

Hydrophytic Vegetation Present? Yes X No \_\_\_\_\_

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 <sup>1</sup>	Loc <sup>2</sup>		

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<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)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)

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

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

Remarks:  
 No soil pit. Surface water present.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input checked="" 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)
	<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)

<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No _____    Depth (inches): <u>3"</u> Water Table Present?    Yes _____    No _____    Depth (inches): _____ Saturation Present? (includes capillary fringe)    Yes _____    No _____    Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

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

Remarks:

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Alameda VA City/County: Alameda, Alameda County Sampling Date: 3/21/12  
 Applicant/Owner: Alameda Naval Station State: CA Sampling Point: 32  
 Investigator(s): S. Bennett and V. Germany Section, Township, Range: Oakland West - unsectioned  
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 0-2  
 Subregion (LRR): C – Mediterranean California Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: NAD 83  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: <b>Seasonal Wetland (O)</b>	

### VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover				<b>Prevalence Index worksheet:</b> _____ 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: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover					
Herb Stratum (Plot size: <u>10'x10'</u> )	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Distichlis spicata</u>	<u>60</u>	<u>y</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Rumex acetosella</u>	<u>2</u>	<u>n</u>	<u>FAC</u>		
3. <u>Geranium dissectum</u>	<u>10</u>	<u>n</u>	<u>NL</u>		
4. <u>Hordeum marinum ssp. gussoneanum</u>	<u>10</u>	<u>n</u>	<u>FAC</u>		
5. <u>Lotus corniculatus</u>	<u>10</u>	<u>n</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust _____					

Remarks:  
**photo 245**



## **APPENDIX B**

---

Representative Photographs





**Photo 1. March 3, 2008.** View northeast of ruderal-disturbed habitat dominated by iceplant, foreground; the Runway Wetland is in the background.



**Photo 2. February 20, 2008.** View west of seasonal wetland 4 (across center); nonnative grassland upland with scattered iceplant is seen in the background.



**Photo 3. February 20, 2008.** View west of salt marsh 3, dominated by saltgrass and pickleweed; swale is bordered by nonnative grassland.



**Photo 4. March 10, 2008.** View southeast of seasonal wetland 2 (foreground right) and associated nonnative grassland upland (background left); shovel stands in data point 16.



**Photo 5. February 20, 2008.** Seasonal wetland 8 intercepting groundwater in a depression; data point 2 is in foreground.



**Photo 6. February 20, 2008.** Data point 2; whitish area is surface of free water in the pit.



**Photo 7. February 20, 2008.** Upland data point 5 and immediate vicinity.



**Photo 8. February 20, 2008.** Upland data point 5; depth to free water is approximately 5 inches. On March 10, 14 days following a rain event, depth to saturation in the same area was approximately 12" with no free water in the soil pit.



**Photo 9. March 21, 2012. Stand of willows at SW23.**



**Photo 10, March 21, 2012. Vegetation in cracks of Main Runway area.**



**Photo 11.** March 21, 2012. Storm drain near SW32, typical of those found throughout the study area.

# **APPENDIX C**

---

Habitat Map





**HABITAT MAP – VEGETATED AND NON-VEGETATED COMMUNITIES**



## **APPENDIX D**

---

Species Observed



Species Observed		
Scientific Name	Common Name	Indicator Status <sup>1</sup>
<i>Anagallis arvensis</i>	scarlet pimpernel	FAC
<i>Baccharis pilularis</i> *	coyote brush	not listed
<i>Brassica nigra</i>	black mustard	not listed
<i>Bromus hordeaceus</i>	soft chess	FACU
<i>Bromus madritensis ssp madritensis</i>	Spanish brome	NI
<i>Carpobrotus edulis</i>	iceplant	not listed
<i>Cerastium fontanum</i>	mouse-eared chickweed	FACU
<i>Convolvulus arvensis</i>	field bindweed	not listed
<i>Cortaderia selloana</i>	Pampas grass	not listed
<i>Cynodon dactylon</i>	Bermuda grass	FAC
<i>Cyperus eragrostis</i> *	Common nut-sedge	OBL
<i>Distichlis spicata</i> *	saltgrass	FACW
<i>Eleocharis macrostachya</i>	common spikerush	OBL
<i>Epilobium ciliatum</i> *	northern willow herb	FACW
<i>Erodium cicutarium</i>	red-stemmed filaree	not listed
<i>Festuca arundinacea</i>	tall fescue	FAC
<i>Geranium dissectum</i>	cranesbill	not listed
<i>Gnaphalium canescens</i> *	everlasting cudweed	not listed
<i>Holcus lanatus</i>	velvet grass	FAC
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	FAC
<i>Hordeum murinum ssp. leporinum</i>	hare barley	not listed
<i>Juncus balticus</i> *	Baltic rush	OBL
<i>Juncus bufonius ssp. bufonius</i> *	toad rush	FACW
<i>Lactuca serriola</i>	prickly lettuce	FAC
<i>Lotus corniculatus</i>	Bird foot trefoil	FAC
<i>Lolium multiflorum</i>	Italian ryegrass	FAC
<i>Lupinus nanus</i> *	Douglas' lupine	NI
<i>Lythrum hyssopifolium</i>	loosestrife	FACW
<i>Melilotus alba</i>	White sweet-clover	FACU

Species Observed		
Scientific Name	Common Name	Indicator Status <sup>1</sup>
<i>Parentucellia latifolia</i>	broadleaf glandweed	not listed
<i>Plagiobothrys nothofulvus</i> *	rusty popcorn-flower	FAC
<i>Plantago coronopus</i>	cut-leaved plantain	FAC
<i>Plantago lanceolata</i>	English plantain	FAC
<i>Raphanus sativa</i>	wild radish	not listed
<i>Rumex acetosella</i>	sheep sorrel	FAC
<i>Salicornia virginica</i> *	pickleweed	OBL
<i>Salix lasiolepis</i> *	arroyo willow	FACW
<i>Vicia sativa</i>	common vetch	FACU

Notes:

\* Indicates native species

<sup>1</sup> Indicator Status Codes

OBL	Obligate Wetland	(occurs almost always under natural conditions in wetlands)
FACW	Facultative Wetland	(usually occurs in wetland but occasionally found in non-wetlands)
FAC	Facultative	(equally likely to occur in wetlands or non-wetlands)
FACU	Facultative Upland	(usually occurs in non-wetland but occasionally found in wetlands)
UPL	Obligate Upland	(occurs almost always under natural conditions in non-wetlands)
NI	No Indicator	insufficient information was available to determine an indicator status.
Not listed	not on National List of Plant Species that Occur in Wetlands, Region 0, California (Reed 1988).	

# **APPENDIX E**

---

Wetland Delineation Map



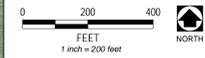
**VA Outpatient Clinic and National Cemetery Project  
at the Former Naval Air Station Alameda**

**Wetland Delineation Map**

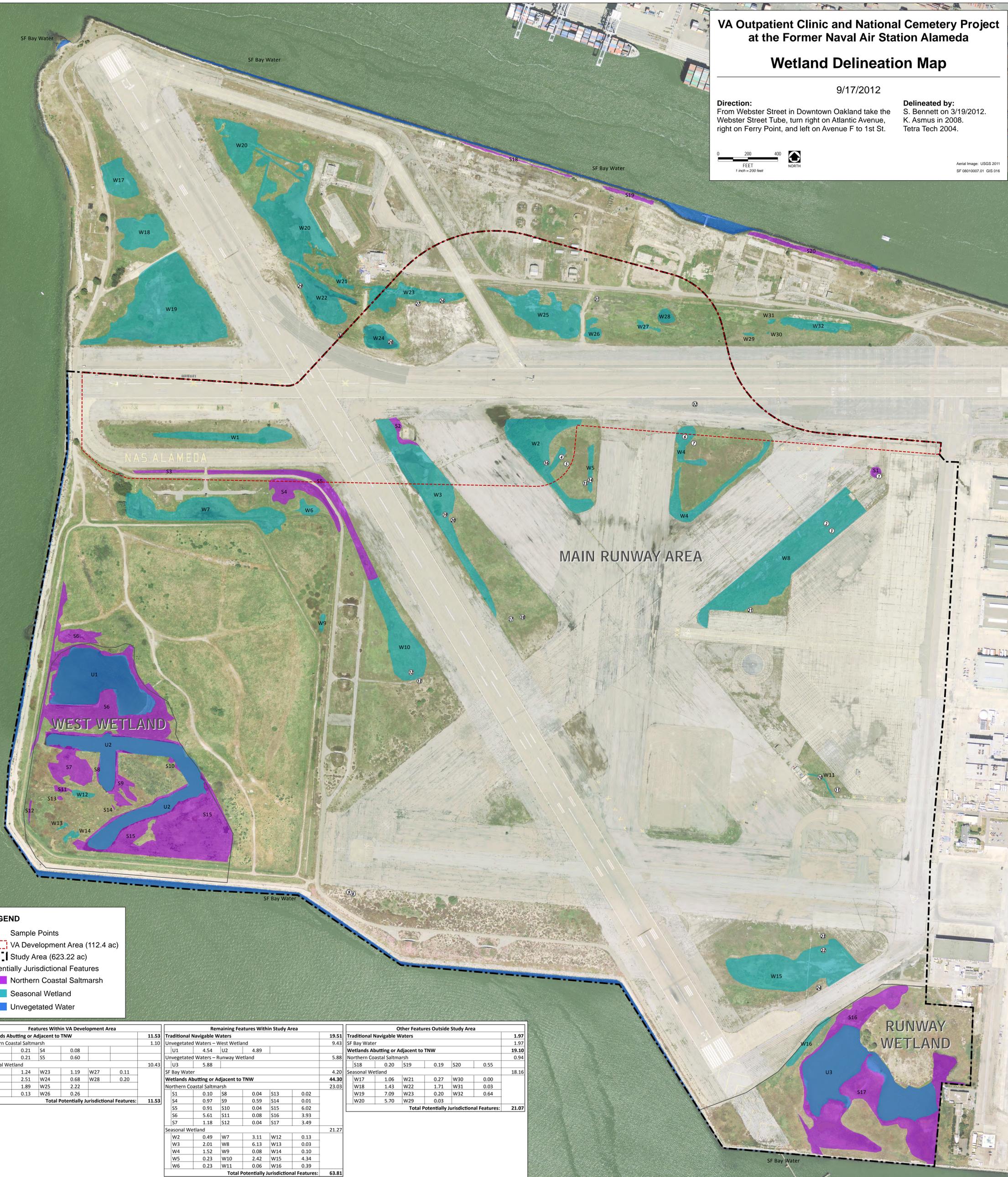
9/17/2012

**Direction:**  
From Webster Street in Downtown Oakland take the  
Webster Street Tube, turn right on Atlantic Avenue,  
right on Ferry Point, and left on Avenue F to 1st St.

**Delineated by:**  
S. Bennett on 3/19/2012.  
K. Asmus in 2008.  
Tetra Tech 2004.



Aerial Image: USGS 2011  
SF 08010007.01 GIS 016



**LEGEND**

- Sample Points
- VA Development Area (112.4 ac)
- Study Area (623.22 ac)
- Potentially Jurisdictional Features
  - Northern Coastal Saltmarsh
  - Seasonal Wetland
  - Unvegetated Water

Features Within VA Development Area					11.53
<b>Wetlands Abutting or Adjacent to TNW</b>					1.10
Northern Coastal Saltmarsh					1.10
S2	0.21	S4	0.08		
S3	0.21	S5	0.60		
<b>Seasonal Wetland</b>					10.43
W1	1.24	W23	1.19	W27	0.11
W2	2.51	W24	0.68	W28	0.20
W3	1.89	W25	2.22		
W4	0.13	W26	0.26		
<b>Total Potentially Jurisdictional Features:</b>					<b>11.53</b>

Remaining Features Within Study Area					19.51
<b>Traditional Navigable Waters</b>					9.43
Unvegetated Waters – West Wetland					9.43
U1	4.54	U2	4.89		
Unvegetated Waters – Runway Wetland					5.88
U3	5.88				
<b>SF Bay Water</b>					4.20
<b>Wetlands Abutting or Adjacent to TNW</b>					<b>44.30</b>
Northern Coastal Saltmarsh					23.03
S1	0.10	S8	0.04	S13	0.02
S4	0.97	S9	0.59	S14	0.01
S5	0.91	S10	0.04	S15	6.02
S6	5.61	S11	0.08	S16	3.93
S7	1.18	S12	0.04	S17	3.49
<b>Seasonal Wetland</b>					21.27
W2	0.49	W7	3.11	W12	0.13
W3	2.01	W8	6.13	W13	0.03
W4	1.52	W9	0.08	W14	0.10
W5	0.23	W10	2.42	W15	4.34
W6	0.23	W11	0.06	W16	0.39
<b>Total Potentially Jurisdictional Features:</b>					<b>63.81</b>

Other Features Outside Study Area					1.97
<b>Traditional Navigable Waters</b>					1.97
SF Bay Water					1.97
<b>Wetlands Abutting or Adjacent to TNW</b>					<b>19.10</b>
Northern Coastal Saltmarsh					0.94
S18	0.20	S19	0.19	S20	0.55
<b>Seasonal Wetland</b>					18.16
W17	1.06	W21	0.27	W30	0.00
W18	1.43	W22	1.71	W31	0.03
W19	7.09	W23	0.20	W32	0.64
W20	5.70	W29	0.03		
<b>Total Potentially Jurisdictional Features:</b>					<b>21.07</b>

