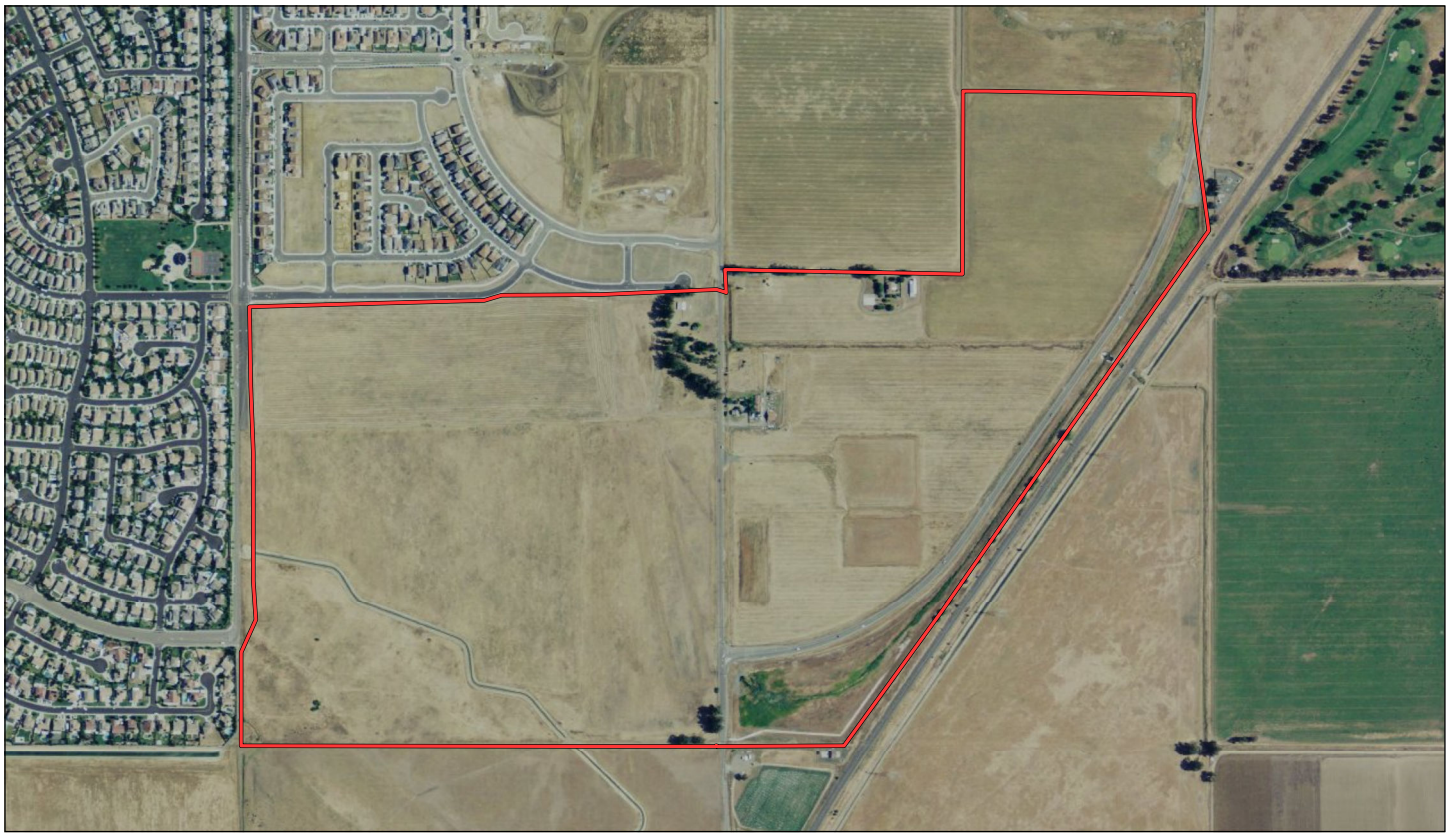
APPENDIX G

WETLAND DELINEATION REPORT



PRELIMINARY DELINEATION OF WATERS OF THE U.S.

VANDEN MEADOWS ANNEXATION AND SPECIFIC PLAN PROJECT SOLANO COUNTY, CA

APRIL 2011

PREPARED FOR:

City of Vacaville
Public Works - Engineering Services
650 Merchant Street
Vacaville, CA 95688

PREPARED BY:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
(916) 447-3479
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DELINEATION OF WATERS OF THE U.S. FOR THE VANDEN MEADOWS PROJECT, IN THE CITY OF VACAVILLE, CALIFORNIA

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1.0 INTRODUCTION

1.1 PURPOSE

Analytical Environmental Services (AES) conducted a formal delineation of potential wetlands and other waters of the U.S. for the Vanden Meadows Specific Plan and Development Project (proposed project) in the City of Vacaville, California. The purpose of the delineation was to identify whether wetlands and other waters of the United States (U.S.), as defined by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), occur within the study area. The results are considered preliminary until the USACE verifies the findings.

1.2 PROJECT APPLICANT AND AGENT

Applicant	**Agent**
City of Vacaville Planning Department 650 Merchant Street Vacaville, California 95688	Analytical Environmental Services 1801 7th Street, Suite 100 Sacramento, California 95811 Phone: (916) 447-3479 Fax: (916) 447-1665

1.3 PROJECT LOCATION

The approximately 238-acre study area is located adjacent to the southwestern boundary of the City of Vacaville in unincorporated Solano County, California. The regional location of the study area is shown in **Figure 1**. The study area is situated on Township 5 North, Range 1 West, Section 2 of the Elmira U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (quad), Mt. Diablo Meridian (USGS, 1980). The centroid of the study area is 38° 18' 45.684" north, 121° 56' 56.5074" west (latitude 38.31269 degrees north, longitude 121.94903 degrees west). The study area is surrounded on the west and north by residential development and on the east and south by agricultural land. Union Pacific Railroad (UPRR) tracks are oriented northeast to southwest, and are adjacent to the study area to the east. A topographic map and an aerial photograph of the study area are shown in **Figures 2** and **3**, respectively.

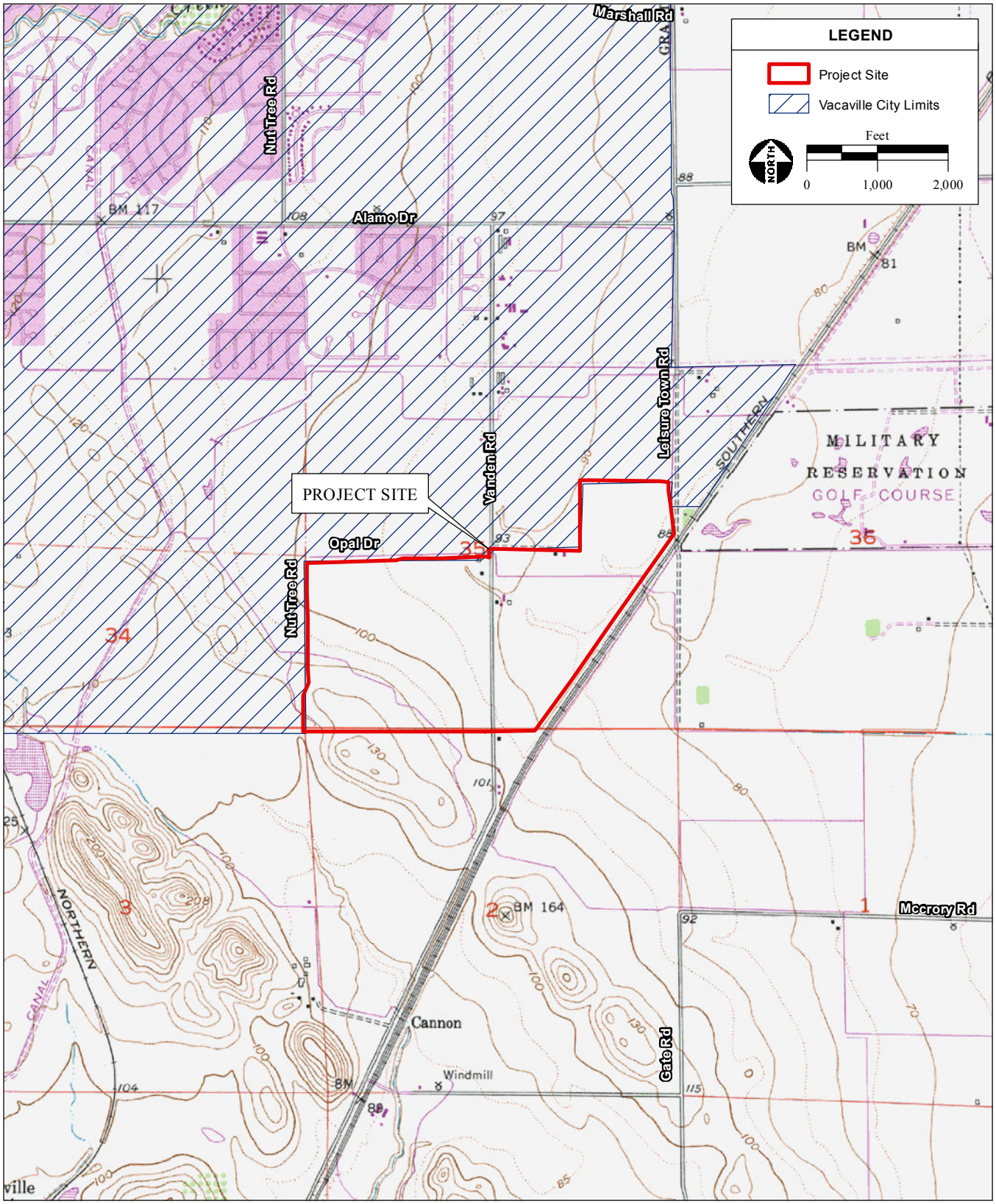
From Sacramento, take I-80 west toward San Francisco for approximately 27 miles. Take the Leisure Town Road/Vaca Valley Parkway exit and turn left onto Leisure Town Road. Drive for 4 miles to the study area.

1.4 PROJECT DESCRIPTION

The proposed project consists of the annexation of the 238-acre study area and the approval and implementation of a specific plan for the property that would result in the development of 939 single-family clustered and multi-family units, a 28-acre school site, 6-acres of park, connecting pedestrian trails, and a bike station. The project design is illustrated in **Figure 4**.

SOURCE: StreetMap North America, 2009; AES 2011

Figure 1
Regional Location

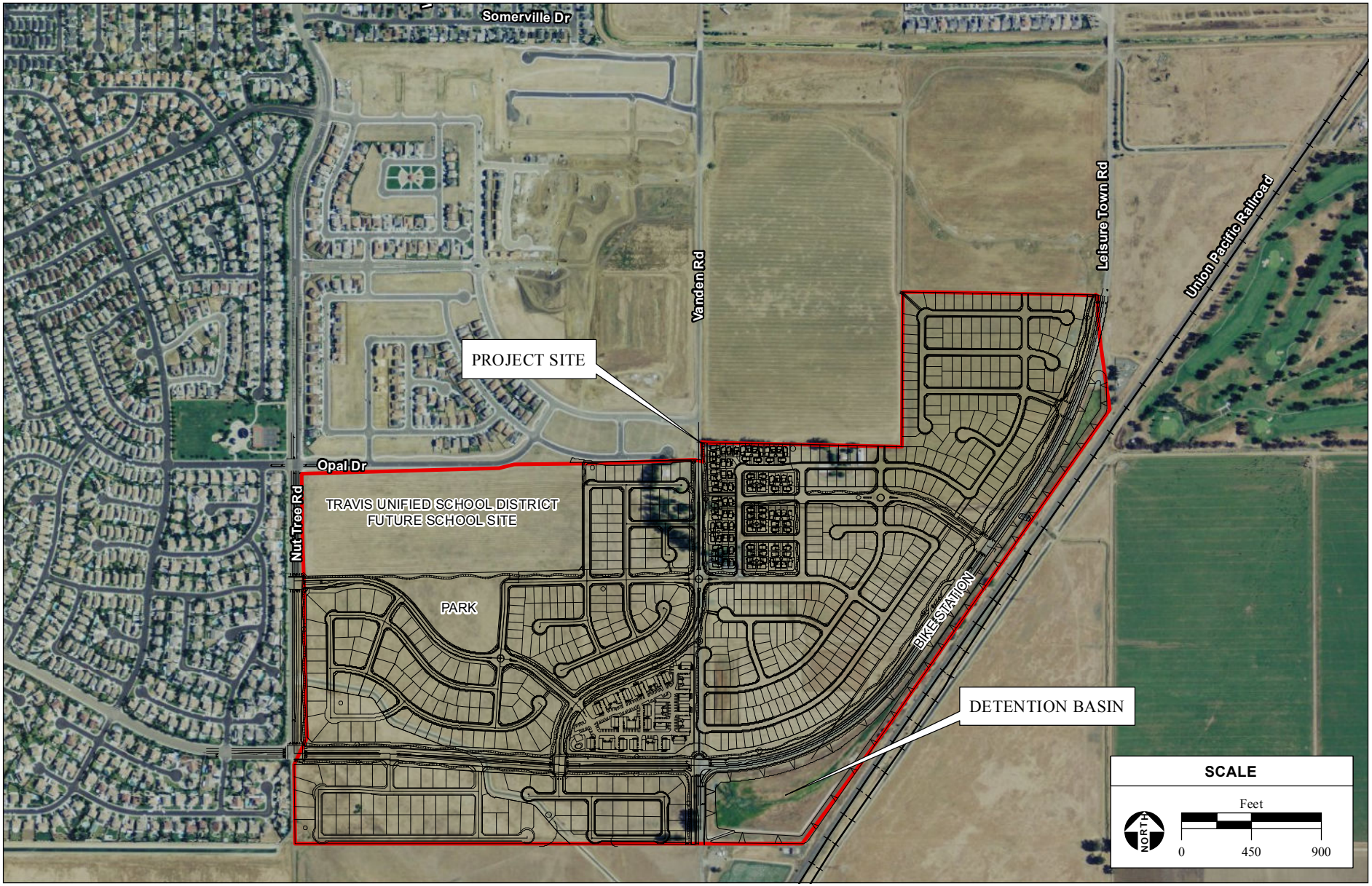


SOURCE: "Elmira, CA" USGS 7.5 Minute Topographic Quadrangle, T R Section 35, Mt. Diablo Baseline & Meridian; StreetMap World, 2008; AES 2011

Figure 2
Site and Vicinity

SOURCE: USDA NAIP Aerial Photograph, 2009; AES 2011

Figure 3
Aerial Photograph



SOURCE: USDA NAIP Aerial Photograph, 2009; Phillippi Engineering, 2009; AES 2011

Figure 4

Vanden Meadows Specific Plan and Development Project Site Plan

1.5 REGULATORY BACKGROUND

Any person, firm, or agency planning to alter or work in navigable waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the USACE. Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes. Section 10 of the Rivers and Harbors Act of 1899 prohibits the obstruction or alteration of navigable waters of the U.S. without a permit from the USACE (33 U.S.C. 403). Section 301 of the Federal Water Pollution Control Act and Amendments of 1972 (CWA) prohibit the discharge of pollutants, including dredged or fill material, into waters of the U.S. without a Section 404 permit from the USACE (33 U.S.C. 1344). A Section 401 State Water Quality Certification may be required by the Regional Water Quality Control Board (RWQCB) before other permits are issued. If a proposed project will result in the alteration of a California lake or streambed, the California Department of Fish and Game (CDFG) requires notification prior to commencement, and may require a Section 1600 Lake or Streambed Alteration Agreement.

Waters of the U.S. are defined as:

> All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters (Section 404 of the CWA; 33 CFR Part 328).

With non-tidal waters, in the absence of adjacent wetlands, the extent of the USACE jurisdiction is defined by the ordinary high water mark. The ordinary high water mark is defined, in 33 CFR Part 329.11, as the line on the shore established by the fluctuations of water, and indicated by a clear, natural line impressed on the bank, shelving, changes in soil character, destruction of terrestrial vegetation, or the presence of litter and debris.

Wetlands are defined as:

> Those areas that are inundated or saturated by surface or ground 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 (Federal Register, 1980, 1982; Braddock and Huppman, 1995).

The USACE and the U.S. Environmental Protection Agency (USEPA) issued the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* on May 30, 2007, to provide guidance based on the Supreme Court's decision regarding *Rapanos v. United States and Carabell v. United States* (Rapanos Guidance) (USACE, 2007). The decision provides new standards that distinguish between traditional navigable waters (TNWs), relatively permanent waters (RPWs), and non-relatively

permanent waters (non-RPWs). Wetlands adjacent to non-RPWs are subject to CWA jurisdiction if: the water body is relatively permanent, or if a water body abuts a RPW, or if a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. The significant nexus standard will be based on evidence applicable to ecology, hydrology, and the influence of the water on the "chemical, physical, and biological integrity of downstream traditional navigable waters" (USACE, 2007). Isolated wetlands are not subject to CWA jurisdiction based on the Supreme Court's decision regarding Solid Waste Agency of Northern Cook County (SWANCC) (Guzy, 2001).

Roadside ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water are not considered waters of the U.S. because they are not tributaries or they do not have a significant nexus to downstream TNWs (Federal Register, 1983). The December 2008 memorandum summarizing key points of the Rapanos Guidance also states that agencies generally will not assert jurisdiction over ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water (USACE and USEPA, 2008).

USACE Regulatory Guidance Letter 07-01 (RGL 07-1), *Practices for Documenting Jurisdiction Under Section 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the CWA* (2007), states that upland swales and erosional features (e.g., gullies, small washes characterized by low volume, infrequent, and short duration flow) are generally not waters of the U.S. because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters.

2.0 METHODOLOGY

2.1 DATA REVIEW

Prior to conducting the field delineation the following information sources were reviewed:

- Elmira quad and street maps (USGS, 1980; StreetMap North America, 2009);
- Color aerial photography of the study area and vicinity (USDA, 2009);
- Soil survey maps and unit descriptions (NRCS, 2011);
- Hydric soil information (NRCS, 2010); and
- U.S. Fish and Wildlife Service (USFWS) Wetlands Online Mapper (USFWS, 2011).

2.2 DELINEATION SURVEY

Davis Environmental, LLC, prepared a *Biological Resources Assessment for the Vanden Meadows Project Site* (BRA; 2009). The BRA includes wetland datasheets obtained from field surveys conducted on July 29 and 30, 2009. Analytical Environmental Services (AES) biologists Kelly Bayne, M.S., and Jessica Griggs conducted a delineation of the study area on June 18, 2010. Ms. Bayne and AES botanist Laura Burris conducted a delineation of the study area on January 31, 2011. The delineation consisted of ground truthing the information documented on the wetland datasheets provided in the BRA, walking

transects approximately 100 feet apart in an east to west direction, mapping habitats types, and documenting wetland features on an aerial photograph in the vicinity of the study area. Data points were obtained by excavating soil pits to a depth of 18 inches or until an impermeable layer was reached. Plant nomenclature followed *The Jepson Manual: Higher Plants of California* (Hickman, 1993). The *National List of Vascular Plant Species that Occur in Wetlands, California* (Reed, 1988), was used to determine the status of observed plants as wetland indicator species.

2.3 DETERMINATION METHODS

This report has been prepared in accordance with the *Regulatory Branch of the Sacramento District, USACE Minimum Standards* (2001) and the *Corps of Engineers Wetlands Delineation Manual* (1987). The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (dated September 2008) and the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979) were used to delineate wetlands that are potentially subject to USACE jurisdiction under Section 404 of the CWA. The USACE's regulations (33 CFR Part 328) were used to determine the presence of jurisdictional waters of the U.S. other than wetlands. *The U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007) was used to confirm that the delineation was prepared in accordance with the guidance based on the Rapanos decision.

Wetlands are defined by three factors: a majority of dominant vegetation species are wetland associated species; hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and hydric soils are present.

Wetland data sheets were completed at representative locations to determine whether suspect features qualify as jurisdictional waters of the U.S. The data sheets are included in **Attachment 1**. Wetlands were determined based on the presence of hydrophytic vegetation, hydric soils, and wetland hydrology indicators.

Vegetation

Hydrophytic vegetation indicators include: prevalence of hydrophytic vegetation (majority of dominant plant species are obligate or facultative wetland plants) as listed in the *National List of Plant Species that Occur in Wetlands*: *California* (Reed, 1988) and morphological or physiological adaptations to saturated soil conditions. Plant species not listed in Reed (1988) are considered upland species. The 50/20 rule states that for each stratum in the plant community, dominant species are the most abundant species that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprises 20 percent or more of the total cover in the stratum (USACE, 2008).

Soils

Hydric soil indicators include: organic soils (histosols); mineral soils saturated and rich in organics (histic epipedon); sulfidic odor; low dissolved oxygen concentration (aquic moisture regime) and

reducing conditions; gleyed and/or low-chroma soils (chroma of 1 or chroma of 2 with bright mottles); iron and manganese concretions (USACE, 2008); and soils listed on National Hydric Soils (NRCS, 2010).

Hydrology

Primary wetlands hydrology indicators include: visual observation of saturated soil or inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks, drift lines, and sediment deposits. Only one primary indicator is necessary to have wetland hydrology. Secondary indicators include: drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard. A minimum of two secondary indicators is necessary to establish wetland hydrology (USACE, 2008).

3.0 ENVIRONMENTAL SETTING

3.1 PRECIPITATION

The Sacramento Valley - Davis (#6) climate data obtained in the vicinity of the study area documented an average total annual precipitation of 8.87 inches from November 2010 through January 2011 (CIMIS, 2011). The Davis 1 WSW (042294) monthly record climate data recorded an average total annual precipitation of 9.06 inches from November through January between 1893 and 2010 (WRCC, 2011). Therefore, the average precipitation between November 2010 and December 2011 is approximately 98 percent of the average precipitation for this period documented over the last 117 years.

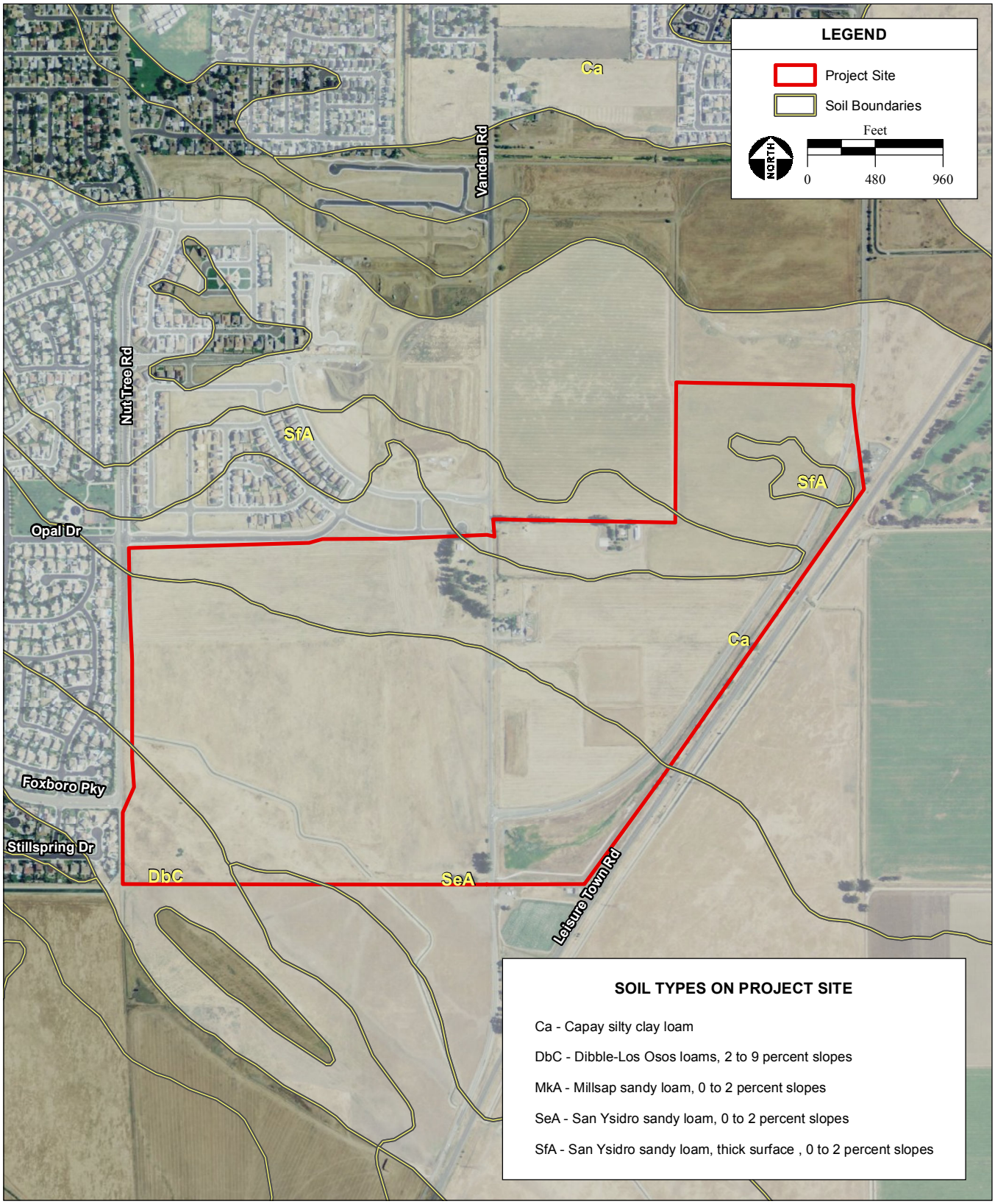
3.2 SOIL TYPES

Six soil types occur in the study area. **Table 1** identifies the soil types by series, map symbols, and hydric characteristics. The soil map is provided in **Figure 5**.

TABLE 1
MAPPED SOIL TYPES

Soil Series	Map Symbol	Hydric
Capay silty clay loam	Ca	--
Dibble-Los Osos loam, 2 to 9 percent slopes	DbC	--
Millsap sandy loam, 0 to 2 percent slopes	MkA	--
San Ysidro loam, 0 to 2 percent slopes	SeA	--
San Ysidro sandy loam	SfA	--

Source: NRCS, 2001-2007; 2007; 2009.



SOURCE: USDA NAIP Aerial Photograph, 2009; USDA NRCS SSURGO Soils Database, Soil Survey of Solano County, 2001-2007; AES 2011

Figure 5
Soils Map

3.3 HABITAT TYPES

The study area contains the following nine habitat types: agricultural land, ruderal/developed areas, eucalyptus grove, Brazeltine Drain, detention basin and manmade earth-lined canal, cement-lined canal, wetland drainage swale, ephemeral drainage swale, roadside ditch, manmade agricultural ditch, and seasonal wetland. Dominant vegetation in each terrestrial habitat type is discussed below. Dominant vegetation in each aquatic habitat type is discussed in **Section 4.0**. Photographs of the study area are shown in **Figures 6a** and **6b**.

Agricultural Land

The majority of the study area is comprised of fallow agricultural land (**Figure 6a**: **Photograph 1**). Borrow piles occur within the southeast portion of the agricultural land. Dominant vegetation observed within the fallow agricultural land includes: wild oat (*Avena fatua*), slender wild oat (*Avena barbata*), filaree (*Erodium botrys*), storksbill (*Geranium molle*), yellow star-thistle (*Centaurea solstitialis*), Russian thistle (*Salsola tragus*), English plantain (*Plantago lanceolata*), and field mustard (*Brassica rapa*).

Ruderal/Developed Areas

Ruderal/developed areas occur within the study area (**Figure 6a**: **Photograph 2**). Ruderal/developed areas include rural residential dwellings and associated infrastructure and paved and graded roads. Dominant vegetation observed within the ruderal/developed areas includes ornamental landscaping.

Eucalyptus Grove

A mature eucalyptus (*Eucalyptus globulus*) grove occurs within the study area (**Figure 6a**: **Photograph 3**). Dominant vegetation observed within the planted eucalyptus grove includes: eucalyptus, California walnut (*Juglans hindsii*), wild oat, slender wild oat, and field mustard.

3.4 HYDROLOGY

The Brazeltine Drain, detention basin and manmade earth-lined canal, cement-lined canal, wetland drainage swale, ephemeral drainage swale, seasonal wetlands, two manmade ditches, and manmade agricultural ditch within the study area drain offsite and flow northward. These features are tributary to New Alamo Creek approximately 0.3 miles north of the study area. New Alamo Creek is tributary to Alamo Creek. Alamo Creek is tributary to Ulatis Creek. Ulatis Creek is tributary to Cache Slough. Cache Slough is tributary to the Sacramento River Deep Water Ship Canal. The Sacramento River Deep Water Ship Canal is a traditionally navigable waters of the U.S.

PHOTO 1: View north of fallow agricultural land on the northeastern portion of the study area. Photograph taken on January 31, 2011.

PHOTO 2: View northeast of ruderal/disturbed areas and manmade agricultural ditch within the central portion of the study area. Photograph taken on January 31, 2011.

PHOTO 3: View north of eucalyptus grove on the north-central portion of the study area. Photograph taken on January 31, 2011.

PHOTO 4: View west of Brazeltine Drain on the northeast portion of the study area. Photograph taken on January 31, 2011.

PHOTO 5: View north of manmade earth-lined canal, located north of the detention basin on eastern portion of the study area, east of Leisure Town Road. Photograph taken on January 31, 2011.

SOURCE: AES, 2011

Figure 6a
Site Photographs

PHOTO 6: View east of cement-lined canal on the southwestern portion of the study area. Photograph taken on June 18, 2010.

PHOTO 8: View east of seasonal wetland on the south western portion of the study area. Photograph taken on June 18, 2010.

PHOTO 10: View north of roadside ditch on the central portion of the study area. Photograph taken on January 31, 2011.

PHOTO 7: View northwest of seasonal wetland on the north-central portion of the study area. Photograph taken on January 31, 2011.

PHOTO 9: View north of ephemeral drainage swale on the northeastern portion of the study area. Photograph taken on January 31, 2011.

SOURCE: AES, 2011

Figure 6b
Site Photographs

4.0 DELINEATION RESULTS

Wetland features in the study area include: Brazeltine Drain, detention basin and irrigation canal, wetland drainage swale, ephemeral drainage swale, roadside ditch, and seasonal wetland. **Table 2** provides a summary of wetland features by acreages within the study area. These acreages are considered preliminary, subject to verification by the USACE. The wetland features are discussed in detail below. Representative photographs of wetland features are shown in **Figures 6a** and **6b**. **Figure 7** illustrates wetland features by acreages and paired data points in the vicinity of the study area. Wetland determination data forms for the paired data points are presented in **Attachment 1**.

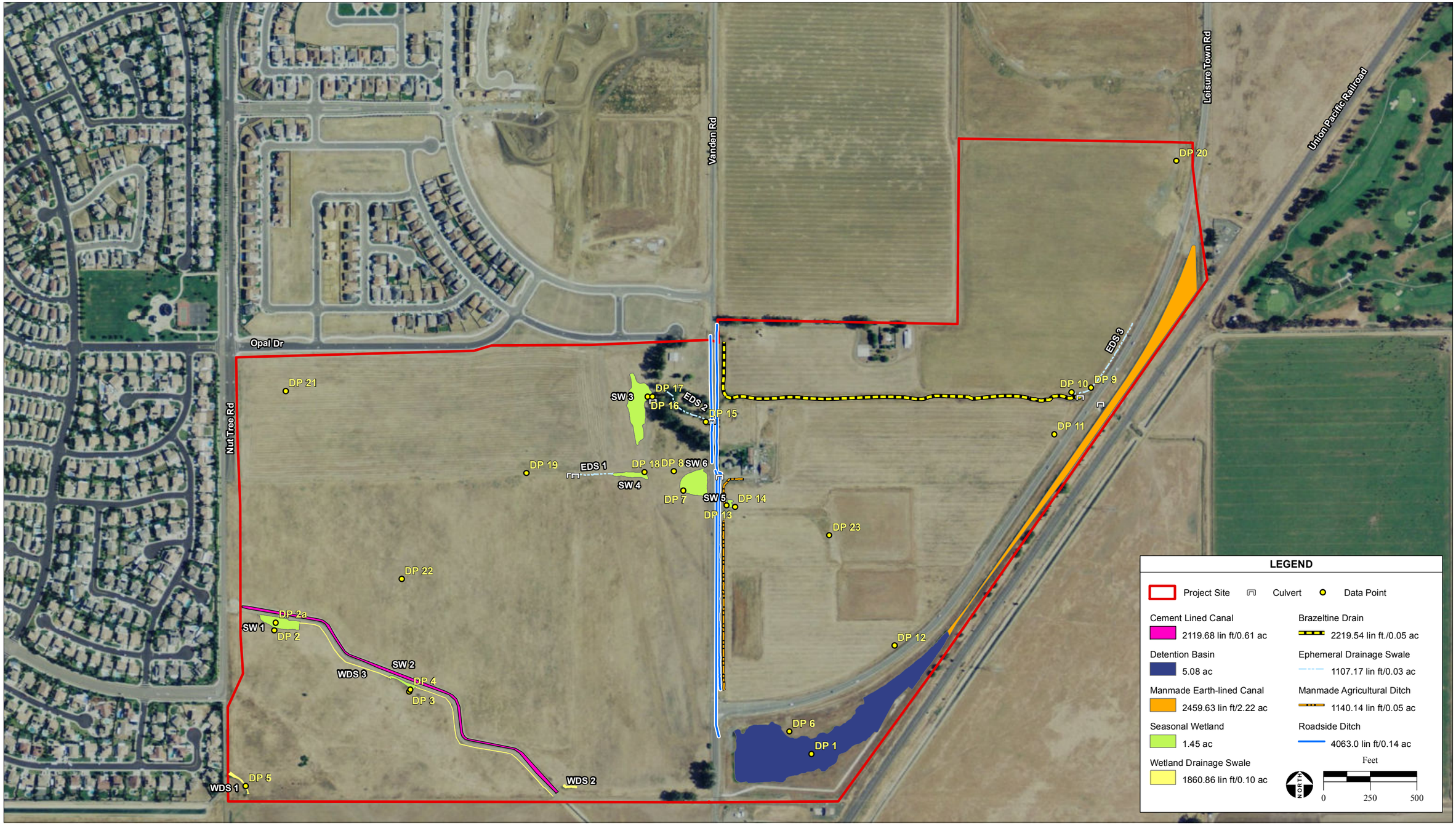
TABLE 2
WETLAND FEATURES BY ACREAGES

Wetland Feature	Acreage[1]	Linear Feet[1]
Brazeltine Drainage Channel	0.05	2,219.54
Earth Lined Canal and Detention Basin	7.30	2,459.63
Concrete-Lined Canal	0.61	2,119.68
Wetland Drainage Swale	0.10	1,860.86
Ephemeral Drainage Swale	0.03	1,107.17
Roadside Ditch	0.14	4,063.00
Remnant Manmade Agricultural Ditch	0.05	1,140.14
Seasonal Wetland	1.45	--
Total	**9.73**	**14,970.02**

[1]Acreages and linear feet represent a calculated estimation and are subject to modification following USACE verification.
Source: AES, 2011

Brazeltine Drainage Canal

A remnant segment of the Brazeltine Drain occurs within eastern portion of the study area (**Figure 6a**: **Photograph 4**). The Brazeltine Drain is manmade and earth lined with approximately 10-foot wide, 5-foot deep, scoured bed and banks. The Brazeltine Drain flows eastward beneath Leisure Town Road through 3 culverts and drains to the manmade irrigation canal and detention basin within the southeastern portion of the study area. The Brazeltine Drain contained ponded water during the January 31, 2011 delineation of the study area. The Brazeltine Drain receives surface runoff from the Southtown development situated north of the study area. Water within the Brazeltine Drain drains eastward to the manmade earth lined canal and a detention basin located within the southeastern portion of the study area. Dominant vegetation observed within the Brazeltine Drain includes: Broad-leaved cattail (*Typha latifolia*), English plantain, and curly dock (*Rumex crispus*).



SOURCE: "Elmira, CA" USGS 7.5 Minute Topographic Quadrangle, T6N R1W Section 35, Mt. Diablo Baseline & Meridian; AES 2011

Figure 7
Delineation of Waters of the United States

Earth Lined Canal and Detention Basin

A manmade earth lined canal and a detention basin occur on the east side of Leisure Town Road along the eastern boundary of the study area (**Figure 6a**: **Photograph 5**). The manmade canal flows southward and drains to the detention basin on the southeastern portion of the study area. The manmade canal is comprised of approximately 250-foot wide bed and banks in the northeast portion for approximately 100 feet and narrows to approximately 50-foot wide bed and banks until it drains to the detention basin. The canal and detention basin contained ponded water during the January 31 and February 28, 2011 delineations of the study area. The manmade earth lined canal and a detention basin functions as a stormwater detention basin and receives water from direct precipitation, the Brazeltine Drain, and surface runoff from the Southtown development situated north of the study area through storm drains. Water within the canal and basin exits the study area, flows north for approximately 0.3 miles, and drains to New Alamo Creek. Dominant vegetation observed within the canal and detention basin includes: broad-leaved cattail, umbrella sedge (*Cyperus eragrostis*), duck-weed fern (*Azolla filiculoides*), and curly dock.

Concrete-Lined Canal

A concrete-lined canal occurs on the southwestern portion of the study area (**Figure 6b**: **Photograph 6**). The canal is comprised of approximately 10-foot wide bed and banks and lacks vegetation. The concrete-lined canal contained flowing water during the January 31 and February 28, 2011 delineations of the study area. The concrete-lined canal receives surface runoff from the residential development located outside of the western boundary of the study area. Water within the concrete-lined canal exits the southern boundary of the study area.

Wetland Drainage Swale

Three wetland drainage swales (WDSs 1 through 3) occur within the study area. The wetland drainage swales contained defined bed and banks and ponded water during the January 31 and February 28, 2011 delineations of the study area. WDS 1 and 2 appear to hold water until it percolates into the ground. WDS 3 flows southeast and exits the southern boundary of the study area. The wetland drainage swales receive water from direct precipitation and surface runoff from the surrounding agricultural land. Dominant vegetation occurring within the wetland drainage swales includes: swamp grass (*Crypsis schoenoides*), cocklebur (*Xanthium strumarium*), and umbrella sedge.

Ephemeral Drainage Swale

Ephemeral drainage swales occur within the study area (**Figure 6b**: **Photograph 9**). The ephemeral drainage swales within the eastern side of the study area (EDS 1 and EDS 2) were likely manmade as they are fairly linear features. The ephemeral drainage swale on the eastern side of the study area (EDS 3) was formed as a result of soil erosion due to runoff from the surrounding area. The ephemeral drainage swales are comprised of approximately one to 1.5-foot wide, one-foot deep defined bed and banks. The ephemeral drainage swales did not contain water during the January 31 and February 28, 2011 delineations of the study area. The ephemeral drainage swales receive water from direct precipitation and surface runoff from the surrounding agricultural land. Dominant vegetation within the ephemeral drainage swales includes: milk thistle (*Silybum marianum*), yellow star-thistle, filaree, and wild oat.

Remnant Agricultural Ditch

The remnant manmade agricultural ditch occurs along the eastern side of Vanden Road (**Figure 6a**: **Photograph 2**). The manmade agricultural ditch is comprised of approximately one-foot wide, two-foot deep defined bed and banks. The agricultural ditch contained ponded water during the January 31 and February 28, 2011 delineations of the study area. The remnant manmade agricultural ditch appears to begin just south of a residential dwelling and terminate at a cement storm drain or remnant agricultural drain just north of Leisure Town Road on the south side of the study area. The agricultural ditch receives water from direct precipitation and surface runoff from the surrounding agricultural land. Dominant vegetation observed along the banks of the agricultural ditch includes: filaree and wild oat.

Roadside Ditch

Manmade roadside ditches occur along both sides of Vanden Road (**Figure 6b**: **Photograph 10**). The manmade roadside ditches contained ponded water during the January 31 and February 28, 2011 delineations of the study area. The roadside ditches range from one to 3 feet wide defined beds and banks and distinct drainage patterns. The ditches were excavated wholly in and drain only uplands and do not carry a relatively permanent flow of water. The manmade roadside ditches initiate on the south side of the study area where they establish defined beds and banks, flow north, and drain to the Brazeltine Drain. The manmade roadside ditches receive water from direct precipitation, surface runoff from the surrounding agricultural land, and from an ephemeral drainage on the north-central portion of the study area (EDS 2). Dominant vegetation observed within the roadside ditches includes: milk thistle, yellow star-thistle, filaree, and wild oat.

Seasonal Wetland

Five seasonal wetlands (SW) occur within the study area (**Figure 6b**: **Photographs 7 and 8**). The seasonal wetlands contained ponded water during the January 31 and February 28, 2011 delineations of the study area. The seasonal wetlands receive water from direct precipitation, overflow from the cement-lined canal, and an ephemeral drainage swale on the north-central portion of the study area (EDS 1). Dominant vegetation observed within the seasonal wetlands includes: Italian ryegrass (*Lolium multiflorum*), umbrella sedge, Mediterranean barley (*Hordeum marinum*), and curly dock.

5.0 ANALYSIS

All wetland and water features identified within the study area were assessed to determine whether these features would potentially be subject to USACE jurisdiction under Section 404 of the CWA. Two manmade roadside ditches and a manmade agricultural ditch occur within the study area. Although there is an indirect hydrologic connection to New Alamo Creek approximately 0.3 miles from the study area, the ditches were excavated wholly in and drain only uplands and do not carry a relatively permanent flow of water as the manmade ditches only receive water following direct precipitation events and runoff from the adjacent uplands. In accordance with RGL 07-01, the ditches were determined not to be potentially jurisdictional features.

The Brazeltine Drain, concrete-lined canal, earth lined canal and detention basin, wetland drainage swales, ephemeral drainage swales, remnant agricultural ditch, and seasonal wetlands are considered potentially jurisdictional features. These features are tributary to New Alamo Creek. New Alamo Creek is tributary to Alamo Creek. Alamo Creek is tributary to Ulatis Creek. Ulatis Creek is tributary to Cache Slough. Cache Slough is tributary to the Sacramento River Deep Water Ship Canal. The Sacramento River Deep Water Ship Canal is a traditionally navigable waters of the U.S.

6.0 CONCLUSION

In conclusion, there are a total of 9.77 acres of wetlands and waters within the study area that are potentially jurisdictional features.

The roadside ditches and agricultural ditch are excavated wholly in, drain only uplands, and do not carry a relatively permanent flow of water, and therefore, are not considered waters of the U.S. because they do not have a significant nexus to downstream TNWs (51 FR 41206, 41217). The approximately 0.19 acres of these ditches are not likely subject to USACE jurisdiction.

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ATTACHMENTS

ATTACHMENT 1

DELINEATION DATA SHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Solano Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: DP 1

Investigator(s): DAVIS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): basin Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
In Drainage basin

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Typha latifolia	95	Dom	OBL
2. Polygonon monspeliensis	10	—	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	10	x 2 =	20
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	105 (A)		115 (B)

Prevalence Index = B/A = 1.09

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Solano Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: SW-1adj

Investigator(s): Davis Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (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 Y No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	90	Dom	FAC
2. Eleocharis macrostachya	20	—	OBL
3. Plagiobothrys stipitatus var. micranthus	5	—	FACW
4. Taeniatherum caput	2	—	UPL
5. Convolvulus arvensis	4	—	UPL
6. Rumex crispus	1	—	FACW
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	6	x 2 =	12
FAC species	90	x 3 =	270
FACU species		x 4 =	
UPL species	4	x 5 =	20
Column Totals:	120 (A)		322 (B)

Prevalence Index = B/A = 2.68

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Perimeter of low spot / seasonal wetland.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Varden Meadows City/County: _____ Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: Dup-Wp (dp 2

Investigator(s): Davis Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
UPL

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Taeniatherum Caput-medusa	90	Dom	UPL
2. Convolvulus arvensis	2		UPL
3. Avena fatua	10		UPL
4. Raphanus sativus	4		UPL
5. Vicia americana	4		UPL
6.			
7.			
8.			
Total Cover:	105		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: _____ Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: dp3

Investigator(s): Davis Section, Township, Range: _____

Landform (hillslope, terrace, etc.): — Local relief (concave, convex, none): convex Slope (%): <1

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes 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 _____ No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks: upland for dp 4 or SW2

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Taeniatherum caput-medusa	50	Dom	UPL
2. Lolium perenne	50	Dom	FAC
3. Hordeum hystrix	10	—	FACW
4. Convolvulus arvensis	<1	—	UPL
5. Rumex crispus	<2	—	FACW
6.			
7.			
8.			
Total Cover: 113			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	12	x 2 =	24
FAC species	50	x 3 =	150
FACU species		x 4 =	
UPL species	51	x 5 =	255
Column Totals:	113 (A)		429 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

On upper edge of seasonal wetland depressional area

dp 4

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: dp 4

Investigator(s): _____ Section, Township, Range: _____

Landform (hillslope, terrace, etc.): ~~Marsh~~ Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

seasonal wetland 2

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Polypogon monspeliensis	50	DOM	FACW
2. Rumex crispus	20		FACW
3. Convolvulus arvensis	10		UPL
4. Hordeum hystrix	50	DOM	FACW
5. Capsella bursa-pastoris	1		FAC
6.			
7.			
8.			
Total Cover: 131			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 120	x 2 =	240
FAC species 1	x 3 =	3
FACU species	x 4 =	
UPL species 10	x 5 =	50
Column Totals: 131 (A)		293 (B)

Prevalence Index = B/A = 2.23

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Solano Sampling Date: 7/29/09

Applicant/Owner: _____ State: _____ Sampling Point: dp5

Investigator(s): Davis Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

wds1

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Xanthium strumarium	80	Dom	OBL
2. Cyperus schoenoides	5	-	OBL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	85		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	85 (A)		85 (B)

Prevalence Index = B/A = 1

Hydrophytic Vegetation Indicators:

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

Wetland drainage swale crosses corner of site. Culverted on either side

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Varden Meadows City/County: Solano Sampling Date: 7/29/09

Applicant/Owner: State: CA Sampling Point: DP 6

Investigator(s): DAVIS Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Lolium perenne	70	Dom	FAC
2. Raphanus sativus	5		UPL
3. Picris echioides	5		FAC
4. Trifolium spp.	2		FACU
5. Avena fatua	15	Dom	UPL
6. Brassica campestris	2		UPL
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 75	x 3 =	225
FACU species 2	x 4 =	8
UPL species 20	x 5 =	100
Column Totals: 97 (A)		333 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

__ Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

Side edge of excavated drainage basin

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp9

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upl

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Holcus lanatus	40	Dom	UPL
2. Lolium multiflorum	30	Dom	FAC
3. Avena barbata	40	Dom	UPL
4. Poa sp	5		
5.			
6.			
7.			
8.			
Total Cover: 115			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 1	x 3 = 3
FACU species ____	x 4 = ____
UPL species 2	x 5 = 10
Column Totals: 3 (A)	13 (B)

Prevalence Index = B/A = 4.3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp 10

Investigator(s): K.Bayne, L.Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upl - mapped just west of where ed 1 loses its defined bed & bank

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Centaurea solstitialis	20	Dom	upl
2. Avena fatua	30	Dom	upl
3. Brassica nigra	20	Dom	UPL
4. Geranium molle	20	Dom	upl
5.			
6.			
7.			
8.			
Total Cover: 90			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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 4	x 5 =	20
Column Totals: 4 (A)		20 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: DP11

Investigator(s): Kelly Bayne. Laura Burns Section, Township, Range:

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): convex Slope (%): 21

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Centarea solstitialis	10	–	UPL
2. Hordeum hystrix	20	DOM	UPL
3. Avena fatua	35	Dom	UPL
4. Lolium multiflorum	20	DOM	FAC
5. Plantago erecta	5	–	UPL
6. Lactuca serriola	10	–	FAC
7. Geranium molle	5	–	UPL
8. Rumex crispus	5	–	FAC
Total Cover:	110		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 3	x 3 =	9
FACU species	x 4 =	
UPL species 5	x 5 =	25
Column Totals: 8 (A)		34 (B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: _____ State: CA Sampling Point: dp12

Investigator(s): Laura Burris, Kelly Bayne Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: low spot that receives r.o. from Leisure Road and near by stockpile. Although the soils don't meet the criteria, the surrounding modifications (stock pile) have altered the drainage & the soils may be hydric in the future

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena fatua	30	Dom	UPL
2. Hypochaeris glabra	30	Dom	UPL
3. Stellaria media	5	-	FACU
4. Hordeum murinem	20	Dom	UPL
5. Plantago lanceolata	5	-	FAC
6. Rumex crispus	5	-	FAC
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	2	x 3 =	6
FACU species	1	x 4 =	4
UPL species	3	x 5 =	15
Column Totals:	6	(A)	25 (B)

Prevalence Index = B/A = 4.17

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: rest is standing water

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: _____ State: CA Sampling Point: dp 13

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): wetland Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: SW 13

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rumex crispus	15	—	FAC
2. Lolium multiflorum	20	Dom	FAC
3. Sorghum halepense	15	—	FACU
4. Hordeum marinum	35	Dom	FAC
5. Plantago lanceolata	5	—	FAC
6. Cyperus echinatus	5	—	UPL
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 3	x 3 =	9
FACU species 1	x 4 =	4
UPL species 1	x 5 =	5
Column Totals: 6 (A)		18 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: 5/. H_2O

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp 14

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): marginal Local relief (concave, convex, none): none Slope (%): none

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upl paired dp w/ dp 13 (sw)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena fatua	98	Dom	UPL
2. Plantago lanceolata	2	-	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	1	x 3 =	3
FACU species	____	x 4 =	____
UPL species	1	x 5 =	5
Column Totals:	2 (A)		8 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp15

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): grass field Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

Upland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans hindsii	5	Dom	FAC
2.			
3.			
4.			
Total Cover:	5		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena barbata	100	Dom	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species 1	x 3 = 3
FACU species ____	x 4 = ____
UPL species 1	x 5 = 5
Column Totals: 2 (A)	15 (B)

Prevalence Index = B/A = 7.5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Varden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp16

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): wetland Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: seasonal wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rumex crispus	30	Dom	FAC
2. Hordeum marinum	20	Dom	FAC
3. Lolium multiflorum	10	–	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	60		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 3	x 3 =	9
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

Standing water
Chorus frog

pond H2O from surrounding areas & seeps through ground to ED

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp17

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upl - paired dp w/ sw(dp16)

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena fatua	80	Dom	UPL
2. Brassica nigra	20	Dom	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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	2	x 5 =	10
Column Totals:	2 (A)		10 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Varden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp18

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range:

Landform (hillslope, terrace, etc.): wetland Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: seasonal wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Rumex crispus	5	Dom	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 95 % Cover of Biotic Crust ____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Water

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: _____ State: CA Sampling Point: dp19

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena fatua	90	Dom	UPL
2. Centaurea solstitialis	10	—	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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	2	x 5 =	10
Column Totals:	2 (A)		10 (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: _____ State: CA Sampling Point: dp 20

Investigator(s): Laura Burris, Kelly Baune Section, Township, Range: _____

Landform (hillslope, terrace, etc.): grassland Local relief (concave, convex, none): none Slope (%): 4

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: UPL

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Holcus lanatus	30	DOM	UPL
2. Rumex crispus	10		
3. Geranium molle	30	DOM	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	70		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: State: CA Sampling Point: dp 21

Investigator(s): K. Bayne, J. Burnett Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 2

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Upl

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Avena fatua	50	Dom	UPL
2. Lolium multiflorum	20	Dom	FAC
3. Geranium molle	25	Dom	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	95		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 1	x 3 =	3
FACU species	x 4 =	
UPL species 2	x 5 =	10
Column Totals: 3 (A)		13 (B)

Prevalence Index = B/A = 4.3

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Vanden Meadows City/County: Vacaville Sampling Date: 1/31/11

Applicant/Owner: _____ State: CA Sampling Point: dp22

Investigator(s): Kelly Bayne, Laura Burris Section, Township, Range: _____

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): planar Slope (%): 0

Subregion (LRR): C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum			
1. Picris echioides	30	Dom	UPL
2. Erodium botrys	30	Dom	UPL
3. Avena SP	10		UPL
4. Lolium multiflorum	10		FAC
5. Brassica nigra	20	Dom	UPL
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 1	x 3 =	3
FACU species _____	x 4 =	_____
UPL species 4	x 5 =	20
Column Totals: 5 (A)		23 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: