Wetland Delineation

For

Shifler Property

Yolo County, California

18 May 2012

Prepared For:
Teichert Aggregates

CONTENTS

Wetland Delineation

Shifler Property

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENT

Attachment A – Wetland Determination Data Forms - Arid West Region
Attachment B – Aerial Photograph
Attachment C – Plant Species Observed On-Site
Attachment D – Wetland Delineation
Attachment E – Wetland Delineation Shape File (to be included with USACE submittal only)
Attachment F – USACE-Verified Wetland Map and Verification Letter (to be included in ECORP Consulting master copy only)

INTRODUCTION

On behalf of Teichert Aggregates, ECORP Consulting, Inc. (ECORP) conducted a wetland delineation of the 320±-acre Shifler Property, located south of Cache Creek, north of Highway 16, east of County Road 94B, and west of County Road 96 in Yolo County, California (Figure 1. *Project Site and Vicinity*). The site corresponds to an unsectioned portion of Township 10 North, and Range 1 East (MDBM) of the "Woodland, California" 7.5-minute quadrangle (U.S. Department of the Interior, Geological Survey 1981). The approximate center of the site is located at 38° 41' 02" North and 121° 51' 25" West within the Lower Cache Watershed (#18020110, U.S. Department of the Interior, Geological Survey 1978).

This report describes potential waters of the United States, including wetlands, identified within the site that may be regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. The information presented in this report provides data required by the USACE Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetland Delineations* (U.S. Army Corps of Engineers 2001). The potential waters of the U.S. boundaries depicted in this report represent a calculated estimation of the jurisdictional area within the site, and are subject to modification following the USACE verification process.

APPLICANT:

Attn: Mr. Barry Baba
Teichert Aggregates
3500 American River Drive
Sacramento, California 95864
Phone: (916) 480-5505
Fax: (916) 434-7012

AGENT:

Attn: Ms. Daria Snider
ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, California 95677
Phone: (916) 782-9100
Fax: (916) 782-9134

Existing Site Conditions

The site is composed of relatively flat terrain at an elevation of approximately 100 to 110 feet above mean sea level. The majority of the site is comprised of agricultural fields, some of which were in tomato (*Lycopersicon esculentum*) cultivation at the time of the survey, and the remainder of which were freshly tilled. Moore Canal crosses the site from the southwest to the

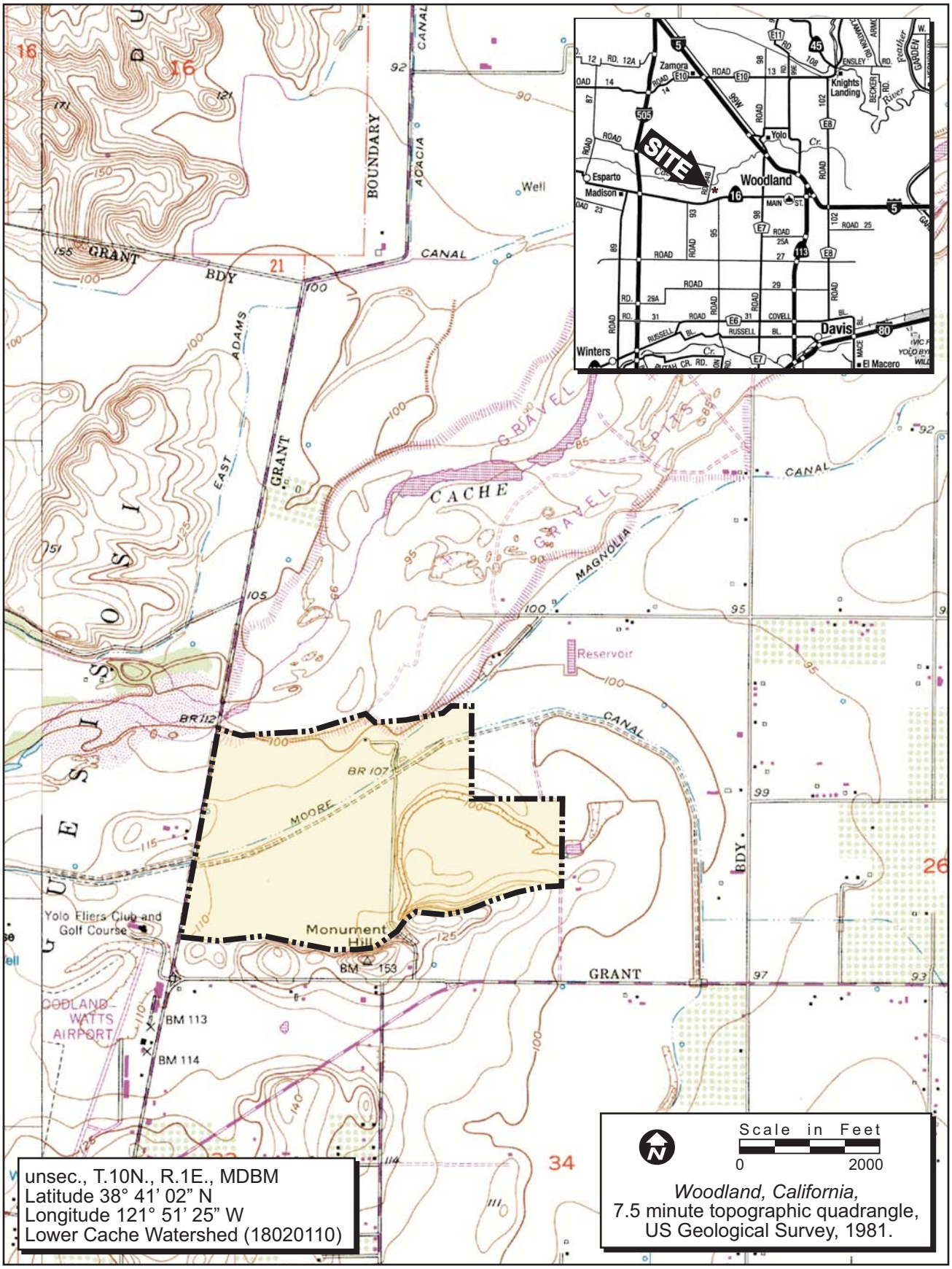


Figure 1. Project Site and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

northeast side of the site, and Magnolia Canal conveys water north from Moore Canal. A conveyor belt crosses from west to east through the northwestern portion of the site. To the north of the conveyor belt is a narrow strip of ruderal vegetation. In addition, ruderal vegetation is present along roadsides between fields, and in a small area projecting south into the western-most tomato field. Additional aquatic features on-site include a detention pond, a marsh, a seasonal wetland, and a small section of drainage ditch. These features are further described in the Results section.

Field surveys were conducted in mid September, when many plant species were past bloom, but most were still identifiable to species. The last rainfall before the site visit was on 8 September, just two days prior to the site visit, when 0.04 inches of rain fell (NOAA 2010). The last rain event prior to that was on 27 May 2010 (NOAA 2010).

The ruderal community on-site is composed primarily of non-native, naturalized Mediterranean grasses and a variety of other weedy species. Plant species observed in this community include wild oats (*Avena fatua*), soft brome (*Bromus hordeaceus*), red brome (*B. madritensis* ssp. *rubens*), Harding grass (*Phalaris aquatica*), Johnson grass (*Sorghum halepense*), bindweed (*Convolvulus arvensis*), pigweed amaranth (*Amaranthus albus*), prostrate amaranth (*A. blitoides*), lamb's quarters (*Chenopodium album*), mustard (*Hirschfeldia incana*), puncture vine (*Tribulus terrestris*), Canada horseweed (*Conyza canadensis*), curly dock (*Rumex crispus*), common purslane (*Portulaca oleraceus*), Devil's claw (*Proboscidea lutea*), horehound (*Marrubium vulgare*), narrow-leaved milkweed (*Asclepias fascicularis*), sunflower (*Helianthus annuus*), jimsonweed (*Datura wrightii*), milk thistle (*Silybum marianum*), broad leaved pepper grass (*Lepidium latifolium*), hairy willow herb (*Epilobium ciliatum*), wild radish (*Raphanus sativus*), turkey mullein (*Eremocarpus setigerus*), and prickly lettuce (*Lactuca serriola*). A variety of trees and shrubs are scattered sparsely throughout the community, including poison oak (*Toxicodendron diversilobum*), black walnut (*Juglans hindsii*), English walnut (*J. regia*), tree tobacco (*Nicotiana glauca*), tree of heaven (*Ailanthus altissima*), and valley oak (*Quercus lobata*).

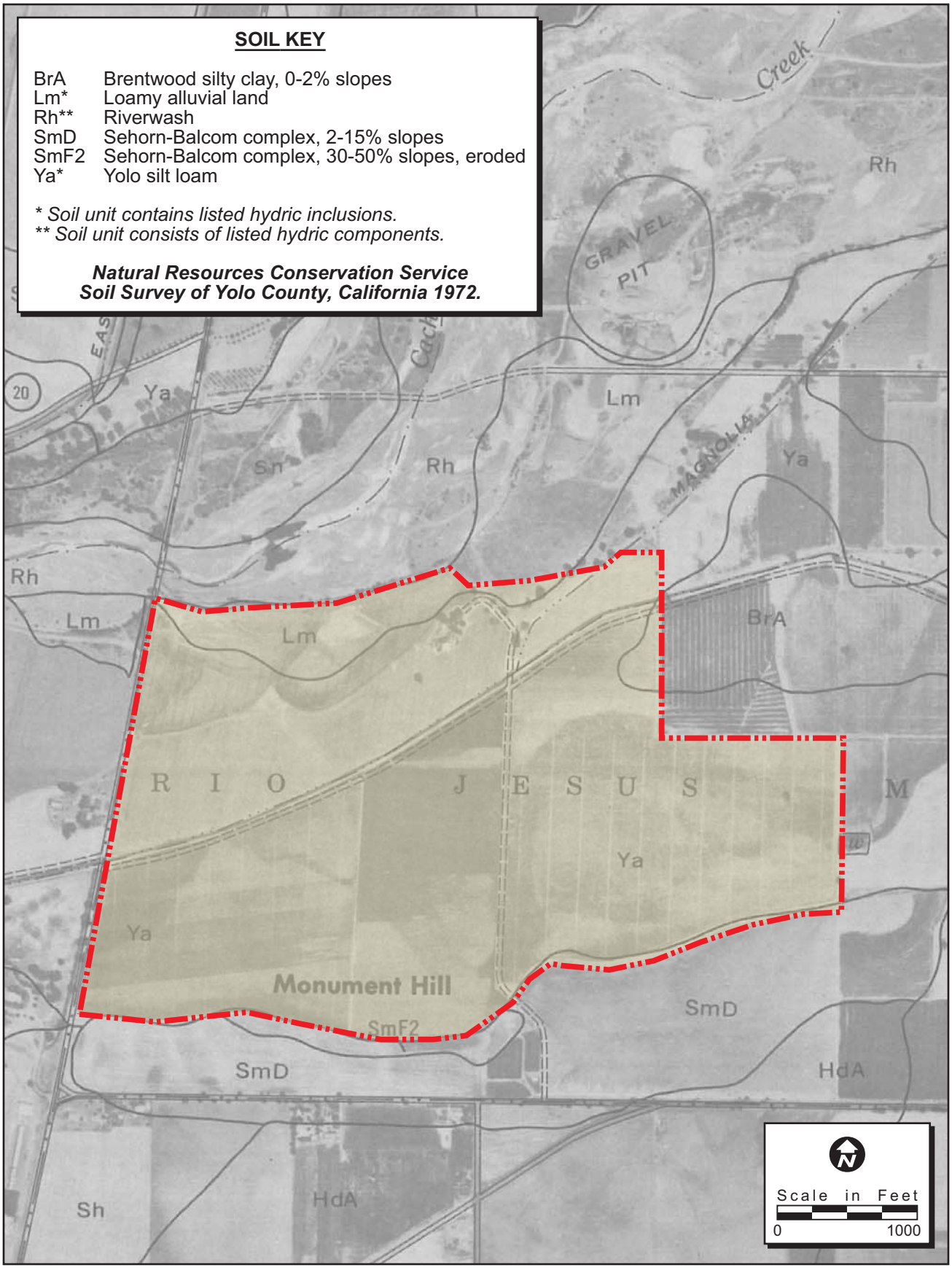
No National Wetlands Inventory features have been mapped within the project area.

According to the *Soil Survey of Yolo County, California* (U.S. Department of Agriculture, Soil Conservation Service 1972), six soil units, or types, have been mapped within the site (Figure 2. *Natural Resources Conservation Service Soil Types*). These are: (BrA) Brentwood silty clay, 0 to 2% slopes; (Lm) Loamy alluvial land; (Rh) Riverwash; (SmD) Sehorn-Balcom complex 2-15% slopes; (SmF2) Sehorn-Balcom complex, 30-50% slopes, eroded; and (Ya) Yolo silt loam. (Rh) consists of listed hydric components, and (Lm) and (Ya) may contain hydric inclusions (U.S. Department of Agriculture, Soil Conservation Service 1992).

METHODS

This wetland delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement) (U.S. Army Corps of Engineers 2008). The boundaries of potential waters of the U.S. were delineated through aerial photograph interpretation and standard field methodologies (i.e., paired data set analyses), and all wetland data were recorded on Arid West Region - Wetland Determination Data Forms (Attachment A). A color aerial photograph (1"=200' scale, Digital Globe 2009) was used to assist with mapping and ground-truthing (Attachment B). *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990) and the *Soil Survey of Yolo County, California* (U.S. Department of Agriculture, Soil Conservation Service 1972) were used to aid in identifying hydric soils in the field. *The Jepson Manual* (Hickman, *ed.* 1993) was used for plant nomenclature and identification.

Field surveys were conducted on 10 September 2010 and 12 March 2012 by ECORP biologist Daria Snider. Ms. Snider walked the entire 320 ±-acre site to determine the location and extent of potential waters of the U.S. within the property. Six paired data point locations and one single point location were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported a determination of wetland or non-wetland status. At each paired location, one point was located such that it was within the estimated wetland area, and the other point was situated outside the limits of the estimated wetland area. The data collected at the single point location was used to support a non-wetland determination. The total area of the wetlands and



ROCKLIN\Mapping Data\2010\2010-063 Woodland Teichert\MAPS\Soils_and_Geology

Figure 2. Natural Resources Conservation Service Soil Types

other waters within the site was recorded in the field using a post-processing capable global positioning system (GPS) unit with sub-meter accuracy (Trimble GeoXT).

Waters of the United States

This report describes potential waters of the U.S., including wetlands, which may be regulated by the USACE under Section 404 of the Clean Water Act. Wetlands are "those areas that are inundated or saturated by surface or groundwater 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" [33 CFR 328.3(b), 51 FR 41250, November 13, 1986]. Wetlands can be perennial or intermittent, and isolated or adjacent to other waters.

Other waters are non-tidal, perennial, and intermittent watercourses and tributaries to such watercourses [33 CFR 328.3(a), 51 FR 41250, November 13, 1986]. The limit of USACE jurisdiction for non-tidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the "ordinary high water mark". The ordinary high water mark is defined as the "*line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas"* [33 CFR 328.3(e), 51 FR 41250, November 13, 1986]. The bank-to-bank extent of the channel that contains the water-flow during a normal rainfall year generally serves as a good first approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the ordinary high water mark is no longer perceptible.

Routine Determinations

To be determined a wetland; the following three criteria should be met:

- 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.

Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "a prevalence of vegetation typically adapted for life in saturated soil conditions." Prevalent vegetation is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987). The dominance test is the basic hydrophytic vegetation indicator and was applied at each data point location. The "50/20 rule" was used to select the dominant plant species from each stratum of the community. The rule states that for each stratum in the plant community, dominant species are the most abundant plant species (when ranked in descending order of coverage and cumulatively totaled) that immediately exceed 50 percent of the total coverage for the stratum, plus any additional species that individually comprise 20 percent or more of the total cover in the stratum (HQUSACE 1992, U.S. Army Corps of Engineers 2006).

Dominant plant species observed at each data point were then classified according to their indicator status (probability of occurrence in wetlands) (Table 1), in accordance with the U.S. Fish and Wildlife Service's (USFWS) National List of Vascular Plant Species That Occur in Wetlands: California (Region 0) (Reed 1988). If the majority (greater than 50 percent) of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC), then the site was considered to by dominated by hydrophytic vegetation. Pursuant to the Arid West Region Supplement, plus (+) and minus (-) modifiers were not used (e.g., FAC-, FAC, and FAC+ plants are all considered to be FAC). Plant species not listed in Reed 1988 were assumed to be upland (UPL) species.

Table 1 – Classification of Wetland-Associated Plant Species[1]		
Plant Species Classification	**Abbreviation**	**Probability of Occurring in Wetland**
Obligate	OBL	>99%
Facultative Wetland	FACW	66-99%
Facultative	FAC	33-66%
Facultative Upland	FACU	1-33%
Upland	UPL	<1%
No indicator status	NI	Insufficient information to determine status
Plants That Are Not Listed (assumed upland species)	NL	Does not occur in wetlands in any region.

[1] Source: Reed 1988

In instances where indicators of hydric soil and wetland hydrology were present, but the plant community failed the dominance test, the vegetation was re-evaluated using the prevalence index. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and weighting is by abundance (percent cover). If the plant community failed the prevalence index, the presence/absence of plant morphological adaptations to prolonged inundation or saturation in the root zone was evaluated.

Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS 2003). Indicators that a hydric soil is present include, but are not limited to, histosols, histic epipedon, hydrogen sulfide, depleted below dark surface, sandy redox, loamy gleyed matrix, depleted matrix, redox dark surface, redox depressions, and vernal pools.

A soil pit was excavated to the depth needed to document an indicator, to confirm the absence of indicators, or until refusal at each data point. The soil was then examined for hydric soil indicators. Soil colors were determined while the soil was moist using the *Munsell Soil Color Charts* (Kollmorgen Instruments Co. 1990).

Hydrology

Wetlands, by definition, are seasonally or perennially inundated or saturated at or near (within 12 inches of) the soil surface. Primary indicators of wetland hydrology include, but are not limited to: visual observation of saturated soils, visual observation of inundation, surface soil cracks, inundation visible on aerial imagery, water-stained leaves, oxidized rhizospheres along living roots, aquatic invertebrates, water marks (secondary indicator in riverine environments), drift lines (secondary indicator in riverine environments), and sediment deposits (secondary indicator in riverine environments). The occurrence of one primary indicator is sufficient to conclude that wetland hydrology is present. If no primary indicators are observed, two or more secondary indicators are required to conclude wetland hydrology is present. Secondary indicators include, but are not limited to: drainage patterns, crayfish burrows, FAC-neutral test, and shallow aquitard. The occurrence of at least one primary indicator or two secondary indicators is required to confirm the presence of wetland hydrology.

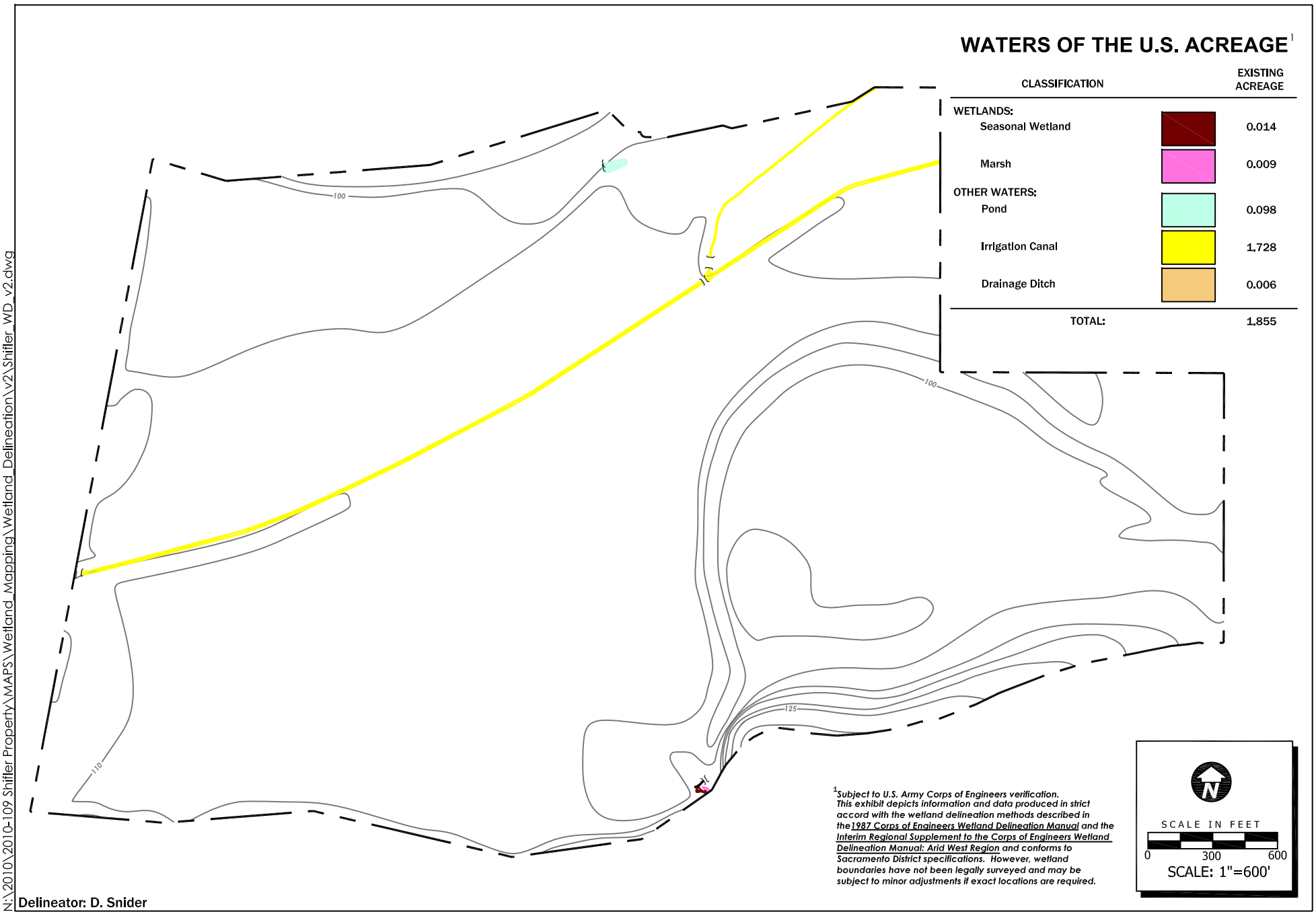
RESULTS

A total of 1.855 acres of potential waters of the U.S have been mapped for this site (Table 2). The wetland determination data forms are included in Attachment A, and a list of plant species observed on-site is included in Attachment C. A discussion of the wetlands and other waters is presented below, and wetland delineation maps are presented in Figure 3 and Attachment D.

Table 2 – Potential Waters of the U.S.

Type	Acreage[1]
Wetlands	
Seasonal Wetland	0.014
Marsh	0.009
Other Waters	
Pond	0.098
Irrigation Canal	1.729
Drainage Ditch	0.006
Total:	**1.855**

[1] Acreages represent a calculated estimation and are subject to modification following the Corps' verification process.



N:\2010\2010-109 Shifler Property\MAPS\Wetland_Mapping\Wetland_Delineation\v2\Shifler_WD_v2.dwg

Delineator: D. Snider

Figure 3. Wetland Delineation

3/14/2012

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Wetlands

Seasonal Wetland

One seasonal wetland was mapped in the southern portion of the site. This feature appears to receive the majority of its hydrology from runoff from the abutting marsh. The seasonal wetland differs from the marsh in the apparent duration of inundation or saturation, and the plant species that are present. The seasonal wetland is dominated by Italian ryegrass (*Lolium multiflorum*), Harding grass (*Phalaris aquatica*), curly dock, and prickly lettuce. Some old cattail (*Typha* species) stems are present, but appear to be relicts of prior years. Vegetation within the seasonal wetland was determined to be hydrophytic due to passage of the dominance test.

Indicators of wetland hydrology in the seasonal wetland included oxidized rhizospheres and soil saturation within 12 inches of the soil surface. The soil matrix color within the seasonal wetland was 2.5Y 4/2 with 2% redox concentrations colored 10YR4/6. The soil was determined to be hydric based on the present of field indicator F3 (depleted matrix). The soil matrix color in an adjacent upland area was 2.5Y4/2 without any redox features.

Marsh

One marsh was mapped along the southern boundary of the project site. The source of the hydrology for this feature is not clear, but it is likely due to a leak on the property to the south of the site. The marsh is dominated almost exclusively by narrow-leaved cattail (*Typha angustifolia*).

Indicators of wetland hydrology in the marsh included oxidized rhizospheres and soil saturation within 12 inches of the soil surface, and surface water present in portions of the feature. The soil matrix color within the marsh was 10YR4/2 with 2% redox concentrations colored 7.5YR4/6 from the surface to a depth of 8 inches. From 8 to 12 inches below the soil surface, the soil matrix color was 2.5YR4/2 without redox concentrations. The soil within this feature was determined to be hydric based on the presence of field indicator F3 (depleted matrix). The soil matrix color within an adjacent upland area was 10YR3/2 without redox features.

Other Waters

Pond

One excavated pond was mapped within the project area. Pond-1 is located in the northern portion of the site, and is primarily unvegetated. The edges of the pond are vegetated almost exclusively by broad-leaved pepper grass. Two other excavated basins are present on-site, one just north of Pond-1, and one in the southeastern corner of the site. Both of these features are dominated by upland plant species, and do not exhibit an Ordinary High Water Mark (see Data Point 7N in Attachment A).

The pond exhibited an Ordinary High Water Mark (OHWM), which was mapped based on the presence of live vegetation.

Irrigation Canal

Two named irrigation canals are present within the project area. IC-1 is Magnolia Canal, and IC-2 and IC-3 are Moore Canal. Both of these canals are named, dashed blue-line features on the "Woodland, California" USGS 7.5-minute quadrangle. Moore Canal is approximately 15 feet wide, and concrete-lined. It conveys water from west to east across the site. Magnolia Canal conveys water north from Moore Canal, is approximately 7 feet wide, and has a soil substrate. Neither of these features are vegetated, but both support some vegetation along the banks. Moore Canal, which is concrete-lined, has much less soil for vegetation establishment, and therefore supports less vegetation along the banks. Species found along Moore Canal include burhead (*Echinodorus berteroi*) and jungle rice (*Echinochloa colona*). Species found adjacent to Magnolia Canal include smartweed (*Polygonum* species), dallisgrass (*Paspalum dilatatum*), Johnson grass, yellow nutgrass (*Cyperus esculentus*), jungle rice, bearded sprangletop (*Leptochloa fascicularis*), and Bermuda grass (*Cynodon dactylon*).

The irrigation canals exhibit an OHWM, which is indicated variously by water marks, presence of vegetation, and the extent of scour.

Drainage Ditch

One drainage ditch was mapped on-site. This feature appears to convey water from one agricultural field to another, as well as collect runoff from the marsh and seasonal wetland. The drainage ditch is primarily unvegetated, but Harding grass and panicled willow herb (*Epilobium brachycarpum*) are present along the edges. The drainage ditch exhibits an OHWM. The OHWM was mapped based on presence of vegetation.

CONCLUSION / JURISDICTIONAL ASSESSMENT

Pursuant to the U.S. Environmental Protection Agency (USEPA) and USACE memorandum regarding Clean Water Act jurisdiction, issued following the United States Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (herein referred to as *Rapanos*), the agencies will assert jurisdiction over the following waters: "traditionally navigable" waters (TNW), all wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are "relatively permanent" (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with a TNW. The significant nexus analysis will assess the flow characteristics and functions of the non-navigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs (USEPA and USACE 2007).

Moore Canal, the largest waterway on-site, conveys water from Cache Creek, at an elevation of approximately 115 feet above MSL to Willow Slough, which it enters at an elevation of approximately 60 feet above MSL. Moore Canal appears to have been constructed on contour

through the Shifler project site, and continues on contour for several miles, until it reaches a subtle ridge just south of Gibson Road. Moore Canal follows this ridgeline for several miles until just before it empties into Willow Slough.

As discussed above, Moore Canal drains to Willow Slough, a tributary of the Sacramento River, which is a TNW. As Moore Canal is a Relatively Permanent Water tributary to a TNW, it is subject to Corps jurisdiction. During the site visit, Magnolia Canal was conveying water from Moore Canal to fields in the area. It does not appear that Magnolia Canal conveys water to any other drainageway. However, as it is connected to Moore Canal, it may be considered subject to Corps jurisdiction.

Marsh-1 and SW-1 are both tributary to DD-1, which appears to drain into the agricultural field to the west of these features. This field likely drains to Moore Canal, an RPW. Thus, SW-1, Marsh-1, and DD-1 are adjacent to, but do not directly abut, an RPW. Pond-1 appears to drain to the north, under the conveyor belt line, to Cache Creek, another RPW tributary to the Sacramento River. Therefore, Pond-1 would also be considered a feature adjacent to, but not abutting an RPW. These features (Pond-1, SW-1, Marsh-1, and DD-1) will likely require a significant nexus determination by the USACE and USEPA to establish jurisdiction.

A total of 1.855 acres of potential waters of the U.S. have been mapped on-site. These acreages represent a calculated estimation of the jurisdictional area within the site, and are subject to modification following the USACE verification process. Fill within jurisdictional features would require permitting pursuant to Section 404 and 401 of the federal Clean Water Act.

REFERENCES

Digital Globe. 2009. Aerial photograph of the site. Photo Dated: September 2009.

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

Headquarters, U.S. Army Corps of Engineers (HQUSACE). 1992. Clarification and Interpretation of the 1987 Manual. Memorandum from Major General Arthur E. Williams. Dated: 6 March 1992.

Hickman, J. C. (ed.). 1993. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California.

Kollmorgen Instruments Company. 1990. Munsell Soil Color Charts. Kollmorgen Corporation. Baltimore, Maryland.

National Oceanic and Atmospheric Administration (NOAA). 2009. National Weather Service Sacramento Office Preliminary Monthly Climate Data for Downtown Sacramento. Available online at http://www.weather.gov/climate/index.php?wfo=sto

Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands: California (Region 0). (Biological Report 88[26.10].) U.S. Fish and Wildlife Service, Ft. Collins, Colorado.

U.S. Army Corps of Engineers, Sacramento District. 2001. Minimum Standard for Acceptance of Preliminary Wetland Delineations. Dated: 30 November 2001.

U.S. Army Corps of Engineers. 2006. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Department of Agriculture, Natural Resources Conservation Service. 2003. National Soil Survey Handbook, title 430-VI. Available Online: http://soils.usda.gov/technical/handbook.

U.S. Department of Agriculture, Soil Conservation Service. 1972. Soil Survey of Yolo County, California. U.S. Department of Agriculture, Soil Conservation Service. Davis, California.

U.S. Department of Agriculture, Soil Conservation Service. 1992. Hydric Soils List for Yolo County. U.S. Department of Agriculture, Soil Conservation Service, Davis, California.

U.S. Department of the Interior, Geological Survey. 1978. Hydrologic Unit Map, State of California. Geological Survey. Reston, Virginia.

U.S. Department of the Interior, Geological Survey. 1981. “Woodland, California” 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers (USEPA and USACE). 2007. Memorandum Re: Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. Dated 5 June 2007.

LIST OF ATTACHMENTS

ATTACHMENT A

Wetland Determination Data Forms - Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 1
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✓ No _____
Hydric Soil Present? Yes X No _____
Wetland Hydrology Present? Yes X No _____

Is the Sampled Area within a Wetland? Yes X No _____

Remarks:
Marsh

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 angustifolia	100	✓	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 4/2	98	7.5YR 4/6	2%	C	RC	clay loam	
8-12"	2.5Y 4/2	100					mucky modified mineral	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): 8"

Water Table Present? Yes ____ No X Depth (inches): 8"

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

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

Remarks:

Surface water present elsewhere in feature.
Water source for feature likely something leaking off-site.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 2N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Upland comparison to DP1.

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. Cynodon dactylon	100	✓	FAC
2. Hirschfeldia incana	tr		N/L
3. Bromus diandrus	tr		N/L
4. Carduus pycnocephalus	tr		N/L
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 2N

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/2	100					gravelly clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Refusal at 7". No hydric soil indicators detected.

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 X Depth (inches): 7"

Water Table Present? Yes _____ No X Depth (inches): 7"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 7"

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 3
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No _____
Hydric Soil Present? Yes X No _____
Wetland Hydrology Present? Yes X No _____

Is the Sampled Area within a Wetland? 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. Lolium multiflorum	80	✓	Fac*
2. Phalaris aquatica	15		Fac+
3. Rumex crispus	5		FacW-
4. Lactuca serriola	tr		Fac
5.			
6.			
7.			
8.			
Total Cover: 100			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:
Old cattail stalks present

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	2.5Y 4/2	98	10YR 4/6	2	C	RC	clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ 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)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 10"

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 4N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Upland comparison to DP 3.

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. Cardous pycnocephalus	50	✓	N/L
2. Lolium multiflorum	10		Fac
3. Bromus diandrus	10		N/L
4.			
5.			
6.			
7.			
8.			
Total Cover:	70		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

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	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:

SOIL

Sampling Point: 4D

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	2.5Y 4/2	100					clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators detected.

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)**
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 12"

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 5N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Berm Local relief (concave, convex, none): None Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Upland comparison to DP 6.

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. Phalaris aquatica	80	✓	FAC
2. Lepidium latifolium	20	✓	FACW
3. Hirschfeldia incana	4r		NL
4. Cardus pycnocephalus	4r		NL
5.			
6.			
7.			
8.			
Total Cover:	100		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 5D

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	2.5Y 3/2	100					silt loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators detected.

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 X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 12"

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10

Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 6

Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E

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

Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83

Soil Map Unit Name: Yolo silt loam NWI classification: None

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

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

Remarks: Waters

Pond

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.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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:

Feature is unvegetated, although sparse dead Lepidium latifolium is present

SOIL

Sampling Point: 6

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

No soil pit dug.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X 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)
- X Other (Explain in Remarks) OHWM

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 X No ____ Depth (inches): ~12"

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

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

OHWM present + indicated by the edge of vegetation.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: FN
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Constructed Basin Local relief (concave, convex, none): Concave Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: Suspect DP. This area appears to have been used as a detention pond in the past, but does not appear to be in use currently. Representative of two such constructed basins on the site.

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. Phalaris paradoxa	35	✓	N/L
2. Avena fatua	5		N/L
3. Bromus hordeaceus	5		FACU
4. Bromus diandrus	5		N/L
5.			
6.			
7.			
8.			
Total Cover: 50			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 50 % Cover of ~~Biotic~~ ? Crust 80

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	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:

SOIL

Sampling Point: 7N

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	2.5Y 3/2	100					clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Refusal at 10". NO hydric soil indicators detected.

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**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): 10"

Water Table Present? Yes _____ No X Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 10"

Wetland Hydrology Present? Yes X No _____

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

Remarks:

A soil crust of some sort is present, but it is unclear if it is a biotic crust, or maybe chemical/pesticide residue.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 8
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Constructed channel Local relief (concave, convex, none): ____ Slope (%): ____
Subregion (LRR): C Lat: ____ Long: ____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a ~~Wetland~~ Waters? Yes ✓ No ____

Remarks:
Irrigation canal.

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.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
Total Number of Dominant Species Across All Strata: ____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (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:
Feature is unvegetated, but Echinodorus berteroi + Echinochloa colona occur on edges.

SOIL

Sampling Point: 8

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No soil pit due to concrete substrate.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- X 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)
- X Other (Explain in Remarks) OHWM

Secondary Indicators (2 or more required)

- X 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 X No _____ Depth (inches): 12+ "

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

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

Wetland Hydrology Present? Yes X No _____

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

Remarks:

OHWM present and indicated by water marks + presence of vegetation above OHWM.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 9N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Roadway Local relief (concave, convex, none): — Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	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 comparison to DP 8.

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. Salsola tragus	tr		FACU
2. Amaranthus blitoides	tr		FACW
3. Chenopodium album	tr		FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	tr		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ~100% % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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:
Mostly unvegetated, apparently due to herbicide spraying.

SOIL

Sampling Point: ND

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	2.5Y 4/2	100					Sandy loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators detected.

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 X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 12"

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators detected.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 10
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Constructed channel Local relief (concave, convex, none): — Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Irrigation canal

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.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
Total Number of Dominant Species Across All Strata: _____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (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:
Channel is unvegetated, but banks support Polygonum sp, Paspalum dilatatum, Sorghum halapense, Cyperus esculentus, Echinochloa colona, Leptochloa fascicularis, + Cynodon dactylon, etc.

SOIL

Sampling Point: 10

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

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

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

No soil pit dug due to depth and speed of water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

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 X No ____ Depth (inches): 18"

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

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

Wetland Hydrology Present? Yes X No ____

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

Remarks:

OHWM present + indicated by extent of scar.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 11N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): — Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: _____ NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Upland comparison to DP 10.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus lobata	70	✓	FAC*
2.			
3.			
4.			
Total Cover:	70		
Sapling/Shrub Stratum			
1. Sambucus nigra ssp. cerulea	20	✓	FAC
2.			
3.			
4.			
5.			
Total Cover:	20		
Herb Stratum			
1. Epilobium brachycarpum	10	✓	N/L
2. Cynodon dactylon	10	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	20		
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

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

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

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 110

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12"	2.5 Y 3/2	100					clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators detected.

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 X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 12"

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 12
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): ——— Slope (%): ———
Subregion (LRR): C Lat: ——— Long: ——— Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ——— (If no, explain in Remarks.)
Are Vegetation ———, Soil ———, or Hydrology ——— significantly disturbed? Are "Normal Circumstances" present? Yes X No ———
Are Vegetation ———, Soil ———, or Hydrology ——— naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Drainage ditch Note – feature dead-ends into recently-tilled field.

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.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ——— (A)
Total Number of Dominant Species Across All Strata: ——— (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ——— (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:
Feature is primarily invegetated, but Phalaris aquatica + Epilobium brachycarpum are present on banks.

SOIL

Sampling Point: 12

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	2.5Y 3/2	100					mucky modified mineral	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

Water Table Present? Yes X No ___ Depth (inches): 2"

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

Wetland Hydrology Present? Yes X No ___

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

Remarks:

OHWM present + indicated by change in veg

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Shifler Property City/County: Yolo County Sampling Date: 9/10/10
Applicant/Owner: Teichert Aggregates State: CA Sampling Point: 13N
Investigator(s): Daria Snider Section, Township, Range: Section 27 + 28/T10N/R1E
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): — Slope (%): _____
Subregion (LRR): C Lat: _____ Long: _____ Datum: NAD83
Soil Map Unit Name: Yolo silt loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No X
Hydric Soil Present? Yes _____ No X
Wetland Hydrology Present? Yes _____ No X

Is the Sampled Area within a Wetland? Yes _____ No X

Remarks:
Upland comparison to DP 12.

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. Malva neglecta	10	✓	N/L
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover: 10			
Woody Vine Stratum			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0%

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	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:

SOIL

Sampling Point: 13N

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	2.5Y 3/2	100					sandy clay loam	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No Y

Remarks:

No hydric soil indicators detected.

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 X Depth (inches): 12"

Water Table Present? Yes _____ No X Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): 12"

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No wetland hydrology indicators detected.

ATTACHMENT B

Aerial Photograph

PROJECT NAME: Shifler Property - AERIAL

Kevin Ortega - 4/23/12, 1:48 PM

JOB NAME: Shifler Property - WD
PROJECT NO: 2010-109
MAP SCALE: 1"=200'
DATE: 9/15/2010
REVISION: 4/20/2012
FILE NAME: Shifler_WD_v3.dwg

Project Boundary [1]

NOTES

Gross project acreage: ± 320.4

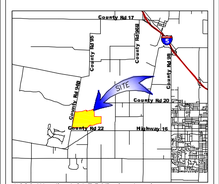
Base data source: Teichert

Aerial photo source: Digital Globe, September 2009

[1]Boundary source:
The project boundary extents depicted on this graphic have been provided by Teichert.

SCALE IN FEET
0 100 200 400
SCALE: 1"=200'

VICINITY MAP



USGS: Woodland, CA 7.5 Min. Quadrangle

SHIFLER PROPERTY

AERIAL PHOTOGRAPH

DATE: 9/15/2010	REVISION DATE: 4/20/2012	PROJECT NUMBER: 2010-109
CAD SPECIALIST: KO	SCALE: 1"=200'	MAP NAME: Shifler_WD_v3.dwg
MAP LOCATION: N:\2010\2010-109 Shifler Property\MAPS\Wetland_Mapping\Wetland_Delineation\v3		QA/QC:
WETLAND VERIFICATION LETTER DATE:		PM:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Inland Empire
215 North 5th Street
Redlands, CA 92374
Ph: (909) 307-0046

Northern California
2525 Warren Drive
Rocklin, CA 95677
Ph: (916) 782-9100

San Diego Region
3914 Murphy Canyon Rd.
Suite A232
San Diego, CA 92123
Ph: (858) 279-4040

Bay Area
1488 Harrison Street
Suite 303
San Fransisco, CA 94103
Ph: (415) 553-4101

Orange County
1801 Park Court Place
Building B, Ste 103
Santa Ana, CA 92701
Ph: (714) 648-0630

ATTACHMENT C

Plant Species Observed On-Site

Shifler Property
Wetland Delineation
Plant Species Observed On-Site

Scientific Name	Common Name	Indicator Status
Ailanthus altissima	Tree-of-heaven	FACU
Amaranthus albus	Pigweed amaranth	FACU
Amaranthus blitoides	Prostrate amaranth	FACW
Asclepias fascicularis	Narrow-leaf milkweed	FAC
Avena fatua	Wild oat	N/L
Bromus hordeaceus	Soft brome	FACU-
Bromus madritensis ssp. *rubens*	Red brome	NI
Chenopodium album	Lamb's quarters	FAC
Convolvulus arvensis	Morning glory	N/L
Conyza canadensis	Canada horseweed	FAC
Cynodon dactylon	Bermuda grass	FAC
Cyperus esculentus	Yellow nutgrass	FACW
Datura wrightii	Jimson weed	N/L
Echinochloa colona	Jungle rice	FACW
Echinodorus berteroi	Burhead	OBL
Epilobium brachycarpum	Panicled willow-herb	N/L
Epilobium ciliatum	Hairy willow-herb	FACW
Eremocarpus setigerus	Turkey mullein	N/L
Helianthus annuus	Common sunflower	FAC-
Hirschfeldia incana	Mustard	N/L
Juglans hindsii	Black walnut	FAC
Juglans regia	English walnut	N/L
Lactuca serriola	Prickly lettuce	FAC
Lepidium latifolium	Broad-leaf pepper grass	FACW
Leptochloa fascicularis	Bearded sprangletop	OBL
Lolium multiflorum	Italian ryegrass	FAC*
Lycopersicon esculentum	Cultivated tomato	N/L
Marrubium vulgare	Common horehound	FAC
Nicotiana glauca	Tree tobacco	FAC
Paspalum dilatatum	Dallis grass	FAC
Phalaris aquatica	Harding grass	FAC+
Proboscidea lutea	Devil's claw	N/L
Polygonum species	Smartweed	- -
Portulaca oleraceus	Common purslane	FAC
Quercus lobata	Valley oak	FAC*
Raphanus sativus	Purple wild radish	N/L
Rumex crispus	Curly dock	FACW-
Silybum marianum	Milk thistle	N/L
Sorghum halepense	Johnson grass	FACU

Shifler Property
Wetland Delineation
Plant Species Observed On-Site

Scientific Name	Common Name	Indicator Status
Toxicodendron diversilobum	Poison oak	N/L
Tribulus terrestris	Puncture vine	N/L
Typha angustifolia	Narrow-leaf cattail	OBL
Typha species	Cattail	OBL

Indicator Status Codes

OBL = Obligate Wetland; occur almost always (estimated probability >99%) under natural conditions in wetlands.
FACW = Facultative Wetland; usually occur in wetlands (estimated probability 67%-99%) under natural conditions in wetlands.
FAC = Facultative; equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
FACU = Facultative Upland; usually occur in non-wetlands (estimated probability 67%-99%).
UPL = Obligate Upland; occur almost always (estimated probability >99%) in non-wetlands in the region specified.
N/L = Not Listed.
NI = No indicator was recorded for those species for which insufficient information was available to determine a status.
-- = May or may not occur in wetlands depending upon species.
A positive (**+**) sign indicates a frequency toward the higher (more frequently found in wetlands) end of the facultative categories.
A negative (**-**) sign indicates a frequency toward the lower (less frequently found in wetlands) end of the facultative categories.
An asterisk (*) indicates a tentative assignment based upon limited information or conflicting review.

ATTACHMENT D

Wetland Delineation

PROJECT NAME: Shifler Property - WETLAND DELINEATION

Kevin Ortega - 4/23/12, 1:49 PM

WETLANDS [3]

Seasonal Wetland

ID	EXISTING SQ. FEET	EXISTING ACREAGE
SW-1	616	0.014

Marsh

ID	EXISTING SQ. FEET	EXISTING ACREAGE
Marsh-1	404	0.009

OTHER WATERS [3]

Pond

ID	EXISTING SQ. FEET	EXISTING ACREAGE
Pond-1	4269	0.098

Irrigation Canal

ID	EXISTING SQ. FEET	EXISTING ACREAGE	LINEAR FEET
IC-1	8005	0.184	1149
IC-2	19145	0.440	1235
IC-3	48120	1.105	3207

Drainage Ditch

ID	EXISTING SQ. FEET	EXISTING ACREAGE	LINEAR FEET
DD-1	247	0.006	49

Waters of the U.S.

3 CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG
△ 01	-121.857196 / 38.679875
△ 03	-121.857310 / 38.679859
△ 06	-121.857977 / 38.687946
△ 08	-121.857430 / 38.686244
△ 10	-121.857140 / 38.686723
△ 12	-121.857307 / 38.679947

Upland

3 CRITERIA SAMPLE POINT	GPS COORDINATES LAT/LONG
△ 02N	-121.857174 / 38.679884
△ 04N	-121.857337 / 38.679832
△ 05N	-121.858828 / 38.687710
△ 07N	-121.859030 / 38.688255
△ 09N	-121.857437 / 38.686223
△ 11N	-121.857133 / 38.686723
△ 13N	-121.857327 / 38.679952

JOB NAME: Shifler Property - WD
PROJECT NO: 2010-109
MAP SCALE: 1"=200'
DATE: 9/15/2010
REVISION: 4/20/2012
FILE NAME: Shifler_WD_v3.dwg

WATERS OF THE U.S. ACREAGE [1]

CLASSIFICATION	EXISTING ACREAGE
WETLANDS:	
Seasonal Wetland	0.014
Marsh	0.009
OTHER WATERS:	
Pond	0.098
Irrigation Canal	1.729
Drainage Ditch	0.006
TOTAL:	1.856

OTHER FEATURES

△ Three Criteria Sample Point

Project Boundary [2]

Culvert

NOTES

Gross project acreage: ± 320.4

Base data source: Teichert

Aerial photo source: Digital Globe, September 2009

Topographic data source: Woodland USGS Topographic Quadrangle

Delineator: D. Snider

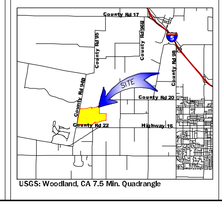
[1] *Subject to U.S. Army Corps of Engineers verification.*
This exhibit depicts information and data produced in strict accord with the wetland delineation methods described in the 1987 Corps of Engineers Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region and conforms to Sacramento District specifications. However, wetland boundaries have not been legally surveyed and may be subject to minor adjustments if exact locations are required.

[2] *Boundary source:*
The project boundary extents depicted on this graphic have been provided by Teichert Materials.

[3] *The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.*

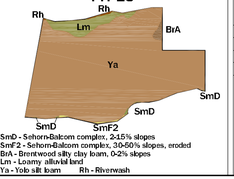
SCALE IN FEET
0 100 200 400
SCALE: 1"=200'

VICINITY MAP



USGS: Woodland, CA 7.5 Min. Quadrangle

NATURAL RESOURCES CONSERVATION SERVICE SOIL TYPES



SmD - Sehorn-Balcom complex, 2-15% slopes
SmF2 - Sehorn-Balcom complex, 30-50% slopes, eroded
BrA - Brentwood silty clay loam, 0-2% slopes
Lm - Loamy alluvial land
Ya - Yolo silt loam Rh - Riverwash

SHIFLER PROPERTY

WETLAND DELINEATION [1]

DATE: 9/15/2010	REVISION DATE: 4/20/2012	PROJECT NUMBER: 2010-109
CAD SPECIALIST: KO	SCALE: 1"=200'	MAP NAME: Shifler_WD_v3.dwg
MAP LOCATION: N:\2010\2010-109 Shifler Property\MAPS\Wetland_Mapping\Wetland_Delineation\v3		QA/QC:
WETLAND VERIFICATION LETTER DATE:		PM:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Inland Empire
215 North 5th Street
Redlands, CA 92374
Ph: (909) 307-0046

Northern California
2525 Warren Drive
Rocklin, CA 95677
Ph: (916) 782-9100

San Diego Region
3914 Murphy Canyon Rd.
Suite A232
San Diego, CA 92123
Ph: (858) 279-4040

Bay Area
1488 Harrison Street
Suite 303
San Francisco, CA 94103
Ph: (415) 553-4101

Orange County
1801 Park Court Place
Building B, Ste 103
Santa Ana, CA 92701
Ph: (714) 648-0630

ATTACHMENT E

Wetland Delineation Shape File (to be include with USACE submittal only)

ATTACHMENT F

USACE-Verified Wetland Map and Verification Letter (to be included in ECORP Consulting master copy only)