July 27, 2012

U.S. Army Corps of Engineers San Francisco District 1455 Market Street San Francisco, California 94103-1398

Attention: Mr. Cameron Johnson

RE: Request for Jurisdictional Determination EBMUD 39th Avenue Reservoir Replacement Project, Oakland, California

Dear Mr. Johnson

1. INTRODUCTION

On behalf of East Bay Municipal Utility District (EBMUD) (herein referred to as the applicant), Monk & Associates, Inc. (M&A) completed a wetland delineation of the proposed 39th Avenue Reservoir Replacement Project Site (herein referred to as the project site), located at 4290 Maybelle Avenue in the City of Oakland, California (Figures 1 and 2). The project site is approximately 7.6 acres. The applicant is proposing to improve existing access roads, replace the existing reservoir with a smaller tank type reservoir and replace the existing pipeline within the project site. Additional access roads and landscaping will be added within the existing reservoir footprint.

This letter-report presents the results of M&A's delineation of potential waters of the United States. M&A requests that the U.S. Army Corps of Engineers (Corps) confirm those areas on the project site that meet criteria as wetlands and all other areas that would be within the Corps jurisdiction pursuant to Section 404 of the Clean Water Act.

2. APPLICANT

East Bay Municipal Utilities District P.O. Box 24055, MS 604 Oakland, California 94623-1055 Attention: Mr. Tim Fuette Phone: (510) 287-1324

3. PROPERTY LOCATION AND SETTING

The project site is located in the City of Oakland, east of Highway 13 (Figure 1 and 2). It is bordered to the north by Selkirk Street and 39th Avenue, to the east by Gregory Place and to the south by residential housing and to the west by Maybelle Avenue, 39th Avenue and residential housing. The project site is bounded on its northwestern edge by 39th Avenue. The immediate

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surrounding area on all sides of the project site except the northwestern edge is dominated by residential housing. Figure 3 provides an aerial photograph showing the surrounding land use.

4. WETLAND DELINEATION METHODS

On July 11, 2012, Monk & Associates' biologists Ms. Hope Kingma and Ms. Christy Owens conducted a wetland delineation of the project site. Before conducting the delineation, M&A biologists reviewed the Natural Resources Conservation Service (NRCS) Soil Data Mart¹ for Alameda County to determine soil types within the project site.

The wetland delineation was conducted according to the Corps' 1987 *Wetlands Delineation Manual*² in conjunction with the Regional Supplement for the Arid West Region³. Vegetation, hydrology, and soils information from selected data points were recorded on data sheets that are attached to this report. The locations of these data points are indicated on the preliminary wetland delineation map (Sheet 1).

Data points and potential wetland areas were mapped using a Trimble Pro-XR Global Positioning System (GPS) having sub-meter accuracy. GPS data were corrected using base station files from California Survey and Drafting. The delineation map was made from the GPS files using ArcMap 9.0. All spatial data were projected into the California State Plane, NAD 83 coordinate system, Zone 3. Using GPS technology, the boundaries (within 30 inches) of each delineated wetland was transferred to an aerial photograph of the project site (Sheet 1).

5. WETLAND DELINEATION RESULTS

5.1 Project Site Topography and Hydrology

The project site topography is slightly to moderately sloped along the northern, southern and eastern edges of the project site adjacent to the reservoir. The western half of the project site is slightly sloped on the northwestern, western and southwestern edges of the project site which drain to a topographic low in the center of the western half of the project site near the pump station (Figures 2 and 3).

There are three small potential seasonal wetlands mapped in topographic low areas on the western half of the project site. Two smaller potential seasonal wetlands occur to the east of the pump station (ISW1 & ISW2on Sheet 1). The other small potential seasonal wetland occurs near the northern boundary of project site adjacent to a paved access road that surrounds the existing

¹ NRCS. 2012. Natural Resources Conservation Service Soil Data Mart website INTERNET: <u>http://soildatamart.nrcs.usda.gov/Default.aspx</u>

² U.S. Army Corps of Engineers. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station. Technical Report, Y-87-1. Vicksburg, Mississippi. 100 pp

³ U.S. Army Corps of Engineers. 2008. Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2). 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 (December 2008).

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reservoir. This feature appears to be fairly new, developing due to a broken irrigation pipe from the backyard of an offsite residence (ISW3 on Sheet 1).

There is one potential "other waters" mapped in the topographic low on the western half of the project site. This drainage feature drains west from the pump station towards the toe of the berm surrounding the reservoir. Although there are a few small discrete pockets of hydrophytic vegetation along this drainage feature, the feature as a whole supports less than 5% vegetation, with evidence of scour and drift deposits, and thus meets the criteria to be classified as an "other water" (IOW1 on Sheet 1).

5.2 Project Site Soils

The Natural Resources Conservation Service (NRCS) mapped one soil series, Xerorthents-Los Osos complex, 30 to 50 percent slopes, on the project site. Figure 4 provides a map of the soil type mapped on the project site. This soil complex is found in areas used mainly for residential developments that have a density of two to four single-family dwellings per acre on moderately sloping topography. The parent material typified by this complex is variable due to its high use in urban construction. Very slow to slow permeability and rapid runoff is characteristic of the soil types within this complex and the typical vegetation currently associated with them is residential and urban landscaping and horticultural features.

During the site investigation visit, test pits dug by M&A at each sample site for the wetland delineation confirmed that much of the project site soils were consistent with the soil description provided by the NRCS. The soil matrix colors in the areas mapped as hydric soils were noted as 10YR2/2, or 10YR2/1 with redoximorphic features noted as 7.5YR4/4 and 5YR4/6. Soil matrix colors in areas mapped as non-hydric soils were noted as 10YR3/3, 10YR3/2 and 10YR2/2, with no redoximorphic features.

5.2.1 XEROTHENTS-LOS OSOS COMPLEX, 30 TO 50 PERCENT SLOPES

The Xerothents-Los Osos Complex soils are comprised of 70% of Xerorthents, loamy and similar soils, 20% of Los Osos silty clay loam and similar soils, 5% of Alamount clay and similar soils, 3% of Climara clay and similar soils and 2% of Millsholm silty loam and similar soils. This complex consists of soils on hills at an elevation of 200 to 1,500 feet. Xerorthents consist of soil material from urban cut and fill activities thus its characteristics are widely variable. These materials are comprised of clay loam, heavy loam and silty clay loam with as much as 20% angular fragments of shale and sandstone. Permeability is slow, runoff is rapid and the risk of erosion is high. However, there is no water-restricting layer and the rooting zone is more than 10 inches deep.

The Los Osos soil is moderately deep and well-drained, weathered from sedimentary rock and characterizes most undisturbed portions of this soil unit. The Los Osos soils are characterized by grayish-brown, silty clay loam to approximately 8 inches below soil surface. The subsoil extends to a depth of 30 inches and is typified by a dark grayish-brown, silty clay loam underlain by weathered shale. Permeability is slow, runoff is rapid and the risk of erosion is high. However, there is no water-restricting layer and the rooting zone is 24 to 40 inches deep.

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5.3 Plant Communities

A complete list of plant species observed on the project site is presented in Table 1. Nomenclature used for plant names follows *The Jepson Manual*, 2^{nd} edition (Baldwin 2012) and changes made to this manual as published on the Jepson Interchange Project website⁴.

The majority of the project site is highly manipulated and disturbed. Habitats found within the project area are described below.

5.3.1 ANTHROPOGENIC COMMUNITIES

The existing vegetation over most of the project site is classified as an anthropogenic community. Anthropogenic communities are plant communities dominated by plants introduced by man and established or maintained by human disturbance. Some of these communities are assemblages of ruderal species that have invaded disturbed areas while others are entirely artificial communities such as urban landscaping or orchards. Specifically, the project site is dominated by an "urban mix" of plant species. This occurs in areas adjacent to urban or residential developments where horticultural plants have escaped and naturalized or been planted. In such areas, a mix of native and non-native vegetation typically occurs.

The overstory includes native tree species, some of which are often planted for landscaping, such as coast redwood (*Sequoia sempervirens*), Monterey pine (*Pinus radiata*), big leaf maple (*Acer macrophyllum*) and coast live oak (*Quercus agrifolia*). Non-native tree species that also occur in the overstory include golden wattle (*Acacia pycnantha*), Chinese elm (*Ulmus parvifolia*) and late cotoneaster (*Cotoneaster lacteus*). The understory varies from largely unvegetated with redwood and pine duff, to areas completely dominated by English ivy (*Hedera helix*). Non-native species that occur in the understory include bull thistle (*Cirsium vulgare*), stinkwort (*Dittrichia graveolens*), common chickweed (*Stellaria media*), cutleaf geranium (*Geranium dissectum*), bristly ox-tongue (*Helminthotheca echioides*), Himalayan blackberry (*Rubus armeniacus*) and spiderwort (*Tradescantia fluminensis*). A few native species occur in the understory including Spanish clover (*Acmispon americanus* var. *americanus*), small-flowered melic (*Melica imperfecta*) and miner's lettuce (*Claytonia perfoliata*).

5.3.2 SEASONAL WETLANDS AND DRAINAGE FEATURES

Several small potential seasonal wetlands and one sparsely vegetated drainage feature occur within topographic low areas in the center of the western half of the project site. These potential wetland features support a mix of both hydrophytic (wetland) and upland vegetation. Non-native species that occur within these features include prickly lettuce (*Lactuca serriola*)(FACU), prostrate spurge (*Chamaesyce prostrata*)(FACU), hyssop loosestrife (*Lythrum hyssopifolia*)(OBL), common vetch (*Vicia sativa*)(FACU) and common knotweed (*Polygonum aviculare*)(FACW). Native species that occur within these features include alder (*Alnus rhombifolia*)(FACW), summer cottonweed (*Epilobium brachycarpum*)(UPL), Pacific willow (*Salix lasiandra* var. *lasiandra*)(FACW), flatsedge (*Cyperus eragrostis*)(FACW), rush (*Juncus mexicanus*)(FACW) and narrow-leaved cattail (*Typha angustifolia*)(OBL). All areas mapped as seasonal wetlands were characterized by a dominance of hydrophytic vegetation and their adjacent upland areas were dominated by upland vegetation.

⁴ <u>http://ucjeps.berkeley.edu/interchange/index.html</u>

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The small potential seasonal wetland (ISW3 on Sheet 1) on the northern boundary of the project site, adjacent to the paved road supports non-native species such as wart cress (*Lepidium didymum*)(UPL), prostrate spurge, common vetch and scarlet pimpernel (*Anagalis arvensis*)(FAC), and native species such as black nightshade (*Solanum americanum*)(UPL). Wetland taxa that occur within this feature include the non-native species everlasting cudweed (*Pseudognaphalium luteoalbum*)(FAC) and hyssop loosestrife (*Lythrum hyssopifolia*)(OBL) and the native species toad rush (*Juncus bufonius* var. *bufonius*)(FACW). As for all areas mapped as seasonal wetlands, this feature is dominated by hydrophytic vegetation.

6. DISCUSSION

The potential seasonal wetlands and other waters on the project site are considered to be "isolated" since these features have no connectivity to waters of the United States or navigable waters, and therefore are not subject to the Corps' jurisdiction pursuant to the SWANCC Supreme Court decision.

7. ADDITIONAL INFORMATION

In addition to the regional location and project site location maps (Figures 1 and 2), M&A is including an aerial photograph (Figure 3), a soils map (Figure 4), a list of plants observed on the project site (Table 1), and a preliminary wetland delineation map depicted over an aerial photograph of the project site (Sheet 1). We have also attached the seven routine data sheets for the sampling sites that were investigated, which indicate the soil properties, presence/absence of hydrology indicators, and the plant species that were identified as dominants at each data point.

I would like to schedule a site visit at your convenience to further discuss our methods and findings and so that the Corps can verify the extent of its jurisdiction on the project site. Should you have questions or need other information, please do not hesitate to call me anytime at (925) 947-4867 ext. 212. Many thanks for your consideration.

Sincerely,

Ms. Hope Kingma Associate Biologist

cc: Mr. Tim Fuette, EBMUD

Attachments: Figures 1-4 Table 1 Data Sheets 1-7 Sheet 1: Preliminary Wetland Delineation Map





Monk & Associates Environmental Consultants 1136 Saranap Avenue, Suite Q Walnut Creek, California 94595 (925) 947-4867 Figure 2. 39th Avenue Reservoir Replacement Project 4290 Maybelle Avenue Location Map Oakland, California

7.5-Minute Oakland East quadrangle Map Preparation Date: May 29, 2012 Aerial Photograph Source: http://goto.arcgisonline.com/ maps/World_Imagery (2008)



Monk & Associates Environmental Consultants 1136 Saranap Avenue, Suite Q Walnut Creek, California 94595 (925) 947-4867 ^o 50 100 200 300 400 500 Figure 3. Aerial Photograph of the 39th Avenue Reservoir Replacement Project 4290 Maybelle Avenue, Oakland, California

Map Preparation Date: July 27, 2012 Aerial Photograph Source: http://goto.arcgisonline.com/ maps/World_Imagery (2008)



1136 Saranap Avenue, Suite Q Walnut Creek, California 94595 (925) 947-4867

39th Avenue Reservoir Replacement Project 4290 Maybelle Avenue, Oakland, California

http://goto.arcgisonline.com/ maps/World_Imagery (2008) Soils Data Source: http://soildatamart.nrcs.usda.gov

Table 1

Plants Species Observed on the 39th Avenue Reservoir Replacement Project Site

Cupressaceae	
Sequoia sempervirens	Redwood
Pinaceae	
Pinus radiata	Monterey pine
ngiosperms - Dicots	
Araliaceae	
*Hedera helix	English ivy
Asteraceae	
*Cirsium vulgare	Bull thistle
*Dittrichia graveolens	Stinkwort
*Helminthotheca echioides	Bristly ox-tongue
*Lactuca saligna	Willow lettuce
*Lactuca serriola	Prickly lettuce
*Pseudognaphalium luteoalbum	Everlasting cudweed
Betulaceae	
Alnus rhombifolia	White alder
Brassicaceae	
*Lepidium didymum	Wart cress
Caryophyllaceae	
*Stellaria media	Common chickweed
Euphorbiaceae	
*Chamaesyce prostrata	Prostrate spurge
Fabaceae	Sheed attended And 🗸 .
*Acacia pycnantha	Golden wattle
Acmispon americanus var. americanus	Spanish-clover
*Vicia sativa	Common vetch
Fagaceae	
Quercus agrifolia var. agrifolia	Coast live oak
Geraniaceae	
*Geranium dissectum	Cut-leaf geranium
Lythraceae	
*Lythrum hyssopifolia	Hyssop loosestrife
Myrsinaceae	
*Anagalis arvensis	Scarlet pimpernel
Onagraceae	
Epilobium brachycarpum	Summer cottonweed

* Indicates a non-native species

1

Table 1

Plants Species Observed on the 39th Avenue Reservoir Replacement Project Site

Delugeneese	
Polygonaceae	
*Polygonum aviculare	Common knotweed
Rosaceae	
*Cotoneaster lacteus	Late cotoneaster
*Rubus armeniacus	Himalayan blackberry
Salicaceae	
Salix lasiandra var. lasiandra	Pacific willow
Sapindaceae	
Acer macrophyllum	Big-leaf maple
Solanaceae	
Solanum americanum	Black nightshade
Ulmaceae	
*Ulmus parvifolia	Chinese elm
ngiosperms -Monocots Commelinaceae	
*Tradescantia fluminensis	Spiderwort
Cyperaceae	
Cyperus eragrostis	Tall flatsedge
Juncaceae	
Juncus bufonius var. bufonius	Toad rush
Juncus mexicanus	Mexican rush
Poaceae	
Melica imperfecta	Small-flowered melic
Typhaceae	
N7494	

Typha angustifolia

Narrow-leaved cattail

* Indicates a non-native species

Project/Site: 39th Avenue Reservoir Replacemen		City/C	County: Oakla	nd	Sampling Date: 7/11/12
Applicant/Owner. East Bay Municipal Utilities Di	strict				Sampling Point: 1
Investigator(s): Hope Kingma & Christy Owens		Sectio	on, Township, F	Range: San Antonio	T
Landform (hillslope, terrace, etc.): hillslope					Slope (%) 2%
Subregion (LRR): California).43"N	122°11'18.7"V	V Datum: <u>NAD 83</u>
Soil Map Unit Name: Xerorthents-Los Osos Compl					
			57		ation:
Are climatic / hydrologic conditions on the site typical for				(If no, explain in R	
Are Vegetation Soi or Hydrology	The second	intly disturt		e "Normal Circumstances"	
Are Vegetation, Soil, or Hydrology	naturally	/ problema	itic?	needed, explain any answe	s in Remarks.)
SUMMARY OF FINDINGS - Attach site n	nap sho	wing sa	mpling poir	t locations, transects	, important features, etc
				and the second se	
Hydrophytic Vegetation Present? Yes	No		Is the Sample	d Area	
Hydric Soil Present? Yes	No		within a Wetla	and? Yes 🛛	No
Wetland Hydrology Present? Yes X Remarks:	No				
Neihains.					
Topographic low that collects surface runoff fro	m slope a	and hard	scape above.		
VEGETATION - Use scientific names of pla	ants.				
	Absol	ute Domi	nant Indicator	Dominance Test works	heet:
Tree Stratum (Plot size: 1 sq meter)	1 mail 1 mail 1		ies? <u>Status</u>	Number of Dominant Sp	ecies
1. Sequoia sempervirens		<u> </u>	UPL	That Are OBL, FACW or	
2				Total Number of Domina	nt
3				Species Across All Strata	
4	40			Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: 1sq meter	40	= Tota	al Cover	That Are OBL, FACW or	
1				Prevalence Index works	sheet.
2	× 1			Total % Cover of:	
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4				Service and the service and the service of the serv	x2= 30
5					x3=
1		🚆 Tota	Cover	The second se	x4=
Herb Stratum (Plot size: 1 sq meter)	F	NZ	LIDI	UPL species 15	x5= 75
1. Dittrichia graveolens 2 Polygonum aviculare	$-\frac{5}{15}$	$-\frac{X}{X}$	$-\frac{\text{UPL}}{\text{EACW}}$	Column Totals: 37	(A) <u>112</u> (B)
3 Helminthotheca echioides	$-\frac{15}{2}$	<u> </u>	FACW		30
4 Lactuca serriola	$-\frac{2}{1}$		FACU FACU	Prevalence Index	
5 Vicia sativa	$-\frac{1}{1}$		$-\frac{FACU}{FACU}$	Hydrophytic Vegetation	
6. Hedera helix	$-\frac{1}{1}$		$-\frac{1ACO}{UPL}$	Prevalence Index is:	
7 Lythrum hyssopifolium	$-\frac{1}{7}$	$-\frac{1}{X}$	$-\frac{OTL}{OBL}$		ations ¹ (Provide supporting
8. Melica imperfecta	$-\frac{7}{3}$		- UPL	data in Remarks of	or on a separate sheet)
D	$-\frac{3}{35}$	= Total		Problematic Hydroph	ytic Vegetation ¹ (Explain)
Noody Vine Stratum (Plot size:)		101al	Cover		
					nd wetland hydrology must
2	_			be present, unless disturb	ed or problematic.
		= Total	Cover	Hydrophytic	
% Bare Ground in Herb Stratum <u>65</u> % Cove	er of Biotic	Crust		Vegetation Present? Yes	
Remarks:				1.000111: 165	
VGT HOLINO.					
vegetation suppression due to prolonged inundat	ion. Mee	ets the hy	drophytic ve	getation criterion.	

SOIL

Sampling Point: 1

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(inches)	Color (moist)	%	Color (moist)		LOC ²	Texture	Remarks	
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	ucky Mineral (SI)		Vernal Pools	(F9)			ology must be present	
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ixed soil p	rofile. Gravelly I Y	Loam with	1 5% redoximorp	hic features.				
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V

Project/Site: 39th Avenue Reservoir Replacemen		City/C	ounty: <u>Oaklar</u>	ıd	_ Sampling Date:	7/11/12
Applicant/Owner. East Bay Municipal Utilities Di				State: CA		
Investigator(s): Hope Kingma & Christy Owens		Sectio	n, Township, R	ange: San Antonio		
Landform (hillslope, terrace, etc.): level ground		Local	relief (concave	, convex, none): <u>none</u>	SI	ope (%) 0
Subregion (LRR): California	Lat	37°47'40	.43"N	Long: <u>122°11'18.7'''</u>	W Dat	um: NAD 83
Soil Map Unit Name: Xerorthents-Los Osos Comp.	lex			NWI dassifi	cation:	
Are climatic / hydrologic conditions on the site typical fo	r this time o	of year? Ye	No No	(If no, explain in F	Remarks.)	
Are Vegetation Soil or Hydrology	significa	ntly disturb	ed? 🗌 Are	"Normal Circumstances"	present? Yes	
Are Vegetation, Soil, or Hydrology	naturally	problemat	tic? 🔲 (If r	needed, explain any answe	ers in Remarks.)	
SUMMARY OF FINDINGS - Attach site r	nan sho	wina sai	mplina poin	t locations transect	s important fe	at mas ot
· · · · · · · · · · · · · · · · · · ·		T	npm ig pon i			
Hydrophytic Vegetation Present? Yes	No		Is the Sample	d Area		
Hydric Soil Present? Yes Wetland Hydrology Present? Yes			within a Wetla	ind? Yes	No	
Wetland Hydrology Present? Yes X Remarks:						
Normano.						
Upland sample point adjacent to seasonal wetla						
/EGETATION - Use scientific names of pl	ants.					
Tree Stratum (Plot size: 1 sq meter			nant Indicator es? <u>Status</u>	Dominance Test work	sheet:	
1)	S	ver spea	es <u>salus</u>	Number of Dominant S That Are OBL, FACW		(0)
2						(A)
3				Total Number of Domin Species Across All Stra	1	(B)
4						(0)
a someter		= Tota	l Cover	Percent of Dominant Sp That Are OBL, FACW of		(A/B)
Sapling/Shrub Stratum (Plot size: 1 sq meter)				Drovelance Index week		(- /
1				Prevalence Index worl Total % Cover of:		v bv:
2 3			20 - 20 4 5 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -		$x_1 = \frac{2}{2}$	<u>/ 0v.</u>
4				FACW species 20	x2= 40	
5				FAC species	x3=	
1 sa matar	-	🖁 Total	Cover		x4=	
Herb Stratum (Plot size: <u>1 sq meter</u>) Dittrichia graveolens	6	x	UPL		$x_{5} = \frac{40}{3}$	
Acmispon americanus var. americanus	$-\frac{0}{2}$		$-\frac{UPL}{UPL}$	Column Totals: 30	(A) <u>82</u>	(B)
Polygonum aviculare	$-\frac{2}{20}$	$-\frac{1}{x}$	FACW	Prevalence Inde	€B/A = 2.7	
Lythrum hyssopifolia	$-\frac{-1}{2}$		OBL	Hydrophytic Vegetatio		
		-		Dominance Test is :		
				Prevalence Index is	:≤3.0¹	
				Morphological Adap		
					or on a separate	
Les du Viers Otrature (Dist alers)	30	_ = Total	Cover	Problematic Hydrop	nytic vegetation1	(⊏xpiain)
Voody Vine Stratum (Plot size:)				¹ Indicators of hydric soil	and wetland hydro	loav must
				be present, unless distur		
		= Total	Cover	Hydrophytic		
6 Bare Ground in Herb Stratum 70 % Cov				Venetation		1
	er of Biotic	Crust		Present? Yes]
Remarks:						

SOIL

Sampling Point: 2

Depth	Matrix	0/		Features	1000	-		
<u>(inches)</u> 0-12	<u>Color (moist)</u> 10YR2/2	<u>%</u>	Color (moist)	<u>%</u> Type ¹	LOC ²		Rema	irks
0-12	101102/2					Gravelly loam		
						21		
	-							
dhe nes tract.								
		1						
			Reduced Matrix, CS=		Sand Gra		on: PL=Pore Lining	
<u> </u>		able to all L	RRs, unless otherw	and the second		and the second second	Problematic Hydi	ric SoilS3:
Histoso	pipedon (A2)		Sandy Redox				ck (A9) (LRR C)	
Black H			Stripped Matr				k (A10) (I-RR 13) Vertic (F18)	
	en Sulfide (A4)		Loamy Gleye				nt Material (TF2)	
	d Layers (A5) (LRR (C)	Depleted Mat			And the second se	plain in Remarks)	
🗌 1 cm Mi	uck (A9) (LRR D)		Redox Dark S				p	
	d Below Dark Surfac	e (Al 1)	Depleted Dark					
	ark Surface (A12)		Redox Depres				ydrophytic vegetat	
	Aucky Mineral (SI)		U Vernal Pools (F9)			lrology must be pre	
	Gleyed Matrix (S4) Layer (if present):					unless distu	rbed or problematic).
_	Layer (il present):							
Туре:								
Dauth line	-h							57
emarks:	thes):					Hydric Soil Pr	resent? Yes	No 🛛
emarks:) redoxim	orphic features.	Non-hydric	e soil.			Hydric Soil Pr	resent? Yes	No 🛛
o redoxim	orphic features.	Non-hydric	e soil.			Hydric Soil Pr	resent? Yes	No 🛛
emarks:) redoxim DROLOC etland Hyd	orphic features. 3Y rology Indicators:					Hydric Soil Pr	resent? Yes	No
emarks:) redoxim DROLOC etland Hyd imary Indic	orphic features. GY rology Indicators: ators (minimum of or						v Indicators (2 or m	
o redoxim DROLOC etland Hyd imarv Indic	orphic features. GY rology Indicators: ators (minimum of or Water (Al)		check all that apply)	er - Mary		Secondar		ore required)
emarks: DROLOC etland Hyd imarv Indic Surface 1 High Wat	orphic features. GY Irology Indicators: ators (minimum of or Water (Al) ter Table (A2)		check all that apply) Salt Crust (B1	312)		<u>Secondar</u> Wate Sedir	<u>v Indicators (2 or m</u> r Marks (B1) (Rive nent Deposits (B2)	ore required) rine) (Riverine)
emarks: DROLOC etland Hyd imarv Indic Surface High Wat Saturatio	orphic features. GY Irology Indicators: ators (minimum of or Water (Al) ter Table (A2) n (A3)	ne reciuired: c	check all that apply) Salt Crust (B1 Biotic Crust (E Aquatic Invert	812) ebrates (B13)		<u>Secondar</u> ☐ Wate ☐ Sedir ☐ Drift I	<u>v Indicators (2 or m</u> r Marks (B1) (Rive nent Deposits (B2) Deposits (B3) (Rive	ore required) rine) (Riverine) rrine)
emarks: DROLOC etland Hyd imarv Indic Surface V High Wat Saturatio Water M	orphic features. GY rology Indicators: ators (minimum of or Water (AI) ter Table (A2) n (A3) arks (BI) (Nonriverin	ne reciuired: c	check all that applv) Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Su	312) ebrates (B13) Ifide Odor (Cl)		Secondar Wate Sedir Drift I Drain	v Indicators (2 or m r Marks (B1) (Rive nent Deposits (B2) Deposits (B3) (Rive age Pattems (B10)	ore required) rine) (Riverine) rine)
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emarks: DROLOC etland Hyd imarv Indic Surface V High Wat Saturation Water M Sediment Drift Dep Surface S Inundation Water-Sta Id Observation face Water ter Table Produces capil	orphic features.) GY rology Indicators: ators (minimum of or Water (AI) ter Table (A2) n (A3) arks (BI) (Nonriverin t Deposits (B2) (Non osits (B3) (Nonriverin cosits (B3) (ne reciuired; c nriverine) ne) nagery (B7) s No s No s No	check all that applv) Salt Crust (B1 Biotic Crust (E Aquatic Invert Hydrogen Su Oxidized Rhizos Presence of F Recent Iron R Thin Muck Su Other (Explain Chepth (inchest Depth (inchest	312) ebrates (B13) Ifide Odor (CI) spheres along Living F Reduced Iron (C4) teduction in Tilled S rface (C7) n in Remarks) s): s): s): s):	oils (C6) Wetlan	Secondar Wate Sedir Drift I Drain Dry-S Crayfi Satur Shalk FAC-I	v Indicators (2 or m r Marks (B1) (Rive nent Deposits (B2) Deposits (B3) (Rive age Pattems (B10) eason Water Table ish Burrows (C8) ation Visible on Aer w Aquitard (D3) Neutral Test (D5)	ore required) rine) (Riverine) erine) (C2) ial Imagery (C
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emarks: redoxim DROLOC etland Hyd marv Indic Surface 1 High Wat Saturatio Water M Sedimen Drift Dep Surface S Inundatio Water-Sta Id Observa face Water ter Table P uration Pre- dudes capil scribe Reco	orphic features.) GY rology Indicators: ators (minimum of or Water (AI) ter Table (A2) n (A3) arks (BI) (Nonriverin t Deposits (B2) (Non osits (B3) (Nonriverin cosits (B3) (ne reciuired; c nriverine) ne) nagery (B7) s No s No s No	check all that apply) Salt Crust (B1 Biotic Crust (B1 Aquatic Invert Hydrogen Su Oxidized Rhizos Presence of F Recent Iron R Thin Muck Su Other (Explain Other (inches Depth (inches	312) ebrates (B13) Ifide Odor (CI) spheres along Living F Reduced Iron (C4) teduction in Tilled S rface (C7) n in Remarks) s): s): s): s):	oils (C6) Wetlan	Secondar Wate Sedir Drift I Drain Dry-S Crayfi Satur Shalk FAC-I	v Indicators (2 or m r Marks (B1) (Rive nent Deposits (B2) Deposits (B3) (Rive age Pattems (B10) eason Water Table ish Burrows (C8) ation Visible on Aer w Aquitard (D3) Neutral Test (D5)	ore required) rine) (Riverine) erine) (C2) ial Imagery (C

Project/Site: 39th Avenue Reservoir Replacement		City/Co	ounty: Oaklan	d	Sampling Date:	7/11/12
Applicant/Owner: East Bay Municipal Utilities D					Sampling Point: _	3
Investigator(s): Hope Kingma & Christy Owens				ange: <u>San Antonio</u>		
				, convex, none): None.	Slo	pe (%) <u>0</u>
Subregion (LRR): California		37°47'40	43"N	Long: <u>122°11'18.7'</u>	W Datu	m: NAD83
Soil Map Unit Name: Xerorthents-Los Osos Comp	olex			NWI class	fication:	
Are climatic / hydrologic conditions on the site typical for	or this time o	of year? Ye	s Na	(If no, explain in	Remarks.)	
Are Vegetation Soil or Hydrology		ntly disturb		"Normal Circumstances	s" present?Yes 🔀	
Are Vegetation, Soil, or Hydrology	naturally	problemat	ic? 🔲 (If n	eeded, explain any answ	vers in Remarks.)	
SUMMARY OF FINDINGS - Attach site n	nap show	ing sam	nlina point	locations transec	ts important fea	atures et
			P			
Hydrophytic Vegetation Present? Yes	N∘		Is the Sample	d Area	-	
Hydric Soil Present? Yes Wetland Hydrology Present? Yes			within a Wetla	nd? Yes	No	
Remarks:						
Unland comple point						
Upland sample point	lamta					
/EGETATION - Use scientific names of p	v	the Derect		Deminent Test	la base	
Tree Stratum (Plot size:)			ant Indicator es? <u>Status</u>	Dominance Test wor Number of Dominant		
1				That Are OBL, FACW		(A)
2				Total Number of Dom		
3				Species Across All St		(B)
4				Percent of Dominant	Species	
Sapling/Shrub_Stratum (Plot size:)	<u>.</u>	= Tota	Cover	That Are OBL, FACW	or FAC: 33	(A/B
1		_		Prevalence Index wo	rksheet:	88 6.6
2				Total % Cover of:	Multiply	bv:
3				OBL species		
4				FACW species		
5				FAC species		
Herb Stratum (Plot size:)		🖁 Total	Cover	FACU species		
Acmispon americanus var. americanus	30	X	UPL	UPL species Column Totals:		
2 Dittrichia graveolens	25	X	UPL		(A)	(D)
B. Polygonum aviculare	30	X	FACW	Prevalence Ind		
Helminthotheca echioides	5		FACU	Hydrophytic Vegetati		
5				Dominance Test i		
),				Prevalence Index		
				data in Remark	aptations1 (Provide su s or on a separate s	heet)
3	90				ophytic Vegetation1 (E	
Voody Vine Stratum (Plot size:)			COVEL			
				¹ Indicators of hydric so be present, unless dist		
·					urbed or problematic	
		= Total	Cover	Hydrophytic Vegetation		
6 Bare Ground in Herb Stratum 10 % Co	ver of Biotic	Crust		Present? Ye	es 🔲 🛛 No 🗙	
Remarks:			1			

C	0	ŧ	ı.
0	υ	ł	L

Sampling Point 3

Depth <u>Ma</u> (inches) Color (mo	ist)%	Color (moist)	%	Type ¹	LOC ²	Texture	Remarks	
)-12 <u>10YR3/2</u>	100					Gravelly loam		
			·					
								1
Type: C= Concentration, D					and Gra		on: PL=Pore Lining, I	
ydric Soil Indicators: (A	pplicable to all L	LINE INTERNATION CONTRACTOR INTERNATION					Problematic Hydric	SoilS3:
Histosol (Al)		Sandy Redo					k (A9) (LRR C)	
Histic Epipedon (A2) Black Histic (A3)		Stripped Ma		Ň			< (A10) (I-RR 13) √ertic (F18)	
Hydrogen Sulfide (A4)		Loamy Gley		53 C			nt Material (TF2)	
Stratified Layers (A5) (I	LRR C)	Depleted Ma					plain in Remarks)	
1 cm Muck (A9) (LRR I		Redox Dark					iani ni itonianito)	
Depleted Below Dark S	urface (Al 1)	Depleted Da	rk Surface (F7	7)				
Thick Dark Surface (A1		Redox Depre	20 K				ydrophytic vegetation	
Sandy Mucky Mineral (Vernal Pools	s (F9)				rology must be preser	nt,
Sandy Gleyed Matrix (S					-	unless distu	rbed or problematic.	
etrictive I aver (if prece	nt):							
estrictive Layer (if prese					- 1			
Туре:							_	5-2
Type: Depth (inches): emarks:						Hydric Soil Pı	resent? Yes	No 🗙
Type: Depth (inches):						Hydric Soil Pr	resent? Yes	No⊠
Type: Depth (inches): marks: redoximorphic featur	es observed, no					Hydric Soil Pr	resent? Yes	No
Type: Depth (inches): emarks: redoximorphic featur DROLOGY	res observed, no ors:	n-hydric soil.					resent? Yes	
Type: Depth (inches): marks: redoximorphic featur DROLOGY tland Hydrology Indicat	res observed, no ors:	on-hydric soil.	No. of Lot			Secondary	/ Indicators (2 or more	e required)
Type: Depth (inches): marks: redoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI)	res observed, no ors:	on-hydric soil.	31 1)			Secondary	<u>/ Indicators (2 or more</u> Marks (B1) (Riverin e	<u>e required)</u>
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY tland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2)	res observed, no ors:	on-hydric soil.	31 1) (B12)	3)		Secondaru Water	/ Indicators (2 or more	e required) e) iverine)
Type: Depth (inches): marks: redoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI)	res observed, no ors: of one reciuired: o	on-hydric soil.	31 1) (B12) ertebrates (B13			Secondary Water Sedin Drift D	<u>/ Indicators (2 or more</u> Marks (B1) (Riverin ent Deposits (B2) (R Deposits (B3) (Riverin	e required) e) iverine)
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY tland Hydrology Indicat marv Indicators (minimum Surface Water (Al) High Water Table (A2) Saturation (A3)	res observed, no ors: of one reciuired: o iverine)	on-hydric soil. check all that apply) Salt Crust (B Biotic Crust Aquatic Inve	31 1) (B12) ertebrates (B13 Gulfide Odor (C	CI)	ots (C3)	Secondary Water Sedim Drift D Draina	<u>/ Indicators (2 or more</u> Marks (B1) (Riverin e nent Deposits (B2) (R	e required) e) iverine) e)
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY stland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr	res observed, no ors: of one reciuired: o iverine) (Nonriverine)	on-hydric soil. check all that applv) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz	31 1) (B12) ertebrates (B13 Gulfide Odor (C	CI) Living Roo	ots (C3)	Secondary Water Sedim Drift D Draina Dry-So	<u>/ Indicators (2 or more</u> Marks (B1) (Riverin nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10)	e required) e) iverine) e)
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY Stland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2)	res observed, no ors: of one reciuired: o iverine) (Nonriverine) riverine)	on-hydric soil. check all that applv) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of	31 1) (B12) ertebrates (B13 sulfide Odor (C cospheres along	CI) Living Roo (C4)		Secondary Water Sedim Drift D Draina Dry-S Crayfi	<u>A Indicators (2 or more</u> Marks (B1) (Riverin nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C	e required) e) iverine) e) 22)
Type: Depth (inches): emarks: DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non	res observed, no ors: of one reciuired: o iverine) (Nonriverine) riverine)	on-hydric soil. check all that applv) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of	31 1) (B12) ertebrates (B13 Sulfide Odor (C cospheres along F Reduced Iron Reduction in T	CI) Living Roo (C4)		Secondarv Water Sedim Drift D Draina Dry-S Crayfi Satura	/ Indicators (2 or more Marks (B1) (Riverine nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C sh Burrows (C8)	e required) e) iverine) e) 22)
Type: Depth (inches): marks: DROLOGY tland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6)	res observed, no ors: of one reciuired: o iverine) (Nonriverine) riverine) rial Imagery (B7)	om-hydric soil.	31 1) (B12) ertebrates (B13 Sulfide Odor (C cospheres along F Reduced Iron Reduction in T	CI) Living Roo (C4) Tilled Soi		Secondary Water Sedim Drift D Draina Dry-S Crayfi Satura Shallo	<u>/ Indicators (2 or more</u> Marks (B1) (Riverine nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C sh Burrows (C8) ation Visible on Aerial	e required) e) iverine) e) 22)
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (E Id Observations:	res observed, no ors: of one reciuired: o iverine) (Nonriverine) riverine) rial Imagery (B7) 39)	on-hydric soil.	B1 1) (B12) ertebrates (B13 Sulfide Odor (C cospheres along Reduced Iron Reduction in Surface (C7)	CI) Living Roo (C4) Tilled Soi		Secondary Water Sedim Drift D Draina Dry-S Crayfi Satura Shallo	<u>v Indicators (2 or more</u> Marks (B1) (Riverin nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C sh Burrows (C8) ation Visible on Aerial w Aquitard (D3)	e required) e) iverine) e) 22)
Type: Depth (inches): emarks: Predoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (B	res observed, no ors: of one reciuired: of iverine) (Nonriverine) riverine) rial Imagery (B7) 39) Yes 🔲 No	on-hydric soil. check all that apply) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of Recent Iron Thin Muck S Other (Expla	B1 1) (B12) ertebrates (B13 Sulfide Odor (C cospheres along Reduced Iron Reduction in Surface (C7)	CI) Living Roo n (C4) Tilled Soi		Secondary Water Sedim Drift D Draina Dry-S Crayfi Satura Shallo	<u>v Indicators (2 or more</u> Marks (B1) (Riverin nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C sh Burrows (C8) ation Visible on Aerial w Aquitard (D3)	e required) e) iverine) e) 22)
Type: Depth (inches): marks: Tredoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (E Id Observations:	res observed, no ors: of one reciuired: o iverine) (Nonriverine) riverine) rial Imagery (B7) 39)	on-hydric soil. check all that apply) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of Recent Iron Chin Muck S Other (Explation) Depth (inch	31 1) (B12) ertebrates (B13 sulfide Odor (C cospheres along Reduced Iron Reduction in Surface (C7) ain in Remarks	CI) Living Roo n (C4) Tilled Soi		Secondary Water Sedim Drift D Draina Dry-S Crayfi Satura Shallo	<u>v Indicators (2 or more</u> Marks (B1) (Riverin nent Deposits (B2) (R Deposits (B3) (Riverin age Patterns (B10) eason Water Table (C sh Burrows (C8) ation Visible on Aerial w Aquitard (D3)	e required) e) iverine) e) 22)
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Type: Depth (inches): marks: Tredoximorphic featur DROLOGY etland Hydrology Indicat marv Indicators (minimum Surface Water (Al) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonr Sediment Deposits (B2) Drift Deposits (B3) (Non Surface Soil Cracks (B6) Inundation Visible on Ae Water-Stained Leaves (E Id Observations: face Water Present? ter Table Present? uration Present?	res observed, no ors: of one reciuired: of (Nonriverine) riverine) rial Imagery (B7) 39) Yes No Yes No Yes No	on-hydric soil. check all that apply) Salt Crust (B Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of Recent Iron Thin Muck S Other (Expla Depth (inch Depth (inch	B1 1) (B12) ertebrates (B13 sulfide Odor (C cospheres along Reduced Iron Reduction in Surface (C7) ain in Remarks nes): es): es):	CI) Living Roo n (C4) Tilled Soi s)	ls (C6) Wetlan	Secondary Water Sedin Drift D Draina Dry-Si Crayfi Satura Shallo FAC-N	A Indicators (2 or more Marks (B1) (Rivering thent Deposits (B2) (R Deposits (B3) (Rivering age Patterns (B10) eason Water Table (C sh Burrows (C8) ation Visible on Aerial w Aquitard (D3) Neutral Test (D5)	e required) e) iverine) e) 22) Imagery (C
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Applicant/Owner: East Bay Municipal Utilities District State: CA Sampling Point: 4 Investigator(s): Hope Kingma & Christy Owens Section, Township, Range: San Antonio Landform (hillstope, terrace, etc.): level ground Local relief (concave, convex, none): None Slope (%) Subregion (LRR): California Lat: 37°47'40.43"N Long: 122°11'18.7"W Datum: NA Soil Map Unit Name: Xerorthents-Los Osos Complex NWI classification:		ent		ounty: <u>Oaklar</u>		Sampling Date: <u>7/11/1</u>	2
Landom (nilstope, terace, etc.): <u>level ground</u> Local relief (concave, convex, none); <u>None</u> Stopegin (RR); <u>California</u> Lard 3774/10.43'N Lorg 122*11'18.7'W Deturn NA Soil Map Unit Name: <u>Xerorthents-Los Osos Complex</u> NM deasification: Are Vagetaton <u>Soil</u> or Hydrology asignificantly disturbed? No (fine, organia in Ramarks.) Are Vagetaton <u>Soil</u> or Hydrology naturally problematic? (fineeded, explain any answers in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features Hydrophydic Vagetation Present? Yes No is the Sampled Area within a Wetland? Yes No is the Sampled Area within a Wetland? Yes No is the Sampled Area within a Wetland? Yes No is the Sampled Area within a Wetland? Yes No is the Sampled Area within a Wetland? Yes No is the Sampled Area within a Wetland? Yes is the Sampled Area Wetland Hydrology Present? Keent Stratum (Plot size:? Total Cover Hydrophydic Vagetation Plot size:? Total Cover Hydrophydic Vagetation (Plot size:? X OBL Jugetation Prevalence Index Vorksheet:					State: CA		
Landom (Nilsiope Lemace Lic) Level ground Load India (concave, convex, none); None Slope (%) Subresion (LRR): California Lat 37°4740.437 Long 122°11'18.7''W Datum NA Sol Map Unit Name: Xerorthemets-Los Osos Complex NM (Inc. explain in Remarks) we Vegetation Sol or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes Ne we Vegetation Sol or Hydrology isgnificantly disturbed? Are "Normal Circumstances" present? Yes Ne We Vegetation Sol or Hydrology isgnificantly disturbed? In re-explain in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features Hydrophytic Vegetation Present? Yes No Hydrophytic Vegetation Present? Yes No No No No No No No No No No			Sectio	n, Township, F		for this	
Sol Map Unit Name: Xerorthents-Los Osos Complex NMI dessification: ve dimutic/ /hydrologic conditions on the site typical for this time of year? Yes No (If no, explain IR Remarks.) ve Vegetation Sol or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Vegetation , Sol or Hydrology hat map showing sampling point locations, transects, important features Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No No Hydrophytic Vegetation Present? Yes Abcolute Dominant Indicator No	Landform (hillslope, terrace, etc.): level ground		Local	relief (concave			
ver elimatic / hydrologic conditions on the site typical for this time of year? Yes Ne Me (If no, explain in Remarks.) ver Vegetation Sol or Hydrology isgnificantly disturbed? Are "Normal Circumstances" present? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features Hydrophytic Vegetation Present? Yes No Hydrophytic Vegetation Present? Yes No Is the Sampled Area Hydrophytic Vegetation Present? Yes No Is the Sampled Area Wetlend Hydrology Present? Yes No Is the Sampled Area Widence of prolonged inundation in topographic low. EGETATION - Use scientific names of plants. The Stratum (Plot size:) 2 Abcokute Dominant Indicator 2/ Abcokute Dominant Species 3/ Abcokute Dominant Species 3/ Abcokute Dominant Species <td>Subregion (LRR): California</td> <td> Lat</td> <td>37°47'40</td> <td>.43"N</td> <td> Long: <u>122°11'18.7</u></td> <td>"W . Datum: NA</td> <td>D83</td>	Subregion (LRR): California	Lat	37°47'40	.43"N	Long: <u>122°11'18.7</u>	"W . Datum: NA	D83
ve Vegetation Sol or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No No Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No No Wetland Hydrology Present? Yes No Is the Sampled Area within a Wetland? No No Remarks: Yes No Is the Sampled Area within a Wetland? No No Remarks: Sol Cover Yes No No Is the Sampled Area within a Wetland? No No Feed TATION - Use scientific names of plants. Absolute Dominant Indicator Dominance Test worksheet: No Indicator of Dominant Species 10 * Total Cover Total Number of Dominant Species 100 Sagling/Shub_Stratum (Plot size:	Soil Map Unit Name: Xerorthents-Los Osos Com	plex			NWI dass	sification:	
we Vegetation			CONSCIENCES				_
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features Hydrophytic Vegetation Present? Yes No is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No is the Sampled Area within a Wetland? Yes No Wetland Hydrology Present? Yes No is the Sampled Area within a Wetland? Yes No Remarks: Yes No is the Sampled Area within a Wetland? Yes No Remarks: Absolute Dominant Indicator Dominance Test worksheet: No Zero 1 Absolute Dominant Indicator Dominant Species 2 Total Number of Dominant Species 100 3 Sapiling/Shrub Stratum (Plot size:	vre Vegetation 🔄 Soil 🔄 or Hydrology 🔄	- 1000 A	M68		"Normal Circumstance	s" present? Yes 🗶 No	
Hydrophylic Vegetation Present? Yes No Is the Sampled Area within a Wetland? Yes No Hydro: Sol Present? Yes No Is the Sampled Area within a Wetland? Yes No Remarks: Yes No Is the Sampled Area within a Wetland? Yes No Remarks: Yes No Is the Sampled Area within a Wetland? Yes No Remarks: Absolute Dominant Indicator %Cover Species? Status Dominance Test worksheet: Number of Dominant Species 1	re Vegetation, Soil, or Hydrology	naturally	problemat	iic? 🛄 (If r	needed, explain any answ	wers in Remarks.)	
Hydric Soil Present? Yes No Is the sampled Area within a Wetland? Yes No Remarks: Swidence of prolonged inundation in topographic low. EGETATION - Use scientific names of plants. Tree Stratum (Plot size:	SUMMARY OF FINDINGS - Attach site	map sho	wing sar	mpling poin	t locations, transed	cts, important features	, et
Hydric Soil Present? Yes No Is the sampled Area within a Wetland? Yes No Remarks: Svidence of prolonged inundation in topographic low. ZEGETATION - Use scientific names of plants. Tree Stratum (Plot size:	Hydrophytic Vegetation Present? Yes X	No			- 1941 - 3		
Wetland Hydrology Present? Yes X No L Remarks: Widence of prolonged inundation in topographic low. // CEGETATION - Use scientific names of plants. Tree Stratum (Plot size:) Absolute Dominant Indicator % Cover Species? Status 1.				(7 2)			
Evidence of prolonged inundation in topographic low. // ECETATION - Use scientific names of plants. Tree Stratum (Plot size:	Wetland Hydrology Present? Yes X	No		within a weta			
EGETATION - Use scientific names of plants. Tree Stratum (Plot size:) Absolute Dominant Indicator % Cover Species? Status 2 Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW or FAC: 2 2	Remarks:					A CONTRACTOR OF A CONTRACTOR A CONTRACT	
EGETATION - Use scientific names of plants. Tree Stratum (Plot size:) Absolute Dominant Indicator % Cover Species? Status Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW or FAC: 2							
EGETATION - Use scientific names of plants. Tree Stratum (Plot size:) Absolute Dominant Indicator % Cover Species? Status 2 Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW or FAC: 2 2	vidence of prolonged inundation in topograp	hic low					
Absolute Dominant Indicator % Cover Species? Status Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW or FAC: 2 2							
Tree Stratum (Plot size:) % Cover Species? Status Number of Dominant Species 2 2	EGETATION - Use scientific harries of p		ute Domin	ant Indicator	Dominance Test wo	rkshoot	
Image: Sequence of the stratum (Plot size:) Sapling/Shrub Stratum (Plot size:) Sapling/Shrub Stratum (Plot size:)	Tree Stratum (Plot size:)				Construction and the second seco		
a.	1				That Are OBL, FACV	V or FAC: 2	(A)
Bapling/Shrub Stratum (Plot size:) = Total Cover Percent of Dominant Species That Are OBL, FACW or FAC: 100 Prevalence Index worksheet:					Total Number of Dom	inant	
Sapling/Shrub Stratum (Plot size:) = Total Cover Prevalence Index worksheet: 100 Prevalence Index worksheet:					Species Across All St	rata: <u>2</u>	(B)
Sapling/Shrub Stratum (Plot size:)	4				Percent of Dominant	Species	
Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Sector of the size: Image: Sector of the size: Multiply by: Image: Multiply by: Image: Sector of the size: Multiply by: Image: Multiply Sector of the size: Image: Sector of the size: Multiply by: Image: Multiply Sector of the size: <	Sapling/Shrub Stratum (Plot size:)		= 1 otal	Cover	That Are OBL, FACW	or FAC: 100	(A/B
2					Prevalence Index wo	orksheet:	
A					Total % Cover of:	Multiply by:	
An any stratum (Plot size:) 7 X OBL FAC species x3 = Typha angustifolia 7 X OBL FACU species x5 = Lythrum hyssopifolium 3 X OBL Column Totals: (A) Lythrum hyssopifolium 3 X OBL Prevalence Index B/A = Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Prevalence Index is: 10 Total Cover 10 Total Cover ''Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	3				OBL species	x1=	
Image:	k						
Herb Stratum (Plot size:) 7 X OBL UPL speciesX5 = Typha angustifolia 7 X OBL Column Totals:(A) Lythrum hyssopifolium 3 X OBL Prevalence Index B/A =	i				and the second sec		
Typha angustifolia 7 X OBL Column Totals:	Loth Startum (Plat size:		🖁 Total	Cover			
Lythrum hyssopifolium 3 X OBL Prevalence Index B/A = Prevalence Index B/A =		7	x	OBL	The second se		
Image: Stratum (Plot size:) Image: Stratum (Plot size:) Image: Stratum (Plot size:) Image: Stratum (Plot size: Stratum (Pl		3			Column Totals:	(A)	(B)
Image: Stratum (Plot size:) Image: Stratum (Plot					Prevalence Ind	lex∈B/A =	
Image: Stratum (Plot size:) Image: Stratum (Plot size: Stratum (Plot size:) Image: Stratum (Plot size: Stratum (Plo							-
Image: Constraint (Plot size:) Image: Constraint (Plot size: Constraint (Plot size: Constraint (Plot size:)) Image: Constraint (Plot size: Con					Prevalence Index	is: <u><</u> 3.01	
10 = Total Cover Problematic Hydrophytic Vegetation1 (Explain) 10 = Total Cover Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. = = Total Cover Hydrophytic					Morphological Ada	aptations ¹ (Provide supporting	9
/oody Vine Stratum (Plot size:) Total Cover 'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.							
Image: Solution of the solution	loody Vine Stratum (Plot size:	10	= Total	Cover		opriyac vegetation (Explain)	
be present, unless disturbed or problematic.					¹ Indicators of hydric so	il and wetland hydrology mu	st
⁼ Total Cover Hydrophytic			-				
Vegetation				Cover	Hydrophytic		
Bare Ground in Herb Stratum 20 No Cover of Blotic Crust Present? Yes No L	(Deep Converdie Lieute Street um 90				Vegetation		
		DVEL OF BIOTIC			Present? Ye	≈⊠ NoL	
lemarks:	emarks'						

SOIL

Sampling Point: 4

	Color (moist)	%	Redo Color (moist)	%	Type ¹	LOC ²	Texture	Remarks	
0-12	10YR2/2	95	7.5R4/4	5	<u>C</u>	<u>M</u>	Gravelly loam		
ydric Soil I Histosol	ipedon (A2)	letion, RM=R	Reduced Matrix, CS RRs, unless other Sandy Redo Stripped Ma Loamy Muc	wise note ex (S5) trix (S6)	d.)	d Sand Gra	Indicators for F	(A10) (I-RR 13)	
Hydrogen Stratified 1 cm Mu Depleted	n Sulfide (A4) I Layers (A5) (LRR C Ick (A9) (LRR D) I Below Dark Surface		Loamy Gley Depleted Ma Kedox Dark Depleted Da	ed Matrix (atrix (F3) Surface (F ark Surface	(F2) 6) (F7)		Red Parent	t Material (TF2) lain in Remarks)	
Sandy M Sandy G	rk Surface (A12) lucky Mineral (SI) ileyed Matrix (S4)		Redox Depr		8)		wetland hydro	drophytic vegetation and plogy must be present, ped or problematic.	
	ayer (if present):								
Type:	boo):		_				Hydric Soil Pre		
emarks:	hes):						nyaric Soli Pre		
DROLOG etland Hydr imarv Indica	rology Indicators: ators (minimum of on		heck all that apply				and start start	Indicators (2 or more req	uired)
Saturation Water Ma	er Table (A2)		Salt Crust (E Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz	(B12) ertebrates (sulfide Odo	or (Cl)	Reath (C2)	Sedimo Drift De Drainag	Marks (B1) (Riverine) ent Deposits (B2) (Riverin eposits (B3) (Riverine) ge Patterns (B10) geog Wictor Table (20)	ne)
Drift Depo Surface So Inundation	osits (B3) (Nonriveria oil Cracks (B6) 1 Visible on Aerial Im ined Leaves (B9)	ne)		Reduced Reduction	Iron (C4) in Tilled S 7)		Crayfis Saturat	ason Water Table (C2) h Burrows (C8) ion Visible on Aerial Imag v Aquitard (D3) eutral Test (D5)	gery (C§
eld Observa rface Water ater Table Pr turation Pres	Present? Yes resent? Yes sent? Yes	No No	Depth (inch	es):			d Hydrology Pre	sent? Yes 🛛 🛛 No	
dudes capilla	ary fringe) orded Data (stream g	auge, monito	oring well, aerial ph	otos, previ	ious inspe	ections), if a	available:		
SUIDE RECU							the second s		
marks:									

Saping/Shrub Stratum (Plot size: 1 sq meter) Prevalence Index worksheet: 1.	Project/Site: 39th Avenue Reservoir Replacement		City/Co	ounty: <u>Oaklar</u>	nd	_ Sampling Date: 7/	11/12
Investigator(s): Hope Kingma & Christy Ovens Section, Township, Range: San Antonio Landform (initiation, furnice, etc.): hillstope Lat 37'47'40.43''N Long: 122'118.7'W Datum: NADI Solid Ray Unit Name: Xerorthents-Los Osos Complex NMI classification: Ital: 37'47'40.43''N Long: 122'118.7'W Datum: NADI Solid Map Unit Name: Xerorthents-Los Osos Complex NMI classification: Ital: 37'47'40.43''N Long: 122'118.7'W Datum: NADI Are Vegetation Solid or Hydrologic conditions on the site typical for this time of year? Yes No Are "Normal Circumstances" present? Yes No SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transacts, important features, etc. Is the Sampled Area No Yes No No Hydrophytic Vegetation Present? Yes No No Is the Sampled Area No No No Vegetated swale. Does not meet the hydrophytic vegetation criterion. ////////////////////////////////////					State: CA		
Landrom (hillslope, terrace, eb.): <u>hillslope</u> Local relief (concave, convex, nong): <u>COncave</u>					Range: San Antonio		
Subregion (LRR): California Lat: 37°4740.43"N Long: 122°11'18.7"W Datum: NADI Soil Map Unit Name: Xerorthents-Los Osos Complex No (If no, explain in Remarks.) Word (assignation:	Landform (hillslope, terrace, etc.): hillslope					e Slope	(%) 2
Soil Map Unit Name: Xerorthents-Los Oxos Complex NVI classification: Ve elimital: //right of this time of year? Yes No (If no, explain in Remarks.) Ve Vegetation Soil or Hydrology isignificantly disturber? No (If no, explain in Remarks.) SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, e Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No Ves No Xes Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No Xes No Xes Vegetated swale. Does not meet the hydrophytic vegetation criterion. Ves Soil No Xes Ves No Xes Yes Xes Yes<	Subregion (LRR): California	Lat:					
ve Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No Vev 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, of Hydrology Present? Yes No Is the Sampled Area within a Wetland? No No Hydrophytic Vegetation Present? Yes No Is the Sampled Area within a Wetland? No No Remarks: No Is the Sampled Area within a Wetland? No No No Zegetated swale. Does not meet the hydrophytic vegetation criterion. Zegetated swale. Does not meet the hydrophytic vegetation criterion. Zegetated swale. Does not meet the hydrophytic vegetation criterion. Zegetated Stratum (Plot size: 1 sq meter) Mode Cover Species? Stratus Mode Stratu: 30 X UPL 3	Soil Map Unit Name: Xerorthents-Los Osos Comp	olex					
Hydric Soil Present? Yes No Is the sampled Area Wetland Hydrology Present? Yes No within a Wetland? Yes No Remarks: Vegetated swale. Does not meet the hydrophytic vegetation criterion. //EGETATION - Use scientific names of plants. Tree Stratum (Plot size: 1 sq meter) Absolute Dominant Indicator Number of Dominant Species 1. Sequoia sempervirens 30 X UPL 2. Quercus agrifolia 5 UPL 3. 3. * Total Number of Dominant Species 3. 3. * Total Number of Dominant Species 3. 3. * Total Cover 4. 3. * Total Cover 9. Stratum (Plot size: 1 sq meter) * Total Cover 9. 2.5 X FACU Polygonum aviculare 25 X FACU Polygonum aviculare 5 UPL Prevalence Index B/A = 2.8 Helminthoteca echioides 10 X FACU Internace Stratum (Plot size: 1 sq meter) 50 * Total Cover Prevalence Index B/A = 2.8 Hydrophytic Vegetation Indicato	Are Vegetation Soil , or Hydrology	significa naturally	ntly disturb v problemat	ed? 🔲 Are ic? 🔲 (If i	e "Normal Circumstances" needed, explain any answe	' present? Yes 🔀 ers in Remarks.)	No C
Absolute Dominant Indicator % Cover Species? Status Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW or FAC: 1 (A) 2. Quercus agrifolia 30 X UPL 3	Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No				No	
Tree Stratum (Plot size: 1 sq meter			ion criter	ion.			
30 X UPL 2 Quercus agrifolia 5 UPL 3 5 UPL 3 35 = Total Number of Dominant Species 33 3 35 = Total Cover 3 7 Total Number of Dominant Species 3 35 = Total Cover 3 7 Total Number of Dominant Species 3 35 = Total Cover 3 7 Total Number of Dominant Species	Tree Short-um (Dict circo, 1 so meter				Dominance Test work	sheet:	
2 Quercus agrifolia 5 UPL Instruction of Normant (n) 3. 3. - - - (n) (n) 3. - 3.5 = Total Number of Dominant Species Across All Strata: 3 (n) 3.5 = Total Cover - - - Percent of Dominant Species 33 (A) 2. -	Sequoia sempervirens				Number of Dominant S	pecies	/ 4 3
a.							(A)
35 = Total Cover Percent of Dominant Species 33 (A/ Sapling/Shrub Stratum (Plot size: 1 sq meter							(R)
Sapling/Shrub Stratum (Plot size: 1 sq meter					2.80 • GP 551 1921 • 960 • 1997 6 1 0 1967 0 20 1900		(0)
Paper Num (Plot size: 1 sq meter) Prevalence Index worksheet: 2	a l'anter a la sa meter	35	= Total	Cover			(A/B
2.					CTINE DISCOURSES OF THE DESCRIPTION		
Bare Ground in Herb Stratum 50 * Total Cover Bare Ground in Herb Stratum 50 * Cover of Biotic Crust Bare Ground in Herb Stratum 50 * Cover of Biotic Crust Bare Ground in Herb Stratum 50 * Cover of Biotic Crust * Total Cover OBL species 5 x 1 = 5 Solution 5 X FACW FACU species 15 x 4 = 60 UPL species 5 x 5 = 25 Column Totals: 50 (A) 10 X FACU Yerophytic Vegetation Indicators: 140 Column Totals: 50 0BL Prevalence Index B/A = 2.8 140 Hydrophytic Vegetation Indicators: 140 Dominance Test is >50% Prevalence Index is: Problematic Hydrophytic Vegetation' (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation' (Explain)					and an and the second sec		
Image: Second Stratum (Plot size: 1 sq meter) Facult Stratum (Plot size: 1							
Image: Stratum (Plot size: 1 sq meter							
Herb Stratum (Plot size: 1 sq meter Total Cover FACU species 15							
Polygonum aviculare 25 X FACW Helminthotheca echioides 10 X FACU Lactuca saligna 5 UPL Lythrum hyssopifolia 5 OBL Chamaesyce prostrata 5 OBL Chamaesyce prostrata 5 OBL Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) Prevalence Index is <3.0'			🖁 Total	Cover			
Helminthotheca echioides 10 X FACU Column Totals: 50 (A) 140 (B) Lactuca saligna 5 UPL Prevalence Index B/A = 2.8 Lythrum hyssopifolia 5 OBL Prevalence Index B/A = 2.8 Chamaesyce prostrata 5 FACU Dominance Test is >50% Prevalence Index siz<3.0'		25	v	FACW			
Lactuca saligna 5 UPL Prevalence Index B/A = 2.8 Lythrum hyssopifolia 5 OBL Hydrophytic Vegetation Indicators: Chamaesyce prostrata 5 FACU Dominance Test is >50% Prevalence Index B/A = 2.8 Hydrophytic Vegetation Indicators: Dominance Test is >50% Prevalence Index B/A = 3.01 Dominance Test is >50% Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation1 (Explain) Moody Vine Stratum (Plot size: 50 = Total Cover = = = = = = = = = Bare Ground in Herb Stratum 50 % Cover of Biotic Crust Yes No X					Column Totals: 50	(A) <u>140</u>	(B)
Lythrum hyssopifolia 5 OBL Hydrophytic Vegetation Indicators: Chamaesyce prostrata 5 FACU Dominance Test is >50% Prevalence Index is:≤3.01 Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet) //oody Vine Stratum (Plot size: 50 = Total Cover indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 1/Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Bare Ground in Herb Stratum 50 % Cover of Biotic Crust Yes No					Prevalence Inde	× B/A = 2.8	
Chamaesyce prostrata 5 FACU Dominance Test is >50% Prevalence Index is:<3.01							
		5			The second se		
					Prevalence Index is	: <u><</u> 3.01	
Solution Solution <td< td=""><td></td><td></td><td></td><td></td><td>Morphological Adap</td><td>tations¹ (Provide supp</td><td>orting</td></td<>					Morphological Adap	tations ¹ (Provide supp	orting
Voody Vine Stratum (Plot size:)							
Bare Ground in Herb Stratum 50 % Cover of Biotic Crust Hydrophytic Vegetation Present? Yes No X				Cover			
Bare Ground in Herb Stratum 50 % Cover of Biotic Crust Present? Yes No			13 (40)				
Bare Ground in Herb Stratum 50 % Cover of Biotic Crust Vegetation Present? Yes No				Cover	Hydrophytic		
	Bare Ground in Harb Stratum 50				Vegetation		
emarks.					Fiesent Yes		
	emarks.						
es not meet hydrophytic vegetation criterion.							

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100	6.12	100	5
Sam	plina	Point:	2

(inches)	Color (moist)	%	Color (moist)	%	Type ¹ LO	C² Te	exture	Ren	narks
)-12	10YR2/1	95 5	YR4/6	<u> 5 </u>	<u> </u>			Gravelly loam/	mixed fill
······································									
Type: C= Cor	ncentration, D=Dep	letion, RM=Re	educed Matrix, CS	S=Covered or	Coated Sand		2L00	ation: PL=Pore Lini	ing, M=Matrix.
	ndicators: (Applica	able to all LR	100 million -)		S	for Problematic Hy	dric SoilS3:
Histosol (Sandy Redo					luck (A9) (LRR C)	
Black Hist			Stripped Ma		-0	H		luck (A10) (I-RR 13) ed Vertic (F18)	
	Sulfide (A4)		Loamy Gley			H		arent Material (TF2)	
	Layers (A5) (LRR C	:)	Depleted Ma		-)	ă		Explain in Remarks	
	k (A9) (LRR D)		🔀 Redox Dark						
	Below Dark Surface Surface (A12)	e (Al 1)		ark Surface (F	-7)		llogter	of buildes - built	
	cky Mineral (SI)		Redox Depr					of hydrophytic veget lydrology must be pl	
				5(F9)				sturbed or problema	
Sandy Gle	ved Matrix (54)							bidibed of problema	no.
Sandy Gle	yed Matrix (54) yer (if present):								
estrictive La			_						
estrictive La Type:	yer (if present):		-					Present? Yes	No
estrictive La Type: Depth (inche emarks:	yer (if present): es):		-					Present? Yes	No
strictive La Type: Depth (inche marks: predoximo DROLOG ¹ Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos	yer (if present): es): rphic features of Y blogy Indicators: ors (minimum of on- ater (AI) Table (A2) (A3) (A) (A) (A) (A) (A) (A) (A) (A	e reciuired: ch e reciuired: ch e) iverine)	eck all that applv) Salt Crust (E Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz	31 1) (B12) ertebrates (B1 sulfide Odor (cospheres along Reduced Iron	(CI) g Living Roots n (C4)	(C3)	ric Soil Second Wa Se Dri Dra Dra Cra	larv Indicators (2 or iter Marks (B1) (Riv diment Deposits (B3) ft Deposits (B3) (Riv ainage Patterns (B10 /-Season Water Tab ayfish Burrows (C8)	more required) erine) 2) (Riverine) verine) 0) ole (C2)
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strictive La Type: Depth (inche marks: Depth (inche marks: DROLOG` DROLOG` tiland Hydro marv Indicate Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos Surface Soi Inundation ' Water-Stain d Observati face Water Pre- ter Table Pre- uration Prese ludes capilla	yer (if present): es): rphic features of Y plogy Indicators: prs (minimum of on- ater (Al) Table (A2) (A3)	e reciuired: ch e reciuired: ch iverine) ne) agery (B7)	eck all that apply Salt Crust (E Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of Recent Iron Thin Muck S Other (Explation) Depth (inch Depth (inch	B1 1) (B12) ertebrates (B1 sulfide Odor (cospheres along Reduced Iron Reduction in Gurface (C7) ain in Remark es): es): es):	(CI) g Living Roots (n (C4) Tilled Soils (ss)	(C3) (C6)	Second Second Wa Se Dri Dra Cra Sat Sha FA	larv Indicators (2 or tter Marks (B1) (Riv diment Deposits (B3) (Riv ainage Patterns (B1) /-Season Water Tab ayfish Burrows (C8) turation Visible on A allow Aquitard (D3) C-Neutral Test (D5)	more required) erine) 2) (Riverine) verine) 0) erial Imagery (C
strictive La Type: Depth (inche marks: DROLOG ¹ Stland Hydro Marv Indicate Surface Wa High Water Saturation (Water Mark Sediment D Drift Depos Surface Soi Inundation ¹ Water-Stain Id Observati face Water Pre- ter Table Pre- guration Press ludes capillar cribe Record	yer (if present): es): rphic features of Y plogy Indicators: prs (minimum of on- ater (Al) Table (A2) (A3)	e reciuired: ch e reciuired: ch iverine) ne) agery (B7)	eck all that apply Salt Crust (E Biotic Crust Aquatic Inve Hydrogen S Oxidized Rhiz Presence of Recent Iron Thin Muck S Other (Explation) Depth (inch Depth (inch	B1 1) (B12) ertebrates (B1 sulfide Odor (cospheres along Reduced Iron Reduction in Gurface (C7) ain in Remark es): es): es):	(CI) g Living Roots (n (C4) Tilled Soils (ss)	(C3) (C6)	Second Second Wa Se Dri Dra Cra Sat Sha FA	larv Indicators (2 or tter Marks (B1) (Riv diment Deposits (B3) (Riv ainage Patterns (B1) /-Season Water Tab ayfish Burrows (C8) turation Visible on A allow Aquitard (D3) C-Neutral Test (D5)	more required) erine) 2) (Riverine) verine) 0) erial Imagery (C

Project/Site: 39th Avenue Reservoir Replacement		_ City/Co	ounty: Oaklan	d	Sampling Date:	7/11/12
Applicant/Owner: East Bay Municipal Utilities Dis	trict			State: CA	Sampling Point:	6
Investigator(s): Hope Kingma & Christy Owens		_ Sectio	n, Township, R	ange: <u>San Antonio</u>		
Landform (hillslope, terrace, etc.): hillslope					Slor	pe (%) 1
Subregion (LRR): California	Lat: 3	7°47'40	.43"N	Long: 122°11'18.7"	W Datur	n: NAD83
Soil Map Unit Name: Xerorthents-Los Osos Comple	ex				fication:	And the second second second second
Are climatic / hydrologic conditions on the site typical for		vear? Ye				
Are Vegetation Soil or Hydrology	significant			"Normal Circumstances		
Are Vegetation , Soil , or Hydrology	naturally p			eeded, explain any answ		- 110
SUMMARY OF FINDINGS - Attach site ma	ip snowli	ng sam	ipling point	locations, transect	s, important fea	atures, etc.
Hydrophytic Vegetation Present? Yes			I. 4. 0			
Hydric Soil Present? Yes			Is the Sample within a Wetla	San a second starter and second starters and second starters and second starters and second starters and second		
Wetland Hydrology Present? Yes			within a wella			
Remarks:						
Upland sample point						
VEGETATION - Use scientific names of pla	ints		and the participant of the			
		e Domin	ant Indicator	Dominance Test wor	kshoot.	
Tree Stratum (Plot size: 1 sq meter			es? Status	Number of Dominant S		
1 Sequoia sempervirens	5	<u> </u>	UPL	That Are OBL, FACW		(A)
2				Total Number of Domi	nant	
3				Species Across All Str	2	(B)
4				Percent of Dominant S	Species	
Sapling/Shrub_Stratum (Plot size: 1 sq meter	5	_ = Tota	l Cover	That Are OBL, FACW	or FAC: 0	(A/B)
<u>Sapinity/Sittato</u> (Flot size, <u>1</u>)				Prevalence Index wo	rksheet:	
2				A CARGARINES ANALOGED	Multiply I	bv:
3				OBL species		
4				FACW species		
5		_		FAC species	x 3 =	
1 sa meter		_ 🖁 Total	Cover	FACU species	x 4 =	
<u>Herb Stratum (Plot size: 1 sq meter)</u> 1 Stellaria media	30	х	FACU	UPL species		
2. Geranium dissectum	$-\frac{30}{3}$		$-\frac{1}{UPL}$	Column Totals:	(A)	(B)
3. Melica imperfecta	$-\frac{3}{10}$	$\overline{\mathbf{X}}$	$-\frac{UPL}{UPL}$	Prevalence Ind	ex∈B/A =	
4 Cirsium vulgare	2		FACU	Hydrophytic Vegetati		
5. Claytonia perfoliata	1	-	FAC	Dominance Test is		
6				Prevalence Index i	s: <u><</u> 3.01	
7.					ptations1 (Provide su	
8					s or on a separate sh	82
	46	_ = Total	Cover	Problematic Hydro	phytic Vegetation ¹ (E	xplain)
Woody Vine Stratum (Plot size:)		1		¹ Indicators of hydric so	il and wotland bydrol	oov must
l			t	be present, unless dist		
2				Hydrophytic		
C1		-		Vegetation		
% Bare Ground in Herb Stratum 51 % Cove	er of Biotic C	Crust		Present? Ye	es 🔲 No 🗙	
Remarks:		15 5000				
			16 . 254			
Bare ground covered by redwood duff (leaf litter)	. No hyd	rophytic	c vegetation p	present.		

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Sampling	Point:	6
- ann printig		

Profile Description: (Describe to Depth Matrix		dox Features					
(inches) Color (moist)	% Color (moist)			LOC ²	Texture . Gravelly loam	Remarks	
	1						
ype: C= Concentration, D=Depleti ydric Soil Indicators: (Applicable Histosol (AI) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	e to all LRRs, unless oth Sandy Re Stripped I Loamy M	erwise noted.	.) Fl)	Sand Gra	Indicators fo	tion: PL=Pore Lining, M=Mat r Problematic Hydric SoilS: ck (A9) (LRR C) ck (A10) (I-RR 13) Vertic (F18) ent Material (TF2)	
Stratified Layers (A5) (LRR C) 1 cm Muck (A9) (LRR D) Depleted Below Dark Surface (A Thick Dark Surface (A12) Sandy Mucky Mineral (SI) Sandy Gleyed Matrix (S4)	Depleted Redox Da I 1) Depleted	Matrix (F3) Irk Surface (F6 Dark Surface (Pressions (F8)	i) F7)		Other (E: ³ Indicators of wetland hyperbolic	hydrophytic vegetation and drology must be present, urbed or problematic.	
estrictive Layer (if present): Type:					1	_	
Depth (inches):					Hydric Soil F	Present? Yes No	
emarks: o redoximorphic features observed					Hydric Soil F	Present? Yes No	
emarks: o redoximorphic features obser 'DROLOGY					Hydric Soil F	Present? Yes No	
emarks: b redoximorphic features obset DROLOGY etland Hydrology Indicators: imarv Indicators (minimum of one re Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonriverine) Sediment Deposits (B2) (Nonrive Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9)	eciuired: check all that app Salt Crust Salt Crust Salt Crust Aquatic Ir Hydroger rrine) Oxidized R Presence Recent Ir Pry (B7)	(B1 1)	(CI) ng Living F on (C4) n Tilled S		Seconda Sedi Drift Drift Dry Cray Satu Shall	Present? Yes No rv Indicators (2 or more requi er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) hage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Image ow Aquitard (D3) Neutral Test (D5)	red)
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emarks: D redoximorphic features observed DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one restring) Surface Water (AI) High Water Table (A2) Saturation (A3) Water Marks (BI) (Nonriverine) Sediment Deposits (B2) (Nonriver Drift Deposits (B3) (Nonriverine) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Water-Stained Leaves (B9) eld Observations: rface Water Present? Yes	eciuired: check all that app aciuired: check all that app Salt Crust Biotic Cru Aquatic Ir Hydroger rine) Oxidized R Presence Recent Irr Presence Recent Irr Prosence Other (Ex No Depth (in No Depth (in No Depth (in	(B1 1) ist (B12) ivertebrates (B Sulfide Odor hizospheres alor of Reduced Irc on Reduction ir (Surface (C7) plain in Remar iches): ches):	(CI) ng Living F on (C4) n Tilled S ks)	oils (C6) Wetlan	Seconda Sedi Sedi Drift Drain Dry-3 Cray Satu Shall FAC-	rv Indicators (2 or more requi er Marks (B1) (Riverine) ment Deposits (B2) (Riverine) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Image ow Aquitard (D3) Neutral Test (D5)	red) 3) ry (C9

Project/Site: 39th Avenue Reservoir Replaceme		City/County: Oakla	110	_ Sampling Date: 7/11/12
Applicant/Owner: East Bay Municipal Utilities D			State: CA	_ Sampling Point: 7
nvestigator(s): Hope Kingma & Christy Owens		Section, Township, I	Range: San Antonio	
andform (hillslope, terrace, etc.): level ground		Local relief (concav	e, convex, none): none	Slope (%) 0
Subregion (LRR): California	Lat:			W Datum: NAD83
Soil Map Unit Name: Xerorthents-Los Osos Com	plex		NWI classifi	cation:
are climatic / hydrologic conditions on the site typical f	or this time o	f year? Yes 🔀 🛛 No	(If no, explain in F	Remarks.)
are Vegetation 🔲 Soil 🗌 or Hydrology 🗌	significar	ntly disturbed?	e "Normal Circumstances"	present? Yes No
re Vegetation 🔲 , Soil 🦲 , or Hydrology	naturally	problematic? (If	needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site r	nan showi		A STATISTICS AND AND ADDRESS STATISTICS	CONC. ON THE PERSON NEWSFILM
	1			
Hydrophytic Vegetation Present? Yes	Nº X	Is the Sample	ed Area	
Hydric Soil Present? Yes	Nº 😽	within a Wetl		No
Wetland Hydrology Present? Yes	No 🗙			
remars.				
Jpland sample point taken at the toe of the ber	rm.			
EGETATION - Use scientific names of p	lants.			
1 so motor		te Dominant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 1 sq meter) Cotoneaster lacteus	<u>% Cov</u> 15	er Species? Status X UPL	Number of Dominant S	0
2			That Are OBL, FACW o	or FAC: 0 (A)
3	1942 (P. 1942) - C. 1942		Total Number of Domin	0
			Species Across All Stra	ta: <u>2</u> (B)
		= Total Cover	Percent of Dominant Sp That Are OBL, FACW of	
Sapling/Shrub_Stratum (Plot size: 1 sq meter)				(iub
<u>.</u>			Prevalence Index work	
				and a second
i				x 1 = x 2 =
				x 3 =
5a		H Total Cover		x 4 =
lerb Stratum (Plot size: <u>1 sq meter</u>)	5		UPL species	x 5 =
Rubus armeniacus Hedera helix	$-\frac{5}{95}$	$-\frac{FACU}{VPL}$	Column Totals:	(A) (B)
			Prevalence Index	«Β/Δ -
			Hydrophytic Vegetation	222.2010
			Dominance Test is :	
			Prevalence Index is:	
			Morphological Adap	tations ¹ (Provide supporting
				or on a separate sheet)
	100	= Total Cover	Problematic Hydrop	hytic Vegetation ¹ (Explain)
body Vine Stratum (Plot size:)			Indicators of hydric soil	and wetland hydrology must
			be present, unless distur	
		= = Total Cover	Hydrophytic	
Bare Ground in Herb Stratum 0 % Co			Vegetation	
Bare Ground in Herb Stratum V % Co	ver of Biotic (Crust	Present? Yes	
emarks:				

SOIL

Samp	lina	Point.	1

SOIL						Sampling Po	pint: /
Profile Des	cription: (Describe	to the depth ne	eded to document the ind	dicator or confirm	n the absence	of indicators.)	0.7.5
Depth	Matrix		Redox Features				
(inches)	Color (moist)	%(Color (moist) %	Type ¹ LOC ²	Texture	Remark	KS
0-12	10YR3/3	100			loam	with gravel	
	Contrast Contrast				*		
							the investor
		·					
	<u></u>	· · · · · · · · · · · · · · · · · · ·					
Type: C= Ce	oncentration, D=Dep	letion, RM=Red	uced Matrix, CS=Covered o	r Coated Sand Gra	ains. ²Loc	cation: PL=Pore Lining,	M=Matrix.
Hydric Soil	Indicators: (Applica	able to all LRRs	s, unless otherwise noted	.)	Indicators	for Problematic Hydri	c SoilS3:
Histosol	(AI)		Sandy Redox (S5)		1 cm N	/luck (A9) (LRR C)	
	pipedon (A2)		Stripped Matrix (S6)			luck (A10) (I-RR 13)	
Black Hi			Loamy Mucky Mineral (FI)		ed Vertic (F18)	
	n Sulfide (A4)		Loamy Gleyed Matrix (F			arent Material (TF2)	
	Layers (A5) (LRR C	;)	Depleted Matrix (F3)			(Explain in Remarks)	
	ck (A9) (LRR D)	·	Redox Dark Surface (F6)		· · · · · · · · · · · · · · · · · · ·	
	Below Dark Surface	e (Al 1)	Depleted Dark Surface (1. Contract of the second s			
	rk Surface (A12)		Redox Depressions (F8)		³ Indicators	of hydrophytic vegetatio	on and
	lucky Mineral (SI)	1	Vernal Pools (F9)			nydrology must be pres	
	leyed Matrix (S4)					sturbed or problematic.	
	ayer (if present):						
Type:							
1921 2010 2020 1							
Depth (Inc	hes):				Hydric Sol	I Present? Yes	No 🗙
lo redoxim YDROLOO	orphic features of	oserved, non-l	nydric soil.				- Marta - Marta
etland Hyd	rology Indicators:					-11-2-2	
	ators (minimum of on	e recluired: cher	k all that annly)		Secon	darv Indicators (2 or mo	vro required)
Surface V					and the state of t		
A here a start and a start of the	and second to be a second as		Salt Crust (B1 1)			ater Marks (B1) (Riveri	
and the second se	er Table (A2)		Biotic Crust (B12)			ediment Deposits (B2) (
Saturation			Aquatic Invertebrates (E			ift Deposits (B3) (River	ine)
	ırks (BI) (Nonriveri n	and an and	Hydrogen Sulfide Odor	1 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x		ainage Patterns (B10)	
Sediment	Deposits (B2) (Non	riverine)	Oxidized Rhizospheres alor	ng Living Roots (C3)	Dr	y-Season Water Table	(C2)
Drift Depo	osits (B3) (Nonriveri	ne) 🛛	Presence of Reduced In	on (C4)	Cr.	ayfish Burrows (C8)	
Surface S	oil Cracks (B6)	1	Recent Iron Reduction i	n Tilled Soils (C6)	🗖 Sa	turation Visible on Aeria	al Imagery (C9)
Inundation	n Visible on Aerial Im	agery (B7)	Thin Muck Surface (C7)			allow Aquitard (D3)	5,,,,,
	ined Leaves (B9)		Other (Explain in Remar	·ks)		C-Neutral Test (D5)	
eld Observa				1			Distantiant
			D # (5 +)				
urface Water							
ater Table P			Depth (inches):			_	
aturation Pre	sent? Yes	S No 🛛	Depth (inches):	Wetlan	nd Hydrology	/ Present? Yes	No 🔀
ncludes capil							
escribe Reco	orded Data (stream g	auge, monitoring	g well, aerial photos, previo	us inspections), if	available:		
emarks:							
surface hy	ydrology evident.						

Pump Station

Area of Impacts: "Isolated" Waters (150 Sq. Ft., 0.0034 Acre) Potential "Isolated" Other Waters (442 Sq. Ft., 0.010 Acre) Potential "Isolated" Seasonal Wetlands (152 Sq. Ft., 0.004 Acre) Pipeline Trench

Please note that while M&A can estimate Corps regulated areas, only the Corps can confirm the extent of area falling under their jurisdiction. Thus, it is most important to have a confirmed map from the Corps which can be relied upon for project planning purposes.

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Figure X. Preliminary Assessment Area of Impacts to "Isolated" Other Waters & "Isolated" Wetlands, 39th Avenue Reservoir Replacement Project 4290 Maybelle Avenue, Oakland, California

150

200

100

50

Map Preparation Date: July 27, 2012 Aerial Photograph Source: Bing Maps

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IOW 1	422	0.010
"Isolated" Seasonal Waters	Sq. Ft.	Acres
ISW 1	66	0.0015
ISW 2	62	0.0014
ISW 3	24	0.0006

0 25 50

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Sheet 1. Preliminary Wetland Delineation Map 39th Avenue Reservoir Replacement Project Oakland, California

100

150

200

250

Scale: 1 inch = 50 feet Map Preparation Date: July 27, 2012 Aerial Photograph Source: Bing Maps