

**DELINEATION OF JURISDICTIONAL  
WATERS AND RIPARIAN HABITATS FOR THE  
CENTEX DEVELOPMENT,  
NEWBURY PARK, CALIFORNIA**

*Prepared for:*

**UNITED STATES ARMY CORPS OF ENGINEERS  
*and*  
CALIFORNIA DEPARTMENT OF FISH AND GAME**

*On Behalf of:*

**THE CITY OF THOUSAND OAKS**

**Mission Statement**

*To provide quality environmental consulting services  
with integrity that protect and enhance  
the human and natural environment*

**March 2005**

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**SECTION I. PROJECT DESCRIPTION**

**BACKGROUND**

The original delineation of waters and wetlands of the United States, under Corps jurisdiction, conducted for the Cohan Development site (property owner is Cohan Investment Group), including Lot 30 and the adjacent Lot 31, was performed in 1991. This 1991 wetland delineation found 7.2 - 7.4 acres of jurisdictional wetlands onsite, which includes additional lots besides Lots 30 and 31. In Spring 1995, the delineation was updated by the Corps, and the Corps revised the jurisdictional acreage to 5.2 acres of jurisdictional wetlands. All areas between the banks of the South Branch Arroyo Conejo were assumed to be within Corps jurisdiction, pursuant to Section 404 of the Clean Water Act, along with a small drainage area located on the northwest slope of the property. The CDFG jurisdiction authority was assumed to also include the riparian vegetation located from the top of stream banks to the toe of stream bank slopes. A summary of the 1995 delineated wetland areas by lot development is provided below:

<b>Lot</b>	<b>Total Area (acres)</b>	<b>Wetland Area (acres)</b>	<b>Wetland Impact (acres)</b>
1-26	4.0	0.0	0.0
27	14.4	1.4	1.4
28	4.2	0.3	0.3
29	11.5	1.1	1.1
<b>30</b>	<b>5.6</b>	<b>0.4</b>	<b>0.4</b>
<b>31</b>	<b>2.8</b>	<b>1.9</b>	<b>0.2</b>
32	5.9	0.1	0.1
<b>Totals</b>	<b>48.4</b>	<b>5.2</b>	<b>3.5</b>

Based on the updated Cohan Development site wetland delineation of 1995, Lot 30 was determined to be 5.6 acres in size, of which 0.4 acre was jurisdictional wetlands. Lot 31, immediately adjacent to Lot 30, was determined to be 2.8 acres in size, with 1.9 acres of jurisdictional wetlands.

Since the 1995 wetland delineation, riparian vegetation has succeeded back onsite, and has raised the question of whether or not wetlands exist on Lot 30. Currently, the City of Thousand Oaks is conducting a California Environmental Quality Act (CEQA) review for potential development of the Cohan property Lot 30 by Centex (applicant). The City contracted with David Magney Environmental Consulting (DMEC) to conduct the wetland delineation of jurisdictional waters and wetlands present at Lot 30.



## **PROJECT LOCATION**

The project is located at the confluence of two streams, Conejo Mountain Creek and the South Branch Arroyo Conejo Creek, in the Newbury Park area of the City of Thousand Oaks (Figure 1, Project Location Map of the Centex Development). Lot 30 is flanked by Reino Road to the east, Maurice Drive to the north, Lot 31 (South Branch Arroyo Conejo) to the west, and the Potrero Open Space area to the south.

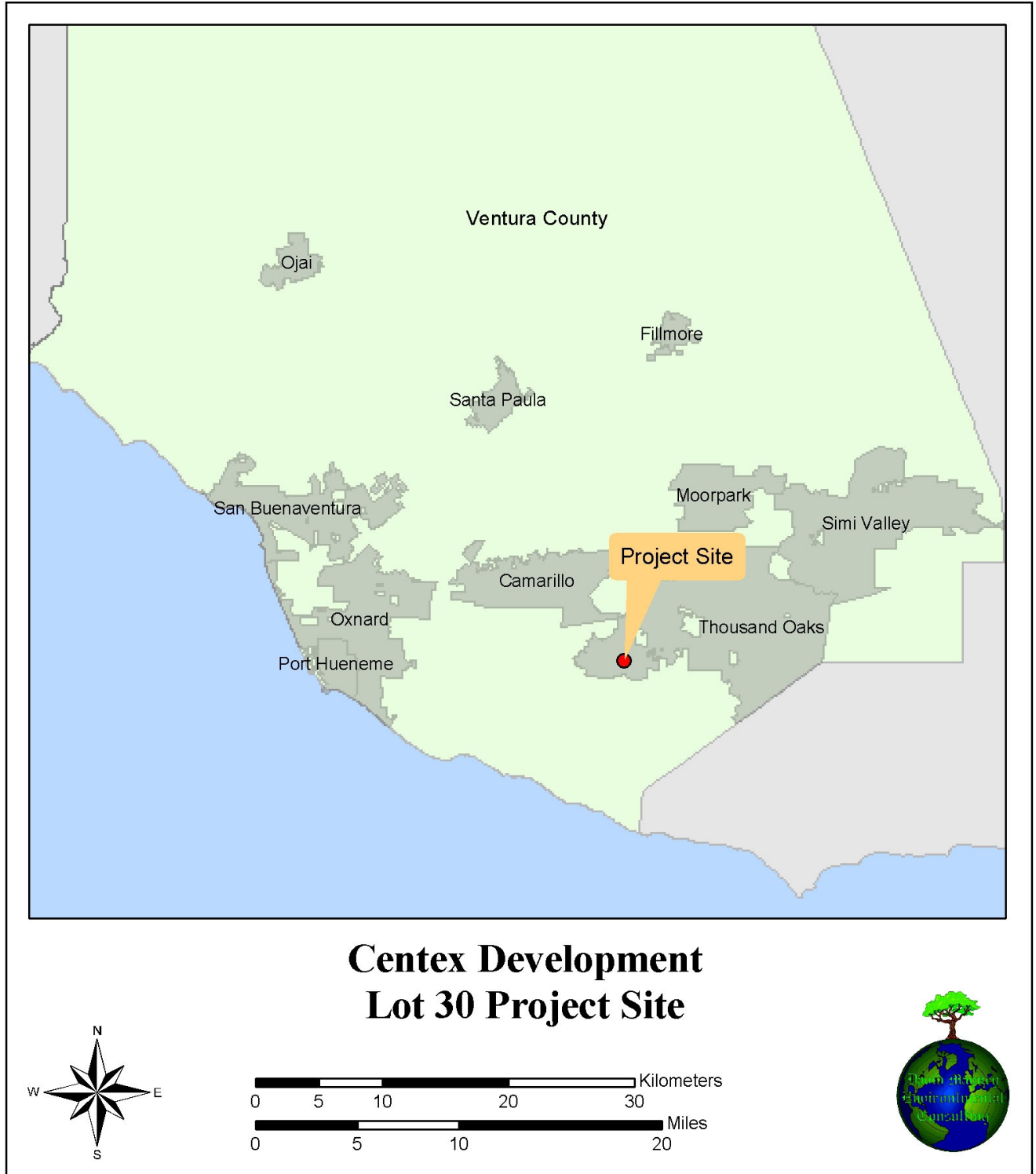
Generally, the Centex Development project site is surrounded by parcels that are also privately owned and proposed for residential development. South of the Lot 30 site is the Potrero Open Space area and a parcel owned by Ventura County Flood Control District (VCFCD), which is operated as a detention pond. Lot 30 is currently occupied by natural riparian, grassland, and oak woodland vegetation and has been approved for residential development. Lot 31, adjacent to (and west of) Lot 30, is permanently protected as open space and a conservation easement has been deeded to the appropriate public agency.

## **PROJECT SCOPE AND PURPOSE**

The proposed development of Lot 30 by Centex has the potential to negatively affect existing biological resources onsite, and will result in the filling activities of portions of Lot 30, which contains jurisdictional waters of the U.S., including wetlands.

The purpose of this wetland delineation is to provide the U.S. Army Corps of Engineers (Corps) with a determination of the presence of waters of the U.S. (including wetlands) on the Centex Development project site, and to satisfy conditions of the California Department of Fish and Game (CDFG) Streambed Alteration Agreement by determining the extent of waters and wetland areas and riparian habitats existing onsite. (Note: The final determination of the Corps' area of jurisdiction lies with the Corps.)

**Figure 1. General Location Map of Centex Development Project Site**





**Figure 2. Aerial Photograph of the Centex Development Project Site (2004)**



## SECTION II. ENVIRONMENTAL SETTING

This section provides the Centex Development project site floristic resources, including the project site flora and a description of the habitat types observed onsite. This section also includes the project site fauna and describes the soil units mapped onsite.

### SITE CONDITIONS

The Centex Development project site is 5.6 acres in size. Elevations of the project site range from approximately 692 feet to approximately 714 feet, and the topography is flat with gradual slopes. The flora and fauna onsite are relatively low in species richness and diversity, especially considering the human disturbances influencing the project site (authorized vegetation clearing, unrestricted public use, and homeless encampments). Much of Lot 30 was cleared of vegetation in 1998, which has significantly altered the vegetation onsite. Prior to vegetation clearing, Lot 30 included an established stand of Arroyo Willow Series along the tributary to South Branch Arroyo Conejo with California Annual Grassland Series and Coast Live Oak Series (savannah). Lot 30 is now inhabited primarily by California Annual Grassland Series with some successional Arroyo Willow Series and Coast Live Oak Series (savannah).

The invasive exotic perennial vine, *Senecio mikanioides* (Cape Ivy), dominates the understory of Lot 31 (2.8 acres in size and adjacent to Lot 30) and reduces biodiversity of the site substantially. Although the riparian canopy cover is intact and nearly continuous (cover is estimated at 80-90%), it is dominated primarily by *Salix lasiolepis* and otherwise generally lacks structural diversity. In addition, the relatively low number of deep pools in the Freshwater Marsh further reduces the value for aquatic wildlife habitat.

Thousand Oaks, including the project site, received a significant amount of rainfall (approximately 6.5 inches in late February 2005) immediately prior to DMEC conducting the wetland delineation. This rainfall created inundated and saturated conditions onsite, especially throughout the swale areas in Lot 30. These very wet conditions created a situation where normal circumstances did not exist onsite as of the day of the wetland delineation. Specifically, these saturated conditions created temporary wetland hydrology onsite. As a result, several plots onsite were determined to (at least initially) have positive indicators for wetland hydrology; however, the site was revisited on 17 March 2005, by DMEC biologist Cher Batchelor, and those saturated/inundated conditions had subsided. Therefore, several initial plots were then determined to not have hydrology present especially if no other positive indicators for hydrology were present (such as drift lines, drainage patterns, or within defined bed and banks). Table 1, February 2005 Weather Report for Thousand Oaks, California (below), shows the rainfall amounts for each day prior to the date of the wetland delineation. (Note: There was no rainfall between 24 February and 18 March 2005.)

It should also be noted that the soil onsite is naturally dark with matrix colors of 10YR4/1 (dark gray) and 10YR3/1 (very dark gray). In several instances, the low chroma color of these loam and clay soils is dark as a result of the parent material of the project site, and is not a result of soil reducing conditions. Therefore, when matrix colors of 10YR4/1 and 3/1 were encountered, with no other positive indicators for hydric soil conditions such as bright mottles and high organic content, the soil was determined to not be hydric.



**Table 1. February 2005 Weather Report for Thousand Oaks, California**

<b>Date of February 2005</b>	<b>Avg. Temp</b>	<b>Max Temp</b>	<b>Min Temp</b>	<b>Max RH</b>	<b>Min RH</b>	<b>Rainfall</b>	<b>Avg. Wind</b>	<b>Max Wind</b>
1	64°F	70°F	58°F	34%	20%	0.00"	7 mph	29 mph
2	62°F	66°F	58°F	26%	16%	0.00"	8 mph	28 mph
3	61°F	66°F	56°F	28%	16%	0.00"	8 mph	30 mph
4	63°F	70°F	58°F	34%	20%	0.00"	8 mph	28 mph
5	59°F	68°F	48°F	84%	26%	0.00"	2 mph	15 mph
6	54°F	58°F	50°F	88%	66%	0.01"	3 mph	15 mph
7	50°F	52°F	48°F	92%	76%	0.01"	2 mph	7 mph
8	52°F	64°F	44°F	94%	40%	0.00"	2 mph	19 mph
9	60°F	66°F	48°F	82%	24%	0.00"	8 mph	24 mph
10	62°F	66°F	60°F	36%	26%	0.00"	10 mph	31 mph
11	54°F	62°F	52°F	92%	34%	2.05"	12 mph	35 mph
12	57°F	64°F	52°F	94%	58%	0.02"	3 mph	18 mph
13	55°F	60°F	52°F	96%	70%	0.00"	3 mph	12 mph
14	54°F	60°F	48°F	94%	56%	0.00"	2 mph	12 mph
15	52°F	62°F	44°F	92%	54%	0.00"	2 mph	14 mph
16	57°F	62°F	52°F	78%	58%	0.00"	2 mph	11 mph
17	59°F	68°F	56°F	86%	48%	0.00"	6 mph	24 mph
18	55°F	58°F	52°F	94%	76%	<b>1.19"</b>	3 mph	16 mph
19	53°F	58°F	50°F	96%	76%	<b>1.88"</b>	4 mph	19 mph
20	54°F	58°F	48°F	96%	72%	<b>1.33"</b>	4 mph	25 mph
21	54°F	60°F	50°F	92%	68%	<b>1.02"</b>	6 mph	28 mph
22	52°F	54°F	50°F	92%	78%	<b>0.94"</b>	6 mph	22 mph
23	53°F	62°F	48°F	88%	58%	<b>0.14"</b>	3 mph	21 mph
<b>24 date of delineation</b>	57°F	66°F	48°F	90%	44%	0.00"	4 mph	17 mph
25	54°F	62°F	46°F	94%	68%	0.00"	3 mph	16 mph
26	54°F	62°F	46°F	94%	58%	0.00"	3 mph	16 mph
27	54°F	62°F	48°F	92%	60%	0.00"	3 mph	16 mph
28	53°F	60°F	46°F	94%	72%	0.06"	2 mph	13 mph

## FLORA

Various combinations of plants form unique plant communities and wildlife habitats contributing to the landscape of an area. All vascular plant species, observed and identified during the wetland delineation field surveys, are listed in Table 2, Plant Species Observed in the Vicinity of the Centex Development project site. Table 2, which is alphabetized by scientific (botanical) name (according to Hickman 1993), includes the common name, growth habit, wetland indicator status (according to Reed 1988), and botanical family name for each species observed onsite.

The Centex Development project site contains at least 92 vascular plants, 50 (54%) of which are native species, while the remaining 42 species (46%) are introduced (nonnative) taxa. The ratio of native to nonnative taxa for the project site (54% native to 46% nonnative) is not representative of the ratio for the entire California flora (Hickman 1993) and other smaller regions within California (approximately 75% native to 25% nonnative), which is indicative of a site that has been disturbed.

Forty-seven (47) of the 92 taxa (51%) are considered hydrophytes, and are assigned a status of least FAC (or facultative species [Reed 1988]). Several additional plant species likely occurred onsite prior to the authorized vegetation clearing of 1997, and many species may become identifiable as the vegetation succeeds back to normal conditions. It should also be noted that the wetland delineation was conducted in late winter (24 February 2005), where several herbaceous species were not detectable or were dormant.

## FAUNA

The diversity of wildlife species occurring within riparian habitats, such as Arroyo Willow Series of the project site, is typically high. Vegetation associated with these communities may provide roosting and foraging habitat for various migratory bird species. In addition, many migratory bird species are dependent upon riparian communities for habitat during overwintering.

DMEC's site visit allowed only a cursory survey of the project site's wildlife diversity. The Centex Development project site wetland delineation and cursory wildlife survey found evidence of several wildlife species. In addition to the field day in which the delineation was conducted, DMEC has documented several species observed during wetland mitigation monitoring which has been conducted over the last five years.

A total of 39 wildlife species were observed in the vicinity of Lots 28, 30, and 31 as contributing to the Cohan/Centex property fauna. Table 3, Wildlife Species Observed and Expected in the Vicinity of the Centex Development, lists the wildlife species directly observed (by sight), detected (by sign), and expected (based on suitable habitat). Table 3 includes the scientific and common names of the project site amphibians, reptiles, avifauna, mammals, and invertebrates. Additional wildlife may use the site at least seasonally, and species richness is likely to be higher than documented here, especially for invertebrates.

**Table 2. Plant Species Observed in the Vicinity of the Centex Development Project Site**

Scientific Name <sup>1</sup>	Common Name	Habit <sup>2</sup>	WIS <sup>3</sup>	Family
<i>Agrostis exarata</i>	Western Bentgrass	PG	FACW	Poaceae
<i>Alnus rhombifolia</i>	White Alder	T	FACW	Betulaceae
<i>Ambrosia psilostachya</i> var. <i>californica</i>	Western Ragweed	AH	FAC	Asteraceae
<i>Chamomilla suaveolens</i>	Pineapple Weed	AH	FACU	Asteraceae
<i>Anagallis arvensis</i> *	Scarlet Pimpernel	AH	FAC	Primulaceae
<i>Apium graveolens</i> *	Celery	PH	FACW*	Apiaceae
<i>Artemisia californica</i>	California Sagebrush	S	.	Asteraceae
<i>Artemisia douglasiana</i>	Mugwort	PH	FACW	Asteraceae
<i>Asclepias fascicularis</i>	Narrowleaf Milkweed	PH	FAC	Asclepiadaceae
<i>Avena barbata</i> *	Slender Wild Oat	AG	.	Poaceae
<i>Baccharis pilularis</i>	Coyote Brush	S	.	Asteraceae
<i>Baccharis salicifolia</i>	Mulefat	S	FACW	Asteraceae
<i>Brassica nigra</i> *	Black Mustard	AH	.	Brassicaceae
<i>Bromus diandrus</i> *	Ripgut Grass	AG	(FACU)	Poaceae
<i>Bromus hordeaceus</i> *	Soft Chess	AG	FACU-	Poaceae
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	Red Brome	AG	NI	Poaceae
<i>Calystegia macrostegia</i> ssp. <i>intermedia</i>	Intermediate Morning-glory	PV	.	Convolvulaceae
<i>Carduus pycnocephalus</i> *	Italian Thistle	AH	.	Asteraceae
<i>Centaurea melitensis</i> *	Tocalote	AH	.	Asteraceae
<i>Chenopodium album</i> *	Lambsquarters	AH	FAC	Chenopodiaceae
<i>Conium maculatum</i> *	Poison Hemlock	PH	FACW	Apiaceae
<i>Coryza canadensis</i>	Horseweed	AH	FAC	Asteraceae
<i>Cyperus eragrostis</i>	Umbrella-sedge	PH	FACW	Cyperaceae
<i>Datura wrightii</i>	Jimson Weed	AH	.	Solanaceae
<i>Dichelostemma capitatum</i> ssp. <i>capitatum</i>	Blue Dicks	PH	.	Liliaceae
<i>Distichlis spicata</i>	Salt Grass	PG	FACW	Poaceae

<sup>1</sup> \* = Introduced/nonnative plant species. Scientific names of the plant species follow Hickman (1993), Flora of North America Committee (2001-2004), and Boyd (1999).

<sup>2</sup> Habit definitions: AG = annual grass; AH = annual herb; PG = perennial grass; PH = perennial herb; PV = perennial vine; S = shrub; T = tree.

<sup>3</sup> WIS = Wetland Indicator Status. The following code definitions are according to Reed (1988):  
OBL = obligate wetland species, occurs almost always in wetlands (>99% probability).  
FACW = facultative wetland species, usually found in wetlands (67-99% probability).  
FAC = facultative species, equally likely to occur in wetlands or nonwetlands (34-66% probability).  
FACU = facultative upland species, usually found in nonwetlands (67-99% probability).  
+ or - symbols are modifiers that indicate greater or lesser affinity for wetland habitats.  
NI = no indicator has been assigned due to a lack of information to determine indicator status.  
\* = a tentative assignment to that indicator status by Reed (1988).  
Parentheses indicate a wetland status as suggested by David L. Magney based on extensive field observations.

Scientific Name <sup>1</sup>	Common Name	Habit <sup>2</sup>	WIS <sup>3</sup>	Family
<i>Epilobium ciliatum</i>	Northern Willow-herb	AH	FACW	Onagraceae
<i>Eremocarpus setigerus</i>	Dove Weed	AH	.	Euphorbiaceae
<i>Erodium cicutarium</i> *	Redstem Filaree	AH	.	Geraniaceae
<i>Erodium moschatum</i> *	Whitestem Filaree	AH	.	Geraniaceae
<i>Eucrypta chrysanthemifolia</i> ssp. <i>chrysanthemifolia</i>	Common Eucrypta	AH	.	Hydrophyllaceae
<i>Euphorbia pepus</i> *	Petty Spurge	AH	.	Euphorbiaceae
<i>Foeniculum vulgare</i> *	Sweet Fennel	PH	FACU	Apiaceae
<i>Fraxinus velutina</i> *	Velvet Ash	S	FACW	Oleaceae
<i>Gnaphalium californicum</i>	Green Everlasting	AH	.	Asteraceae
<i>Gnaphalium luteo-album</i> *	Cudweed Everlasting	AH	FACW-	Asteraceae
<i>Heteromeles arbutifolia</i>	Toyon	S	.	Rosaceae
<i>Heterotheca grandiflora</i>	Telegraph Weed	BH	.	Asteraceae
<i>Hirschfeldia incana</i> *	Summer Mustard	BH	.	Brassicaceae
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i> *	Mediterranean Barley	AG	FAC	Poaceae
<i>Juglans californica</i> var. <i>californica</i>	Southern California Black Walnut	T	FAC	Juglandaceae
<i>Lactuca serriola</i> *	Prickly Wild Lettuce	AH	FAC	Asteraceae
<i>Lamarckia aurea</i> *	Goldentop	AG	.	Poaceae
<i>Lamium amplexicaule</i> *	Henbit	AH	.	Lamiaceae
<i>Lupinus succulentus</i>	Fleshy Lupine	AH	.	Fabaceae
<i>Lythrum californicum</i>	California Loosestrife	PH	OBL	Lythraceae
<i>Malacothamnus fasciculatus</i>	Bush Mallow	S	.	Malvaceae
<i>Malacothrix saxatilis</i>	Cliff-aster	PH	.	Asteraceae
<i>Malosma laurina</i>	Laurelleaf Sumac	S	.	Anacardiaceae
<i>Malva parviflora</i> *	Cheeseweed	AH	.	Malvaceae
<i>Marah macrocarpus</i> var. <i>macrocarpus</i>	Large-fruited Man-root	PV	.	Cucurbitaceae
<i>Marrubium vulgare</i> *	White Horehound	PH/S	FAC	Lamiaceae
<i>Medicago polymorpha</i> *	Bur-clover	AH	(FACU)	Fabaceae
<i>Melilotus alba</i> *	White Sweetclover	AH	FACU+	Fabaceae
<i>Melilotus indica</i> *	Sourclover	AH	FAC	Fabaceae
<i>Mimulus aurantiacus</i>	Sticky Bush Monkeyflower	S	.	Scrophulariaceae
<i>Mimulus guttatus</i>	Common Streamside Monkeyflower	AH	OBL	Scrophulariaceae
<i>Nicotiana glauca</i> *	Tree Tobacco	S	FAC	Solanaceae
<i>Picris echioides</i> *	Bristly Ox-tongue	AH	FAC*	Asteraceae
<i>Piptatherum miliaceum</i> *	Smilo Grass	PG	(FACU-)	Poaceae
<i>Plantago lanceolata</i> *	English Plantain	PH	FAC-	Plantaginaceae

Scientific Name <sup>1</sup>	Common Name	Habit <sup>2</sup>	WIS <sup>3</sup>	Family
<i>Platanus racemosa</i> var. <i>racemosa</i>	California Sycamore	T	FACW	Platanaceae
<i>Polygonum</i> sp.	Knotweed	PH	FAC	Polygonaceae
<i>Polypogon monspeliensis</i> *	Rabbitsfoot Grass	AG	FACW+	Poaceae
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont Cottonwood	T	FACW	Salicaceae
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast Live Oak	T	(FACU)	Fagaceae
<i>Quercus lobata</i>	Valley Oak	T	FAC*	Fagaceae
<i>Raphanus sativus</i> *	Wild Radish	AH	.	Brassicaceae
<i>Rorippa nasturtium-aquaticum</i>	Water Cress	PH	OBL	Brassicaceae
<i>Rubus ursinus</i>	Pacific Blackberry	PV	FACW*	Rosaceae
<i>Rumex crispus</i> *	Curly Dock	PH	FACW-	Polygonaceae
<i>Rumex salicifolius</i>	Willow Dock	PH	OBL	Polygonaceae
<i>Salix laevigata</i>	Red Willow	T	FACW	Salicaceae
<i>Salix lasiolepis</i>	Arroyo Willow	S/T	FACW	Salicaceae
<i>Sambucus mexicana</i>	Blue Elderberry	S	FAC	Caprifoliaceae
<i>Schoenoplectus californicus</i>	California Bulrush	PH	OBL	Cyperaceae
<i>Senecio mikanioides</i> *	Cape Ivy	PV	(FACW)	Asteraceae
<i>Senecio vulgaris</i> *	Common Groundsel	AH	NI*	Asteraceae
<i>Silybum marianum</i> *	Milk Thistle	AH	.	Asteraceae
<i>Solanum douglasii</i>	Douglas Nightshade	S	FAC	Solanaceae
<i>Solanum xantii</i> var. <i>xantii</i>	Chaparral Nightshade	S	.	Solanaceae
<i>Sonchus asper</i> *	Prickly sow-thistle	AH	FAC	Asteraceae
<i>Sonchus oleraceus</i> *	Common Sow-thistle	AH	NI*	Asteraceae
<i>Stachys albens</i>	Woolly Hedge Nettle	PH	OBL	Lamiaceae
<i>Typha domingensis</i>	Southern Cattail	PH	OBL	Typhaceae
<i>Urtica dioica</i> ssp. <i>holosericea</i>	Giant Stinging Nettle	PH	FACW	Urticaceae
<i>Urtica urens</i> *	Dwarf Nettle	AH	.	Urticaceae
<i>Verbena lasiostachys</i>	Western Verbena	PH	FAC-	Verbenaceae
<i>Veronica anagallis-aquatica</i> *	Common Speedwell	PH	OBL	Veronicaceae
<i>Vulpia bromoides</i> *	Slender Fescue	AG	FACW	Poaceae
<i>Vulpia microstachys</i>	Fescue	AG	.	Poaceae
<i>Xanthium strumarium</i>	Cocklebur	AH	FAC+	Asteraceae



**Table 3. Wildlife Species Observed and Expected in the Vicinity of the Centex Development**

Scientific Name <sup>4</sup>	Common Name	Evidence
<i>Amphibians</i>		
<i>Batrachoseps nigriventris</i>	Black-bellied Slender Salamander	Expected
<i>Bufo boreas halophilus</i>	California Toad	Expected
<i>Hyla regilla</i>	Pacific Treefrog	Detected (call)
<i>Rana catesbiana</i> *	Bullfrog	Expected
<i>Reptiles</i>		
<i>Elgaria multicarinatus</i>	San Diego Alligator Lizard	Expected
<i>Sceloporous occidentalis</i>	Western Fence Lizard	Observed
<i>Pituophis melanoleucus</i>	Gopher Snake	Expected
<i>Crotalus viridis</i>	Western Rattlesnake	Expected
<i>Avifauna</i>		
<i>Ardea herodias</i>	Great Blue Heron	Observed
<i>Ardea alba</i>	Great Egret	Observed
<i>Egretta thula</i>	Snowy Egret	Expected
<i>Butorides virescens</i>	Green Heron	Expected
<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	Expected
<i>Anas platyrhynchos</i>	Mallard	Observed
<i>Cathartes aura</i>	Turkey Vulture	Observed
<i>Accipiter cooperii</i>	Cooper's Hawk	Observed
<i>Buteo lineatus</i>	Red-shouldered Hawk	Observed
<i>Buteo jamaicensis</i>	Red-tailed Hawk	Observed
<i>Falco sparverius</i>	American Kestrel	Expected
<i>Callipepla californica</i>	California Quail	Observed
<i>Charadrius vociferus</i>	Killdeer	Observed
<i>Zenaida macroura</i>	Mourning Dove	Observed
<i>Calypte anna</i>	Anna's Hummingbird	Observed
<i>Ceryle alcyon</i>	Belted Kingfisher	Expected
<i>Melanerpes formicivorus</i>	Acorn Woodpecker	Observed
<i>Picoides nuttallii</i>	Nuttall's Woodpecker	Expected
<i>Colaptes auratus</i>	Northern Flicker	Expected
<i>Empidonax difficilis</i>	Pacific-slope [Western] Flycatcher	Expected
<i>Sayornis nigricans</i>	Black Phoebe	Observed
<i>Aphelocoma californica</i>	Western Scrub-jay	Observed
<i>Corvus caurinus</i>	American Crow	Observed
<i>Corvus corax</i>	Common Raven	Observed
<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Expected
<i>Baeolophus inornatus</i>	Oak Titmouse	Observed
<i>Psaltriparus minimus</i>	Common Bushtit	Expected

<sup>4</sup> Nomenclature follows National Geographic (2002).





Scientific Name <sup>4</sup>	Common Name	Evidence
<i>Sialia mexicana</i>	Western Bluebird	Expected
<i>Mimus polyglottos</i>	Northern Mockingbird	Observed
<i>Sturnus vulgaris</i> *	European Starling	Observed
<i>Geothlypis trichas</i>	Common Yellowthroat	Expected
<i>Pipilo crissalis</i>	California Towhee	Observed
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow	Observed
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Observed
<i>Sturnella neglecta</i>	Western Meadowlark	Observed
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird	Observed
<i>Carpodacus cassinii</i>	House Finch	Observed
<i>Carduelis psaltria</i>	Lesser Goldfinch	Expected
<i>Carduelis tristis</i>	American Goldfinch	Observed
<b>Mammals</b>		
<i>Didelphis virginiana</i>	Virginia Opossum	Expected
<i>Spermophilus beecheyi</i>	California Ground Squirrel	Observed
<i>Thomomys bottae</i>	Botta's Pocket Gopher	Expected
<i>Peromyscus maniculatus</i>	Deer Mouse	Expected
<i>Neotoma fuscipes</i>	Dusky-footed Woodrat	Detected (8 nests)
<i>Sylvilagus audubonii</i>	Audubon's Cottontail	Observed
<i>Canis latrans</i>	Coyote	Detected (scat)
<i>Urocyon cinereoargenteus</i>	Gray Fox	Expected
<i>Procyon lotor</i>	Raccoon	Expected
<i>Spilogale gracilis</i>	Western Spotted Skunk	Expected
<i>Mephitis mephitis</i>	Striped Skunk	Expected
<i>Felis concolor</i>	Mountain Lion	Expected
<i>Lynx rufus</i>	Bobcat	Expected
<i>Odocoileus hemionus</i>	Mule Deer	Detected (tracks)
<b>Invertebrates</b>		
<i>Hydrobius fuscipes</i>	Water Scavenger Beetle	Expected
<i>Gerris remigis</i>	Water Strider	Expected
<i>Notonecta undulata</i>	Backswimmer	Expected
Culicidae	Mosquito	Observed
<i>Danus plexippus</i>	Monarch Butterfly	Observed
<i>Adelpha bredowii</i>	California Sister	Observed
<i>Papilio rutulus</i>	Western Tiger Swallowtail	Observed
<i>Apis mellifera</i> *	European Honey Bee	Observed
	Earth Worm	Observed

## HABITAT DESCRIPTIONS

Three general habitat classifications currently exist in the immediate vicinity of the Centex Development project site, including Riverine, Palustrine, and Upland. These habitat types include floristic plant communities that contribute to the landscape of the project site.

Descriptions are provided in the following subsections for the following habitats and plant communities:

- **Riverine Habitat:**
  - Riverine Upper Perennial Unconsolidated Bottom (Lot 31);
- **Palustrine Habitat**
  - Palustrine Emergent (successional Palustrine Scrub/Shrub in Lot 30), and
  - Palustrine Scrub/Shrub (or successional Arroyo Willow Series in Lot 30); and
  - Palustrine Forested (or Arroyo Willow Series in Lot 31),
- **Upland Habitat:**
  - California Annual Grassland Series (Lot 30),
  - Ruderal Grassland Series (Lot 30), and
  - Coast Live Oak Series (Lot 30).

The Palustrine and Riverine habitats include the plant communities associated with jurisdictional waters of the U.S. These habitat types were determined within the project site based on field surveys and observations, the wetland delineation results, and aerial photographs.

Note: The scientific name, common name, and wetland indicator status of each species is provided one for the species mentioned in the following descriptions. Thereafter, each species is referred to by its scientific name only.

## Riverine Habitat

A Riverine system includes all wetlands and deepwater habitats contained within a channel, with two exceptions: (1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and (2) habitats with water containing ocean-derived salts in excess of 0.5‰. Channel is defined as a conduit that periodically or continuously contains moving water, or that forms a connecting link between two bodies of water.

The streambed habitat, observed within the Riverine system throughout the vicinity of the project site, is further classified as **Riverine Upper Perennial Unconsolidated Bottom**. Riverine Upper Perennial Unconsolidated Bottom includes habitats with at least 25% cover of particles smaller than stones, and a vegetative cover less than 30%. Water regimes are restricted to subtidal (not present at the project site), permanently flooded, intermittently exposed, and semipermanently flooded. This class is characterized by the lack of large stable surfaces for plant and animal attachment. Unconsolidated Bottom is usually found in areas with lower energy than Rock Bottoms, and may be very unstable. In the Riverine System, the substrate type of this class is largely determined by current velocity, and plants and animals exhibit a high degree of morphologic and behavioral adaptation to flowing water. (Cowardin et al. 1979.)

The Riverine habitat onsite associated with South Branch Arroyo Conejo is predominantly unvegetated and contains recent fluvially deposited sediments otherwise known as Riverwash materials (described below in Mapped Soil Units). Boulder, Cobble, and gravel, with some sand were observed as predominant substrate types within the Riverine system onsite.

## Palustrine Habitat

The Palustrine system includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5‰ (Cowardin et al. 1979). Palustrine habitats can be characterized as performing various hydrologic, geomorphologic, biogeochemistry, and plant and wildlife habitat functions. The performance of these functions is largely dependent upon the maintenance of natural channel morphology and native plant communities.

The Palustrine Emergent, Shrub/Scrub, and Forested habitats existing in Lot 30 onsite (and in the adjacent Lot 31) are used as nesting and foraging habitat for several species of birds, and as cover and foraging habitat for small and large mammals, some of which may use the riparian vegetation as a movement corridor. Palustrine habitat function is generally increased by the presence of adjacent natural upland habitats, which together create high species richness and structural diversity of an area. Since the Palustrine habitat of Lot 30 is in succession from a previous disturbance, these plant communities are not fully developed, but have the potential to provide functional wildlife habitat over time if left undisturbed. The Palustrine habitats observed within the Centex Development project site are further classified and defined below.

### *Palustrine Emergent Habitat (Successional)*

Palustrine Emergent habitat is generally characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens (Cowardin et al. 1979). Palustrine Emergent habitat is also described by Holland (1986) as Coastal and Valley Freshwater Marsh, which is dominated by perennial, emergent monocots to five meters tall, often forming completely closed canopies. This habitat requires quiet sites (lacking significant current) in permanently flooded fresh water. Freshwater Marsh also requires prolonged saturation to allow accumulation of deep, peaty soils. Typical plant genera of Freshwater Marsh include *Carex* spp. and *Cyperus* spp. (sedges), *Eleocharis* spp. (spike-rushes), *Scirpus* spp. (bulrushes), and *Typha* spp. (cattails).

The successional Palustrine Emergent habitat observed on Lot 30 is unique in that the typical Palustrine (Persistent) Emergent plant species are not present (at least as of the wetland delineation survey) due to the authorized vegetation clearing of 1997. Currently, this habitat is saturated to the surface with freshwater. This saturation is expected to be permanent flooding; however, it could be only a result of the recent winter storms. The habitat is very new making it difficult to determine exactly how wet this area will remain without further study. This “new” Palustrine Emergent habitat observed onsite appears to be succeeding back into Palustrine Scrub/Scrub habitat (described below), which existed onsite prior to previous clearing activities.

As of the field survey conducted in February 2005, the successional Palustrine Emergent habitat on Lot 30 is predominated by annual grasses with several hydrophytic plant species succeeding in as well. The plant species observed in Palustrine Emergent habitat onsite include the following: *Ambrosia psilostachya* var. *californica* (Western Ragweed [FAC]), *Anagallis arvensis* (Scarlet Pimpernel [FAC]), *Artemisia douglasiana* (Mugwort [FACW]), *Bromus diandrus* (Ripgut Grass), *Bromus madritensis* ssp. *rubens* (Red Brome [NI]), *Carduus pycnocephalus* (Italian Thistle), *Hirschfeldia incana* (Summer Mustard), *Hordeum marinum* ssp. *gussoneanum* (Mediterranean Barley [FAC]), *Medicago polymorpha* (Burdock), *Piptatherum miliaceum* (Smilo Grass), *Rubus ursinus* (Pacific Blackberry [FACW\*]), *Rumex crispus* (Curly Dock [FACW-]), and *Vulpia bromoides* (Slender Fescue [FACW]). *Salix lasiolepis* (Arroyo Willow [FACW]) and *Baccharis salicifolia* (Mulefat [FACW]) were emergent shrubs in this Palustrine Emergent habitat.

### ***Palustrine Scrub/Shrub Habitat***

Palustrine Scrub/Shrub habitat is dominated by woody plants less than six meters tall. Contributing plants include true shrubs that are typically small or stunted due to environmental conditions. Palustrine Scrub-Shrub habitats may represent a successional stage leading to Palustrine Forested habitats, or may be relatively stable communities. (Cowardin et al. 1979.)

As with the Palustrine Emergent habitat (described above), the Palustrine Scrub/Shrub habitat observed on Lot 30 is also unique in that the typical Palustrine Scrub/Shrub habitats consist of dense canopies of willows and Mulefat. Prior to the authorized vegetation clearing of 1997, the entire mid-section of Lot 30, as well as much of Lot 30's western half, was inhabited by Arroyo Willow Series (Sawyer and Keeler-Wolf 1995). Although *Salix lasiolepis* and *Baccharis salicifolia* are present, as of the February 2005 wetland delineation and survey, these species are highly successional due to the previous vegetation clearing. This habitat occurs more as emergent shrubs throughout the Palustrine Emergent habitat as described above.

Currently, the Palustrine Scrub/Shrub habitat onsite is saturated to the surface with freshwater. This saturation is expected to be permanent flooding; however, it could be only a result of the recent winter storms. The habitat is very new making it difficult to determine exactly how wet this area will remain without further study. This "new" Palustrine Scrub/Scrub habitat is succeeding back to what existed onsite prior to clearing activities.

The Palustrine Scrub/Shrub habitat establishing on Lot 30 is also classified here as Arroyo Willow Series (Sawyer and Keeler-Wolf 1995). Although Arroyo Series is described in detail in the following subsection, Palustrine Forested Habitat, as riparian woodland. Palustrine Scrub/Shrub differs from the following description only in that Scrub/Shrub habitats are predominated by shrubs rather than by mature trees.

### ***Palustrine Forested Habitat (Arroyo Willow Series)***

Palustrine Forested can be further classified as Palustrine Broad-leaved Winter-deciduous Forested habitat, which is characterized by woody, broad-leaved (as apposed to needle-leaved), winter-deciduous (looses leaves in the winter season) vegetation that is six meters tall or taller. This habitat possesses an overstory of trees, an understory of young trees and shrubs, and an herbaceous layer. (Cowardin et al. 1979.) The Palustrine Forested habitat observed onsite is described floristically below as Arroyo Willow Series.

Arroyo Willow Series is dominated by *Salix lasiolepis* (Arroyo Willow), which is a winter-deciduous shrub or small tree with shinny dark green (upper surface) and grayish (lower surface) oblanceolate leaves. Arroyo Willow is listed with a wetland indicator status of facultative wetland species (FACW, or usually found in wetlands [Reed 1988]). Arroyo Willow Series occurs in seasonally flooded or saturated freshwater wetland habitats, such as floodplains and low-gradient depositions along rivers and streams, and is abundant in marshes, meadows, and springs, at elevations below 1,800 meters. This riparian woodland forms a closed to intermittent canopy less than 10 meters tall, growing over a patchy shrub layer and a variable ground layer. (Sawyer and Keeler-Wolf 1995.)

Arroyo Willow Series (Sawyer and Keeler-Wolf 1995) was observed predominantly on Lot 31; however, this established riparian woodland plant community borders the entire western boundary of Lot 30. Prior to the authorized vegetation clearing of Lot 30 in 1997, the entire mid-section of Lot 30 consisted of a tributary to South Branch Arroyo Conejo, as well as the entire western half of Lot 30, was also inhabited by Arroyo Willow Series.

*Fraxinus velutina* (Velvet Ash [FACW]), *Juglans californica* var. *californica* (Southern California Black Walnut [FAC]), *Platanus racemosa* var. *racemosa* (California Sycamore [FACW]), *Populus fremontii* ssp. *fremontii* (Fremont Cottonwood [FACW]), *Quercus agrifolia* (Coast Live Oak), and *Salix laevigata* (Red Willow [FACW]) are important riparian woodland canopy contributors observed in Lot 31. Other associate species observed contributing to the shrub and ground layers of the plant community include: *Apium graveolens* (Celery [OBL]), *Artemisia douglasiana*, *Baccharis salicifolia* (Mulefat [FACW]), *Conium maculatum* (Poison Hemlock [FACW]), *Marah macrocarpus* var. *macrocarpus* (Large-fruited Man-root), *Piptatherum miliaceum*, *Rubus ursinus*, and *Sambucus mexicana* (Blue Elderberry [FAC]).

Willow and Mulefat are the only contributors to the shrub canopy of the Arroyo Willow Series in the South Branch Arroyo Conejo tributary of Lot 30. *Baccharis pilularis* (Coyote Brush), *Rubus ursinus*, and *Artemisia douglasiana* are scattered below with other associate species including those listed above in Palustrine Emergent Habitat.

## Upland Habitat

The upland habitats observed at the Centex Development project site are classified as California Annual Grassland Series, Ruderal Grassland Series, and Coast Live Oak Series.

### *California Annual Grassland Series*

California Annual Grassland Series (Sawyer and Keeler-Wolf 1995) consists of low herbaceous vegetation that is dominated by introduced annual grasses and is often associated with several native wildflower species, as well as introduced forbs. California Annual Grassland Series is typically dominated by annual grasses of various genera that are primarily of Mediterranean origin, including: *Avena* spp. (oats), *Bromus* spp. (bromes), and *Hordeum* spp. (barley). Because introduced annual grass species have irreversibly invaded the once native perennial stands, they are often referred to as naturalized species; however, these grass species are now considered important California grassland species (Zedler et al. 1997). For example, when grassland has a significant contribution of native annual herbs and wildflowers, this plant community is not considered to be invasive and typically provides functional, resourceful wildlife habitat for many wildlife species. When annual grasslands become inundated with ruderal invasive introduced forbs (weeds), which is typically a result of some form of human disturbance, then the plant community is classified as Ruderal Grassland Series (described below).

California Annual Grassland Series occurs on all topographic locations, especially gradual slopes, of all slope aspects and occur in deep, well-developed soils, at elevations below 1,200 meters (Sawyer and Keeler-Wolf 1995). Species composition varies among stands, as the associate species may consist of several native herbs (or wildflowers). These wildflowers are important contributors to the ground layer, while emergent trees and shrubs may be present.

Very few native annual herbs were observed contributing to this plant community as most species were removed during authorized vegetation clearing, and the timing of the wetland delineation and survey was too early for most native flowering annual plants. The dominant grasses observed in this plant community on Lot 30 include *Avena barbata* (Slender Wild Oat), *Bromus diandrus*, *Bromus hordeaceus* (Soft Chess), *Bromus madritensis* ssp. *rubens*, *Hordeum marinum* ssp. *gussoneanum*, and *Vulpia microstachys* (Six-weeks Fescue). The important native herbs of the Annual Grassland Series onsite (Lot 30) include: *Ambrosia psilostachya* var. *californica*,



*Asclepias fascicularis* (Narrowleaf Milkweed), *Conyza canadensis* (Common Horseweed), *Datura wrightii* (Jimson Weed), *Eucrypta chrysanthemifolia*, *Gnaphalium californicum* (Green Everlasting), *Lupinus succulentus* (Fleshy Lupine), and *Verbena lasiostachys* (Western Verbena). Several additional wildflowers are expected onsite and will be identifiable during the spring.

### ***Ruderal Grassland Series***

Ruderal Grassland Series is typically in early successional stages resulting from severe disturbance by natural or human causes, and may persist as a result of recurring disturbance. These areas are dominated by introduced, pioneering, herbaceous plants that readily colonize disturbed ground. The ability of exotic species to invade disturbed areas arises from their relationship to old-world ancestors that have co-existed with humans for millennia, and thus are more adapted to exploit disturbed land. Ruderal communities are typically a threat to regional biodiversity since they continually distribute nonnative propagules into native plant communities. These exotic species can colonize natural disturbances, such as burns, and typically can successfully out-compete the more desirable natives. (Zedler et al. 1997.)

Many of the same grass species of California Annual Grassland Series are often abundant in Ruderal Grassland Series; however, Ruderal Grassland Series is dominated by introduced and often invasive forb species. The predominant invasive plant species observed in the Lot 30 site include *Brassica nigra* (Black Mustard), *Centaurea melitensis* (Tocalote), *Erodium* spp. (filarees), *Foeniculum vulgare* (Sweet Fennel), *Hirschfeldia incana*, *Lamium amplexicaule* (Henbit), *Malva parviflora* (Cheeseweed), *Medicago polymorpha*, *Melilotus indica* (Sourclover), *Picris echioides* (Prickly Ox-tongue), *Raphanus sativus* (Wild Radish), *Silybum marianum* (Milk Thistle), and *Sonchus oleraceus* (Common Sow-thistle).

### ***Coast Live Oak Series***

Coast Live Oak Series (Sawyer & Keeler-Wolf 1995) is dominated by *Quercus agrifolia* var. *agrifolia* (Coast Live Oak), which is a broad-leaved, evergreen, wide-topped tree with furrowed, dark-gray bark and weakly spine-toothed, convex, dark green leaves. *Q. agrifolia* is the most widely distributed species of the evergreen oaks, and it is capable of achieving large size and old age (Zedler et al. 1997). Coast Live Oak Series occurs predominantly on steep slopes and on raised stream banks and terraces at elevations below 1,200 meters. It forms a continuous to open 30-meter tall canopy, growing over an understory of occasional shrubs and an herbaceous ground layer. This woodland requires sandstone or shale-derived soils of elevations below 1,200 meters.

The Coast Live Oak Series, observed at the Lot 30 site, forms an open canopy with a groundlayer understory of predominantly California Annual Grassland contributors (described above). This open-canopied type of Coast Live Oak Series can also be classified as Coast Live Oak Savannah. *Quercus lobata* (Valley Oak) was observed onsite as a scattered associate species to the Coast Live Oak Woodland plant communities.

## **MAPPED SOIL UNITS**

The Soil Conservation Service (SCS, now the Natural Resource Conservation Service) *Soil Survey for the Ventura Area* (Edwards et al. 1970) mapped the Lot 30 (and Lot 31) property soils as Cropley Clay 2 to 9 Percent Slopes (Cropley Series), Vina Silty Clay Loam 2 to 9 Percent Slopes

(Vina Series), and Vina Loam 2 to 9 Percent Slopes (Vina Series). These mapped soil units are described in following subsections. Riverwash is a nonsoil that was also observed/observed at several wetland delineation data points onsite, and is described below as well. Note that Chesterton Sandy Loam 9 to 30 Percent Slopes is mapped onsite along the eastern border of Lot 30 (immediately along Reino Drive). This soil series is not discussed below since predominantly the western wetter portions of the property were studied. The field investigations onsite confirmed both Cropley Series and Vina Series as existing onsite. These soils are described briefly below as they relate to this wetland delineation.

## **Cropley Series**

Cropley Series (Chromic Pelloxererts) consists of well-drained clays 60 or more inches deep. These soils formed on alluvial fans and plains, in alluvium derived from sedimentary rocks. They have slopes of 0 to 9 percent, and elevations range from 25 to 800 feet. The annual rainfall ranges from 14 to 16 inches. The surface layer is dark gray or very dark gray (10YR3/1 moist), and is very firm, sticky, and plastic with medium granular structure. Below (2 to 14 inches), consists of the same color matrix and feel, but the texture is weak, coarse, prismatic structure. From 14 to 22 inches is the same color matrix and feel again, but has moderate, coarse, angular, blocky structure.

The Cropley Series mapped soil unit at the Centex Development project site is Cropley Clay 2 to 9 Percent Slopes (CyC). CyC is a gently sloping to moderately sloping soil of the alluvial fans and plains. Surface runoff is slow to medium, and the erosion hazard is slight to moderate. CyC is not listed as a hydric soil (National Resource Conservation District [NRCS] 1992). Mapped inclusions of CyC soil include areas of Rincon and Salinas soils.

Plot number F-1 is the only plot that is a confirmed CyC mapped soil type. Plots F5, F6, G1, G2, G3, and G4 occur where CyC is mapped onsite; however, this soil type is not confirmed at these portions of the property, and these plots contain soil of unnamed undescribed soil inclusions. Plots G3 and G4 do more or less fit within the CyC Salinas Series mapped soil inclusion, which is described below. (Figure 3, Wetland Delineation Plots Surveyed for the Centex Development Project Site, for plot locations.)

## **Salinas Series**

Salinas Series is a mapped soil inclusion of Cropley Series. Salinas Series consists of well-drained clay loams 60 or more inches deep. These soils formed on alluvial fans and plains, in alluvium derived predominantly from sedimentary rocks. They have slopes of 0 to 9 percent, elevations range from 25 to 1,000 feet, and the annual rainfall ranges from 14 to 20 inches. The surface layer is dark-gray, neutral clay loam about 26 inches deep (10YR3/1 moist). Salinas Clay Loam 2 to 9 Percent Slopes is the soil unit that Plots G3 and G4 fit as the mapped soil inclusion for CyC described above. (See Figure 3 for plot locations.)

## **Vina Series**

Vina Series (Fluventic Haploxerolls) consists of well-drained loams, gravelly loams, or silty clay loams 60 or more inches deep. These soils formed on alluvial fans and plains, in alluvium derived from basic igneous rocks. They have slopes of 0 to 9 percent, and elevations range from 100 to 1,000 feet. Annual rainfall ranges from 15 to 20 inches. The Vina Series mapped soil units at the

Centex Development project site include Vina Loam 2 to 9 Percent Slopes (VaC) and Vina Silty Clay Loam 2 to 9 Percent Slopes (VsC).

**Vina Loam 2 to 9 Percent Slopes (VaC)** is a gently sloping to moderately sloping soil of the alluvial fans. The surface layer of VaC is grayish-brown and dark grayish-brown (10YR3/2), neutral loam about 18 inches thick. The surface is about 15 percent gravel and cobbles. Below this is dark grayish-brown and grayish-brown (10YR4/2 moist), neutral and slightly acid loam and very fine sandy loam to a depth of more than 60 inches. Permeability is moderate, surface runoff is slow to medium, and the erosion hazard is slight to moderate. Included with this soil in mapping were areas of Cibo Clay, Cropley Clay, and Vina Gravely Loam.

Plots C1, C2, D1, D2, E1 through E5, F2, and F3 all consist of the confirmed VaC mapped soil type. Plots C3, D3, and F4 occur where VaC is mapped onsite; however, this soil type is not confirmed at these portions of the property, and these plots contain soil of unnamed undescribed soil inclusions (they do not fit the Cibo, Cropley Clay, or Vina Gravely Loam inclusions). (See Figure 3 for plot locations.)

**Vina Silty Clay Loam 2 to 9 Percent Slopes (VsC)** is also a gently sloping to moderately sloping soil of the alluvial fans. In contrast with VaC, VsC has a silty clay loam texture throughout and tends to be weakly calcareous in the lower part of the C Horizon. Permeability is moderately slow, surface runoff is medium, and the erosion hazard is slight to moderate. Mapped inclusions of this soil include small areas of Cibo Clay, Cropley Clay, Vina Loam, and Vina Gravely Loam.

Plots A1 through A5, B1, B2, and E6 all consist of the confirmed VsC mapped soil type. No plots onsite have VsC as an unconfirmed mapped soil type. (See Figure 3 for plot locations.)

## Riverwash

Riverwash generally occurs within the bed of intermittent streams, and consists of highly stratified, water-deposited layers of stony and gravely sand that contains relatively small amounts of silt and clay. It is characterized as having high permeability, but is present as the result of frequent and regular fluvial processes. Riverwash is frequently inundated during high water flow immediately following storms, where fresh deposits of alluvium are laid down and removed as the result of streambank erosion. Riverwash is subject to frequent disturbance, such as scouring and deposition, and the development and establishment of riparian vegetation is severely limited. It is considered hydric by the NRCD (1992). (Woodruff et al. 1970, Edwards et al. 1970.)

Riverwash materials were observed at six wetland delineation plots onsite, including Plots A1, A2, B1, B2, F4, and G1. Riverwash is not a mapped soil inclusion to either of the mapped soil types for the project site. Although Riverwash is a nonsoil, this material is an indicator of hydric soil conditions. (See Figure 3 for plot locations.)



## SECTION III. REGULATORY REQUIREMENTS

Wetlands such as freshwater stream channels are considered sensitive and declining by several regulatory agencies including CDFG and the U.S. Fish and Wildlife Service (USFWS). Stream channels and banks are specifically addressed by the California Fish and Game Code Section 1600 *et seq.* (Streambed Alteration Agreement). Waters of the U.S., including stream channels and wetlands, fall under the jurisdiction of the Corps under Section 404 of the Clean Water Act.

### DEFINITIONS

Several agencies have jurisdiction over, or policies regarding, waters and/or wetlands, including the Corps, State Water Resources Control Board (SWRCB), CDFG, and County of Los Angeles. Each agency, or jurisdiction, has slightly different definitions for wetlands or descriptions of their policies regarding them. For the Centex Development project, the Corps and SWRCB use the same definition for waters of the U.S. and wetlands as they apply to the Clean Water Act. The CDFG uses a broader definition under Section 1600 *et seq.* of the California Fish and Game Code.

Portions of the project site fall within the jurisdiction of one or more agencies that regulate activities in wetlands such as South Branch Arroyo Conejo. Waters of the U.S., including wetlands, are within the jurisdiction of the Corps and SWRCB pursuant to Sections 404 and 401 of the Clean Water Act, respectively. Waters of the State are regulated by the CDFG pursuant to Section 1600 *et seq.* of the California Fish and Game Code. Certain floodways within Los Angeles County are regulated by the Los Angeles County Flood Control and Conservation District.

### CORPS JURISDICTION

As stated above, waters of the U.S., including wetlands, are under Corps jurisdiction of the Corps pursuant the Clean Water Act, and discharging dredge or fill material into waters of the U.S. requires a permit from the Corps. Certain activities are already covered under a number of General permits, known as Nationwide Permits. Activities not covered by the existing Nationwide Permits require an application for an individual permit from the Corps.

Centex may qualify for use of an existing Nationwide Permit Number 39 if applicable.

### Waters of the United States

The term "waters of the United States" means:

- “(1) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to ebb and flow of the tide;
- (2) All interstate waters including interstate wetlands;

- (3) All other waters - such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds – where the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters:
  - (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes;
  - (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;
  - (iii) Which are used, or could be used, for industrial purposes by industries in interstate commerce; or
  - (iv) Including all impoundments of waters, otherwise defined as waters of the U.S., under the definition;
- (5) Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
- (6) The territorial seas; and
- (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section.
- (8) Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.”

Basically, areas exhibiting clearly defined bed and banks of water courses with evidence of periodic or regular erosion and/or deposition by water are considered to be waters of the U.S., and are under the jurisdiction of the Corps.

## **Wetlands**

The Corps (Environmental Laboratory 1987) defines wetlands as:

“Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas”.

The U.S. Fish and Wildlife Service’s wetland classification system (Cowardin et al. 1979) is as follows:

“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water, or covered by shallow water, at some time during the growing season of each year.”



Wetlands are defined in the California Coastal Act (California Coastal Commission 1981) as:

“Land which [sic] may be covered periodically, or permanently, with shallow water and includes saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.”

Note: The project site is not within the coastal zone; however, the wetlands definition included within the California Coastal Act is generally accepted and adopted as the definition used statewide.

The California Fish and Game Commission, and the California Department of Fish and Game, have adopted the USFWS definition for wetlands (Lollock 1987):

“When all three indicators (i.e., hydric soils, wetland vegetation, and hydrology) are present, the presumption of wetland existence shall be conclusive. Where less than three indicators are present, policy application shall be supported by the demonstrable use of wetland areas by wetland associated fish or wildlife resources, related biological activity, and wetland habitat values. The USFWS wetland classification system should be applied by professionals trained in its methodology.”

Furthermore, the Keene-Nejedly California Wetlands Preservation Act of 1976, Section 5812 of the Public Resources Code, defines wetlands as:

“(a) ‘Wetlands’ means streams, channels, lakes, reservoirs, bays, estuaries, lagoons, marshes, and the lands underlying and adjoining such waters, whether permanently or intermittently submerged, to the extent that such waters and lands support and contain significant fish, wildlife, recreational, aesthetic, or scientific resources.”

## WETLAND JURISDICTION CRITERIA

To be a wetland as defined by the Corps, the wetland must possess the following three general diagnostic environmental characteristics:

1. **Hydrophytic Vegetation.** The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions described in wetland definitions above.
2. **Hydric Soil.** Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions.
3. **Hydrology.** The area is inundated either permanently or periodically at mean water depths less than or equal to two meters (6.6 feet), or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

One or more indicators must be found positive for each of the *three wetland criteria* at a site plot before that area can be considered a jurisdictional wetland for the purpose of the Clean Water Act. However, CDFG requires that one or more positive indicators must be found for only *one of the three wetland criteria* to be considered a jurisdictional wetland for the purpose of state regulations.



## **CDFG STREAMBED ALTERATION AGREEMENT**

The following paragraphs are taken directly from CDFG's *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1992) documentation:

“The California Fish and Game Code (FGC) sections 1601-1607 establish a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources. When adverse impacts cannot be avoided, the process also ensures that adequate mitigation and/or compensation is provided for project impacts. It is the negotiation of a legally binding agreement between a project proponent and the CDFG, which contains the measures the project proponent must implement in order to avoid or mitigate any adverse impacts to fish and wildlife resources. The program developed by the Department, to implement this process, is generally referred to as the Streambed Alteration Agreement Program.”

“Sections 1601 and 1603 of the FGC are the primary operative sections with regards to the developing Streambed Alteration Agreements. FGC Section 1601 regulates the agreement process for projects proposed by state or local government agencies or public utilities, while Section 1603 regulates the agreement process for projects proposed by all private projects, private Timber Harvest Plans (THPs), and federal projects without a state agency sponsor.”

FGC Section 1601 is specifically concerned with any project proposed by a state or local government agency or public utility, which:

“...will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake designated by the Department, in which there is at any time an existing fish or wildlife resource, or from which these resources derive benefit, or (any project which) will use material from the streambeds designated by the Department...”

Centex will be required to apply for a Streambed Alteration Agreement, pursuant to Section 1603 of the Fish and Game Code.

## SECTION IV. METHODOLOGY

This section provides the methods used by David Magney Environmental Consulting (DMEC) to delineate waters of the U.S., including wetlands, at the Centex Development project site. Section IV includes a discussion of the general delineation approach, lists the references cited and followed for habitat classification above in Section II, and provides a detailed analysis of the wetland delineation criteria assessed by DMEC biologists.

### GENERAL APPROACH

DMEC followed Corps methods (described below) to determine the area of the project site that falls under Corps jurisdiction. In addition, CDFG jurisdictional areas were identified pursuant to California Fish and Game Code regulations and state policies. The entire Centex Development project site was surveyed for waters of the U.S. and riparian habitats to determine what waters and habitats are likely to be affected by the proposed Centex Development. The Lot 30 landscape was evaluated to generally classify the various plant communities that are located in the immediate vicinity of the creek channels, as well as those plant communities inhabiting the surrounding upland areas of the project site. To determine the extent of habitats qualifying as jurisdictional waters and wetlands, riparian habitats were delineated, and the area of each identified habitat was calculated.

### HABITAT CLASSIFICATION

The habitat types of the study area, and the plant communities making up those habitats, were assessed and classified according to CDFG's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and California Native Plant Society's *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995). All wetland habitat types were cross-referenced according to the USFWS *Classification of Wetlands and Deepwater Habitats of North America* (Cowardin et al. 1979).

### DELINEATING WATERS OF THE UNITED STATES

Waters of the U.S., as defined by Section 404 of the Clean Water Act (33CFR 328.3) and described above in the previous section, were delineated within the study area. Aerial photographs, topographic maps, general site observations, and wetland delineation results were used to define jurisdictional boundaries within the project site.

Data points (plots) were established in various locations along South Branch Arroyo Conejo of Lot 31 and within the swale of Lot 30 to examine vegetation, soils, and hydrology of each selected "site." All plots of the study area were examined according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Jurisdictional wetlands (for Corps regulatory purposes) must possess one or more indicators for all three wetland criteria, including (1) indicator(s) that the plot area is dominated by hydrophytic vegetation, (2) indicator(s) that wetland hydrology is present, and (3) indicator(s) that hydric soil conditions are present.

CDFG regulations and policy require only one of these three criteria to be present in order to be considered a wetland pursuant to state regulations. Information on these parameters was recorded on data forms for routine wetland determinations, which are included as Appendix A, Centex Development Routine Wetland Determination Field Data Forms.

## Wetland Delineation

David Magney and Cher Batchelor of DMEC performed the delineation of jurisdictional waters and wetlands. These biologists gathered data from 29 established soil plots, according to the Corps' 1987 *Manual for Delineating Jurisdictional Wetlands* (Environmental Laboratory 1987) (Figure 3, Wetland Delineation Plots Surveyed for the Centex Development Project Site). The 29 soil plots were established along seven transects (A through G) across the width of portions of Lot 30 and 31 on 24 February 2005. Sixteen (16) plots were studied in Lot 30, and thirteen (13) plots were studied in Lot 31 as reference points of obvious wetland areas. The transects and data points were surveyed to gather wetland data on soils, hydrology, and vegetation (defined below in Wetland Criteria) for determining the limits of Corps jurisdiction pursuant to the Clean Water Act.

*Corps jurisdictional waters of the U.S.* status was determined by the presence of (or evidence of) *one or more positive indicators of wetland hydrology*, indicated predominantly by standing or flowing water and/or a well-defined channel bed and bank.

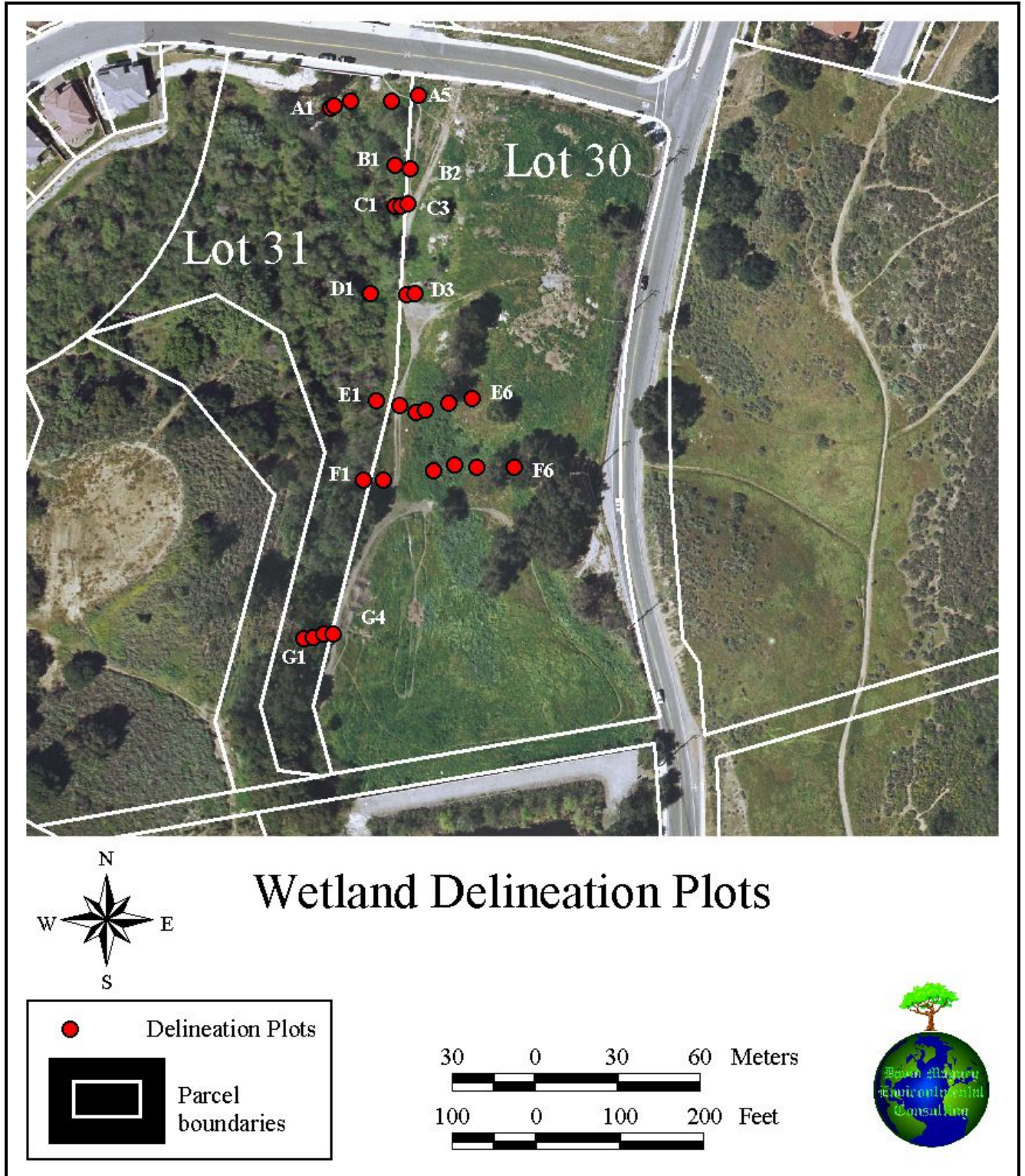
*Corps jurisdictional wetlands* must possess *one or more positive indicators for all three wetland criteria*, including (1) hydrophytic vegetation, (2) wetland hydrology, and (3) hydric soil conditions.

*CDFG jurisdiction* was determined by the presence of *one or more positive indicators for any one of the three wetland criteria*.

It should be noted, however, that in Atypical Situations and problem areas, such as with several plots of the Centex Development project site, all three wetland parameters need not be met, since one or more of those parameters may not be evident (see the Atypical Situation subsection on Page 31). Initially, all data were collected in the field by determining the presence (or absence) for all three wetland parameters. However, since portions of the Centex Development project site have been determined to be in an Atypical Situation, not all three wetland criteria need to be met at specific data points to be considered a wetland. Therefore, once the data could be analyzed in office, photographs taken prior to any disturbance could be reviewed, and aerial photographic interpretation could be conducted, the results of the Atypical Situation analysis could then be assessed and presented.

DMEC biologists also collected data for site floristics, habitat types, and wildlife resources within the entire boundaries of the project site, including documenting any special-status species that may have been observed or detected onsite. Data collected during the wetland delineation are provided as Appendix A, Centex Development Routine Wetland Determination Field Data Forms, at the end of this report. Topography is considered in wetland boundary determination when diagnostics exist as hydrologic confinements. Total areas of wetland habitats were calculated using delineated lines, points, and polygons using ArcView 3.3 GIS software and onsite measurements. Delineation data points and stream thalwegs were delineated using Garmin eTrex GPS units.

**Figure 3. Wetland Delineation Plots Surveyed for the Centex Development Project Site**



## Wetland Criteria

The Corps, under Section 404 of the Clean Water Act, defines a wetland as possessing the following three general diagnostic environmental characteristics during the growing season: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The Corps requires that one or more indicators, for each of the three wetland criteria, be met in order for an area in question to be considered a jurisdictional wetland. This requirement for the presence of all three environmental conditions does not apply in Atypical Situations and in problem areas; therefore, all three wetland parameters need not be met for several portions of Centex Development project site since much of the property is in an Atypical Situation due to authorized and permitted vegetation clearing and road grading conducted in 1997 (see Atypical Situation subsection on Page 31).

The CDFG Streambed Alteration Agreement requires that only one of these three criteria be satisfied in order for an area in question to be considered a jurisdictional wetland for the purpose of state regulations. These wetland criteria are discussed in detail below.

### *Hydrophytic Vegetation*

Under normal circumstances and where an Atypical Situation does not exist, one of the three criteria necessary for wetland consideration is that the vegetation must be dominated by hydrophytic plant species. 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 permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (or plants typically adapted to growing in areas possessing hydrologic conditions and saturated soils). Emphasis is placed on the assemblage of plant species that exert a controlling influence on the character of the plant community, rather than on indicator species. Vegetation is considered to be hydrophytic when more than 50 percent of the dominant plant species of all vegetative strata (or those species making up at least 20 percent of relative cover) have a Wetland Indicator Status of Facultative (FAC), Facultative Wetland (FACW), or Obligate Wetland (OBL), according to the *National List of Wetland Plants* (Reed 1988). (Environmental Laboratory 1987.)

Since portions of the Centex Development project site was cleared of vegetation, graded, and/or filled in 1997, much of the vegetation was undetected. Therefore, the wetland delineation was conducted as an Atypical Situation at several established plots. Under an Atypical Situation, the requirement for the presence of all three wetland parameters, including hydrophytic vegetation, does not apply (see the Atypical Situation subsection on Page 31).

All plant species observed at each soil plot were recorded on the field data forms, and the percent relative cover and the Wetland Indicator Status of each species was indicated. Since a portion of the vegetation onsite cleared, during the authorized construction activities of 1997, DMEC recorded all species remaining in the vicinity of each plot. All species at a particular plot are considered dominant species if they have a percent relative cover value of 20 percent or more. More than 50 percent of the plant species assigned a 20 percent relative cover or more at each soil plot had to possess a Wetland Indicator Status of FAC, FACW, or OBL in order for DMEC to determine that a plot is dominated by hydrophytic vegetation.



## ***Wetland Hydrology***

Wetland hydrology is another required wetland parameter necessary for wetland consideration. Hydrologic conditions are present if (1) an area is inundated permanently or periodically, (2) has soil saturated to the surface at some time during the growing season of the prevalent vegetation, and/or (3) the area at least shows evidence of drainage patterns (well-defined bed and banks). Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due anaerobic and reducing conditions, respectively.

Hydrology of the selected locations within the study area was evaluated through direct observation of primary and/or secondary indicators of hydrology. Primary wetland hydrology indicators (only one required for wetland hydrology to be present) include: inundated, saturated in upper 12 inches, water marks, drift lines, sediment deposits, and/or drainage patterns in wetlands. Secondary wetland hydrology indicators (two required for wetland hydrology to be present) include: oxidized root channels in upper 12 inches, water-stained leaves, local soil survey data, and/or FAC-Neutral Test.

Since portions of the Centex Development project site was cleared of vegetation, graded, and/or filled in 1997, hydrology in some areas was altered. Therefore, the wetland delineation was conducted as an Atypical Situation at several established plots. Under an Atypical Situation, the requirement for the presence of all three wetland parameters, including wetland hydrology, does not apply (see the Atypical Situation subsection on the following page).

It should also be noted that Thousand Oaks, including the project site, received a significant amount of rainfall (approximately 6.5 inches) immediately prior to DMEC conducting the wetland delineation. This rainfall created inundated and saturated conditions onsite, especially throughout the swale areas in Lot 30. These very wet conditions created a situation where normal circumstances did not exist onsite as of the day of the wetland delineation. Specifically, these saturated conditions created temporary wetland hydrology onsite. As a result, several plots onsite were determined to (at least initially) have positive indicators for wetland hydrology; however, the site was revisited on 17 March 2005, by DMEC biologist Cher Batchelor, and those saturated/inundated conditions had subsided. Therefore, several initial plots were then determined to not have hydrology present especially if no other positive indicators for hydrology were present (such as drift lines, drainage patterns, or within defined bed and banks).

## ***Hydric Soil***

The third required criterion necessary for wetland consideration is hydric soil criteria. Soils must be present and must be classified as hydric, which includes indicators such as soils consisting of thick organic layers, gleying, or low chroma soil matrix; or, existing materials possess characteristics that are associated with reducing soil conditions. In accordance with the *Corps of Engineers Wetlands Delineation Manual*, soil pits were examined at several selected locations within Centex Development project site. Soils were generally determined to be hydric if they possessed thick organic layers, gleying, or low chroma soil matrix (chroma of 2 or less with bright mottles, or matrix chroma of 1 or less). Soils data collected at each soil plot onsite includes profile depth, soil color (or matrix color [moist]), mottle color, mottle abundance and contrast, soil texture, and hydric indicators (or evidence of soil saturation for a long duration).

Since portions of the Centex Development project site was cleared of vegetation, graded, and/or filled in 1997, soils in some areas were altered or filled, and hydric soil conditions were undetectable. Therefore, the wetland delineation was conducted as an Atypical Situation at several established plots. Under an Atypical Situation, the requirement for the presence of all three wetland parameters, including hydric soil conditions, does not apply (see the Atypical Situation subsection below).

It should also be noted that the soil onsite is naturally dark with matrix colors of 10YR4/1 (dark gray) and 10YR3/1 (very dark gray). In several instances, the low chroma color of these loam and clay soils is dark as a result of the parent material of the project site, and is not a result of soil reducing conditions. Therefore, when matrix colors of 10YR4/1 and 3/1 were encountered, with no other positive indicators for hydric soil conditions such as bright mottles and high organic content, the soil was determined to not be hydric.

## ATYPICAL SITUATION

According to the *Corps of Engineers Wetlands Delineation Manual*, an Atypical Situation exists when positive indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology could not be determined due to effects of recent human activities or disturbance (grading and filling activities or man-induced wetlands) or natural events (fire, avalanches, volcanic activity, changing river courses). When any of these types of situations occur, normal application of the wetland determination methods will lead to the conclusion that the area is not a wetland because positive wetland indicators for at least one of the three parameters will be absent. (Environmental Laboratory 1987.)

Portions of the Centex Development project site are determined to be in an “Atypical Situation” for determining wetlands as a result of the 1997 permitted vegetation clearing and road grading/filling, which has altered the vegetation, hydrology, and soils in some areas of the project site. The vegetation clearing has eliminated several species from the project site, and has promoted the colonization of several invasive exotic herbaceous plant species typically of not wetland status. This alteration to the vegetation onsite has created a situation where positive indicators for hydrophytic vegetation determinations are absent. Hydrophytic plant species are not being represented onsite as they were prior to the authorized disturbance. In addition, various grading and filing activities have altered the soils and hydrology in a few locations onsite. This alteration may have created a situation that hinders positive indicators for hydric soil and wetland hydrology determinations, due to soil layers being buried or significantly altered.

DMEC surveyed 29 sampling plots at the project site. The survey results and wetland determinations in the following section are based on the data collected in the field and are based on DMEC’s Atypical Situation investigation and analysis. Vegetation, hydrology, and soils existing onsite prior to the disturbance was investigated in order to make Atypical Situation wetland determinations according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Aerial photographs were analyzed using photographic interpretation methods and Lot 30 photographs were reviewed for aiding in determining the vegetation, hydrology, and soils that existed onsite prior to any disturbances. The *Corps Wetland Delineation Manual* Data Form 3 for Atypical Situations is provided as Appendix B.

## SECTION V. RESULTS

This section provides a discussion of the findings of the wetland delineation and presents the Corps jurisdictional determinations of waters of the U.S., including wetlands, currently present at the Centex Development project site. The results are based on and supported by (1) findings at each surveyed data point for each of the three wetland criteria and (2) the Atypical Situation analysis, as described above in the previous section and as required by Corps wetland delineation manual.

### CORPS JURISDICTIONAL WATERS DETERMINATION

The Centex Development project site has been determined to be in an Atypical Situation (Environmental Laboratory 1987) for determining wetlands as a result of the 1997 authorized vegetation clearing, which has significantly altered the vegetation onsite. In addition, several locations have been altered due to grading/filling activities, which has altered not only the vegetation onsite, but may have buried positive indicators for hydric soils and wetland hydrology as well.

Initially, all data were collected in the field by determining the presence (or absence) for all three wetland parameters. Since much of the Centex Development project site is in an Atypical Situation, all three wetland criteria need not to be met at specific data points to be considered a wetland. Therefore, once the data could be analyzed in-office, and aerial photographic interpretation could be conducted and site photographs could be reviewed, the results of the Atypical Situation analysis could then be presented.

Table 4, Centex Development Surveyed Data Point Results and Wetland Delineation Determinations, is a summary table of all determinations made for 29 sampling plots that have been surveyed at the project site. Sixteen (16) of the 29 plots surveyed are located within Lot 30. Table 4 provides the plot number, the determinations for all three wetland criteria (vegetation, hydrology, and soils), the jurisdictional status assigned to each plot based on those wetland criteria determinations, and the lot location of each plot (Lot 30 or Lot 31).

Table 4 presents the final results of the field wetland delineation and the Atypical Situation analysis, which were conducted according to the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The Corps Wetland Delineation Manual Data Form 3 for Atypical Situations is provided as Appendix B at the end of this report, which indicates the plots for which the vegetation determination changed as a result of the Atypical Situation analysis.



**Table 4. Centex Development Surveyed Data Point Results and Wetland Delineation Determinations**

Transect	Plot	Wetland Parameter			Determinations			Lot
		<i>Vegetation</i>	<i>Hydrology</i>	<i>Soils</i>	<i>Corps Waters of U.S.</i>	<i>Corps Wetland</i>	<i>CDFG Wetland</i>	
A	1	Yes	Yes	Yes	Yes	Yes	Yes	31
A	2	Yes	Yes	Yes	Yes	Yes	Yes	31
A	3	Yes	No	Yes	No	No	Yes	31
A	4	Yes	Yes	No	Yes	No	Yes	31
A	5	Yes	No	Yes	No	No	Yes	30
B	1	Yes	No	Yes	No	No	Yes	31
B	2	Yes	No	Yes	No	No	Yes	30
C	1	Yes	Yes	Yes	Yes	Yes	Yes	31
C	2	Yes	Yes	Yes	Yes	Yes	Yes	31
C	3	Yes	No	No	No	No	Yes	30
D	1	Yes	No	Yes	No	No	Yes	31
D	2	Yes	Yes	Yes	Yes	Yes	Yes	30
D	3	Yes	No	Yes	No	No	Yes	30
E	1	Yes	No	Yes	No	No	Yes	31
E	2	Yes	Yes	Yes	Yes	Yes	Yes	30
E	3	Yes	No	Yes	No	No	Yes	30
E	4	Yes	No	Yes	No	No	Yes	30
E	5	No	No	No	No	No	No	30
E	6	No	No	Yes	No	No	Yes	30
F	1	Yes	No	Yes	No	No	Yes	31
F	2	Yes	No	Yes	No	No	Yes	30
F	3	No	No	No	No	No	No	30
F	4	Yes	No	Yes	No	No	Yes	30
F	5	No	No	No	No	No	No	30
F	6	No	No	No	No	No	No	30
G	1	Yes	Yes	Yes	Yes	Yes	Yes	31
G	2	Yes	Yes	Yes	Yes	Yes	Yes	31
G	3	No	No	Yes	No	No	Yes	31
G	4	Yes	No	Yes	No	No	Yes	30

## **Corps Jurisdictional Waters of the U.S., Including Wetlands**

***The total Corps jurisdictional waters, including wetlands area onsite is approximately 0.091 acre (3,981 square feet [sq. ft.]).***

No Corps jurisdictional waters only (plots with positive indicators for the wetland hydrology criterion only) exist onsite. Therefore, the two plots determined to fall under Corps jurisdiction include Corps jurisdictional wetlands, and have positive indicators for all three wetland criteria. Table 4 (above) presents the 29 plots surveyed onsite. Plots D2 and E2 are the two plots located within Lot 30 that are determined to satisfy criteria as Corps jurisdictional wetlands, pursuant to Section 404 of the Clean Water Act. Figure 4, Centex Development Corps Jurisdictional Waters of the U.S., Including Wetlands, illustrates the Corps jurisdictional area and wetland plots that were determined from the field wetland delineation surveys and the Atypical Situation analysis, and that were delineated by aerial photograph interpretation.

## **CDFG JURISDICTIONAL WETLANDS & RIPARIAN HABITATS**

***Total area of CDFG jurisdictional wetlands and riparian habitats at the Centex Development project site is approximately 0.344 acre (14,971 sq. ft.).***

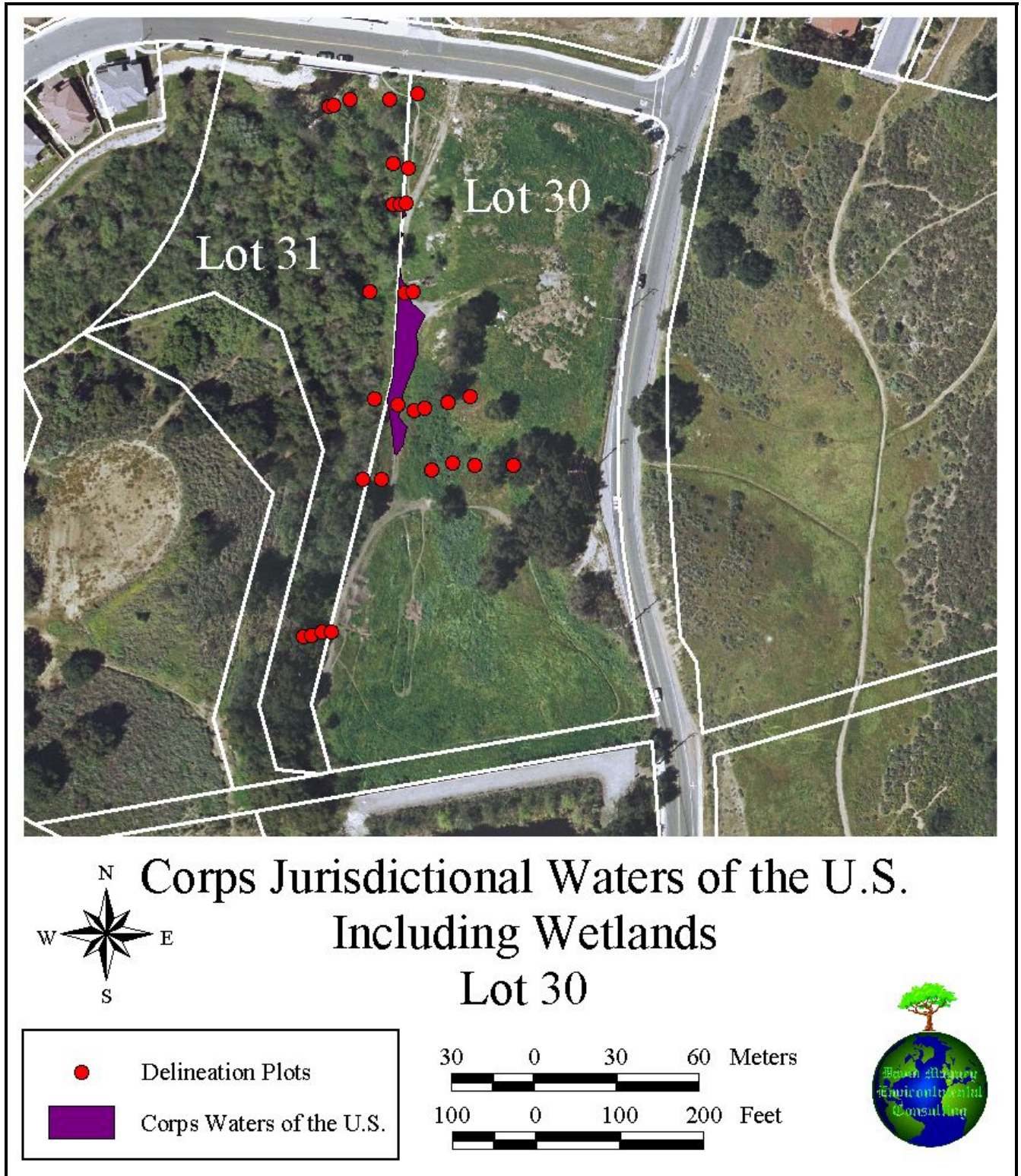
At least one wetland criterion must be met to fall under CDFG jurisdiction. Figure 5, Map of the CDFG Jurisdictional Riparian Habitat Area at Centex Development Project Site, shows the delineated boundaries of CDFG jurisdictional wetlands and riparian habitats as determined by field surveys and observations, photograph review, and aerial photograph interpretation. Figure 5 includes all delineation plots used to determine CDFG jurisdiction, which are based on the plots used to determine Corps jurisdiction. Table 4 (above) shows that 12 plots have at least one of the three wetland criteria satisfied as required for wetland status under CDFG jurisdiction. These findings support the presence of the CDFG jurisdictional wetlands and riparian habitats at Centex Development project site.

## **TOTAL JURISDICTIONAL WATERS AND WETLANDS**

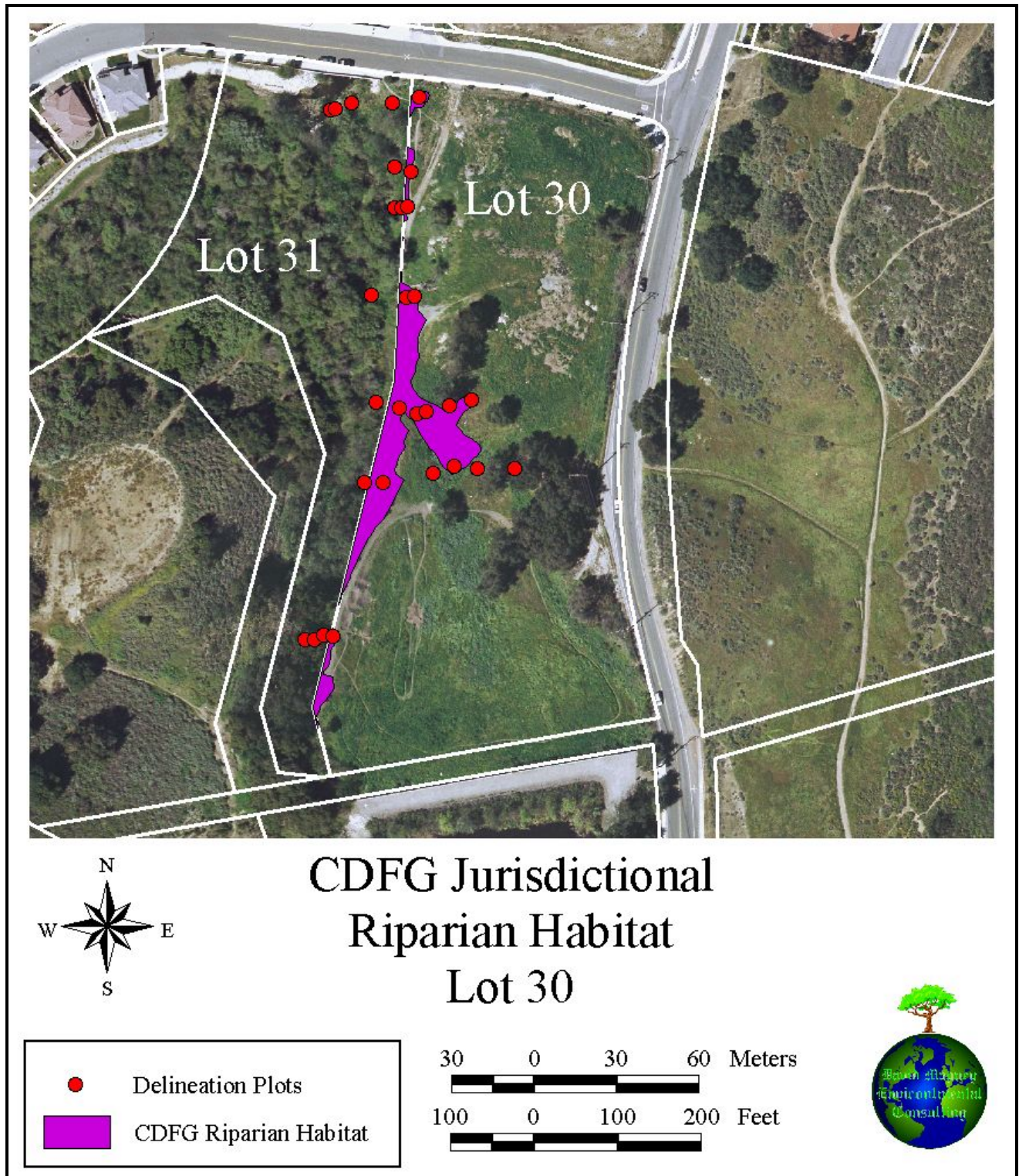
***The total area of all Centex Development project site wetland habitat is 0.344 acre.***

This total equals the CDFG jurisdictional wetlands, which also includes the 0.091 acre of Corps jurisdictional waters, including wetlands (Figure 6, Map of All Waters, Wetland, and Riparian Areas at the Centex Development Project Site).

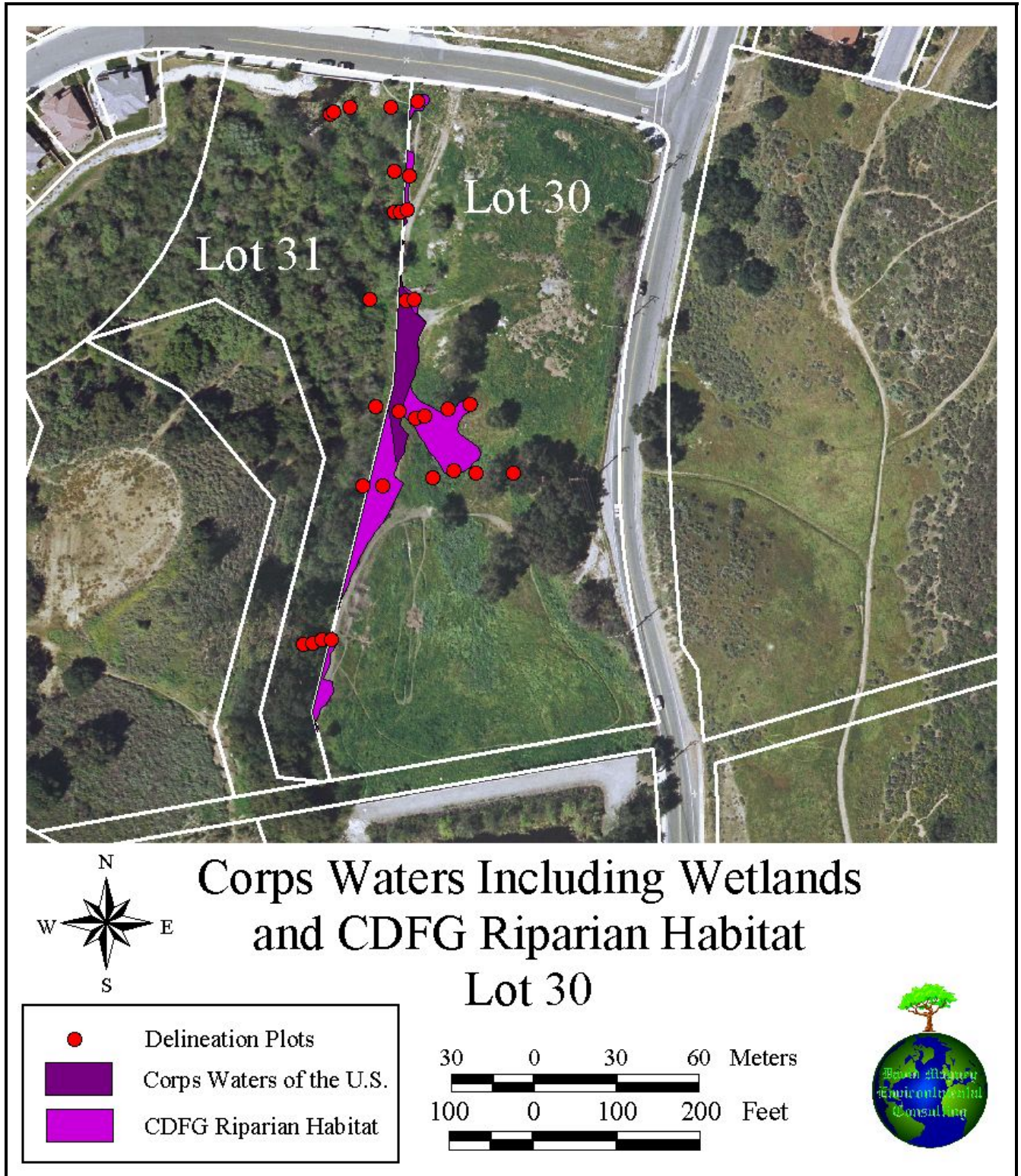
**Figure 4. Centex Development Corps Jurisdictional Waters of the U.S., Including Wetlands**



**Figure 5. Map of the CDFG Jurisdictional Riparian Wetland Habitat Area at the Centex Development Project Site**



**Figure 6. Map of Corps Jurisdictional Waters (Including Wetlands) and CDFG Riparian Areas at the Centex Development Project Site**





## SECTION VI. ACKNOWLEDGEMENTS

This delineation of jurisdictional waters and riparian habitats report was written by Cher Batchelor and David Magney (project manager). Mr. Magney, Kenneth Niessen, and Teri Reynolds prepared the GIS database and graphics for this report. Mr. Magney and Ms. Reynolds calculated the area for all jurisdictional areas (waters and wetlands). Mr. Magney and Ms. Batchelor conducted the wetland delineation onsite.

## SECTION VII. CITATIONS

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<b>APPENDICES</b>
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**APPENDIX A.  
CENTEX DEVELOPMENT ROUTINE  
WETLAND DETERMINATION FIELD DATA FORMS**

**APPENDIX B.  
CORPS WETLAND DELINEATION MANUAL  
DATA FORM 3 FOR ATYPICAL SITUATIONS**



**APPENDIX A.**

**CENTEX DEVELOPMENT**

**ROUTINE WETLAND DETERMINATION FIELD DATA FORMS**



**APPENDIX B.**

**CORPS WETLAND DELINEATION MANUAL  
DATA FORM 3 FOR ATYPICAL SITUATIONS**

## Corps Wetland Delineation Manual Data Form 3 - Atypical Situations

**Applicant Name:** Centex

**Application Number:** (5-017-97)

**Project Name:** Centex Development of the Cohan Property Lot 30

**Characterized By:** David Magney Environmental Consulting: David Magney & Cher Batchelor

**Location:** Newbury Park (within the City of Thousand Oaks), California

**Date:** 24 February 2005

### A. VEGETATION

1. **Type of Alterations:** Portions of the project site have been degraded as a result of authorized (permitted) vegetation clearing and road grading activities conducted in 1997 within the wetlands and drainages onsite.
2. **Effect on Vegetation:** The permitted vegetation clearing has eliminated several species from the project site, and has promoted the colonization of several invasive exotic herbaceous plant species typically of not wetland status. This alteration to the vegetation onsite has created a situation where positive indicators for hydrophytic vegetation determinations are absent. Hydrophytic plant species are not being represented onsite as they were prior to the authorized disturbance.
3. **Previous Vegetation:** Figures B1 and B2, Aerial Photograph of Centex Development Project Site (1998 and 2000, respectively), provide aerial views of the disturbed portions of the Centex Development project site resulting from the authorized vegetation clearing of 1997. Table B1, Summary of Atypical Situation Determinations for Plots Surveyed at the Centex Development Project Site (below), presents a description of the pre-disturbance vegetation inhabiting the Centex Development project site wetland delineation plots that are in question.
4. **Hydrophytic Vegetation?** Yes  No   
(See Table B1 for the Atypical Situation vegetation determinations for the 11 Atypical Situation plots of the total 29 wetland delineation plots surveyed at Centex Development project site.)

### B. SOILS

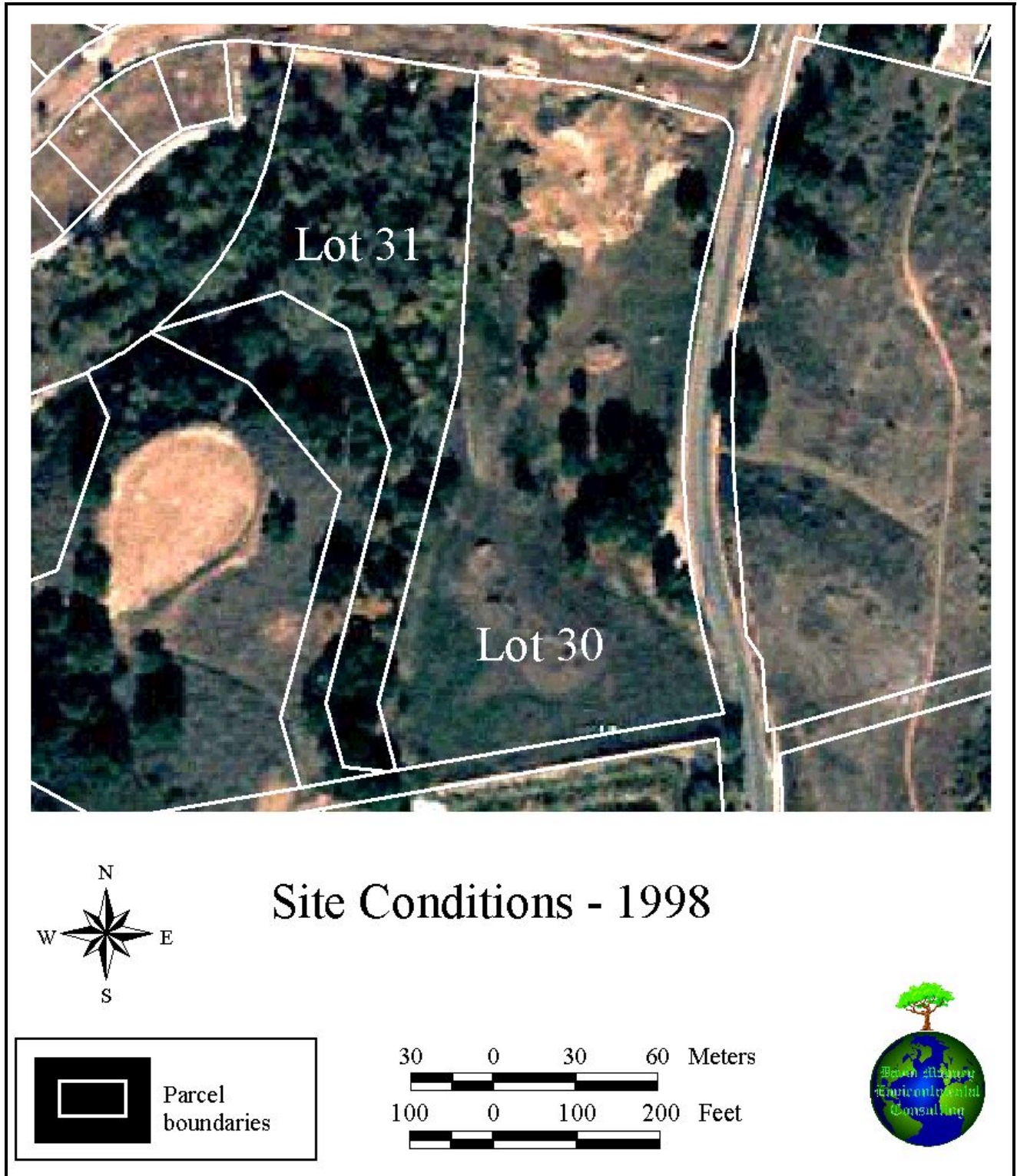
1. **Type of Alteration:** Various authorized vegetation clearing and grading/filing activities have altered the soils in some locations of the Centex Development project site. This alteration may have created a situation that hinders positive indicators for hydric soil determinations, due to soil layers being buried or significantly altered.
2. **Effect on Soils:** Portions of the Lot 30 project site were deposited with fill material (unconsolidated material and other soils from Lot 28 of the Cohan property); however, no plot soil determinations were changed based on the Atypical Situation analysis. Only Plot C3's soil was undeterminable due to the fill activities; however, hydric soils were determined not to be present since hydrologic conditions were absent at plot C3 due to topographic position. Therefore, the effect of disturbance on the soils of the project site was minimal, in that most plots were easily determined.

3. **Previous Soils:** The mapped soil units include Cropley Clay 2 to 9 Percent slopes, Vina Silty Clay Loam 2 to 9 Percent Slopes, Vina Loam 2 to 9 Percent Slopes, and Salinas Clay Loam 2 to 9 Percent Slopes (mapped inclusion of Cropley Clay). These soils were generally confirmed at most plots except at Plots C3, D3, F4, F5, F6, G1, and G2, of which only C3, D3, and F4 fall under Atypical Situation. Only C3 was really in question, and this plot was determined not to have hydric soils present. Figures B1 and B2 (below) provide aerial views (1998 and 2000, respectively) of the disturbed portions of the Centex Development project site resulting from the authorized vegetation clearing of 1997. Table B1 presents an explanation of the pre-disturbance conditions and Atypical Situation determinations for the wetland delineation plots in question at the Centex Development project site.
4. **Hydric Soils?** Only C3 was in question due to fill materials; however, the Atypical Situation analysis confirmed that this plot does not have hydric soil conditions based on surrounding plot determinations as well as the lacking indicators for wetland hydrology (Table 1B).

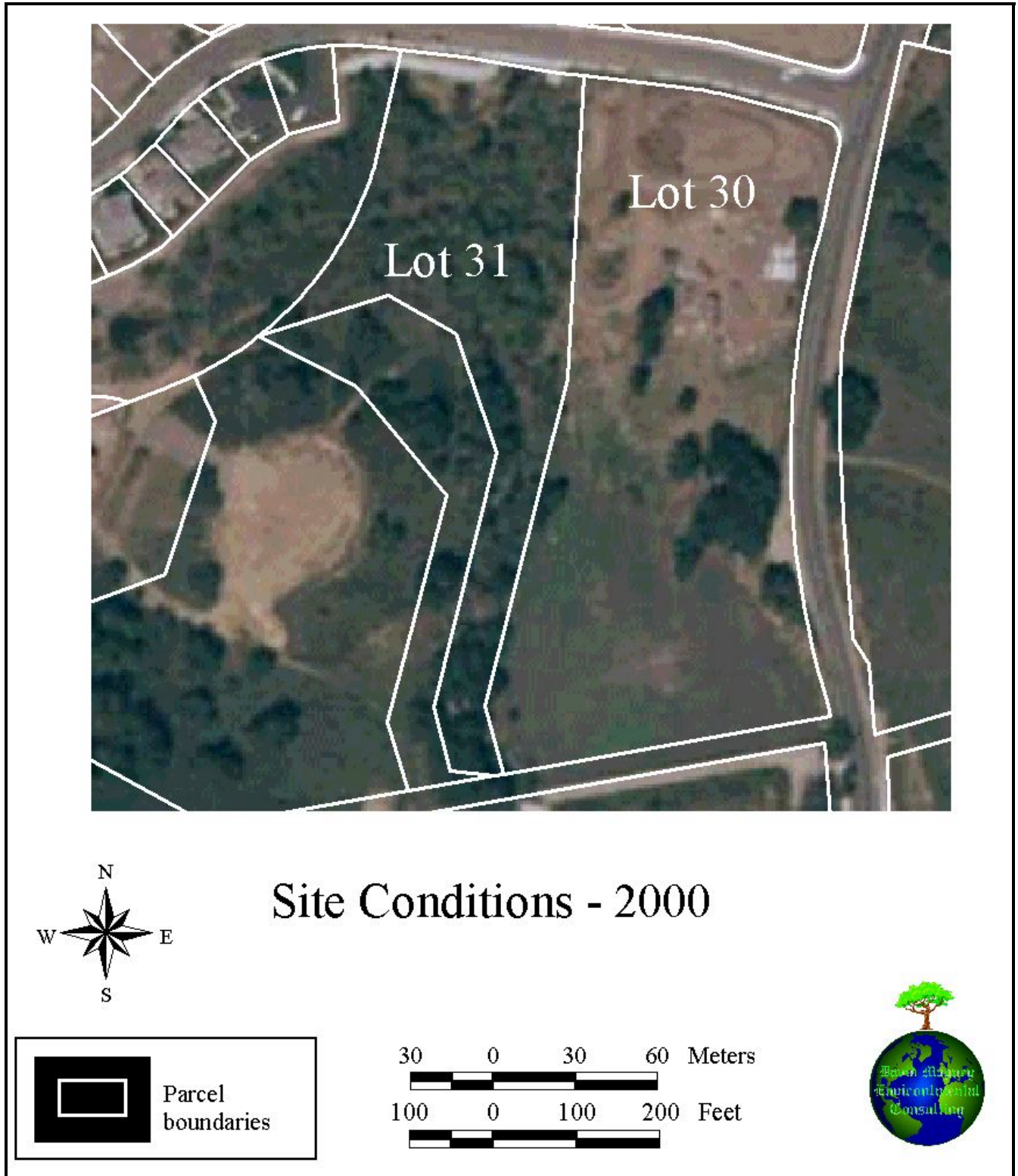
### C. HYDROLOGY

1. **Type of Alteration:** Various authorized vegetation clearing and grading/filing activities have altered the hydrologic conditions in some locations of the Centex Development project site.
2. **Effect on Hydrology:** Clearing and grading/filling alterations have created a situation that may have hindered the determination of positive indicators for wetland hydrology determinations at Plots E2 and F2, due to soil layers being buried or significantly altered.
3. **Previous Hydrology:** Figures B1 and B2 (below) provide aerial views (1998 and 2000, respectively) of the disturbed portions of the Centex Development project site resulting from the authorized vegetation clearing of 1997. Table B1 presents an explanation of the pre-disturbance conditions and Atypical Situation determinations for the wetland delineation plots in question at the Centex Development project site. Topographic location, positive indicators for the other two wetland criteria, and adjacent ponded areas were also taken into consideration during the Atypical Situation analysis.
4. **Hydrology Present?** Plot E2 was in question due to permitted road grading activities. Since E2 had (1) positive indicators for hydrophytic vegetation and hydric soil condition, (2) close proximity to ponded water, and (3) slow percolation from clay soils, the Atypical Situation analysis determines E2 to have wetland hydrology present. Plot F2 was also in question due to permitted grading/filling activities onsite; however, the Atypical Situation analysis confirms that this plot does not have wetland hydrology present based on its topographic position. (Table B1.)

**Figure B1. Aerial Photograph of Centex Development Project Site (1998)**



**Figure B2. Aerial Photograph of Centex Development Project Site (2000)**







**Table B1. Summary of Atypical Situation Determinations for Plots Surveyed at the Centex Development Project Site**

Transect	Plot	Field Determinations Based on Plot Survey Data			Atypical Situation Analysis			Atypical Situation Determinations		
		Vegetation	Hydrology	Soils	Pre-Disturbance Vegetation	Pre-Disturbance Hydrology	Pre-Disturbance Soils	Vegetation	Hydrology	Soils
A	1	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
A	2	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
A	3	Yes	No	Yes	Not Applicable			Not an Atypical Situation		
A	4	Yes	No	No	Not Applicable			Not an Atypical Situation		
A	5	No	No	Yes	Willows and Mulefat dominated prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
B	1	Yes	No	Yes	Not Applicable			Not an Atypical Situation		
B	2	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
C	1	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
C	2	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
C	3	No	No	No	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Knowledge of project site prior to disturbance and lack of wetland hydrology	Yes	No (confirmed)	No (confirmed)



Transect	Plot	Field Determinations Based on Plot Survey Data			Atypical Situation Analysis			Atypical Situation Determinations		
		Vegetation	Hydrology	Soils	Pre-Disturbance Vegetation	Pre-Disturbance Hydrology	Pre-Disturbance Soils	Vegetation	Hydrology	Soils
D	1	Yes	No	Yes	Not Applicable			Not an Atypical Situation		
D	2	Yes	Yes	Yes	Not Applicable	Not Applicable	Not Applicable	Yes (confirmed)	Yes (confirmed)	Yes (confirmed)
D	3	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
E	1	Yes	No	Yes	Not Applicable			Not an Atypical Situation		
E	2	Yes	No	Yes	Not Applicable	Knowledge of project site prior to disturbance, plot adjacent to ponded water, oxidized root channel present, and slow percolation rate of clay soil	Not Applicable	Yes (confirmed)	Yes	Yes (confirmed)
E	3	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
E	4	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)



Transect	Plot	Field Determinations Based on Plot Survey Data			Atypical Situation Analysis			Atypical Situation Determinations		
		Vegetation	Hydrology	Soils	Pre-Disturbance Vegetation	Pre-Disturbance Hydrology	Pre-Disturbance Soils	Vegetation	Hydrology	Soils
E	5	No	No	No	Not Applicable			Not an Atypical Situation		
E	6	No	No	Yes	Not Applicable			Not an Atypical Situation		
F	1	Yes	No	Yes	Not Applicable			Not an Atypical Situation		
F	2	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance, and topographic position	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
F	3	No	No	No	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Knowledge of project site prior to disturbance	No (confirmed)	No (confirmed)	No (confirmed)
F	4	No	No	Yes	Willows and Mulefat dominating prior to clearing based on aerial photographic interpretation, photographs taken prior to disturbance, and knowledge of the project site	Knowledge of project site prior to disturbance	Not Applicable	Yes	No (confirmed)	Yes (confirmed)
F	5	No	No	No	Not Applicable			Not an Atypical Situation		
F	6	No	No	No	Not Applicable			Not an Atypical Situation		
G	1	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
G	2	Yes	Yes	Yes	Not Applicable			Not an Atypical Situation		
G	3	No	No	Yes	Not Applicable			Not an Atypical Situation		
G	4	Yes	No	Yes	Not Applicable			Not an Atypical Situation		