

**Wetland Delineation Report
for the
Imperial Valley to La Rosita 230-kV Line
Imperial County, California**

**WETLAND DELINEATION REPORT
FOR THE IMPERIAL VALLEY
TO LA ROSITA 230-KV LINE
IMPERIAL COUNTY, CALIFORNIA**

Prepared for

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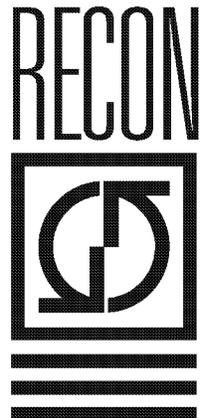


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Summary of Findings

A wetland delineation was conducted within the corridor of the proposed San Diego Gas and Electric (SDG&E) 230-kilovolt (kV) line from the Imperial Valley Substation to the Mexican border in Imperial County, California. Methods for delineating wetlands follow guidelines set forth by the U.S. Army Corps of Engineers ([USACE] 1987). A total of 38.7 acres of jurisdictional waters of the U.S. (0.90 acre of wetlands and 37.8 acres of waters of the U.S.) were delineated according to USACE guidelines. This wetland delineation is subject to review and approval by the USACE.

Impacts to jurisdictional waters on the site will require a Section 404 permit from the USACE and a 401 certificate or waiver from the Regional Water Quality Control Board in accordance with the Clean Water Act. An analysis of project impacts is provided in the biological technical report for this project (RECON 2001).

Introduction

The proposed project is located in the Yuha Basin of the Colorado Desert in Imperial County, California, southwest of the town of El Centro (Figure 1). This project proposes to construct a 230-kV transmission line from the existing SDG&E Imperial Valley Substation, south approximately five miles to the U.S./Mexican border (Figure 2), where the Comision Federal de Electricidad (CFE) will construct the remaining three miles of the line to their La Rosarita Substation.

The project corridor is located completely on Bureau of Land Management (BLM) property and is bisected by Highway 98. The project area is located within portions of Section 3, Township 16½ South, Range 12 East, Sections 1, 2, 11, 12, 13, 14, and 24 of Township 17 South, Range 12 East, and Sections 18 and 19 of Township 17 South, Range 13 East on the Mt. Signal 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle (see Figure 2).

Wetland delineation data and background information required for environmental analysis by the USACE are included in this report. The biological technical report for the SDG&E 230-kV Line (RECON 2001) contains all other biological resource information for the project.

Methods

The methodology for delineating wetlands used for this report follows guidelines set forth by the USACE (1987). Three criteria must be fulfilled in order to consider an area a

jurisdictional wetland: (1) the presence of hydrophytic vegetation; (2) the presence of hydric soils; and (3) the presence of wetland hydrology. Atypical wetland areas (disturbed wetlands) and problem area wetlands (e.g., seasonal wetlands) may lack one or more of the three criteria but could still be considered wetlands if background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal circumstances. In addition, areas that displayed a prominent ordinary high water mark were also evaluated as potential non-wetland jurisdictional waters or disturbed wetland.

A routine on-site determination method (USACE 1987) was conducted on October 24 and 25, 2000 by Gerry Scheid and Jennifer Hodge to gather field data at potential wetland areas on the project site. The limits of the streambed were marked using global positioning system technology by RECON biologists Jennifer Hodge and Amy Elsnic on December 12, 2000.

A. Hydrophytic Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (USACE 1987). The potential wetland areas were surveyed by walking the proposed project site and making observations of those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation units with the potential to be wetlands were examined, the dominant plant species for each vegetation stratum (i.e., tree, shrub, herb, and vine) within the unit was determined, and the relative canopy cover of the species present was visually estimated. The dominant species from each stratum were then recorded on a summary data sheet along with the associated wetland indicator status of those species. The wetland indicator status of each dominant species was determined by using the list of wetland plants for California provided by the U.S. Fish and Wildlife Service (1997).

The hydrophytic vegetation criterion is considered fulfilled at a location if greater than 50 percent of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative-wet (FACW), or facultative (FAC) (USACE 1987). An OBL indicator status refers to plants that have a 99 percent probability of occurring in wetlands under natural conditions. A FACW indicator status refers to plants that occur in wetlands (67-99 percent probability) but are occasionally found in non-wetlands. A FAC indicator status refers to plants that are equally likely to occur in wetlands or non-wetlands (estimated probability 34-66 percent).

B. Hydric Soils

Sample points were selected within a particular vegetation unit where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation. Soil pits were dug to a depth of at least 18 inches, as necessary, to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, gleying, sulfidic odor). Soil profiles exposed by these pits were compared to known profiles for soil types occurring in the region by referencing the local soil survey (U.S. Department of Agriculture [USDA] 1973). The order, group, and series for the soils present on the site were recorded. The local hydric soils list, obtained from the Soil Conservation Service, was checked to determine if any of the sampled soil types are considered hydric with respect to the conditions stated on the list.

The hydric soil criterion is considered fulfilled at a location if soils could be inferred to have a high groundwater table, evidence of prolonged soil saturation, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile.

Information on the soil types sampled in the study area is summarized from the following sources: *Soil Survey, Imperial County, Imperial Valley Area* (USDA 1981), *Soil Taxonomy* (USDA 1975), and the local hydric soil list obtained from the Soil Conservation Service.

C. Wetland Hydrology

Hydrologic information for the site was obtained by locating “blue-line” streams on USGS topographic maps, reviewing groundwater table elevation information from soil surveys, and directly observing hydrology indicators in the field (e.g., inundation, drift lines, sediment deposits, drainage patterns). Evidence of flows, flooding, and ponding were recorded and the frequency and duration of these events were inferred.

The wetland hydrology criterion is considered fulfilled at a location based upon the conclusions inferred from the field observations, which indicate that an area has a high probability of being inundated or saturated (flooded or ponded) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987).

D. Non-Wetland Jurisdictional Waters of the U. S.

Drainages, or portions thereof, that lack hydrophytic vegetation and/or hydric soils, but have distinct evidence of seasonal flows were classified as non-wetland jurisdictional

waters. The extent of the observed ordinary high water mark, as defined by the USACE under Section 404 of the Clean Water Act, was used to estimate the limits of these jurisdictional waters.

Results of Field Data

A description of the major vegetation units observed, soil types encountered, and a discussion of the local hydrology in the project area are presented below. Copies of the field data forms are provided in Attachment 1.

Three areas were identified as potential jurisdictional areas: Pinto Wash in the northern portion of the project area, a wash directly south of State Route 98, and a complex of washes near the border in the southern portion of the project area.

A. Vegetation

Figure 3 depicts the vegetation communities mapped on the project site. Two vegetation communities were identified within the survey area: Sonoran creosote bush scrub and desert wash. Hydrophytic plant species present in the wetland area is limited to tamarisk, a facultative plant species.

1. Sonoran Creosote Bush Scrub (1,097.5 acres)

Sonoran creosote bush scrub is the dominant vegetation community on the project site and accounts for approximately 1,097.5 acres within the survey corridor both north and south of State Route 98. The vegetation is open and relatively sparse, dominated by creosote bush (*Larrea tridentata*). Burro-weed (*Ambrosia dumosa*) and two species of saltbush (*Atriplex* spp.) were also common. Several trees, such as ironwood (*Olneya tesota*), velvet mesquite (*Prosopis velutina*), and catclaw acacia (*Acacia greggii*), are interspersed throughout the community, particularly in the southern half.

Creosote bush, the dominant plant species in this community, is considered an upland species, as are the majority of species found in this community. Velvet mesquite and cat claw acacia are facultative-upland (FACU) plant species, meaning they rarely (1 to 33 percent estimated probability) occur in wetlands.

2. Desert Wash (203.6 acres)

Desert wash is found in three distinct areas within the survey corridor for a total of 203.6 acres. The largest area is located near the northern boundary of the corridor and is a part of Pinto Wash. The dominant species in the wash is smoke tree (*Psoralea argemone*) occurring with velvet mesquite, cat claw acacia, encelia (*Encelia frutescens*), verbena

(*Abronia villosa* var. *villosa*), and big galleta (*Pleuraphis rigida*). The second of the three areas is located just south of State Route 98. This area includes the confluence of two streams, where a culvert and dam have been placed. The area directly downstream of the culvert has been heavily disturbed due to off-road-vehicle traffic. The road crosses the drainage at this location. Little to no vegetation is found in this disturbed area or east of the culvert. The two finger drainages west of the culvert support verbena, chinchweed (*Pectis papposa*), paper flower (*Psilostrophe cooperi*), and smoke tree (*Psoralea argemone*). The southernmost area is an extension of an unnamed intermittent drainage that flows north from Signal Mountain just over the U.S.-Mexico border and then to the east into the survey corridor, where the drainage terminates. The western edge of this area contains a uniform stand of tamarisk while the remainder is primarily unvegetated with a few scattered shrubs. One large ironwood tree (*Olneya tesota*) occurs in this section of the drainage. A few scattered tamarisk (*Tamarix* sp.) are present in patches on the southern portion of the survey corridor.

The dominant plant species in the desert wash is smoke tree, an upland species. One large uniform patch of tamarisk is found in the southern end of the site. Tamarisk is a facultative (FAC) plant species, indicating it is equally likely (33 to 67 percent) to occur in wetlands and uplands.

B. Soils

There are nine soil types present within the survey corridor, six of which underlie jurisdictional areas. The six soil types include Pits, Carsitas gravelly sand, Rositas sand, Rositas fine sand, Meloland fine sand, and Glenbar complex.

Pits refers to a soil type in which the upper layers of soil material have been removed to expose soil 3 to 20 feet below the natural surface. Drainage ranges from poorly drained to excessively drained. Runoff is slow and the erosion hazard is slight in this soil type. This soil type is found beneath the drainages near the border in the southern portion of the site.

Carsitas gravelly sand, 0 to 5 percent slopes occurs on alluvial fans and the bottoms of washes, from alluvium derived from granitic and metamorphic rocks. Carsitas soils are excessively drained, have rapid permeability, and slow surface runoff. The erosion hazard is slight. The upper 10 inches consist of pink gravelly sand, with strata of sand, coarse sand, and gravelly sand to 68 inches depth. Carsitas gravelly sand is the dominant soil type found in the southern portion of the site.

Rositas sand is common throughout the project area. It underlies a portion of each of the three on-site drainages. Rositas sand, 0 to 2 percent slopes, are deep soils which formed in alluvial sand from various sources. This sand is somewhat excessively drained. Permeability is rapid and surface runoff is slow. The erosion hazard is slight. This pink

and reddish yellow coarse sand is generally found in floodplains and basins to a depth of 27 inches. Fine sand lies beneath the coarse sand layer.

Meloland fine sand, which is found south of State Route 98 beneath a small portion of the central drainage, is a very deep sand formed from alluvial or eolian sediments. The sand is deep and well drained and is generally found in floodplains and alluvial basin floors. Permeability is slow and the erosion hazard slight. The winds can easily pick up this soil and blow it through the basin.

Glenbar complex is a very deep and well-drained soil. It is also formed in alluvial sediment. Its surface texture ranges from silty clay to gravelly sand, with alluvium deposits of fine sand common. Runoff in this soil type is slow; permeability is moderately slow. The erosion hazard is slight, but rills and gullies are common. Glenbar complex lies beneath the western portion of the central drainage.

Rositas fine sand, 0 to 2 percent slopes underlies the Pinto Wash area. Similar to the structure of Rositas sand, this soil type is also a very deep soil formed from alluvial or eolian sands from various sources. Permeability is rapid in this somewhat excessively drained soil. Surface runoff is slow and the erosion hazard is slight. Generally, this soil is reddish yellow fine sand and can be found to a depth of 60 inches. This fine sand has a high potential to blow.

C. Hydrology

No USGS blue-line waters occur on the project site (see Figure 2). Off-site tributaries enter the site from the west at two locations before terminating on-site. The bed and bank and ordinary high water mark were apparent throughout most of the drainages on-site. Narrow (2 to 6 feet), but distinct, flow lines were observed within the wide channels. Evidence of wetland hydrology was present in the form of flow lines and sediment deposition and cracking, indicating ponding and subsequent drying.

Sheet flow is evident in Pinto Wash. Although no distinct ordinary high water mark was observed in the field, the evidence of flow is apparent on recent aerial photographs. A gradual transition of plant species and density of vegetation was used to demarcate Pinto Wash in the field.

The central drainage is likely an ephemeral stream that has been altered by the installation of a culvert and dam. The wide area west of the culvert has a dirt road traveling through it, and is therefore, disturbed.

Jurisdictional Determination

Waters of the U.S. and wetlands, as defined by USACE, were delineated on-site. Based on information on soils, hydrology, and vegetation, observations made in the field, and data analysis, one wetland area (0.90 acre) was delineated in the study area. Since tamarisk is a facultative plant species, additional wetland indicators were used as support of conditions at the wetland area. Sediment deposits, flow lines, and cracks in the surface soil provide evidence of frequent ponding.

Three general areas were determined to support non-wetland jurisdictional waters of the U.S. The total area to be regulated by USACE is approximately 38.7 acres, 0.90 of which is a wetland. These areas are depicted in Figure 4.

References Cited

RECON

- 2001 Biology Technical Report for the Imperial Valley to La Rosita 230 kV Line. February.

U.S. Army Corps of Engineers

- 1987 *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, Department of the Army. January.

U.S. Department of Agriculture

- 1973 *Soil Survey, San Diego Area, California*. Soil Conservation Service and Forest Service. Roy H. Bowman, ed. San Diego. December.
- 1975 *Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys*. Agriculture Handbook No. 436.
- 1981 *Soil Survey, Imperial County, Imperial Valley Area*. Soil Conservation Service.

U.S. Fish and Wildlife Service

- 1997 National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary. Ecology Section – National Wetlands Inventory. March 3, 1997.

ATTACHMENT 1

**DATA FORM
ROUTINE ON-SITE DETERMINATION METHOD**

Project/Site: Imperial Valley to Rosarita 230-kV Line (3366b) Applicant/Owner: SDG&E Investigator(s): J. Hodge; G. Scheid	Date: 10-24-00 County: Imperial State: CA
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if needed, explain on reverse or attach separate sheet.)	Community ID: Desert Wash Transect ID: Plot ID: 1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Tamarix sp.</i>	T	FAC	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 100 percent

Remarks:

1. Assume presence of wetland vegetation? Yes No
 2. Rooted emergent vegetation present? Yes No

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in: <input type="checkbox"/> Upper 12" <input type="checkbox"/> 13-18" <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in: <input type="checkbox"/> Upper 12" <input type="checkbox"/> 13-18" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Water in Pit: <u>> 18</u> (in.) Depth to Saturated Soil: <u>> 18</u> (in.)	
<p><i>Observations and Remarks:</i> Flow lines show in the sediment. Cracks in surface soil provide evidence of ponding.</p> <p>1. Filamentous or sheet forming algae present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 2. Slope: <input checked="" type="checkbox"/> 0-2%; or <input type="checkbox"/> >2% 3. Oxidized rhizospheres: <input type="checkbox"/> new roots only; <input type="checkbox"/> old roots only; <input type="checkbox"/> new and old roots, <input checked="" type="checkbox"/> none 4. Flooding: <input type="checkbox"/> none, flooding not probable; <input type="checkbox"/> rare, unlikely but possible under unusual weather conditions; <input checked="" type="checkbox"/> occasional, occurs on an average of once or less in 2 years; or <input type="checkbox"/> frequent, occurs on an average of more than once in 2 years. 5. Duration: <input type="checkbox"/> very brief, if <2 days; <input type="checkbox"/> brief, if 2-7 days, or <input checked="" type="checkbox"/> long, if >7 days 6. Site ponds water? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	

SOILS

Map Unit Name (Series and Phase): Carsitas Gravelly Sand, 0 to 5 percent slopes Taxonomy (Subgroup): Typic Torripsamments			Drainage Class: Excessively drained Permeability: Rapid Runoff: Slow Field Observations: Confirm Mapped Type? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Profile Description:																	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structures, etc.												
0-18		10 YR 4/4	none	--	Silty loam and sand												
Hydric Soil Indicators: <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> Histosol</td> <td><input type="checkbox"/> Concretions</td> </tr> <tr> <td><input type="checkbox"/> Histic Epipedon</td> <td><input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils</td> </tr> <tr> <td><input type="checkbox"/> Sulfidic Odor</td> <td><input type="checkbox"/> Organic Streaking in Sandy Soils</td> </tr> <tr> <td><input type="checkbox"/> Aquic Moisture Regime</td> <td><input type="checkbox"/> Listed on Local Hydric Soils List</td> </tr> <tr> <td><input type="checkbox"/> Reducing Conditions</td> <td><input type="checkbox"/> Listed on National Hydric Soils List</td> </tr> <tr> <td><input type="checkbox"/> Gleyed or Low-Chroma Colors</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> </table>						<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions	<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils	<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils	<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List	<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List	<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions																
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<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List																
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)																
Observations and Remarks: Areas where ponding occurs contains some clay loam. Smaller channels of flow within the tamarisk. 1. Smell: <input type="checkbox"/> Neutral; <input type="checkbox"/> Slightly fresh; or <input checked="" type="checkbox"/> Freshly plowed field smell 2. Site: <input type="checkbox"/> Irrigated; <input type="checkbox"/> Land leveled; <input type="checkbox"/> Ditch drained; <input type="checkbox"/> Pumped; <input type="checkbox"/> Graded to drain via slope 3. Soils: <input checked="" type="checkbox"/> do <input type="checkbox"/> do not become frequently ponded or saturated for long (>7 days) to very long durations (>30 days) during the growing season																	

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is this Sampling Point within a Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: 1. Possibly water of the U.S.? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. Possibly exempt from Corps/EPA Regulation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, check item(s) below.) (a) <input type="checkbox"/> Non-tidal drainage and irrigation ditches excavated on dry land (b) <input type="checkbox"/> Artificially irrigated areas which would revert to upland if the irrigation ceased. (c) <input type="checkbox"/> Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing. (d) <input type="checkbox"/> Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons. (e) <input type="checkbox"/> Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).	

Approved by HQUSACE 3/92

Additional Comments/Remarks:

DATA FORM
ROUTINE ON-SITE DETERMINATION METHOD

Project/Site: Imperial Valley to Rosarita 230-kV Line (3366b) Applicant/Owner: SDG&E Investigator(s): J. Hodge; G. Scheid	Date: 10-25-00 County: Imperial State: CA
Do Normal Circumstances exist on the site? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Is the site significantly disturbed (Atypical Situation)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Is the area a potential Problem Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (if needed, explain on reverse or attach separate sheet.)	Community ID: Desert Wash Transect ID: Plot ID: 2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <i>Pectis papposa</i>	H	UPL	9.		
2. <i>Psilostrophe cooperi</i>	H	UPL	10.		
3. <i>Abronia villosa</i>	H	UPL	11.		
4. <i>Psoralea emoryi</i>	H	UPL	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) 0 percent

Remarks:

1. Assume presence of wetland vegetation? Yes No
 2. Rooted emergent vegetation present? Yes No

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in: <input type="checkbox"/> Upper 12" <input type="checkbox"/> 13-18" <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in: <input type="checkbox"/> Upper 12" <input type="checkbox"/> 13-18" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input checked="" type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>N/A</u> (in.) Depth to Water in Pit: <u>> 18</u> (in.) Depth to Saturated Soil: <u>> 18</u> (in.)	
Observations and Remarks: Flow lines show in the sediment. 1. Filamentous or sheet forming algae present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 2. Slope: <input checked="" type="checkbox"/> 0-2%; or <input type="checkbox"/> >2% 3. Oxidized rhizospheres: <input type="checkbox"/> new roots only; <input type="checkbox"/> old roots only; <input type="checkbox"/> new and old roots, <input checked="" type="checkbox"/> none 4. Flooding: <input type="checkbox"/> none, flooding not probable; <input type="checkbox"/> rare, unlikely but possible under unusual weather conditions; <input checked="" type="checkbox"/> occasional, occurs on an average of once or less in 2 years; or <input type="checkbox"/> frequent, occurs on an average of more than once in 2 years. 5. Duration: <input checked="" type="checkbox"/> very brief, if <2 days; <input type="checkbox"/> brief, if 2-7 days, or <input type="checkbox"/> long, if >7 days 6. Site ponds water? <input type="checkbox"/> Yes <input type="checkbox"/> No	

SOILS

Map Unit Name (Series and Phase): Rositas Sand, 0 to 2 percent slopes		Drainage Class: Somewhat excessively drained Permeability: Rapid Runoff: Slow Field Observations: Confirm Mapped Type? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Taxonomy (Subgroup): Typic Torripsamments							
Profile Description:							
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Contrast	Texture, Concretions, Structures, etc.		
0-18		10YR 6/4	none	--	Sand		
Hydric Soil Indicators: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>						<input type="checkbox"/> Histosol <input type="checkbox"/> Histic Epipedon <input type="checkbox"/> Sulfidic Odor <input type="checkbox"/> Aquic Moisture Regime <input type="checkbox"/> Reducing Conditions <input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Concretions <input type="checkbox"/> High Organic Content in Surface Layer in Sandy Soils <input type="checkbox"/> Organic Streaking in Sandy Soils <input type="checkbox"/> Listed on Local Hydric Soils List <input type="checkbox"/> Listed on National Hydric Soils List <input type="checkbox"/> Other (Explain in Remarks)
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Observations and Remarks: 1. <i>Smell:</i> <input type="checkbox"/> Neutral; <input checked="" type="checkbox"/> Slightly fresh; or <input type="checkbox"/> Freshly plowed field smell 2. <i>Site:</i> <input type="checkbox"/> Irrigated; <input type="checkbox"/> Land leveled; <input type="checkbox"/> Ditch drained; <input type="checkbox"/> Pumped; <input type="checkbox"/> Graded to drain via slope 3. <i>Soils:</i> <input type="checkbox"/> do <input checked="" type="checkbox"/> do not become frequently ponded or saturated for long (>7 days) to very long durations (>30 days) during the growing season							

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is this Sampling Point within a Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: 1. Possibly water of the U.S.? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. Possibly exempt from Corps/EPA Regulation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, check item(s) below.) (a) <input type="checkbox"/> Non-tidal drainage and irrigation ditches excavated on dry land (b) <input type="checkbox"/> Artificially irrigated areas which would revert to upland if the irrigation ceased. (c) <input type="checkbox"/> Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing. (d) <input type="checkbox"/> Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons. (e) <input type="checkbox"/> Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).	

Approved by HQUSACE 3/92

Additional Comments/Remarks: