Jurisdictional Delineation Report for Waters of the U.S. and State of California

Study Site: Colorado Lagoon

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Acronyms

ACOE CCA	United States Army Corps of Engineers California Coastal Act
CCC	California Coastal Commission
CDFW	California Department of Fish & Wildlife
CEQA	California Environmental Quality Act
CFWC	California Fish and Wildlife Code
CPRC	California Public Resource Code
CWA	Clean Water Act
CWC	California Water Code
EO	Executive Order
GPS	Global Positioning System
JDR	Jurisdictional Delineation Report
MHTL	Mean high tide line
OHWM	Ordinary High Water Mark
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
SLC	State Lands Commission
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WMA	Los Cerritos Channel and Alamitos Bay Water Management Area



1.0 Introduction

1.1 Historical Background

In 2004 the City of Long Beach completed a Restoration Feasibility Study for the Colorado Lagoon in cooperation with the California Coastal Conservancy. This report set the framework for a comprehensive restoration project focused on improving water quality and enhancing the Lagoon's beneficial uses like aquatic recreation, public education, and tidal wetland habitats. While motive for the feasibility project came from the historic documentation of high bacteria counts, the need for this project was catalyzed by the discovery of high levels of inorganic (notably heavy metals) and organic (notably DDT and PCBs) in the Lagoon's sediments. Furthermore, the hydraulic modeling as part of the feasibility study demonstrated the Lagoon's poor tidal circulation in the form of long residence times and a severely muted tidal prism. From 2007 through 2011, the Lagoon's beaches received 'F' grades each year regardless of the season (Heal the Bay 2011). In 2011 Heal the Bay ranked Colorado Lagoon as one of its "Top 10 Biggest Beach Bummers" in its 2011 Annual Beach Report Card.

In 2008 The City of Long Beach certified an Environmental Impact Report for the Colorado Lagoon Restoration Project. This project is split into two phases. Phase one is focused on restoring the current footprint of the Lagoon through storm drains upgrades or removal, cleaning of the approximately 900' culvert, dredging and disposal of contaminated sediments, recontouring of intertidal slopes, and the re-vegetation of potential habitat areas. Phase two is focused on creating a daylighted connection between Marine Stadium and Colorado Lagoon in the form of full tidal channel running through Marina Vista Park. In 2010 the City of Long Beach approved conceptual plan 4a as the preferred alternative for this tidal channel connection. This design alternative would create an estimated 2.4 acres of new coastal habitat including tidal wetlands, intertidal mudflats, and subtidal eelgrass and rocky bottom habitats (Moffatt and Nichol, 2008).

In July 2012 the construction portion of Phase 1 of the Colorado Lagoon restoration project was completed. Re-vegetation of the Lagoon's habitat area is currently underway. While Colorado Lagoon still received an 'F' grade from Heal the Bay during wet winter samples, the site was not listed on the Biggest Beach Bummer list in 2012 due to an A grade during winter dry samples and a B grade during summer dry samples (Heal the Bay, 2013).

1.2 Proposed Project

As part of the Colorado Lagoon Restoration Project's 2nd phase the City of Long Beach is exploring the prospects for the creation of a Mitigation Bank. The City is working to determine the amount of credits that can be generated as part of this phase of the project. Three potential credits sources are being explored: 1) credits for the creation of subtidal eelgrass habitat, 2) credits for the creation of the tidal channel in Marina Vista Park, and 3) credits for functional lift of wetlands and marine habitat in the Phase 1 area through the creation of the tidal channel.

1.3 Purpose of Assessment

This report presents the results of a jurisdictional wetlands delineation study conducted by Tidal Influence, LLC at Colorado Lagoon under contract with the City of Long Beach. The study defines the current geographic extent of potential wetlands and waters subject to the jurisdiction of the United States and the State of California in order to showcase the prospects for creating



new wetlands or associated aquatic habitats within the project boundary. While a similar study was completed by LSA in 2007-08, this study was required due to major restorative alterations that have occurred to the site since that time.

The findings and conclusions presented in this report, including the location and extent of waters of the U.S. and State (including wetlands) subject to regulatory jurisdiction, represent the professional opinion of Tidal Influence and should be considered preliminary until verified by representatives from potential jurisdictional regulatory agencies, namely the United States Army Corps of Engineers (ACOE), the California Department of Fish and Wildlife (CDFW), and the California Coastal Commission (CCC). This report address the requirements of related federal and state policies that govern wetlands including the federal Clean Water Act (CWA) and the California Fish and Wildlife Code that broadly apply to wetlands, as well as the California Coastal Act that pertains specifically to wetlands within the reaches of the Coastal Zone. This report has been prepared for use by the City of Long Beach's Technical Advisory Committee for this project, which includes representatives from ACOE, CDFW, and CCC.

1.4 Project Location

The project area is centrally located at Latitude 33.7713, Longitude -118.1326 primarily in section 4 of Township 5 South, and Range 12 West, on the United Stated Geological Survey (USGS) Long Beach, California 7.5-minute series topographical quadrangle (**Figure 1**). This location is in Los Angeles County, California within the City of Long Beach (**Figure 2**). The project boundary encompasses 33.22 acres in southeast Long Beach. The project area is bounded by 6th Street and Little Recreation Golf Course to the North, Park Avenue and Appian way to the West, Colorado Street and Eliot Street to the South and Monrovia Avenue and Marina Vista Park to the East. The project area has two land owners. The State Lands Commission (STC) owns the portions within the tidelands that include everything below the mean high water line, while the City of Long Beach owns the remainder of the project area. The City of Long Beach has a lease agreement with STC that identifies them as the day-to-day operations manager for the Lagoon.

1.5 Site Description

Before development encroached, the project area was located in the northwestern portion of a 2400 acre tidal wetlands complex. In 1923, the naturally occurring tidal wetlands of Alamitos Bay were dredged to form the Lagoon and Marine Stadium. Colorado Lagoon has been managed by the City of Long Beach since that time as a multi-use facility that supports several picnic/park areas, a recreational beach, a swimming area, several buildings, and coastal wetland habitats. The Lagoon became the site for the 1932 Los Angeles Olympic U.S. Diving Trails and was separated from Marine Stadium (the site for rowing competitions) by tide gates designed to maintain an adequate water depth during diving events. In the late 1960s, the north end of Marine Stadium was filled in preparation for a never-executed, cross-town freeway. Instead, this filled area became part of Marina Vista Park. Presently, the Lagoon's nearly 18-acre tidal water body is connected to Alamitos Bay via a 900-foot box culvert that runs under Marina Vista Park into Marine Stadium. A golf course, parking lots, recreational beaches, parks, roadways and residential areas border the Lagoon. These urban impacts have marginalized the historic natural habitats. Much of the project area has been subject to a restoration project over the past 4 years and the distribution of habitat has shifted considerably. Ten habitat types were identified within the project area including southern coastal salt marsh, Diegan coastal sage scrub, southern dune

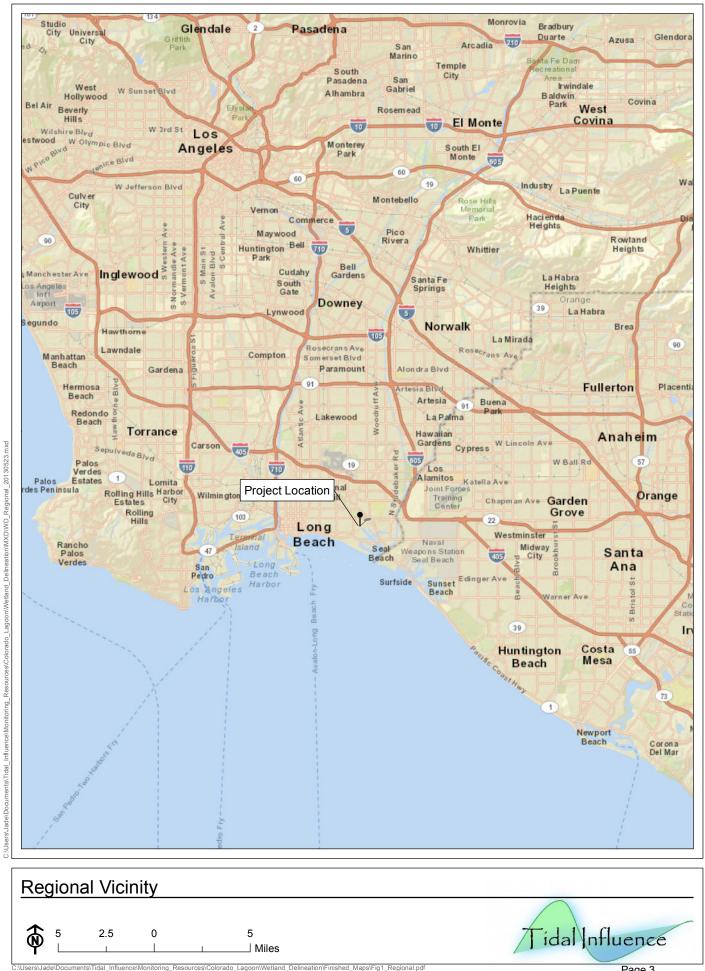
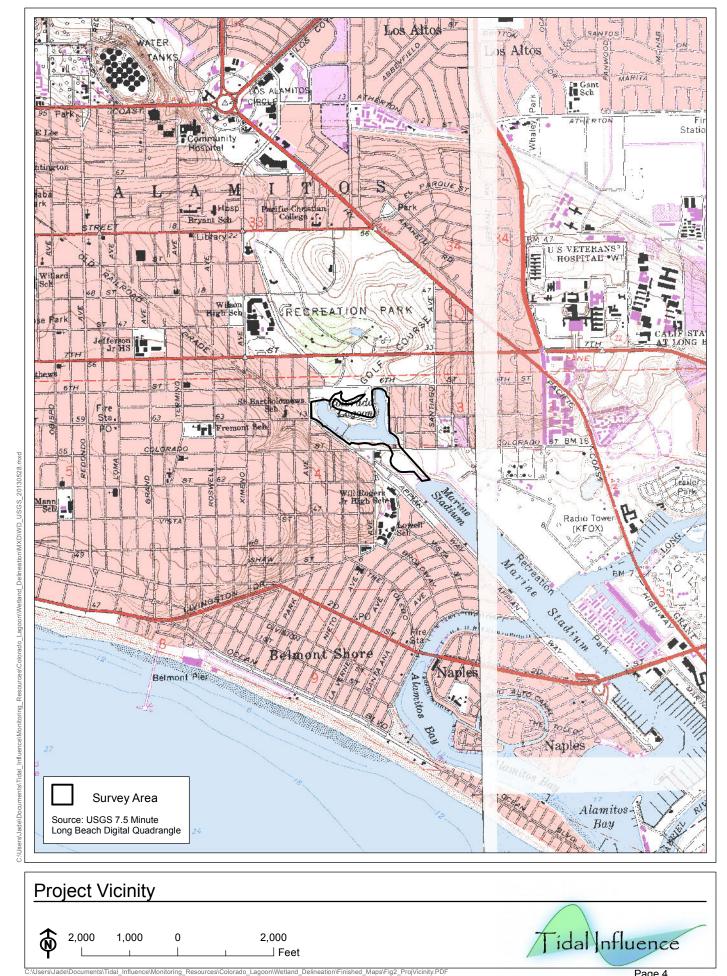


Figure 1. Regional Vicinity Map



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scrub, subtidal marine (including eelgrass beds), intertidal flats, rocky shoreline, sandy beach, ornamental vegetation, ruderal vegetation, and developed land (Figure 3).

1.5.1 Vegetation

Southern coastal salt marsh is the one type of riparian and wetlands vegetation community presently occurring within the Colorado Lagoon project area.

<u>Southern Coastal Salt Marsh (Holland Code 52120)</u>: This plant community is found within a 2 to 3 meter intertidal elevation range along sheltered inland margins of bays, lagoons, and estuaries subject to regular inundation by sea water. It is dominated by highly productive, herbaceous and suffrutescent, salt tolerant hydrophytes forming moderate to dense cover up to one meter tall. The plant species are usually segregated by elevation and form distinct zones that are dependent on environmental factors such as frequency and length of tidal inundation, salinity levels, and nutrient status. *Spartina foliosa* (Pacific cordgrass) dominates the low marsh, *Salicornia pacifica* (common pickleweed) the middle marsh, and *Arthrocnemum subterminale* (Parish's glasswort) the upper marsh.

1.5.2 Soils

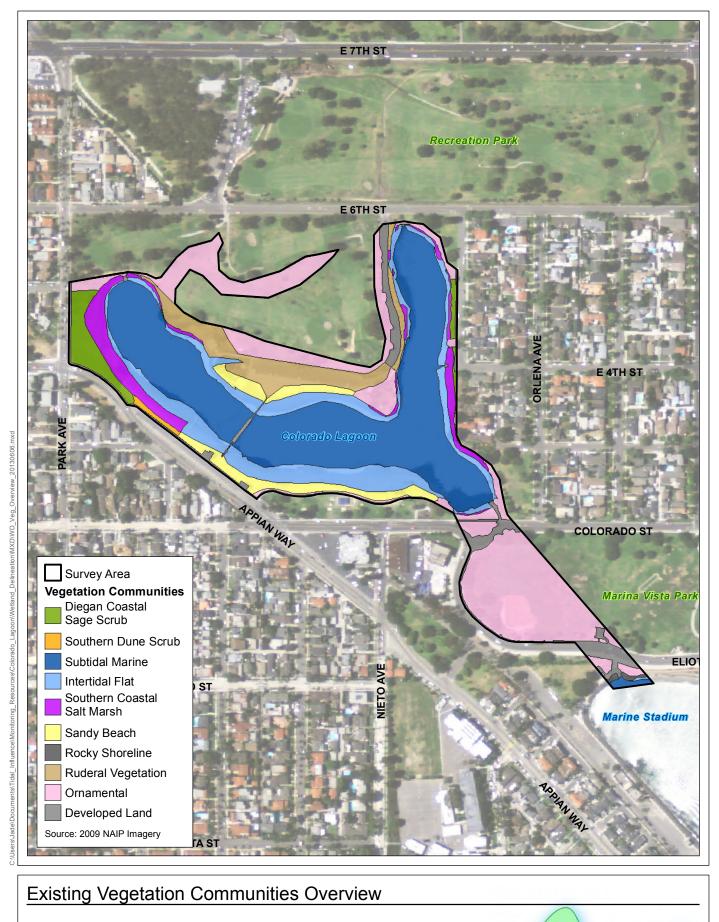
A search of the United States Department of Agriculture's (USDA) Web Soil Survey (<u>http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm</u>) indicates that there is no recent soil data for the Colorado Lagoon. The project location is within the United States Geological Survey (USGS) Long Beach7.5-minute quadrangle. As described by this project's Environmental Impact report:

"The site lies within the southwestern block of the Los Angeles Basin, which is comprised of a low alluvial floodplain. The floodplain is bound by a line of elongated low hills, folds, and faults, which delineate the northwest-trending Newport-Inglewood Structural Zone. Prior to extensive dredging of the Colorado Lagoon (Lagoon) and Marine Stadium area in the 1920s, the site was a tidal mudflat that received alternating alluvial deposits of marine sands, organic silts and clays, and fluvial deposits. In the 1960s, the previously dredged area between what is now the north end of Marine Stadium and the south end of the Lagoon was filled and the existing underground box culvert constructed. This was done as part of the construction for the then-proposed Pacific Coast Freeway. This "filled" area is now Marina Vista Park.

Consistent with the project area's history, the soil underlying the project site is characterized by predominately younger alluvial deposits and artificial fill. Younger alluvial deposits consist of Holocene alluvial soft clay, silt, silty sand, and sand. The artificial fill soils within Marina Vista Park have a lot of variation with no consistent pattern of stratification among sites. Soils testing indicates that the fill consists of undifferentiated young and old soils, which generally include clay, sandy clays, and silty sand."

1.5.3 Hydrology

The entire Colorado Lagoon project area occurs within the San Gabriel River Watershed (Hydrologic Unit Code [HUC] 18070106) and is located within the Regional Water Quality



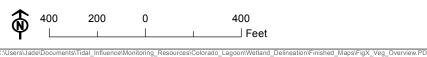




Figure 3. Existing Vegetation Communities within the Survey Area

_ Feet



Control Board (RWQCB) Los Angeles Region 4, Los Angeles Hydrologic Basin Planning Area. The approximately 640 square mile San Gabriel River Watershed encompasses over 37 cities and is bordered by the San Gabriel Mountains to the north, San Bernardino/Orange County to the east, the Los Angeles River to the west and the Pacific Ocean to the south. Colorado Lagoon also occurs within the Los Cerritos Channel and Alamitos Bay Water Management Area (WMA) of the San Gabriel River Watershed. The WMA is located between the Los Angeles and San Gabriel Rivers and drains to the same general area as the San Gabriel River. The Los Cerritos Channel and Alamitos Bay comprise the main water bodies of the WMA (Moffatt and Nichol, 2005).

The Colorado Lagoon's immediate watershed is identified as Basin 21 in the City of Long Beach Storm Water Management Plan (2001). Basin 21 is 1,172 acres and is made up of 773 acres of residential, 125 acres of commercial, 55 acres of institutional, and 219 acres of open space. The watershed ranges in elevation from 125 feet above mean sea level at the northwestern portion to sea level within the Lagoon. The watershed is almost entirely built out; remaining open space includes the City Recreation Park Area, consisting of two golf courses and adjacent park areas, the Pacific Electric right-of-way greenbelt, and to a lesser degree the picnic and park areas surrounding the Lagoon. The Colorado Lagoon occurs within the Federal Emergency Management Agency (FEMA) Flood Zone X and Flood Zone AE (FEMA FIRM panel #0601360025C).

The average rainfall for this survey area is 12.94 inches. Colorado Lagoon currently receives high flow run-off from 3 large storm drains that are outfitted with low flow diversion systems and trash separation devices. Another smaller storm drain enters the lagoon via a vegetated bioswale that treats run-off coming from the Little Recreation Golf Course.

2.0 Regulatory Background

The Colorado Lagoon project site is located within Long Beach, California containing wetland and other aquatic features, environments and habitats. These waters and wetland features are regulated under federal and state laws. Each of the laws is administered independently and in coordination by the following federal and state agencies: ACOE, United States Fish and Wildlife Service (USFWS), the United States Environmental Protection Agency (USEPA), CCC, CDFW and RWQCB.

If determined applicable by the respective agencies, this Jurisdictional Delineation Report (JDR) provides information for the City of Long Beach to apply for the following authorizations, permits, and policy compliance:

2.1 Federal Regulations

- Section 404 of the Clean Water Act (CWA) (as regulated by ACOE and USEPA)
- Section 401 of the CWA (as regulated by RWQCB)
- Section 10 of the Rivers and Harbors Act (RHA) (as regulated by ACOE)
- Executive Order 11990 (federal protection of wetlands) (regulated by relevant federal agencies)



2.2 State of California Regulations

- California Public Resource Code (CPRC) Division 20 Section 30000 *et seq*. (California Coastal Act) (as regulated by the CCC)
- Section 13000 *et seq.* of the California Water Code (CWC) (the 1969 Porter-Cologne Water Quality Act) (as regulated by RWQCB)
- California Fish and Wildlife Code (CFWC) Chapter 6 Section 1600 *et seq*. (as regulated by CDFW)
- CPRC Division 5 Chapter 7 Section 5810 *et seq.* (preservation of wetlands; as administered by CDFW and other relevant state resource agencies)
- Executive Order W-59-93 (state policy guidelines for wetlands conservation)

2.3 Description of Federal Regulations

2.3.1 Clean Water Act (CWA)

Pursuant to Section 404 of the CWA, ACOE regulatory jurisdiction is built upon a connection or nexus between the water body and interstate commerce. The connection may be direct, through a tributary system linking a stream channel with navigable waters used in interstate or foreign commerce, or indirect, through a nexus identified in the ACOE regulation. ACOE regulates any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 Code of Federal Regulations 328. ACOE has the principal authority to issue CWA Section 404 Permits with review by the USEPA. The RWQCB certifies that any discharge into jurisdictional waters of the U.S. will comply with state water quality standards, pursuant to Section 401 of the CWA. RWQCB is the lead authority to determine a CWA Section 401 Water Quality Certification or Waiver according to the USEPA.

2.3.2 Rivers and Harbors Act (RHA)

The ACOE regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and non-wetland bodies of water that meet specific criteria. Pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 US Code [u.s.c.] 403), ACOE regulatory jurisdiction, regulates almost all work in, over and under waters listed as "navigable waters of the U.S." The ACOE regulates activity that results in the alteration of a navigable water of the United States, including the excavation or filling of any such water.

2.3.3 Executive Order 11990

Each federal agency is responsible for preparing the implementing procedures for carrying out the provisions of the Executive Order (EO) 11990. The EO's purpose is to "minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." Each agency must avoid undertaking, or providing assistance, for any destructive or degrading activity located in wetlands unless the head of the agency finds that there is no "practical alternative" to such activity to the extent permitted by law. Additionally, public review of any plans or proposals for new construction in wetlands must be provided.

2.4 Description of State Regulations

2.4.1 California Coastal Act (CCA)

The California Coastal Commission regulates for coastal resources within the Coastal Zone under jurisdiction of the California Coastal Act of 1976 (CCA), pursuant to Section 30000 *et seq.* of the CPRC. Of important note for Jurisdictional Delineations of California projects, the CCC



retains authorization, permitting, and policy compliance jurisdiction over any portion of a project that is in state waters, on land up to the mean high tide line (MHTL), lands subject to the public trust, or at the discretion of CCC.

2.4.2 Lake and Streambed Alteration Program

The California Department of Fish and Wildlife is authorized to regulate activity that would alter the flow, bed, channel, or bank of streams and lakes, pursuant to Section 1600 *et seq.* of the CDFW. The channel, bed, or bank of a lake, river, or stream comprises the jurisdictional waters of the state. The CDFW extends its jurisdictional limit to the top of the bank of a stream or lake, or to the continuous outer edge of its riparian extent, whichever is wider.

2.4.3 Porter-Cologne Water Quality Control Act

In addition to the federal CWA regulatory jurisdiction of the RWQCB mentioned above, the RWQCB is authorized to regulate activity that would result in discharge of waste and fill material to waters of California (including saline waters), "isolated" waters and/or wetlands (e.g., vernal pools and seeps), and groundwater within the boundaries of the state (CWC § 13050[e]), pursuant to Section 13000 *et seq.* of the CWC (the 1969 Porter-Cologne Water Quality Control Act [Porter-Cologne]). RWQCB also adopts and implements water quality control plans that are designed to maintain each region within the state's "unique characteristics" with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region. Beneficial uses of state waters are identified within the Porter-Cologne Act that may be protected against degradation and include preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

2.5 Definition of Wetlands

The jurisdictional regulations of the various federal and state agencies are further utilized to establish the appropriate definition of "wetlands" of a particular study site. The Colorado Lagoon is subject to the wetland definitions identified by various characteristics as outlined by the United States Army Corps of Engineers, United States Fish and Wildlife Service, the California Coastal Commission and the California Department of Fish and Wildlife. Each agency, working in accordance to their legislative authority, defines "wetlands" differently and each definition is referenced to identify jurisdictional authority.

2.5.1 Federal Wetlands Definitions

Federal definitions of what constitutes "wetlands" are primarily derived from two Federal Agencies: the United States Army Corps of Engineers and the United States Fish and Wildlife Service. The USFWS wetland definition and classification system is based on *Classification of Wetland and Deepwater Habitats of the United States* (Cowardin et al. 1979); however, the ACOE definition is used for regulatory purposes. Wetland delineations for Section 404 purposes as regulated by the ACOE must be conducted according to the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Regional Supplement ACOE 2006) and the Corps of Engineers 1987 Wetland Delineation Manual. Where there are differences between the two documents, the Regional Supplement takes precedence over the 1987 Manual.



The ACOE defines wetlands as: "Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions."

A federal jurisdictional wetland delineation states that an area must possess three wetland characteristics: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology. The wetland characteristics have mandatory criteria that must be satisfied in order for that particular characteristic to be met. The indicators may be analyzed to determine whether the criteria are satisfied and are listed below.

Hydrophytic Vegetation

Hydrophytic vegetation is plant life that is adapted for life in permanently or periodically saturated soil identified according to a wetland indictor category as included on the Army Corps of Engineers' National Wetland Plant List (Lichvar, 2012). The different indicator categories are based on the probability of occurrence in wetlands: Obligate Wetlands, Facultative Wetlands, Facultative, Facultative Upland, and Obligate Upland. The Obligate Wetlands, Facultative Wetlands and Facultative categories are considered hydrophytic and the delineation of the hydrophytic vegetation is based on more than 50 percent of the plant species identified in these three categories.

If the plant community passes the dominance test or prevalence index, the vegetation is considered hydrophytic. The dominance test uses the "50/20" rule from the Regional Supplement for determining dominant species. The most abundant species that exceed 50 percent of the total sample survey, plus additional species that comprise 20 percent of the total dominance measure, indicate dominance. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5) and weighting is by abundance (percent cover). It is a more comprehensive analysis of the hydrophytic status of the community than one based on just a few dominant species

Hydric Soils

Soils defined as hydric soils form under conditions of "saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part." Hydric soils are defined when one or more of the following criteria are met: all histels except folistels and histosels except folists; or soils that frequently ponded for long duration or very long duration during the growing season; or soils that are frequently flooded for long duration or very long duration during the growing season.

Hydric soils are developed when microbial activity causes oxygen depletion with conditions of saturation and hydrologic inundation. Microbial activity is limited to the growing season and when the soil temperature is above biological zero.



The Regional Supplement is used to identify hydric soils under a variety of field indicators that include: hydrogen sulfide generation; accumulation of organic matter; and reduction, translocation, and/or accumulation of iron and other reducible elements.

Wetland Hydrology

Wetland hydrology can be a challenging criterion to measure in the field due to variations in water availability seasonally and annually. Visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels are some of the indicators used to identify wetland hydrology. Wetland hydrology is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season.

2.5.2 State of California Definition of Wetlands

The State of California applies a broader definition of what constitutes a "wetland" than the Federal government. Two primary State agencies are responsible for defining "wetlands", the California Coastal Commission and the California Department of Fish and Wildlife. The CDFW essentially relies on the USFWS wetland definition and classification system based on Classification of Wetland and Deepwater Habitats of the United States (Cowardin et al. 1979). The CDFW acts as a primary consultant to the CCC and the CCC regulates wetland delineation within what is identified as the Coastal Zone along the coast of California. Through provisions of the California Coastal Act, jurisdictional wetland delineations within the Coastal Zone are conducted based on the "one-parameter method" to define the presence and jurisdictional extent of state wetlands. Under the CCA, wetlands are defined as follows: "land within the Coastal Zone [that] may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens". Additionally, wetlands are further defined as: "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes". Both the Federal and State definitions focus on the three fundamental wetland characteristics: hydrology, soils, and vegetation. While the ACOE definition requires the existence of all three wetland characteristics for an area to be considered a wetland, the CCC's definition of wetlands is based on the existence of only two characteristics: wetland hydrology sufficient to either support a prevalence of hydrophytic vegetation or promote the formation of hydric soils.

It is noted that, under circumstances, reliable indicators of all required characteristics are not necessarily apparent, and areas may be delineated as wetlands by the ACOE on the basis of indicators of only two of the three characteristics. The CCC routinely makes jurisdictional wetlands determinations based on the presence of one characteristic indicator (i.e., wetland soils or vegetation) under the assumption that wetland hydrology must be present in order for the indicator to be present. Nevertheless, the presence of wetland hydrology during some portion of most years is fundamental to the existence of any wetland, and the CCC will sometimes disregard vegetation or soil indicators when there is sufficient evidence to conclusively refute the presence of wetland hydrology.



3.0 Methodology

3.1 Presurvey Investigations

A distinct project boundary was determined prior to conducting formal investigations in the field for this JDR. The extent of the project boundary was designed to encompass all the areas with potential for generating mitigation credits. The boundary included a buffer area above the high tide line and waters of the U.S. identified previously by LSA in February 2008. Once the boundary was determined Tidal Influence ecologists closely reviewed former reports to determine areas that were critical to investigate in the field. A grid was overlayed on the project area and sampling points were chosen where the grid intersected areas that were either previously identified as potential waters of the U.S. and State (including wetlands) or new areas that had potential after the recent dredging, re-contouring and re-vegetation efforts. A total of 16 points were originally selected for investigation throughout the project area.

3.2 Field Survey

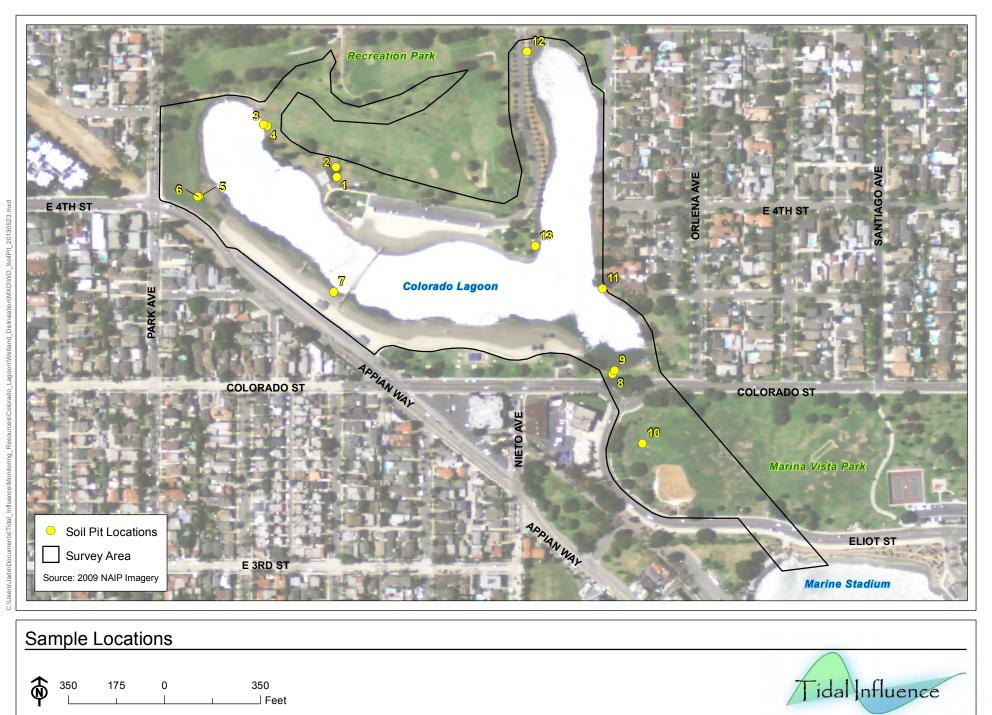
The fieldwork for this investigation was conducted by Tidal Influence ecologists Eric Zahn, Taylor Parker and Jade Dean on April 16th and 17th. Initially a general field reconnaissance of the project area was conducted on April 11th and each of the 16 remotely selected survey points was visited. The remotely selected points were shifted based on field conditions and the exact locations were documented with a handheld Garmin Oregon 550t Global Positioning System (GPS) and marked with a flag. All ecological observations were documented during this reconnaissance.

After the initial field reconnaissance was completed, a delineation of jurisdictional waters (including wetlands) occurring within the survey area was conducted by the three Tidal Influence ecologists. A field delineation was considered for each of the original 16 survey points and in doing so, 3 points were eliminated so that a total of 13 points were selected for analysis (**Figure 4**). Each of these 13 points was evaluated according to routine wetland delineation procedures described in the 1987 Manual and the 2008 Arid West Regional Supplement.

At each sample point, the existence of significantly disturbed conditions, naturally problematic conditions, and "normal circumstances" were considered and recorded on the Wetlands Determination Data Form for the Arid West Region. All notable site conditions were recorded including observations of recent restoration activity or management of that area as wetlands.

Within an approximately 1 meter squared area around the sample point, the dominant and subdominant plant species were identified and the wetland indicator status was noted for each plant species. A sampling location was determined to support hydrophytic vegetation if more that 50% of the dominant species were listed as Obligate (OBL), Facultative Wetland (FACW), or Facultative (FAC) species on the Army Corps of Engineers' National Wetland Plant List (Lichvar, 2012) or if the hydrophytic plant prevalence index was less than or equal to 3.0.

A soil pit was dug at each of the points to investigate soil characteristics and the potential for hydric soil indicators. All soil pits (field data points for soil inspection and observation) were dug to a depth of 20 inches below natural grade or to the point of obstruction (e.g., compaction or debris) if a 20-inch-deep soil pit was not possible. Soil pits were located in obvious wetland and non-wetland areas to determine the wetland/non-wetland boundary and the presence or absence



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of hydric soils. Each pit was examined for changes in texture with depth. The depth of each soil texture type was indicated and soil matrix colors were determined and recorded for each soil texture type according to the Munsell Soil Color Charts (2009). Subsurface soil taken from soil pits was also analyzed visually for redoximorphic features and other hydric soil indicators using Field Indicators of Hydric Soils in the United States: A guide for Identifying and Delineating Hydric Soils (USDA, 2006). A sampling location was determined to support hydric soils if at least one hydric soil indicator was present in the soil pit or if problematic hydric soils indicators were observed.

Finally, each sample point was surveyed for the presence of wetland hydrology indicators, including primary indicators like surface water, saturation, biotic crust, salt crust, aquatic invertebrates, and/or other primary wetland hydrology indicators; and secondary indicators like drainage patterns, saturation visible on aerial imagery, and/or other secondary wetland hydrology indicators. Soil pits were utilized to determine the presence or absence of many of these indicators. A sampling location was determined to support wetlands hydrology if at least one primary indicator or at least two secondary indicators were observed.

Field data collected by hand on the wetland determination data forms were transcribed to electronic copies during which any existing data gaps were filled and all data was processed to ensure data quality assurance and quality control.

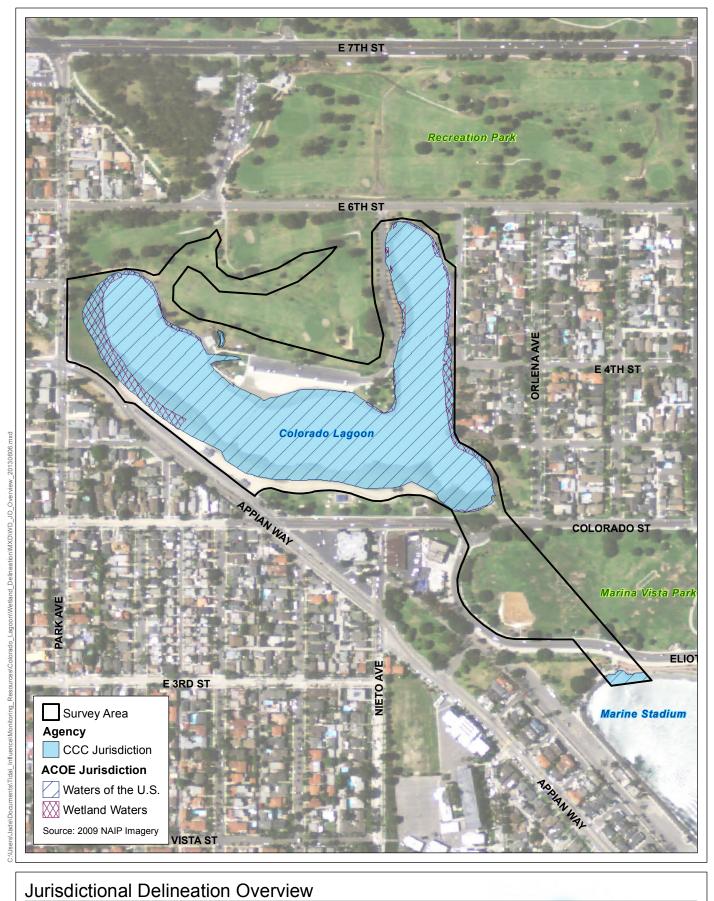
4.0 Results

Potential jurisdictional waters (including wetlands) occurring within the survey area were delineated and mapped based on federal and state delineation guidance, methodology, and regulatory framework and code, as described above. All waters and wetlands (including final acreages and types) delineated within this survey area are considered potential waters of the U.S. prior to a formal jurisdictional determination performed by ACOE. The final determination issued by ACOE may remove or include portions of delineated waters documented in this jurisdictional delineation report.

The total area of potential waters of the U.S. and State (including wetlands) within the survey area and a general discussion of the policy governing these regulated areas is provided below. Per ACOE mapping guidelines, the results were mapped on a current color aerial photograph at a scale of 1 inch = 200 feet (**Appendix A**), however, an overview map of the entire survey area is shown in **Figure 5**. Refer to the attached Wetlands Determination Data Forms (**Appendix B**) for a full description of sample point results.

4.1 Vegetation:

Several vegetation communities were identified within the project area including southern coastal salt marsh, Diegan coastal sage scrub, southern dune scrub, ornamental vegetation, and ruderal vegetation. Southern coastal salt marsh is the one type of riparian and wetlands vegetation community presently occurring within the Colorado Lagoon that contains hydrophytic species that when prevalent meet the criterion for ACOE jurisdictional wetlands. The dominant species that compose this plant community at Colorado Lagoon are *Batis maritima* (OBL), *Salicornia pacifica* (OBL), *Distichlis spicata* (FAC), *Suaeda esteroa* (FACW), *Jaumea carnosa* (OBL), *Spergularia marina* (FACW), and *Limonium californicum* (FACW). A total of 1.61 acres







Page 15

of southern coastal salt marsh was identified and these areas are indicated in **Figure 3**. A list of hydrophytic plant species identified within the survey area is provided in **Table 1**.

Table 1. Complete list of hydrophytic plant species identified within the survey area

Scientific Name	Common name	Arid West Region Indicator Status
Tree Species Growth Habit		
Alnus rhombifolia	White Alder	FACW
Platanus racemosa	Western Sycamore	FAC
Salix gooddingii	Black Willow	FACW
Salix lasiolepis	Arroyo Willow	FACW
Umbellularia californica	California Laurel	FAC
Washingtonia robusta	Mexican Fan Palm	FACW
Shrub Species Growth Habit		
Baccharis salicifolia	Mulefat	FAC
Isocoma menziesii	Coast Goldenbush	I FAC
Rosa californica	California Rose	FAC
Suaeda taxifolia	Woolly Sea-blite	FACW
Herbaceous Species Growth Hat	bit	
Anemopsis californica	Yerba Mansa	OBL
Arthrocnemum subterminale	Glasswort	FACW
Atriplex prostrata	Fat-hen	FACW
Atriplex semibaccata	Austrailian Salt Bush	FAC
Atriplex watsonii	Watson's Salt Bush	FACW
Bassia hyssopifolia	Five-hook Bassia	FAC
Batis maritima	Saltwort	OBL
Cakile maritima	Sea Rocket	FAC
Cotula coronipifolia	Brass Buttons	OBL
Cressa truxillensis	Alkali Weed	FACW
Cuscuta salina	Salt Marsh Dodder	OBL
Cyperus eragrostis	Tall Flatsedge	FACW
Distichlis littoralis	Shore Grass	OBL
Distichlis spicata	Salt Grass	FAC
Eleocharis macrostachya	Spike Rush	OBL
Frankenia salina	Alkali Heath	FACW
Jaumea carnosa	Fleshy Jaumea	OBL
Juncus acutus ssp. leopoldii	Spiny Rush	FACW
Leymus triticoides	Alkali Rye	FAC
Limonium californicum	Sea Lavender	FACW
Limonium ramosissimum	Algerian Sea-lavender	FACW
Mesymbryanthemum nodiflorum	Slender-leaved Ice Plant	FAC
Muhlenbergia rigens	Deergrass	FAC
Parapholis incurva	Sickle Grass	FAC
Paspalum dilatatum	Dallis Grass	FAC
Plantago lanceolata	English Plantain	FAC
Plantago major	Common Plantain	FAC
Polypogon monspeliensis	Rabbit's Foot Grass	FACW
Salicornia bigelovii	Annual Pickleweed	OBL
Salicornia pacifica	Common Pickleweed	OBL
Schoenoplectus robustus	Salt Marsh Bulrush	OBL
Sisyrinchium bellum	Blue-Eyed grass	FACW
Sonchus asper ssp. asper	Prickly sow thistle	FAC
Spartina foliosa	Pacific Cordgrass	OBL
Spergularia marina	Sand Spurry	FACW
Sporobolus airoides	Alkali Dropseed	FAC
Suaeda esteroa	Estuary Sea-blite	FACW
Sueada calceoliformis	Horned Sea-blite	FACW
Triglochin concinna	Arrow-grass	OBL
Typha domingensis	Southern Cattail	OBL
Zostera marina	Eelgrass	OBL



4.2 Soil:

The locations of the 13 soil pits used to investigate the presence of hydric soil are depicted in **Figure 4**. The soil pit locations were chosen to determine if jurisdictional wetlands extended above the Ordinary High Water Mark (OHWM) where indicators of hydrophytic vegetation appeared to be present. Indicators for hydric soils were found in pits 1, 2, 3, and 13. The soils in these locations were all sandy to sandy-clay and therefore the leading hydric soil indicator in each instance was the presence of sandy redox. Furthermore, naturally problematic soils were determined for points 1 and 5 due to those areas being the subject of recent grading and their current status of being actively managed as wetlands. It was clear that the soils composing the shoreline areas around Colorado Lagoon are sandy fill mixed with a variety of rubble like asphalt and concrete. Therefore, it could be considered that the soils that compose the Colorado Lagoon's shoreline are all naturally problematic as was concluded by LSA in 2008.

One soil pit was dug in Marina Vista Park where hydrophytic vegetation species were found and a salt crust was observed on the surface. These soils contained more loam content than those found around the perimeter of the Lagoon, were highly compacted, and despite regular irrigation there were no indicators of hydric soils.

4.3 Hydrology

The presence of wetland hydrology indicators is evident around the entire perimeter of Colorado Lagoon most notably by the presence of high tide line water marks and tidal drainages. Of the 13 locations surveyed for the presence of wetlands hydrology, sample points 1, 3, 5, 9, 10, and 13 contained indicators. Of these points all but sample point 10 were within the reach of the highest high tide. The mean high tide line was not delineated in the field due to the fact that this boundary is encompassed by the limits of Section 404 jurisdiction that extends to the highest high water line.

Sample point 10 was located in Marina Vista Park where hydrophytic vegetation species were found and the presence of salt crust indicated the presence of wetlands hydrology. Naturally problematic wetlands hydrology existed at sample point 6 due to that area being the subject of recent grading and its current status of being actively managed as a wetland-upland transition zone.

5.0 Conclusions

5.1 Jurisdictional Waters of the U.S. and State

The extent and distribution of the collective area of jurisdictional waters of the U.S. and State occurring within the study site is 18.17 acres. Of these approximately 18.17 acres of delineated aquatic features, approximately 18.16 acres are potential jurisdictional waters of the U.S. and State and approximately 0.01 acres are potential jurisdictional waters of the State exclusively. A summary of the jurisdictional waters of the U.S. and state, with the corresponding regulatory authority, occurring within the survey area, is provided in **Table 2** and mapped in **Figure 5**.

Type of Potential Jurisdictional Waters of the U.S. and State	Regulatory Authority	Area (acres)					
	Potential Jurisdictional Waters of the U.S.						
Navigable Water	ACOE and CCC	18.16					
Subtotal Potential Jurisdictional Waters of the U.S.							
	Potential Jurisdictional Waters of the State						
Upper Salt Marsh	ссс	0.01					
	Subtotal Potential Jurisdictional Waters of the State	0.01					
	Grand Total Jurisdictional Waters	18.17					

Table 2. Summary of the Potential Jurisdictional Waters of the U.S. and State Occurring within the Survey Area

5.2 ACOE Jurisdiction 5.2.1 ACOE Section 10 Jurisdiction

The marine water in Colorado Lagoon is separated from Alamitos Bay by approximately 900 ft of developed park land. Alamitos Bay is a navigable water of the U.S. that is an extension of the Pacific Ocean (a navigable water of the U.S.). Colorado Lagoon is tidally influenced through a direct connection to Alamitos Bay via an approximately 12 ft wide and 8 feet tall box culvert. Thus the Lagoon's marine water is consider as Waters of the U.S. and is subject to ACOE jurisdiction to the mean high water line under Section 10 of the Rivers and Harbors Act.

5.2.2 ACOE Section 404 Jurisdiction

Due to the direct connection with Alamitos Bay, the marine water in Colorado Lagoon is considered as Waters of the U.S. and is subject to ACOE jurisdiction at least to the high tide line under Section 404 of the Clean Water Act. In certain areas where wetland vegetation and soils are present the ACOE jurisdiction extended above the OHWM. The limits of ACOE Section 404 jurisdiction were also extended beyond the observed OHWM to the limits of the highest high water mark where wetland vegetation and soils were lacking. In addition, several areas satisfy all three criteria for ACOE jurisdictional wetlands.

Pursuant to the Clean Water Act, ACOE will assert jurisdiction over traditional navigable waters and their adjacent wetlands. This site has a well documented direct connection to a designated navigable water of the United States. Due to this connection, ACOE will likely verify that a "significant nexus determination" is not required to determine the jurisdictional status of this site. There is a total of 18.16 acre of waters potentially subject to ACOE jurisdiction, of which 1.63 acres is wetland waters and 16.53 acres are non-wetland waters of the United States. A map of potential ACOE jurisdictional areas is provided in **Figure 5** and summarized in **Table 2**.

5.3 CDFW Jurisdiction

CDFW asserts jurisdiction only over wetland areas that are a part of a river, stream, or lake as defined by CDFW. This association is not present within this survey area and all potential wetlands on the site are associated with southern coastal salt marsh habitat. Coastal salt marshes are typically associated with and influenced by marine systems. Since salt marshes tend not to



be regulated under the California Fish and Wildlife Code, there are no potential CDFW jurisdictional areas within the survey area.

5.4 CCC Jurisdiction

Pursuant to the California Coastal Act the CCC will assert jurisdiction over all of the areas satisfying the ACOE jurisdictional criteria for waters and wetlands of the United States. This jurisdictional area usually tends to be more inclusive and extensive than that of ACOE due to the CCC employment a "one-parameter" approach to delineating jurisdictional wetlands. As described previously CCC wetlands need only contain wetlands hydrology and, hydrophytic vegetation or hydric soils. So is the case at this site with a total of 18.17 acres potentially subject to CCC wetland jurisdiction, 0.01 more acres than that of ACOE. This difference is due to areas existing where salt marsh (wetland) vegetation extended beyond the limit of the highest high water mark and existed regardless of the presence of hydric soil indicators. Due to hydrologic and geologic conditions, there were no hydric soils that extended beyond the limit of the highest high water mark. A map of potential CCC jurisdictional areas is provided in **Figure 5** and summarized in **Table 2**.



6.0 References

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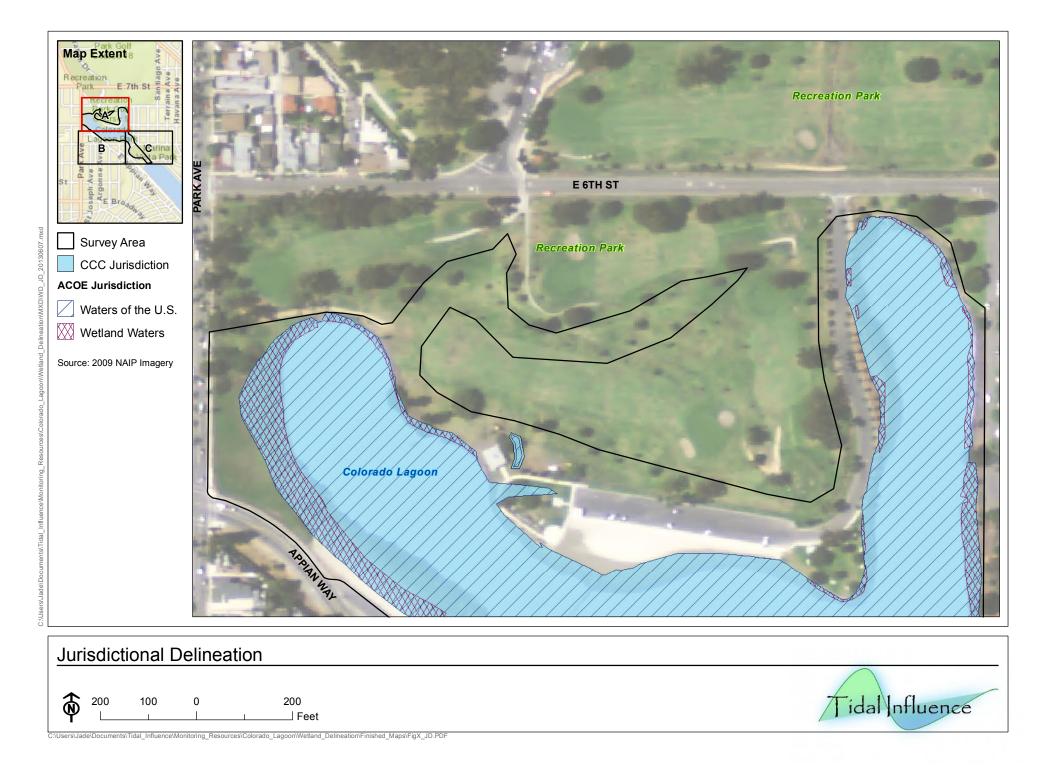
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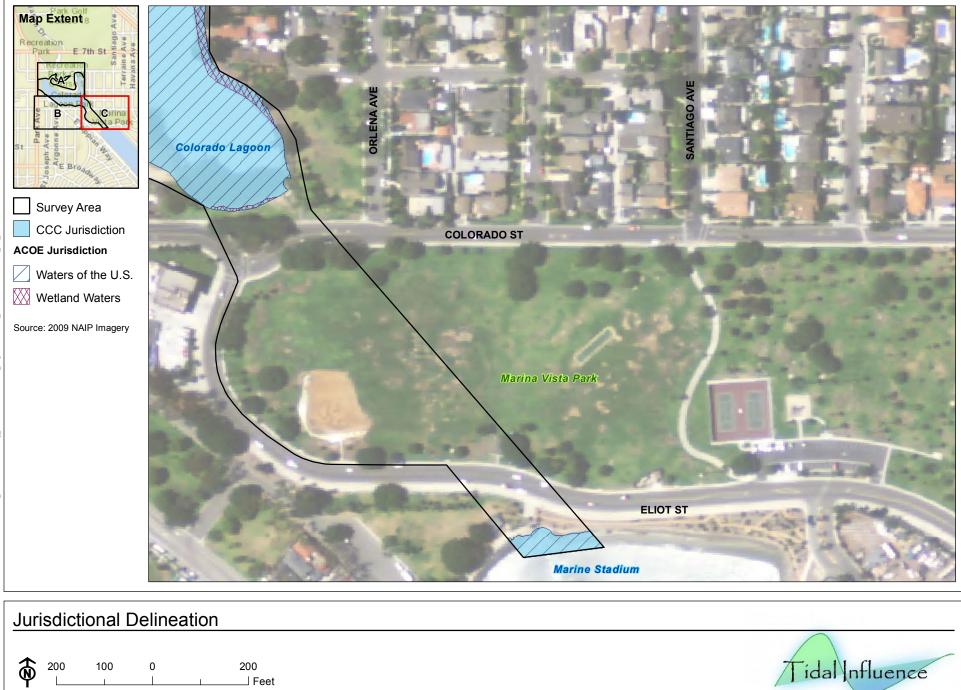
Appendix A

Maps of the Potential Jurisdictional Waters of the U.S. and State (including wetlands) in accordance with ACOE Mapping Guidelines where the scale is 1-inch equaling 200ft





Jurisdictional Delineation 200 100 0 200 Tidal Influence



C:\Users\Jade\Documents\Tidal_Influence\Monitoring_Resources\Colorado_Lagoon\Wetland_Delineation\Finished_Maps\FigX_JD.PDF

Appendix B

Wetland Delineation Data Forms for Arid West Region

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: Colora	ado Lagoon	City/County:	Long Beach/Los Angeles	Sampling Date: 4/17/2013				
Applicant/Owner: City O	f Long Beach/State Lands Comm	nission	State: <u>CA</u>	Sampling Point: <u>1</u>				
Investigator(s): Eric Z	ahn/Taylor Parker/Jade Dean	Section, Tow	Section, Township, Range: T 5S/R 12W, Section 4					
Landform (hillslope, terrace	, etc.): <u>Terrace</u>	Local relief (conca	ave, convex, none):	Slope (%):				
Subregion (LRR): C	Lat:	<u>33.7721</u>	Long: <u>-118.1350</u>	Datum: WGS 84				
Soil Map Unit Name:	_		NWI classi	fication: Freshwater Pond Wetland				
Are climatic / hydrologic	conditions on the site typical for	this time of year? Yes	No 🔲 (If no, explain in Re	marks.)				
Are Vegetation D, Se	oil 🔲, or Hydrology 🔲 s	significantly disturbed? Are "No	ormal Circumstances" present?	Yes 🛛 No 🗌				
Are Vegetation 🖾, Section	oil 🖾, or Hydrology 🔲 r	naturally problematic? (If need	led, explain any answers in Remarl	<s.)< td=""></s.)<>				

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No			
Remarks:						

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:		
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
3 4				Total Number of Dominant Species Across All Strata:	<u>1</u>	(B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size:)		= Total Cover	-	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(A/B)
1				Prevalence Index worksheet:		
2				<u>Total % Cover of :</u>	Multiply by:	
3				OBL species	x1 =	
4				FACW species 25	x2 = <u>50</u>	
5				FAC species	x3 =	
50% =, 20% =		= Total Cover		FACU species	x4 =	
Herb Stratum (Plot size:Meter squared)				UPL species	x5 =	
1. <u>Distichlis spicata</u>	<u>85</u>	<u>ves</u>	FACW	Column Totals: <u>25</u> (A)	<u>50</u> (B)	
2				Prevalence Index = B/A =	= <u>2.0</u>	
3				Hydrophytic Vegetation Indicators:		
4				Dominance Test is >50%		
5				Prevalence Index is $\leq 3.0^1$		
6				Morphological Adaptations ¹ (Provi	ide supporting	
7				data in Remarks or on a separate	sheet)	
8				Problematic Hydrophytic Vegetation	on ¹ (Explain)	
50% =, 20% =		= Total Cover	-	1		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic.	jy must	
1				··· • • · · · · · · · · · · · · · · · ·		
2				Hydrophytic		
50% =, 20% =		= Total Cover	-	Vegetation Yes	🛛 No	
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		Present?		
Remarks: The hydrophytic vegetation was p	oroblematic d	ue to patchines	s within a pl	aya habitat		

US Army Corps of Engineers

Project Site: Colorado Lagoon

SOIL												Sa	mpling P	oint: <u>1</u>
Profil	e Descript	ion: (Describe to	o the depth r	needed to de	ocument the i	ndicator or co	nfirm the abser	nce of ind	dicate	ors.)				
De	epth	Matrix			Redo	ox Features								
<u>(inc</u>	hes)	Color (moist)	%	Color (Moi	<u>st) %</u>	Type ¹	Loc ²	I	exture	<u>e F</u>	Remarks			
<u>0</u>	<u>)-6</u>	7.5YR 3/3	<u>100</u>	<u>N/A</u>	<u>N/A</u>	. <u> </u>		Sar	ndy C	lay	_			
<u>6</u>	<u>i-8</u>	2.5Y 2.5/1	<u>100</u>	<u>10YR 6/8</u>	<u>3 100</u>	<u>CS</u>	M	Sar	ndy C	lay	_			
8-	-15	<u>10YR 2/2</u>	<u>100</u>	<u>N/A</u>	<u>N/A</u>	<u> </u>	. <u> </u>	Cla	ay Loa	<u></u>	_			
							<u> </u>	-			_			
							<u> </u>	-			_			
							. <u> </u>	-		<u> </u>	_			
¹ Type	: C= Conce	entration, D=Depl	etion, RM=Re	educed Matri	ix, CS=Covere	d or Coated Sa	ind Grains. ² Lo	ocation: P	L=Po	re Lining, M=	=Matrix.			
Hydri	c Soil Indi	cators: (Applica	ble to all LRI	Rs, unless o	otherwise note	ed.)			Indic	ators for Pr	oblematic	Hydric \$	Soils ³ :	
	Histosol (A	.1)		\boxtimes	Sandy Redox	(S5)				1 cm Muc	k (A9) (LRF	2 C)		
	Histic Epip	edon (A2)			Stripped Mat	rix (S6)				2 cm Muc	k (A10) (LR	RB)		
	Black Histi	c (A3)			Loamy Muck	y Mineral (F1)				Reduced	Vertic (F18)	1		
	Hydrogen	Sulfide (A4)			Loamy Gleye	d Matrix (F2)				Red Parer	nt Material (TF2)		
	Stratified L	ayers (A5) (LRR	C)		Depleted Mat	trix (F3)			\boxtimes	Other (Exp	olain in Ren	narks)		
	1 cm Muck	(A9) (LRR D)			Redox Dark S	Surface (F6)								
	Depleted E	Below Dark Surfa	ce (A11)	\boxtimes	Depleted Dar	k Surface (F7)								
	Thick Dark	Surface (A12)			Redox Depre	ssions (F8)				³ Indicators	of hydroph	wtic yea	otation a	nd
	Sandy Mud	cky Mineral (S1)			Vernal Pools	(F9)					hydrology			
	Sandy Gle	yed Matrix (S4)									disturbed		•	
Restr	ictive Laye	er (if present):												
Type:		<u>N/A</u>												
Depth	(Inches):	<u>N/A</u>					Hydric Soils	s Presen	t?		Yes	\boxtimes	No	
Rema	ırks: Re	cently developed	(2009) biosv	vale wetland	area adjacent	to golf course.	Lack of proper	time for h	ydric	soil indicator	s to develo	p.		
HYDI	ROLOGY													
Wetla	nd Hydrol	ogy Indicators:												
Prima	ry Indicator	rs (minimum of or	ne required; c	heck all that	apply)			S	Secon	dary Indicato	ors (2 or mo	re requi	red)	
	Surface W	/ater (A1)		\boxtimes	Salt Crust (B	11)			<u>ا</u> ا	Vater Marks	(B1) (Rive	rine)		
	High Wate	er Table (A2)			Biotic Crust (B12)		0] 8	Sediment De	posits (B2)	(Riverin	ie)	
	Saturation				Aquatic Inver	tebrates (B13)		0	_	Drift Deposits		-		
	Water Ma	rks (B1) (Nonrive	erine)			lfide Odor (C1)		0		Drainage Pat	terns (B10)			
		Deposits (B2) (N			Oxidized Rhi	zospheres alor	g Living Roots (C3) [۔ کا Dry-Season	Nater Table	e (C2)		
_			,	_			·		_		(. ,		

	Sediment Deposits (B2	2) (Nonri	verine))		Oxidized Rhizosphere	es along Living Roots	s (C3)	Dry-Season Water Tab	le (C2)			
	Drift Deposits (B3) (No	onriverin	e)			Presence of Reduced	l Iron (C4)		Crayfish Burrows (C8)	Crayfish Burrows (C8)			
\boxtimes	Surface Soil Cracks (E	86)				Recent Iron Reduction	n in Tilled Soils (C6)		Saturation Visible on A	erial Imag	ery (C	9)	
	Inundation Visible on Aerial Imagery (B7)					Thin Muck Surface (C	Thin Muck Surface (C7)						
\boxtimes	Water-Stained Leaves	(B9)				Other (Explain in Ren	narks)		FAC-Neutral Test (D5)				
Field	Observations:												
Surfac	ce Water Present?	Yes		No	\boxtimes	Depth (inches):							
Water	Table Present?	Yes		No	\boxtimes	Depth (inches):							
Saturation Present? Yes I No (includes capillary fringe)			\boxtimes	Depth (inches):		Wetland H	ydrology Present?	Yes		No			
Describe Recorded Data (stream gauge, monitoring					well, a	erial photos, previous ir	nspections), if availab	ole:					

Remarks: Location connected to Lagoon via an underground culvert US Army Corps of Engineers

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site:	Colorado Lagoo	<u>n</u>			City/County:	Long E	Beach	/Los An	geles :	Sampl	ling Date:	4/17	/2013	<u> </u>
Applicant/Owner:	<u>City Of Long Be</u>	ach/State Lands	Com	mission				State:	<u>CA</u> 5	Sampli	ing Point:	<u>2</u>		
Investigator(s):	Eric Zahn/Taylo	or Parker/Jade De	ean		Section, Township, Range: T 5S/R 12W, Section 4									
Landform (hillslope, te	errace, etc.): <u>T</u>	errace		Loca	al relief (conca	ave, con	vex, r	none):	concave		Slo	pe (%):	
Subregion (LRR):	<u>C</u>		Lat	t: <u>33.7720</u>	Long: <u>-118.1350</u>					[Datum: WGS 84			
Soil Map Unit Name:									NWI classifica	ation:	Freshwa Wetland		nd	
Are climatic / hydr	ologic condition	s on the site typi	cal for	this time of year?	Yes 🛛	No		(lf no,	explain in Rema	rks.)				
Are Vegetation D,	Soil □,	or Hydrology		significantly disturbed?	Are "No	ormal Ci	rcums	tances"	present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil □,	or Hydrology		naturally problematic?	(If need	led, exp	lain a	ny answ	ers in Remarks.)				

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No						
Hydric Soil Present?	Yes	\boxtimes	No		Is the Sampled Area within a Wetland?	Yes []	No	\boxtimes
Wetland Hydrology Present?	Yes		No	\boxtimes					
Remarks:									

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1 2.		—		Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)	
3		_	_	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
50% =, 20% =		= Total Cove	r	Percent of Dominant Species <u>100</u> (A/E That Are OBL, FACW, or FAC: <u>100</u>	3)
Sapling/Shrub Stratum (Plot size:)					
1			<u> </u>	Prevalence Index worksheet:	
2	<u> </u>			Total % Cover of : Multiply by:	
3			<u> </u>	OBL species 45 x1 = 45	
4				FACW species 10 $x^2 = 20$	
5				FAC species 45 x3 = 135	
50% =, 20% =	<u> </u>	= Total Cove	r	FACU species x4 =	
Herb Stratum (Plot size: Meter squared)				UPL species x5 =	
1. <u>Jaumea carnosa</u>	<u>45</u>	<u>ves</u>	<u>OBL</u>	Column Totals: <u>100</u> (A) <u>200</u> (B)	
2. <u>Distichlis spicata</u>	<u>45</u>	<u>ves</u>	FAC	Prevalence Index = $B/A = 2.0$	
3. <u>Atriplex triangularis</u>	<u>10</u>	<u>ves</u>	FACW	Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% = , 20% =	100	= Total Cove	r		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1.				be present, unless disturbed or problematic.	
2.					
50% =, 20% =		= Total Cove	r	Hydrophytic Vegetation Yes ⊠ No □	
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		Present?	
Remarks:				·	

US Army Corps of Engineers

Project Site: Colorado Lagoon

SOIL

SOIL													Sar	mpling	Point:	<u>2</u>
Profile Desc	ription: (Descrit	be to th	e depth	neede	ed to de	ocument the indicato	or or conf	irm the abs	ence o	f indica	tors.)					
Depth	Matri	ix				Redox Feat	ures									
(inches)	Color (moist)	<u>)</u>	<u>%</u>	Col	or (Moi	<u>st) %</u>	Type ¹	Loc ²		<u>Textu</u>	<u>ire R</u>	<u>emarks</u>				
<u>0-12</u>	<u>10YR2/1</u>	-	100	<u>1</u>	0YR6/8	<u>100</u>	<u>CS</u>	M		Sandy						
<u>12-15</u>	2.5YR3/2	-	100						_	Sandy						
		_							_							
		_							_							
		_							_							
		_							_							
¹ Type: C= Co	oncentration, D=D	Depletio	n, RM=F	Reduce	ed Matri	ix, CS=Covered or Co	ated Sand	l Grains. 2	Locatio	n: PL=P	ore Lining, M=	Matrix.				
Hydric Soil I	Indicators: (App	licable	to all Ll	RRs, u	nless o	otherwise noted.)				Ind	icators for Pro	oblematic	Hydric S	Soils ³ :		
Histoso	ol (A1)				\boxtimes	Sandy Redox (S5)					1 cm Muck	(A9) (LRR	: C)			
Histic E	Epipedon (A2)					Stripped Matrix (S6)					2 cm Muck	(A10) (LR	R B)			
Black H	Histic (A3)					Loamy Mucky Miner	al (F1)				Reduced V	ertic (F18)				
Hydrog	gen Sulfide (A4)					Loamy Gleyed Matri	x (F2)				Red Paren	t Material (TF2)			
Stratifie	ed Layers (A5) (L	RR C)				Depleted Matrix (F3)					Other (Exp	lain in Ren	narks)			
🔲 1 cm M	luck (A9) (LRR D))				Redox Dark Surface	(F6)									
Deplet	ed Below Dark S	urface (A	A11)			Depleted Dark Surfa	ce (F7)									
Thick [Dark Surface (A1	2)				Redox Depressions	(F8)				³ Indicators	of hydroph	wtic voo	atation	and	
Sandy	Mucky Mineral (S	S1)				Vernal Pools (F9)						hydrology i				
□ Sandy	Gleyed Matrix (S	64)										disturbed			-,	
Restrictive I	ayer (if present	:):														
Туре:																
Depth (Inche	s):							Hydric So	oils Pre	sent?		Yes	\boxtimes	No		
Remarks:																
HYDROLO	GY															
	drology Indicato	ors:														
Primary Indic	ators (minimum o	of one re	equired;	check	all that	apply)				Seco	ndary Indicator	rs (2 or mo	re requir	ed)		
Surfac	e Water (A1)					Salt Crust (B11)					Water Marks (B1) (River	ine)			
_	Vater Table (A2)					Biotic Crust (B12)					Sediment Dep		-	e)		
_	ation (A3)					Aquatic Invertebrate	s (B13)				Drift Deposits		-	,		
	Marks (B1) (Non	nriverine	e)			Hydrogen Sulfide Oc	. ,				Drainage Patt	erns (B10)				
	ent Deposits (B2		-			Oxidized Rhizospher		Living Roots	s (C3)		Dry-Season W					
	eposits (B3) (No					Presence of Reduce		•	· /		Crayfish Burro		()			
	e Soil Cracks (B		-,			Recent Iron Reduction		,			Saturation Vis		rial Imag	erv (CS))	
	ation Visible on A	,	agerv (E	37)		Thin Muck Surface (Shallow Aquita		5	- , (,	
	-Stained Leaves		- 5 - 5 (,		Other (Explain in Re					FAC-Neutral 1	. ,				
Field Observ		()					,					()				
Surface Wate		Yes		No	\boxtimes	Depth (inches):										
Water Table		Yes		No		Depth (inches):										
Saturation Pr									14/ 11				V.	_	N -	~
(includes cap	oillary fringe)	Yes		No	\boxtimes	Depth (inches):				na Hyd	rology Presen	17	Yes		No	\boxtimes
Describe Red	corded Data (stre	am gau	ige, mor	nitoring	well, a	erial photos, previous	inspectior	ns), if availa	ble:							

Remarks: US Army Corps of Engineers

Arid West – Version 2.0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site:	Colorado La	<u>igoon</u>			City/County:	Long	Beach	Los Angeles	Samp	oling Date:	<u>4/17</u>	/2013	<u>i</u>
Applicant/Owner:	City Of Long	Beach/State Lands	s Com	mission				State: <u>CA</u>	Samp	ling Point:	<u>3</u>		
Investigator(s):	Eric Zahn/T	aylor Parker/Jade D	Dean		Section, Tow	nship, F	Range	: <u>T 5S/R 12W, S</u>	Section 4				
Landform (hillslope,	terrace, etc.)	: <u>Terrace</u>		Loca	al relief (conca	ave, cor	ivex, r	none): <u>concave</u>		Slo	pe (%):	
Subregion (LRR)	: <u>C</u>		La	it: <u>33.7725</u>		Long:	<u>-118</u>	.1358		Datum: <u>\</u>	NGS 8	<u>34</u>	
Soil Map Unit Name	:							NWI c	lassification:	Freshwa Wetland		ond	
Are climatic / hyd	drologic cond	itions on the site typ	ical fo	r this time of year?	Yes 🛛	No		(If no, explain i	n Remarks.)				
Are Vegetation 🛛,	Soil 🗵	, or Hydrology	\boxtimes	significantly disturbed?	Are "No	ormal Ci	rcums	stances" present?)	Yes	\boxtimes	No	
Are Vegetation D,	Soil 🗌], or Hydrology		naturally problematic?	(If need	led, exp	lain a	ny answers in Re	marks.)				

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No			
Hydric Soil Present?	Yes	\boxtimes	No	Is the Sampled Area within a Wetland?	Yes 🛛	No 🗆
Wetland Hydrology Present?	Yes	\boxtimes	No			
Remarks: Upper salt marsh habitat						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:		
1 2		_	_	Number of Dominant Species That Are OBL, FACW, or FAC:	1	(A)
3 4.				Total Number of Dominant Species Across All Strata:	1	(B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size:)		= Total Cove	r	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u>	(A/B)
1.				Prevalence Index worksheet:		
2.					Multiply by:	
3.					x1 = 5	
4.				· <u>-</u>	x2 = 180	
5.				· <u> </u>	x3 = <u>15</u>	
50% = , 20% =		= Total Cove	r		x4 =	
Herb Stratum (Plot size: Meter squared)					x5 =	
1. <u>Spergularia marina</u>	<u>90</u>	ves	FACW	Column Totals: <u>100</u> (A)	<u>200</u> (B)	
2. Distichlis spicata	5	no	FAC	Prevalence Index = B/A =		
3. Salicornia pacifica	<u> </u>	no	OBL	Hydrophytic Vegetation Indicators:		
4.				Dominance Test is >50%		
5				Prevalence Index is $<3.0^{1}$		
6.				Morphological Adaptations ¹ (Brovid	de supporting	
7				data in Remarks or on a separate		
8				Problematic Hydrophytic Vegetatio	on ¹ (Explain)	
50% =, 20% =		= Total Cove	r		X P · /	
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrolog be present, unless disturbed or problematic.	y must	
1				be present, unless disturbed of problematic.		
2				Hydrophytic		
50% =, 20% =		= Total Cove	r	Vegetation Yes	🛛 No	
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		Present?		
Remarks:						

US Army Corps of Engineers

Project Site: Colorado Lagoon

SOIL	_											Sampling Point: <u>3</u>
Profi	le Descrip	otion: (Descri	be to th	e depth	neede	ed to d	ocument the indicate	or or confi	rm the abs	sence of	indica	ators.)
D	epth	Matr	ix				Redox Feat	ures				
<u>(in</u>	ches)	Color (moist)	%	Co	lor (Moi	<u>st) %</u>	Type ¹	Loc ²	-	Textu	ure Remarks
<u>(</u>	<u>0-8</u>	<u>10YR3/3</u>	-	100						_	Loar	<u>im</u>
8	-10	7.5YR2/4	-	100	1	0YR6/8	<u>100</u>	<u>CS</u>	M		San	<u>nd</u>
<u>1(</u>	<u>0-12</u>	<u>10YR3/4</u>	-	100						_	Cla	<u>ay</u>
										_		
ı —			_							_		
ı —			_							_		
¹ Type	e: C= Cond	centration, D=I	Depletio	n, RM=F	Reduce	ed Matr	ix, CS=Covered or Co	ated Sand	Grains. ²	Location	: PL=P	Pore Lining, M=Matrix.
Hydr	ic Soil Ind	licators: (App	licable	to all Ll	RRs, u	nless	otherwise noted.)				Ind	dicators for Problematic Hydric Soils ³ :
	Histosol ((A1)				\boxtimes	Sandy Redox (S5)					1 cm Muck (A9) (LRR C)
	Histic Epi	pedon (A2)					Stripped Matrix (S6)					2 cm Muck (A10) (LRR B)
	Black His	tic (A3)					Loamy Mucky Miner	al (F1)				Reduced Vertic (F18)
	Hydroger	n Sulfide (A4)					Loamy Gleyed Matri	x (F2)				Red Parent Material (TF2)
\boxtimes	Stratified	Layers (A5) (L	RR C)				Depleted Matrix (F3)				Other (Explain in Remarks)
	1 cm Muc	ck (A9) (LRR D	D)				Redox Dark Surface	(F6)				
	Depleted	Below Dark S	urface (/	A11)			Depleted Dark Surfa	ice (F7)				
	Thick Dar	rk Surface (A1	2)				Redox Depressions	(F8)				³ Indicators of hydrophytic vegetation and
	Sandy Mu	ucky Mineral (S1)				Vernal Pools (F9)					wetland hydrology must be present,
	Sandy Gl	eyed Matrix (S	64)									unless disturbed or problematic.
Rest	rictive Lay	yer (if present	t):									
Type	:											
Dept	h (Inches):								Hydric So	oils Pres	ent?	Yes 🛛 No 🗌
Rema	arks:											
нуп	ROLOG	v										
		logy Indicate	ors:									
	•	ors (minimum		equired;	check	all that	apply)				Seco	ondary Indicators (2 or more required)
	Surface \	Water (A1)					Salt Crust (B11)					Water Marks (B1) (Riverine)
	High Wa	ter Table (A2)					Biotic Crust (B12)					Sediment Deposits (B2) (Riverine)
	Saturatio					\boxtimes	Aquatic Invertebrate	s (B13)				Drift Deposits (B3) (Riverine)
		arks (B1) (Nor	nriverine	e)			Hydrogen Sulfide O	. ,				Drainage Patterns (B10)
		t Deposits (B2		-			Oxidized Rhizosphe		_iving Root	s (C3)		Dry-Season Water Table (C2)
	Drift Dep	osits (B3) (No	nriverin	ie)		\boxtimes	Presence of Reduce	d Iron (C4)	. ,		Crayfish Burrows (C8)
		Soil Cracks (B		,			Recent Iron Reducti		,			Saturation Visible on Aerial Imagery (C9)
		on Visible on A	,	agerv (E	37)		Thin Muck Surface (()			Shallow Aquitard (D3)
Water-Stained Leaves (B9)				0) (,		Other (Explain in Re					FAC-Neutral Test (D5)
Ľ			• /									
	Observat	tions:						,				
Field			Yes		No		Depth (inches):					

Remarks: Aquatic intertebrate shells present. Location at base of freshwater drainage from golf course in the lagoon. US Army Corps of Engineers

Depth (inches):

 \boxtimes

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

No

Yes

Saturation Present? (includes capillary fringe)

Arid West - Version 2.0

Yes

 \boxtimes

No 🗌

Wetland Hydrology Present?

WETLAND DETERMINATION DATA FORM – Arid West Region

Project Site: <u>(</u>	Colorado Lagoo	<u>n</u>			City/Count	: Long	Beach	/Los An	geles	Sampl	ling Date:	4/17	/2013	<u>}</u>
Applicant/Owner: (City Of Long Be	ach/State Lands	Com	mission				State:	<u>CA</u> 5	Sampl	ing Point:	<u>4</u>		
Investigator(s): E	Eric Zahn/Taylo	or Parker/Jade D	Section, To	wnship, I	Range	: <u>T 5S/</u>	R 12W, Section	4						
Landform (hillslope, te	errace, etc.): <u>T</u>	errace		L	ocal relief (con	cave, cor	nvex, r	none): <u>o</u>	concave		Slo	pe (%):	
Subregion (LRR):	<u>C</u>		La	t: <u>33.7725</u>		Long:	<u>-118</u>	.1359		[Datum: <u>\</u>	NGS 8	<u>34</u>	
Soil Map Unit Name:									NWI classifica	ation:	Freshwa Wetland		ond	
Are climatic / hydro	ologic condition	s on the site typi	cal for	this time of year?	Yes 🛛	No		(If no,	explain in Rema	arks.)				
Are Vegetation 🛛,	Soil □,	or Hydrology		significantly disturbe	d? Are "I	lormal C	rcums	stances"	present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil □,	or Hydrology		naturally problemation	c? (If nee	eded, exp	lain a	ny answ	ers in Remarks.)				

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

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soil Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖾
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks:						

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1 2			_	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
3 4				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
50% =, 20% = <u>Sapling/Shrub Stratum</u> (Plot size:)		= Total Cove	r	Percent of Dominant Species <u>0</u> (A/B) That Are OBL, FACW, or FAC:
1.				Prevalence Index worksheet:
2.				Total % Cover of : Multiply by:
3.				OBL species x1 =
4.				FACW species x2 =
5.				FAC species 10 $x_3 = 30$
50% = , 20% =		= Total Cove	r	FACU species 40 $x4 = 160$
Herb Stratum (Plot size:)				UPL species 50 $x5 = 250$
1. <u>Plantago maior</u>	<u>10</u>	no	FAC	Column Totals: <u>100</u> (A) <u>440</u> (B)
2. <u>Cynadon dactylon</u>	<u>40</u>		FACU	Prevalence Index = $B/A = 4.4$
		<u>ves</u>	UPL	Hydrophytic Vegetation Indicators:
 <u>Sonchus oleraceus</u> Pennisetum clandestinum 	<u>10</u> 40	no	UPL	Dominance Test is >50%
	<u>40</u>	<u>ves</u>	UFL	
5		—		Prevalence Index is $\leq 3.0^1$
6				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7				
8				Problematic Hydrophytic Vegetation ¹ (Explain)
50% =, 20% =		= Total Cove	r	¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)				be present, unless disturbed or problematic.
1	<u> </u>			
2				Hydrophytic
50% =, 20% =		= Total Cove		Vegetation Yes No X
% Bare Ground in Herb Stratum 0	% Cover	of Biotic Crust		
Remarks:				

US Army Corps of Engineers

SOIL

SOIL												Sar	npling l	Point:	<u>4</u>
Profile Descr	iption: (Describ	be to the	e depti	n neede	ed to d	ocument the indic	ator or confi	rm the abs	ence of	indicat	ors.)				
Depth	Matri	ix				Redox Fe	eatures								
(inches)	Color (moist))	<u>%</u>	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc ²		Textur	e <u>Remarks</u>				
<u>1-12</u>	10YR2/2	-	<u>100</u>		<u>10Y/R</u>	<u>100</u>	CS	M		sandyloa	<u>am</u>				
		_							_						
		_							_						
		_							_						
. <u></u>									_						
		_							_						
¹ Type: C= Cor	ncentration, D=D	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or	Coated Sand	Grains. 2	Location	: PL=Po	ore Lining, M=Matrix.				
Hydric Soil In	ndicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indic	cators for Problematic	Hydric S	ioils ³ :		
Histosol	l (A1)				\boxtimes	Sandy Redox (S5)				1 cm Muck (A9) (LR	RC)			
Histic E	pipedon (A2)					Stripped Matrix (S	6)				2 cm Muck (A10) (LF	RR B)			
Black H	istic (A3)					Loamy Mucky Mir	neral (F1)				Reduced Vertic (F18)			
☐ Hydroge	en Sulfide (A4)					Loamy Gleyed Ma	atrix (F2)				Red Parent Material	(TF2)			
□ Stratifie	d Layers (A5) (L	RR C)				Depleted Matrix (F	=3)				Other (Explain in Re	marks)			
1 cm Mu	uck (A9) (LRR D))				Redox Dark Surfa	ice (F6)								
Deplete	d Below Dark Su	urface (/	A11)			Depleted Dark Su	rface (F7)								
Thick Da	ark Surface (A12	2)				Redox Depression	ns (F8)				³ Indicators of hydrop	nytic vege	tation	and	
Sandy N	Mucky Mineral (S	S1)				Vernal Pools (F9)					wetland hydrology				
□ Sandy C	Gleyed Matrix (S	64)									unless disturbed	or proble	matic.		
Restrictive La	ayer (if present	:):													
Туре:															
Depth (Inches	s):							Hydric So	oils Pres	ent?	Yes	\boxtimes	No		I
Remarks:	Location near th	ne apex	of a dra	ainage f	from the	e golf course into th	e lagoon.								
HYDROLOG	GΥ														
Wetland Hyd	rology Indicato	ors:													
Primary Indica	ators (minimum o	of one re	equired	; check	all that	t apply)				Secon	dary Indicators (2 or mo	ore requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)					Water Marks (B1) (Rive	rine)			
🔲 🛛 High W	ater Table (A2)					Biotic Crust (B12)					Sediment Deposits (B2)	(Riverin	e)		
□ Saturat	ion (A3)					Aquatic Invertebra	ates (B13)				Drift Deposits (B3) (Riv	erine)			
□ Water M	Marks (B1) (Non	nriverine	e)			Hydrogen Sulfide	Odor (C1)				Drainage Patterns (B10)			
Sedime	ent Deposits (B2) (Nonri	iverine)		Oxidized Rhizosp	heres along l	iving Root	s (C3)		Dry-Season Water Tabl	e (C2)			
Drift De	eposits (B3) (No i	nriverin	ie)			Presence of Redu	iced Iron (C4)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B6	6)				Recent Iron Redu	ction in Tilled	l Soils (C6)			Saturation Visible on Ae	erial Image	ery (C9)	
Inundat	tion Visible on A	erial Ima	agery (l	B7)		Thin Muck Surfac	e (C7)				Shallow Aquitard (D3)				
□ Water-S	Stained Leaves	(B9)				Other (Explain in I	Remarks)				FAC-Neutral Test (D5)				
Field Observa	ations:														
Surface Water	r Present?	Yes		No	\boxtimes	Depth (inches	s):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches	s):								
Saturation Pre (includes capi		Yes		No	\boxtimes	Depth (inches	s):		Wetlar	nd Hydr	ology Present?	Yes		No	\boxtimes
		am gau	ge, mor	nitoring	well, a	erial photos, previo	us inspection	s), if availa	ble:						
Remarks.															

US Army Corps of Engineers

Project Site: Colorado Lagoon			City/C	County	: Long Bead	ch/Los Ange	les Sam	pling Date:	4/17/2	2013	<u>-</u>
Applicant/Owner: City Of Long Beach/State Lands	Commission					State: C	: <u>A</u> Sam	pling Point:	<u>5</u>		
Investigator(s): Eric Zahn/Taylor Parker/Jade D	ean		Sectio	on, To	wnship, Rang	ge: <u>T 5S/R</u>	12W, Section 4				
Landform (hillslope, terrace, etc.): Terrace			Local reliet	ef (con	cave, convex,	, none): <u>no</u>	ne	Slo	ope (%):		
Subregion (LRR): <u>C</u>	Lat: <u>33.7</u>	<u>718</u>			Long: <u>-11</u>	1 <u>8.1367</u>		Datum:	NGS 84	Ŀ	
Soil Map Unit Name:							NWI classification	Ereshwa Wetland		<u>id</u>	
Are climatic / hydrologic conditions on the site type	cal for this tim	ne of year?	Yes	s 🛛	No 🗌	(If no, ex	plain in Remarks.)			
Are Vegetation \square , Soil \square , or Hydrology	Signification	antly disturb	ed?	Are "N	Iormal Circum	nstances" pr	esent?	Yes		No	\boxtimes
Are Vegetation 🖾, Soil 🖾, or Hydrology	naturall	y problemat	tic?	(If nee	eded, explain	any answer	s in Remarks.)				
SUMMARY OF FINDINGS – Attach site map sh	nowing san	npling poi	nt locatio	ions,	transects, i	important	features, etc.				
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆				•					
Hydric Soil Present?	Yes 🛛	No 🛛	Is the	e Sam	oled Area wit	thin a Wetla	ind?	Yes	\boxtimes	No	
Wetland Hydrology Present?	Yes 🛛	No 🛛		-							
Remarks: Location was recently (2012) graded as par	t ofbank resid	ping restora	aiton effort	t.							
VEGETATION – Use scientific names of plants											
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Species?	Indicat <u>Status</u>		Dominance	Test Works	sheet:				
1					Number of D			<u>0</u>			(A)
2.					That Are OB	SL, FACW, O	r FAC:	-			(,
3					Total Numbe			<u>0</u>			(B)
4					Species Acro	oss All Strat	a:	—			()
50% =, 20% =		= Total Co	ver		Percent of D That Are OB			<u>0</u>			(A/B)
Sapling/Shrub Stratum (Plot size:)				-							
1					Prevalence						
2						Total % Cov		Multip			
3					OBL species	_		x1 =	<u>5</u>		
4					FACW speci	_		x2 =		-	
5					FAC species			x3 =	<u>15</u>		
50% =, 20% =		= Total Co	ver		FACU specie	es _		x4 =		_	
Herb Stratum (Plot size: Meter squared)					UPL species			x5 =		_	
1. <u>Distichlis littoralis</u>	<u>5</u>	no	<u>OBL</u>		Column Tota	als: <u>1</u>	<u>0</u> (A)		<u>20</u> (E	3)	
2. <u>Distichlis spicata</u>	<u>5</u>	<u>no</u>	FAC			Pre	valence Index = B	/A = <u>2.0</u>			
3					Hydrophytic	c Vegetatio	n Indicators:				
4						Dominance 7	⊺est is >50%				
5					🖾 F	Prevalence I	ndex is <u><</u> 3.0 ¹				
6							al Adaptations ¹ (P arks or on a separ		oorting		
7					-			,			
8					⊠ F	Problematic	Hydrophytic Vege	tation ¹ (Exp	olain)		
50% =, 20% =	<u>20</u>	= Total Co	ver		¹ Indicators o	of hydric soil	and wetland hydro	oloav must			
Woody Vine Stratum (Plot size:) 1.							bed or problemati				
2.				-							
50% =		= Total Co			Hydrophytic Vegetation	C	Yes		No		
	% Cover a				Present?			_	-		_
% Bare Ground in Herb Stratum <u>90</u>	70 COVER C	of Biotic Cru	ວເ	_							

Remarks: Recently re-vegetated salt marsh habitat currently being managed.

SOIL

Image: Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Image: Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F16) Image: Histic (A3) Loamy Mucky Mineral (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Image: Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Image: Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Image: Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) Stratic (X13) Vernal Pools (F9) Wetland hydrology must be present; unless disturbed or problematic. Stratified Layers (T) Red Parent Material (TF2) No Remarks: Recently developed wetland area. Hydric Soils Present? Yes No Recently developed wetland area. HYDEOLOGY Satiface Water (A1) Satiface Crust (B11) Water Marks (B1) (Riverine) Present? Yes No Recent (Parence of Reduced for (C4) <t< th=""><th>SOIL</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Sa</th><th>mpling</th><th>Point:</th><th><u>5</u></th></t<>	SOIL													Sa	mpling	Point:	<u>5</u>
(inches) Color.moleti % Color.Moleti % Type: Loc SitubClax	Profile Descri	iption: (Describ	e to the	e depth	need	ed to d	ocument the indicator	or conf	irm the abs	ence o	f indica	tors.)					
0.5 10YR22 100	Depth	Matri	x				Redox Feature	es									
**Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. **Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. **Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. *Location: PL=Pore Lining, M=Matrix. **Updite Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils*: I Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (J3) Loamy Mucky Mineral (F1) Red Developed Matrix (F3) Other (Explain in Remarks) I om Muck (A9) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Indicators of hydrophylic weptation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) *undicators of hydrophylic weptation and wetland hydrology must be present, unless disturbed or problematic. Remarks: Recently developed welland area. Hydric Soils Present? Yes No High Water Table (A2) Biolic Crust (B12) Secondary indicators (2 or more required) Startartin (A3) Aquatic Invertiburates (B13) Diff Deposits (B3) (Riverfine) Startartin (A3) Aquatic Invertiburates (B13) Diranage Patiens (B10)	(inches)	Color (moist)		<u>%</u>	Co	lor (Moi	<u>st) %</u>	Type ¹	Loc ²		<u>Textu</u>	<u>re</u> <u>Re</u>	marks				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Snip Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Snip Matrix (S6) 2 cm Muck (A1) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Back Mistic (A3) Usamy Check Matrix (S4) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depidet Dark Surface (F7) Redox Dark Surface (F7) Depidet Below Dark Surface (A1) Depidet Dark Surface (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present; unless disturbed or problematic. Restrictive Layer (If present): Type:	<u>0-5</u>	<u>10YR2/2</u>	-	100						_	<u>SiltyCl</u>	lay					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Snip Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Snip Matrix (S6) 2 cm Muck (A1) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Back Mistic (A3) Usamy Check Matrix (S4) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depidet Dark Surface (F7) Redox Dark Surface (F7) Depidet Below Dark Surface (A1) Depidet Dark Surface (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present; unless disturbed or problematic. Restrictive Layer (If present): Type:			_							_							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Snip Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Snip Matrix (S6) 2 cm Muck (A1) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Back Mistic (A3) Usamy Check Matrix (S4) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depidet Dark Surface (F7) Redox Dark Surface (F7) Depidet Below Dark Surface (A1) Depidet Dark Surface (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present; unless disturbed or problematic. Restrictive Layer (If present): Type:										_							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Snip Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Snip Matrix (S6) 2 cm Muck (A1) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Back Mistic (A3) Usamy Check Matrix (S4) Other (Explain in Remarks) Stratified Layers (A5) (LRR C) Depidet Dark Surface (F7) Redox Dark Surface (F7) Depidet Below Dark Surface (A1) Depidet Dark Surface (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be present; unless disturbed or problematic. Restrictive Layer (If present): Type:			_							_							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Sndy Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Stripfed Matrix (S6) 2 cm Muck (A0) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depideted Bark Surface (F7) Depideted Below Dark Surface (A11) Depideted Dark Surface (F7) Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (If present): Indicators: Type:			_				<u> </u>			_							
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ³ : Histic Epideon (A2) Sndy Redox (S5) 1 cm Muck (A0) (LRR C) Histic Epideon (A2) Stripfed Matrix (S6) 2 cm Muck (A0) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Stratified Layers (A5) (LRR C) Depide Matrix (S3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depideted Bark Surface (F7) Depideted Below Dark Surface (A11) Depideted Dark Surface (F7) Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic. Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (If present): Indicators: Type:										_							
I Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) I Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Suffice (A4) Loamy Gleyed Matrix (F2) Reduced Vertic (F18) Stratfied Layers (A5) (LRR C) Depleted Matrix (F2) Red Parent Material (TF2) I nm Muck (A9) (LRR D) Redox Dark Surface (F7) Redox Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (If present): Type:	¹ Type: C= Cor	ncentration, D=D	epletior	n, RM=F	Reduc	ed Matri	x, CS=Covered or Coat	ed Sano	d Grains. 2	Locatio	n: PL=P	ore Lining, M=N	latrix.				
Image: Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Image: Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Image: Histic (A3) Loamy Gieyed Matrix (F2) Red Parent Material (TF2) Image: Histic (A3) Depieted Matrix (F2) Red Parent Material (TF2) Image: Histic (A3) Depieted Matrix (F3) Other (Explain in Remarks) Image: Histic (A3) Depieted Matrix (F3) Other (Explain in Remarks) Image: Histic (A3) Depieted Dark Surface (F6) Image: Histic (A3) Image: Histic (A3) Vernal Pools (F8) Image: Histic (A3) Sandy Gloyed Matrix (S4) Image: Histic Histic (A3) Vernal Pools (F8) Sandy Gloyed Matrix (S4) Image: Hybric Solis Present? Yes Pres:	Hydric Soil In	dicators: (App	licable	to all Ll	RRs, ι	unless o	otherwise noted.)				Ind	icators for Pro	blematic	Hydric S	Soils ³ :		
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Black Histic (A3) Loamy Cleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 3 Sandy Mucky Mineral (S1) Vernal Pools (F9) ************************************	Histosol	(A1)					Sandy Redox (S5)					1 cm Muck	(A9) (LRR	2 C)			
Image: Mydrogen Sulfide (A4) Image: Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Image: Statified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) Image: Statified Layers (A5) (LRR C) Redox Dark Surface (F6) Image: Statified Layers (A12) Redox Depressions (F8) Image: Statified Layers (A12) Image: Statified Layers (A12) Redox Depressions (F8) Image: Statified Layers (A12) Standy Mucky Mineral (S1) Vernal Pools (F9) Wetland hydrology must be present, unless disturbed or problematic. Standy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (If present)? Yes Type:	Histic Ep	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck	(A10) (LR	R B)			
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) ☑ Other (Explain in Remarks) I orn Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A12) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Vernal Pools (F9) *sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (If present):	Black Hi	stic (A3)					Loamy Mucky Mineral	(F1)				Reduced Ve	ertic (F18)				
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) □ bepleted Below Dark Surface (A11) □ bepleted Dark Surface (F7) □ Thick Dark Surface (A12) Redox Depressions (F8) 3*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Yes Type:	🛛 Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix ((F2)				Red Parent	Material (TF2)			
□ Depleted Below Dark Surface (A11) □ Depleted Dark Surface (F7) □ Thick Dark Surface (A12) □ Redox Depressions (F8) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) **Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. □ Sastrative Layer (If present): ** ** ** Type:	□ Stratified	d Layers (A5) (L	RR C)				Depleted Matrix (F3)				\boxtimes	Other (Expla	ain in Ren	narks)			
Thick Dark Surface (A12) Redox Depressions (F8) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): unless disturbed or problematic. Type:	🔲 1 cm Mu	uck (A9) (LRR D)				Redox Dark Surface (F	-6)									
Sandy Mucky Mineral (S1) Vernal Pools (F9) Indicators of hydrophytic vegetation and wedetand hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:	Deplete	d Below Dark Sເ	urface (A	A11)			Depleted Dark Surface	e (F7)									
□ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if present): Type:	Thick Date	ark Surface (A12	2)				Redox Depressions (F	8)				³ Indiantoro o	fbudroob	, tio yoo	tation	and	
Sandy Gleyed Matrix (S4) unless disturbed or problematic. Restrictive Layer (if present):	□ Sandy N	/ucky Mineral (S	51)				Vernal Pools (F9)										
Type:	□ Sandy G	Bleyed Matrix (S	4)													ι,	
Depth (inches): Yes No Remarks: Recently developed wetland area. Hyric Soils Present? Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B3) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Sufface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Depth (inches):	Restrictive La	ayer (if present):														
Depth (inches): Yes Xes No Remarks: Recently developed wetland area. Hyre Cology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Xet (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Sufface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Water Table Present? Yes No	Туре:																
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Surface Water Stained Leaves (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Field Observations: Surface Water Present? Yes No Depth (inches): <td>Depth (Inches</td> <td>):</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Hydric So</td> <td>oils Pre</td> <td>sent?</td> <td></td> <td>Yes</td> <td>\boxtimes</td> <td>No</td> <td></td> <td>J</td>	Depth (Inches):							Hydric So	oils Pre	sent?		Yes	\boxtimes	No		J
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Saturation Present? Yes No Depth (inches):	Remarks:	Recently develo	ped wet	tland ar	ea.												
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Saturation Present? Yes No Depth (inches):																	
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Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine) High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Wetland Hydrology Present? Yes No	-																
High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverine) Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):		tors (minimum o	of one re	equired;	check		apply)					ndary Indicators	s (2 or mo	re requir	ed)		
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine) Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water - Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations:		Water (A1)					Salt Crust (B11)					Water Marks (E	31) (River	ine)			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water -Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations:	High W	ater Table (A2)					Biotic Crust (B12)					Sediment Depo	osits (B2)	(Riverin	e)		
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2) Drift Deposits (B3) (Nonriverine) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Vestar Table Present? Yes No Depth (inches): Yes No No Depth (inches): Vestard Hydrology Present? Yes No No Depth (inches): Yes No No Depth (inches): Vestard Hydrology Present? Yes No No Depth (inches): Yes No No Depth (inches): Vestard Hydrology Present? Yes No No Depth (inches): Yes No No Depth (inches): Vestard Hydrology Present? Yes No No Depth (inches): Vestard Hydrology Present? Yes No No Depth (inches):	Saturati	ion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Rive	rine)			
□ Drift Deposits (B3) (Nonriverine) □ Presence of Reduced Iron (C4) □ Crayfish Burrows (C8) □ Surface Soil Cracks (B6) □ Recent Iron Reduction in Tilled Soils (C6) □ Saturation Visible on Aerial Imagery (C9) □ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	□ Water N	/larks (B1) (Non	riverine	e)			Hydrogen Sulfide Odo	r (C1)				Drainage Patte	rns (B10)				
Surface Soil Cracks (B6) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3) Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No Depth (inches): Sutartion Present? Yes No Depth (inches): Yes No Saturation Present? Yes No Depth (inches): Yes No No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Wetland Hydrology Present? Yes No	Sedime	nt Deposits (B2)) (Nonri	iverine)			Oxidized Rhizospheres	s along	Living Root	s (C3)		Dry-Season W	ater Table	e (C2)			
□ Inundation Visible on Aerial Imagery (B7) □ Thin Muck Surface (C7) □ Shallow Aquitard (D3) □ Water-Stained Leaves (B9) □ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations:	Drift De	posits (B3) (No i	nriverin	ie)			Presence of Reduced	Iron (C4)			Crayfish Burrow	ws (C8)				
Water-Stained Leaves (B9) ○ Other (Explain in Remarks) □ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No ○ Depth (inches):	Surface	Soil Cracks (B6	6)				Recent Iron Reduction	in Tille	d Soils (C6)			Saturation Visil	ole on Aei	rial Imag	ery (CS	9)	
Field Observations: Surface Water Present? Yes No Depth (inches):	Inundat	ion Visible on A	erial Ima	agery (E	37)		Thin Muck Surface (C7	7)				Shallow Aquita	rd (D3)				
Surface Water Present? Yes No Depth (inches):	□ Water-S	Stained Leaves ((B9)				Other (Explain in Rema	arks)				FAC-Neutral Te	est (D5)				
Water Table Present? Yes No Depth (inches):	Field Observa	ations:															
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): (includes capillary fringe) Yes No Depth (inches): Depth (inches): <t< td=""><td>Surface Water</td><td>Present?</td><td>Yes</td><td></td><td>No</td><td>\boxtimes</td><td>Depth (inches):</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):										
(includes capillary fringe) Yes I No I Depth (incres): Webland Hydrology Present? Yes I No I Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water Table P	resent?	Yes		No	\boxtimes	Depth (inches):										
(includes capillary fringe)			Yes		No		Depth (inches):			Wetla	nd Hvd	rology Present	?	Yes	\boxtimes	No	
								enection	e) if availa						-		
Remarks: Location with reach of highest high tides of the year				•	-			spection	is <i>j</i> , ii availa	UIC.							
US Army Corps of Engineers Arid West – Version 2.0	Remarks:		each of l	nighest	nigh ti	des of t	ne year.						Arid	West-	Versio	n 2 0	

			<u></u>			
Project Site: <u>Colorado Lagoon</u>			City/Count		ing Date: <u>4/17/201</u>	3
Applicant/Owner: <u>City Of Long Beach/State Lands</u>					ng Point: <u>6</u>	
Investigator(s): <u>Eric Zahn/Taylor Parker/Jade De</u>	<u>ean</u>		Section, To	ownship, Range: <u>T 5S/R 12W, Section 4</u>		
Landform (hillslope, terrace, etc.): <u>Terrace</u>		Loc	cal relief (con	ncave, convex, none): <u>none</u>	Slope (%):	
Subregion (LRR): <u>C</u>	Lat: <u>33.77</u>	<u>718</u>		Long: <u>-118.1367</u> E	Datum: WGS 84	
Soil Map Unit Name:				NWI classification:	Freshwater Pond Wetland	
Are climatic / hydrologic conditions on the site typic	cal for this tim	ie of year?	Yes 🛛	No 🔲 (If no, explain in Remarks.)		
Are Vegetation 🖾, Soil 🖾, or Hydrology	Signification Signification	antly disturbed	? Are "I	Normal Circumstances" present?	Yes 🗌 No	\bowtie
Are Vegetation ⊠, Soil □, or Hydrology	🛛 naturall	ly problematic?	(If ne	eded, explain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map sh	nowing sam	npling point	locations,	transects, important features, etc.		
Hydrophytic Vegetation Present?	Yes 🛛	No 🛛				
Hydric Soil Present?	Yes 🗌	No 🖾	Is the Sam	pled Area within a Wetland?	Yes 🗌 No	⊳ ⊠
Wetland Hydrology Present?	Yes 🛛	No 🖾				
Remarks: Location was recently (2012) re-vegetated a upland species growing in non-hydric soils.	and is manage	ed as a wetland	ds-uplands tr	ransition zone that will have a mixture of hydro	phytic vegetation a	nd
VEGETATION – Use scientific names of plants						
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:		
1				Number of Dominant Species	<u>0</u>	(A)
2				That Are OBL, FACW, or FAC:	<u>u</u>	(/ ()
3				Total Number of Dominant	<u>0</u>	(B)
4				Species Across All Strata:	<u>u</u>	(B)
50% =, 20% =		= Total Cover		Percent of Dominant Species	0	
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:	<u>0</u>	(A/B)
1				Prevalence Index worksheet:		
2				Total % Cover of :	Multiply by:	
3				OBL species	x1 =	
4.				FACW species	x2 =	
5.				FAC species 10	x3 = 30	
50% =, 20% =		= Total Cover		FACU species	 x4 =	
Herb Stratum (Plot size:)				UPL species	x5 =	
1. <u>Opuntia littorlis</u>	<u>10</u>	no	UPL	Column Totals: <u>10</u> (A)	<u>30</u> (B)	
2. <u>Isocoma menziesii</u>	<u>10</u>	no	FAC	Prevalence Index = B/A		
3				Hydrophytic Vegetation Indicators:		
4				Dominance Test is >50%		
5				\boxtimes Prevalence Index is $\leq 3.0^1$		
6				Morphological Adaptations ¹ (Prov	vide supporting	
7				data in Remarks or on a separate		
8				Problematic Hydrophytic Vegetat	tion ¹ (Explain)	
50% =, 20% =	<u>20</u>	= Total Cover		· · · · · · · · · · · · · · · · · · ·		

)

<u>80</u>

No

 \boxtimes

¹Indicators of hydric soil and wetland hydrology must

Yes

be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?

= Total Cover

% Cover of Biotic Crust

US Army Corps of Engineers

Woody Vine Stratum (Plot size:

% Bare Ground in Herb Stratum

1. 2.

_

50% = ____, 20% = ___

Project Site: <u>4/17/2013</u>

SOIL

SOIL												Sar	npling	Point:	<u>6</u>
Profile Descr	iption: (Descri	be to th	e depth	neede	d to d	ocument the indicat	or or conf	irm the abs	sence o	findicat	tors.)				
Depth	Matr	ix				Redox Fea	tures								
(inches)	<u>Color (moist</u>)	<u>%</u>	Col	or (Mo	<u>st) %</u>	Type ¹	Loc ²	2	Textu	re <u>Remarks</u>				
<u>0-3</u>	<u>10YR2/2</u>		<u>100</u>	-					_	Clay Lo	<u>am</u>				
<u>3-12</u>	<u>10YR3/4</u>		100						_	SandyLo	oam				
		_							_						
. <u></u>		_		-					_						
		_							_						
		_							_						
¹ Type: C= Cor	ncentration, D=I	Depletio	n, RM=	Reduce	d Matr	ix, CS=Covered or Co	bated Sand	d Grains. 2	² Locatio	n: PL=P	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indi	cators for Problematic I	lydric S	Soils ³ :		
Histosol	l (A1)					Sandy Redox (S5)					1 cm Muck (A9) (LRR	C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRI	RB)			
Black H	istic (A3)					Loamy Mucky Mine	ral (F1)				Reduced Vertic (F18)				
☐ Hydroge	en Sulfide (A4)					Loamy Gleyed Matr	ix (F2)				Red Parent Material (ΓF2)			
□ Stratifie	d Layers (A5) (I	RR C)				Depleted Matrix (F3)				Other (Explain in Rem	arks)			
🔲 1 cm Mi	uck (A9) (LRR [)				Redox Dark Surface	e (F6)								
Deplete	d Below Dark S	urface (A11)			Depleted Dark Surfa	ace (F7)								
_	ark Surface (A1					Redox Depressions	(F8)				3				
	Mucky Mineral (Vernal Pools (F9)	()				³ Indicators of hydrophy				
	Gleyed Matrix (S				_						wetland hydrology n unless disturbed o			ι,	
	ayer (if present														
Туре:		-,													
Depth (Inches	;). 							Hydric So	oils Pre	sent?	Yes		No	\boxtimes	
	Managed wetla	nd-unlai	nd trani	stion zo	one ha	bitat									
	managoa nota	na apia		0											
HYDROLOO	GY														
Wetland Hyd	rology Indicato	ors:													
Primary Indica	ators (minimum	of one r	equired	; check	all tha	t apply)				Seco	ndary Indicators (2 or mor	e requir	ed)		
Surface	e Water (A1)				\boxtimes	Salt Crust (B11)					Water Marks (B1) (River	ine)			
🔲 🛛 High W	ater Table (A2)					Biotic Crust (B12)					Sediment Deposits (B2) (Riverin	e)		
□ Saturat	ion (A3)					Aquatic Invertebrate	es (B13)				Drift Deposits (B3) (River	rine)			
□ Water N	Marks (B1) (No r	nriverin	e)			Hydrogen Sulfide O	dor (C1)				Drainage Patterns (B10)				
Sedime	ent Deposits (B2	2) (Nonr	verine))		Oxidized Rhizosphe	eres along	Living Root	s (C3)		Dry-Season Water Table	(C2)			
Drift De	eposits (B3) (No	nriverir	ne)			Presence of Reduce	ed Iron (C4	L)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reduct	ion in Tille	d Soils (C6)			Saturation Visible on Aer	ial Imag	ery (CS))	
	tion Visible on A		agery (E	37)		Thin Muck Surface	(C7)	. ,			Shallow Aquitard (D3)				
	Stained Leaves			,		Other (Explain in Re					FAC-Neutral Test (D5)				
Field Observ		. ,					,				x - 7				
Surface Wate		Yes		No	\boxtimes	Depth (inches):									
Water Table F		Yes		No		Depth (inches):									
Saturation Pre									14/ 11		nala mu Barra da 10	V	_	N -	2
(includes capi	llary fringe)	Yes		No	\boxtimes	Depth (inches):				nd Hydi	rology Present?	Yes		No	\boxtimes
Describe Reco	orded Data (stre	eam gau	ige, moi	nitoring	well, a	erial photos, previous	inspectior	ns), if availa	ble:						
Remarks:	Salt crust from	soil relo	ocation of	during v	vetlanc	ls slope grading as pa	art of restor	ration effort.							

US Army Corps of Engineers

Project Site: Colorado Lagoon		City/County	/: Long Beach/Los Angeles	Sampling Date:	4/16/13	
Applicant/Owner: City Of Long Beach/State Lands	Commission		State: <u>CA</u>	Sampling Point:	<u>7</u>	
Investigator(s): Eric Zahn/Taylor Parker/Jade D	ean	Section, To	wnship, Range: <u>T 5S/R 12W, S</u>	ection 4		
Landform (hillslope, terrace, etc.): Terrace	Loc	al relief (con	cave, convex, none): <u>none</u>	Slop	be (%):	
Subregion (LRR): <u>C</u>	Lat: <u>33.7708</u>		Long: <u>-118.1350</u>	Datum: <u>V</u>	/GS 84	
Soil Map Unit Name:			NWI cla	assification: Freshwat	ter Pond	
Are climatic / hydrologic conditions on the site typic	cal for this time of year?	Yes 🛛	No 🔲 (If no, explain in	Remarks.)		
Are Vegetation \Box , Soil \boxtimes , or Hydrology	significantly disturbed?	P Are "N	Iormal Circumstances" present?	Yes	🖾 No	
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If nee	eded, explain any answers in Ren	narks.)		
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling point	locations,	transects, important featur	es, etc.		
Hydrophytic Vegetation Present?	Yes 🗌 No 🖾					
Hydric Soil Present?	Yes 🗌 No 🔲	Is the Sam	pled Area within a Wetland?	Yes		
Wetland Hydrology Present?	Yes 🗌 No 🔲					
Remarks: Survey location on am atrificial sandy be	ach maintained with no ve	getation. Po	pint selected to define wetlands	s edge.		
VEGETATION – Use scientific names of plants	5.					
Tree Stratum (Plot size:)		Indicator Status	Dominance Test Worksheet:			
1			Number of Dominant Species	0		(A)
2			That Are OBL, FACW, or FAC:	<u>0</u>		(A)
3			Total Number of Dominant	<u>0</u>		(B)
4			Species Across All Strata:	-		(-)
50% =, 20% =	= Total Cover		Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u>		(A/B)
Sapling/Shrub Stratum (Plot size:)						
1			Prevalence Index worksheet:	N 4. 14 - 1		
2			<u>Total % Cover of :</u>	Multiply	<u> by:</u>	
3	<u> </u>		OBL species	x1 =		
4	<u> </u>		FACW species	x2 =		
5			FAC species	x3 =	<u> </u>	
50% =, 20% =	= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:)			UPL species	x5 =	<u> </u>	
1			Column Totals: <u>0</u> (A)		<u>0</u> (B)	
2			Prevalence	e Index = B/A = <u>0</u>		
3			Hydrophytic Vegetation Indica	ators:		
4			Dominance Test is >	50%		
5			Prevalence Index is	<u><</u> 3.0 ¹		
6				tations ¹ (Provide supp	orting	
7			data in Remarks or d	on a separate sneet)		
8			Problematic Hydropl	hytic Vegetation ¹ (Exp	lain)	
50% =, 20% =	= Total Cover		¹ Indiantors of hydric coil and wa	tland hydrology must		
Woody Vine Stratum (Plot size:)			¹ Indicators of hydric soil and we be present, unless disturbed or			
1						
2			Hydrophytic	_		_
50% =, 20% =	= Total Cover		Vegetation Present?	Yes 🛛	No	\boxtimes
% Bare Ground in Herb Stratum 100	% Cover of Biotic Crust		1.6361111			
Remarks:						

SOIL

SOIL											Sa	mpling	Point:	<u>7</u>
Profile Descr	ription: (Descri	be to th	ne depth	n needa	ed to d	ocument the indicator or con	firm the abs	ence of	indicat	ors.)				
Depth	Matr	ix				Redox Features								
(inches)	Color (moist	<u>;)</u>	%	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²		Textur	e <u>Remarks</u>				
<u>0-15</u>	2.5YR4/2		<u>100</u>					_	Sand	. <u> </u>				
. <u></u>		_						_						
		_						_						
		_						_						
		_						_						
		_						_						
¹ Type: C= Cor	ncentration, D=	Depletio	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains. 2	Location	: PL=Po	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	olicable	to all L	.RRs, u	nless	otherwise noted.)			Indic	cators for Problemation	Hydric	Soils ³ :		
Histosol	l (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LR	RC)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (L	RR B)			
Black H	listic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18	3)			
□ Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material	(TF2)			
□ Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Re	marks)			
_	uck (A9) (LRR I					Redox Dark Surface (F6)								
Deplete	ed Below Dark S	Surface ((A11)			Depleted Dark Surface (F7)								
_	ark Surface (A1		. ,			Redox Depressions (F8)				3				
	Mucky Mineral (-				Vernal Pools (F9)				³ Indicators of hydrop wetland hydrology				
	Gleyed Matrix (S	54)								unless disturbed		•	ι,	
	ayer (if presen													
Туре:														
Depth (Inches	3):						Hydric Sc	oils Pres	ent?	Yes		No	\boxtimes	
Remarks:	·/													
HYDROLOO	GY													
Wetland Hyd	rology Indicate	ors:												
Primary Indica	ators (minimum	of one r	required	; check	all that	t apply)			Secon	idary Indicators (2 or m	ore requir	ed)		
Surface	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (Rive	erine)			
High W	/ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (Riverin	e)		
Saturat	tion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riv	erine)			
□ Water N	Marks (B1) (No	nriverin	ie)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)			
Sedime	ent Deposits (B2	2) (Nonr	riverine)		Oxidized Rhizospheres along	Living Roots	s (C3)		Dry-Season Water Tab	le (C2)			
Drift De	eposits (B3) (No	onriverir	ne)			Presence of Reduced Iron (C	4)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on A	erial Imag	ery (CS)	
Inundat	tion Visible on A	Aerial Im	agery (I	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves	(B9)				Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Observ	ations:													
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):								
	esent?		_		57	Donth (inchoo):		Wotlan	nd Hydr	ology Present?	Yes		No	\boxtimes
Saturation Pre	coont:	Vae		NIO										
(includes capi	illary fringe)	Yes		No		Depth (inches):	a) if and it			ology i resenti	163			

Remarks: US Army Corps of Engineers

Project Site: Colorado Lagoon	City/County: L	ong Beach/Los Angeles	Sampling Date: 4/16/13
Applicant/Owner: City Of Long Beach/State Lands Commis	ssion	State: <u>CA</u>	Sampling Point: 8
Investigator(s): Eric Zahn/Taylor Parker/Jade Dean	Section, Towns	hip, Range: T 5S/R 12W, Section	<u>n 4</u>
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave	e, convex, none): <u>concave</u>	Slope (%):
Subregion (LRR): C Lat:	<u>33.7700</u> L	.ong: <u>-118.1317</u>	Datum: WGS 84
Soil Map Unit Name:		NWI classifie	cation: Freshwater Pond Wetland
Are climatic / hydrologic conditions on the site typical for th	his time of year? Yes 🛛	No 🔲 (If no, explain in Rem	arks.)
Are Vegetation 🔲, Soil 🔲, or Hydrology 🗌 sig	gnificantly disturbed? Are "Norm	nal Circumstances" present?	Yes 🗌 No 🗌
Are Vegetation □, Soil □, or Hydrology □ na	aturally problematic? (If needed	l, explain any answers in Remarks	5.)

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

Hydrophytic Vegetation Present?	Yes		No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🖾
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks: Maintained park area with irrigation system	along ed	dge of	lagoo	n.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:	(A)
3 4				Total Number of Dominant Species Across All Strata: <u>1</u>	(B)
50% =, 20% =		= Total Cove	r	Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
Sapling/Shrub Stratum (Plot size:)					
1. <u>Cotula coronapifolia</u>	<u>5</u>	<u>no</u>	<u>OBL</u>	Prevalence Index worksheet:	
2. <u>Cynadon dactylon</u>	<u>20</u>	<u>ves</u>	<u>FACU</u>	Total % Cover of : Multiply by:	
3				OBL species $\underline{5}$ $x1 = \underline{5}$	
4				FACW species x2 =	
5				FAC species x3 =	
50% =, 20% =	<u>25</u>	= Total Cove	r	FACU species <u>20</u> x4 = <u>80</u>	
Herb Stratum (Plot size:)				UPL species x5 =	
1				Column Totals: 25 (A) 85 (B)	
2				Prevalence Index = $B/A = 3.4$	
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% =, 20% =		= Total Cove	r		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes 🗌 No	\boxtimes
% Bare Ground in Herb Stratum 25	% Cover	of Biotic Crust	<u>50</u>	Present?	
Remarks:					

SOIL

SOIL Sa	mpling F	Point:	<u>8</u>
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)			
Depth Matrix Redox Features			
(inches) Color (moist) % Color (Moist) % Type ¹ Loc ² Texture Remarks			
0-3 10YR3/2 100 silty clay heavily compacted			
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric	Soils ³ :		
□ Histosol (A1) □ Sandy Redox (S5) □ 1 cm Muck (A9) (LRR C)			
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B)			
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18)			
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2)			
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks)			
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6)			
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)			
Image: Thick Dark Sundce (A12) Image: Redux Depressions (F8) 3Indicators of hydrophytic veg Sandy Mucky Mineral (S1) Vernal Pools (F9) wetland hydrology must be			
Sandy Gleyed Matrix (S4) unless disturbed or proble	-	,	
Restrictive Layer (if present):			
Type:			
Depth (Inches): Yes	No	\boxtimes	I
Remarks: The soil was extremely compacted silty clay that was too dense to display hydric indicators.			
HYDROLOGY			
Wetland Hydrology Indicators:	ad)		
Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more requi	eu)		
Surface Water (A1) Salt Crust (B11) Water Marks (B1) (Riverine)			
High Water Table (A2) Biotic Crust (B12) Sediment Deposits (B2) (Riverin	e)		
Saturation (A3) Aquatic Invertebrates (B13) Drift Deposits (B3) (Riverine)			
Water Marks (B1) (Nonriverine) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)			
Sediment Deposits (B2) (Nonriverine) Oxidized Rhizospheres along Living Roots (C3) Dry-Season Water Table (C2)			
Drift Deposits (B3) (Nonriverine)			
Surface Soil Cracks (B6)	ery (C9))	
Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Shallow Aquitard (D3)			
Water-Stained Leaves (B9) Other (Explain in Remarks) FAC-Neutral Test (D5)			
Field Observations:			
Surface Water Present? Yes Down No Depth (inches):			
Water Table Present? Yes Down No Depth (inches):			
Saturation Present? Yes Depth (inches): Wetland Hydrology Present? Yes	\boxtimes	No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			

US Army Corps of Engineers

Project Site: Colorado Lagoon			City/Count	y: Long Beach/Los Angeles Sa	ampling Date: <u>4/16/13</u>
Applicant/Owner: City Of Long Beach/State Lands	Commission	<u>1</u>		State: <u>CA</u> Sa	ampling Point: <u>9</u>
Investigator(s): Eric Zahn/Taylor Parker/Jade D	ean		Section, To	ownship, Range: <u>T 5S/R 12W, Section 4</u>	<u>.</u>
Landform (hillslope, terrace, etc.): Terrace		Lo	cal relief (cor	ncave, convex, none): <u>none</u>	Slope (%):
Subregion (LRR): <u>C</u>	Lat: <u>33.7</u>	700		Long: <u>-118.1317</u>	Datum: WGS 84
Soil Map Unit Name:				NWI classificati	ion: Freshwater Pond Wetland
Are climatic / hydrologic conditions on the site typi	cal for this tin	ne of year?	Yes 🛛	No 🔲 (If no, explain in Remark	<s.)< td=""></s.)<>
Are Vegetation \Box , Soil \Box , or Hydrology	signific	antly disturbed	l? Are "	Normal Circumstances" present?	Yes 🖾 No 🗖
Are Vegetation , Soil , or Hydrology	natural	lly problematic?	? (If ne	eded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map sl	howing sar	npling point	locations,	transects, important features, etc	
Hydrophytic Vegetation Present?	Yes 🛛	No 🗌			
Hydric Soil Present?	Yes 🗌	No 🛛	Is the Sam	pled Area within a Wetland?	Yes 🗌 No 🖾
Wetland Hydrology Present?	Yes 🛛	No 🗌			
Remarks: Point of investigation is between waters of numerous large pieces of concrete surroun					er fill area based on the
VEGETATION – Use scientific names of plant					
Tree Stratum (Plot size:)	Absolute <u>% Cover</u>	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:	
1				Number of Dominant Species	<u>1</u> (A)
2				That Are OBL, FACW, or FAC:	<u> </u>
3				Total Number of Dominant	<u>1</u> (B)
4				Species Across All Strata:	<u> </u>
50% =, 20% =		= Total Cover	r	Percent of Dominant Species	100 (A/B)
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:	<u></u> ()
1				Prevalence Index worksheet:	
2				Total % Cover of :	Multiply by:
3				OBL species	x1 =
4				FACW species	x2 =
5				FAC species <u>100</u>	x3 = <u>300</u>
50% =, 20% =		= Total Cover	r	FACU species	x4 =
Herb Stratum (Plot size:)				UPL species	x5 =
1. <u>Distichlis spicata</u>	<u>100</u>	<u>yes</u>	FAC	Column Totals: <u>100</u> (A)	<u>300</u> (B)
2				Prevalence Index =	= B/A = <u>3.0</u>
3				Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6 7.				Morphological Adaptations ¹ data in Remarks or on a sep	

100

= Total Cover

= Total Cover

% Cover of Biotic Crust

Hydrophytic Vegetation Present?

50% = ____, 20% = ____

50% = ____, 20% = ____

Woody Vine Stratum (Plot size:

% Bare Ground in Herb Stratum

_

)

<u>0</u>

8.

1.

2.

Remarks:

No

 \boxtimes

Problematic Hydrophytic Vegetation¹ (Explain)

Yes

¹Indicators of hydric soil and wetland hydrology must

be present, unless disturbed or problematic.

SOIL

SOIL											Sar	npling	Point:	<u>9</u>
Profile Descr	ription: (Descri	be to th	ie deptł	n neede	ed to d	ocument the indicator or conf	irm the abs	sence o	findica	tors.)				
Depth	Matr	ix				Redox Features								
(inches)	<u>Color (moist</u>)	<u>%</u>	Col	or (Mo	ist) <u>%</u> <u>Type¹</u>	Loc ²		<u>Textu</u>	re <u>Remarks</u>				
<u>0-3</u>	<u>10YR3/2</u>		<u>100</u>					_	<u>SandyL</u>	oam				
<u>3-12</u>	7.5YR3/4		100					_	<u>ClayLo</u>	<u>am</u>				
		_						_						
		_						_						
		_						_						
		_						_						
¹ Type: C= Co	ncentration, D=I	Depletio	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated Sand	d Grains. 2	Locatio	n: PL=P	ore Lining, M=Matrix.				
Hydric Soil Ir	ndicators: (App	licable	to all L	.RRs, u	nless	otherwise noted.)			Ind	icators for Problematic H	ydric S	Soils ³ :		
Histoso	l (A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR (C)			
Histic E	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR	: B)			
Black H	listic (A3)					Loamy Mucky Mineral (F1)				Reduced Vertic (F18)				
Hydroge	en Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (T	F2)			
□ Stratifie	d Layers (A5) (I	LRR C)				Depleted Matrix (F3)				Other (Explain in Rema	arks)			
□ 1 cm M	uck (A9) (LRR [))				Redox Dark Surface (F6)								
Deplete	ed Below Dark S	urface ((A11)			Depleted Dark Surface (F7)								
Thick D	ark Surface (A1	2)				Redox Depressions (F8)				31				
□ Sandy M	Mucky Mineral (S1)				Vernal Pools (F9)				³ Indicators of hydrophy wetland hydrology m				
	Gleyed Matrix (S									unless disturbed or			ι,	
Restrictive L	ayer (if present	t):									•			
Туре:														
Depth (Inches	s):						Hydric So	oils Pre	sent?	Yes		No	\boxtimes	
		chunks o	of concr	eate. A	ppears	to be artifical fill material.							_	
HYDROLOG														
-	rology Indicato								_					
	ators (minimum	of one r	equired	; check						ndary Indicators (2 or more		ed)		
Surface	e Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riverin	ne)			
High W	/ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (F	Riverin	e)		
Saturat	tion (A3)					Aquatic Invertebrates (B13)				Drift Deposits (B3) (Riveri	ine)			
Water I	Marks (B1) (No r	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
Sedime	ent Deposits (B2	2) (Nonr	iverine)	\boxtimes	Oxidized Rhizospheres along	Living Roots	s (C3)		Dry-Season Water Table	(C2)			
Drift De	eposits (B3) (No	nriverir	ne)			Presence of Reduced Iron (C4	l)			Crayfish Burrows (C8)				
Surface	e Soil Cracks (B	6)				Recent Iron Reduction in Tille	d Soils (C6)			Saturation Visible on Aeria	al Imag	ery (CS))	
Inundation	tion Visible on A	erial Im	agery (I	B7)		Thin Muck Surface (C7)				Shallow Aquitard (D3)				
□ Water-	Stained Leaves	(B9)				Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Observ	ations:													
Surface Wate	r Present?	Yes		No	\boxtimes	Depth (inches):								
Water Table F	Present?	Yes		No	\boxtimes	Depth (inches):								
Saturation Pre		Yes		No		Depth (inches):		Wetla	nd Hyd	rology Present?	Yes	\boxtimes	No	
(includes capi Describe Rec		eam dau	uge, mo	nitorina	well. a	erial photos, previous inspection	ns), if availal	ble:						
		340	5.,	9	, u	,, p	,,	-						

Remarks: US Army Corps of Engineers

Project Site:	Colorado Lagoor	<u>1</u>		City/County:	Long Beach	n/Los Angeles	Sampli	ng Date: 4/10	<u>3/13</u>	
Applicant/Owner:	City Of Long Bea	ch/State Lands Co	mmission			State: <u>CA</u>	Samplir	ng Point: <u>10</u>		
Investigator(s):	Eric Zahn/Taylor	Parker/Jade Dean	L	Section, Tow	nship, Range	e: <u>T 5S/R 12W, S</u>	Section 4			
Landform (hillslope,	terrace, etc.): Te	errace	L	ocal relief (conca	ve, convex, r	none): <u>concave</u>		Slope (%	»):	
Subregion (LRR)	: <u>C</u>	l	at: <u>33.7693</u>		Long: <u>-118</u>	3 <u>.1313</u>	D	atum: WGS	<u>84</u>	
Soil Map Unit Name	: <u> </u>					NWI c	assification:	<u>N/A</u>		
Are climatic / hyd	drologic conditions	on the site typical	for this time of year?	Yes 🛛	No 🗌	(If no, explain ii	n Remarks.)			
Are Vegetation D,	Soil □,	or Hydrology	significantly disturbe	d? Are "No	rmal Circums	stances" present?		Yes 🛛	No	
Are Vegetation D,	Soil □,	or Hydrology	naturally problemation	? (If need	ed, explain a	ny answers in Re	marks.)			

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

Hydrophytic Vegetation Present?	Yes	\boxtimes	No				
Hydric Soil Present?	Yes		No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌 No	\boxtimes
Wetland Hydrology Present?	Yes	\boxtimes	No				
Remarks: Investigation point location in one of	several depress	sed ar	eas w	ithin M	arina Vista Park where vegetation is sparse and salt cru	ust on the surface is appa	arent

Remarks: Investigation point location in one of several depressed areas within Marina Vista Park where vegetation is sparse and salt crust on the surface is apparent. Patches of halyphytic plant species have established around the edges of these depressions.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator <u>Status</u>	Dominance Test Worksheet:		
1 2		_		Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
3 4.				Total Number of Dominant Species Across All Strata:	2	(B)
50% =, 20% = Sapling/Shrub Stratum (Plot size:)		= Total Cove	r	Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)
1				Prevalence Index worksheet:		
2.					Multiply by:	
3.					x1 = 10	
4.					$x_{1} = \frac{10}{50}$	
5.					x3 = <u>45</u>	
50% = , 20% =		= Total Cove	r	· <u> </u>	x4 =	
Herb Stratum (Plot size:)					x5 =	
1. <u>Parapholis incurva</u>	<u>15</u>	<u>ves</u>	FAC	Column Totals: <u>50</u> (A)	<u>105</u> (B)	
2. Cotula coronipifolia	10	no	OBL	Prevalence Index = B/A = 2		
3. Spergularia marina	25	ves	FACW	Hydrophytic Vegetation Indicators:		
4.		<u>,</u>	<u></u>	Dominance Test is >50%		
5.				Prevalence Index is <3.0 ¹		
6.				Morphological Adaptations ¹ (Provide	o our porting	
7.				data in Remarks or on a separate s		
8				Problematic Hydrophytic Vegetation	1 ¹ (Explain)	
50% = , 20% =		= Total Cove	r		(_,,p.c.,)	
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic.	/ must	
1				be present, unless disturbed or problematic.		
2						
50% =, 20% =		= Total Cove	r	Hydrophytic Vegetation Yes	🛛 No	
% Bare Ground in Herb Stratum 50	% Cover	of Biotic Crust	<u>0</u>	Present?		
Remarks:						

Project Site:

SOIL

SOIL												Sa	ampling	g Point	:	
Profile Descri	ption: (Describ	be to th	ie depth	n need	ed to d	ocument the indicato	or or cont	irm the abs	sence c	of indicat	ors.)					
Depth	Matri	х				Redox Feat	ures									
(inches)	Color (moist)		<u>%</u>	Co	lor (Moi	<u>st) %</u>	Type ¹	Loc ²	-	<u>Textu</u>	re <u>Rem</u>	<u>narks</u>				
<u>0-15</u>	2.5YR3/2		<u>100</u>						_	sandycla	aylo <u>am</u>					
		_							_							
		_							_							
		_							_							
		_							_							
		_							_							
¹ Type: C= Con	centration, D=D	Depletio	n, RM=	Reduce	ed Matr	ix, CS=Covered or Co	ated San	d Grains. 2	Locatio	on: PL=Po	ore Lining, M=Ma	ıtrix.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				Indi	cators for Probl	ematic Hy	dric S	ioils ³ :		
Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A	9) (LRR C	;)			
Histic Ep	pipedon (A2)					Stripped Matrix (S6)					2 cm Muck (A	.10) (LRR	B)			
Black Hi	stic (A3)					Loamy Mucky Miner	al (F1)				Reduced Vert	tic (F18)				
☐ Hydroge	n Sulfide (A4)					Loamy Gleyed Matri	x (F2)				Red Parent M	laterial (TF	2)			
□ Stratified	Layers (A5) (L	RR C)				Depleted Matrix (F3)					Other (Explair	n in Remai	rks)			
🔲 1 cm Mu	ick (A9) (LRR D)				Redox Dark Surface	(F6)									
Depleted	Below Dark Su	urface ((A11)			Depleted Dark Surfa	ce (F7)									
Thick Date	ark Surface (A12	2)				Redox Depressions	(F8)				31	h		4-4		
Sandy N	lucky Mineral (S	51)				Vernal Pools (F9)					³ Indicators of wetland hyd					
□ Sandy G	leyed Matrix (S	4)									-	sturbed or			.,	
Restrictive La	yer (if present):														
Type:																
Depth (Inches)):							Hydric So	oils Pre	esent?		Yes [No	\boxtimes	3
	- ill material in ir	rigated	park													
			<u> </u>													
HYDROLOG	iΥ															
Wetland Hydr	ology Indicato	rs:														
Primary Indica	tors (minimum o	of one r	equired	; check	all that	t apply)				Secor	ndary Indicators (2 or more	requir	ed)		
□ Surface	Water (A1)					Salt Crust (B11)					Water Marks (B1) (Riverin	e)			
High Wa	ater Table (A2)					Biotic Crust (B12)					Sediment Depos	its (B2) (R	iverin	e)		
Saturati	on (A3)					Aquatic Invertebrate	s (B13)				Drift Deposits (B	3) (Riveri r	ne)			
Water M	larks (B1) (Non	riverin	e)			Hydrogen Sulfide Oc	lor (C1)				Drainage Pattern	ns (B10)				
Sedimer	nt Deposits (B2) (Nonr	iverine))		Oxidized Rhizospher	es along	Living Root	s (C3)		Dry-Season Wat	er Table (0	C2)			
Drift De	posits (B3) (No i	nriverir	ne)			Presence of Reduce	d Iron (C4	4)			Crayfish Burrows	s (C8)				
□ Surface	Soil Cracks (Be	3)				Recent Iron Reduction	on in Tille	d Soils (C6)			Saturation Visible	e on Aerial	Image	ery (CS)	
Inundati	on Visible on A	erial Im	agery (E	37)		Thin Muck Surface (C7)				Shallow Aquitard	l (D3)				
□ Water-S	stained Leaves	(B9)				Other (Explain in Re	marks)				FAC-Neutral Tes	st (D5)				
Field Observa	tions:															
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches):										
Water Table P	resent?	Yes		No		Depth (inches):										
Saturation Pre (includes capil		Yes		No		Depth (inches):			Wetla	and Hydr	ology Present?		Yes	\boxtimes	No	
		am gau	ige, mor	nitoring	well, a	erial photos, previous	inspectio	ns), if availa	ble:							
Remarks:	Salt crust is like	ely pres	ent due	to the	use of I	marine sediment to fill	in this are	a in the 195	50's. Th	he preser	ice of Horn Snail	shells furt	her su	pports	this	

US Army Corps of Engineers

Arid West – Version 2.0

Project Site: Colorado Lagoon			City/Count	ty: Long Beach/Los Angeles Samp	ling Date: 4/	/16/13	
Applicant/Owner: City Of Long Beach/State Lands	Commission			State: <u>CA</u> Sampl	ling Point: <u>11</u>	1	
Investigator(s): Eric Zahn/Taylor Parker/Jade D	ean		Section, To	ownship, Range: <u>T 5S/R 12W, Section 4</u>			
Landform (hillslope, terrace, etc.): Terrace		Loc	cal relief (cor	ncave, convex, none): <u>convex</u>	Slope ((%):	
Subregion (LRR): <u>C</u>	Lat: <u>33.77</u>	709		Long: <u>-118.1318</u>	Datum: WGS	<u>S 84</u>	
Soil Map Unit Name:				NWI classification:	<u>N/A</u>		
Are climatic / hydrologic conditions on the site typic	cal for this tim	e of year?	Yes 🛛	No 🔲 (If no, explain in Remarks.)			
Are Vegetation D, Soil D, or Hydrology	significa	antly disturbed	? Are "	Normal Circumstances" present?	Yes 🛛	No	
Are Vegetation \Box , Soil \Box , or Hydrology	naturall	y problematic?	(If ne	eded, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map sh	nowing sam	pling point	locations,	transects, important features, etc.			
Hydrophytic Vegetation Present?	Yes 🛛	No 🗆					
Hydric Soil Present?	Yes 🛛	No 🖾	Is the Sam	pled Area within a Wetland?	Yes 🛛	No	
Wetland Hydrology Present?	Yes 🗌	No 🖾					
Remarks:							
VEGETATION – Use scientific names of plants	5.						
Tree Stratum (Plot size:)	Absolute	Dominant	Indicator	Dominance Test Worksheet:			
1.	<u>% Cover</u>	Species?	<u>Status</u>	Number of Dominant Species			
2.				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>		(A)
3.				Total Number of Dominant			
4.				Species Across All Strata:	<u>3</u>		(B)
50% =, 20% =		= Total Cover		Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:	<u>100</u>		(A/B)
1				Prevalence Index worksheet:			
2				Total % Cover of :	Multiply by	<u>/:</u>	
3				OBL species	x1 =		
4				FACW species <u>15</u>	x2 = <u>30</u>	<u>0</u>	
5				FAC species <u>56</u>	x3 = <u>16</u>	<u>68</u>	
50% =, 20% =		= Total Cover		FACU species	x4 =		
Herb Stratum (Plot size:Meter Squared)				UPL species <u>5</u>	x5 = <u>25</u>	<u>5</u>	
1. <u>Cressa truxilensis</u>	<u>15</u>	<u>yes</u>	FACW	Column Totals: <u>76</u> (A)	<u>22</u>	<u>23</u> (B)	
2. <u>Parapholis incurva</u>	<u>40</u>	<u>ves</u>	FAC	Prevalence Index = B/A	= <u>2.93</u>		
3. <u>Distichlis spicata</u>	<u>15</u>	<u>yes</u>	FAC	Hydrophytic Vegetation Indicators:			
4. <u>Mesembryanthemum nodiflorum</u>	<u>1</u>	<u>no</u>	FAC	Dominance Test is >50%			
5. <u>Lycium californicum</u>	<u>5</u>	<u>no</u>	<u>UPL</u>	Prevalence Index is $\leq 3.0^1$			
6				Morphological Adaptations ¹ (Pro		ing	
7				data in Remarks or on a separat	te sheet)	-	
8				Problematic Hydrophytic Vegeta	ation ¹ (Explain	1)	
50% =, 20% =	<u>76</u>	= Total Cover		-			
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrol be present, unless disturbed or problematic			

US Army Corps of Engineers

SOIL

SOIL											Sam	pling P	oint:	<u>11</u>
Profile Descri	ption: (Descril	be to th	ne depth	neede	ed to d	ocument the indicator or con	firm the abs	sence of	indicat	tors.)				
Depth	Matr	ix				Redox Features								
<u>(inches)</u>	Color (moist)	%	Col	or (Mo	<u>st) % Type¹</u>	Loc ²	-	Textu	re <u>Remarks</u>				
<u>0-12</u>	<u>2.5Y3/2</u>		<u>100</u>					_	Sanc	<u> </u>				
<u>12-15</u>	2.5Y4/3		100						SandyLo	oam				
		_						_						
								_						
								_						
								_						
¹ Type: C= Con	centration, D=[Depletio	on, RM=	Reduce	ed Matr	ix, CS=Covered or Coated San	d Grains.	Location	: PL=P	ore Lining, M=Matrix.				
Hydric Soil In	dicators: (App	licable	to all L	RRs, u	nless	otherwise noted.)				cators for Problematic H	ydric S	ioils ³ :		
Histosol	(A1)					Sandy Redox (S5)				1 cm Muck (A9) (LRR	C)			
_	pipedon (A2)					Stripped Matrix (S6)				2 cm Muck (A10) (LRR				
Black Hi						Loamy Mucky Mineral (F1)				Reduced Vertic (F18)	,			
	n Sulfide (A4)					Loamy Gleyed Matrix (F2)				Red Parent Material (T	F2)			
	Layers (A5) (L	RR C)				Depleted Matrix (F3)				Other (Explain in Rema				
	ick (A9) (LRR E					Redox Dark Surface (F6)								
	d Below Dark S		(A11)			Depleted Dark Surface (F7)								
	ark Surface (A1		,			Redox Depressions (F8)				<u>^</u>				
	lucky Mineral (,				Vernal Pools (F9)				³ Indicators of hydrophy				
	Bleyed Matrix (S									wetland hydrology m unless disturbed or			,	
	iyer (if present	,								uness disturbed of	proble	matic.		
	iyer (ii present													
Type:							Hydric S	oile Pros	ont?	Yes		No		1
Depth (Inches)		tainad			then 1	15 inches, Candy sails indicat						NU		4
Remarks: (Itallieu		Janics		2-15 inches. Sandy soils indicat	e the presen		natena	I.				
HYDROLOG	iΥ													
Wetland Hydr	ology Indicato	ors:												
Primary Indica	tors (minimum	of one r	equired	check	all tha	t apply)			Secor	ndary Indicators (2 or more	e requir	ed)		
Surface	Water (A1)					Salt Crust (B11)				Water Marks (B1) (Riveri	ne)			
🔲 High Wa	ater Table (A2)					Biotic Crust (B12)				Sediment Deposits (B2) (I	Riverin	e)		
Saturati						Aquatic Invertebrates (B13)				Drift Deposits (B3) (River				
	/arks (B1) (Nor	nriverin	e)			Hydrogen Sulfide Odor (C1)				Drainage Patterns (B10)				
	nt Deposits (B2					Oxidized Rhizospheres along	Livina Root	s (C3)		Dry-Season Water Table	(C2)			
_	posits (B3) (No	<i>,</i> ,				Presence of Reduced Iron (C	-	0 (00)		Crayfish Burrows (C8)	(02)			
	Soil Cracks (B		10)			Recent Iron Reduction in Tille				Saturation Visible on Aeria	al Imag	erv (C.0)	
_	ion Visible on A	,	agery (F	37)		Thin Muck Surface (C7)	.u cons (co)			Shallow Aquitard (D3)	in intage	ory (00	,	
	Stained Leaves		lagery (i	51)		Other (Explain in Remarks)				FAC-Neutral Test (D5)				
Field Observa		(20)												
Surface Water		Yes		No	\boxtimes	Depth (inches):								
						· · · · <u> </u>								
Water Table P		Yes		No	\boxtimes	Depth (inches):								
Saturation Pre (includes capil		Yes		No	\boxtimes	Depth (inches):		Wetlar	nd Hydr	rology Present?	Yes		No	\boxtimes
· ·		eam gau	ige, moi	nitoring	well, a	erial photos, previous inspectio	ns), if availa	ble:						
- ·														

Remarks: US Army Corps of Engineers

Project Site:	Colorado La	goon			City/County:	Long I	Beach	Los Angeles	Samp	ling Date:	4/16	/13	
Applicant/Owner:	City Of Long	Beach/State Lands	s Com	mission				State: <u>CA</u>	Samp	ling Point:	<u>12</u>		
Investigator(s):	Eric Zahn/T	aylor Parker/Jade D	Dean		Section, Tow	nship, F	Range	: <u>T 5S/R 12W, S</u>	ection 4				
Landform (hillslope,	terrace, etc.)	<u>Terrace</u>		Loca	al relief (conca	ave, con	vex, r	none): <u>none</u>		Slo	pe (%):	
Subregion (LRR)	: <u>C</u>		La	t: <u>33.7732</u>		Long:	<u>-118</u>	.1327		Datum: <u>N</u>	VGS 8	<u>34</u>	
Soil Map Unit Name	:							NWI cla	assification:	<u>Freshwa</u> Wetland		nd	
Are climatic / hyd	drologic condi	tions on the site typ	ical fo	r this time of year?	Yes 🛛	No		(If no, explain in	Remarks.)				
Are Vegetation 🛛,	Soil 🗵	, or Hydrology		significantly disturbed?	Are "No	ormal Ci	rcums	stances" present?		Yes	\boxtimes	No	
Are Vegetation D,	Soil 🗌], or Hydrology		naturally problematic?	(If need	led, exp	lain ai	ny answers in Rei	marks.)				

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

Hydrophytic Vegetation Present?	Yes	No	\boxtimes			
Hydric Soil Present?	Yes	No	\boxtimes	Is the Sampled Area within a Wetland?	Yes 🗌	No 🗆
Wetland Hydrology Present?	Yes	No	\boxtimes			
Remarks:						

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1 2.				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
3		_	_	Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
4 50% =, 20% =		= Total Cove	r	Percent of Dominant Species	(A/B)
Sapling/Shrub Stratum (Plot size:)				That Are OBL, FACW, or FAC:	(/00)
1				Prevalence Index worksheet:	
2				Total % Cover of : Multiply by:	
3				OBL species x1 =	
4				FACW species 10 x2 = 20	
5				FAC species 10 x3 = 30	
50% =, 20% =		= Total Cove	r	FACU species x4 =	
Herb Stratum (Plot size:)				UPL species <u>15</u> x5 = <u>75</u>	
1. <u>Malva parviflorum</u>	<u>15</u>	<u>yes</u>	<u>UPL</u>	Column Totals: <u>35</u> (A) <u>125</u> (B)	
2. <u>Bassia hyssopifolia</u>	<u>10</u>	<u>yes</u>	FAC	Prevalence Index = B/A = <u>3.57</u>	
3. <u>Cressa truxilensis</u>	<u>10</u>	<u>no</u>	FACW	Hydrophytic Vegetation Indicators:	
4				Dominance Test is >50%	
5				Prevalence Index is $\leq 3.0^1$	
6				Morphological Adaptations ¹ (Provide supporting	
7				data in Remarks or on a separate sheet)	
8				Problematic Hydrophytic Vegetation ¹ (Explain)	
50% =, 20% =	<u>35</u>	= Total Cove	r		
Woody Vine Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1					
2				Hydrophytic	
50% =, 20% =		= Total Cove	r	Vegetation Yes No	\boxtimes
% Bare Ground in Herb Stratum 75	% Cover	of Biotic Crust		Present?	
Remarks:					

SOIL

SOIL												Sam	npling P	oint:	<u>12</u>
Profile Descri	ption: (Descr	ibe to th	ne depth	۱ neede	ed to d	ocument the indica	tor or confi	irm the abs	sence o	f indicat	ors.)				
Depth	Mat	trix				Redox Fea	itures								
(inches)	Color (mois	<u>st)</u>	<u>%</u>	Col	or (Mo	<u>ist) %</u>	Type ¹	Loc ²	-	Textur	e <u>Remarks</u>	<u>i</u>			
<u>0-7</u>	<u>2YR2/2</u>		<u>100</u>						_	gravelys	and				
		_							_						
		_							_						
		_							_						
		_							_						
		_							_						
¹ Type: C= Cor	centration, D=	Depletic	on, RM=	Reduce	d Matr	ix, CS=Covered or C	oated Sand	I Grains. 2	² Locatio	n: PL=Pc	ore Lining, M=Matrix.				
Hydric Soil In	dicators: (Ap	plicable	to all L	RRs, u	nless	otherwise noted.)				Indie	cators for Problema	tic Hydric \$	Soils ³ :		
Histosol	(A1)					Sandy Redox (S5)					1 cm Muck (A9) (L	.RR C)			
Histic Ep	pipedon (A2)					Stripped Matrix (S6	5)				2 cm Muck (A10)	(LRR B)			
Black Hi	stic (A3)					Loamy Mucky Mine	eral (F1)				Reduced Vertic (F	18)			
_	n Sulfide (A4)					Loamy Gleyed Mat	rix (F2)				Red Parent Materi	ial (TF2)			
☐ Stratified	d Layers (A5)	(LRR C)				Depleted Matrix (F					Other (Explain in F	Remarks)			
	ick (A9) (LRR					Redox Dark Surfac						,			
	d Below Dark		(A11)			Depleted Dark Sur	. ,								
	ark Surface (A		. ,			Redox Depression:					3				
_	lucky Mineral	,				Vernal Pools (F9)	- (-)				³ Indicators of hydro wetland hydrolo				
_	Gleyed Matrix (_						unless disturb		•	.,	
Restrictive La															
Туре:															
Depth (Inches):							Hydric So	oils Pre	sent?	Yes	• 🗆	No	\boxtimes	1
		of gravel	and chu	inks of a	asphalt	fill found at invesiga	tion pit and	-							-
HYDROLOG	βY														
Wetland Hydi	ology Indicat	ors:													
Primary Indica	tors (minimum	n of one r	required	; check	all that	t apply)				Secon	ndary Indicators (2 or	more requir	ed)		
Surface	Water (A1)					Salt Crust (B11)					Water Marks (B1) (Ri	verine)			
High W	ater Table (A2)				Biotic Crust (B12)					Sediment Deposits (E	32) (Riverin	ie)		
Saturati	on (A3)					Aquatic Invertebrat	es (B13)				Drift Deposits (B3) (R	liverine)			
□ Water N	/larks (B1) (Nc	onriverin	ie)			Hydrogen Sulfide C	Odor (C1)				Drainage Patterns (B	10)			
□ Sedime	nt Deposits (B	2) (Non i	riverine)		Oxidized Rhizosph	eres along l	Living Roots	s (C3)		Dry-Season Water Ta	able (C2)			
Drift De	posits (B3) (N	onriveri	ne)			Presence of Reduc	ed Iron (C4)			Crayfish Burrows (C8	3)			
Surface	Soil Cracks (I	B6)				Recent Iron Reduc	tion in Tilleo	d Soils (C6)			Saturation Visible on	Aerial Imag	ery (C9)	
Inundat	ion Visible on	Aerial Im	nagery (F	37)		Thin Muck Surface	(C7)				Shallow Aquitard (D3)			
□ Water-S	Stained Leaves	s (B9)				Other (Explain in R	emarks)				FAC-Neutral Test (D	5)			
Field Observa	ations:										· · · · · · · · · · · · · · · · · · ·				
Surface Water	Present?	Yes		No	\boxtimes	Depth (inches)	: _								
Water Table P		Yes		No		Depth (inches)									
Saturation Pre						• • • •			10/-+1-		ology Brocont?	Vac		N-	57
(includes capil	lary fringe)	Yes		No		Depth (inches)				ina Hydr	ology Present?	Yes		No	\boxtimes
Describe Reco	orded Data (str	ream gau	uge, mor	nitoring	well, a	erial photos, previou	s inspection	is), if availa	ble:						
Remarks [.]	Pieces of agu	atic inve	rtebrate	shells f	ound a	as part of fill material.								_	

US Army Corps of Engineers

Project Site: Colorado Lagoon		City/County: Long Beach/Los Angeles	Sampling Date: 4/16/13
Applicant/Owner: City Of Long Beach/State Lands	Commission	State: <u>CA</u>	Sampling Point: <u>13</u>
Investigator(s): Eric Zahn/Taylor Parker/Jade D	ean	Section, Township, Range: T 5S/R 12W, Section	4
Landform (hillslope, terrace, etc.): Terrace	Loc	al relief (concave, convex, none): <u>concave</u>	Slope (%):
Subregion (LRR): <u>C</u>	Lat: <u>33.7713</u>	Long: <u>-118.1326</u>	Datum: WGS 84
Soil Map Unit Name:		NWI classifica	ation: Freshwater Pond Wetland
Are climatic / hydrologic conditions on the site typi	cal for this time of year?	Yes 🗌 No 🗌 (If no, explain in Rema	arks.)
Are Vegetation 🖾, Soil 🖾, or Hydrology	Significantly disturbed?	Are "Normal Circumstances" present?	Yes 🛛 No 🗌
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed, explain any answers in Remarks.	.)
SUMMARY OF FINDINGS – Attach site map sh	nowing sampling point	ocations, transects, important features, et	tc.
Hydrophytic Vegetation Present?	Yes 🛛 No 🗖		
Hydric Soil Present?	Yes 🛛 No 🗖	Is the Sampled Area within a Wetland?	Yes 🛛 No 🗌
Wetland Hydrology Present?			
	Yes 🖾 No 🗖		
Remarks: Intertdial investigation point at the base of		acent to disturbance from a recent dredging project	t.
Remarks: Intertdial investigation point at the base of VEGETATION – Use scientific names of plants	a small retaining wall just ad	acent to disturbance from a recent dredging project	t.
	a small retaining wall just ad s. Absolute Dominant	acent to disturbance from a recent dredging project Indicator Status Dominance Test Worksheet:	t.
VEGETATION – Use scientific names of plants	a small retaining wall just ad s. Absolute Dominant	Indicator <u>Status</u> Dominance Test Worksheet: Number of Dominant Species	
VEGETATION – Use scientific names of plants	a small retaining wall just ad s. Absolute Dominant	Indicator Status Dominance Test Worksheet:	t. <u>1</u> (A)

2				That Are OBL,	FACW, or FAC:	-	<u>1</u>		(A)
3 4				Total Number Species Acros		- -	1		
50% =, 20% = Sapling/Shrub Stratum (Plot size:)		= Total Cove	er		minant Species , FACW, or FAC:	- -	<u>100</u>		
1				Prevalence In	dex worksheet:				
2				<u>T</u> (otal % Cover of :	<u> </u>	Multiply	<u>/ by:</u>	
3				OBL species	<u>50</u>	:	x1 =	<u>50</u>	
4				FACW species	S	:	x2 =		
5				FAC species		:	x3 =	. <u></u>	
50% =, 20% =		= Total Cove	er	FACU species		:	x4 =		
Herb Stratum (Plot size:)				UPL species		:	x5 =		
1. <u>Salicornia pacifica</u>	<u>50</u>	<u>ves</u>	<u>OBL</u>	Column Totals	s: <u>50</u> (A)			<u>50</u> (B)	
2					Prevalence Index	k = B/A =			
3				Hydrophytic	Vegetation Indicators	s:			
4				🖾 Do	minance Test is >50%	6			
5				🖾 Pre	evalence Index is <3.0) ¹			
6 7		_	_		orphological Adaptatio ta in Remarks or on a			orting	
8					oblematic Hydrophytic	Vegetation	n ¹ (Exp	lain)	
50% =, 20% =	<u>50</u>	= Total Cove	er				X F	- /	
Woody Vine Stratum (Plot size:)					hydric soil and wetland less disturbed or prob		/ must		
1				be present, un		iematic.			
2				Hydrophytic					
50% =, 20% =		= Total Cove	er	Vegetation Yes		No			
% Bare Ground in Herb Stratum 50	% Cove	er of Biotic Crust		Present?					
Remarks:									

SOIL

SOIL Sampling Point: 13																		
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)																		
Depth	Matr	ix		Redox Features														
(inches)	Color (moist)	<u>%</u>	Co	lor (Mo	i <u>st)</u>	<u>%</u>	Type ¹	Loc	2	<u>Textu</u>	ure <u>Remarks</u>						
<u>0-15</u>	<u>10YR3/3</u>		<u>95</u>	<u>1</u>	0YR6/	<u>3</u>	<u>5</u>	<u>C</u>	<u>PL</u>		Sandy(<u>Clay</u>						
		_								_								
		_								_								
		_								_								
		_								_								
		_								_								
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.																		
Hydric Soil Ir	ndicators: (App	licable	to all L	RRs, u	inless	otherwise	noted.)			Indicators for Problematic Hydric Soils ³ :								
Histoso	ol (A1)				\boxtimes	Sandy R	Redox (S5)					1 cm Muck (A9) (LRF	₹C)					
Histic E	pipedon (A2)					Stripped	Matrix (Se	6)				2 cm Muck (A10) (LR	RB)					
Black H	listic (A3)					Loamy N	Aucky Min	eral (F1)				Reduced Vertic (F18))					
Hydroge	en Sulfide (A4)					Loamy C	Gleyed Ma	trix (F2)				Red Parent Material ((TF2)					
□ Stratifie	ed Layers (A5) (I	LRR C)				Depleted	d Matrix (F	3)				Other (Explain in Ren	narks)					
□ 1 cm M	luck (A9) (LRR D))			\boxtimes	Redox D	ark Surfac	ce (F6)										
Deplete	ed Below Dark S	urface (A11)			Depleted	d Dark Sur	face (F7)										
Thick D	ark Surface (A1	2)				Redox D	epression	s (F8)				³ Indicators of hydroph	wtic vere	etation	and			
Sandy I	Mucky Mineral (S1)				Vernal P	Pools (F9)					wetland hydrology						
□ Sandy (Gleyed Matrix (S	64)										unless disturbed						
Restrictive L	ayer (if present.	t):																
Туре:																		
Depth (Inches	s):								Hydric S	oils Pre	sent?	Yes	\boxtimes	No]		
Remarks:																		
HYDROLOG	GY																	
Wetland Hyd	Irology Indicato	ors:																
Primary Indica	ators (minimum	of one r	equired	; check	all tha	t apply)					Seco	ondary Indicators (2 or mo	re requir	ed)				
Surface Water (A1)			\boxtimes	Salt Cru	st (B11)				Water Marks (B1) (River	rine)								
🛛 🛛 High W					ust (B12)			Sediment Deposits (B2) (Riverine)										
			\boxtimes	Aquatic	Invertebra	tes (B13)			Drift Deposits (B3) (Riverine)									
☑ Water Marks (B1) (Nonriverine) □			Hydrogen Sulfide Odor (C1)						Drainage Patterns (B10)									
Sediment Deposits (B2) (Nonriverine)				d Rhizosph	eres along	Living Root	oots (C3) Dry-Season Water Table (C2)											
				e of Redu	f Reduced Iron (C4)													
	e Soil Cracks (B					Recent Iron Reduction in Tilled)	Saturation Visible on Aerial Imagery (C9)							
🔲 Inunda	undation Visible on Aerial Imagery (B7) Thin Muck Surface (C7)					Shallow Aquitard (D3)												
							FAC-Neutral Test (D5)											
Field Observ						,		,				. /						
Surface Wate	er Present?	Yes		No	\boxtimes	Dep	th (inches):										
Water Table F		Yes		No	\boxtimes		oth (inches											
Saturation Pre (includes capi		Yes		No		Dep	oth (inches):		Wetla	ind Hyd	rology Present?	Yes		No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																		
Domorkov																		

Remarks: US Army Corps of Engineers

Appendix C

Survey Area Photos



Sample Locations		
3 50 175 0	350 ⊥ Feet	Tidal Influence

 $C: Users: Jade: Documents: Tidal_Influence: Monitoring_Resources: Colorado_Lagoon: Wetland_Delineation: Finished_Maps: Fig6_SampleLocations.PDF and the second se$

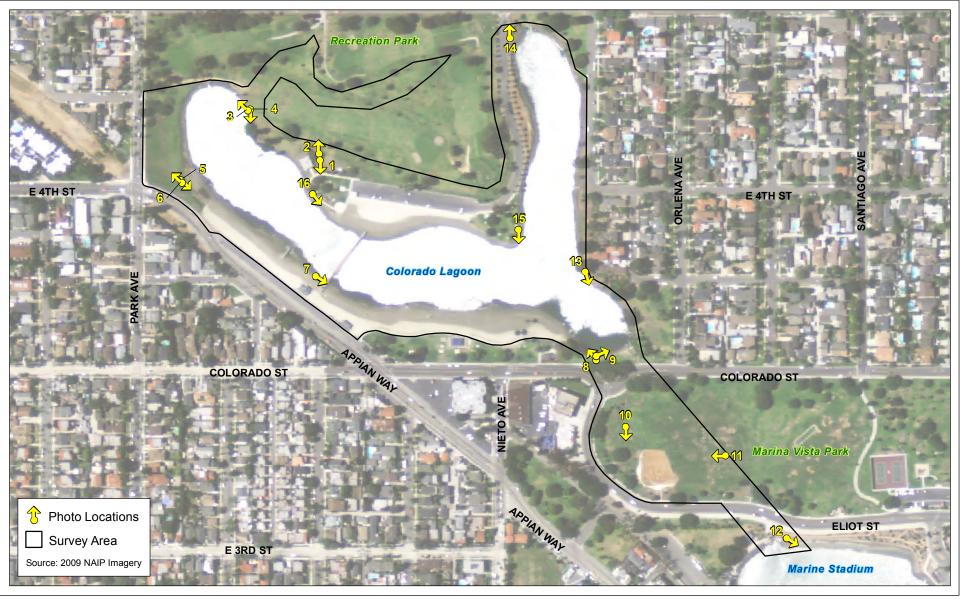


Photo Locations					
	TidalInfluence				
:\Users\Jade\Documents\Tidal_Influence\Monitoring_Resources\Colorado_Lagoon\Wetland_Delineation\Finished_Maps\Fig7_PhotoLocations.PDF					



Soil Pit 4.



Soil Pit 2.



Soil Pit 5.

Soil Pit 3.



Soil Pit 6.



Soil Pit 7.



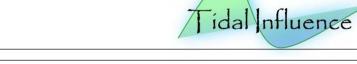


Soil Pit 9.



Site Photographs

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Soil Pit 13.



Soil Pit 12.

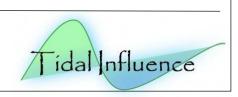


Soil Pit 13. Soil Detail.





Site Photographs



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Photo Location 1. View north.



Photo Location 4. View northwest.



Photo Location 7. View southeast.





Photo Location 8. View

Photo Location 2. View

Photo Location 5. View

southeast.

south.

Photo Location 3. View southwest.



Photo Location 6. View northwest.



Photo Location 9. View east.





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Mans pac Photo Location 10. View south.



Photo Location 13. View southeast.



Photo Location 11. View west.



Photo Location 14. View north.



Photo Location 16. View east.

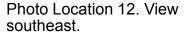




Photo Location 15. View south.





Site Photographs

