WETLAND DELINEATION REPORT

SHIP DOCK 5 PROJECT

SWG-2016-00832

HARRIS COUNTY, TEXAS

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Acronyms and Abbreviations

CFR	Code of Federal Regulations
CWA	Clean Water Act
dbh	diameter at breast height
DP	data point
EPA	U.S. Environmental Protection Agency
E2EM	estuarine intertidal emergent
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GNSS	global navigation satellite system
HUC	hydrologic unit code
LBC	LBC Houston, LP
LEI	Lloyd Engineering, Inc.
1987 Manual	1987 Corps of Engineers Wetlands Delineation Manual
NCSS	National Cooperative Soil Survey
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPL	National Wetland Plant List
OHWM	ordinary high water mark
PEM	palustrine emergent
PFO1	palustrine forested broad-leaved deciduous (hardwood)
PSS1	palustrine scrub-shrub broad-leaved deciduous (hardwood)
Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)
RHA	Rivers and Harbors Act
TNW	traditional navigable water
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WOUS	water(s) of the United States

1.0 Introduction

This report presents the results of a wetland delineation conducted on behalf of LBC Houston, LP (LBC) for the proposed LBC Ship Dock 5 project, U.S. Army Corps of Engineers (USACE) Project No. SWG-2016-00832. The proposed project is located in La Porte, Texas approximately 0.72-mile east of the intersection of State Highway 146 and Shoreacres Boulevard and is positioned on the northwest shoreline of the Bayport Terminal. Lloyd Engineering, Inc. (LEI) conducted environmental investigations intermittently between the months of August and September within an approximate 19-acre survey area. The proposed project is positioned within the USACE Galveston District, and is located on the U.S. Geological Survey (USGS) League City, Texas, 7.5-minute series topographic quadrangle map (USGS, 1982). Refer to the vicinity map provided as Figure 1 in Appendix A for a depiction the project location.

The purpose of the investigation was to determine the location and extent of any potential waters of the United States (WOUS), including wetlands, within the survey area, as defined by Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act (RHA) subject to the jurisdiction of the USACE Galveston District and U.S. Environmental Protection Agency (EPA). This information was obtained through both desktop and field investigations.

2.0 Methods

Impact assessments to potential jurisdictional areas (including wetlands), as defined by code of federal regulations (CFR) 328, were conducted within all portions of the 19-acre survey area. Aerial photography, National Wetlands Inventory (NWI) data, National Resources Conservation Service soil survey data, and Federal Emergency Management Agency (FEMA) National Flood Hazard Layer data were reviewed prior to field investigations. As required by existing regulations or regional general permits, potential wetlands, as defined by the USACE 1987 Wetlands Delineation Manual ("1987 Manual") (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) ("Regional Supplement") (USACE, 2010), were evaluated based on the presence of hydrophytic vegetation, wetland hydrology, and hydric soils. This evaluation included assessments of any ephemeral, intermittent, and perennial streams; navigable and non-navigable waterways; wetlands; and other special aquatic sites (i.e., sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes [1987 Manual]).

The field effort and approach followed guidelines provided by the 1987 Manual and as specified by the USACE Galveston District Compliance Section, for properties greater than 5 acres in size. The guidelines state that for sites greater than 5 acres with baselines less than 0.25-mile, three transect lines are required. For this investigation, three transect lines were established to accurately categorize the vegetative communities within the 19-acre survey area.

Vegetation, hydrology, and soils were evaluated and recorded in the field at each data point (DP). Plant species were recorded at each DP by visually estimating the percent areal cover of each species using nested sampling plots by strata, in accordance with the Regional Supplement. The 2016 National Wetland Plant List (NWPL) website, Version 3.3 (Lichvar et al., 2016) was used to determine the indicator status of plant species. Taxonomy of plant species follows Lichvar, et al. (2016) and the NRCS PLANTS Database (U.S. Department of Agriculture [USDA] NRCS, 2016). Field indicators of hydrology and hydric soils were evaluated and recorded at each DP. A shallow soil pit was dug at each DP, to document soil characteristics and to examine subsurface hydrology. The soil pit was left open for at least 10 minutes, to allow any free water in the soil to stabilize, before recording the depth to free water in the pit and the depth to saturated soil. Meanwhile, soil characteristics were recorded and included, but were not limited to, soil color(s), texture, structure, and presence of redoximorphic features, nodules, or concretions, and hydric soil indicators. The moist matrix color, and when present, moist mottle color of soils, were determined by soil horizon/strata utilizing the Munsell Soil Color Charts (Kollmorgen Instruments Corporation, 2000). At DP locations where the wetland vegetation, soil, and hydrology criteria were met, the site was identified as a wetland and categorized following the classification system of Cowardin et al. (1979). At the time of the assessment, the DP locations, wetland boundaries, and ordinary high water mark (OHWM) limits of WOUS within the overall site were delineated according to field data and digitally georeferenced/mapped using a Trimble Geo 7X global navigation satellite system (GNSS) with sub-meter accuracy.

3.0 Results

Field investigations were conducted intermittently from August to September 2016, to identify any wetlands or waterbodies within the survey area potentially subject to USACE jurisdiction under Section 404 of the CWA and/or Section 10 of the RHA. The vegetation, hydrology, and soil characteristics at each DP were recorded on the wetland determination data forms provided in Appendix B.

3.1 Vegetation

During the field investigations, six vegetation communities were identified within the survey area, including, upland grasslands, upland forest, palustrine emergent (PEM) wetland, palustrine scrub-shrub broad-leaved deciduous (PSS1) wetland, and palustrine forested hardwood (PFO1) wetland, and estuarine intertidal emergent (E2EM) wetlands. The wetland vegetation community types are based on the Cowardin, et al. (1979) classification system and are defined in Table 1 below. Refer to Appendix C for representative photographs of the vegetation communities observed within the survey area.

Table 1
Wetland Vegetation Community Type Categories
Based on Cowardin, et al. (1979)

Symbol	Vegetation Type
PEM	Palustrine emergent
PSS1	Palustrine scrub-shrub broad-leaved deciduous (hardwood)
PFO1	Palustrine forested broad-leaved deciduous (bottomland hardwood)
E2EM	Estuarine intertidal emergent

The wetland indicator status for each plant species, as defined in Table 2 was determined using Lichvar et al. (2016). Each indicator status reflects a plant species' fidelity and preference for wetlands or uplands based upon its frequency and abundance in wetlands versus uplands and the availability of wetland habitat across the local to regional landscape (Lichvar and Minkin, 2008). The resulting indicator status categories are used in determining dominance of hydrophytic versus non-hydrophytic vegetation at each DP.

Table 2
Plant Species Wetland Indicator Status Categories

Code	Category	Definition
OBL	Obligate Wetland	Hydrophyte - Almost always occurs in wetlands
FACW	Facultative Wetland	Hydrophyte - Usually occurs in wetlands, but may occur in non-wetlands
FAC	Facultative	Hydrophyte - Occurs in wetlands and non-wetlands
FACU	Facultative Upland	Non-hydrophyte - Usually occurs in non-wetlands, but may occur in wetlands
UPL	Obligate Upland	Non-hydrophyte - Almost never occurs in wetlands

Source: Lichvar et al., 2016. The National Wetland Plant List. 2016 Wetland Ratings. Phytoneuron: 2016-4-30. Website Version 3.3 available at http://rsgisias.crrel.usace.army.mil/nwpl_static/mapper/mapper.html.

3.1.1 Upland Pasture/Grassland

Areas described as upland grassland within the survey area typically consisted of herbaceous vegetative cover within a topographically elevated landscape. Common vegetation species observed in the upland pasture/grassland communities included annual ragweed (*Ambrosia artemisiifolia*, FACU), bermuda grass (*Cynodon dactylon*, FACU), annual sumpweed (*Iva annua*, FAC), beaked panicum (*Panicum anceps*, FAC), bahia grass (*Paspalum notatum*, FACU), Canada golden-rod (*Solidago canadensis*, FACU), and smut grass (*Sporobolus indicus,* FACU). Based on the technical criterial outlined in the Regional Supplement, the vegetation observed within this community is not representative of a hydrophytic plant community.

3.1.2 Upland Forest

Areas described as upland forest within the survey area typically consisted of woody vegetation with a dbh greater than 3 inches. Upland forested communities pronominally consisted of tallow (*Triadica sebifera*, FAC), with sugarberry (*Celits laevigata*, FACW), American elm (*Ulmus americana*, FAC), loblolly pine (*Pinus taeda*, FAC) interspersed throughout. Due to minimal sunlight penetrating the canopy, a low diversity of herbaceous and woody vine species was noted within upland forested communities. The species noted with frequency included American beautyberry (*Callicarpa americana*, FACU) southern dewberry (*Rubus trivialis*, FACU), eastern poison ivy (*Toxicodendron radicans*, FAC), and Virginia creeper (*Parthenocissus quinquefolia*, FACU). Based on the technical criterial outlined in the Regional Supplement, some species observed within the upland forested community are considered hydrophytic plants, but due to the lack of indicators of wetland hydrology and/or absence of hydric soils this vegetative community was considred most consistent with upland forest communities.

3.1.3 Palustrine Emergent Wetlands

Areas described as PEM wetlands within the survey area consisted of freshwater wetlands that exhibited a dominance of herbaceous plant species. PEM wetlands are typically dominated by emergent and rooted herbaceous hydrophytes, excluding mosses and lichens, that are present for most of the growing season in most years. These wetlands are usually dominated by perennial plants (Cowardin et al., 1979). The Regional Supplement defines the herbaceous stratum as all herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody species, except woody vines, less than approximately 3 feet in height. Common vegetation species observed within PEM wetlands included swamp smartweed (*Persicaria hydropiperoides*, OBL), jointed flatsedge (*Cyperus articulates*, OBL), bushy goldentop (*Euthamia leptocephala*, FACW), sand spike-rush (*Eleocharis montevidensis*, FACW), and bog rush (*Juncus marginatus*, FACW). Based on the technical criteria outlined in the 1987 Manual and the Regional Supplement, the vegetation observed within this community is representative of a hydrophytic plant community.

3.1.4 Palustrine Scrub-Shrub Broad-Leaved Deciduous Wetlands

Historically, PSS wetlands were described as being typically dominated by woody vegetation less than 20 feet tall that may consist of true shrubs, young trees, or trees and shrubs that are stunted by environmental conditions (Cowardin, et al., 1979). The currently used Regional Supplement (USACE, 2010) defines the sapling and shrub strata as woody plants, excluding vines, which are 3 inches or less at

dbh and 20 feet or more in height (sapling) or 3 to 20 feet in height (shrub). Dominant species occurring within this wetland community consisted of Chinese tallow, swamp smartweed, jointed flatsedge, sand spike-rush, bushy goldentop, eastern baccharis (*Baccharis halimifolia*, FAC), wax myrtle (*Morella cerifera*, FAC), and black willow (*Salix nigra*, OBL). Based on the technical criteria outlined in the 1987 Manual and the Regional Supplement, the vegetation observed within this community is representative of a hydrophytic plant community.

3.1.5 Palustrine Forested Wetlands

Forested wetlands are characterized by woody vegetation that is 20 feet tall or taller (Cowardin, et al., 1979). The currently used Regional Supplement defines the tree stratum as woody plants, excluding vines, greater than 20 feet in height and 3 inches or greater in dbh. Canopy species occurring within the tree stratum primarily consisted of monotypic stands of Chinese tallow with sugarberry (*Celtis laevigata*, FACW) interspersed throughout. Due to minimal sunlight penetrating the canopy, a low diversity of understory and minor canopy species were documented within forested wetlands. Understory and minor canopy species noted included eastern baccharis, wax myrtle, bushy goldentop, swamp smartweed, sand spike-rush, short-bristle horned beak sedge (*Rhynchospora corniculata*, OBL), and sturdy bulrush (*Bolboschoenus robustus*, OBL). Based on the technical criteria outlined in the 1987 Manual and the Regional Supplement, the vegetation observed within these communities is representative of a hydrophytic plant community.

3.2 Soils

Based on the mapped soil data for Harris County, Texas (USDA National Cooperative Soil Survey [NCSS], 2016), the site crosses two mapped soil units. Descriptions of the mapped soil types are provided below; the parenthetical abbreviation following the soil name corresponds to the soil unit symbols provided in Figure 2 in Appendix A.

3.2.1 Mapped Soils

Vamont-Urban land complex, 0 to 1 percent slopes (VauA)– Vamont soils are very deep, somewhat poorly drained, very slowly permeable, with very high runoff. These nearly level soils are most commonly associated with uplands with slope ranges from 0 to 3 percent. Based on the national hydric soils list (NRCS, 2015), these soils are considered hydric in Harris County, Texas.

Dylan clay, 3 to 5 percent slopes (DylC) – Dylan soils consist of very deep, moderately well drained soils, with very high runoff. These gently sloping to sloping soils formed in clayey alluvium with slope ranges from 3 to 5 percent. Based on the national hydric soils list (NRCS, 2015), these soils are not considered hydric in Harris County, Texas.

3.2.2 Observed Soils

Soils observed during field investigations varied between wetland and upland communities. Observed soils in upland and wetland communities typically exhibited textures ranging from clay to loam with matrix hues of 10YR, as determined using Munsell Soil Color Charts (Kollmorgen Instruments Corporation, 2000).

Evaluation of hydric soils was completed based on criteria defined in NRCS (2010) and as outlined in the 1987 Manual and the Regional Supplement.

Soils observed in wetland areas within the proposed survey area typically developed under anaerobic (i.e., inundated/saturated edaphic conditions) or alternating aerobic-anaerobic conditions (i.e., wet/dry hydroperiod). The hydric soil indicators observed within the wetland communities included F3-Depleted Matrix (i.e., exhibiting a depleted matrix and a chroma of 2 or less with or without redox concentrations). Hydric soils observed within the wetland communities in the survey area consisted of clay and clay loam textures ranging in color from very dark gray (10YR 4/1) to brown (10YR 4/2) with redox concentrations ranging from dark yellowish brown (10YR 4/6) to yellowish brown (10YR 5/6).

Soils observed in upland areas at the site typically developed under aerobic soil conditions. Based on the criteria outlined in NRCS (2010), and as outlined in the 1987 Manual and the Regional Supplement, the majority of the soils observed within the upland communities were not considered hydric. The observed upland soils ranged from clay to clay loam, varying in color from brown (10YR 4/3) to very pale brown (10YR 8/3), and when present, redox concentrations ranged from yellowish-brown (10YR 5/8) to dark yellowish brown (10YR 4/6). The data points in upland areas that exhibited hydric soils either lacked hydrophytic vegetation or lacked both hydrology and hydrophytic vegetation.

Refer to the wetland determination data forms provided in Appendix B for detailed descriptions of observed soils at individual wetland and upland locations within the survey area.

3.3 Hydrology

Primary indicators of wetland hydrology observed in wetland communities included surface water, high water table, saturation, oxidized rhizospheres on living roots, water-stained leaves, drift deposits, and algal mat or crust. Secondary indicators of wetland hydrology observed in the wetland communities included drainage patterns, geomorphic position, and positive FAC-neutral test. Some upland communities exhibited secondary indicators of wetland hydrology, including FAC-neutral test and geomorphic position. However, all upland data points that met the hydrology criterion did not meet the hydrophytic vegetation and/or hydric soil criteria. Refer to the wetland determination data forms provided in Appendix B for site-specific observations of hydrology identified at each wetland location.

3.4 Wetlands and other Waters of the U.S.

Wetlands and waterbodies identified within the survey area included PFO1, PSS1, PEM, and E2EM wetlands, and a perennial stream. Table 3 provides a summary of all features identified within the survey area. Appendix A contains project maps depicting the location of all wetlands and waterbodies identified within the survey area. Appendices B and C contain the Regional Supplement wetland determination data forms and representative photographs, respectively.

3.4.1 Potentially Jurisdictional Waters of the U.S., Including Wetlands

Potentially jurisdictional linear waterbodies identified within the survey area exhibited an OHWM and/or a mean lower low water boundary, and a surface connection to a waterbody subject to jurisdiction under

Section 404 of the CWA or Section 10 of the RHA, or exhibited a significant nexus as defined in the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). Wetlands identified within the survey area were considered potentially jurisdictional WOUS if they exhibited a surface connection (i.e., they are located on or adjacent to jurisdictional stream tributaries) to a waterbody potentially subject to Section 404 of the CWA and/or Section 10 of the RHA, are located adjacent to a relatively permanent waterbody and are within the 100-year floodplain, and/or exhibited hydrologic connectivity with wetlands located within the 100-year floodplain, as defined in the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). Potentially jurisdictional WOUS identified within the survey area contribute to the Clear Creek-Frontal Galveston Bay watershed (hydrologic unit code [HUC] 120402040100). Descriptions of the wetlands and waterbodies identified within the survey area are provided in the following sections.

Table 3
Summary of Wetlands and Waterbodies Identified Within the Proposed LBC Ship Dock 5 Survey Area

Field ID	Classification[1]	Acreage[2]	Potentially USACE Jurisdiction
WET 1	PFO1	0.069	Section 404
WET 2	PEM	0.389	Section 404
WET 3	PSS1	0.397	Section 404
WET 4	PFO1	1.777	Section 404
WET 5	PFO1	0.319	Section 404
WET 6	PSS1	2.126	Section 404
WET 7	PSS1	0.491	Section 404
WET 8	E2EM	0.138	Section 404/10
CRK 1[3]	Perennial, TNW	7.738	Section 10
TOTALS	**PEM (1)**	**0.389**	
	PSS1 (3)	**3.014**	
	PFO1 (3)	**2.165**	
	E2EM (1)	**0.138**	
	Perennial (1)	**7.738**	
	All Features (8)	**13.444**	

1 PFO1 = Palustrine forested broad-leaved deciduous
PSS1 = Palustrine scrub-shrub
PEM = Palustrine emergent
E2EM = Estuarine intertidal emergent
Perennial = Waterbody that contains flowing water year-round during a typical year
TNW = Traditional navigable water subject to USACE jurisdiction under Section 10 of the Rivers and Harbors Act
2 Acreages represent the total acreage identified within the survey area
3 The mean lower low water was documented for CRK 1

3.4.1.1 Wetlands

A total of three PFO1 wetlands, two PSS1 wetlands, one PEM wetland, and one E2EM wetland were identified within the survey area, as shown in Table 3. One E2EM tidally influenced wetland is located adjacent to, and exhibits a significant nexus with, the Bayport Turning Basin. The Bayport Turning Basin is a traditionally navigable water (TNW) subject to USACE jurisdiction under Section 10 of the RHA. As such, the identified E2EM wetland is also subject to USACE jurisdiction under Section 10 of the RHA. The

remaining wetlands identified within the survey area located within the 100-year floodplain and therefore subject to USACE jurisdiction under Section 404 of the CWA.

Emergent wetlands are usually dominated by perennial plants (Cowardin, et al., 1979). Areas containing herbaceous vegetation that covered at least 5 percent of the substrate during the peak of the growing season were considered to be vegetated (USACE, 2010) and were classified as emergent wetlands. One PEM wetland and one E2EM wetland were identified within the survey area.

Scrub-shrub wetlands are described by Cowardin, et al. (1979) as being typically dominated by woody vegetation less than 20 feet tall that may consist of true shrubs, young trees, or trees and shrubs that are stunted by environmental conditions. As specified in Cowardin, et al. (1979), wetlands that were comprised of either (1) 30 percent or greater sapling and/or shrub cover, or (2) tree and shrub strata that in combination covered 30 percent or more of the area, were classified as scrub-shrub. Three PSS1 wetlands were identified within the survey area.

Forested wetlands are characterized by woody vegetation that is 6 meters (20 feet) tall or taller (Cowardin, et al., 1979). As specified in Cowardin, et al. (1979), wetlands that contained 30 percent or more areal canopy cover consisting of tree-sized species, as defined in USACE (2010), were considered to be forested wetlands. Three PFO1 wetlands were identified within the survey area.

3.4.1.2 Waterbodies

One perennial stream (CRK 1) was identified within the survey area of the proposed project. Portions of the survey area of the proposed project intersect the Bayport Ship Channel, a waterbody dredged for ship traffic connecting to the Houston Ship Channel. The Bayport Ship Channel is considered a TNW and subject to USACE jurisdiction under Section 10 of the RHA.

Perennial streams are waterbodies that contain flowing water year-round during a typical year. The water table is located above the streambed for most of the year, and groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of eater for stream flow (Wetland Training Institute [WTI], 2012). Perennial streams that exhibit an OHWM and/or mean lower low water boundary are considered WOUS potentially subject to USACE jurisdiction under Section 404 of the CWA and/or Section 10 of the RHA.

4.0 Conclusions

Potential WOUS, including wetlands, identified within the survey area of the proposed project included perennial streams, and emergent, scrub-shrub, and forested wetlands. The survey area included potentially jurisdictional features subject to USACE jurisdiction under Section 404 of the CWA consisting of one perennial stream, one PEM, one E2EM, three PSS1, three PFO1 wetlands. Of these, WET 8, an E2EM tidally-influenced wetland, and CRK 1, the Bayport Ship Channel, are subject to USACE jurisdiction under Section 10 of the RHA.

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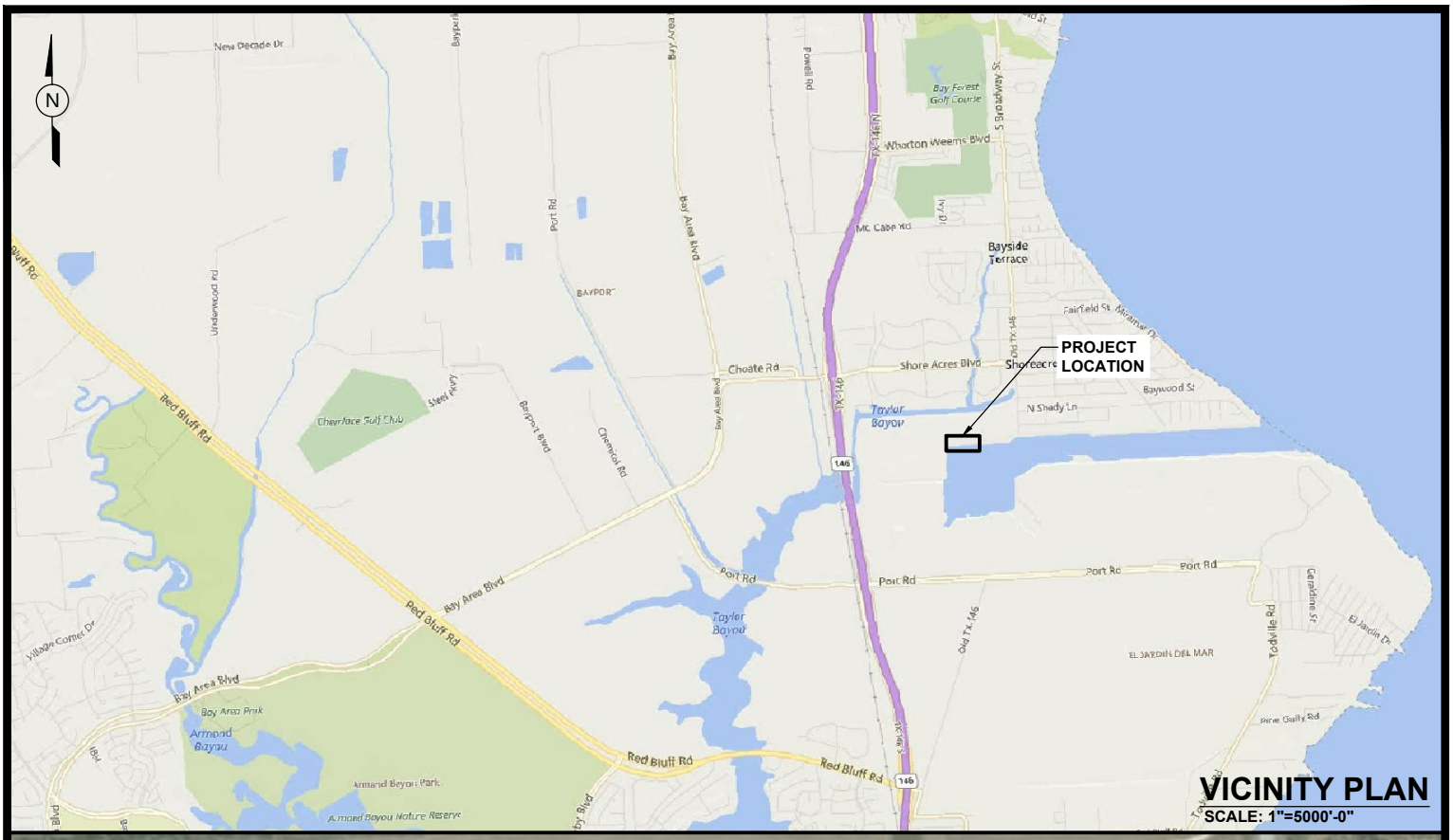
Appendix A

Project Maps



VICINITY PLAN
SCALE: 1"=5000'-0"

LOCATION PLAN
SCALE: 1"=500'-0"

PURPOSE:	PROPOSED SHIP DOCK 5	OWNER:	LBC HOUSTON, LP
		APPLIED BY:	LLOYD ENGINEERING
		APPLIC. No:	SWG-2016-00832
LOCATION:	LA PORTE, TX	COUNTY:	HARRIS
		WATER BODY:	HOUSTON SHIP CHANNEL
		DATUM:	MLLW

LLOYD ENGINEERING, INC
HOUSTON TEXAS, USA
LICENSE NO. F-002846

DESIGN BY:	MW
DRAWN BY:	JB
SCALE:	AS NOTED
DATE:	10/05/16

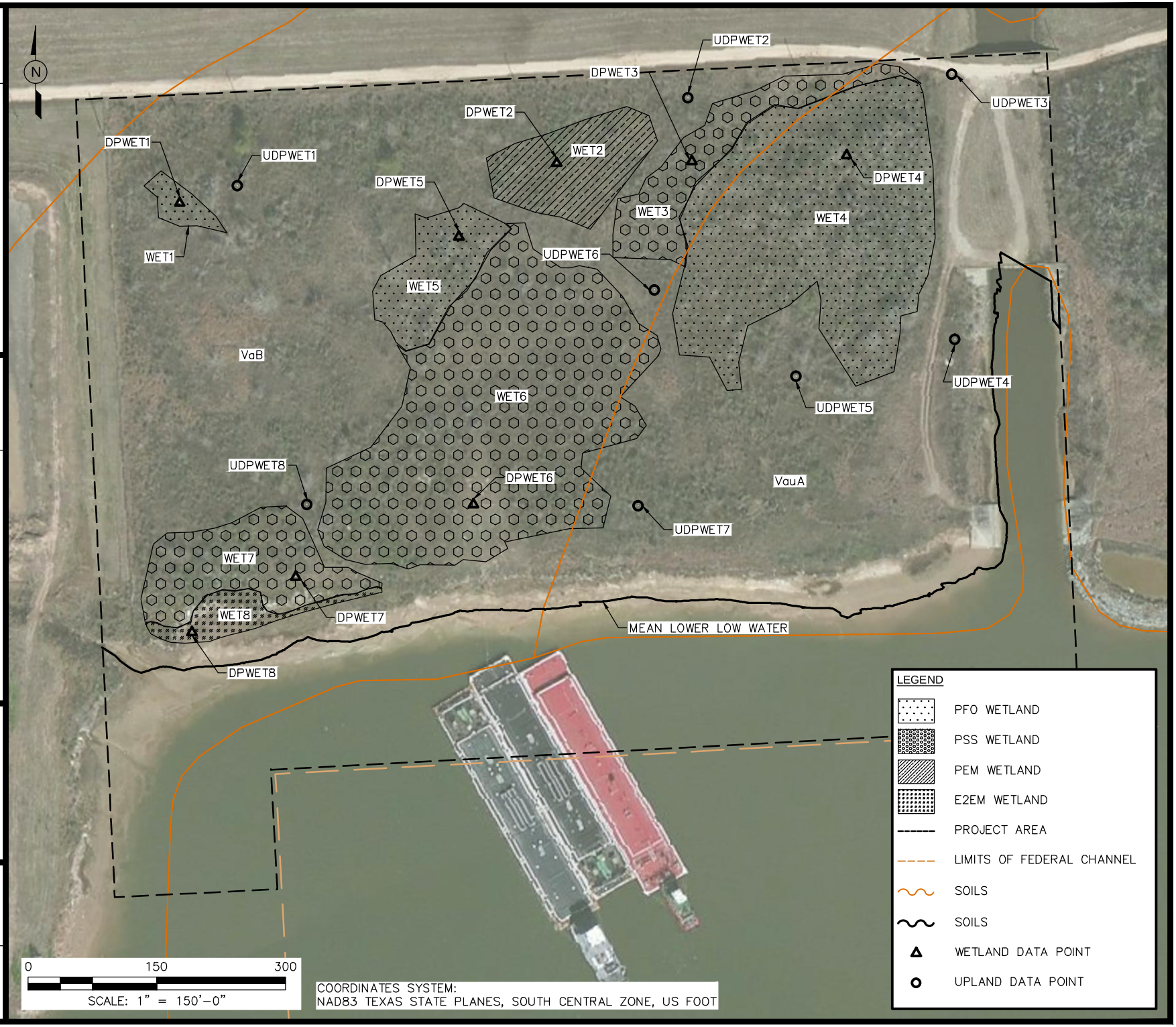
SHEET No:
FIGURE 1

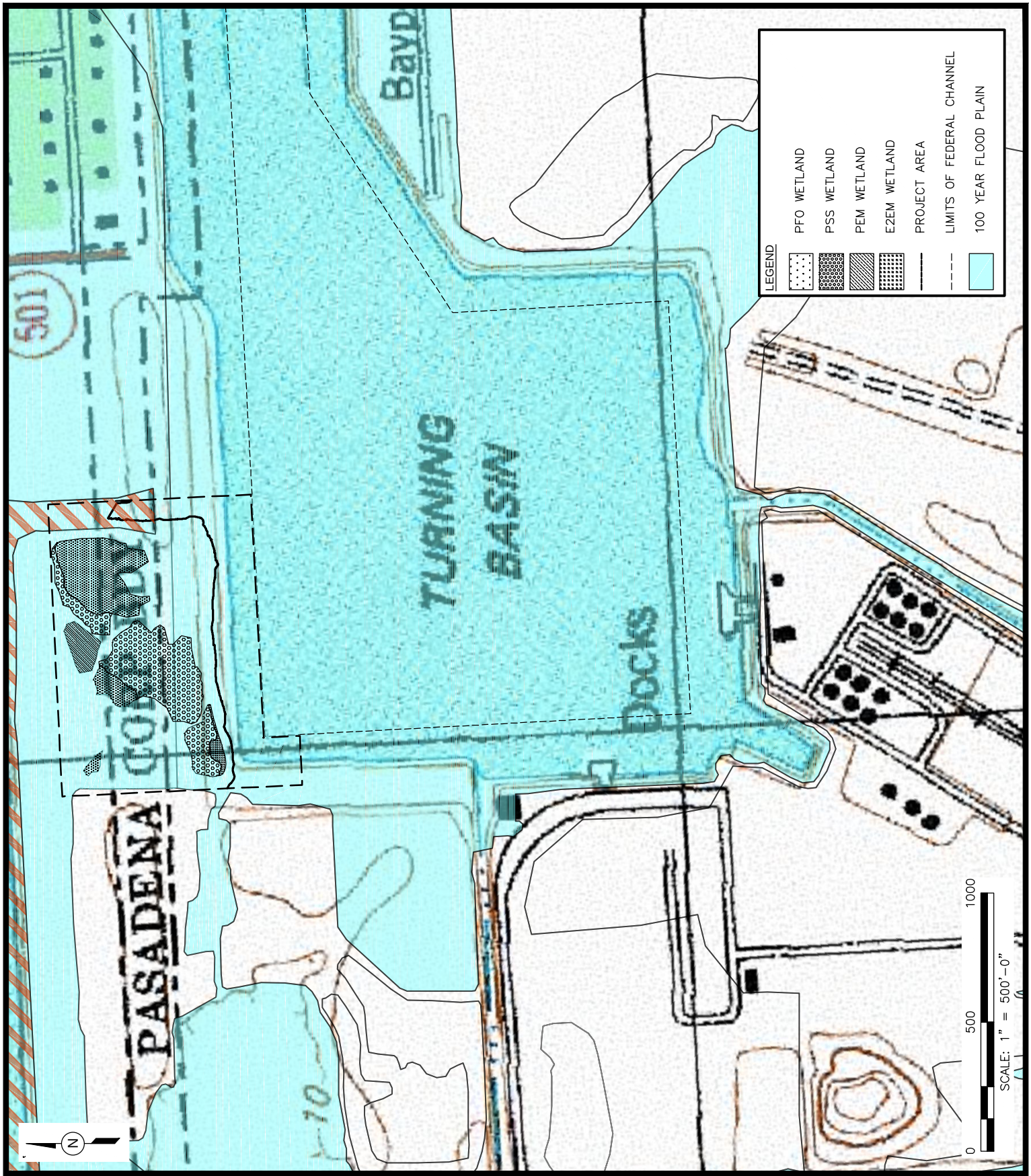
FILE NAME: E:\Dropbox (Lloyd Engineering)\LEI PROJECTS\LBC\Bayport\Project Info\WETLAND MAPS-PERMIT\1_SD5 VICINITY LOCATION PLAN.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, November 07, 2016 - 3:53pm USER: Jesus

PURPOSE:	PROPOSED SHIP DOCK 5
LOCATION:	LA PORTE, TX
OWNER:	LBC HOUSTON, LP
APPLIED BY:	LLOYD ENGINEERING
APPLIC. No:	SWG-2016-00832
COUNTY:	HARRIS
WATER BODY:	HOUSTON SHIP CHANNEL
DATUM:	MLLW

LLOYD ENGINEERING, INC
HOUSTON, TEXAS, USA
LICENSE NO. F-002846

DESIGN BY:	MW
DRAWN BY:	JB
SCALE:	1"=150'
DATE:	10/05/16
SHEET No:	FIGURE 2





PURPOSE:	PROPOSED SHIP DOCK 5	OWNER:	LBC HOUSTON, LP	LLOYD ENGINEERING, INC HOUSTON TEXAS, USA LICENSE NO. F-002846	DESIGN BY:	MW
		APPLIED BY:	LLOYD ENGINEERING		DRAWN BY:	JB
		APPLIC. No:	SWG-2016-00832		SCALE:	1"=500'
LOCATION:	LA PORTE, TX	COUNTY:	HARRIS		DATE:	10/05/16
		WATER BODY:	HOUSTON SHIP CHANNEL		SHEET No:	FIGURE 3
		DATUM:	MLLW			

FILE NAME: E:\Dropbox (Lloyd Engineering)\LEI PROJECTS\LBC\Bayport\Project Info\WETLAND MAPS-PERMIT\3_TOPOGRAPHIC WETLAND.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, November 07, 2016 - 3:50pm USER: Jesus

Appendix B

Wetland Determination Data Forms

Wetland Determination Data Forms have been excluded from this Draft for Reviewing Purposes

Appendix C

Representative Photographs

LBC Houston, LP - Ship Dock 5 Project
Wetland Delineation Report
Representative Photographs

Photo 1: View of the northeast corner of the survey area at UDP WET 3, facing south.

Photo 2: View of upland communities located within the survey area.

LLOYD ENGINEERING, INC.

Photo 3: View of upland pasture vegetative communities at UDP WET 4, facing west.

Photo 4: View of WET 3, a PSS1 wetland located within the survey area, facing south.

Photo 5: View of WET 4, a PFO1 wetland located within the survey area, facing west.

Photo 6: View of WET 8, an estuarine intertidal emergent wetland located within the survey area.

Photo 7: View of CRK 1, the Bayport Ship Channel, a perennial stream located within the survey area.