DEPARTMENT OF THE ARMY PERMIT

Permittee	Port of Port Arthur	
Permit No	SWG-2011-00303	
Issuing Office	Galveston District	
to the appropr		this permit, means the permittee or any future transferee. The term "this office" refers Corps of Engineers having jurisdiction over the permitted activity or the appropriate commanding officer.
You are author	orized to perform work in accordance w	h the terms and conditions specified below.
Port of Port A reinforced con will incorporat and to construc wharf and end concrete matti Sabine-Neches yards of mate overdredge plu dredged mater	Arthur facilities. To construct a new nerete box culvert and outfalls. To construct an existing rail bridge and two addit at 398-foot-long sheet pile bulkhead. ding near the State Highway 82 Bridge ing and 0.29 acres of stone riprap at the Scanal to a depth of -48 feet mean loverial. To mechanically and/or hydraulus 1 foot advanced maintenance removered.	6.26 acres of open waters and 0.08 acres of wetlands during expansion of the existing 570-linear-foot culvert extension, approximately 124 linear feet of 7-foot by 8-foot ruct a new 600-foot-long by 63-foot-wide wharf with driven concrete pile supports that onal railroad spurs. To install one new breasting dolphin and one new mooring dolphin To straighten and armor 1,798 linear feet of shoreline, starting at the end of the existing by contouring the shoreline to a 3:1 slope and stabilizing with 3.05 acres of articulated a slope toe. To mechanically and/or hydraulically new work dredge 18.67 acres of the tide plus 2 feet overdredge plus 1 foot advanced maintenance removing 416,200 cubic ically maintenance dredge 14.51 acres to a depth of -48 mean low tide plus 2 feeting 211,000 cubic yards of material annually for a period of five years. To place the placement areas: 8, 9A, 9B, and 11. The project will be conducted in accordance with ation plan, Attachment A, in 12 sheets.
	ion: In the Sabine-Neches Canal and ort Arthur, Jefferson County, Texas.	wetlands adjacent to the Sabine-Neches Canal, at 221 Houston Avenue (Port of Port
Permit Conditi	tions:	
General Con	nditions:	
	he authorized activity, submit your req	ends on31 <u>December 2019</u> . If you find that you need more time test for a time extension to this office for consideration at least one month before the
permit. You a party in compl	are not relieved of this requirement if your old are not relieved of this requirement if you have not relieved to the second second to the second sec	s permit in good condition and in conformance with the terms and conditions of this a abandon the permitted activity, although you may make a good faith transfer to a third Should you wish to cease to maintain the authorized activity or should you desire to tain a modification of this permit from this office, which may require restoration of the
3. If you disco	cover any previously unknown historic	r archeological remains while accomplishing the activity authorized by this permit, you

must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the

remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

- 4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
- 5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
- 6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

- 1. The permittee understands and agrees that if future operations by the United States (U.S.) require the removal, relocation or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate or alter the structural work or obstructions caused thereby without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.
- 2. The area subject to this permit is being studied by the U.S. for possible improvements or modifications. The permittee is hereby notified that if these or future operations occur and require any facility, pipeline or other structure to be moved to accommodate a Federal navigation or flood control improvement in navigable waters, the owners of said facility, pipeline or other structure will be required to remove or relocate the facility, pipeline or other structure at the owner's expense.
- 3. The permittee must install and maintain, at their own expense, any safety lights and signals prescribed by the U.S. Coast Guard (USCG) through regulations or otherwise on the authorized facilities. In addition, no bright lights that may be erected on the permitted structure shall be directed toward a navigable waterway in a manner that could hinder nighttime users of this waterway. The USCG may be reached at the following address: Commander (dpb), Eighth Coast Guard District, Hale Boggs Federal Building, 501 Magazine Street, New Orleans, Louisiana 70130-3396, or by telephone at 504-589-6198.
- 4. Prior to the performance of hydraulic dredging, the permittee will obtain a Section 401 water quality certification from the Texas Commission on Environmental Quality for the effluent or return water associated with the upland dredged material placement areas to be utilized. The permittee will submit a copy of the Section 401 certification to the Corps of Engineers, Galveston District, Regulatory Division, Chief, Compliance Branch, prior to performing hydraulic dredging.
- 5. Upon completion of construction, the permittee must submit as-built drawings to the Corps of Engineers, Operations-Navigation Division and Port Arthur Area Office within 60 days. The as-built drawings must include distances of the constructed structures relative to the adjacent Federal channel.
- 6. All construction of mitigation, including planting, must be complete within 12 months after start of construction within jurisdictional areas. The permittee will notify the Corps of Engineers, Galveston District, Regulatory Division, Chief, Compliance Branch, in writing, when the work begins in jurisdictional areas. Monitoring and maintenance will proceed according to the mitigation plan.
- 7. The mitigation success criteria, as indicated in the mitigation plan included in Attachment A, must be achieved for the mitigation requirement to be considered complete.
- 8. Should mitigation be determined to be unsuccessful by Corps personnel at the end of the monitoring period, the permittee will be required to take necessary corrective measures, as approved by the Corps. Once the corrective measures are completed, the permittee will notify the Corps and a determination will be made regarding success of the mitigation.

Further Information:

- 1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - (X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

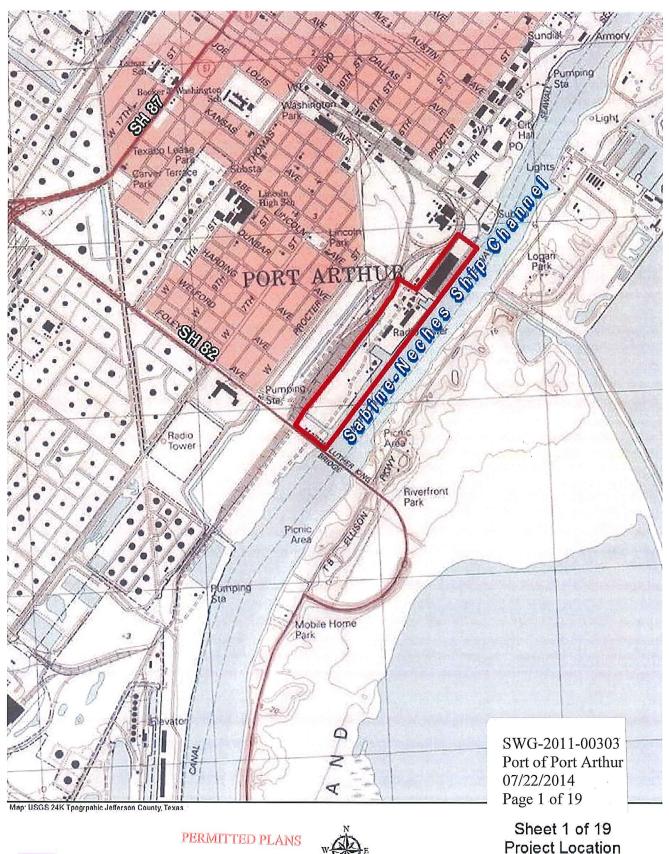
- 2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
- 3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
 - d. Design or construction deficiencies associated with the permitted work,
 - e. Damage claims associated with any future modification, suspension, or revocation of this permit.
- 4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
- 5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
 - a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
 - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Hoyd Daspard	August 11, 2014
(PERMITTEE))	(DATE)
PORT OF PORT ARTHUR PORT Director & CEO	
This permit becomes effective when the Federal official, designated to act for the Secreta	ary of the Army, has signed below.
FOULT THOWAS BOLLLO DISTRICT ENGINEER) JANET THOMAS BOTELLO, LEADER NORTH EVALUATION UNIT FOR COLONEL RICHARD P. PANNELL	11 Quegust 2014
When the structures or work authorized by this permit are still in existence at the time the	e property is transferred, the terms and conditions of
this permit will continue to be binding on the new owner(s) of the property. To va	
liabilities associated with compliance with its terms and conditions, have the transferee s	
	-
(TRANSFEREE – Typed/Printed Name)	(DATE)
(TRANSFEREE - Signature)	(Mailing Address)



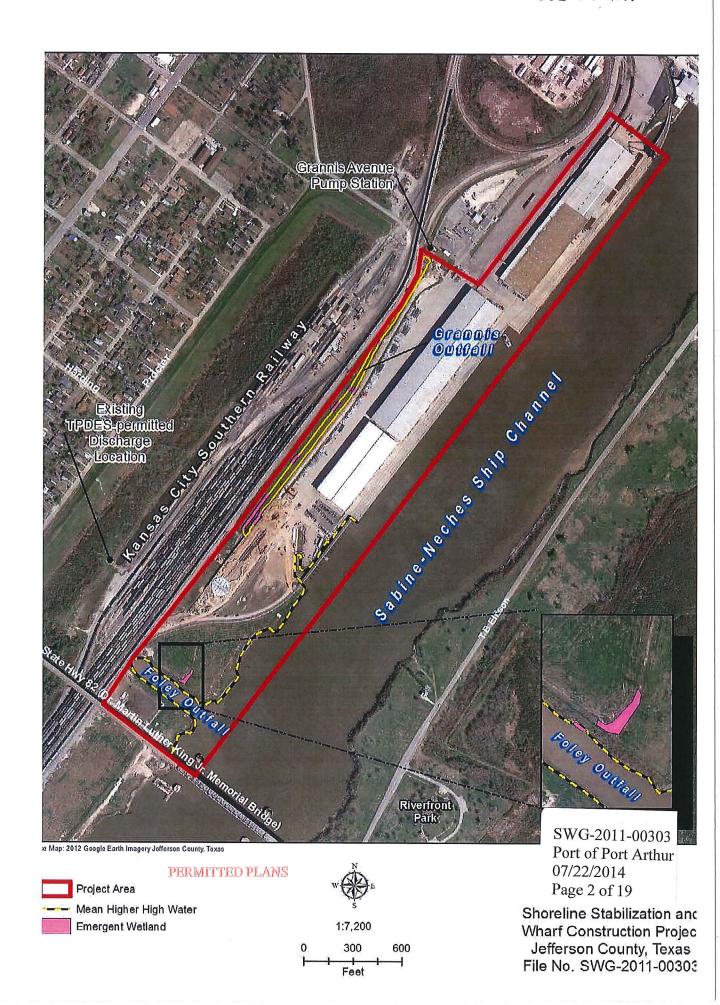
Project Location

1:24,000

0 1,000 2,000

Feet

Sheet 1 of 19
Project Location
Port of Port Arthur
Shoreline Stabilization and
Wharf Construction Project
Jefferson County, Texas
File No. SWG-2011-00303



Lockwood, Andrews & Newnam, Inc.

A LEO A DALY COMPANY

PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

DREDGED MATERIAL DISPOSAL

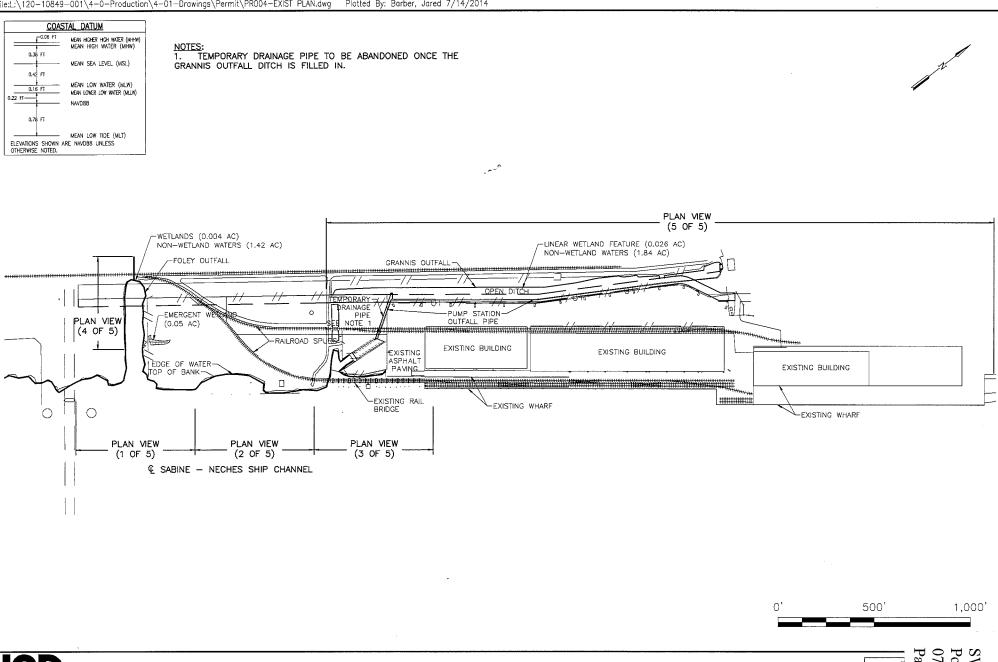
PERMITTED PLANS

0' 10,000'

20,000'



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Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY

PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

OVERALL EXISTING SITE



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SWG-2011-00303 Port of Port Arthur

COAS	STAL DATUM	
_0,06 FT	MEAN HIGHER HIGH WATER (MINT	
	MEAN HIGH WATER (MHW)	
0.38 FT		
	MEAN SEA LEVEL (MSL)	
0.42 FT		
0.16 FT	MEAN LOW WATER (MLW)	
0.22 FT	MEAN LOWER LOW WATER (MLLW)	
0.22 71	NAVD88	
0.78 FT		
	MEAN LOW TIDE (MLT)	
ELEVATIONS SHOWN A		
OTHERWISE NOTED.	KKE NAVUDO UNLESS	

TOTAL PROJECT	AREA (AC)	FILL BELOW MHHW (CY)	CUT BELOW MHHW (CY)
RS (CONVERTED TO	3.26	19,700	_
WORK DREDGING	18.67	_	416,200
	0.08	_	-
	3.05	5,000	-
POSED RIP RAP	0.29	1,000	-
	TOTAL PROJECT WITHIN EXISTING RS (CONVERTED TO ND) WORK DREDGING ANDS TO BE FILLED VERTED TO UPLAND) COSED ARTICULATED RETE MAT (ACM)	WITHIN EXISTING (RS (CONVERTED TO 3.26 ND) WORK DREDGING 18.67 ANDS TO BE FILLED VERTED TO UPLAND) OSED ARTICULATED (RETE MAT (ACM) 3.05	TOTAL PROJECT AREA (AC) MHHW (CY) WITHIN EXISTING (RS (CONVERTED TO ND) WORK DREDGING 18.67 — ANDS TO BE FILLED VERTED TO UPLAND) OSED ARTICULATED RETE MAT (ACM) ANDS TO BE FILLED 0.08 — OSED ARTICULATED 3.05 5,000

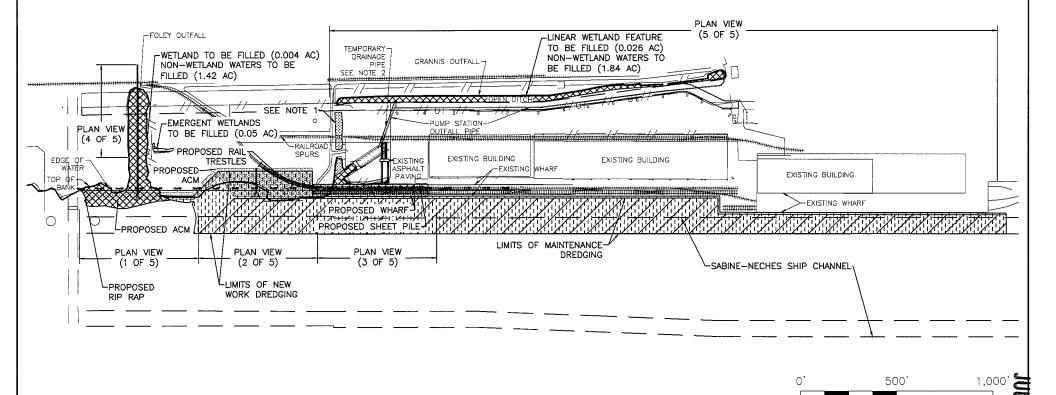
	AREA (AC)	ESTIMATED ANNUAL MAINTENANCE DREDGING VOLUME (CY/YR)	
PROPOSED MAINTENANCE DREDGING	14.51	211,000	

NOTES:

1. THIS PORTION OF THE GRANNIS OUTFALL DITCH HAS

ARE OF USACE PERMIT NO SWG-2012-00319.

2. TEMPORARY DRAINAGE PIPE TO BE ABANDONED ONCE THE GRANNIS OUTFALL DITCH IS FILLED IN.



Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY

PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

OVERALL PLAN

PERMITTED PLANS



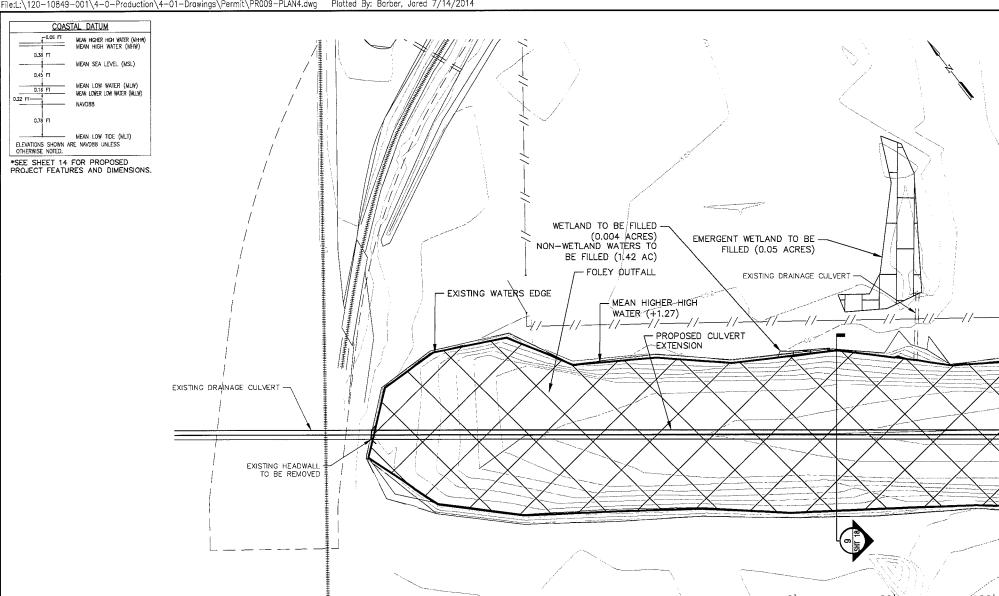
Lockwood, Andrews & Newnam, Inc. A LEG A DALY COMPANY

PROPOSED EARTHWORK PLAN VIEW (1 OF 5)

PERMITTED PLANS

WETLANDS TO BE FILLED

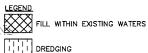






PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

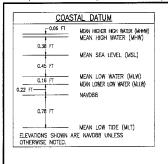
> PROPOSED EARTHWORK PLAN VIEW (4 OF 5)

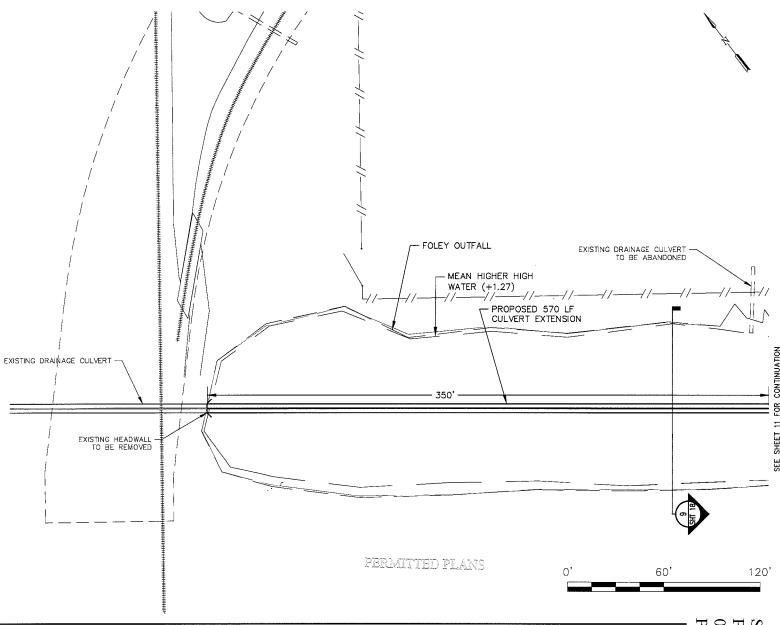


WETLANDS TO BE FILLED



SWG-2011-00303 Port of Port Arthur 07/22/2014





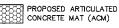


PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

PROPOSED PROJECT FEATURES
PLAN VIEW (4 OF 5)



PROPOSED RIP RAP





SWG-2011-00303 Port of Port Arthur 07/22/2014 Page 9 of 19

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY

PROPOSED EARTHWORK PLAN VIEW (2 OF 5)

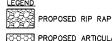


SWG-2011-00303 Port of Port Arthur 07/22/2014



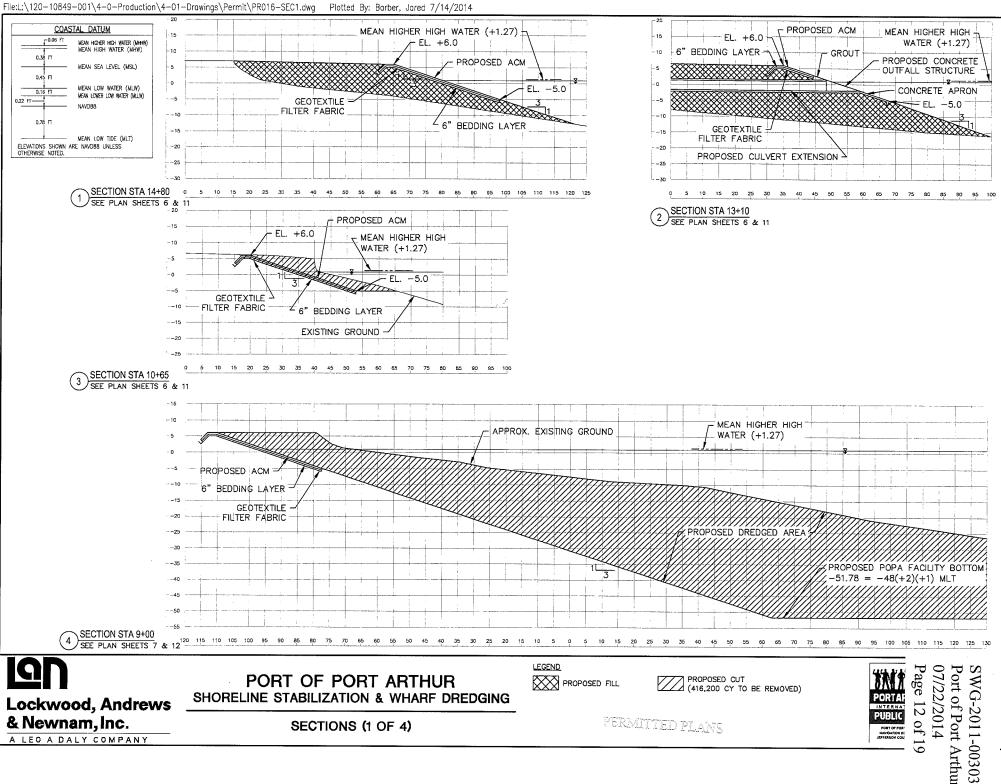
PORT OF PORT ARTHUR
SHORELINE STABILIZATION & WHARF DREDGING

PROPOSED PROJECT FEATURES
PLAN VIEW (2 OF 5)

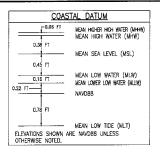


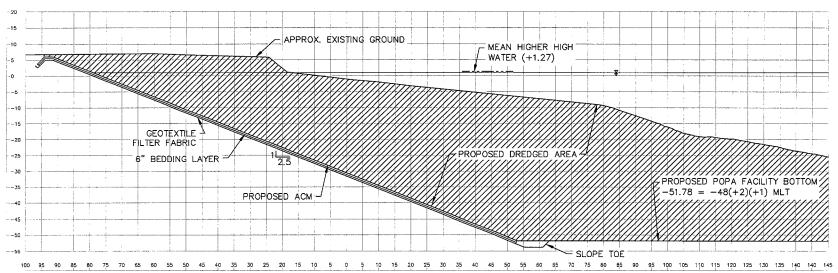
PROPOSED ARTICULATED CONCRETE MAT (ACM)



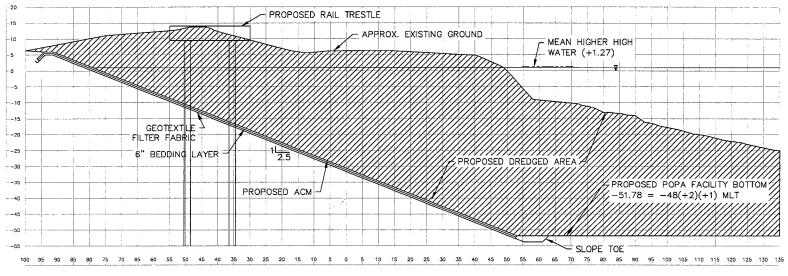


A LEO A DALY COMPANY





SECTION STA 7+20 SEE PLAN SHEETS 7 & 12



SECTION STA 5+00
SEE PLAN SHEETS 7 & 12

Lockwood, Andrews & Newnam, Inc.

PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING

SECTIONS (2 OF 4)

LEGEND

PROPOSED FILL

PROPOSED CUT (416,200 CY TO BE REMOVED)

RMITTED PLANS



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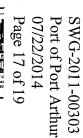
SHORELINE STABILIZATION & WHARF DREDGING Lockwood, Andrews

SECTIONS (3 OF 4)

PORT OF PORT ARTHUR

PERMITTED PLANS

PROPOSED FILL (416,200 CY TO BE REMOVED)



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& Newnam, Inc.

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY

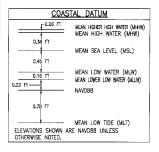
PROPOSED PROJECT FEATURES PLAN VIEW (5 OF 5)

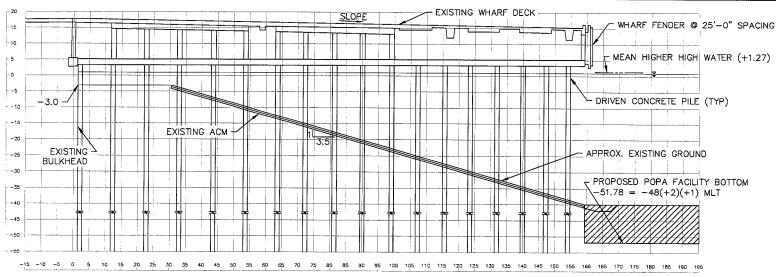


CONCRETE MAT (ACM)

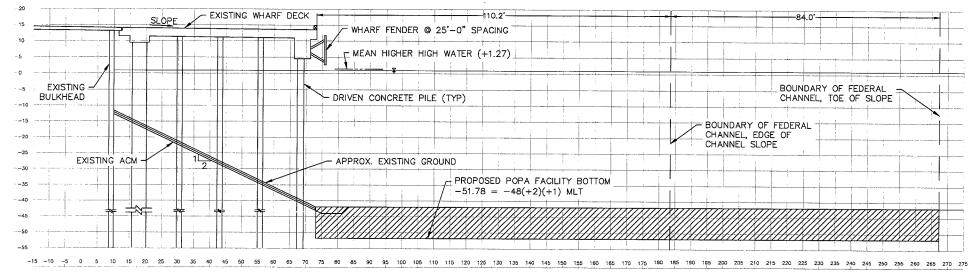


SWG-2011-00303 Port of Port Arthur





SECTION WHARVES 1 & 2
SEE PLAN SHEETS 10 & 15



SECTION WHARVES 3, 4 & 5 SEE PLAN SHEETS 10 & 15 PERMITTED PLANS



PORT OF PORT ARTHUR SHORELINE STABILIZATION & WHARF DREDGING





PROPOSED CUT
(416,200 CY TO BE REMOVED)

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A LEO A DALY COMPANY

SECTIONS (4 OF 4)

COMPENSATORY MITIGATION PLAN

PORT OF PORT ARTHUR'S SHORELINE STABILIZATION AND WHARF CONSTRUCTION PROJECT JEFFERSON COUNTY, TEXAS

USACE FILE NO. SWG-2011-00303

MAY 2014

INTRODUCTION

This document serves as a mitigation plan for the Port of Port Arthur's (POPA's) proposed Shoreline Stabilization and Wharf Construction Project, which is currently being reviewed by the U.S. Army Corps of Engineers (USACE) under File No. SWG-2011-00303. Under the proposed project, POPA will construct 600 linear feet of new wharf and 398 linear feet of new bulkhead as an extension to an existing wharf and bulkhead; deepen the existing open water area along the proposed wharf to accommodate vessel docking; deepen the open water area along the existing wharfs to accommodate larger vessels; repair and stabilize an additional 1,198 linear feet of the Sabine-Neches Ship Channel (SNSC) shoreline; construct a new breasting dolphin and mooring dolphin; and fill in two existing storm water outfall channels/ditches that cross the property. The purpose of the project is to provide additional cargo unloading and ship/barge berthing areas; to accommodate larger vessels; to protect POPA's property and existing infrastructure from damage caused by ongoing erosion; to increase access to all portions of the project site, as well as to nearby properties owned by POPA (e.g., southwest of the SH 82 bridge); to facilitate storage and staging of cargo; and to maximize the use of the property for port cargo operations. The adjacent upland areas on POPA's property are currently being, and will continue to be, developed and used for port operations.

The proposed project is water dependent and could not be constructed without impacting waters of the U.S. POPA has prepared this plan to mitigate the losses to waters of the U.S. and aquatic functions that will result from the project. The remainder of this compensatory mitigation plan addresses, as applicable, the 12 mitigation components outlined in 33 CFR 332: Compensatory Mitigation for Losses to Aquatic Resources, which include:

- 1. Objectives
- 2. Site Selection
- 3. Site Protection Instrument
- 4. Baseline Information
- 5. Determination of Credits
- 6. Mitigation Work Plan
- 7. Maintenance Plan
- 8. Performance Standards
- 9. Monitoring Requirements

- 10. Long-term Management Plan
- 11. Adaptive Management Plan
- 12. Financial Assurances

1. Objectives

The goals and objectives of this mitigation plan are to compensate for the loss of 3.26 acres of shallow open water habitat and 0.08 acre of emergent wetlands that will result from the proposed project. POPA will mitigate the losses by implementing a permittee-responsible mitigation plan under a watershed approach. The plan entails planting smooth cordgrass (*Spartina alterniflora*) behind approximately 6,239 linear feet (1.2 miles) of new rock breakwater that the Texas Parks and Wildlife Department's (TPWD) J.D. Murphree Wildlife Management Area (WMA) will install along the WMA's Compartment 9 shoreline along the Gulf Intracoastal Waterway (GIWW). The TPWD's rock breakwater was permitted by Permit No. SWG-2009-00277. Smooth cordgrass will be planted within an estimated 4.1 acres.

2. Site Selection

POPA evaluated a number of options for mitigating the unavoidable loss of waters of the U.S. resulting from the proposed project. In accordance with the USACE's and U.S. Environmental Protection Agency's 2008 Final Compensatory Mitigation Rule (33 Code of Federal Regulations 332 Compensatory Mitigation for Losses of Aquatic Resources; 73 Federal Register 19670, April 10, 2008), the mitigation options were evaluated based on the following hierarchy. **Table 1** and the paragraphs following the table summarize the evaluation of each mitigation option.

- Mitigation bank credits
- In-lieu fee program credits
- Permittee-responsible mitigation under a watershed approach
- Permittee-responsible mitigation through on-site and in-kind mitigation
- Permittee-responsible mitigation through off-site and/or out-of-kind mitigation

Table 1 Summary of Mitigation Options

Mitigation Option	Evaluation/Conclusion		
Mitigation Bank Credits	Option Dismissed – The project is located in the service area of one active mitigation bank; however, the mitigation bank does not contain appropriate resource-type credits.		
In-lieu Fee Program Credits	Option Dismissed – The project is not located within the service area for any in-lieu fee programs.		
Permittee Responsible Mitigation (Watershed Approach)	Option Selected – Plant smooth cordgrass behind 6,239 linear feet of new rock breakwater at the TPWD's J.D. Murphree WMA (estimated 4.1 acres).		
Permittee Responsible Mitigation (On-site and In-kind)	Not Evaluated – A higher-priority mitigation option was selected		
Permittee Responsible Mitigation (Off-site/Out-of-kind)	Not Evaluated – A higher-priority mitigation option was selected		

Mitigation Bank Credits

According to the 2008 Final Compensatory Mitigation Rule, the USACE should give preference to the use of mitigation banks when (1) the permitted impacts are located within the service area of an approved mitigation bank, and (2) the mitigation bank has the appropriate number and resource type of credits available. As such, POPA evaluated the use of mitigation banks to compensate for project impacts. Based on the USACE's Regulatory In Lieu Fee and Bank Information Tracking Information System (RIBITS) website (http://geo.usace.army.mil/ribits/index.html) and knowledge of mitigation banks in the area, POPA identified six potential mitigation banks in the project region (Table 2). POPA assessed each of the mitigation banks using the available data on the RIBITS website and by contacting the mitigation bank points of contact. As shown in Table 2, the proposed project is located in the service area for one active mitigation bank, the Daisetta Swamp Mitigation Bank (DSMB), which is located near the City of Daisetta in Liberty County, Texas. Discussions with the USACE and the DSMB's point of contact confirmed that the DSMB does not contain appropriate resource type credits (e.g., tidal shallow water or marsh) and therefore is not a suitable option for mitigating the proposed impacts. The other five mitigation banks were dismissed because they do not have credits available or the project is not located in the bank's service area. Based on this analysis, POPA dismissed the option of purchasing mitigation bank credits.

Table 2 Mitigation Banks Evaluated

Table 2 Willgation Banks Evaluated				
Mitigation Bank (MB)	Is the MB Approved/Active?	Is the Project within MB Service Areas?	Tidal Credits Available?	Conclusion
Daisetta Swamp MB	Yes – Credits available	Yes (Secondary)	No	Dismissed – Appropriate resource type credits are not available.
Sabine Lake MB	No – Pending approval	Possible (Pending)	No	Dismissed – Pending approval; appropriate resource type credits are not available.
Spindletop Bayou MB	No – Pending approval	Possible (Pending)	No	Dismissed – Pending approval; appropriate resource type credits are not available.
Gulf Coastal Plains MB	Yes – Credits available	No	Yes	Dismissed – Project is outside the MB's primary and secondary service areas.
Neches River MB	No – Sold out of credits	Yes	Not Applicable	Dismissed – No credits are available.
Pineywoods MB	Yes – Credits available	No	No	Dismissed – Project is outside the MB's primary and secondary service areas.

In-lieu Fee Program Credits

The proposed project is not located within the primary or secondary service area for any in-lieu fee programs.

Permittee-responsible Mitigation under a Watershed Approach

The proposed project is located in the Sabine Lake watershed (Hydrologic Unit Code [HUC] 12040201); therefore, POPA evaluated permittee-responsible mitigation options within the Sabine Lake watershed and focused on potential mitigation sites that are connected to larger areas of similar wetland habitats. POPA assessed in detail the following two options:

- Option 1: Purchase preservation credits at the Rose City Site (managed by Edwin Arnaud, Inc.) near Beaumont, Texas. This option would result in the preservation of tidal marsh that is connected to other valuable wetland habitats.
- Option 2: Plant smooth cordgrass marsh behind 6,239 linear feet (1.2 mile) of proposed breakwater structure to be installed by the TPWD's J.D. Murphree WMA.

POPA selected Option 2 because planting smooth cordgrass behind the J.D. Murphree WMA's proposed breakwater structure would create new tidal marsh habitat; provide a biological buffer, in addition to the rock breakwater, between the GIWW and the J.D. Murphree WMA; and help protect interior wetlands in the WMA.

3. Site Protection Instrument

The proposed mitigation site is located on the J.D. Murphree WMA, which is owned and managed as coastal wetland habitat by the TPWD, a state resource agency. As such, after POPA achieves the success criteria outlined in the Performance Standards section of this mitigation plan, the site will be managed and protected by the TPWD in accordance with the WMA's goals and management plan.

4. Baseline Information

This section provides baseline information on the project area, followed by a general description of the mitigation site.

Project Area

The project area encompasses existing POPA property located on the SNSC between the State Highway 82 bridge (Dr. Martin Luther King, Jr. Memorial Bridge) and Houston Avenue in the City of Port Arthur. The property has been previously cleared and graded, and portions have been developed and used for various port operations. Approximately 2,900 linear feet of wharfs and related port infrastructure, including rail spurs and warehouses, exist on the property. In late 2012 to early 2013, construction of large storage silos began on portions of the property.

Areas of the property that have not been developed contain maintained upland herbaceous vegetation and open water areas associated with the SNSC and two storm water outfall channels (the Foley Outfall and the Grannis Outfall). Dominant species in the maintained vegetation community include bermudagrass (Cynodon dactylon), Angleton bluestem (Dichanthium aristatum), crabgrass (Digitaria ciliaris), dallisgrass (Paspalum dilatatum), johnsongrass (Sorghum halepense), bahiagrass (Paspalum notatum), knotroot bristlegrass (Setaria parviflora), bur clover (Medicago polymorpha), southern dewberry (Rubus trivialis), pink sensitivebrier (Mimosa strigillosa), and pepperweed (Lepidium sp.).

Aquatic resources in the project area include the SNSC, two storm water outfall channels (the Foley Outfall and the Grannis Outfall), and emergent wetlands located adjacent to the outfall channels, which are described below. The SNSC is an excavated channel that provides deep water for commercial and recreational navigation. No wetlands or other special aquatic sites were observed in or abutting the SNSC in the project area.

The Foley Outfall is directly connected to the SNSC and is therefore tidally influenced. The channel averages approximately 95 feet wide, and the channel banks are steep, 2 to 4 feet high, and show signs of erosion. The channel provides shallow (1 to 6 feet deep) open-water habitat that is usually turbid due to regular disturbances from wakes and drawdown/return surges generated by ships and other vessels in the SNSC. Each time a ship passes in the SNSC (on average, five loaded tankers, five unloaded tankers, and 80 to 100 other vessels pass each day), the water in the Foley Outfall is drawn down by a foot or more, followed by a return surge after the ship passes, causing repeated series of wakes that continually erode the channel banks and disturb the bottom sediments. Based on aerial photography, the channel has widened by 10 feet or more over the last 5 to 10 years due to erosion. One small (0.004 acre in size) emergent wetland dominated by smooth cordgrass is located along the channel's east bank. In addition, a 0.05-acre emergent wetland dominated by maritime saltwort (*Batis maritima*) is located in an upland drainage swale that drains into the Foley Outfall channel through a small corrugated plastic pipe. Based on field investigations, water from the Foley Outfall flows through the culvert and into this wetland at very high tides.

The Grannis Outfall is an excavated ditch that formerly received storm water discharged by the Grannis Avenue Pump Station. The outfall from the pump station has been rerouted through a 48-inch-diameter pipe, and the Grannis Outfall no longer serves a storm water management function. In addition, the ditch is no longer tidally influenced. The Grannis Outfall ranges from approximately 10 to 40 feet wide and provides primarily shallow non-wetland habitat. Approximately 2,000 linear feet of the ditch are within the project area, of which approximately 490 feet at the upper end are concrete-lined. The banks are generally 1 to 2 feet high and sloping and are dominated by maintained upland herbaceous vegetation. Approximately 0.026 acre of fringe wetland occurs along the ditch banks. The wetlands range from 1.5 to 2.5 feet wide and 25 feet to 272 feet long and are dominated by common reed (*Phragmites australis*), eastern baccharis (*Baccharis halimifolia*), sea oxeye (*Borrichia frutescens*), and marshhay cordgrass (*Spartina patens*).

Impacts to Waters of the U.S.

The proposed project will convert 3.34 acres of waters of the U.S. to uplands, which includes 3.26 acres of non-wetland waters in the Foley Outfall channel/SNSC and Grannis Outfall ditch and 0.08 acre of emergent wetland.

Since the proposed project is water dependent, it could not avoid impacts to waters of the U.S. POPA considered a number of alternatives and selected the alternative that minimizes impacts to waters while meeting the project's purpose. Open water habitat will be maintained under the proposed wharf, and the stabilized shoreline will provide for a sloped shoreline that allows for shallow water along it (rather than a

sheet pile bulkhead that would convert all open water behind the bulkhead to uplands). After construction, the proposed project will reduce erosion and sedimentation by stabilizing the shoreline.

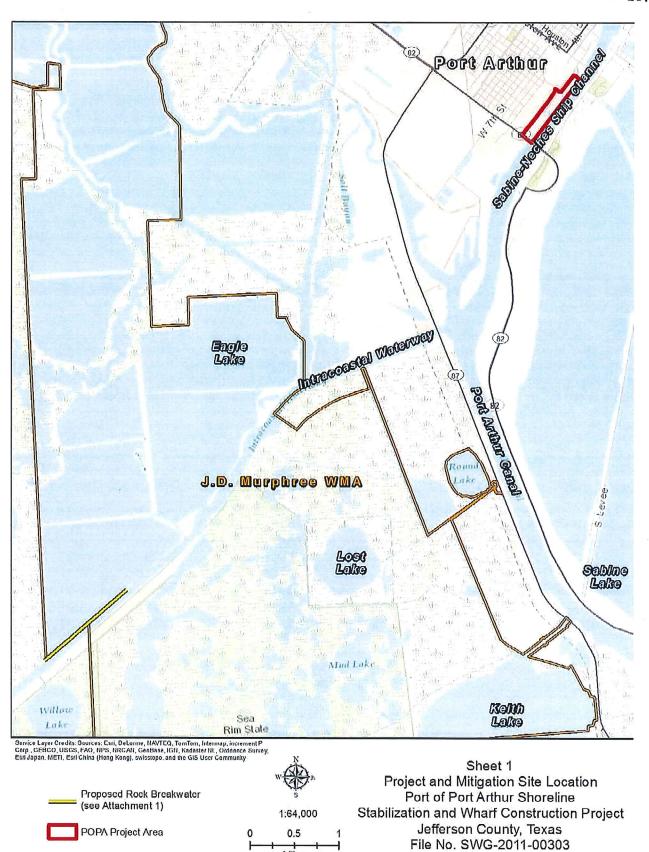
Mitigation Site

The proposed mitigation site is located on the northwest bank of the GIWW along the J.D. Murphree WMA, approximately 6.8 miles southwest of the project area (Sheet 1). The J.D. Murphree WMA is a 24,498-acre property that is owned and managed by the TPWD as coastal wetland habitat and contains fresh, intermediate, brackish, and saline marshes. As part of their Compartment 9 Phase II Rock Breakwater Project, the WMA will construct 6,239 linear feet (1.2 miles) of new rock breakwater between GIWW stations 258+53.79 and 320+92.35 to protect the shoreline and interior marsh. The proposed breakwater will be installed as much as 60 feet into the unvegetated shallow water of the GIWW. The breakwater was constructed in the Spring of 2014 (personal communication with Jim Sutherlin, Manager of the WMA) and will connect with approximately 4,643 linear feet (0.9 mile) of existing rock breakwater. Sheet 1 provides an inset showing the approximate breakwater structure on aerial photography base. Detailed drawings showing plan views and profiles of the proposed breakwater structure were provided by the TPWD and are included as Attachment 1.

The exact elevations of the mitigation are unavailable at this time; however, Mr. Jim Sutherlin, Project Leader of the Upper Coast Wetland Ecosystem Project and Manager of the J.D. Murphree WMA has stated that the water depths in much of the area behind the rock breakwater will be conducive to planting and establishing smooth cordgrass because the breakwater was placed as close to the GIWW bank as possible and the bottom behind the breakwater is gently sloping (personal communication with Jason Schindler, Blanton & Associates, Inc., April 21, 2014). He also stated that some of the area may be 1.5 to 2 feet deep at normal tides and not be conducive to smooth cordgrass planting, but the planted cordgrass is expected to encroach naturally into the deeper areas as sediments accrete over time. Based on this conversation, the elevations in the proposed mitigation site are expected to be appropriate for planting smooth cordgrass.

5. Determination of Credits

The amount of smooth cordgrass to be planted was determined by the area that is available between the J.D. Murphree WMA's proposed rock breakwater and the top of bank, as identified in the permit drawings for the breakwater. An estimated 4.1 acres of smooth cordgrass marsh would be planted behind the breakwater. This would fully compensate for the 3.34 acres of aquatic resources that would be lost as a result of POPA's proposed project because the mitigation would provide higher quality habitat with greater functions than the impacted resources and would provide other important functions such as natural shoreline and adjacent wetland protection. The impacted water resources include 3.26 acres of non-wetland waters in the Foley Outfall channel/SNSC and Grannis Outfall and 0.08 acre of adjacent emergent wetland. The impacted resources are considered to provide limited function for the following reasons:



Miles

- The SNSC is a designated navigation channel that is routinely disturbed by ship, barge, and other vessel traffic. On average, five loaded tankers, five unloaded tankers, and 80 to 100 other vessels pass through the SNSC each day.
- The Foley Outfall channel is regularly disturbed by wakes and drawdown/return surges generated by ships and other vessels passing in the SNSC. As a result, the channel is often turbid, bottom sediments are often disturbed and flow into the SNSC, the banks continually erode, and wetlands are unable to establish along the banks.
- The wetlands adjacent to the Foley Outfall channel are small, and the larger wetland (0.05 acre) is surrounded by uplands and is only inundated during very high tides.
- The Grannis Outfall channel is no longer tidally influenced and no longer receives or conveys storm water outfalls from the Grannis Avenue Pump Station. It is surrounded by upland industrial areas.
- The fringe wetlands along the Grannis Outfall are narrow (1 to 3 feet wide) and serve limited functions similar to the adjacent maintained upland herbaceous vegetation.

The USACE Galveston District's interim Hydrogeomorphic Approach model for assessing Tidal Fringe wetlands was not deemed appropriate for assessing the impacted waters because 98 percent of the impacts would occur to non-wetland waters. However, the indices used in the model allow a qualitative assessment for comparing the functions of the impacted resources and anticipated mitigation wetland. In comparison to the impacted resources, the proposed mitigation marsh will provide greater functions related to biota, botanical, physical, and chemical processes. It will provide a natural buffer and shoreline protection behind the breakwater, it will further help the protection of interior wetlands, and it will provide estuarine wetland habitat that will benefit aquatic animals and wading birds.

6. Mitigation Work Plan

After the J.D. Murphree WMA installs the proposed rock breakwater at the mitigation site, the area will be allowed to stabilize for 3 to 6 months (depending on coordination with the WMA Manager) before the proposed smooth cordgrass planting is initiated. Planting will be conducted during the season of the year that is conducive for establishing the plugs. Once the planting is initiated, healthy plugs of smooth cordgrass will be harvested from nearby cordgrass communities at the J.D. Murphree WMA, the location of which will be selected in coordination with the WMA Manager. The plugs will be planted in the proposed mitigation site within 24 hours of harvesting and will be kept moist prior to planting. A TPWD permit for transplanting plants into state waters will be obtained, if needed, prior to harvesting and transplanting activities are initiated.

The smooth cordgrass plugs will be planted in the mitigation site on approximately 3-foot to 5-foot centers, depending on final coordination with the WMA Manager. The plugs will be planted at appropriate water depths and will be installed by hand using shovels, spades, or similar tools. The holes

will be of sufficient depth and width to accommodate the entire root mass of the plugs. After planting, each hole will be closed around the plant and gently compacted to prevent the plants from floating free.

7. Maintenance Plan

The mitigation area will be normally inundated by tides to maintain low marsh conditions that will support a healthy smooth cordgrass marsh. The planted marsh will be protected by the rock breakwater that the WMA will install.

POPA will be responsible for ensuring the successful establishment of the planted marsh, as outlined in the Performance Standards and Monitoring Requirements sections below. During the monitoring period, POPA will replant or control invasive and noxious plant species as needed to meet the success criteria. After the mitigation site achieves the success criteria outlined in the Performance Standards section, the site will be managed and protected in accordance with the TPWD's current goals and management plan for the WMA.

8. Performance Standards

The proposed mitigation will be considered successful after the following criteria are met:

- A minimum 50 percent survival of transplanted plugs within 45 to 60 calendar days after planting.
- A minimum 35 percent aerial coverage by smooth cordgrass in the planted area within 1 year after planting.
- A minimum 70 percent aerial coverage of smooth cordgrass in the planted area within 3 years after planting.
- Nuisance, invasive, noxious, and exotic plant species should consist of 5 percent or less of relative vegetation cover within the planted area.

If the success criteria are not met at any of the scheduled times, the areas that are not sufficiently vegetated will be replanted and monitored, or other corrective action will be taken to meet the success criteria. After the success criteria are met, the mitigation will be considered successful, and no additional monitoring, maintenance, or reporting will be conducted by POPA.

9. Monitoring Requirements

The following monitoring activities will be conducted after planting:

- A transplant survival survey will be performed between 45 and 60 days after the initial planting to determine whether at least 50 percent of the transplanted plugs survived. A report documenting the results of the survey will be provided to the USACE.
- Percent coverage surveys will be performed annually for up to five years after the initial planting to determine if the success criteria outlined above have been met.

• Written reports detailing plant survival and aerial coverage will be submitted to the USACE within 30 calendar days of each monitoring survey.

After the success criteria outlined in the Performance Standards section are met, the mitigation will be considered successful, and no additional monitoring, maintenance, or reporting will be performed by POPA.

10. Long-term Management Plan

The proposed mitigation site is located on the J.D. Murphree WMA, which is owned and managed as coastal wetland habitat by the TPWD, a state resource agency. After POPA achieves the success criteria outlined in the Performance Standards section of this mitigation plan, the site will be managed and protected by the TPWD in accordance with the WMA's goals and management plan.

11. Adaptive Management Plan

In the event that the proposed mitigation cannot be achieved or success criteria are not being met as anticipated due to unforeseen changes in site conditions or other factors, POPA will consult with the USACE and the WMA Manager to identify strategies for meeting the POPA's mitigation obligations. Adaptive management strategies that may be considered include:

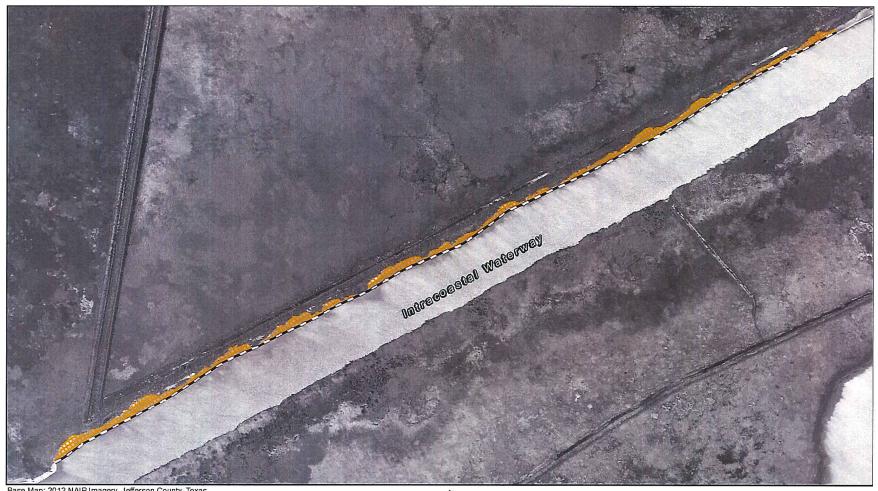
- Supplemental planting of smooth cordgrass within the mitigation area
- Planting of other native marsh species, depending on the hydrology behind the breakwater structure
- Evaluating other options for mitigating if marsh creation at the proposed site becomes unfeasible

After the success criteria outlined in the Performance Standards section are met, the mitigation will be considered successful, and the site will be managed and protected by the TPWD in accordance with the WMA's goals and management plan.

12. Financial Assurances

The success of planting smooth cordgrass marsh may be influenced by a number of factors, such as large storm events, erosion, subsidence, or herbivory (e.g., feral pigs), that may adversely affect the mitigation site from meeting the identified performance standards. As a result, additional efforts or remediation above what is expected may be required to ensure the success of the mitigation site. Based on discussions with the J.D. Murphree WMA Manager, POPA's proposed mitigation plan is expected to be successful since the site will be protected by a rock breakwater structure and based on his experience with similar projects that entailed planting smooth cordgrass behind rock breakwater structures in the area. Furthermore, POPA staff has presented the mitigation proposal, including estimated costs and contingencies, to its Board of Directors, who approved moving forward with the plan. As a result, POPA is committed to a successful mitigation plan.

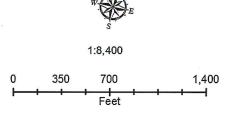
The initial planting for the proposed mitigation plan will be conducted within the same timeframe as construction of the proposed wharf and associated improvements. Funding for the initial planting is included as part of the overall project budget such that the mitigation plan will be funded at the same time that the wharf project is funded. In order to ensure funding is in place beyond the initial construction period to address annual monitoring, maintenance, and contingency specifically for the mitigation project, POPA will establish an escrow account in the amount of \$75,000 to account for five years of monitoring estimated at \$5,000 per year, and a contingency in the amount of \$50,000 for potential maintenance activities. This will ensure that the proposed mitigation plan is fully funded throughout the five year monitoring period.



Rock Breakwater ___ (6,239 linear feet; constructed under SWG-2009-00277)

Approximate area within which proposed Spartina planting will occur.

Note that the areas to be planted will depend on elevation/water depth. An estimated 4.1 acres will be planted.



Sheet 2 Approximate Mitigation Area Port of Port Arthur Shoreline Stabilization and Wharf Construction Project Jefferson County, Texas File No. SWG-2011-00303

Bryan W. Shaw, Ph.D., P.E., Chairman Toby Baker, Commissioner Zak Covar, Commissioner Richard A. Hyde, P.E., Executive Director



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 31, 2014

Ms. Elizabeth Shelton Regulatory Branch, CESWG-PE-RE U.S. Army Corps of Engineers P.O. Box 1229 Galveston, Texas 77553-1229

Re: USACE Permit Application No. SWG-2011-00303

Dear Ms. Shelton:

This letter is in response to the Statement of Findings (SOF) dated July 25, 2014, for the Joint Public Notice dated March 4, 2014, on the Port of Port Arthur's wharf construction and shoreline stabilization project. The project is proposed to construct improvements to the shoreline of the Sabine-Neches Canal and upgrade the port facility structures within the boundaries of the Port of Port Arthur in Jefferson County, Texas.

The Texas Commission on Environmental Quality (TCEQ) has reviewed the public notice and related application information along with the SOF. On behalf of the Executive Director and based on our evaluation of the information contained in these documents, the TCEQ certifies that there is reasonable assurance that the project will be conducted in a way that will not violate water quality standards. General information regarding this water quality certification, including standard provisions of the certification, is included as an attachment to this letter.

The applicant proposes to discharge fill material into 3.26 acres of open waters and 0.08 acres of wetlands and construct new concrete box outfall culverts and pipes. The applicant also proposes to build a 600-foot-long by 63-foot-long wharf with driven concrete pile supports. The project also includes dredging of 18.31 acres to create slopes of 3:1 within the Sabine-Neches Canal to a depth of -48 feet mean low tide, plus 2 feet overdredge and 1 foot advanced maintenance, removing 454,300 cubic yards of material. This dredged material will be piped to the U.S. Army Corps of Engineers' Dredged Material Placement Area #8. Beneath the wharf, a 398 foot sheet pile bulkhead will be constructed. The applicant also proposes to straighten and armor 1,198 linear feet of shoreline contoured to a 3:1 slope, overlaid with a total of 10.38 acres of articulated concrete matting. Some areas of the shoreline will also have stone riprap installed at the slope toe.

Ms. Elizabeth Shelton U.S. Army Corps of Engineers USACE Permit Application No. SWG-2011-00303 Page 2 July 31, 2014

The applicant plans to mitigate for the loss of 3.26 acres of shallow open water habitat and 0.08 acre of emergent wetlands by planting 4.1 acres of smooth cordgrass (*Spartina alterniflora*) behind approximately 6,239 linear feet of new rock breakwater that the Texas Parks and Wildlife Department will install in the J. D. Murphree Wildlife Management Area's Compartment 9 shoreline along the Gulf Intracoastal Waterway.

The TCEQ has reviewed this proposed action for consistency with the Texas Coastal Management Program (CMP) goals and policies in accordance with the CMP regulations (Title 31, Texas Administrative Code (TAC), Section (§)505.30) and has determined that the action is consistent with the applicable CMP goals and policies.

This certification was reviewed for consistency with the CMP's development in critical areas policy (31 TAC §501.23) and dredging and dredged material disposal and placement policy (31 TAC §501.25). This certification complies with the CMP goals (31 TAC §501.12(1, 2, 3, 5)) applicable to these policies.

No review of property rights, location of property lines, nor the distinction between public and private ownership has been made, and this certification may not be used in any way with regard to questions of ownership.

If you require additional information or further assistance, please contact Ms. Jenna Lueg, Water Quality Assessment Section, Water Quality Division (MC-150), at (512) 239-4590 or by email at jenna.lueg@tceq.texas.gov

Sincerely,

David W Galerole

David W. Galindo

Water Quality Division Director

Texas Commission on Environmental Quality

DWG/JRL/tc

Attachment

ccs: Mr. Larry Kelly, Port of Port Arthur, 221 Houston Avenue, Port Arthur, Texas 77640-6415

Ms. Sheri Land, Texas General Land Office, P. O. Box 12873, Austin, Texas 78711-28733

Ms. Elizabeth Shelton USACE Permit Application No. SWG-2011-00303 Attachment – Dredge and Fill Certification Page 1 of 3

WORK DESCRIPTION: As described in the public notice dated March 4, 2014, and the July 25, 2014, Environmental Assessment and Statement of Findings.

SPECIAL CONDITIONS: None

GENERAL: This certification, issued pursuant to the requirements of Title 30, Texas Administrative Code, Chapter 279, is restricted to the work described in the July 25, 2014, Environmental Assessment and Statement of Findings and shall be concurrent with the Corps of Engineers (COE) permit. This certification may be extended to any minor revision of the COE permit when such change(s) would not result in an impact on water quality. The Texas Commission on Environmental Quality (TCEQ) reserves the right to require full joint public notice on a request for minor revision.

STANDARD PROVISIONS: These following provisions attach to any permit issued by the COE and shall be followed by the permittee or any employee, agent, contractor, or subcontractor of the permittee during any phase of work authorized by a COE permit.

- 1. The water quality of wetlands shall be maintained in accordance with all applicable provisions of the Texas Surface Water Quality Standards including the General, Narrative, and Numerical Criteria.
- 2. The applicant shall not engage in any activity which will cause surface waters to be toxic to man, aquatic life, or terrestrial life.
- 3. Permittee shall employ measures to control spills of fuels, lubricants, or any other materials to prevent them from entering a watercourse. All spills shall be promptly reported to the TCEQ by calling the State of Texas Environmental Hotline at 1-800-832-8224.
- 4. Sanitary wastes shall be retained for disposal in some legal manner. Marinas and similar operations which harbor boats equipped with marine sanitation devices shall provide state/federal permitted treatment facilities or pump out facilities for ultimate transfer to a permitted treatment facility. Additionally, marinas shall display signs in appropriate locations advising boat owners that the discharge of sewage from a marine sanitation device to waters in the state is a violation of state and federal law.
- 5. Materials resulting from the destruction of existing structures shall be removed from the water or areas adjacent to the water and disposed of in some legal manner.

Ms. Elizabeth Shelton USACE Permit Application No. SWG-2011-00303 Attachment – Dredge and Fill Certification Page 2 of 3

- 6. A discharge shall not cause substantial and persistent changes from ambient conditions of turbidity or color. The use of silt screens or other appropriate methods is encouraged to confine suspended particulates.
- 7. The placement of any material in a watercourse or wetlands shall be avoided and placed there only with the approval of the Corps when no other reasonable alternative is available. If work within a wetland is unavoidable, gouging or rutting of the substrate is prohibited. Heavy equipment shall be placed on mats to protect the substrate from gouging and rutting if necessary.
- 8. Dredged Material Placement: Dredged sediments shall be placed in such a manner as to prevent any sediment runoff onto any adjacent property not owned by the applicant. Liquid runoff from the disposal area shall be retained on-site or shall be filtered and returned to the watercourse from which the dredged materials were removed. Except for material placement authorized by this permit, sediments from the project shall be placed in such a manner as to prevent any sediment runoff into waters in the state, including wetlands.
- 9. If contaminated spoil that was not anticipated or provided for in the permit application is encountered during dredging, dredging operations shall be immediately terminated and the TCEQ shall be contacted by calling the State of Texas Environmental Hotline at 1-800-832-8224. Dredging activities shall not be resumed until authorized by the Commission.
- 10. Contaminated water, soil, or any other material shall not be allowed to enter a watercourse. Noncontaminated storm water from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.
- 11. Storm water runoff from construction activities that result in a disturbance of one or more acres, or are a part of a common plan of development that will result in the disturbance of one or more acres, must be controlled and authorized under Texas Pollutant Discharge Elimination System (TPDES) general permit TXR150000. A copy of the general permit, application (notice of intent), and additional information is available at:
 - http://www.tceq.texas.gov/permitting/stormwater/wq_construction.html or by contacting the TCEQ Storm Water & Pretreatment Team at (512) 239-4671.
- 12. Upon completion of earthwork operations, all temporary fills shall be removed from the watercourse/wetland, and areas disturbed during construction shall be seeded, riprapped, or given some other type of protection to minimize subsequent soil erosion.

Ms. Elizabeth Shelton USACE Permit Application No. SWG-2011-00303 Attachment – Dredge and Fill Certification Page 3 of 3

- Any fill material shall be clean and of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters.
- 13. Disturbance to vegetation will be limited to only what is absolutely necessary. After construction, all disturbed areas will be revegetated to approximate the predisturbance native plant assemblage.
- 14. Where the control of weeds, insects, and other undesirable species is deemed necessary by the permittee, control methods which are nontoxic to aquatic life or human health shall be employed when the activity is located in or in close proximity to water, including wetlands.
- 15. Concentrations of taste and odor producing substances shall not interfere with the production of potable water by reasonable water treatment methods, impart unpalatable flavor to food fish including shellfish, result in offensive odors arising from the water, or otherwise interfere with reasonable use of the water in the state.
- 16. Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms, putrescible sludge deposits, or sediment layers which adversely affect benthic biota or any lawful uses.
- 17. Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of reservoirs, lakes, and bays.
- 18. The work of the applicant shall be conducted such that surface waters are maintained in an aesthetically attractive condition and foaming or frothing of a persistent nature is avoided. Surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.
- 19. This certification shall not be deemed as fulfilling the applicant's/permittee's responsibility to obtain additional authorization/approval from other local, state, or federal regulatory agencies having special/specific authority to preserve and/or protect resources within the area where the work will occur.