

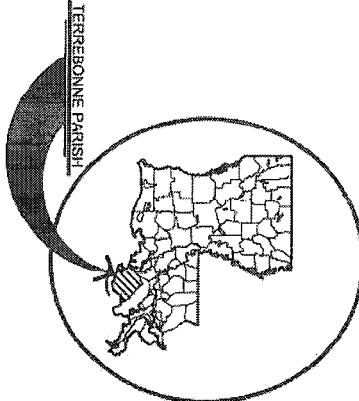
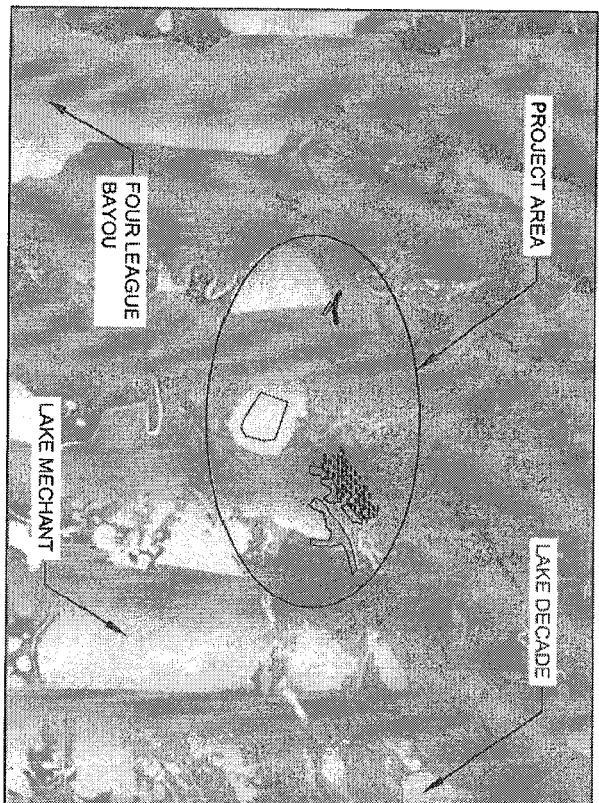
INDEX TO SHEETS

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4	MARSH CREATION AREA 1 LAYOUT
5	MARSH CREATION AREA 2A, 2B & 2C LAYOUT
6	MARSH CREATION AREA 3 LAYOUT
7	EARTHEN TERRACE LAYOUT
8	TERRACE COORDINATES
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12	TYPICAL PIPELINE CORRIDOR AND FILL SECTION
13	TYPICAL EARTHEN TERRACE SECTION
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15	PLANTING LAYOUT AND DETAIL
16-26	WEIR STRUCTURE

STATE OF LOUISIANA  
COASTAL PROTECTION AND RESTORATION AUTHORITY

LOST LAKE MARSH CREATION AND  
HYDROLOGIC RESTORATION PROJECT

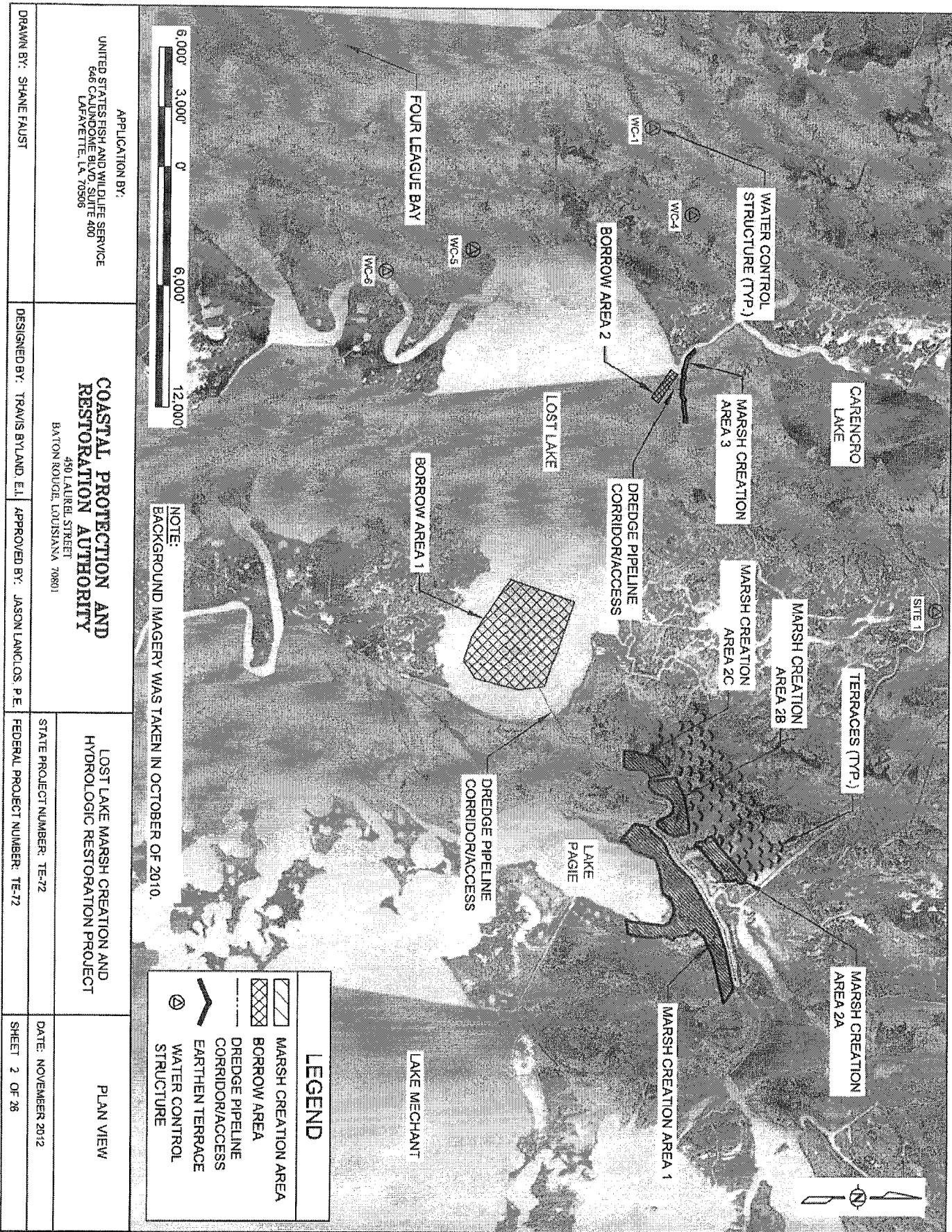
TE-72  
TERREBONNE PARISH



**NOT FOR CONSTRUCTION**  
DOCUMENTS ARE NOT TO BE USED FOR  
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CONVEYANCE, OR SALES.

PROFESSIONAL ENGINEER  
JASON LANCLOS  
LICENSE No. 7777?

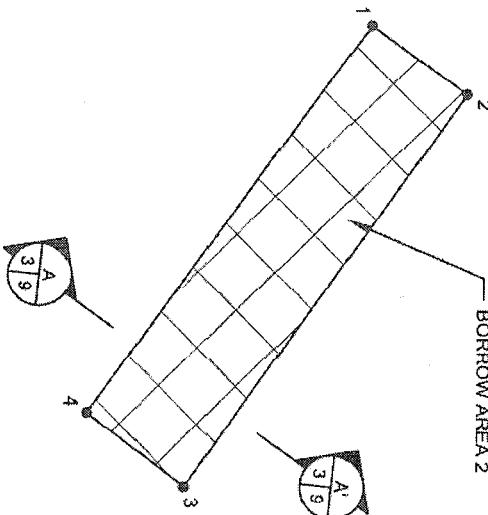
APPLICATION BY:  UNITED STATES FISH AND WILDLIFE SERVICE 66 CALUNDOME BLVD SUITE 400 LAFFAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY 400 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION PROJECT	TITLE SHEET
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND E.I.	APPROVED BY: JASON LANCLOS, P.E.	FEDERAL PROJECT NUMBER: TE-72 STATE PROJECT NUMBER: TE-72 DATE: NOVEMBER 2012 SHEET 1 OF 26



**B BORROW AREA 2 COORDINATES**

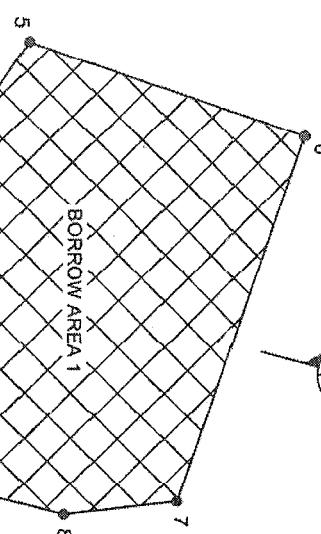
POINT	LONGITUDE	LATITUDE
1	91° 04' 32.78"	29° 21' 22.59"
2	91° 04' 30.08"	29° 21' 25.86"
3	91° 04' 14.61"	29° 21' 16.33"
4	91° 04' 17.45"	29° 21' 13.01"
11	91° 02' 02.72"	29° 19' 45.78"

BORROW AREA 2



**BORROW AREA 1 COORDINATES**

POINT	LONGITUDE	LATITUDE
5	91° 02' 34.57"	29° 20' 04.59"
6	91° 02' 22.29"	29° 20' 35.93"
7	91° 01' 34.65"	29° 20' 21.47"
8	91° 01' 32.94"	29° 20' 08.78"
9	91° 01' 39.14"	29° 19' 47.45"
10	91° 01' 49.24"	29° 19' 41.70"
11	91° 02' 02.72"	29° 19' 45.78"



**NOTES:**  
1. BORROW AREA 1 CONTAINS APPROXIMATELY 7,460,572.00 CUBIC YARDS OF MATERIAL.  
2. BORROW AREA 2 CONTAINS APPROXIMATELY 259,689.75 CUBIC YARDS OF MATERIAL.

600'      300'      0'      600'      1,200'

600'      300'      0'      600'      1,200'

APPLICATION BY:  
UNITED STATES FISH AND WILDLIFE SERVICE  
646 CALUMET HOME BLVD SUITE 400  
LAKEVILLE, LA 70506

COASTAL PROTECTION AND  
RESTORATION AUTHORITY

LOST LAKE MARSH CREATION AND  
HYDROLOGIC RESTORATION PROJECT

BORROW AREA  
LAYOUT

450 LAUREL STREET  
BATON ROUGE, LOUISIANA 70801

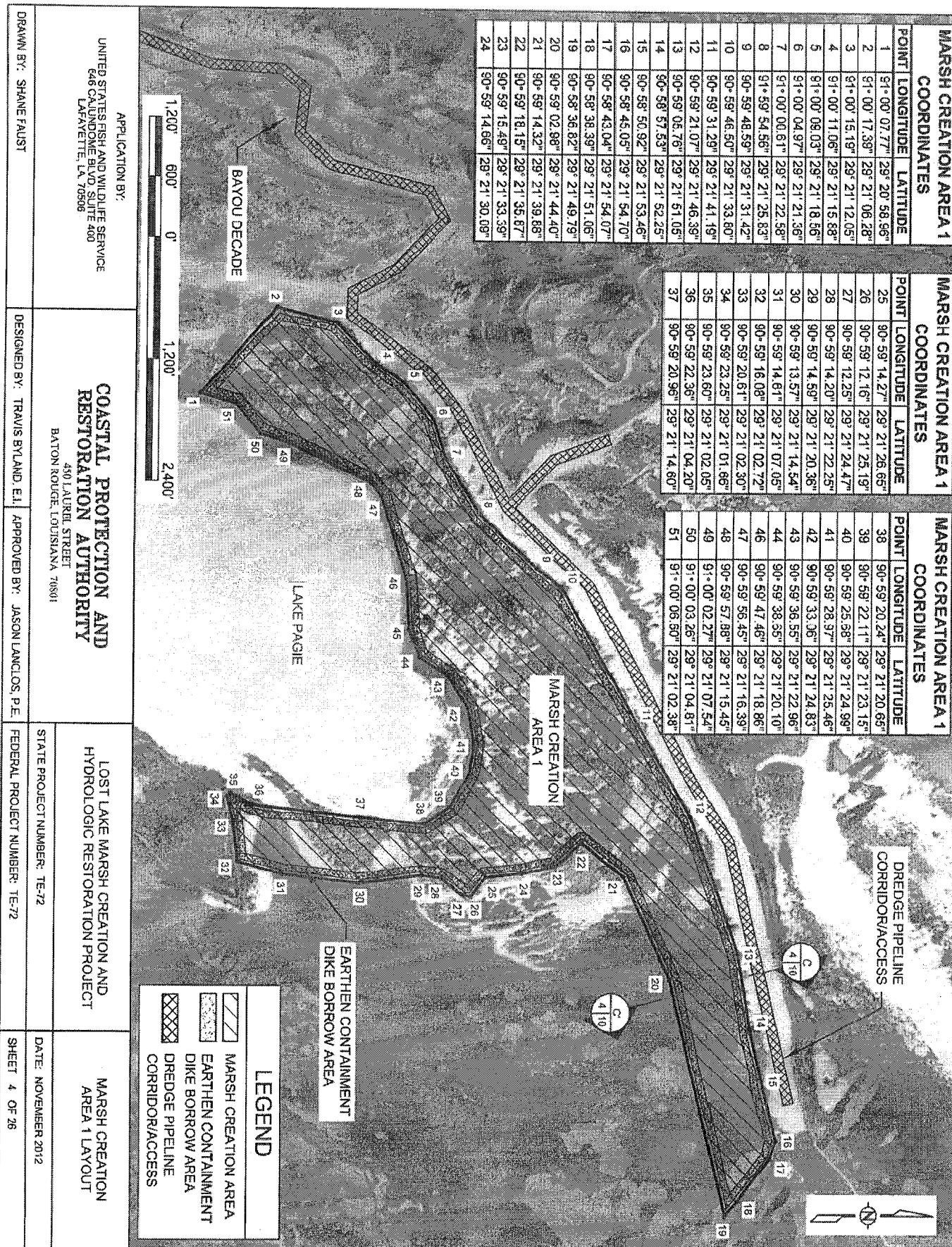
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	APPROVED BY: JASON LANGLOS, P.E.
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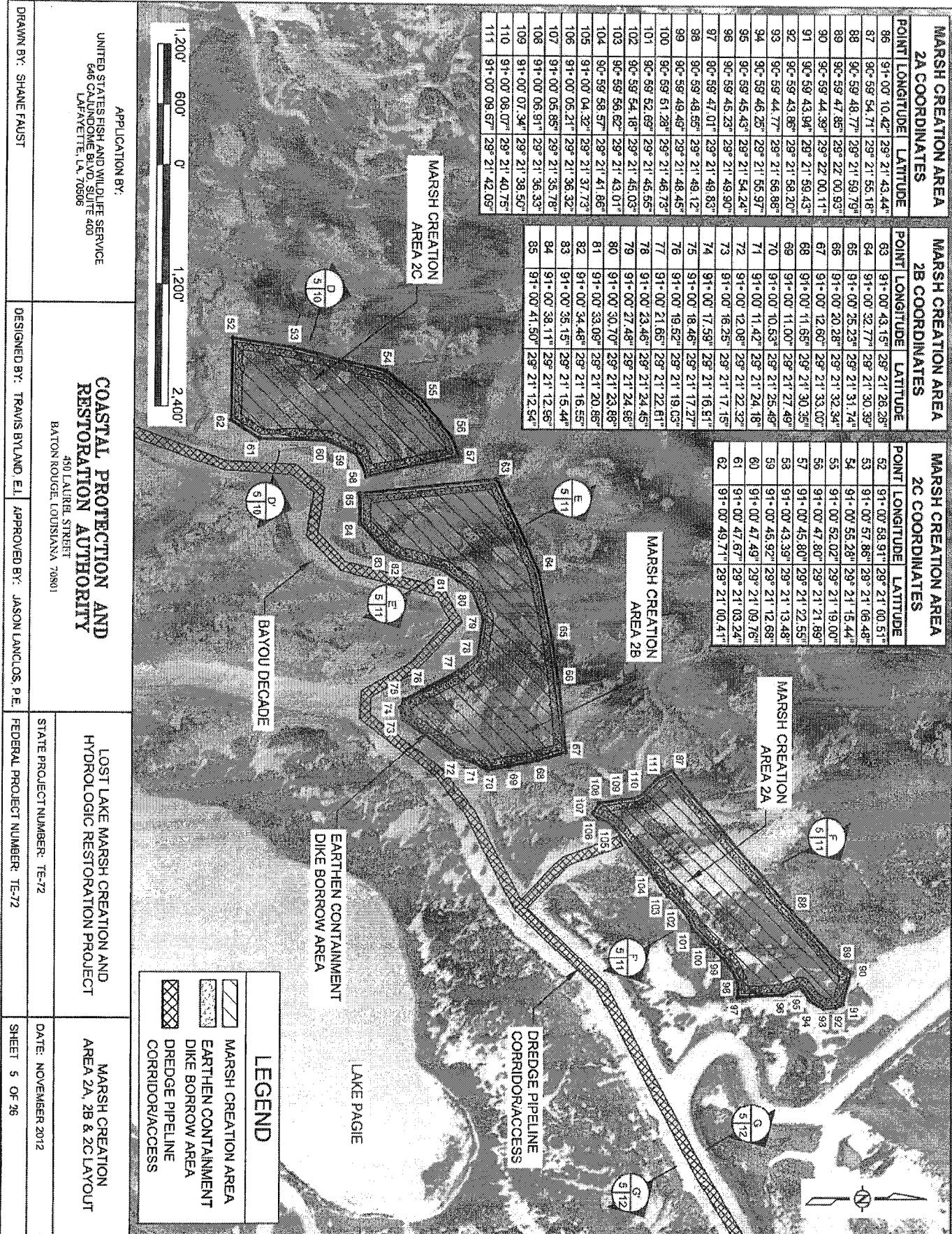
STATE PROJECT NUMBER: TE-72

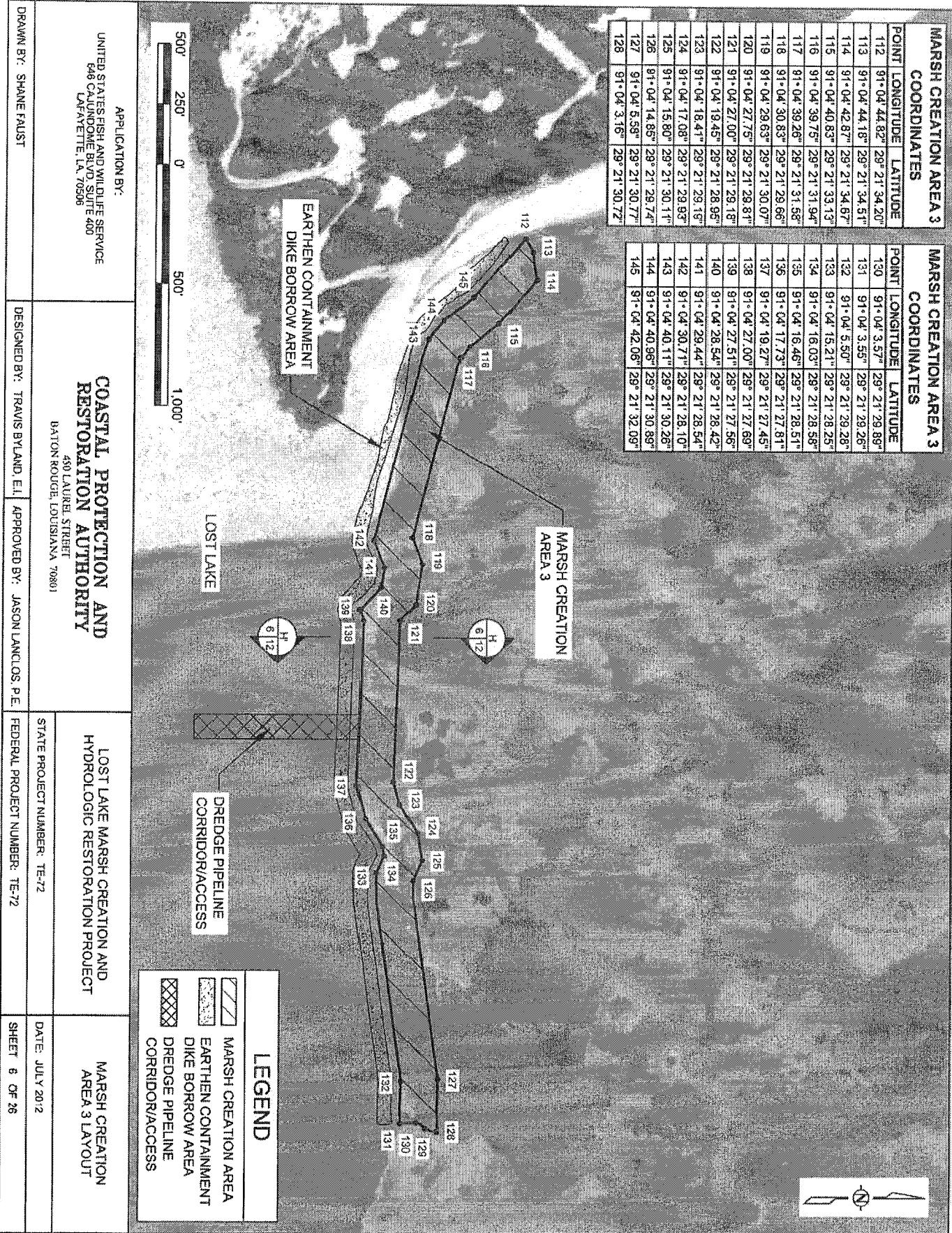
DATE: NOVEMBER 2012

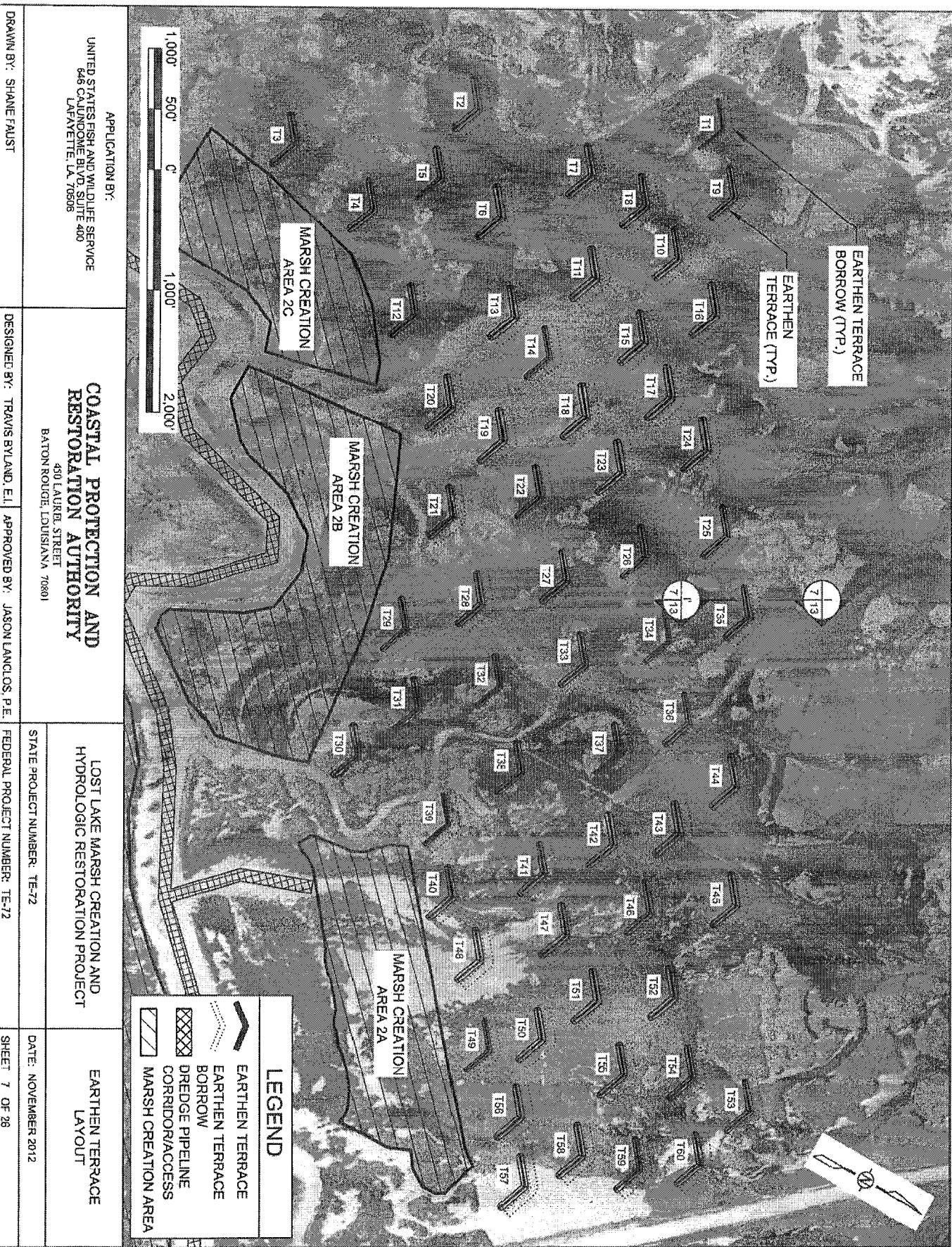
FEDERAL PROJECT NUMBER: TE-72

SHEET 3 OF 26





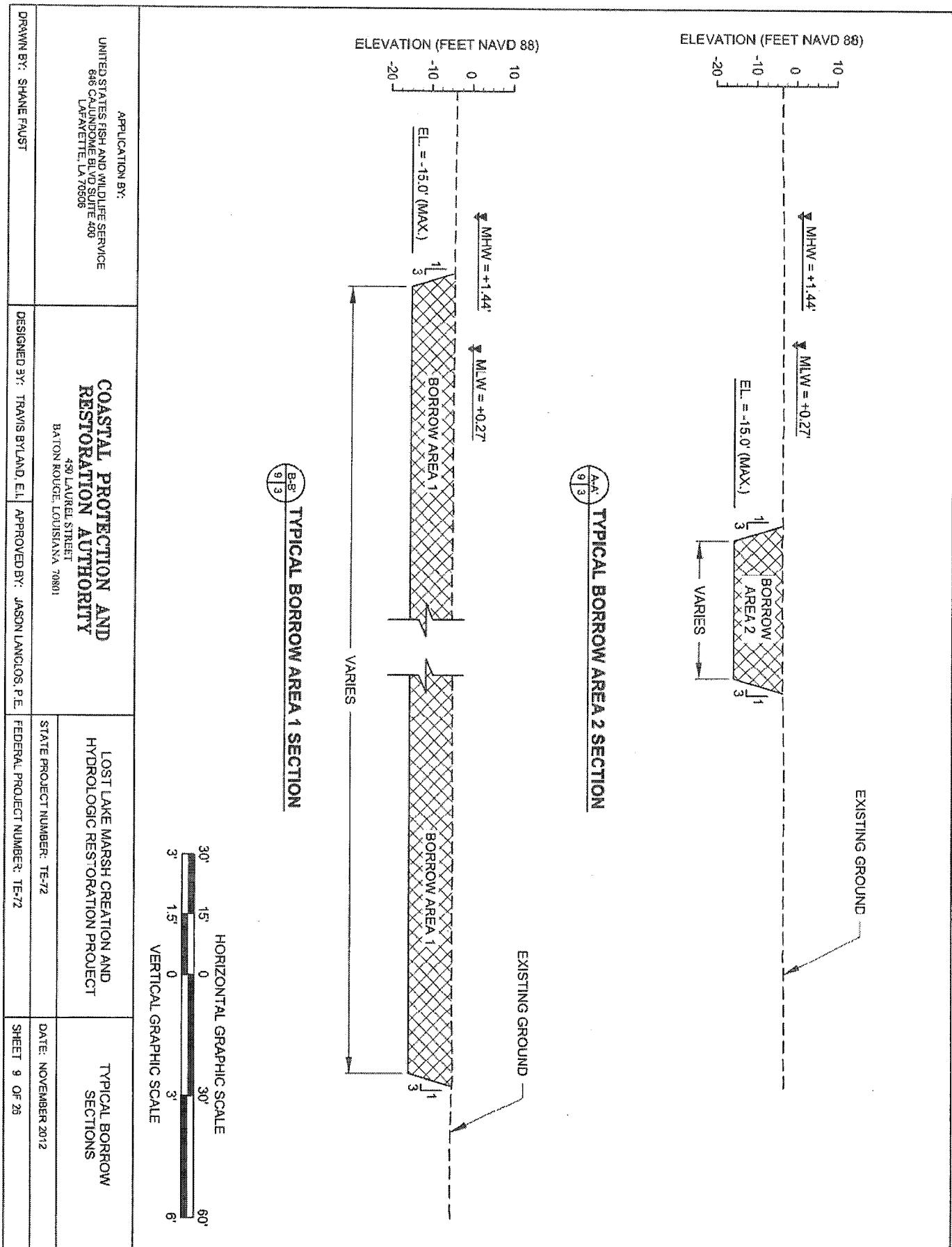


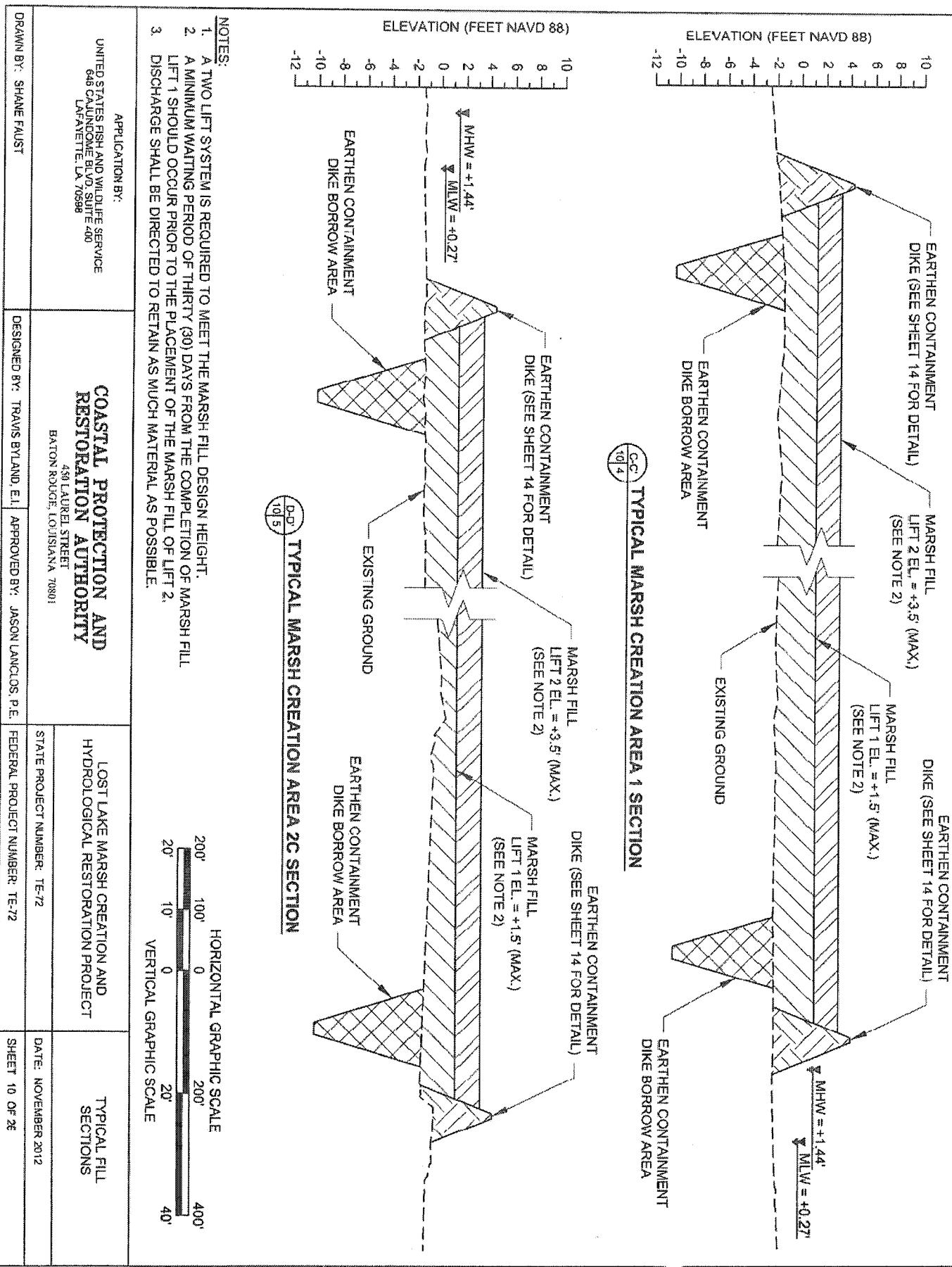


TERRACE COORDINATES			TERRACE COORDINATES		
TERRACE	LONGITUDE	LATITUDE	TERRACE	LONGITUDE	LATITUDE
T1	91° 01' 24.72"	29° 21' 34.68"	T17	91° 01' 00.64"	29° 21' 42.05"
	91° 01' 22.54"	29° 21' 36.24"		91° 00' 58.45"	29° 21' 43.56"
	91° 01' 19.90"	29° 21' 35.38"		91° 00' 55.87"	29° 21' 42.75"
T2	91° 01' 15.09"	29° 21' 18.79"	T18	91° 00' 55.18"	29° 21' 36.94"
	91° 01' 12.91"	29° 21' 19.37"		91° 00' 53.08"	29° 21' 38.51"
	91° 01' 10.28"	29° 21' 17.50"		91° 00' 50.36"	29° 21' 37.65"
T3	91° 01' 03.72"	29° 21' 05.51"	T19	91° 00' 49.49"	29° 21' 52.13"
	91° 01' 01.55"	29° 21' 07.09"		91° 00' 47.31"	29° 21' 53.71"
	91° 00' 58.90"	29° 21' 06.22"		91° 00' 44.61"	29° 21' 52.84"
T4	91° 01' 02.05"	29° 21' 13.61"	T20	91° 00' 47.98"	29° 21' 27.16"
	91° 00' 59.87"	29° 21' 15.19"		91° 00' 47.50"	29° 21' 28.75"
	91° 00' 57.22"	29° 21' 14.47"		91° 00' 44.86"	29° 21' 29.85"
T5	91° 01' 07.69"	29° 21' 17.02"	T21	91° 00' 41.12"	29° 21' 31.72"
	91° 01' 05.55"	29° 21' 18.80"		91° 00' 38.94"	29° 21' 33.30"
	91° 01' 02.68"	29° 21' 17.73"		91° 00' 36.28"	29° 21' 32.43"
T6	91° 01' 01.09"	29° 21' 02.86"	T22	91° 00' 46.65"	29° 21' 37.00"
	91° 01' 01.52"	29° 21' 24.47"		91° 00' 23.77"	29° 21' 46.88"
	91° 01' 02.57"	29° 21' 23.57"		91° 00' 21.59"	29° 21' 48.43"
T7	91° 01' 14.81"	29° 21' 27.45"	T23	91° 00' 52.34"	29° 21' 41.64"
	91° 01' 12.74"	29° 21' 20.02"		91° 00' 50.16"	29° 21' 43.22"
	91° 01' 10.69"	29° 21' 18.16"		91° 00' 47.52"	29° 21' 42.35"
T8	91° 01' 14.96"	29° 21' 32.45"	T24	91° 00' 58.12"	29° 21' 46.73"
	91° 01' 12.78"	29° 21' 34.02"		91° 00' 41.86"	29° 21' 37.71"
	91° 01' 10.13"	29° 21' 33.16"		91° 00' 53.29"	29° 21' 47.44"
T9	91° 01' 19.72"	29° 21' 38.26"	T25	91° 00' 47.52"	29° 21' 51.64"
	91° 01' 17.54"	29° 21' 39.85"		91° 00' 49.95"	29° 21' 53.22"
	91° 01' 14.80"	29° 21' 39.00"		91° 00' 47.30"	29° 21' 52.35"
T10	91° 01' 28.40"	29° 21' 33.09"	T26	91° 00' 46.68"	29° 21' 46.78"
	91° 01' 28.38"	29° 21' 35.10"		91° 00' 44.50"	29° 21' 46.35"
	91° 01' 28.40"	29° 21' 37.32"		91° 00' 41.88"	29° 21' 47.87"
T11	101° 28.47 17° 37° 34 37.37"		T27	91° 00' 41.13"	29° 21' 42.23"
	101° 29.01 55° 37° 34 50.49"			91° 00' 38.98"	29° 21' 43.80"
	101° 28.45 43° 37° 34 39.38"			91° 00' 37.94"	29° 21' 44.56"
	101° 28.46 74° 37° 34 41.50"			91° 00' 36.56"	29° 21' 42.94"
T12	101° 29.00 52° 37° 34 46.26"			91° 00' 35.42"	29° 21' 41.88"
	101° 29.00 23° 37° 34 48.26"			91° 00' 34.41"	29° 21' 40.80"
	101° 29.01 55° 37° 34 50.49"			91° 00' 33.24"	29° 21' 38.60"
T13	91° 00' 59.85"	29° 21' 27.92"	T29	91° 00' 28.91"	29° 21' 32.98"
	91° 00' 57.87"	29° 21' 27.92"		91° 00' 27.72"	29° 21' 34.55"
	91° 00' 55.92"	29° 21' 28.63"		91° 00' 25.08"	29° 21' 34.52"
T14	91° 00' 56.18"	29° 21' 31.97"	T30	91° 00' 17.66"	29° 21' 34.71"
	91° 00' 56.00"	29° 21' 33.58"		91° 00' 15.47"	29° 21' 36.28"
	91° 00' 53.95"	29° 21' 32.66"		91° 00' 12.85"	29° 21' 35.42"
T15	91° 01' 03.82"	29° 21' 29.82"	T31	91° 00' 02.77"	29° 21' 29.00"
	91° 01' 01.55"	29° 21' 33.50"		91° 00' 25.06"	29° 21' 33.63"
	91° 00' 00.60"	29° 21' 38.64"		91° 00' 19.33"	29° 21' 37.77"
T16	91° 01' 06.34"	29° 21' 41.87"	T32	91° 00' 28.15"	29° 21' 41.86"
	91° 01' 07.16"	29° 21' 43.44"		91° 00' 27.57"	29° 21' 43.44"
	91° 01' 04.51"	29° 21' 42.58"		91° 00' 24.92"	29° 21' 42.57"

APPLICATION BY:			COASTAL PROTECTION AND RESTORATION AUTHORITY			HYDROLOGIC RESTORATION PROJECT		
UNITED STATES FISH AND WILDLIFE SERVICE 66 CAJUNDOME BLVD SUITE 400 LAFAYETTE, LA 70506	430 LAUREL STREET BATON ROUGE LOUISIANA 70801	STATE PROJECT NUMBER: TE-72	DRAWN BY: SHANE FLAUST	DESIGNED BY: TRANS BYLAND, E.I.	APPROVED BY: JASON LANCLOS, P.E.	FEDERAL PROJECT NUMBER: TE-72	DATE: NOVEMBER 2012	SHEET: 8 OF 26



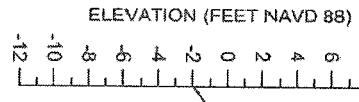


EARTHEN CONTAINMENT DIKE  
(SEE SHEET 14 FOR DETAIL)

MARSH FILL  
LIFT 2 EL. = +3.5' (MAX.)  
(SEE NOTE 2)

MARSH FILL  
LIFT 1 EL. = +1.5' (MAX.)  
(SEE NOTE 2)

EARTHEN CONTAINMENT DIKE  
(SEE SHEET 14 FOR DETAIL)



EARTHEN CONTAINMENT DIKE  
BORROW AREA

EARTHEN CONTAINMENT DIKE  
BORROW AREA

EXISTING GROUND

EXISTING GROUND

**TYPICAL MARSH CREATION AREA 2A SECTION**

EARTHEN CONTAINMENT DIKE  
(SEE SHEET 14 FOR DETAIL)

MARSH FILL  
LIFT 2 EL. = +3.5' (MAX.)  
(SEE NOTE 2)

MARSH FILL  
LIFT 1 EL. = +1.5' (MAX.)  
(SEE NOTE 2)

ELEVATION (FEET NAVD 88)

10  
8  
6  
4  
2  
0  
-2  
-4  
-6  
-8  
-10  
-12

EARTHEN CONTAINMENT DIKE  
BORROW AREA

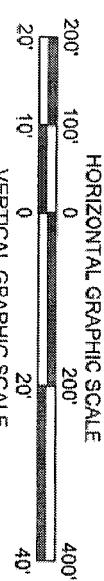
EARTHEN CONTAINMENT DIKE  
BORROW AREA

EXISTING GROUND

**TYPICAL MARSH CREATION AREA 2B SECTION**

NOTES:

1. A TWO LIFT SYSTEM IS REQUIRED TO MEET THE MARSH FILL DESIGN HEIGHT.
2. A MINIMUM WAITING PERIOD OF THIRTY (30) DAYS FROM THE COMPLETION OF MARSH FILL LIFT 1 SHOULD OCCUR PRIOR TO THE PLACEMENT OF THE MARSH FILL OF LIFT 2.
3. DISCHARGE SHALL BE DIRECTED TO RETAIN AS MUCH MATERIAL AS POSSIBLE.



UNITED STATES FISH AND WILDLIFE SERVICE  
646 CAUDONNE BLVD, SUITE 400  
LAFAYETTE, LA 70506

COASTAL PROTECTION AND  
RESTORATION AUTHORITY

LOST LAKE MARSH CREATION AND  
HYDROLOGICAL RESTORATION PROJECT  
TYPICAL FILL  
SECTIONS

430 LAUREL STREET

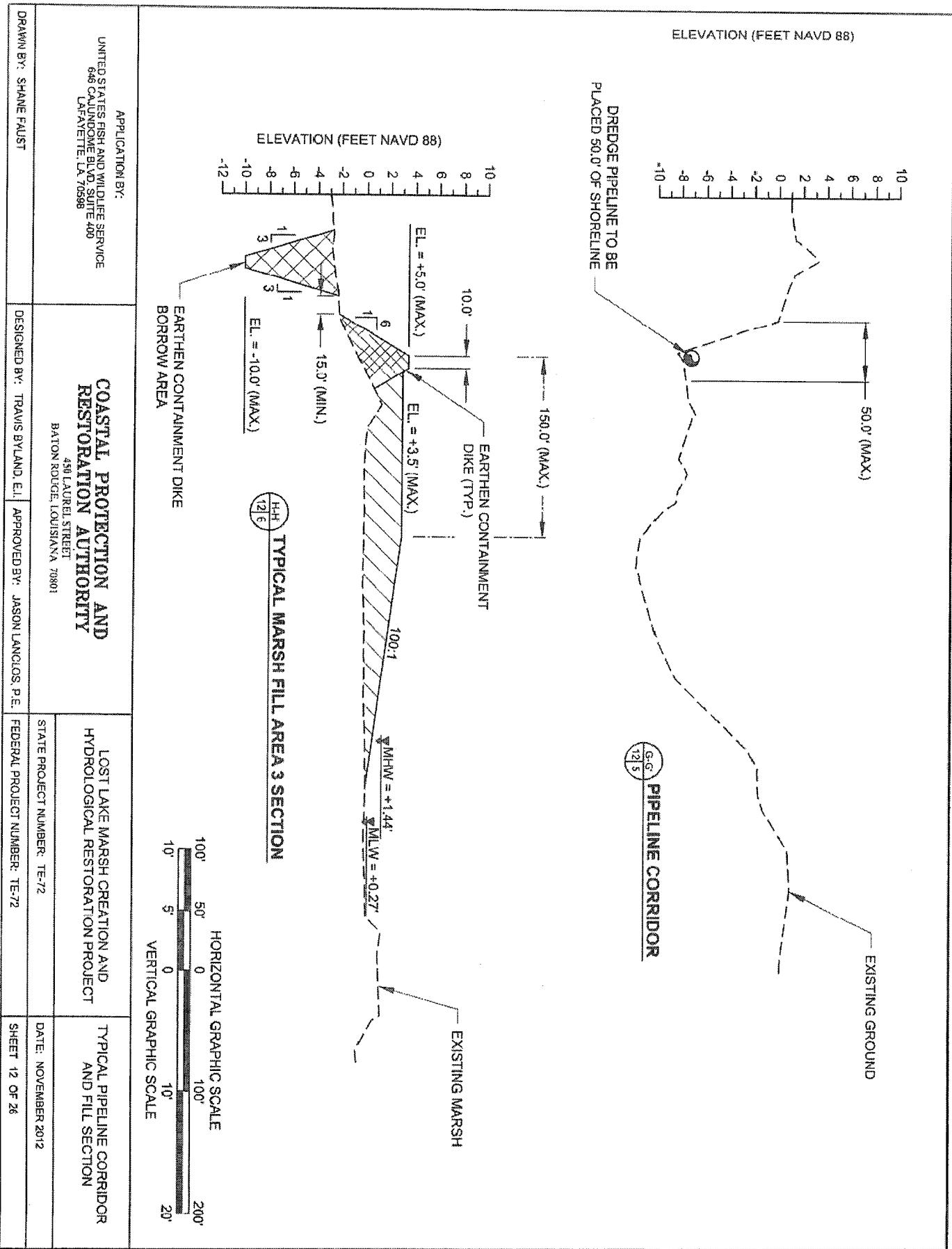
BATON ROUGE, LOUISIANA 70801

DRAWN BY: SHANE FAUST

DESIGNED BY: TRAVIS BYLAND, E.I. APPROVED BY: JASON LANCIOS, P.E.

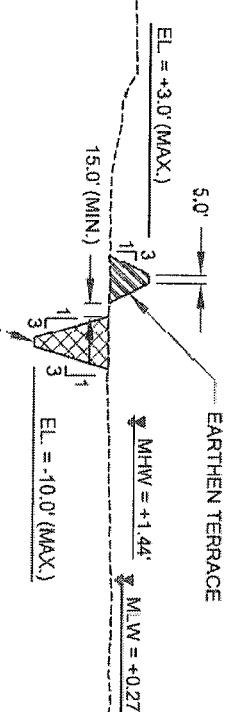
STATE PROJECT NUMBER: TE-72 DATE: NOVEMBER 2012

FEDERAL PROJECT NUMBER: TE-72 SHEET 11 OF 26

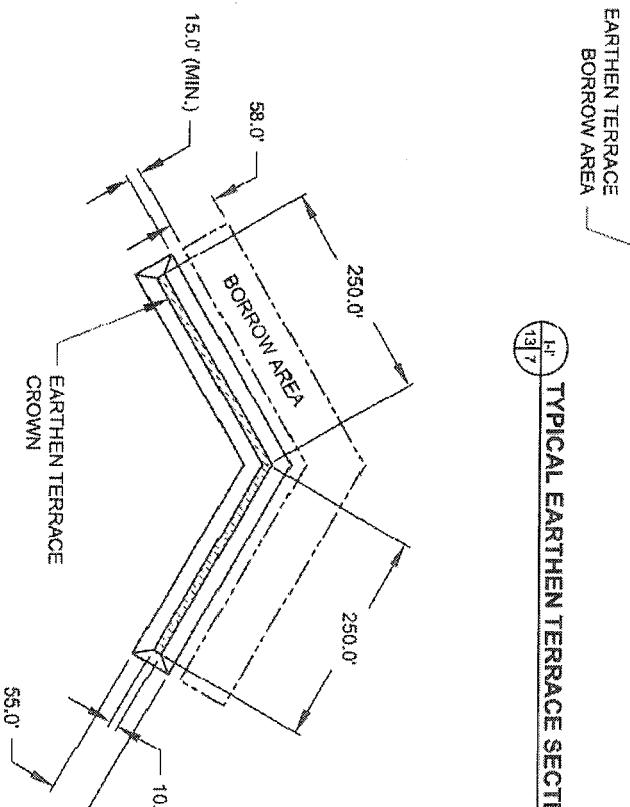


ELEVATION (FEET NAVD 88)

10  
8  
6  
4  
2  
0  
-2  
-4  
-6  
-8  
-10



**TYPICAL EARTHEN TERRACE SECTION**



**TYPICAL EARTHEN TERRACE**

PLAN VIEW

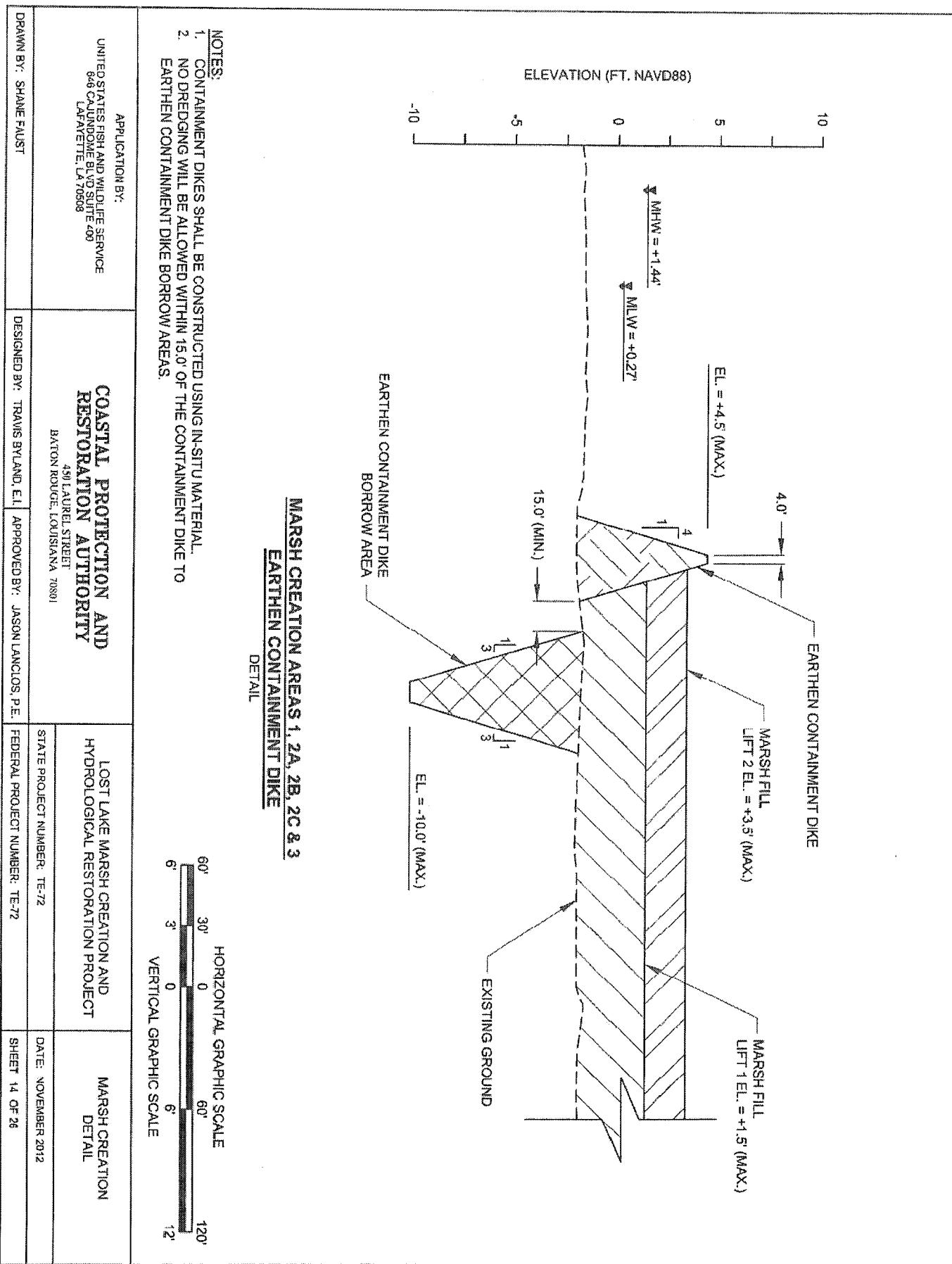
HORIZONTAL GRAPHIC SCALE  
200' 100' 0 200' 400'  
20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE  
40'  
20'  
0  
20'  
40'

NOTE:

EXACT LOCATION OF THE EARTHEN TERRACES SHALL BE DETERMINED ON SITE AND WILL NOT DISTURB ANY EXISTING MARSH.

APPLICATION BY: UNITED STATES FISH AND WILDLIFE SERVICE 645 CALUMETTE BLVD SUITE 400 LEAVENWELL, LA 70588	COASTAL PROTECTION AND RESTORATION AUTHORITY 430 LAUREL STREET BATON ROUGE, LOUISIANA 70801	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT STATE PROJECT NUMBER: TE-72	TYPICAL EARTHEN TERRACE SECTION DATE: NOVEMBER 2012
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYLAND, E.I.	APPROVED BY: JASON LANCLOSS, P.E.	FEDERAL PROJECT NUMBER: TE-72 SHEET 13 OF 26



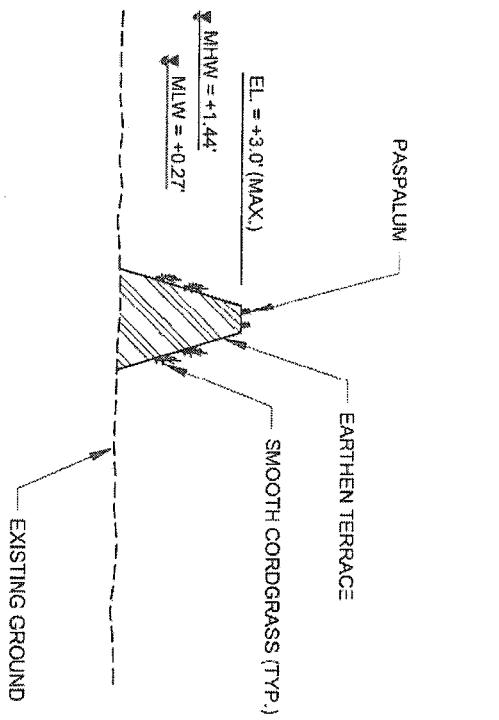
PASPALUM

EARTHEN TERRACE

EL. = +3.0' (MAX.)

MHW = +1.44'

MLW = +0.27'



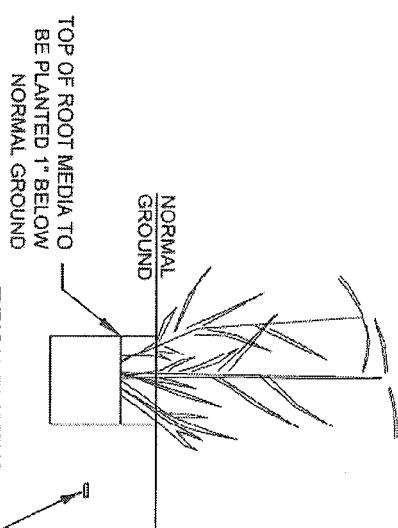
### TYPICAL TERRACE PLANTING SECTION (NTS)

NORMAL GROUND

NORMAL GROUND

TYPICAL PLANTING  
SMOOTH CORDGRASS  
PLUG

NORMAL GROUND



NOTES:

1. EXACT LOCATION OF THE PLANTS SHALL BE DETERMINED ON SITE BY CPRA DURING PRE-CONSTRUCTION LAYOUT.
2. NO EQUIPMENT MAY ALTER THE EXISTING CONDITIONS OF THE NEWLY CREATED TERRACE OR DISTURB EXISTING VEGETATION.
3. THE SMOOTH CORDGRASS SHALL BE PLANTED ON THREE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.
4. THE PASPALUM SHALL BE PLANTED ON FIVE FOOT CENTERS IN ROWS AS SHOWN ON THE PLANS.

APPLICATION BY:  UNITED STATES FISH AND WILDLIFE SERVICE 66 CAJUNDOME BLVD SUITE 400 LA FAYETTE, LA 70506	COASTAL PROTECTION AND RESTORATION AUTHORITY  BATON ROUGE, LOUISIANA 70801 450 LAUREL STREET	LOST LAKE MARSH CREATION AND HYDROLOGICAL RESTORATION PROJECT  PLANTING LAYOUT AND DETAIL	STATE PROJECT NUMBER: TE-72  DATE: NOVEMBER 2012
DRAWN BY: SHANE FAUST	DESIGNED BY: TRAVIS BYALND, E.I.	APPROVED BY: JASON LANCLOS, P.E.	FEDERAL PROJECT NUMBER: TE-72  SHEET 15 OF 26

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE, ACTUAL LEGAL OWNERSHIP, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDEN'S ON THE PROPERTY.

EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYBURN & ODOM MCA

DATED MAY 2011

DATA NOTE: ALL ELEVATIONS ARE IN NAVD 88 IN U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 U.S. SURVEY STATE PLANE, SOUTH ZONE IN U.S. SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN. REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

NON-VEGETATED WATER BOTTOM	
0.16 A.C.	266 C.Y.
0.16 A.C.	13.3 C.Y.
0.16 A.C.	324.4 C.Y.

EXCAVATION  
INSITU FILL  
ROCK/RIP RAP

#### LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURE
- EXISTING TOP OF BANK
- PROPOSED WEIR
- PROPOSED RIP RAP 2'-THICK (MIN.)

EXISTING WER TO BE REMOVED

LIMITS OF RIP RAP

73.0'

LIMITS OF RIP RAP

73.0'

C.L. PROPOSED STRUCTURE

TRANSITION CHANNEL  
TO EXISTING

15.0'

TRANSITION CHANNEL  
TO EXISTING

15.0'

PROPOSED CHANNEL  
(66' BW) WITH RIP RAP

CUT: 26.6 C.Y.

FILL: 13.3 C.Y. (EKC & PLACE ON SITE)  
FILL: 324.4 C.Y. RIP RAP

REMOVE ENTIRE STRUCTURE AND EARTHEN BULWHEAD.  
REGRADE TO PROPOSED CHANNEL SECTION



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CONSTRUCTION, BUILDING, OR  
CONTRACTING PURPOSES.  
FOR THE ISSUE OF A PERMIT  
OR APPROVAL, PLEASE REFER  
TO THE APPROPRIATE SHEET.

0  
20  
40  
60  
(in FEET)

SCALE: 1" = 20'

SIGMA CONSULTING GROUP, INC.	COASTAL PROTECTION AND RESTORATION AUTHORITY	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION	Site WC-1 Plan View
NAT'L. SOC. OF LANDSCAPE ARCHITECTS	501-A, 101 ST. LOUIS, MO 63101	STATE PARKS ALMANAC 11-22	
Engineering Consultants	1115 KAHN PARKWAY, SUITE 100	1115 KAHN PARKWAY, SUITE 100	ONCE NOVEMBER 2012
Office Address: Louisville, Indiana 40208 Phone: (502) 455-2727	DISCOUNT BY: 5/2012	DISCOUNT BY: 5/2012	SHALL BE UP TO

NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET

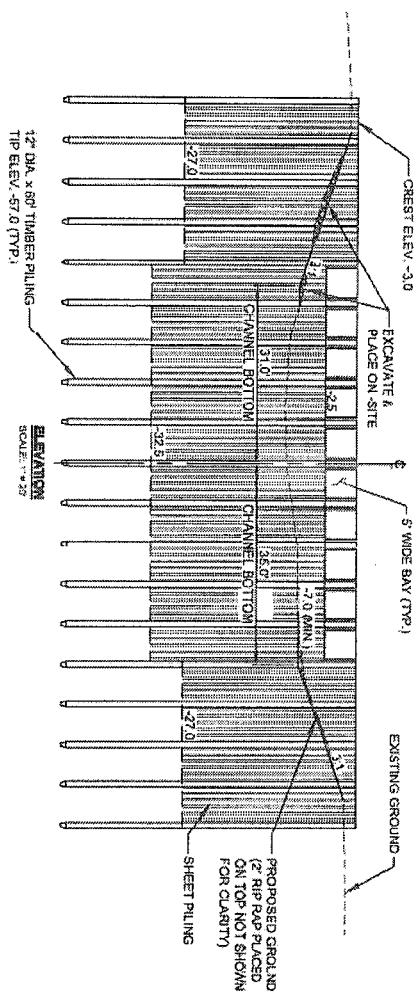
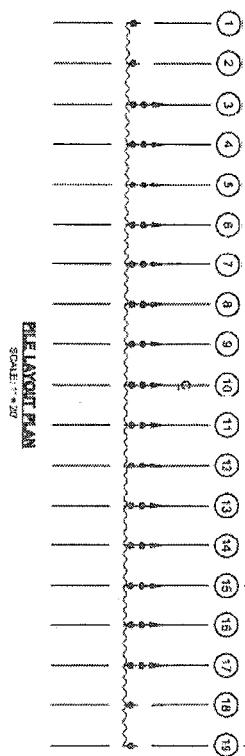
MHW = 44 FT.  
MLW = 0.27 FT.

ft

18 SPACES @ 7' = 126' G  
TOTAL WEIR LENGTH  
4 SPACES @ 7' = 28' G

16 SPACES @ 7' = 112' G

4 SPACES @ 7' = 28' G



0  
20  
40  
60  
(in FEET)  
SCALE: 1" = 20'

ft  
INCHES  
DEPARTURE  
ELEVATION  
DEPARTURE  
ft

SIGMA  
CONSULTING  
GROUP, INC.  
ENGINEERING CONSULTANTS  
1005 Turquoise Boule<sup>n</sup>,  
Baton Rouge, Louisiana 70816

COASTAL PROTECTION AND  
RESTORATION AUTHORITY

49th Avenue Street  
Baton Rouge, Louisiana 70801

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OR ENTITLEMENT, SALES OR AS THE BASIS  
FOR THE ISSUANCE OF A PERMIT



LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION	SITE NO. 1 STRUCTURE DETAIL
STATE NUMBER: 162	STRUCTURE NUMBER: 162
LEAD PROJECT: N/A	DATE: November 2012
DESIGNED BY: ANHILL	REVISED BY: SAWYER
REVIEWED BY: N/A	APPROVED BY: N/A
SCALE: 1/4 MILE	SCALE: 1/4 MILE
DATE: 11-06-12	DATE: 11-06-12

NO ATTEMPT HAS BEEN MADE BY SIGMA CONSULTING GROUP, INC. TO VERIFY TITLE ACTUAL LEGAL OWNERSHIPS, SERVITUDES, EASEMENTS, RIGHTS-OF-WAY, OR OTHER BURDENS ON THE PROPERTY.

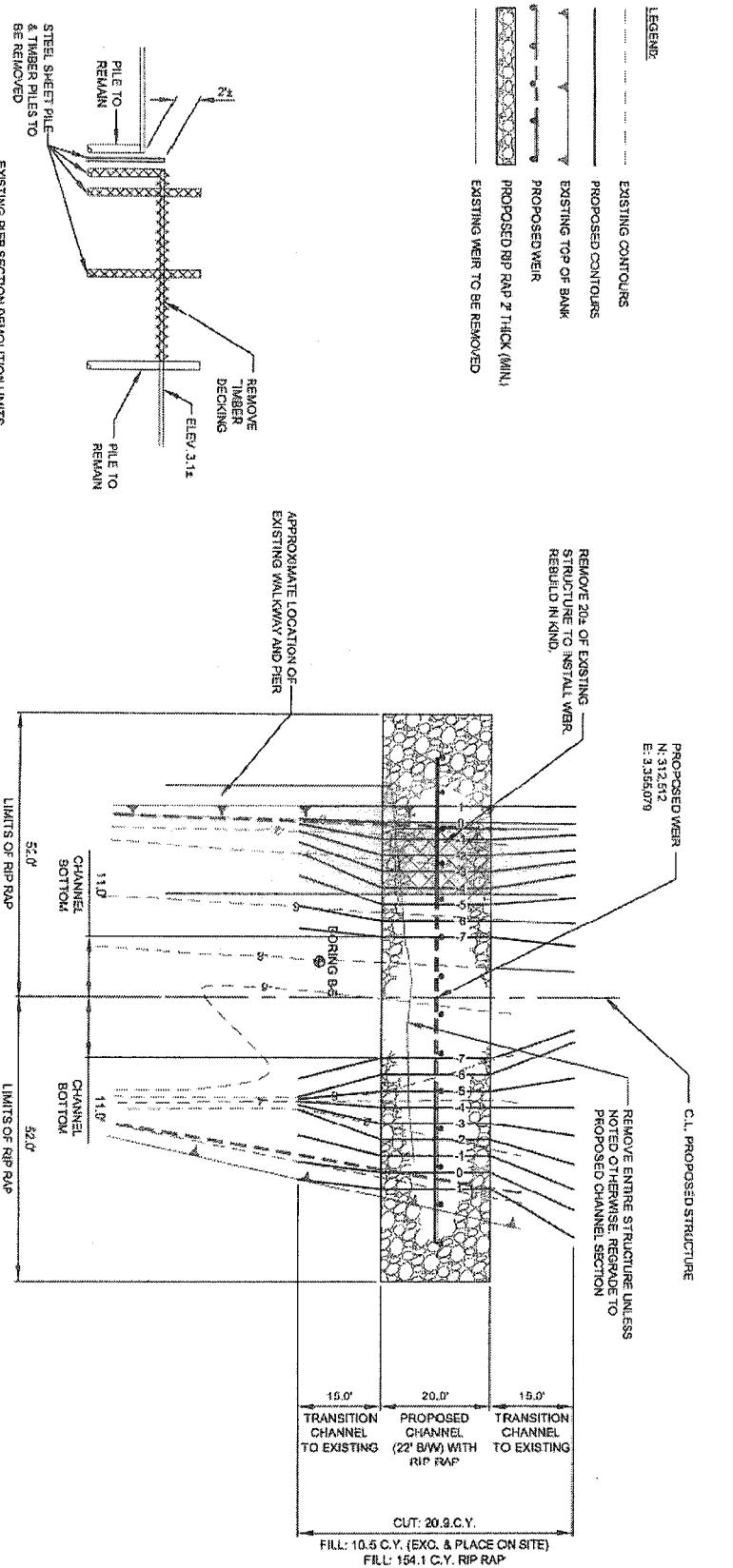
EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYBURN & COON MCA

DATED MAY 2011

DATUM: NOTE: ALL ELEVATIONS ARE IN NAVD 88 IN US SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE). IN U.S. SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

NO-VEGETATED WATER BOTTOM	
0.08 A.C.	20.9 C.Y. EXCAVATION
0.08 A.C.	10.5 C.Y. INST. FILL
0.05 A.C.	154.1 C.Y. ROCK/RIP RAP



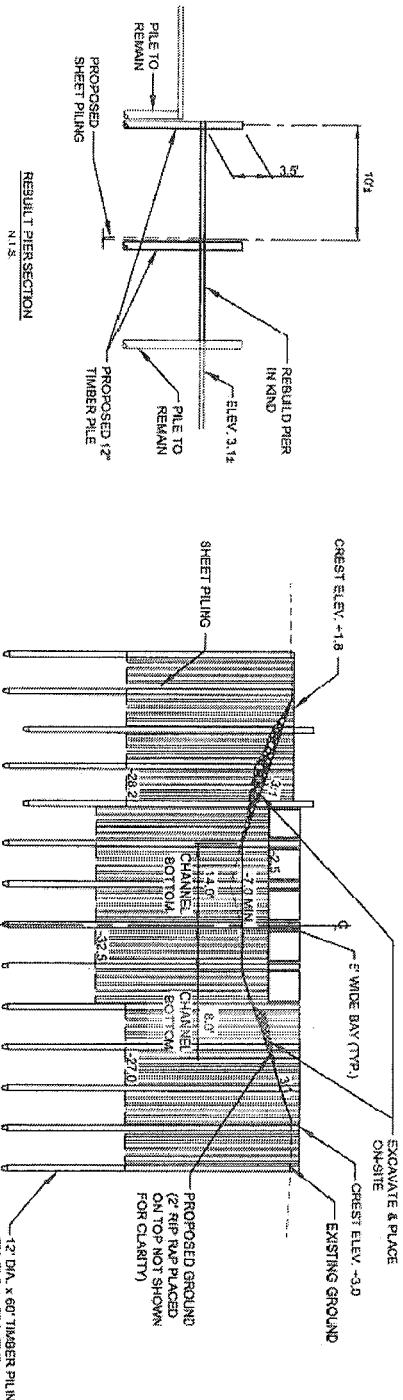
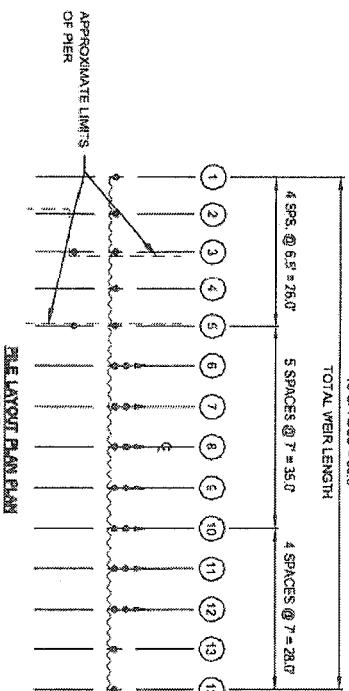
SIGMA CONSULTING GROUP, INC. ENGINEERING CONSULTANTS 1000 AIRPORT RD., SUITE 100 BIRMINGHAM, AL 35244-4000	COASTAL PROTECTION AND RESTORATION AUTHORITY 4TH FLOOR, 1000 BIRMINGHAM BIRMINGHAM, AL 35244-4000	LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION SITE WC-4 PLAN VIEW
SCALE: 1" = 20'	NATIVE ADT (10,000 VPD)	STEEL PROFILE NUMBER: 12-27
SWL DATE: 10/20/2012	STRUCTURAL ANALYST: D. BROWN	DATE: NOVEMBER 2012
SWL APPROVED BY: D. BROWN	CLASSIFIED: SECRET	APPROVED BY: D. BROWN

**PRELIMINARY**

THIS DOCUMENT IS PRELIMINARY AND SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER-IN-CHARGE. IT IS NOT TO BE USED FOR CONSTRUCTION, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.

SEE THIS BLOCK FOR SIGNATURES

NOTE: ALL ELEVATIONS ARE NAD 83 IN US FEET  
 MHW = 44 FT.  
 $MN = 0.27$  FT.



SCALE: 1" = 20'

12' DIAM x 60' SPACER PILING

This document is not to be used for construction, design, recommendation, convenience, sales or as the basis for the issuance of a permit.



<b>SIGMA CONSULTING GROUP, INC.</b>	<b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b>	<b>LOST LAKE MARSH RESTORATION AND HYDROLOGIC RESTORATION</b>	<b>SITE #C4 STRUCTURE DETAIL</b>
4001-A Bell Street, Baton Rouge, Louisiana 70809	4001-A Bell Street, Baton Rouge, Louisiana 70809	STRUCTURE NUMBER: 16-22	DATE: NOVEMBER 2012
DESIGNED BY: ANTHONY	DESIGNED BY: SLOAN	APPROVED BY:	SHILL 19 SEP 26
SCALE: 1" = 20'			
REV. 2012	REV. 2012		

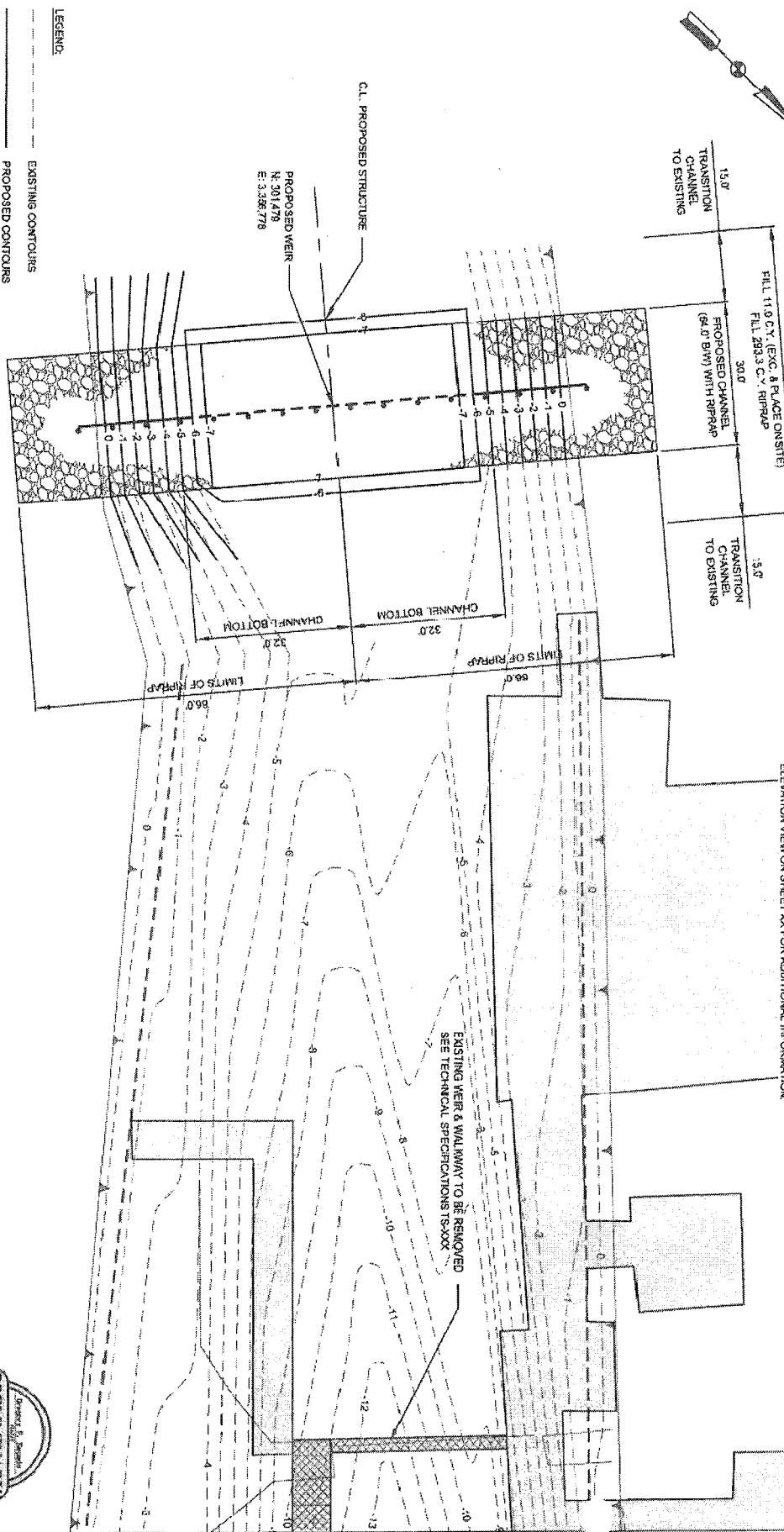
EXISTING WEIR TO BE REMOVED

PROPOSED RERAP 2' THICK (MIN.)

LEGEND:

- Existing Contours
- Proposed Contours
- Existing Top of Bank
- Proposed Weir

SCALE: 1" = 20'

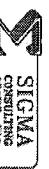


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EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYBURN & COOM MOA  
DATED MAY 2011  
DATUM NOTE: ALL ELEVATIONS ARE IN NAVD 88 IN SURVEY FEET. ALL HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE SOUTH ZONE) IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 1 FOR SURVEY CONTROL DATA.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE. REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

NON-VEGETATED WATER BOTTOM	NON-VEGETATED
0.18 AC.	20.0 CY.
0.18 AC.	11.0 CY.
0.09 AC.	23.3 CY.
	ROCKRERAP

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SIGMA  
CONSULTING  
GROUP, INC.

ENGINEERING CONSULTANTS

1100 LAUREL STREET  
SUITE 200, P.O. BOX 1000  
HOUSTON, TEXAS 77002

Telephone: (281) 220-1515  
Facsimile: (281) 220-1516

DRAWS BY: ANTHONY  
APPROVED BY:  
SARAH C. SPARKS

DATE: 2/04/2013

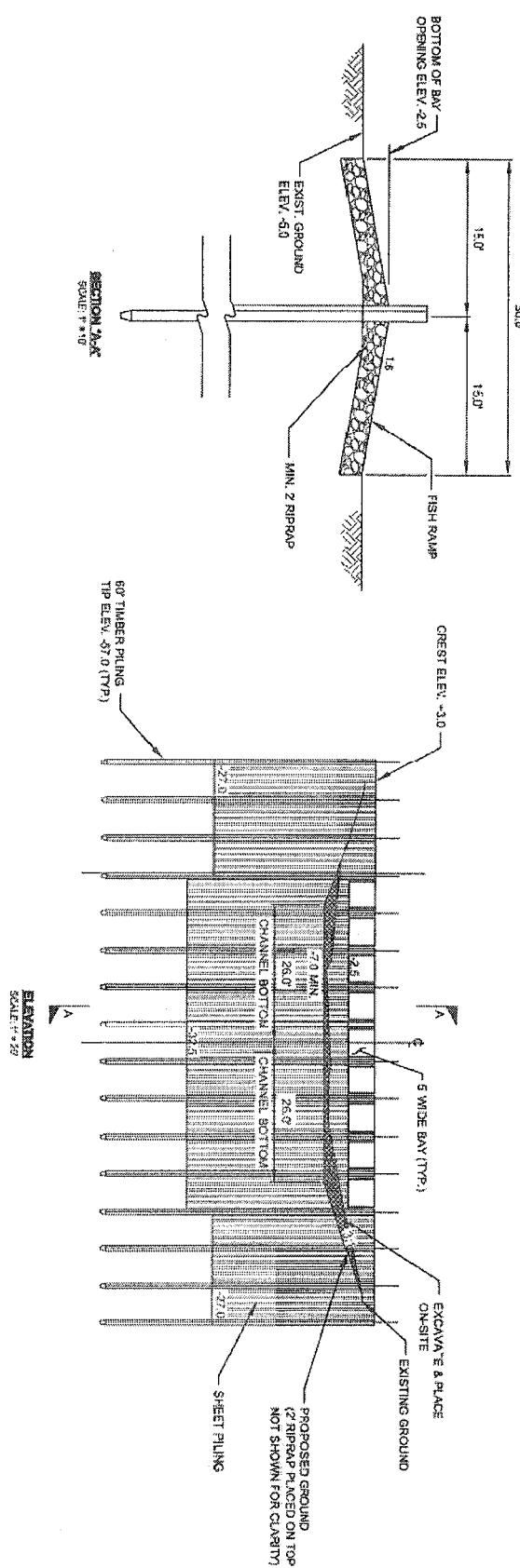
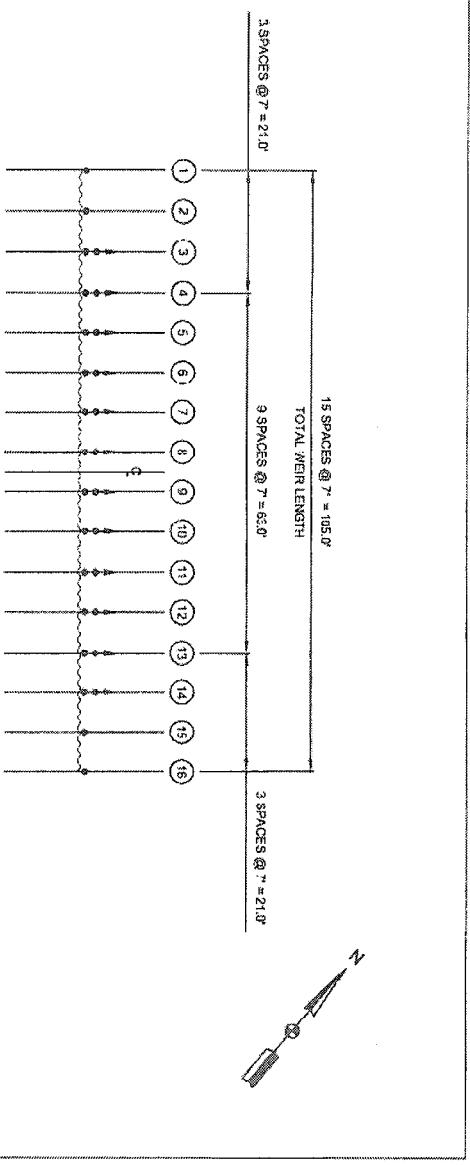
DISCUSSION: SPARKS

APPROVAL: SPARKS

SCALE: 1" = 20'

**SITE NOTES**

1. DATUM NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET  
MLW = 1.44 FT.  
MLW = 0.27 FT.
2. FOR STRUCTURAL DETAILS AND NOTES OF TIMBER PILING,
3. SHEET PILE WALL AND STEEL BAYS, SEE SHEET 15.
4. CHANNEL EXCAVATION SHALL CONFORM TO TECHNICAL SPECIFICATION TS-XXX.
5. RIPRAP SHALL BE 55 LB. CLASS AND CONFORM TO SECTION 711 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES AS PUBLISHED BY THE STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, 2006 EDITION.
6. ONE (1) PERMANENT WARNING SIGN SHALL BE INSTALLED ON EACH SIDE OF THE STRUCTURE. FOR WARNING SIGN DETAILS AND NOTES, SEE SHEET 13.



<b>SIGMA CONSULTING GROUP, INC.</b> <b>ENGINEERING CONSULTANTS</b> <i>(State Avenue, Baton Rouge, Louisiana 70815)</i>		<b>COASTAL PROTECTION AND RESTORATION AUTHORITY</b> <i>(Regulatory Staff)</i>	
<b>NOTICE:</b> THIS DRAWING IS PRELIMINARY		<b>NOTICE:</b> THIS DRAWING IS PRELIMINARY	
Project: 120703 Drawing No.: 120703-13 Date: 02/04/2014 Scale: 1"-0" = 20'		Project: 120703 Drawing No.: 120703-13 Date: 02/04/2014 Scale: 1"-0" = 20'	

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EXISTING TOPOGRAPHIC SURVEY PERFORMED BY PYBURN & ODON & CO.  
DATED MAY 2011

Datum Note: All elevations are in NAVD 88 in US Survey Feet. All horizontal coordinates are in NAD 83 (Louisiana State Plane, South Zone) in US Survey Feet. See General Notes on Sheet 2 for Survey Control Data.

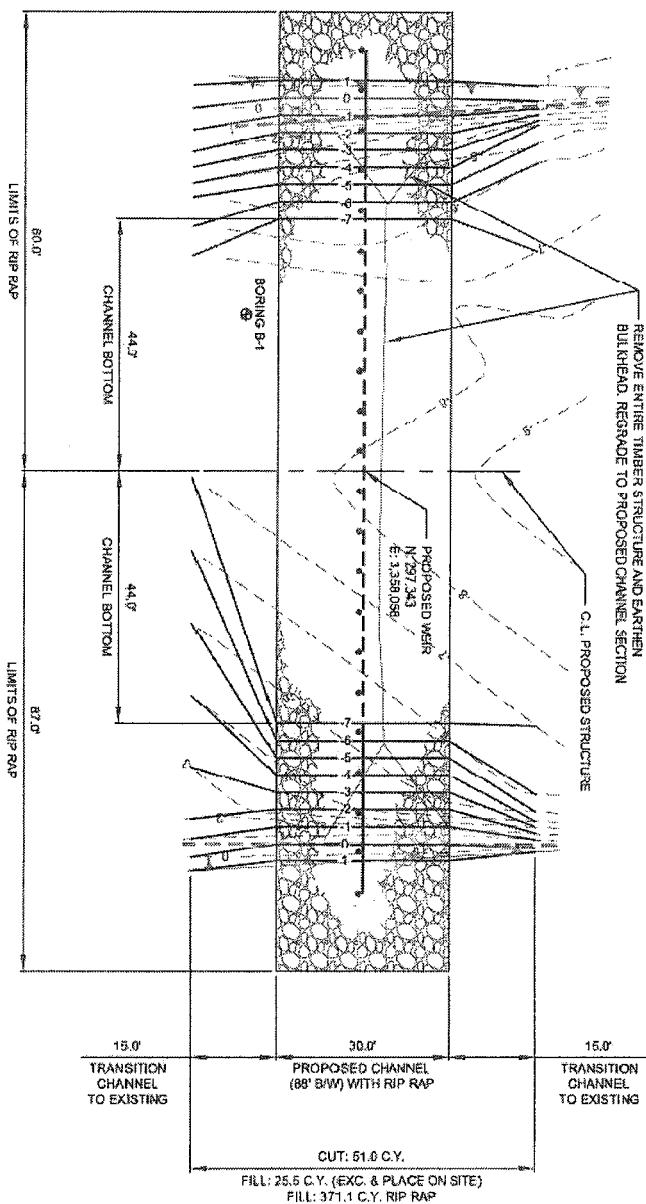
All required channel excavation is to be placed on site. Refer to the elevation view on sheet XX for additional information.

NON-VEGETATED WATER BOTTOM	51.0 C.Y.
EXCAVATION	285 C.Y.
PROPOSED FILL	371.1 C.Y.

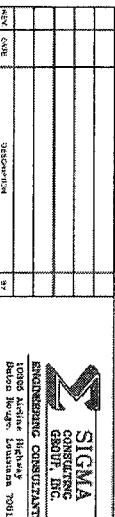
ROCKCHIP RAP
--------------

#### LEGEND:

- Existing Contours
- Proposed Contours
- Existing Top of Bank
- Proposed W.E.R.
- Proposed Rip Rap ≥ Thick (min)
- Existing wear to be removed



0  
20  
40  
60  
(IN FEET)  
SCALE: 1" = 20'



SIGMA  
CONSULTING  
GROUP, INC.  
ENGINEERING CONSULTANTS

LODGE Atchafalaya, Louisiana

Design by: AIA/LEED AP

Design by: SPURKA

Approved by: SPURKA

Stamps: 2011-2012

NO REPRESENTATION IS MADE TO THE BUYER THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE OR THAT THE LAND IS FREE OF CONVICTION, BOUNDING, ENCUMBRANCES, LIENS, OR AS THE BUYER DESIRES, FOR THE PURCHASE OF A PART OR WHOLE.

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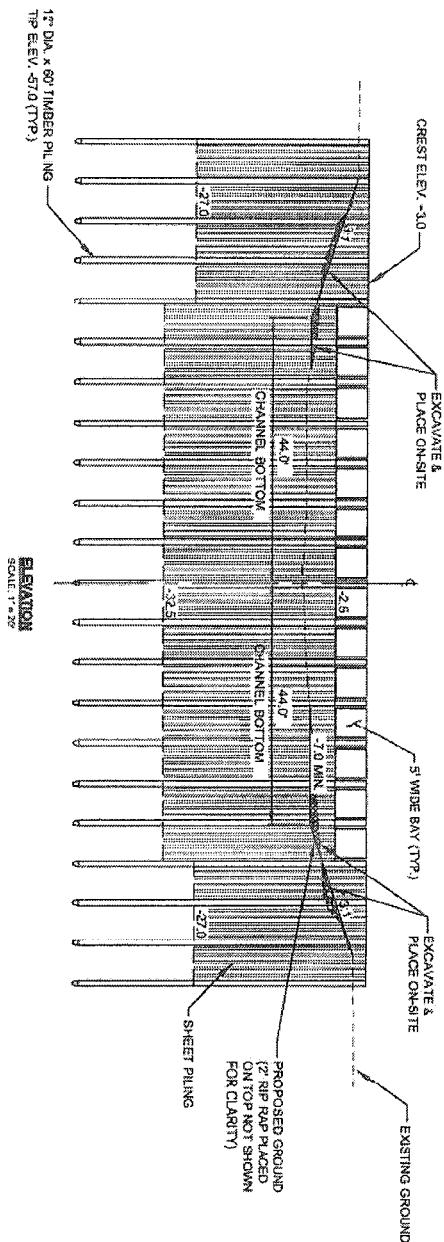
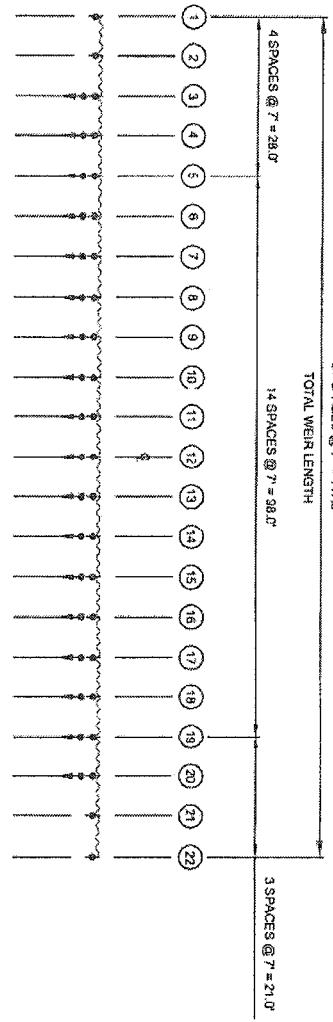
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NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET  
 MHW = 144 FT.  
 MLW = 0.27 FT.



SCALE: 1" = 20'	REV. DATE	DESIGNER	DRAFTER
		Hector Hodge, Louisiana Dept. of Transportation and Development	Ashland

THE CONTRACTOR IS NOT TO BE USED FOR CONSTRUCTION, REPAIR, RECONSTRUCTION, CONVENTION, RELOCATION, SALES OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.



COASTAL PROTECTION AND RESTORATION AUTHORITY

4801 LAUREL SPRUCE  
#4110, ASN 411, LOUISIANA, USA

0  
20  
40  
60

(IN FEET)



ENGINEERING CONSULTANTS

1040 Veterans Highway

Baton Rouge, Louisiana 70806

DRAWN BY: AMBUL

DESIGNED BY: SUPERX

APPROVED BY:

SLA 43 24 DEC 28

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EXISTING TOPOGRAPHIC SURVEY PERFORMED BY SIGMA CONSULTING GROUP, INC. ON AUGUST 21, 2012

DATUM: NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE)  
HORIZONTAL COORDINATES ARE IN NAD 83 (LOUISIANA STATE PLANE, SOUTH ZONE)  
IN US SURVEY FEET. SEE GENERAL NOTES ON SHEET 2 FOR SURVEY CONTROL DATA.

SOIL BORING B-20 MAY BE REFERENCED FOR THIS LOCATION.

ALL REQUIRED CHANNEL EXCAVATION IS TO BE PLACED ON SITE IN AREAS DESIGNATED. REFER TO THE ELEVATION VIEW ON SHEET XX FOR ADDITIONAL INFORMATION.

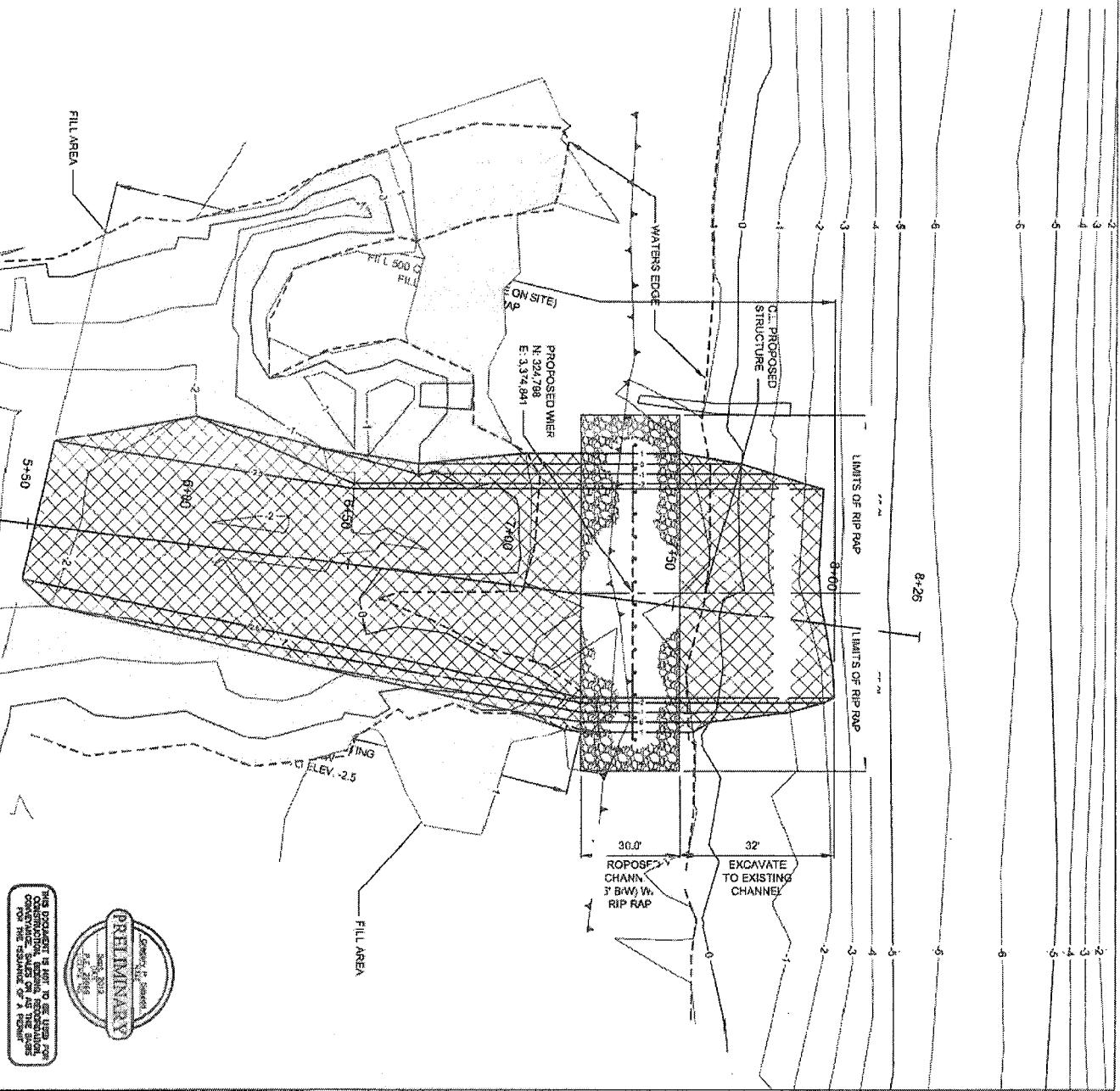
NON-VEGETATED WATER BOTTOM
0.20 AC.
1,000.0 C.Y.
EXCAVATION

0.20 AC.
500.0 C.Y.
ROCK/RIP RAP

0.08 AC.
244.4 C.Y.

#### LEGEND:

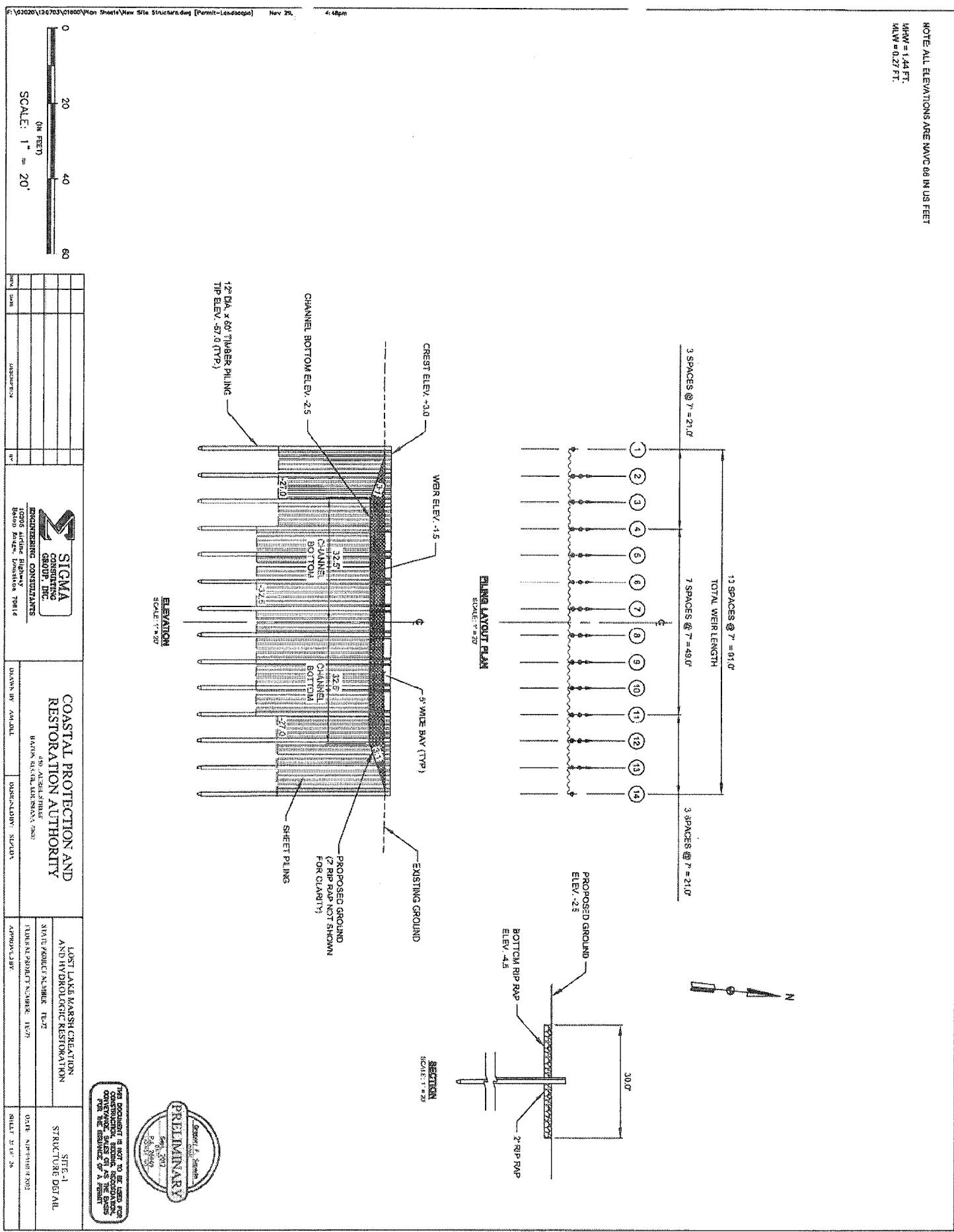
- - - - - EXISTING CONTOURS
— PROPOSED CONTOURS
— PROPOSED TOP OF BANK
PROPOSED WEIR
EXCAVATION AREA
FILL AREA



SCALE: 1" = 30'
0 30 60 90

NOTES
NOT FOR USE IN CONSTRUCTION, ZONING, REGRADING, OR CONVEYANCE UNLESS SIGNED OFF BY THE ENGINEER FOR THE ISSUANCE OF A PERMIT
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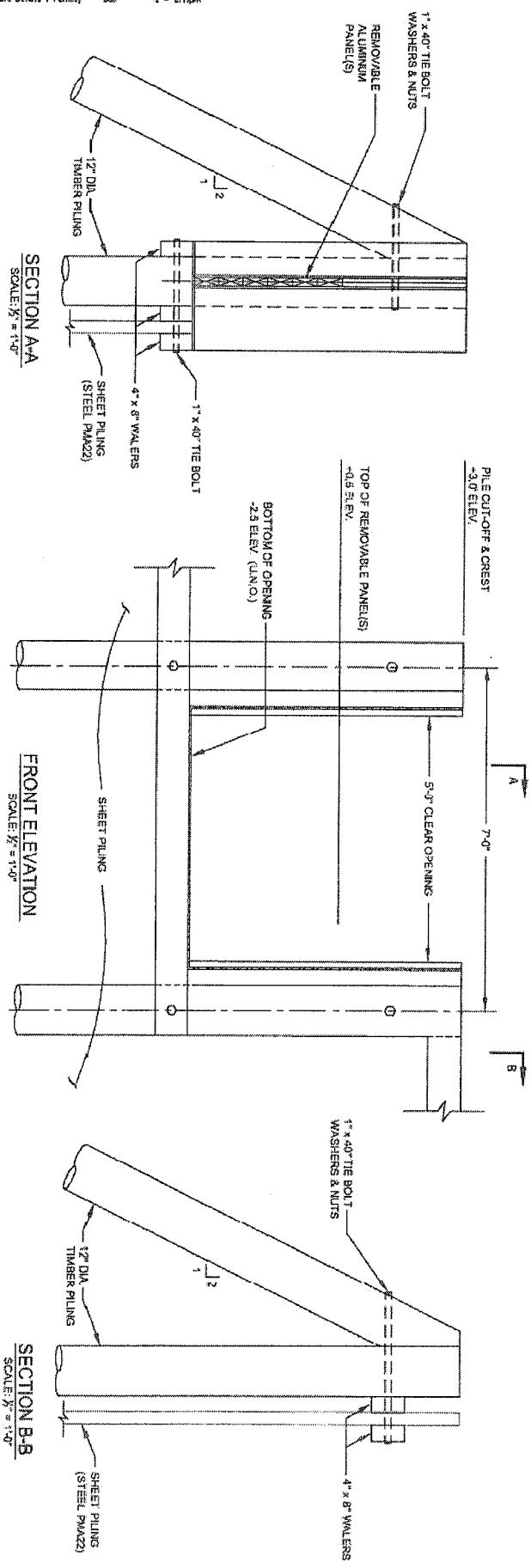
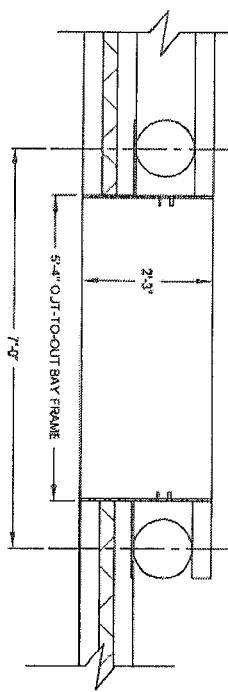
NOTE: ALL ELEVATIONS ARE NAVD 88 IN US FEET  
 MHW = 1.44 FT.  
 MLW = 0.27 FT.



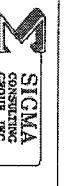


PRELIMINARY

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SECTION A-AFRONT ELEVATIONSCALE:  $\frac{1}{2''} = 1'-0''$ SECTION B-BSCALE:  $\frac{1}{2''} = 1'-0''$ TOP VIEWSCALE:  $\frac{1}{2''} = 1'-0''$ 

1	2
3	4
5	6
7	8
9	10



**COASTAL PROTECTION AND RESTORATION AUTHORITY**  
STATE OF OKLAHOMA  
MAY 2020

LOST LAKE MARSH CREATION AND HYDROLOGIC RESTORATION  
TYPICAL DETAILS

STATE PARKS, STATE PL.

INDUSTRIAL PROPERTY, STATE PL.

DEPT. OF PARKS AND GAMES

APPROVED

DATE: 2020-05-26