1/7/2025

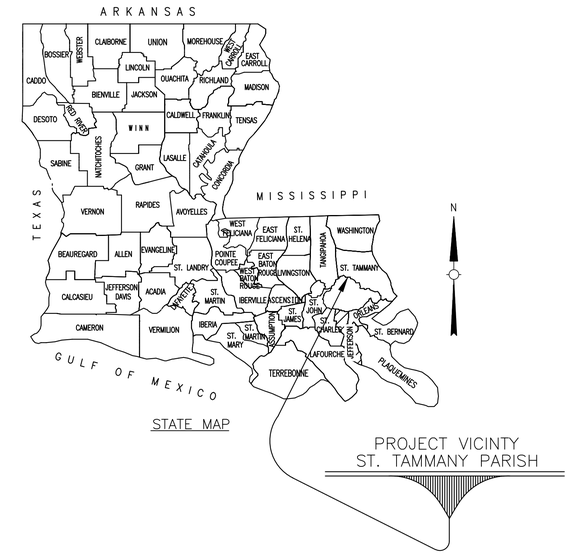
INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND LAYOUT MAP
2	GENERAL NOTES
3-7	PLAN SHEETS
8-9	REPAIR DETAILS TYPE A (SPLASH BLOCK)
10-11	REPAIR DETAILS TYPE B (CONCRETE BULKHEAD)
12	REPAIR DETAILS TYPE C (STEP REPAIRS)
13	REPAIR DETAILS TYPE D (SHEET PILE AT BULKHEAD EXP. JOINTS)
14	REPAIR DETAILS TYPE E (SHEET PILE SECTION LOSS)
15	REPAIR DETAILS TYPE F (SHEET PILE JOINT REPAIR)
16	CATHODIC PROTECTION - GENERAL NOTES & B.O.M.
17	CATHODIC PROTECTION - LAYOUT AND DETAILS
18	CATHODIC PROTECTION - DETAILS

AS-BUILTS	REV. DATE
REPLACEMENT OF MANDEVILLE SEAWALL	4-5-94

TOTAL SHEETS = 44

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
THE CITY OF MANDEVILLE, LOUISIANA
COM PROJ. NO. 100.21.019
January 2025



STATE MAP

LAYOUT MAP

SCALE: 1:2000 (2000 0 1000 2000 4000 8000)

CITY OF MANDEVILLE

MAYOR
CLAY MADDEN

CITY COUNCIL MEMBERS

RICK DANIELSON
JASON ZUCKERMAN
REBECCA BUSH
DR. J. SKELLY KRELLER
JILL MCGUIRE

TYPE OF CONSTRUCTION

REHABILITATION OF STEEL SHEET PILE SEAWALL AND STAIRS, REPLACEMENT OF CONCRETE CAP AND SPLASH BLOCKS, AND INSTALLATION OF CATHODIC PROTECTION.

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

PLANS PREPARED AND RECOMMENDED FOR APPROVAL BY:

BURK-KLEINPETER, INC.

DATE: 1-8-2025

APPROVED BY:

KEITH LACRANGE
PUBLIC WORKS DIRECTOR, MANDEVILLE

DATE: 1-09-2025

PLANS PREPARED BY:

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\01_TITLE SHEET_01

GENERAL NOTES:

1. CONTRACTOR SHALL COMPLETE A FIELD SURVEY PRIOR TO CONSTRUCTION TO ESTABLISH EXISTING SEAWALL CAP ELEVATIONS. FINAL CONSTRUCTION SHALL MATCH ALL EXISTING ELEVATIONS.

2. DIMENSIONS AND/OR ELEVATIONS MARKED (N.T.S.) ARE NOT SHOWN TO SCALE.

3. DRAWINGS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. N.T.S. IS SHOWN ONLY WHERE DRAWING IS OBVIOUSLY OUT OF SCALE.

4. ALL STATIONING SHOWN IS APPROXIMATE BASED ON THE AS-BUILT PLANS. TRUE LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. ALL STATIONING IS MEASURED ALONG THE WALL LINE ALONG THE LAKE SIDE FACE OF THE CAP AS SHOWN IN THE AS-BUILT PLANS.

5. DIMENSIONS AND/OR ELEVATIONS MARKED (±) ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ACTUAL DIMENSIONS IN THE FIELD.

6. ALL ELEVATIONS SHOWN ARE IN FEET AND REFER TO N.G.V.D. (1969 EPOCH). CONTRACTOR SHALL PROVIDE A DATUM FROM N.G.V.D. TO NAVD88 GEOID 12B AND GEOID 18 DATUMS.

7. ALL REPAIRS LISTED IN THE PLANS WERE DETERMINED FROM AN IN DEPTH INSPECTION. ALL REASONABLE EFFORTS WERE MADE TO PROVIDE THE CONTRACTOR WITH ACCURATE QUANTITIES AND LOCATIONS FOR REPAIRS. IF THE CONTRACTOR DISCOVERS ADDITIONAL DEFECTS WHICH REQUIRE REPAIR, HE SHALL BRING THOSE DEFECTS TO THE ATTENTION OF THE ENGINEER WHEN DISCOVERED. THE ENGINEER WILL ASSESS EACH LOCATION ON A CASE BY CASE BASIS AND WILL HAVE THE FINAL DECISION WHETHER AN ADDITIONAL REPAIR WILL BE REQUIRED. PAYMENT FOR ADDITIONAL REPAIRS WILL BE MADE UNDER THE ASSOCIATED PAY ITEM. INDIRECT COSTS ASSOCIATED WITH DELAYS TO THE SCHEDULE, ETC. AS A RESULT OF ADDITIONAL REQUIRED REPAIRS SHALL BE CONSIDERED INCIDENTAL TO THE ASSOCIATED REPAIR ITEM AND WILL NOT BE SUBJECT TO ADDITIONAL COMPENSATION.

8. CONDITIONS AND DIMENSIONS SHOWN ON THE DRAWINGS WHICH REFER TO EXISTING CONSTRUCTION HAVE GENERALLY BEEN DEVELOPED FROM AS-BUILT DRAWINGS OF THE EXISTING STRUCTURES AND SITEWORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY, BEFORE COMMENCING CONSTRUCTION, ALL SUCH CONDITIONS AND DIMENSIONS WHICH PERTAIN TO AND ARE AFFECTED BY THE NEW WORK. IF CONDITIONS AND DIMENSION VARY FROM THOSE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.

9. DUMPSTER RESTRICTIONS AND DEBRIS REMOVAL:

   A. ALL CONSTRUCTION DEBRIS SHALL BE STORED IN AND REMOVED FROM THE SITE IN COMMERCIALLY APPROVED DUMPSTER OR EQUAL AS APPROVED BY THE ENGINEER.

   B. DUMPSTER LOCATION FOR CONSTRUCTION DEBRIS MUST BE LOCATED SO AS NOT TO OBSTRUCT VEHICULAR TRAFFIC.

   C. DUMPSTER LOCATIONS SHALL BE SUBJECT TO ENGINEER APPROVAL. ONCE A DUMPSTER IS FILLED, IT SHALL BE REMOVED FROM THE WORK SITE WITHIN 24 HOURS.

10. HORTICULTURAL REQUIREMENTS:

   A. THE CONTRACTOR SHALL COMPLY WITH ALL "HORTICULTURAL REQUIREMENTS" SPECIFIED BY THE DEPARTMENT OF PUBLIC WORKS. HORTICULTURE CONSTRUCTION CONFLICTS OBSERVED DURING CONSTRUCTION LAYOUT SHALL BE PROVIDED TO THE ENGINEER OF RECORD TO ASSESS PROJECT IMPACT. CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION, WITH JUSTIFICATION FOR PROPOSED CHANGE.

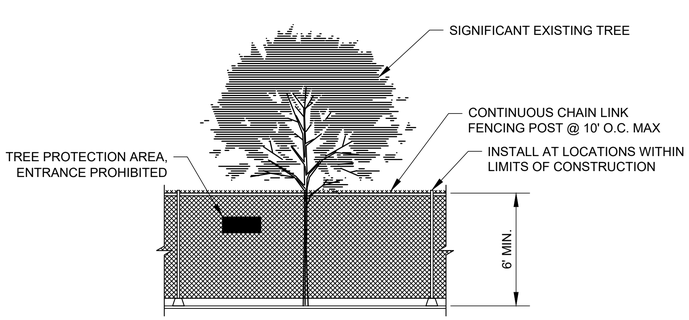
   B. ALL BRANCH PRUNING OR ROOT CUTTING SHALL BE PERFORMED BY A LICENSED ARBORIST, APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.

   C. ALL EXISTING TREES, SHRUBS, AND VEGETATION DISTURBED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED IN-KIND OR REPAIRED AT NO DIRECT PAY.

   D. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO TRIMMING ANY TREES.

   E. THE CONTRACTOR SHALL BE REQUIRED TO RESTORE ALL GREEN SPACES THAT ARE DISTURBED BY CONSTRUCTION TO ITS PRE-EXISTING CONDITIONS AT NO DIRECT PAYMENT. SEEDING AND SODDING SHALL COMPLY WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

   F. HARD PROTECTION OF ANY OAK TREE, INCLUDING THE CANOPY, WITHIN THE LIMITS OF CONSTRUCTION IS REQUIRED AS SHOWN IN THE DETAIL BELOW:



   G. MINIMUM 6' HIGH TEMPORARY CHAIN LINK FENCE SHALL BE PLACED AT THE CRITICAL ROOT ZONE OR DESIGNATED LIMIT OF DISTURBANCE OF THE TREE TO BE SAVED. FENCE SHALL COMPLETELY ENCIRCLE THE TREE(S). INSTALL FENCE POSTS USING PIER BLOCK ONLY, AVOID STAKES OR POSTS IN MAJOR ROOTS. MODIFICATIONS TO FENCING MATERIAL AND LOCATION MUST BE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.

   H. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF FENCING. FENCING SHALL NOT BE MOVED OR REMOVED UNLESS APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. WORK WITHIN THE PROTECTION FENCE SHALL BE DONE MANUALLY UNDER THE SUPERVISION OF THE ON-SITE ARBORIST AND WITH PRIOR APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS.

   I. FENCING SIGNAGE AS DETAILED ABOVE MUST BE POSTED EVERY 15 FEET ALONG THE FENCE.

   J. THE CONTRACTOR SHALL NOT STAGE ANY EQUIPMENT OR MATERIAL WITHIN THE DRIP-LINE OF ANY TREE WITHOUT COORDINATING IN ADVANCE WITH THE CITY PLANNING & ZONING DEPARTMENT.

11. NO CONTRACTOR OR SUBCONTRACTOR SHALL ENGAGE WITH THE PUBLIC, ONLY THE CITY REPRESENTATIVE OR THE RESIDENT INSPECTOR.

12. THE CONTRACTOR SHALL COORDINATE WITH THE CITY AND SCHEDULE WORK ACTIVITIES AROUND SCHEDULED EVENTS IN AND AROUND THE LAKEFRONT AREA.

13. CONTRACTOR SHALL DELIVER REMOVED SHEET PILE SECTIONS TO PUBLIC WORKS FACILITY AT 100 MANDEVILLE HIGH BLVD.

14. ALLOWABLE CONSTRUCTION ACCESS LOCATIONS HAVE BEEN SHOWN ON THE PLAN SHEETS. CONTRACTOR SHALL COORDINATE EXACT NUMBER AND LOCATIONS WITH THE CITY.

15. A CHAIN LINK FENCE SHALL BE PLACED AROUND THE WORK AREA AT ALL TIMES TO LIMIT PUBLIC ACCESS TO THE CONSTRUCTION SITE.

STRUCTURAL NOTES:

DESIGN CRITERIA:

1. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS.
   INTERNATIONAL BUILDING CODE-2018
   AMERICAN SOCIETY OF CIVIL ENGINEERS ASCE 7-22
   AMERICAN CONCRETE INSTITUTE ACI 318-19 (22) (CONCRETE DESIGN)
   AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL 16th EDITION

CONSTRUCTION SPECIFICATIONS:

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR "MANDEVILLE SEAWALL REPAIRS PROJECT SEGMENT I."

DIMENSIONS:

1. ALL DIMENSIONS ARE HORIZONTAL UNLESS OTHERWISE NOTED ON PLANS, AND MEASURED AT NORMAL TEMPERATURE (68°F). CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD.

STRUCTURAL METALWORK:

1. UNLESS OTHERWISE INDICATED IN THE PLANS, STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS.

PLATES	A572 GR. 50
ANCHOR RODS	F1554 GR. 55 (WELDABLE)
ELECTRODES	E-70 XX

ANY NECESSARY SUBSTITUTION MUST HAVE PRIOR APPROVAL OF THE PROJECT ENGINEER.

WELDING:

1. WELDING OF ALL STRUCTURAL STEEL SHALL CONFORM TO AWS PUBLICATION D1.1 "STRUCTURAL WELDING CODE". ALL WELDS THAT ARE TO BE MADE ON ANY STRUCTURAL STEEL MEMBERS SHALL BE ONLY AS SHOWN IN THE STRUCTURAL DRAWINGS, AND SUBJECT TO REVIEW BY THE DESIGN ENGINEER. "ALL WELDS" IS DEFINED AS ANY WELD PLACED FROM INITIATION OF FABRICATION TO FINAL ACCEPTANCE INCLUDING FABRICATION, TRANSPORTATION, ERECTION AND CONSTRUCTION. ALL WELDS SHALL BE CONTINUOUS, UNLESS NOTED OTHERWISE. ALL WELDS SHALL BE MADE WITH E70 ELECTRODES.

REINFORCING STEEL:

1. ALL REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60. DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT TO OUT OF BAR UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR. THE MINIMUM COVERING FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY DEFORMED REINFORCING BAR SHALL NOT BE LESS THAN 3" UNLESS OTHERWISE NOTED. ALL LAP SPLICES SHALL BE CLASS "B" SPLICES.

DEV. LENGTH & LAP SPLICE TABLE

BAR SIZE	LAP CLASS	UNCOATED TOP	UNCOATED OTHER
#5	A	31	24
	B	40	31
#6	A	37	28
	B	48	37
#7	A	54	42
	B	70	54
#8	A	62	47
	B	80	62
#9	A	70	54
	B	90	70
#10	A	78	60
	B	102	78
#11	A	87	67
	B	113	87

1. LAP SPLICE LENGTHS ARE MULTIPLIER OF TENSION DEVELOPMENT LENGTHS; CLASS A = L_d AND CLASS B = $(1.3)L_d$

2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 in. OF CONCRETE CAST BELOW THE BARS.

CONCRETE:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH (F'c) OF 4000 PSI AT 28 DAYS. CHAMFER ALL EXPOSED EDGES OF CONCRETE ¾". A MINIMUM OF 6" COVER SHALL BE PROVIDED OVER SHEET PILING AT ALL POINTS.

ABBREVIATIONS

APPROX.	= APPROXIMATE
BOT.	= BOTTOM
BT.	= BENT
CONC.	= CONCRETE
EF.	= EACH FACE
EXIST.	= EXISTING
EXP.	= EXPANSION
JT.	= JOINT
L.O.C.	= LIMIT OF CONSTRUCTION
MAX.	= MAXIMUM
MIN.	= MINIMUM
STA.	= STATION
W/L	= WALL LINE
VERT.	= VERTICAL

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1-8-2025

02
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKI # : NO.24.007
COM PROJ. NO. 100.21.019

DESIGNED	RJC	DATE	January, 2025
CHECKED	RACIII	SHEET	1 OF 1
DETAILED	SG		
CHECKED	RJC		

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
GENERAL NOTES

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\02_GENERAL NOTES_01
1/7/2025

NOTE:

1. ALL REPAIR LOCATION STATIONS ARE APPROXIMATE BASED ON AS-BUILT W/L. CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD.
2. THE L.O.C SHALL BE LOCATED 10' BEHIND THE BACK OF THE SPLASH BLOCK.

PLAN

SCALE: 1" = 30'

30' 20' 10' 0 30' 60'

1"=30'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

03
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

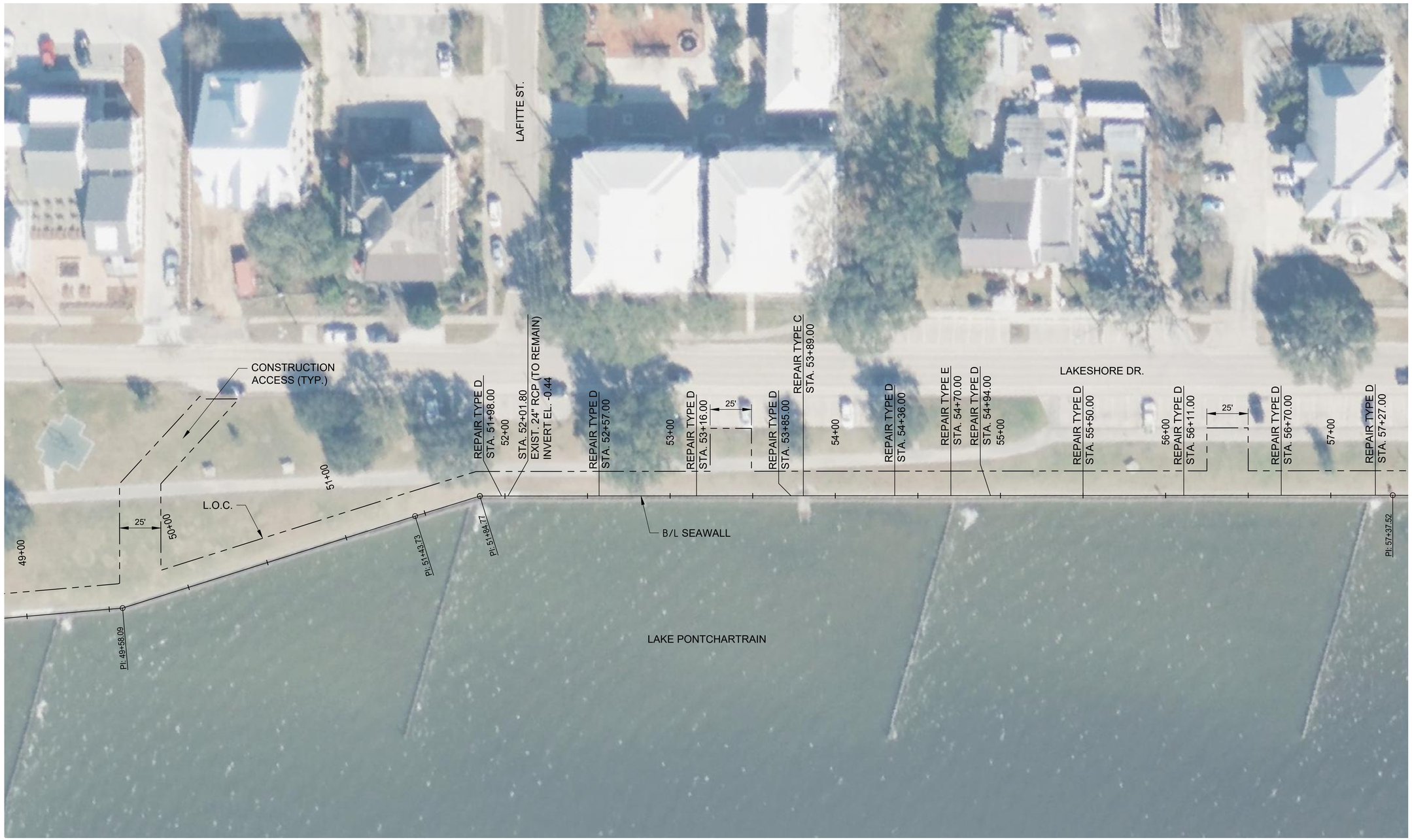
COM PROJ. NO. 100.21.019 BKI # : NO.24.007

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 5

MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

PLAN SHEET



NOTE:

1. ALL REPAIR LOCATION STATIONS ARE APPROXIMATE BASED ON AS-BUILT W/L. CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD.
2. THE L.O.C SHALL BE LOCATED 10' BEHIND THE BACK OF THE SPLASH BLOCK.

PLAN

SCALE: 1" = 30'

30' 20' 10' 0 30' 60'

1"=30'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

NO.	DATE	REVISION DESCRIPTION	BY

04
SHEET NUMBER

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

COM PROJ. NO. 100.21.019

BKI # : NO.24.007

DESIGNED	RJC
CHECKED	RACIII
DETAILED	SG
CHECKED	RJC
DATE	January, 2025
SHEET	2 OF 5

MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

PLAN SHEET

NOTE:

1. ALL REPAIR LOCATION STATIONS ARE APPROXIMATE BASED ON AS-BUILT W/L. CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD.
2. THE L.O.C SHALL BE LOCATED 10' BEHIND THE BACK OF THE SPLASH BLOCK.

PLAN

SCALE: 1" = 30'

30' 20' 10' 0 30' 60'

1"=30'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

05
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

COM PROJ. NO. 100.21.019 BKI # : NO.24.007

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 3 OF 5

MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

PLAN SHEET

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\05_MANDEVILLE SEAWALL_SHEETS_03

1/7/2025

NOTE:

1. ALL REPAIR LOCATION STATIONS ARE APPROXIMATE BASED ON AS-BUILT W/L. CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD.
2. THE L.O.C SHALL BE LOCATED 10' BEHIND THE BACK OF THE SPLASH BLOCK.

PLAN

SCALE: 1" = 30'

30' 20' 10' 0 30' 60'

1"=30'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

06
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

COM PROJ. NO. 100.21.019

BKI # : NO.24.007

DESIGNED	RJC
CHECKED	RACIII
DETAILED	SG
CHECKED	RJC
DATE	January, 2025
SHEET	4 OF 5

MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

PLAN SHEET

NOTE:

1. ALL REPAIR LOCATION STATIONS ARE APPROXIMATE BASED ON AS-BUILT W/L. CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD.
2. THE L.O.C SHALL BE LOCATED 10' BEHIND THE BACK OF THE SPLASH BLOCK.

PLAN

SCALE: 1" = 30'

30' 20' 10' 0 30' 60'

1"=30'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

07
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

COM PROJ. NO. 100.21.019

BKI # : NO.24.007

DESIGNED	RJC
CHECKED	RACIII
DETAILED	SG
CHECKED	RJC
DATE	January, 2025
SHEET	5 OF 5

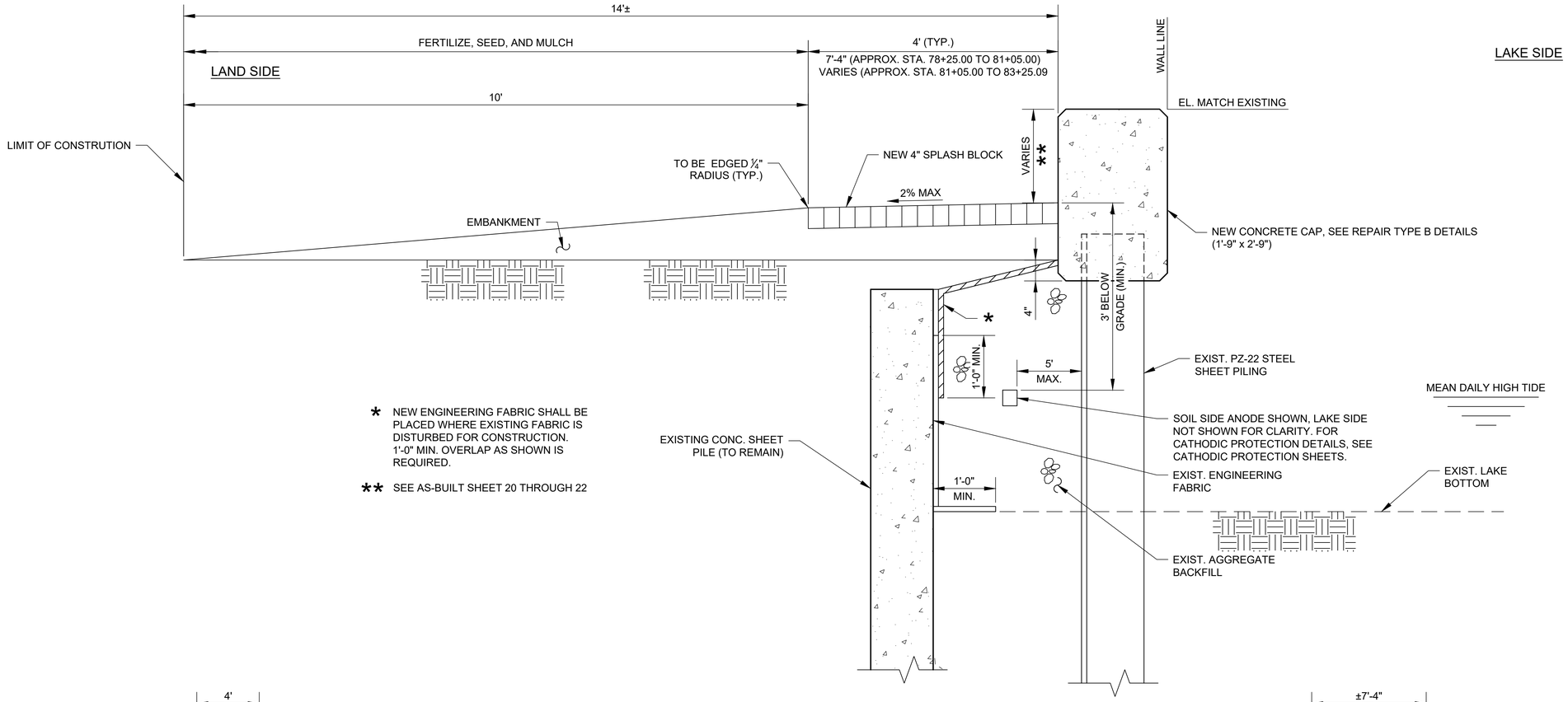
MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

PLAN SHEET

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT 1\02_DESIGN\02 CIVIL\01 DRAWING'S\07_MANDEVILLE SEAWALL_SHEETS_05

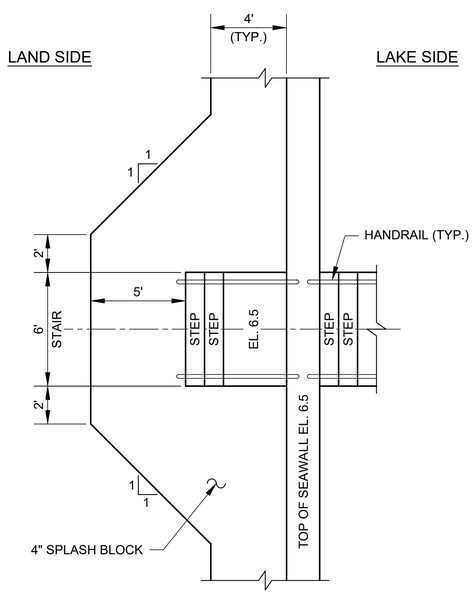
1/7/2025



* NEW ENGINEERING FABRIC SHALL BE PLACED WHERE EXISTING FABRIC IS DISTURBED FOR CONSTRUCTION. 1'-0" MIN. OVERLAP AS SHOWN IS REQUIRED.

** SEE AS-BUILT SHEET 20 THROUGH 22

TYPICAL SPLASH BLOCK REPAIR SECTION
(REPAIR TYPE A)
SCALE: 1" = 1'



PART PLAN SHOWING SPLASH BLOCK CONFIGURATION AT STAIRS
SCALE: 3" = 1'

CONSTRUCTION SEQUENCE NOTES:

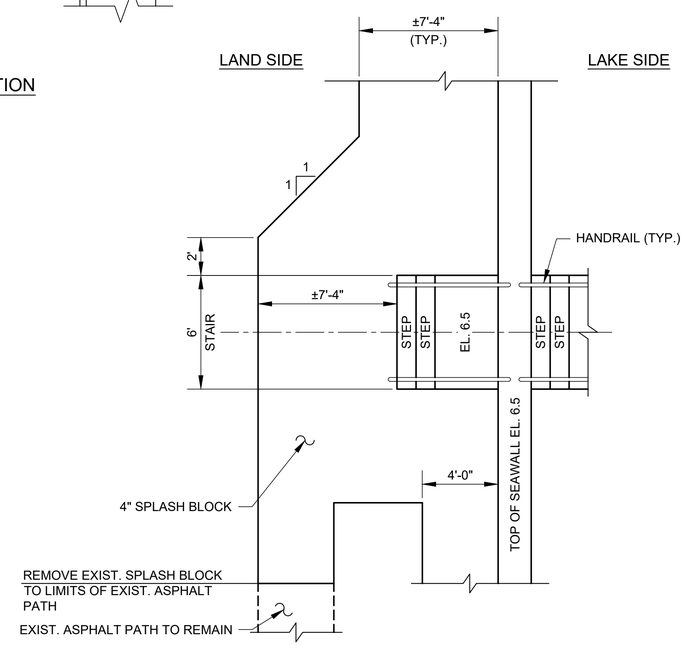
1. REMOVE EXIST. SPLASH BLOCK.
2. INSTALL CATHODIC PROTECTION, SEE CATHODIC PROTECTION DETAILS.
3. INSTALL NEW SPLASH BLOCK. WITHIN SIMILAR LIMITS OF THE EXISTING SPLASH BLOCK.
4. GRADE EMBANKMENT TO DRAIN.

NOTES:

1. REMOVE SPLASH BLOCK TO NEAREST JOINT ALONG PATH AT APPROXIMATE STATION 81+33.25, AS DIRECTED BY THE PROJECT ENGINEER. REPLACE SPLASH BLOCK TO THE SAME LIMITS WITHIN THIS VICINITY, INCLUDING THE CURBED SECTION.
2. AT APPROXIMATE STATION 81+33.25 TO 81+86.37, REMOVE AND REPLACE THE SPLASH BLOCK LOCATED BEHIND THE CONCRETE BULKHEAD.

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

12" 9" 6" 3" 0
3"=1'-0"



PART PLAN SHOWING ASPHALT PAVEMENT CONFIGURATION AT STAIRS STA. 78+25.00
SCALE: 3" = 1'

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED PROFESSIONAL ENGINEER IN ENGINEERING
1-8-2025

NO.	DATE	REVISION DESCRIPTION	BY

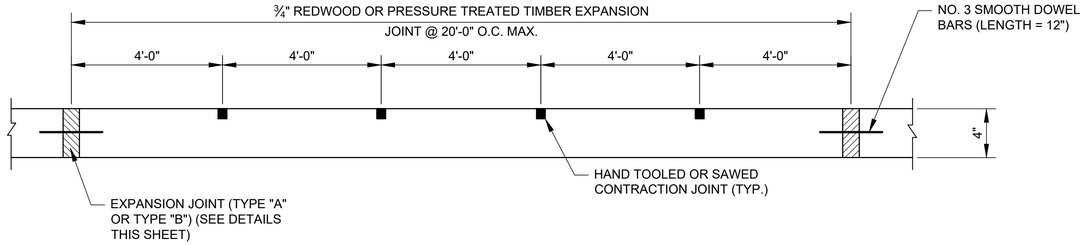
SHEET NUMBER 08

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM
BKI # : NO.24.007
COM PROJ. NO. 100.21.019

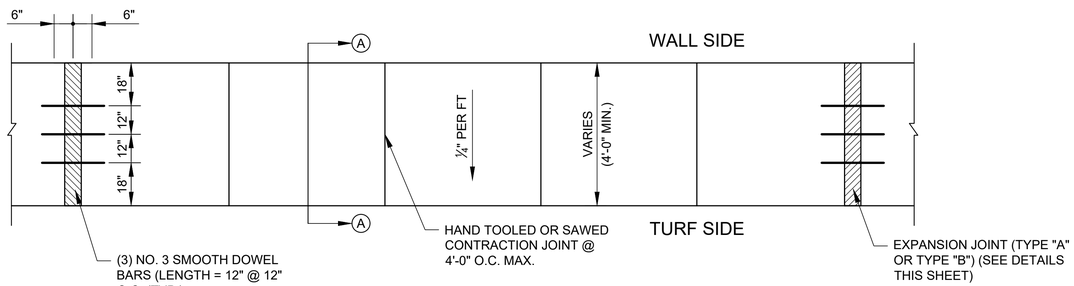
DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 2

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE A (SPLASH BLOCK)

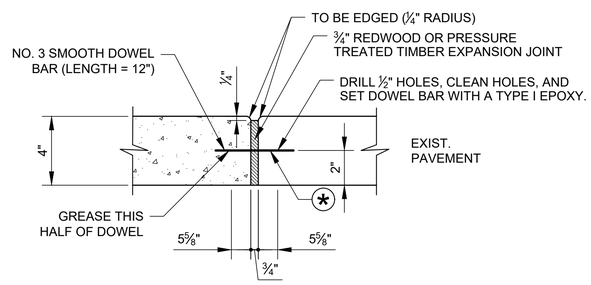
1/7/2025
P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\08_REPAIR DETAILS_01



ELEVATION VIEW OF SPLASH BLOCK

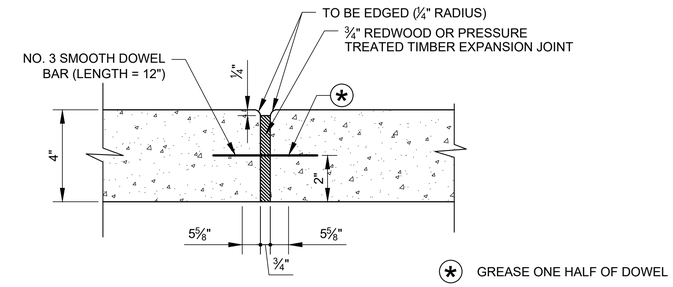


PLAN VIEW OF SPLASH BLOCK



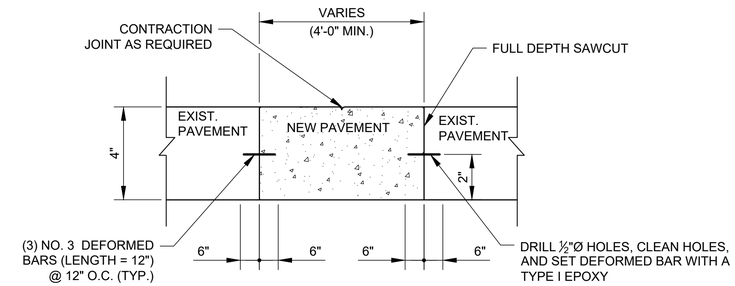
EXPANSION JOINT (TYPE "B")

(AT EXISTING PAVEMENT)
(MAXIMUM SPACING = 20'-0")
N.T.S.



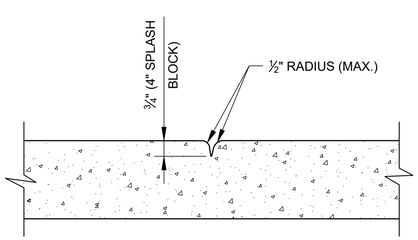
EXPANSION JOINT (TYPE "A")

(MAXIMUM SPACING = 20'-0")
N.T.S.



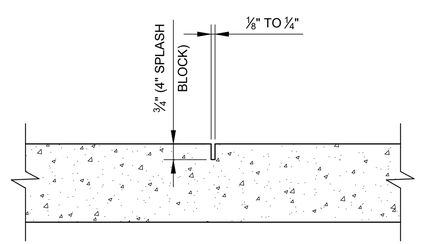
CONSTRUCTION JOINT DETAIL FOR TIE-IN TO EXISTING

N.T.S.



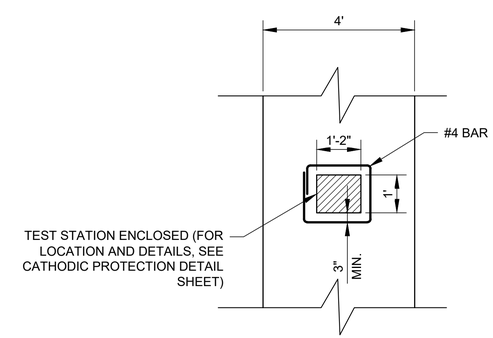
HAND TOOLED CONTRACTION JOINT

(MAXIMUM SPACING = 4'-0")
N.T.S.



SAWED CONTRACTION JOINT

(MAXIMUM SPACING = 4'-0")
N.T.S.



REINFORCEMENT DETAIL AT CATHODIC PROTECTION TEST STATION

N.T.S.

CONCRETE SPECIFICATIONS:
CONCRETE COMPRESSIVE STRENGTH = 4.000 PSI (MIN.) AT TWENTY-EIGHT (28) DAYS.
MAXIMUM SLUMP = 5" AIR CONTENT = 5% ±2%
EXPANSION MATERIAL MAY BE TREATED (ROT RESISTANT) TIMBER OR REDWOOD.

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1-8-2025

09
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

BKI # : NO.24.007
COM PROJ. NO. 100.21.019

DESIGNED	RJC		
CHECKED	RACIII		
DETAILED	SG		
CHECKED	RJC		
DATE	January, 2025		
SHEET	2	OF	2

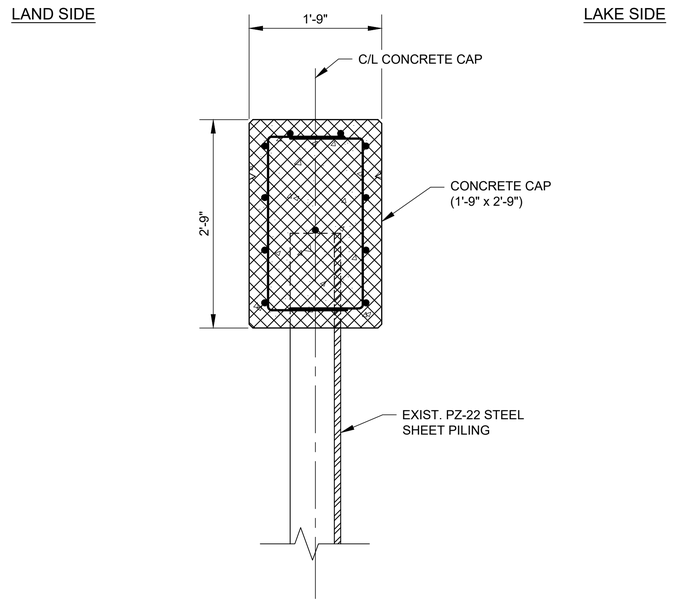
MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

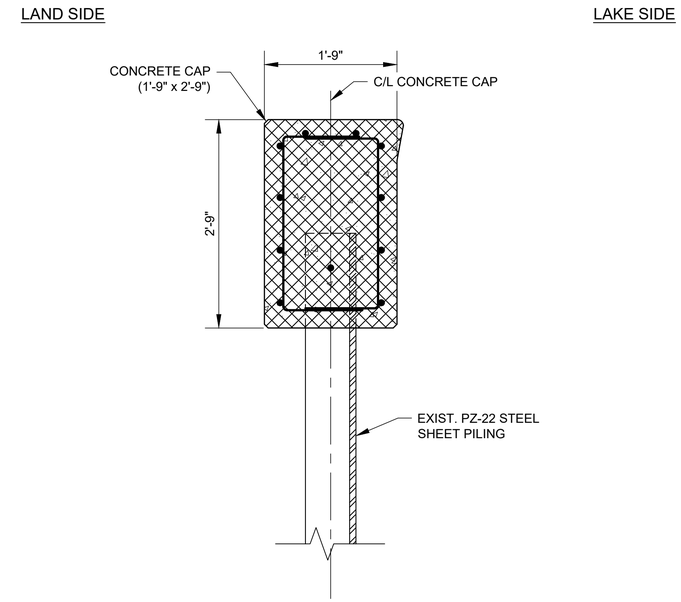
REPAIR DETAILS TYPE A (SPLASH BLOCK)

1/7/2025

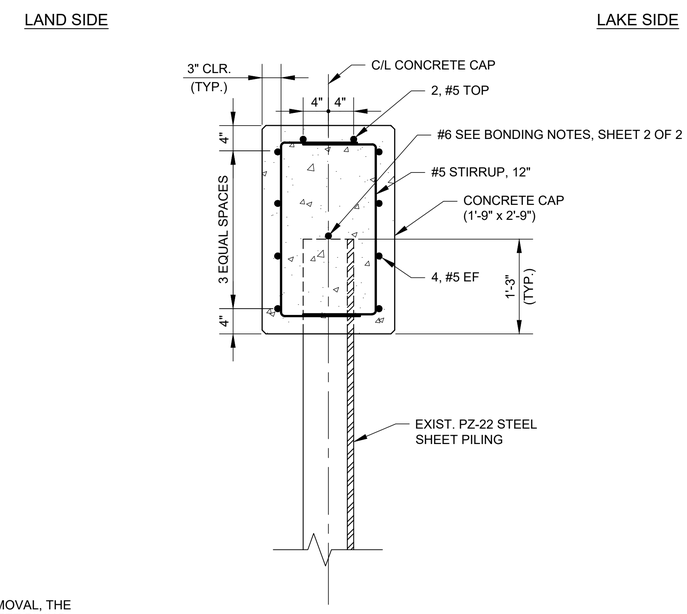
P:\NO.24_XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT 1\02_DESIGN\02 CIVIL\01 DRAWINGS\S09_REPAIR DETAILS_02



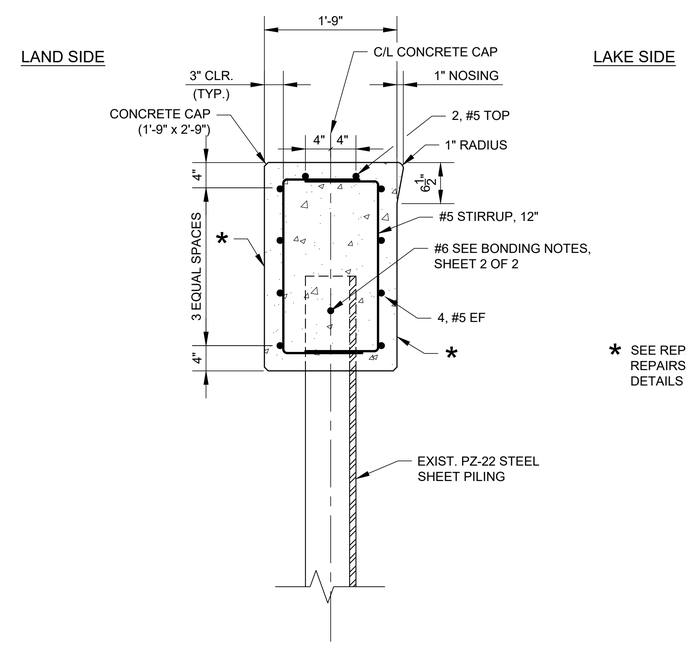
TYPICAL DEMOLITION SEAWALL SECTION
(REPAIR TYPE B)
SCALE: 1" = 1'-0"



TYPICAL DEMOLITION SECTION AT STAIR
(REPAIR TYPE B)
SCALE: 1" = 1'-0"



TYPICAL REPAIR SEAWALL SECTION
(REPAIR TYPE B)
SCALE: 1" = 1'-0"



TYPICAL REPAIR SECTION AT STAIR
(REPAIR TYPE B)
SCALE: 1" = 1'-0"

* SEE REPAIR DETAILS TYPE C (STEP REPAIRS) FOR PREFORMED JOINT DETAILS AT STAIRS.

CONSTRUCTION SEQUENCE NOTES:

1. REMOVE EXISTING CONCRETE BULKHEAD. DURING REMOVAL, THE CONTRACTOR SHALL PROTECT EXIST. PZ-22 STEEL SHEET PILING FROM DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE TO THE SHEET PILING CAUSED BY THE REMOVAL OF THE CONCRETE CAP.
2. INSTALL NEW CONCRETE BULKHEAD CAP.
3. FINISH WITH CONCRETE SURFACE PROTECTIVE COATING, PER SPECIFICATION SECTION 03310.

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1-8-2025

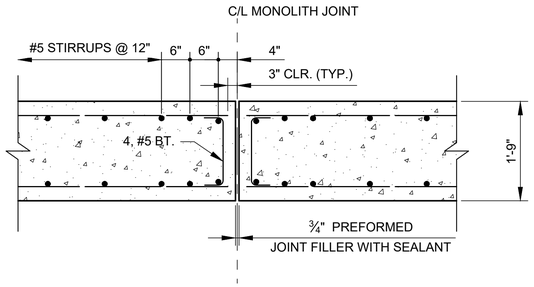
10
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKI # : NO.24.007
COM PROJ. NO. 100.21.019

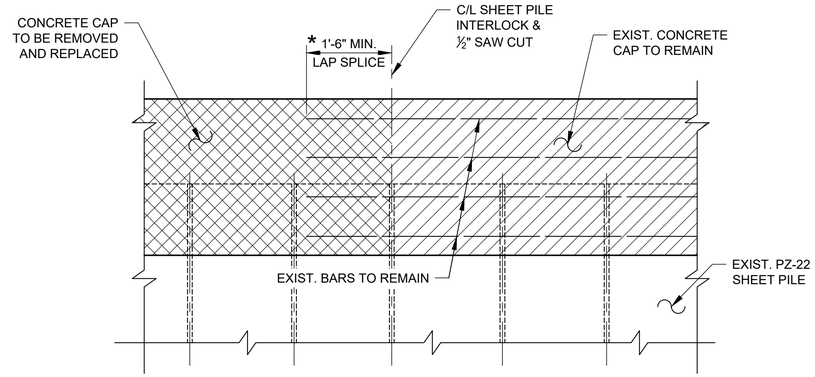
DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 2

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE B
(CONCRETE BULKHEAD)



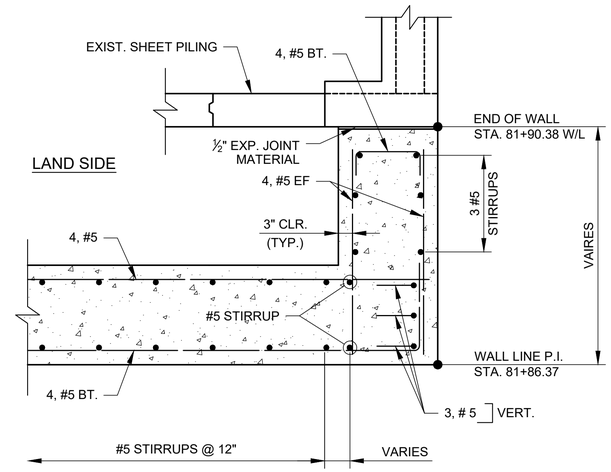
TYPICAL REINFORCEMENT
AT MONLITH JOINT

SCALE: ¾" = 1'



TYPICAL REINFORCEMENT
DETAIL AT APPROX. STA. 82+46.80

SCALE: ¾" = 1'

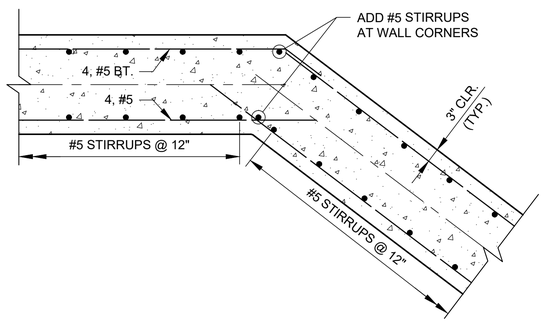


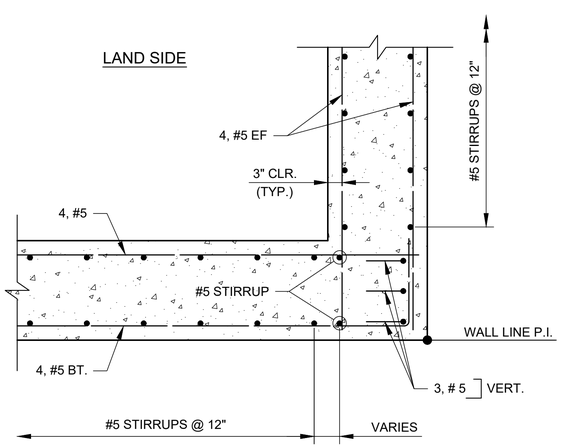
NOTE:

1. STA. 82+37.79 W/L OPPOSITE HAND.

TYPICAL REINFORCEMENT PLAN
AT WALL TERMINATIONS

SCALE: ¾" = 1'





TYPICAL REINFORCEMENT PLAN
AT POINTS OF INTERSECTION

SCALE: ¾" = 1'

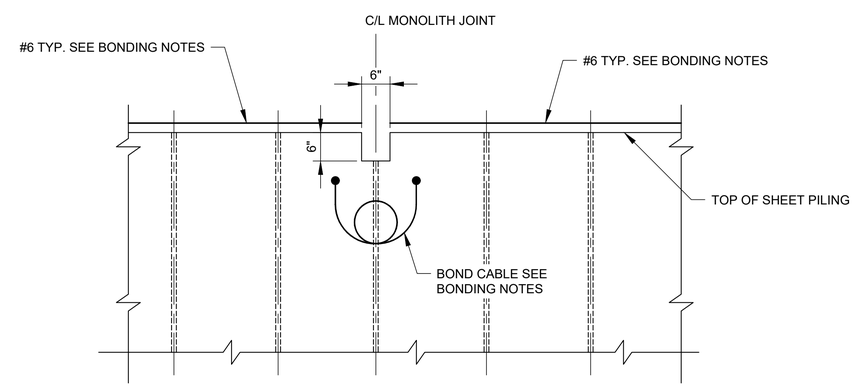
BONDING NOTES:

1. CONTRACTOR SHALL INSPECT EXISTING BOND CABLES AND REPLACE AS REQUIRED.
2. ALL REQUIRED BONDING REPAIRS SHALL BE PAID FOR UNDER "REMOVAL OF STRUCTURAL CONCRETE (BULKHEAD)"

NOTE:

1. CONTRACTOR SHALL USE THE EXISTING HOLES THROUGH SHEET PILE FOR NEW STIRRUPS.

* 2. CONTRACTOR TO CLEAN EXISTING REINFORCING BARS AND INSPECT BOND CABLE TO ENSURE IT'S INTEGRITY BEFORE POURING CONCRETE. ALL WORK ASSOCIATED WITH THIS REPAIR INCLUDING SAW CUTTING, CLEANING, AND PREPARATION OF EXISTING CONCRETE CAP AND REINFORCEMENT BARS SHALL BE PAID FOR UNDER "REMOVAL OF STRUCTURAL CONCRETE (BULKHEAD)".



LAND SIDE ELEVATION
EXISTING SHEET PILING DETAILS
SEAWALL MONOLITH JOINTS

SCALE: ¾" = 1'

12" 6" 0 1' 2' 3'

3/4"=1'-0"

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

1-8-2025

SHEET NUMBER
11

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

COM PROJ. NO. 100.21.019

BKI # : NO.24.007

DESIGNED	RJC
CHECKED	RACIII
DETAILED	SG
CHECKED	RJC
DATE	January, 2025
SHEET	2 OF 2

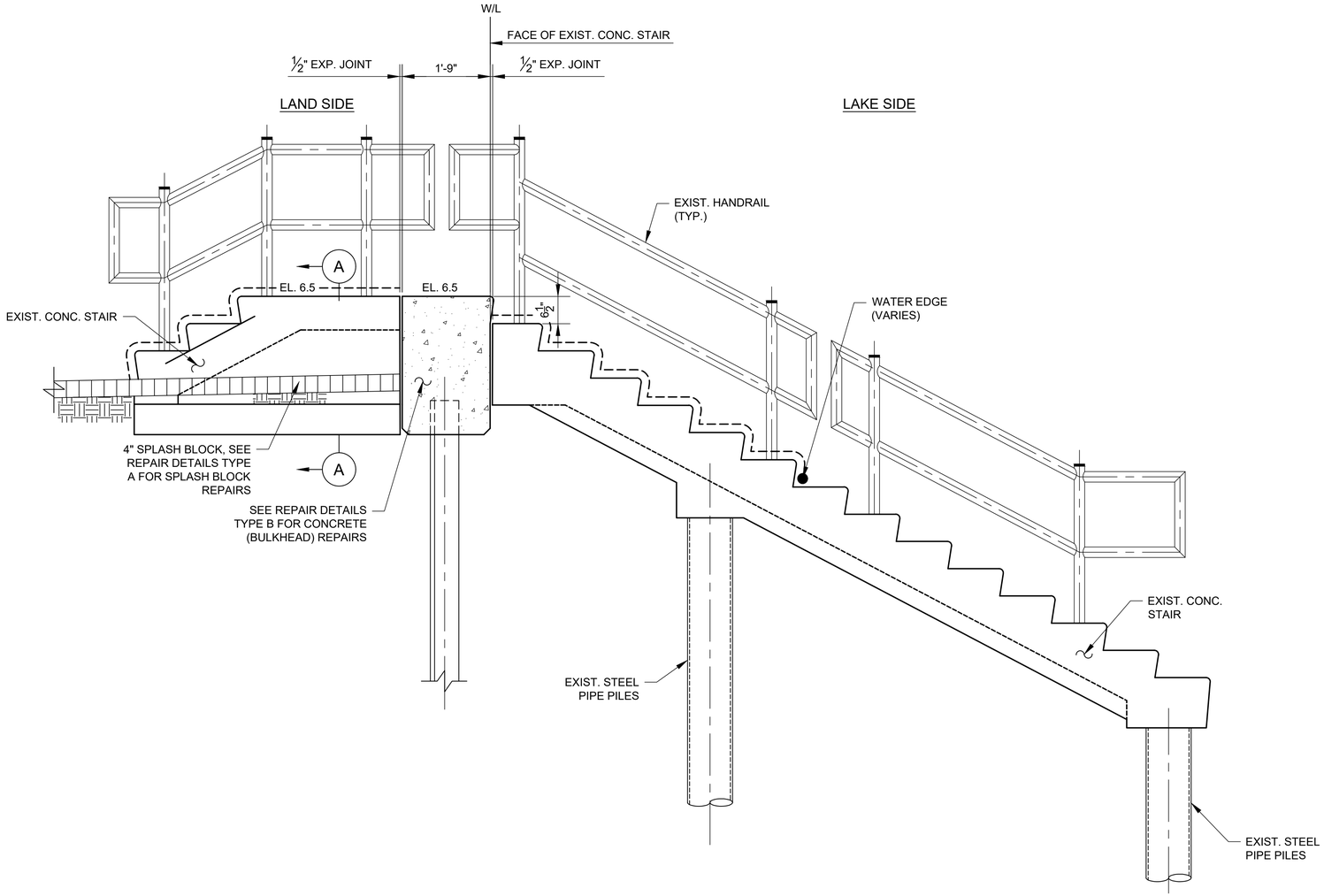
MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

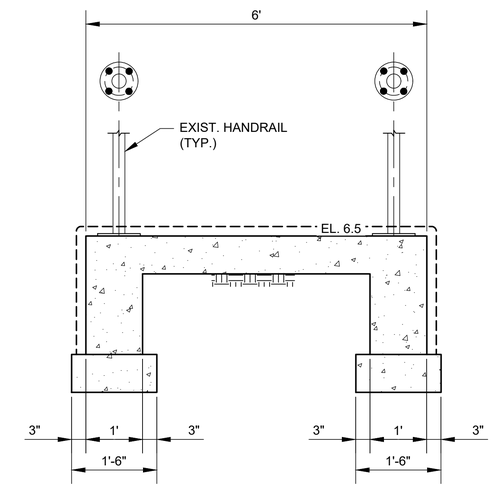
REPAIR DETAILS TYPE B
(CONCRETE BULKHEAD)

1/7/2025

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT 1\02_DESIGN\02 CIVIL\01 DRAWINGS\11_REPAIR DETAILS_04



TYPICAL STAIR
SCALE: ¾" = 1'



SECTION (A)
SCALE: ¾" = 1'

LEGEND:

– – – – – LIMITS OF STEP REPAIRS AS REQUIRED PER CONSTRUCTION SEQUENCE NOTES.

CONSTRUCTION SEQUENCE NOTES:

1. RESET EXISTING LAND SIDE CONCRETE STAIRS TO ELEVATION 6.5.
2. FOR CRACKS GREATER THAN OR EQUAL TO 1/16", ROUTE A V-GROOVE ALONG THE ENTIRE LENGTH OF THE CRACK. DRILL ¼" DIAMETER X ½" DEEP HOLES APPROXIMATELY 12" APART ALONG THE CRACK. INJECT EPOXY SEALANT PER THE MANUFACTURERS RECOMMENDATION TO SEAL THE CRACK.
3. FINISH WITH CONCRETE SURFACE PROTECTIVE COATING, PER SPECIFICATION SECTION 03311. COATING SHALL BE APPLIED TO WATERS EDGE ENSURING PROPER APPLICATION OF SURFACE PROTECTIVE COATING PER MANUFACTURERS RECOMMENDATIONS.

12" 6" 0 1' 2' 3'
3/4"=1'-0"

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1-8-2025

12
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM

BKI # : NO.24.007
COM PROJ. NO. 100.21.019

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 1

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE C (STEP REPAIRS)

1/8/2025
P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\12_REPAIR DETAILS_05

CONSTRUCTION SEQUENCE NOTES:

1. AFTER CONCRETE BULKHEAD IS REMOVED, BEFORE IT IS REPLACED, CUT THE DETERIORATED STEEL SECTION AND BRIDGE THE OPENING BY WELDING STEEL PLATES OR STRUCTURAL SHAPES. EXTEND WELDING ALONG THE SEAMS TO SEAL THE OPENING.
2. IF SECTION DETERIORATION EXTENDS OVER A LARGE SECTION OF THE WALL WITH NOTED LARGE WALL VOIDS, THEN BRIDGE THE DETERIORATED SECTION UTILIZING DRIVEN OR WELDED STEEL PLATES OR SHEET SECTIONS.
3. RESTORE CONCRETE BULKHEAD SECTION AND BACKFILL AS REQUIRED.

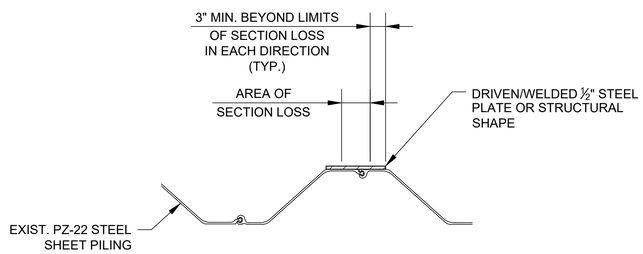
NOTES:

1. IN LATE 2022 AND EARLY 2023, THE CITY OF MANDEVILLE PERFORMED AN INSPECTION OF THE SEAWALL. THE ADJACENT TABLE IS A RESULT OF THE INSPECTION. THE CITY OF MANDEVILLE DOES NOT GUARANTEE THE CONDITIONS ARE THE SAME AT THIS DATE. THIS INFORMATION IS PROVIDED TO THE CONTRACTOR AS AN INDICATION OF THE TYPE AND AMOUNT OF REPAIRS THAT WERE PRESENT ON THAT DATE. THE TYPE AND AMOUNT OF REPAIRS IS SUBJECT TO CHANGE PER EXISTING FIELD CONDITIONS.

STEEL COATING NOTES:

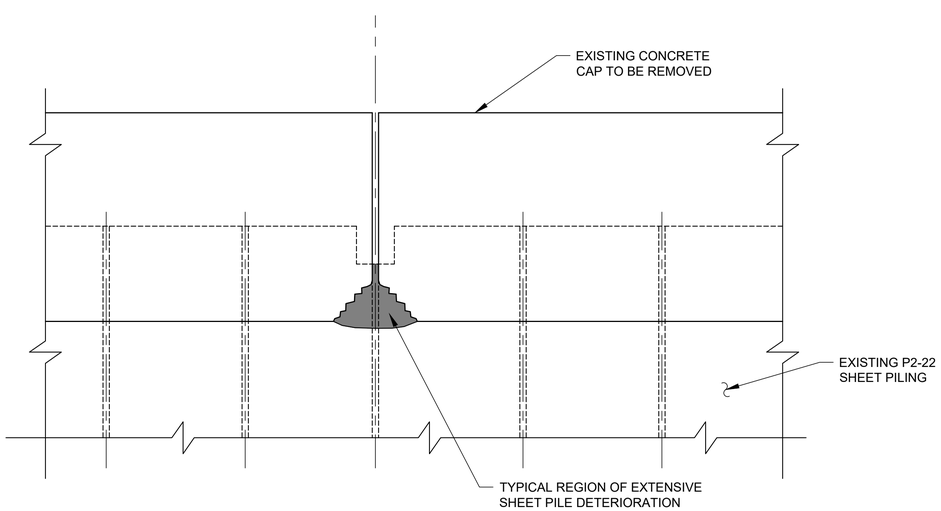
1. ALL STEEL REPAIRS WELDED OR DRIVEN, ABOVE OR BELOW WATER, SHALL BE COATED WITH COAL-TAR EPOXY.
2. IF THE REPAIR IS TO BE WELDED, THE EDGES SHALL BE COAL-TAR EPOXY COATING FREE.
3. AFTER WELDING, ALL EXPOSED STEEL AND WELDING MATERIAL SHALL BE COATED USING A SPLASH ZONE EPOXY MATERIAL.
4. ALL COATING MATERIALS SHALL BE PLACED PER THE MANUFACTURERS SPECIFICATIONS.
5. STEEL COATINGS FOR REPAIR TYPE D SHALL BE PAID FOR UNDER "STEEL REPAIR TYPE D."

LAKE SIDE



LAND SIDE

PLAN
N.T.S.

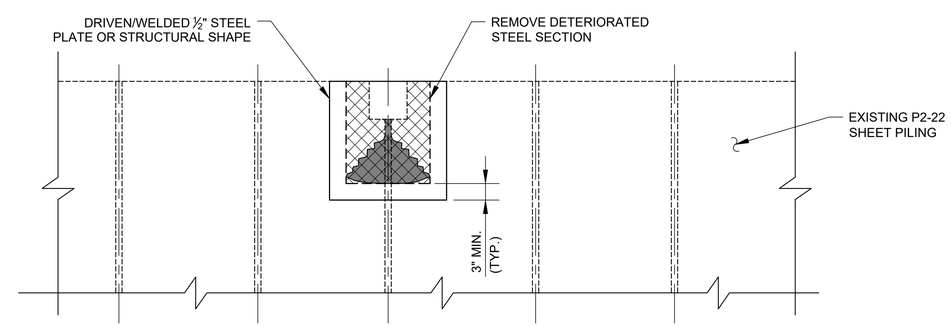


TYPE D REPAIR
(TYPICAL EXIST. CONDITION)
N.T.S.

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

REPAIR TYPE D				
APPROX. STA.	APPROX. SIZE OF DETERIORATED SECTION	LOCATION	LOCATION RELATIVE TO WATERLINE	LOCATION RELATIVE TO NATURAL BOTTOM
42+05.00	1'-4" X 1'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
43+69.00	4'-5" X 1'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
44+98.00	0'-11" X 0'-5"	BULKHEAD EXP. JT.	ABOVE	ABOVE
47+86.00	0'-11" X 0'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
51+98.00	2'-6" X 1'-5"	BULKHEAD EXP. JT.	ABOVE	ABOVE
52+57.00	3'-4" X 1'-3"	BULKHEAD EXP. JT.	ABOVE	ABOVE
53+16.00	0'-5" X 0'-1/ 4"	SHEET PILE KNUCKLE BELOW CAP	ABOVE	ABOVE
53+85.00	1'-0" X 0'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
54+36.00	3'-10" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
54+94.00	3'-11" X 1'-4"	BULKHEAD EXP. JT.	ABOVE	ABOVE
55+50.00	1'-5" X 0'-7"	BOT. OF BULKHEAD, NEAR EXP. JT.	ABOVE	ABOVE
56+11.00	3'-0" X 1'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
56+70.00	2'-8" X 1'-6"	BULKHEAD EXP. JT.	ABOVE	ABOVE
57+27.00	1'-6" X 1'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
57+86.00	2'-0" X 1'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
58+46.00	1'-8" X 1'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
59+05.00	2'-0" X 1'-2"	BULKHEAD EXP. JT.	ABOVE	ABOVE
59+63.00	1'-9" X 1'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
60+80.00	3'-6" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
61+38.00	3'-3" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
61+98.00	3'-5" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
62+56.00	1'-10" X 1'-4"	BULKHEAD EXP. JT.	ABOVE	ABOVE
63+15.00	3'-0" X 2'-4"	BULKHEAD EXP. JT.	ABOVE	ABOVE
63+74.00	1'-8" X 1'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
64+31.00	4'-3" X 1'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
64+90.00	2'-4" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
65+49.00	1'-8" X 1'-4"	BULKHEAD EXP. JT.	ABOVE	ABOVE
67+77.00	1'-8" X 0'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
70+09.00	1'-8" X 0'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
70+68.00	3'-2" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
71+27.00	2'-4" X 1'-9"	BULKHEAD EXP. JT.	ABOVE	ABOVE
71+86.00	1'-9" X 0'-10"	BULKHEAD EXP. JT.	ABOVE	ABOVE
73+07.00	2'-4" X 1'-9"	BULKHEAD EXP. JT.	ABOVE	ABOVE
73+65.00	3'-5" X 1'-7"	BULKHEAD EXP. JT.	ABOVE	ABOVE
74+21.00	2'-5" X 1'-8"	BULKHEAD EXP. JT.	ABOVE	ABOVE
74+81.00	2'-7" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
75+91.00	2'-5" X 2'-0"	BULKHEAD EXP. JT.	ABOVE	ABOVE
78+21.00	3'-0" X 1'-6"	BULKHEAD EXP. JT.	ABOVE	ABOVE

QUANTITIES REFLECT
SURVEY CONDITIONS AS OF DECEMBER 2022
AND JANUARY 2023
FOR REFERENCE ONLY



TYPE D REPAIR
(TYPICAL REPAIR DETAILS)
N.T.S.

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
ENGINEERING
1-8-2025

13
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

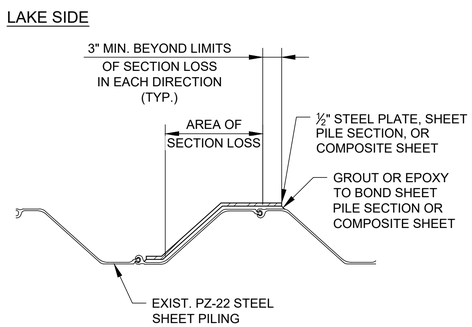
BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM
BKI # : NO.24.007
COM PROJ. NO. 100.21.019

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 1

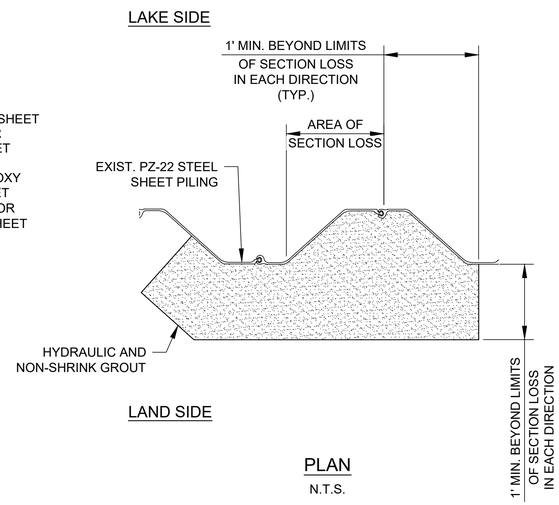
MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE D
(SHEET PILE AT BULKHEAD EXP. JOINTS)

1/7/2025

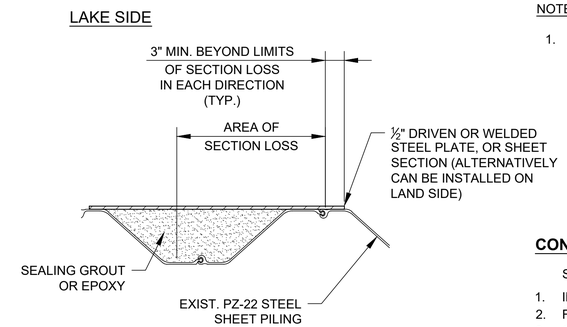
P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\13_REPAIR DETAILS_06



PLAN
N.T.S.



PLAN
N.T.S.



PLAN
N.T.S.

NOTE:

1. IN LATE 2022 AND EARLY 2023, THE CITY OF MANDEVILLE PERFORMED AN INSPECTION OF THE SEAWALL. THE ADJACENT TABLE IS A RESULT OF THE INSPECTION. THE CITY OF MANDEVILLE DOES NOT GUARANTEE THE CONDITIONS ARE THE SAME AT THIS DATE. THIS INFORMATION IS PROVIDED TO THE CONTRACTOR AS AN INDICATION OF THE TYPE AND AMOUNT OF REPAIRS THAT WERE PRESENT ON THAT DATE. THE TYPE AND AMOUNT OF REPAIRS IS SUBJECT TO CHANGE PER EXISTING FIELD CONDITIONS.

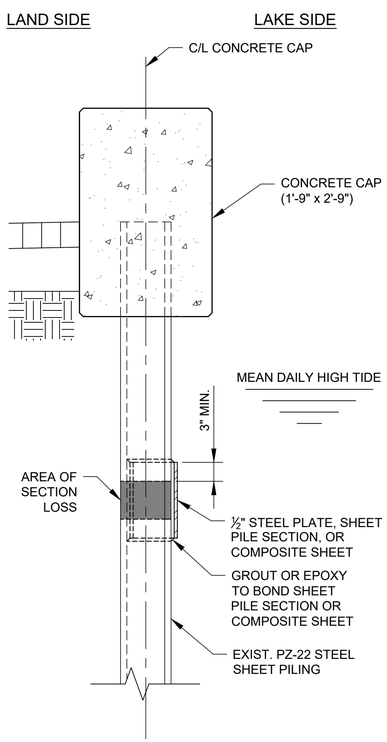
CONSTRUCTION SEQUENCE NOTES:

SHEET PILE SECTION LOSS > 25% AND < 50% BELOW WATER:

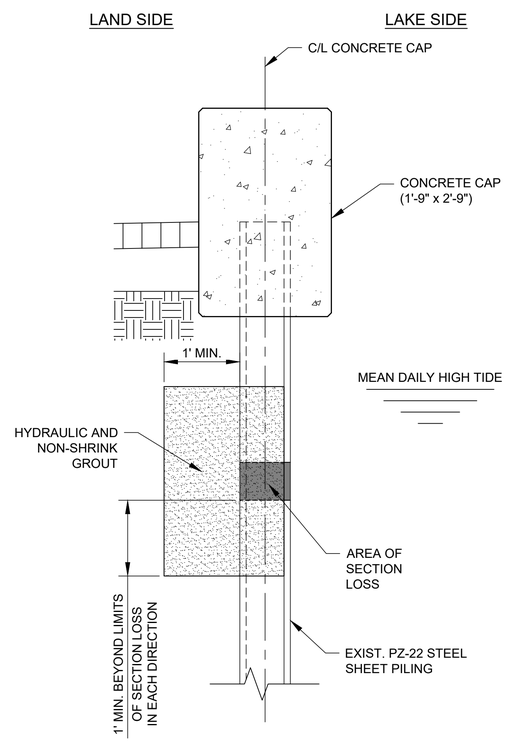
1. INSTALL SHEET PILE SECTION (OR STEEL PLATE OR COMPOSITE SHEET) IN FRONT OF DETERIORATED SECTION.
2. FILL THE CAVITY UTILIZING SPECIALTY GROUT OR EPOXY TO STRUCTURALLY BOND THE TWO SECTIONS.
3. SECTION CAN BE EXTENDED TO INCLUDE THE DETERIORATED SECTION AREAS ABOVE THE WATER LINE.
4. WELDED STEEL SECTIONS MAY BE UTILIZED IN LIEU OF BONDED SECTIONS.

SHEET PILE SECTION LOSS > 50% WITH BACKFILL EROSION BELOW WATERLINE:

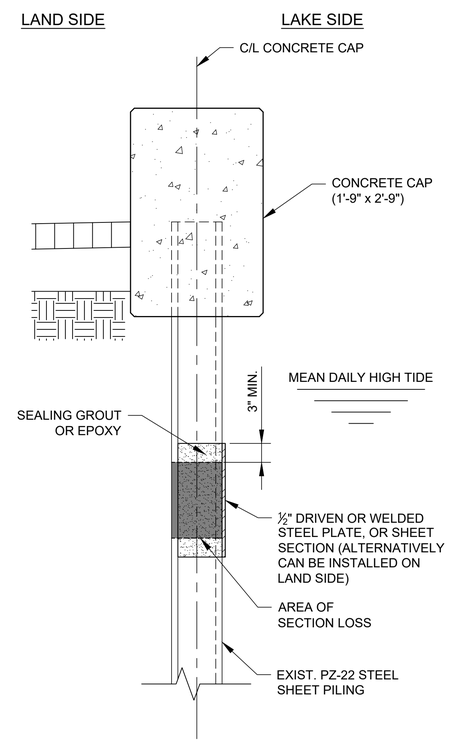
1. IF SECTION DETERIORATION IS CONFINED INTO SMALL PATCHES, PATCH THE AREA BY INJECTING HYDRAULIC AND NON - SHRINKING GROUT CEMENT BEHIND THE WALL TO SEAL THE OPENING IN SHEET PILING AND BACKFILL AS NEEDED.
2. IF SECTION DETERIORATION EXTENDS OVER A LARGE SECTION OF THE WALL WITH NOTED LARGE WALL VOIDS, THEN BRIDGE THE DETERIORATED SECTION UTILIZING DRIVEN OR WELDED STEEL PLATES OR SHEET SECTION PLACED IN FRONT OR BEHIND THE EXISTING SHEET PILING. WATER - PROOF THE REPAIR AREA BY INJECTING SEALING GROUT OR EPOXY INTO THE REPAIR CAVITY AND BACKFILL AS NEEDED.



SHEET PILE SECTION LOSS > 25% & < 50%
N.T.S.



SHEET PILE SECTION LOSS > 50%
SMALL PATCHES
N.T.S.



SHEET PILE SECTION LOSS > 50%
LARGE WALL VOIDS
N.T.S.

REPAIR TYPE E				
APPROX. STA.	APPROX. SIZE OF DETERIORATED SECTION	LOCATION	LOCATION RELATIVE TO WATERLINE	LOCATION RELATIVE TO NATURAL BOTTOM
46+00.00	3'-0" X 0'-8"	SHEET PILE WALL	BELOW	AT
54+70.00	0'-7" X 0'-7"	LEFT OF BREAKWALL	BELOW	ABOVE
54+70.00	0'-9" X 0'-8"	RIGHT OF BREAKWALL	BELOW	ABOVE
57+83.00	0'-9" X 0'-4"	NEAR DRAIN PIPE	BELOW	ABOVE
57+83.00	0'-4" X 0'-4"	NEAR DRAIN PIPE	BELOW	ABOVE
57+83.00	1'-2" X 0'-4"	NEAR DRAIN PIPE	BELOW	ABOVE
64+79.00	1'-3" X 0'-8"	BEHIND BREAKWALL	BELOW	BELOW
69+07.00	0'-8" X 0'-3"	SHEET PILE WALL	BELOW	AT

QUANTITIES REFLECT
SURVEY CONDITIONS AS OF DECEMBER 2022
AND JANUARY 2023
FOR REFERENCE ONLY

STEEL COATING NOTES:

1. ALL STEEL REPAIRS WELDED OR DRIVEN, ABOVE OR BELOW WATER, SHALL BE COATED WITH COAL-TAR EPOXY.
2. IF THE REPAIR IS TO BE WELDED, THE EDGES SHALL BE COAL-TAR EPOXY COATING FREE.
3. AFTER WELDING, ALL EXPOSED STEEL AND WELDING MATERIAL SHALL BE COATED USING A SPLASH ZONE EPOXY MATERIAL.
4. ALL COATING MATERIALS SHALL BE PLACED PER THE MANUFACTURERS SPECIFICATIONS.
5. STEEL COATINGS FOR REPAIR TYPE E SHALL BE PAID FOR UNDER "STEEL REPAIR TYPE E."

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
1-8-2025

1/7/2025

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWING\S\14_REPAIR DETAILS_07

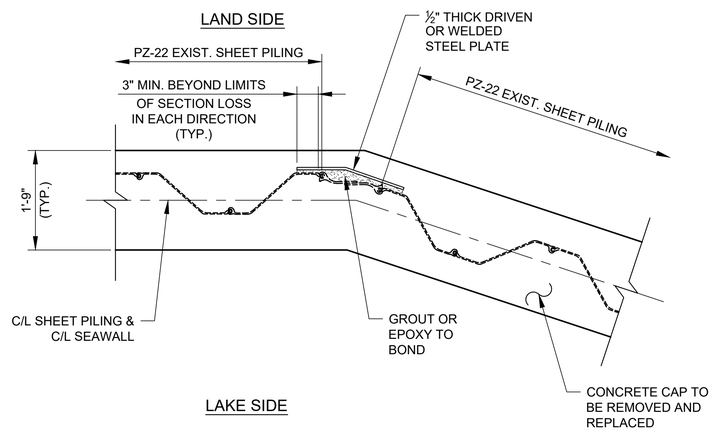
14
SHEET NUMBER

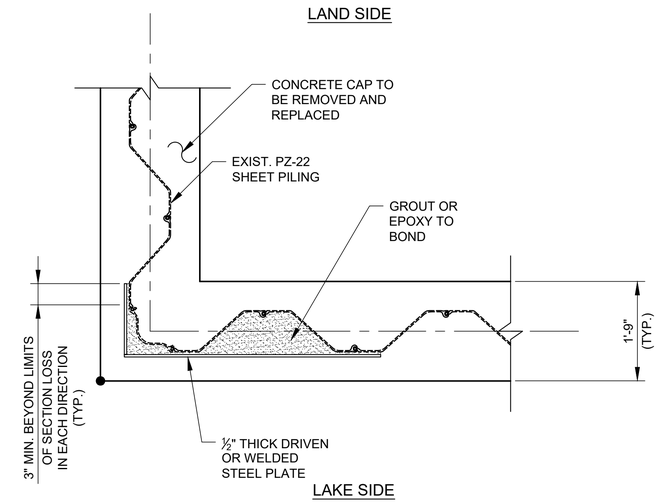
NO.	DATE	REVISION DESCRIPTION	BY

BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKI USA.COM
COM PROJ. NO. 100.21.019
BKI # : NO.24.007

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 1

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE E
(SHEET PILE AT SECTION LOSS)





TYPICAL SHEET PILING REPAIR TYPE F
AT POINTS OF INTERSECTION

N.T.S.

NOTE:

1. IN LATE 2022 AND EARLY 2023, THE CITY OF MANDEVILLE PERFORMED AN INSPECTION OF THE SEAWALL. THE ADJACENT TABLE IS A RESULT OF THE INSPECTION. THE CITY OF MANDEVILLE DOES NOT GUARANTEE THE CONDITIONS ARE THE SAME AT THIS DATE. THIS INFORMATION IS PROVIDED TO THE CONTRACTOR AS AN INDICATION OF THE TYPE AND AMOUNT OF REPAIRS THAT WERE PRESENT ON THAT DATE. THE TYPE AND AMOUNT OF REPAIRS IS SUBJECT TO CHANGE PER EXISTING FIELD CONDITIONS.

CONSTRUCTION SEQUENCE NOTES:

1. REMOVE EXISTING CONCRETE CAP.
2. BRIDGE THE DETERIORATED SHEET PILE JOINT UTILIZING DRIVEN OR WELDED STEEL PLATES OR SHEET SECTION PLACED IN FRONT OF THE EXISTING SHEET PILING.
3. WATER PROOF AND STRUCTURALLY BOND THE THE REPAIR AREA BY INJECTING SEALING GROUT OR EPOXY PER THE MANUFACTURER INTO THE REPAIR CAVITY.

STEEL COATING NOTES:

1. ALL STEEL REPAIRS WELDED OR DRIVEN, ABOVE OR BELOW WATER, SHALL BE COATED WITH COAL-TAR EPOXY.
2. IF THE REPAIR IS TO BE WELDED, THE EDGES SHALL BE COAL-TAR EPOXY COATING FREE.
3. AFTER WELDING, ALL EXPOSED STEEL AND WELDING MATERIAL SHALL BE COATED USING A SPLASH ZONE EPOXY MATERIAL.
4. ALL COATING MATERIALS SHALL BE PLACED PER THE MANUFACTURERS SPECIFICATIONS.
5. STEEL COATINGS FOR REPAIR TYPE F SHALL BE PAID FOR UNDER "STEEL REPAIR TYPE F."

REPAIR TYPE F	
APPROX. STA.	LOCATION
42+10.35	W/ L PI
42+15.19	W/ L PI
45+95.11	W/ L PI
46+00.71	W/ L PI
67+22.12	W/ L PI
67+26.76	W/ L PI
69+07.85	W/ L PI
69+12.98	W/ L PI
81+86.37	W/ L PI
81+90.38	W/ L PI
82+37.79	W/ L PI
82+41.80	W/ L PI

QUANTITIES REFLECT
SURVEY CONDITIONS AS OF DECEMBER 2022
AND JANUARY 2023
FOR REFERENCE ONLY

STATE OF LOUISIANA
RENE A. CHOPIN, III
REG. No. 25174
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
1-8-2025

15
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY

BKI BURK-KLEINPETER, INC.
ENGINEERING · PLANNING · ENVIRONMENTAL
BKIUSA.COM
BKI # : NO.24.007
COM PROJ. NO. 100.21.019

DESIGNED RJC
CHECKED RACIII
DETAILED SG
CHECKED RJC
DATE January, 2025
SHEET 1 OF 1

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
REPAIR DETAILS TYPE F
(CONCRETE BULKHEAD)

1/7/2025

P:\NO.24.XXX\NO.24.007 OLD MANDEVILLE SEAWALL REPAIR SEGMENT I\02_DESIGN\02 CIVIL\01 DRAWINGS\15_REPAIR DETAILS_08

1/13/2025

DRAWINGS-CATHODICPROTECTION-FINAL-MANDEVILLE-PHASE1-120624

BILL OF MATERIALS

Anode Assemblies

No.	DESCRIPTION	UNIT	QTY
1	Water Side Anode – Zinc alloy ASTM B418 Type I for seawater service; nominally 2" square cross section x 48" ingot length; 50 pounds of zinc; flat bar core protruding minimum 6" from each end, bent for surface welding; 1/4" minimum bar core thickness.	EACH	566
2	Soil Side Packaged Anode – High potential magnesium alloy ASTM B843 Type M1C; nominal 2.75" x 3" cross section x 59.75" ingot length; 20 pounds of zinc; packaged in prepared backfill; nominally 5" diameter x 66" length; manufacturer connected lead wire No. 12 AWG solid copper with black type TW insulation 10 feet in length	EACH	494
3	Test Anode for Water Side – Zinc alloy ASTM B418 Type I for seawater service; nominally 2" square cross section x 48" ingot length; 50 pounds of zinc; including a factory connected No. 8AWG cable with a Halar/HMWPE dual extrusion black insulation, 50 feet in length.	EACH	8
4	Mounting Assembly for Test Anodes – carbon steel eye–ring with PVC pipe liner. Two required per anode; field fabricated.		

Test Stations & Monitoring Assembly

5	Flush Grade Test Station: nominally 20 3/4" x 19 1/4" x 12" reinforced concrete enclosure with concrete cover; rated for pedestrian traffic; friction compliance 0.6 ASTM 1028; custom marking "CATHODIC PROTECTION TEST"; Oldcastle Christy model B24BOX with model B24D concrete lid or equal.	EACH	9
6	Secondary Test Station Enclosure: nominally 14" x 12" x 6" FRP NEMA 6P enclosure with hinged locking cover; panel size nominally 12 1/4" x 10 1/4" non–metallic with approx. 2" stand–offs to accommodate all cables connections behind panel; Stahlin model J1412HPL or equal. All entrance fittings must be rated and installed for NEMA 6P (submersion rated).		9
7	Reference electrode & Coupon, COPPER for SOIL SIDE: copper–copper sulfate stationary device (body color code is yellow) with 10 square centimeter carbon steel coupon and 50 feet of No. 16–3 conductor tray cable wire; RHH–RHW black outer jacket; copper stranded wire. 30–Year life. Model Stelth 7 SRE–023–ND or equal.	EACH	10
8	Reference electrode & Coupon, SILVER for WATER SIDE: silver–silver chloride stationary device (body color code is blue) with 10 square centimeter carbon steel coupon and 50 feet of No. 16–3 conductor tray cable wire; RHH–RHW black outer jacket; copper stranded wire. 30–Year life. Model Stelth 7 SRE–026–ND or equal.	EACH	8
9	Ring terminal, No. 10 stranded cable: Burndy YAV10T3Box, for 1/4" stud	BOX	2
10	Ring terminal, No. 16 stranded cable: Burndy YAV14T2Box for 1/4" stud	BOX	2
11	Banana Plug: set screw type with plug & jack, black plastic insulation; McMaster–Carr item 6933K53	EACH	20
12	Test Lead Wire: No. 18 AWG stranded with black EPDM rubber insulation; McMaster–Carr item 7058K32	FEET	32

Structure & Test Cables

13	Structure Cables: No. 10AWG THHN/THWN–2 black insulation, stranded, soft–drawn, commercially pure copper, ASTM B8, Class B standard. Used for both soil side anode connections & test leads for soil and water side devices monitoring devices.	FEET	750
14	Land–Side Anode Header Cables: No. 10AWG THHN/THWN–2 red insulation, stranded, soft–drawn, commercially pure copper, ASTM B8, Class B standard	FEET	9000
15	Caution Tape, "CATHODIC PROTECTION CABLES BURIED BELOW" for protection of buried conductors where required, 3–inch width, non–metallic, 1000 feet per roll	ROLL	5

Cable Connections to Structure

16	Heat shrink sleeve, heavy wall with adhesive lining for No. 10 THHN/THWN–2 cable, manufactured by 3M or approved equal. Manufacturer model number ITCSN–0400–BLACK. Use 2 inches minimum per cable connection.	FEET	20
17	Heat shrink sleeve, heavy wall with adhesive lining for No. 6 cable, manufactured by 3M or approved equal. Manufacturer model ITCSN–1500–BLACK. Use 2 inches minimum per cable connection.	FEET	2
18	Exothermic Weld Cover: field–applied, prefabricated cover with elastomeric adhesive, plastic dome cover and integrated primer; 4–inch square shape. Model Handi Cap IP or Equal	EACH	30

Exothermic Welding for Cable Connections to Structure

19	Exothermic Weld Mold: No. 14 to No. 10 solid, CAHAA–1G welder for horizontal pipe 4" diameter to flat surfaces. Must use copper for sleeve CAB–133–1K for attaching No. 10 stranded wire.	EACH	1
20	Exothermic Weld Charge: 15–gram weld charge for model CA15, 20 cartridges per box or equal	BOX	2
21	Flint Igniter for exothermic welder: model CAT320	EACH	2

Splicing

22	Part 1: Fill Putty: insulating putty fill; 3M Scotchfil 1 1/2" x 60" roll or equal	ROLL	50
23	Part 2: Rubber Splicing Tape: linerless rubber tape, self–bonding rated through 69kV, 3/4"" wide x 30 ft roll, black. 3M model 130C	ROLL	20
24	Part 3: Vinyl Electrical Tape: 8.5–mil thick vinyl, all weather, UV resistant, 600 Volts rating, 3/4" wide x 66 feet roll, black. 3M model Super 88	ROLL	20
25	Crimp Connector: Compression crimp connector for No. 12AWG solid copper anode cable (tap) to No. 10AWG stranded copper header (run) cable; Burndy Crimpit model YC10C10 (for use with U–238 die in Burndy Y–35 tool)	EACH	494
26	Barrel Crimp: Compression–type barrel crimp for inline connection of cables, 0.64" minimum length; 14AWG to 20AWG cables; Burndy YSV14BOX small terminal, uninsulated seamless compression butt splice or equal	EACH	20
27	Barrel Crimp: Compression–type barrel crimp for inline connection of cables, 0.64" minimum length; 12AWG to 10AWG cables; Burndy YSV10BBOX small terminal, uninsulated seamless compression butt splice or equal	EACH	20

Conduit & Hardware Schedule for Water Side Test Assembly

28	Mounting Bolt: 1/2"UNC–13 x 4 1/2" hex head cap screw; partial thread min. 1 1/4" length; 316 stainless steel McMaster–Carr part No. 92186A734 or equal	EACH	20
29	Lock Nut for Mounting Bolt: 1/2"UNC–13 hex nut; 316 stainless steel McMaster–Carr part No. 94804A340 or equal	EACH	20
30	Beam Clamp: perpendicular mounting for standard 1 1/4" conduit size McMaster–Carr part No. 29585T4 or equal	EACH	20
31	LB Access Port: 90 fitting with push–in female connectors for 1 1/4" PVC conduit; PVC body stainless steel screws for removable cover McMaster–Carr part No. 7905K34 or equal	EACH	10
32	Male Adapter: male threaded fitting with push–in female connector for 1 1/4" PVC conduit McMaster–Carr part No. 7945K34 or equal	EACH	20
33	Bushing–Grommet: 1 1/4" NPSM female for medium– and thick–wall metal conduit McMaster–Carr part No. 7513K214 or equal	EACH	20
34	Conduit: 1 1/4" Schedule 80 PVC sunlight resistant conduit Platt part No. 0069137 or equal	FEET	100

Remote Monitoring System

35	Monitor/Transmitter Device: Integrated multimeter and transmitter designed for cathodic protection monitoring; traffic rated, sealed, and designed for below grade installation; maximum operating temperature not less that 140°F; battery life minimum 10 years; cellular or satellite communication capable. MOBILTEX CorTalk model RMU1–SUB or equal.	EACH	2
36	Valve Box Cover: White HDPE, AASHTO HS20 cover; MOBILTEX model H23390SUB02 or equal	EACH	2
37	Programmer Kit: Universal programming kit for RMU1, RMU2, and RMU3 devices. Includes RMU1/2/3 base programmer (A1506033101), RMU1ADP (A1506033001), Lilon battery pack, soft case and USB stick with programming software; Bluetooth capable for phone, table or PC; MOBILTEX model RMU1/2/3–BT part No. A20A0333101	EACH	1
38	Communications Subscription: service and account established monitor and store data, and maintain website. Account exists between Owner and MOBILTEX.	EACH	2

CATHODIC PROTECTION SYSTEM SCOPE & SUMMARY

SYSTEM DESCRIPTION:

The cathodic protection system was designed to arrest corrosion of only those buried and submerged portions of the steel sheet pile wall subjected to high corrosion rates. The system uses an electrochemical circuit established between sacrificial magnesium and zinc anodes and the steel sheet pile structure. The system consists of buried and submerged sacrificial anodes, reference electrodes and coupons (testing & monitoring devices), cables, connections, testing enclosures and a remote monitoring system.

The remote monitoring system records operating data and reports output of the system and operating status via a web–based interface.

CONSTRUCTION NOTES

GENERAL CONSTRUCTION NOTES:

1. In the event the requirements of this notes section conflicts with these plans or the specifications, notify the ENGINEER for determination of intent. The direction must be communicated in writing and made a part of the as–built record.
2. Bill of material (BOM) quantities shown in the plans are minimum based on design. CONTRACTOR to verify actual quantity for installation. Contingency quantities and incidental materials were not included.
3. Cable routes to be field verified prior to construction. Variation of length greater than 20% from specified must be approved by the ENGINEER in writing prior to construction.
4. The cathodic protection system was designed based on information available. Construction variances may be necessary, but require written approval by the ENGINEER prior to execution. All variances shall be documented in the as–built records.
5. Install above ground appurtenances generally where shown on the plans. Circumstances may require placement of such devices in locations better suited for property owners, protection of the enclosures and interference with adjacent equipment. All appurtenance relocations must be approved in writing by the ENGINEER prior to execution.
6. Prior to any land–side excavation, utility locates are required in conformance with state, local and terminal call–before–digging laws and policies.

INSTALLATION:

8. Water–Side Anode Installation
   - 8.1. When lifting and handling the anodes, care must be taken to prevent damage. Anodes are subject to cracking if dropped or struck. Do not install cracked or significantly scraped anodes.
   - 8.2. Place anodes horizontally, as shown in the plans, with a maximum end to end spacing of 40 inches. Field adjustment may be required to accommodate changes of wall direction and fluctuating elevation of the bottom.
   - 8.3. Install all anodes at a permanently–wet elevation, but above the mud line. Anodes do not function when exposed.
9. Soil–Side Anode System
   - 9.1. Care shall be taken to prevent anode lead damage. Do not lift the anodes by the cable.
   - 9.2. The Contractor shall install the anodes in a horizontal position as shown on the drawings.
   - 9.3. Remove paper shipping bag prior to anode installation.
   - 9.4. When conducting the anode connection to the header cable, compress the copper crimp device with the manufacturer–specified tool and after completing the crimp pull the anode lead firmly to confirm the conductors were properly seated.
   - 9.5. Center the packaged anode in the trench and backfill with clean soil materials in layers not exceeding 6"deep. Carefully tamp each layer to properly compact the backfill. When the backfill is level with the top of the anode, pour not less than five gallons of lake water onto each anode. The backfill material shall be completely saturated. Add additional backfilling material as necessary to compensate for soil shrinkage.
   - 9.6. The anodes shall not be installed in gravel of any size.
   - 9.7. Install anodes not closer than 2 feet to any foreign metallic structure, such as communications cables or metallic utilities. If such circumstances are unavoidable, notify the ENGINEER prior to installation and use dielectric shield material and methods in accordance with the plans. Include any such measures, location and extent of installed shielding in the as–built record.
   - 9.8. Install all cables flat on the trench bottom without looping or kinks that cause the material to protrude from the bottom surface. Burial depth is critical for functionality – minimum 3 feet below finished grade.
   - 9.9. Cover the anode trench with 6 to 12 inches with clean native backfill free of debris, rock and plant matter. Flood the trench with lake water to consolidate earth around the anode product and reduce circuit resistance. Allow the water to saturate the anodes and surrounding undisturbed earth before final trench backfilling.
10. Structure Connections for Test Leads & Soil–Side Anode System
   - 10.1. Read and observe all manufacturer instructions for safe and effective use of exothermic welding equipment and utilize all appropriate PPE.
   - 10.2. Remove any structure coating and rust scale from an area of approximately 2–inch x 2–inch or smaller, as required. Clean area of steel for each connection, wire brush and file to obtain SA3 white metal surface preparation quality.
   - 10.3. After conducting and exothermic weld, test strength of connection by lightly tapping top of weld with one pound hammer.
   - 10.4. Remove all weld slag and splatter, sharp edges and burrs with metal file and wire brush.
   - 10.5. Wipe metal surface with clean, dry, oil free rags to remove any loose dust and ensure the surface is dry. Surface heating the metal substrate may be necessary prevent condensation of moisture.
   - 10.6. Install a section of high–shrink ratio heat shrink tubing not less than 2 inches in length for strain relief at the coating–cable interface.
   - 10.7. The welds shall be coated with a weld cover designed for the purpose. Install all products in strict accordance with the manufacturer's instructions. Do not apply any coating repair product to moist surfaces (e.g., condensation, splash, rain, etc.) or surfaces below the application temperature of the weld cover product.
11. Cables & Raceway
   - 11.1. All conduit utilized shall be non–metallic, rated for sunlight exposure, and Schedule 80.
   - 11.2. All metallic support hardware, strut channel and similar hardware shall be 316 stainless steel. Sections of strut channel shall be deburred for personnel protection.
   - 11.3. Utilize clear primer and gray conduit adhesive for assembly to ensure aesthetic quality of the installations.
   - 11.4. All land–side cables shall be buried in open–cut trenches to a depth not less than 3 feet from finished grade to the top of the shallowest cable in a cable run.
   - 11.5. Backfill the first 12 inches of the cable trench with clean, rock and debris–free soil material.
   - 11.6. Place non–metallic cable warning tape when backfilling all cable trenches. The product shall be marked "Cathodic Protection Cable Buried Below" or similar, placed flat with the text facing up. Place the tape between 12 and 24 inches below finished grade.
12. Splices
   - 12.1. All unplanned splices must be approved by the ENGINEER prior to conducting the work. All splice locations shall be documented and made a part of the as–built record.
   - 12.2. All splices shall be protected from moisture and electrically insulated for mechanical and corrosion protection.
   - 12.3. Splices shall be conducted in accordance with the plans.
   - 12.4. Cable end–to–end connections shall be made with a soldered–in–place mechanically–crimped copper connector, properly sized for the cable being spliced, utilizing a tool specified by the manufacturer for the crimp connector product utilized. Split bolts shall not be permitted for splicing.
   - 12.5. All buried splices shall be buried with at least one full wire loop minimum 12 inches diameter containing the splice to reduce soil compaction tensile stresses exerted on the splices.
13. Test Stations
   - 13.1. Test station boxes shall be installed out of traffic ways near the locations shown, complete with silver/silver chloride reference electrodes and corrosion coupons, as specified. The final test station locations may be adjusted to accommodate field conditions.
14. Coupons
   - 14.1. Ensure all coupon surfaces are free of oil, protective films, etc. prior to installation.
15. Reference Electrodes
   - 15.1. The reference electrodes and coupons shall be backfilled with clean soil material and not separated greater than 6". The coupon and reference cell should be installed not more than 3 inches from the wall without any direct contact. Carefully tamp to properly compact the backfill. When backfilling is complete pour not less than two gallons of water over the reference electrode. The backfill material shall be completely saturated with water. Add additional backfill material as necessary to compensate for soil shrinkage.
   - 15.2. Reference electrodes and coupons shall not be installed closer than 4 feet from any anode.
16. Test Lead & Cable Terminations
   - 16.1. Lead wire connectors shall be installed using the proper crimping tools and in strict accordance with the manufacturer's instructions.

STATE OF LOUISIANA
JOHN L. PIAZZA, II
REG. NO. 13307
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

Southern Cathodic Protection Company

ENGINEER: John L. Piazza, II
LICENSE #: 0013307
DATE: January 8, 2025

16
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY
2	8/23/24	Revised to final design	CRM
1	7/18/24	Revised to 90% design	CRM

IN ASSOCIATION WITH
BKI BURK-KLEINPETER, INC.
ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
4176 CANAL STREET, NEW ORLEANS, LA 70119–5994
PHONE (504)486–5901 • FAX (504)488–1714

BKI # : NO.24.007

Southern Cathodic PROTECTION
780 JOHNSON FERRY ROAD
SUITE 225
ATLANTA, GEORGIA 30342
(404) 252–4649
www.cathodicprotection.com

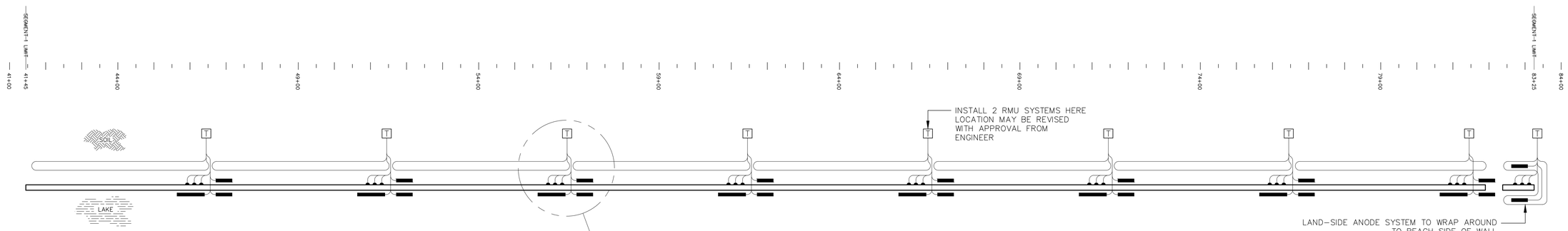
COM PROJ. NO. 100.21.019

DESIGNED	CRM	DETAILED	CRM
CHECKED	TCH	CHECKED	TCH
DATE	JANUARY 2025	SHEET	1 OF 3

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
CATHODIC PROTECTION - GENERAL NOTES & B.O.M.

CITY OF MANDEVILLE LA

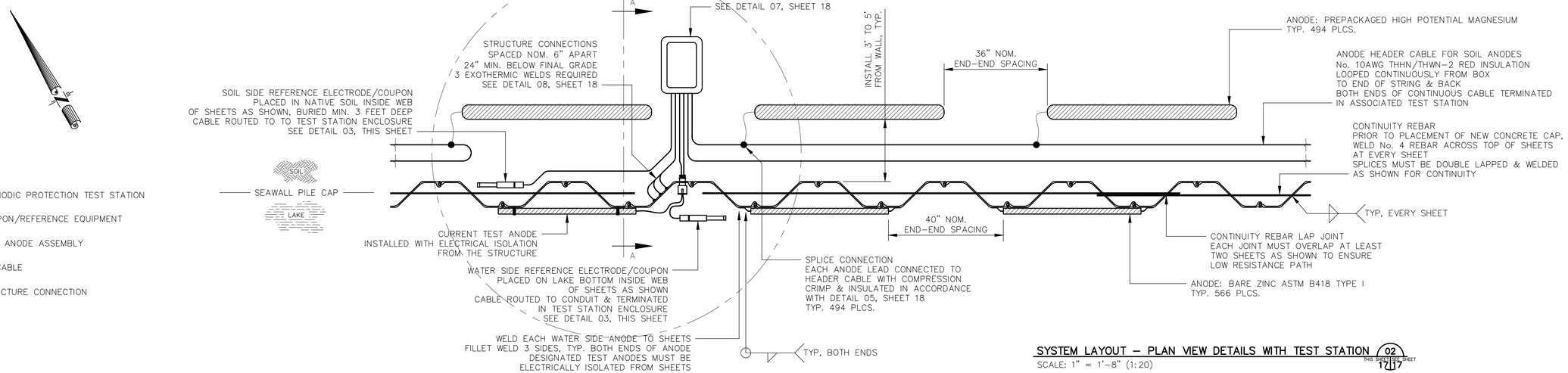
1/13/2025



SYSTEM LAYOUT – PLAN VIEW DETAILS

SCALE: 1" = 1'-8" (1:20)

02 THIS SHEET / 17 TOTAL SHEET



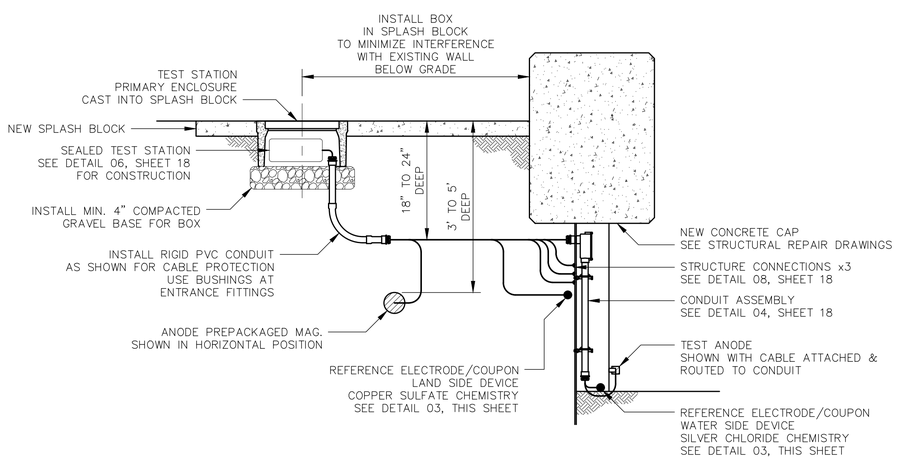
LEGEND

- T — CATHODIC PROTECTION TEST STATION
- COUPON/REFERENCE EQUIPMENT
- TEST ANODE ASSEMBLY
- DC CABLE
- STRUCTURE CONNECTION

SYSTEM LAYOUT – PLAN VIEW DETAILS WITH TEST STATION

SCALE: 1" = 1'-8" (1:20)

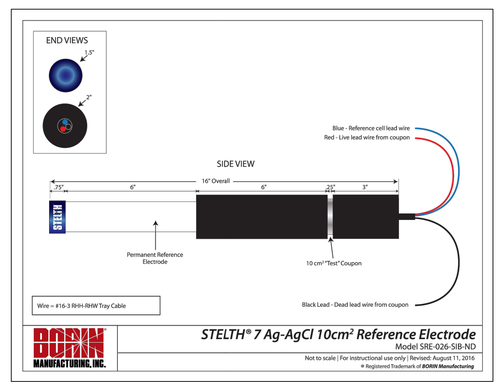
02 THIS SHEET / 17 TOTAL SHEET



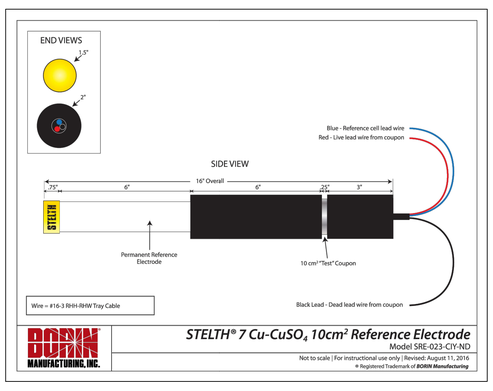
SECTION DETAIL – LAYOUT ELEVATION

SCALE: 1" = 1'-8" (1:20)

A THIS SHEET / 17 TOTAL SHEET



WATER SIDE – SILVER–SILVER CHLORIDE (Ag–AgCl) REFERENCE ELECTRODE



SOIL SIDE – COPPER–COPPER SULFATE ($Cu–CuSO_4$) REFERENCE ELECTRODE

COUPON ASSEMBLY – MANF. CONSTRUCTION DETAILS

SCALE: NONE

03 THIS SHEET / 17 TOTAL SHEET

STATE OF LOUISIANA
JOHN L. PIAZZA, II
REG. NO. 13307
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

Southern Cathodic Protection Company

ENGINEER: John L. Piazza, II
LICENSE #: 0013307
DATE: January 8, 2025

17
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY
2	8/23/24	Revised to final design	CRM
1	7/18/24	Revised to 90% design	CRM

IN ASSOCIATION WITH
BKI BURK-KLEINPETER, INC.
CIVIL/ENVIRONMENTAL ENGINEERS, LAND SURVEYORS, ARCHITECTS, INTERIOR DESIGNERS, PROJECT MANAGEMENT, CONSTRUCTION MANAGERS

BKI # : NO.24.007

SCP Southern Cathodic PROTECTION
780 JOHNSON FERRY ROAD
SUITE 225
ATLANTA, GEORGIA 30342
(404) 252-4649
www.cathodicprotection.com

COM PROJ. NO. 100.21.019

DESIGNED	CRM
CHECKED	TCH
DETAILED	CRM
CHECKED	TCH
DATE	JANUARY 2025
SHEET	2 OF 3

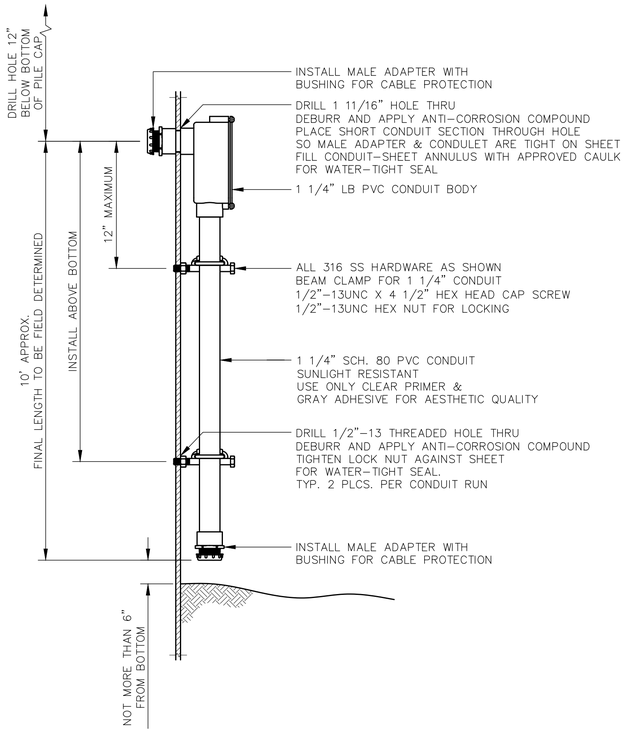
MANDEVILLE SEAWALL REPAIRS PROJECT

SEGMENT 1

CATHODIC PROTECTION - LAYOUT & DETAILS

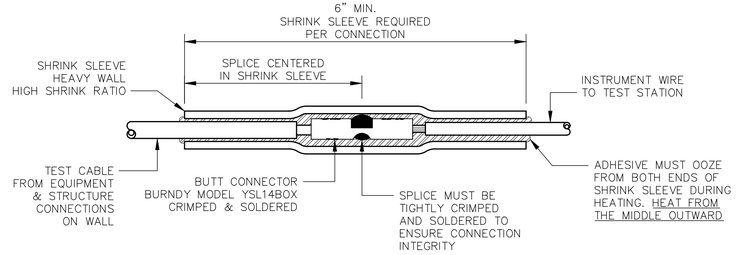
DRAWINGS-CATHODICPROTECTION-FINAL-MANDEVILLE-PHASE1-120624

1/13/2025



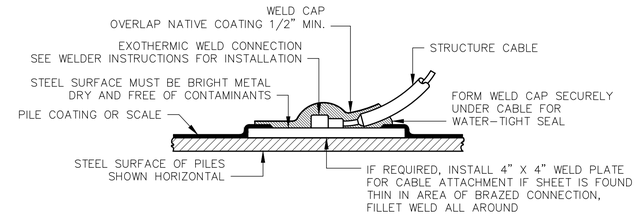
DETAIL – WATER SIDE CONDUIT CONSTRUCTION & MOUNTING (04) THIS SHEET 18 OF 17

SCALE: 2" = 1'-0" VERTICAL DIST. NOT TO SCALE



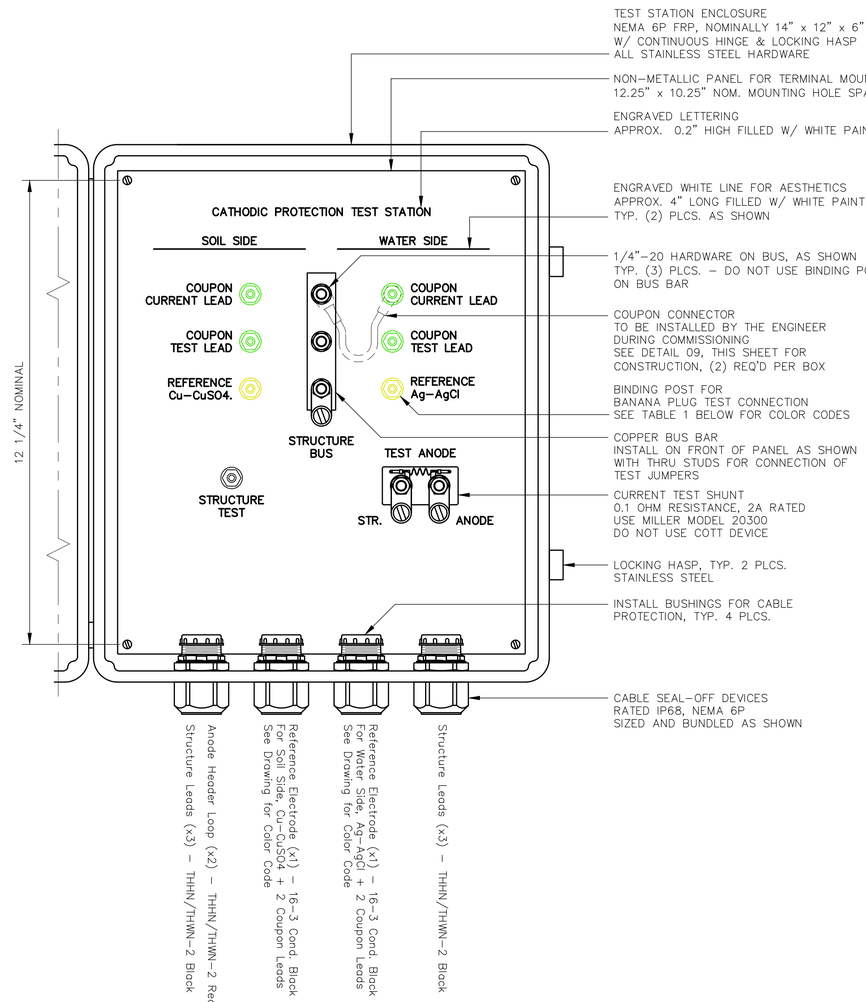
DETAIL – TEST WIRE SPLICE CONNECTION ASSEMBLY (06) THIS SHEET 18 OF 18

SCALE: NOT TO SCALE



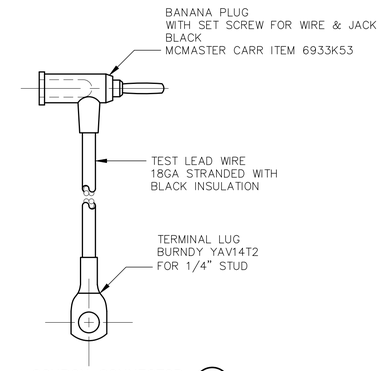
DETAIL – EXOTHERMIC WELD FOR STR. CONNECTIONS (08) THIS SHEET 18 OF 17

SCALE: NONE



DETAIL – TEST STATION ENCLOSURE (07) THIS SHEET 18 OF 17

SCALE: 6" = 1'-0"

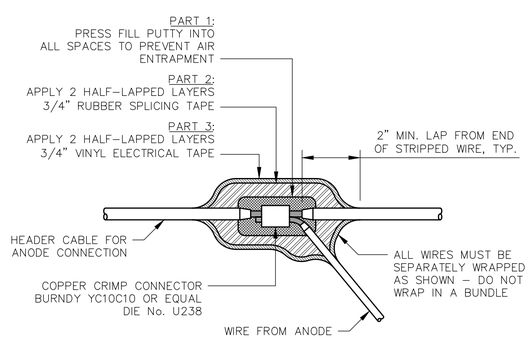


DETAIL – COUPON CONNECTOR (09) THIS SHEET 18 OF 18

SCALE: 1" = 1"

TABLE 1: BANANA JACK/BINDING POST COLOR CODES

PURPOSE OF POST	COLOR	POST QUANTITY PER BOX
STRUCTURE	BLACK	1
COUPON	GREEN	8
REF.	YELLOW	3



3-PART TAPED SPLICE: ANODE TO HEADER CABLE (05) THIS SHEET 18 OF 17

SCALE: NONE

DRAWINGS-CATHODICPROTECTION-FINAL-MANDEVILLE-PHASE1-120624

18
SHEET NUMBER

NO.	DATE	REVISION DESCRIPTION	BY
2	8/23/24	Revised to final design	CRM
1	7/18/24	Revised to 90% design	CRM

IN ASSOCIATION WITH
BKI BURK-KLEINPETER, INC.
CIVIL/ENVIRONMENTAL ENGINEERS, LAND SURVEYORS, GEOLOGISTS, GEOTECHNICAL ENGINEERS, MATERIALS TESTING
BKI # : NO.24.007

SCP Southern Cathodic PROTECTION
780 JOHNSON FERRY ROAD SUITE 225 ATLANTA, GEORGIA 30342 (404) 252-4649 www.cathodicprotection.com
COM PROJ. NO. 100.21.019

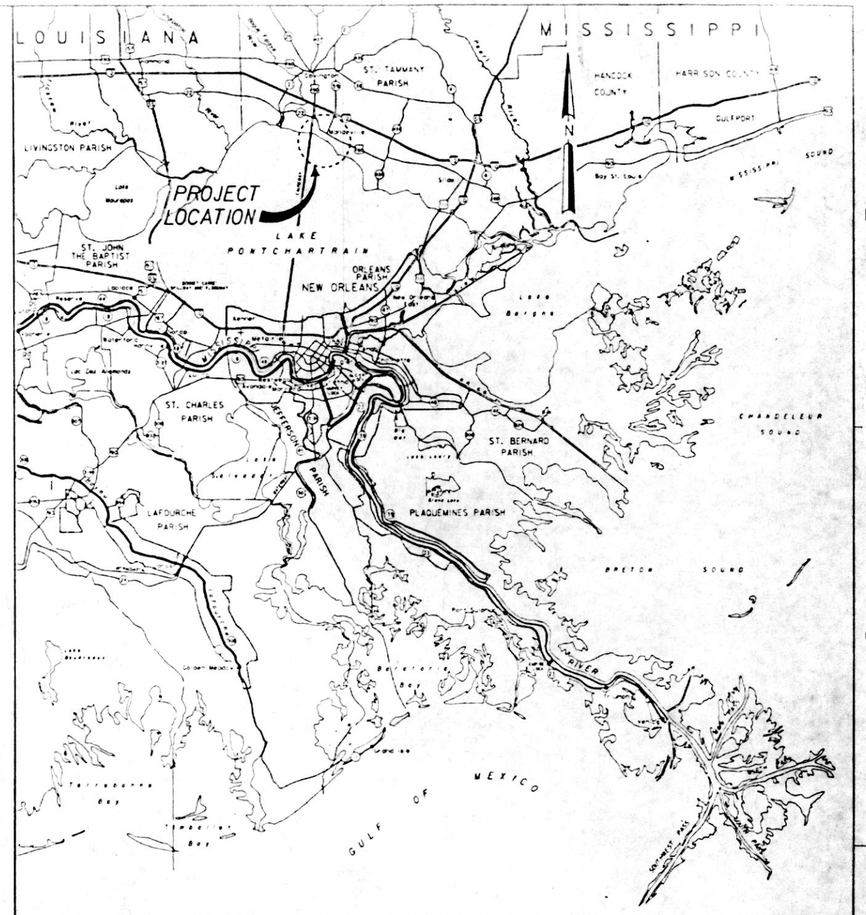
DESIGNED	CRM
CHECKED	TCH
DETAILED	CRM
CHECKED	TCH
DATE	JANUARY 2025
SHEET	3 OF 3

MANDEVILLE SEAWALL REPAIRS PROJECT
SEGMENT 1
CATHODIC PROTECTION - DETAILS

STATE OF LOUISIANA
JOHN L. PIAZZA, II
REG. NO. 13307
REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

Southern Cathodic Protection Company

ENGINEER: John L. Piazza, II
LICENSE #: 0013307
DATE: January 8, 2025



VICINITY MAP

SCALE IN MILES

10 0 10 20 30 40 50

INDEX TO DRAWINGS

DWG.	TITLE	DWG.	TITLE
1	INDEX, LOCATION AND VICINITY MAP	17	TYPICAL SECTIONS - STA. 00+30 W/L TO STA. 10+00 W/L
2	GENERAL NOTES	18	TYPICAL SECTIONS - STA. 13+35 W/L TO STA. 26+50 W/L
3	PLAN AND PROFILE - STA. 0+00 W/L TO STA. 6+36.74 W/L	19	TYPICAL SECTIONS - STA. 33+30 W/L TO STA. 38+55 W/L
4	PLAN AND PROFILE - STA. 6+36.74 W/L TO STA. 12+90.19 W/L	20	TYPICAL SECTIONS - STA. 42+75 W/L TO STA. 55+10 W/L
5	PLAN AND PROFILE - STA. 12+90.19 W/L TO STA. 18+78.71 W/L	21	TYPICAL SECTIONS - STA. 58+20 W/L TO STA. 66+50 W/L
6	PLAN AND PROFILE - STA. 18+78.71 W/L TO STA. 24+70.98 W/L	22	TYPICAL SECTIONS - STA. 72+25 W/L TO STA. 82+85 W/L
7	PLAN AND PROFILE - STA. 24+70.98 W/L TO STA. 31+17.61 W/L	23	STEEL SHEET PILE LAYOUT
8	PLAN AND PROFILE - STA. 31+17.61 W/L TO STA. 39+00.22 W/L	24	SHEET PILE DETAILS
9	PLAN AND PROFILE - STA. 39+00.22 W/L TO STA. 45+33.58 W/L	25	SEAWALL REINFORCEMENT AND DETAILS
10	PLAN AND PROFILE - STA. 45+33.58 W/L TO STA. 51+43.73 W/L	26	DRAINAGE MODIFICATION DETAILS
11	PLAN AND PROFILE - STA. 51+43.73 W/L TO STA. 57+37.52 W/L	27	CONCRETE STAIR DETAILS
12	PLAN AND PROFILE - STA. 57+37.52 W/L TO STA. 63+13.52 W/L	28	EXISTING WALL PROFILE
13	PLAN AND PROFILE - STA. 63+13.52 W/L TO STA. 68+66.21 W/L	29	SOIL BORING LEGEND
14	PLAN AND PROFILE - STA. 68+66.21 W/L TO STA. 74+39.28 W/L	30	BORING LOGS
15	PLAN AND PROFILE - STA. 74+39.28 W/L TO STA. 80+08.98 W/L	31	STAGE HYDROGRAPH
16	PLAN AND PROFILE - STA. 80+08.98 W/L TO STA. 83+25.09 W/L		

BENCH MARK DESCRIPTION

DESIGNATION	DESCRIPTION	ELEV. N.G.V.D.
MANDEVILLE 1934 4	LOCATED 0.7 MILE SOUTH OF THE INTERSECTION OF STATE HIGHWAY 114 AND U.S. HIGHWAY 190, IN THE NORTHEAST CORNER OF THE INTERSECTION OF LAKESHORE DR. AND LAFITTE ST., IN THE SOUTHWEST CORNER OF THE LAWN OF THE OLD GEORGIAN MANNER HOTEL, 1 FOOT EAST OF THE EAST EDGE OF THE SIDEWALK AND 1 FOOT NORTH OF AN EAST-WEST SIDEWALK. IT IS A STANDARD DISK SET IN THE TOP OF A CONCRETE POST, 2 INCHES BELOW THE SURFACE OF THE LAWN AND IS ABOUT 2 INCHES ABOVE THE LEVEL OF THE SIDEWALK.	4.265 N.G.V.D. (1969 EPOCH)

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

C.A.D

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED INDEX TO DRAWINGS, MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LA.

INDEX, LOCATION AND VICINITY MAP

DESIGNED BY: R.W.Y.
DRAWN BY: S.F.S.
CHECKED BY: R.J.G.
DATE: NOV. 1993

APPROVED BY: CHIEF, DESIGN BRANCH
APPROVED BY: CHIEF, ENGINEERING DIVISION
APPROVED BY: CHIEF, CONTRACTING DIVISION

CADD FILE: 40335-01.DGN
PLOT DATE:
PLOT SCALE: 250

SOLICITATION NO. DACW29-94-B-0024

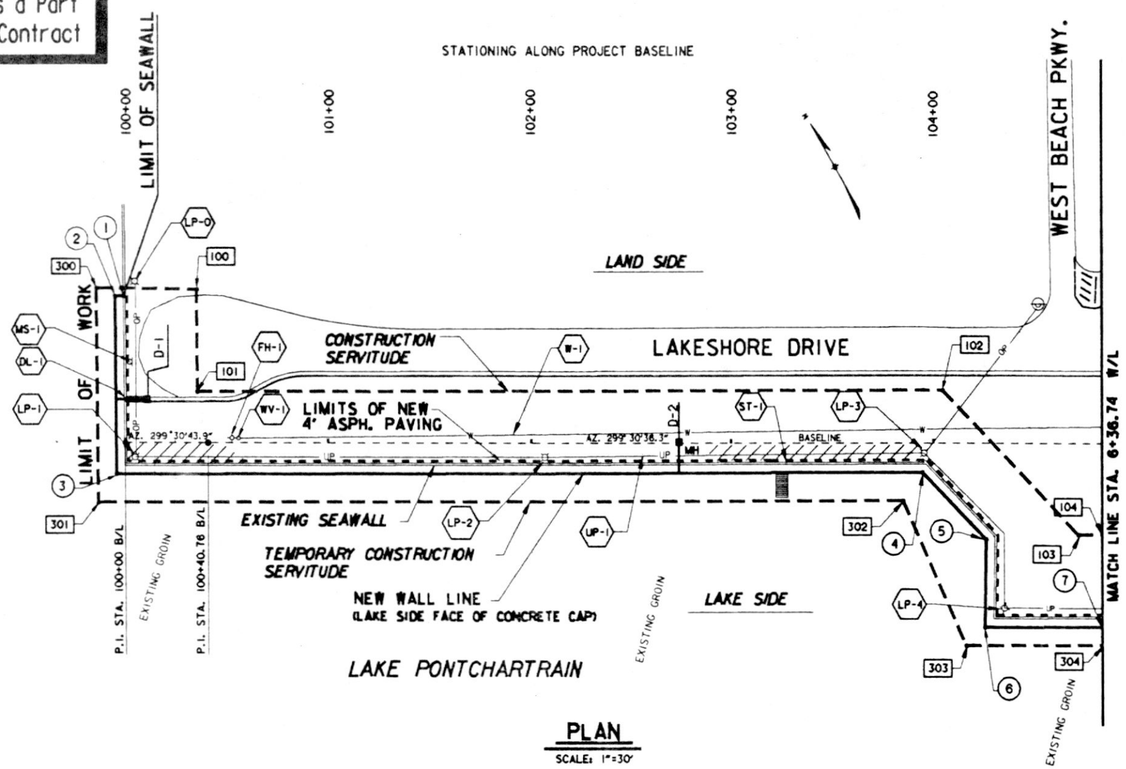
FILE NO. H-4-40335

DWG. 1 OF 31

SUBMITTED BY: Brown Cunningham Gannuch

APPROVED BY:

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA

P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
*1	99 + 99.20	71.11	LT.	0 + 00.00
2	99 + 95.19	71.64	LT.	0 + 04.04
3	99 + 95.68	15.15	RT.	0 + 90.87
4	103 + 94.41	14.21	RT.	4 + 89.60
5	104 + 25.88	46.97	RT.	5 + 35.02
6	104 + 25.23	89.91	RT.	5 + 77.97
7	104 + 84.00	89.72	RT.	5 + 36.74

* LIMIT OF NEW SEAWALL

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
100	100+35.2	75.9' LT.	300	99+86.2	75.6' LT.
101	100+35.0	24.9' LT.	301	99+86.8	29.2' RT.
102	104+04.5	25.8' LT.	302	103+84.8	28.2' RT.
103	104+72.1	44.5' RT.	303	104+16.1	98.9' RT.
104	104+84.0	44.5' RT.	304	104+84.0	98.7' RT.

LEGEND

- SURVEY BASELINE
- WATERLINE
- OVERHEAD POWER LINE
- UNDERGROUND POWER LINE
- SEWER LINE
- DRAIN LINE
- CONCRETE STEPS
- LIGHT POLE
- FIRE HYDRANT *
- WATER VALVE *
- METAL SIGN AND POST
- UTILITY POLE AND GUY WIRE
- UTILITY POLE *
- REQUIRED DRAINAGE MODIFICATIONS
- EXISTING POST
- EXISTING RIPRAP
- UNDISTURBED BORING
- ROLLED CORNER OR FABRICATED PILE SECTION
- CONCRETE AND RUBBLE FILL (SEE GENERAL NOTES)
- LIMITS OF NEW 4' ASPHALT PAVING

EXISTING FACILITIES

ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
DL-1	10"X24" BOX CULVERT	100+00 TO 100+06.1	CITY OF MANDEVILLE	CONTR. REMOVE
MS-1	METAL SIGN & POST	100+02.8	CITY OF MANDEVILLE	OWNER RELOC.
LP-0	LIGHT POLE W/OP LINE	100+04.81	CLECO	OWNER RELOC.
LP-1	LIGHT POLE W/OP LINE	100+04.8	CLECO	OWNER RELOC.
UP-1	3" ELEC. UNDERGROUND CONDUIT	100+04.8 TO 104+84	CLECO	ABANDON
FH-1	FIRE HYDRANT	100+35	CITY OF MANDEVILLE	NOT AFFECTED
W-1	8" WATER MAIN	100+35 TO 104+22.3	CITY OF MANDEVILLE	NOT AFFECTED
WV-1	WATER VALVE	100+37	CITY OF MANDEVILLE	NOT AFFECTED
LP-2	LIGHT POLE W/UP LINE	102+06.6	CLECO	OWNER* RELOC.
ST-1	CONCRETE STEPS	103+24.6	CITY OF MANDEVILLE	CONTR. REMOVE
LP-3	LIGHT POLE W/UP LINE	103+95.2	CLECO	OWNER RELOC.
LP-4	LIGHT POLE W/UP LINE	104+34.9	CLECO	OWNER RELOC.

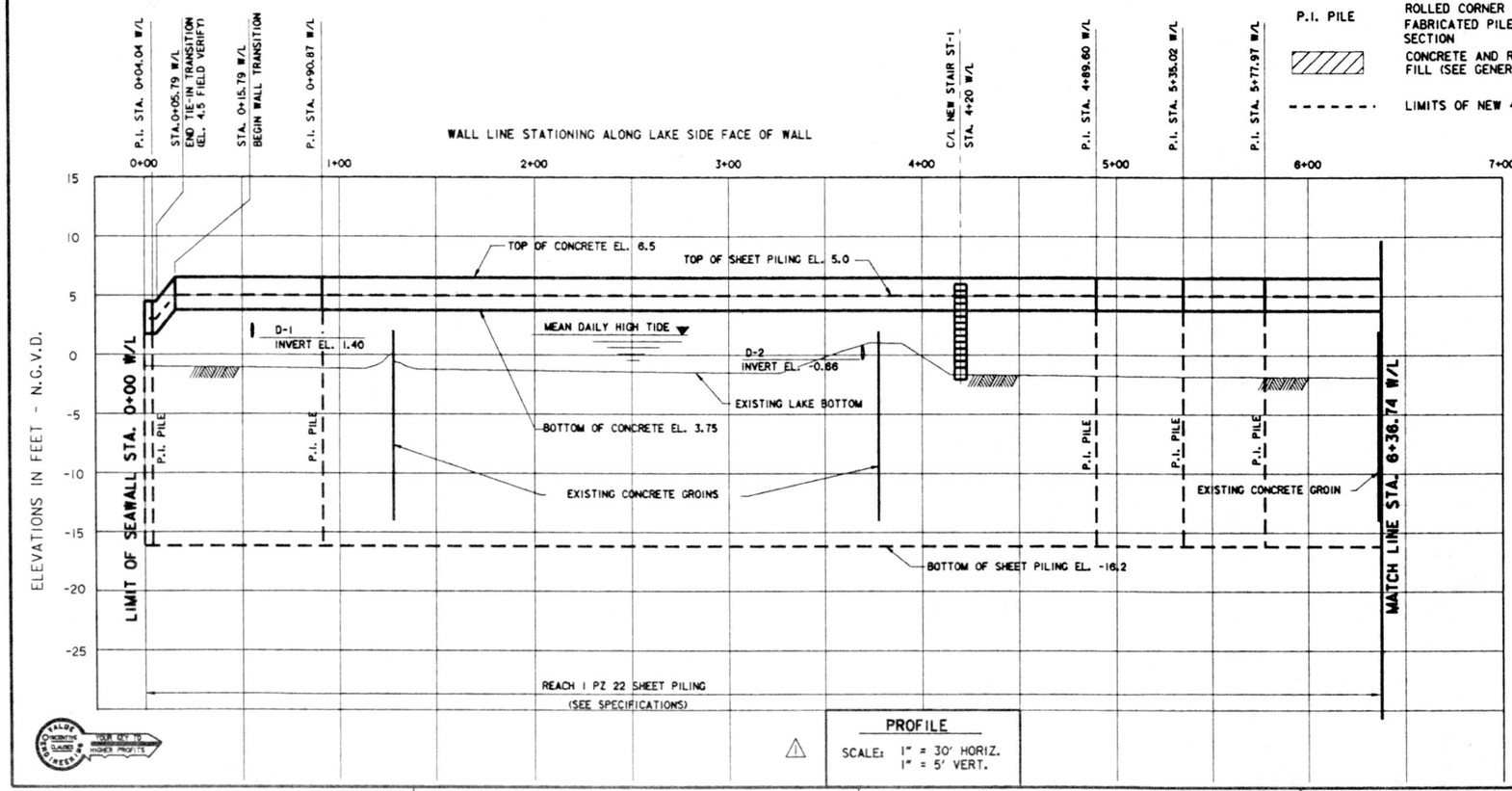
* CONTRACTOR NOT TO DISTURB

000 DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

6 DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR GROIN MODIFICATIONS, SEE DWG. 24
3. FOR WALL TRANSITION DETAILS, SEE DWG. 25
4. FOR DRAIN DETAILS, SEE DWG. 26
5. FOR STAIR DETAILS, SEE DWG. 27
6. FOR SOIL BORING LOGS, SEE DWG. 30
7. FOR LAKE HYDROGRAPH, SEE DWG. 31
8. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
9. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

SCALE: 1" = 30'

SCALE: 1" = 5'

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE AND P.I. 3 W/L STATION; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

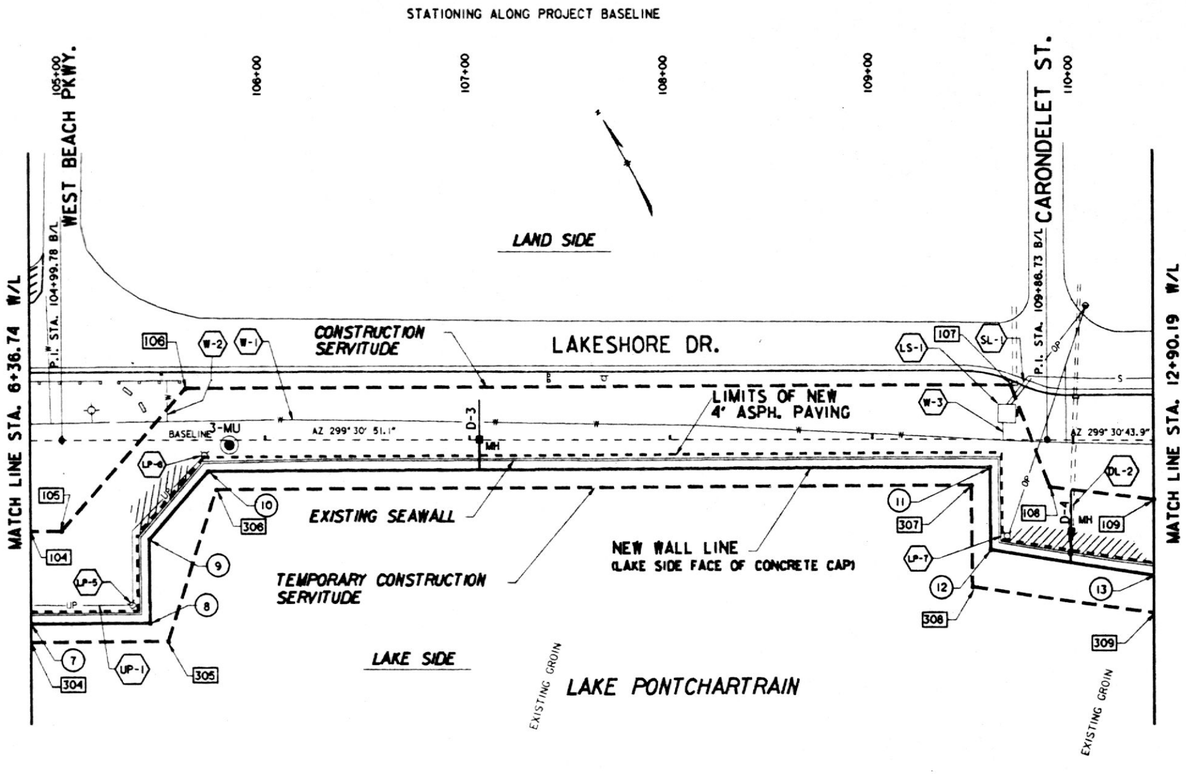
Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 0+00 W/L TO STA. 6+36.74 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			
CHECKED BY: T.P.H.	CADD FILE: 40335-03.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 3 OF 31



PLAN

SCALE: 1" = 30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
7	104+84.00	89.72	RT.	6+36.74
8	105+42.69	89.53	RT.	6+95.43
9	105+42.46	48.46	RT.	7+36.50
10	105+71.60	15.42	RT.	7+80.55
11	109+57.98	13.49	RT.	11+66.94
12	109+58.12	53.98	RT.	12+07.43
13	110+40.00	66.04	RT.	12+90.19

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
104	104+84.0	44.5' RT.	304	104+84.0	98.7' RT.
105	104+99.4	44.4' RT.	305	105+51.7	98.5' RT.
106	105+60.6	25.1' LT.	306	105+75.7	24.4' RT.
107	109+68.5	26.6' LT.	307	109+48.7	22.5' RT.
108	109+88.0	23.0' RT.	308	109+49.2	72.1' RT.
109	110+40.0	29.0' RT.	309	110+40.0	84.3' RT.

EXISTING FACILITIES					
	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
	UP-1	3" ELEC. CONDUIT	104+84 TO 105+70	CLECO	ABANDON
*	W-1	8" WATER MAIN	105+46.4 TO 109+79.3	CITY OF MANDEVILLE	NOT AFFECTED
	LP-5	LIGHT POLE W/UP LINE	105+34	CLECO	OWNER RELOC.
*	W-2	2" WATER LINE	105+51.5	CITY OF MANDEVILLE	NOT AFFECTED
	LP-6	LIGHT POLE W/UP LINE	105+70	CLECO	OWNER RELOC.
*	W-3	2" WATER LINE	109+64.6	CITY OF MANDEVILLE	NOT AFFECTED
*	SL-1	10" SEWER LINE	109+66.5 TO 109+70.3	CITY OF MANDEVILLE	NOT AFFECTED
*	LS-1	SEWERAGE LIFT STATION	109+66.5	CITY OF MANDEVILLE	NOT AFFECTED
	LP-7	LIGHT POLE W/OP LINE	109+66.4	CLECO	OWNER RELOC.
	DL-2	24" CLAY PIPE DRAIN LINE	109+98.6	CITY OF MANDEVILLE	CONTR. RELOC.

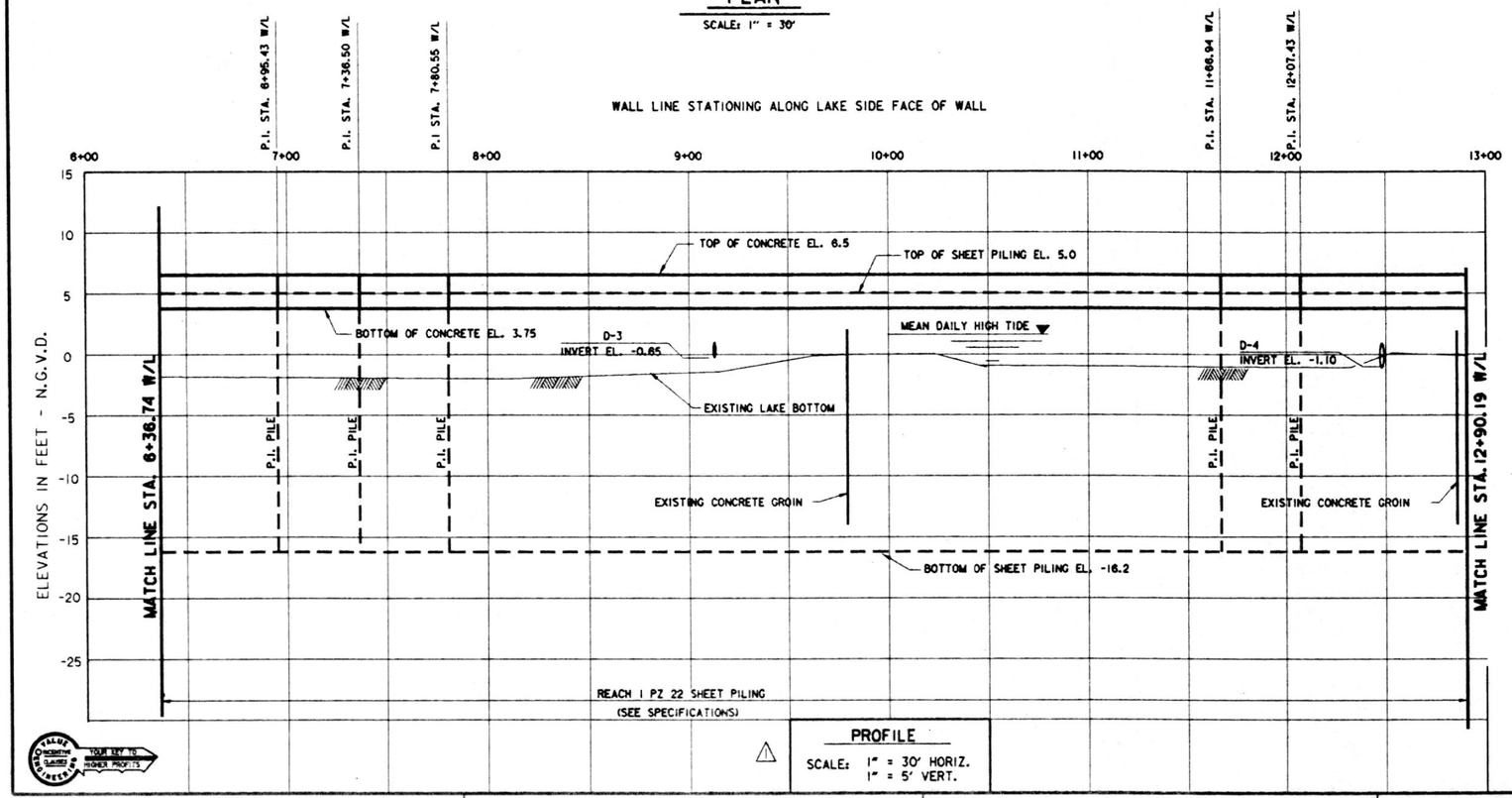
* CONTRACTOR NOT TO DISTURB

000 DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

Safety is a Part of Your Contract

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

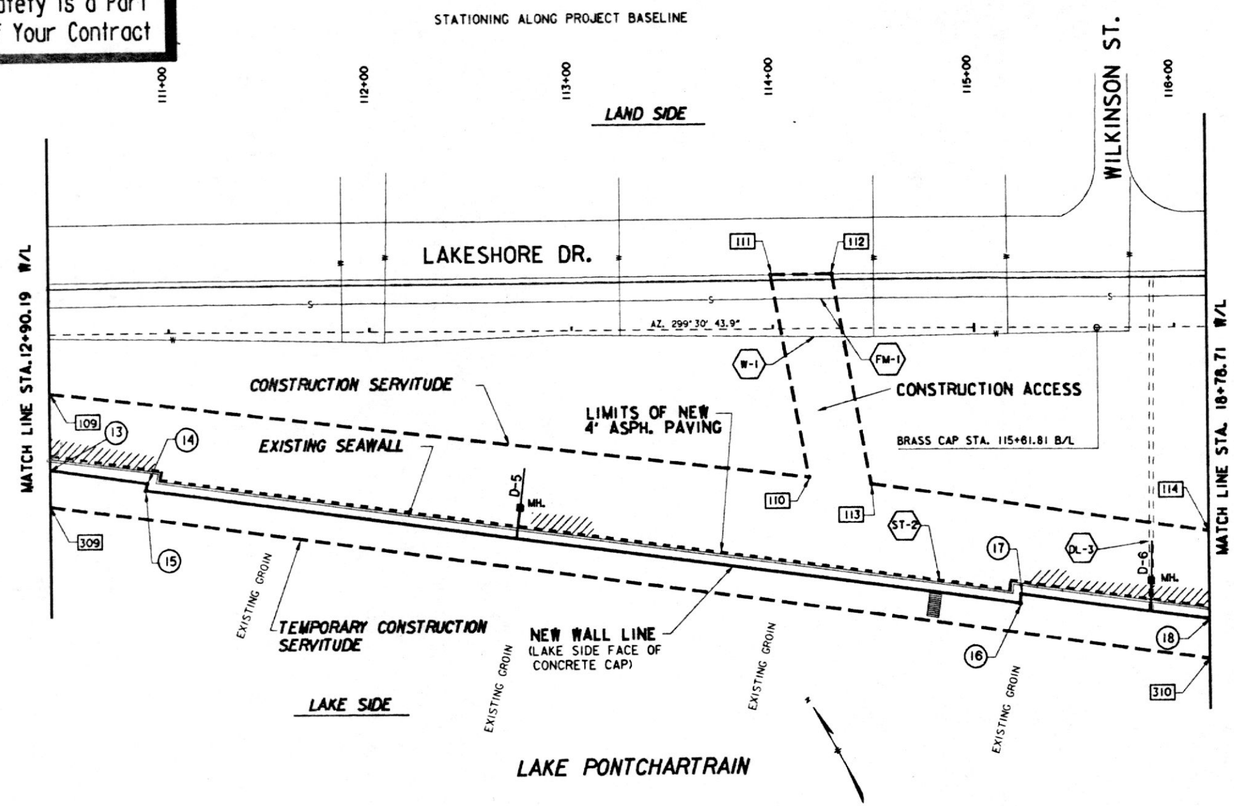
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 6+36.74 W/L TO STA. 12+90.19 W/L

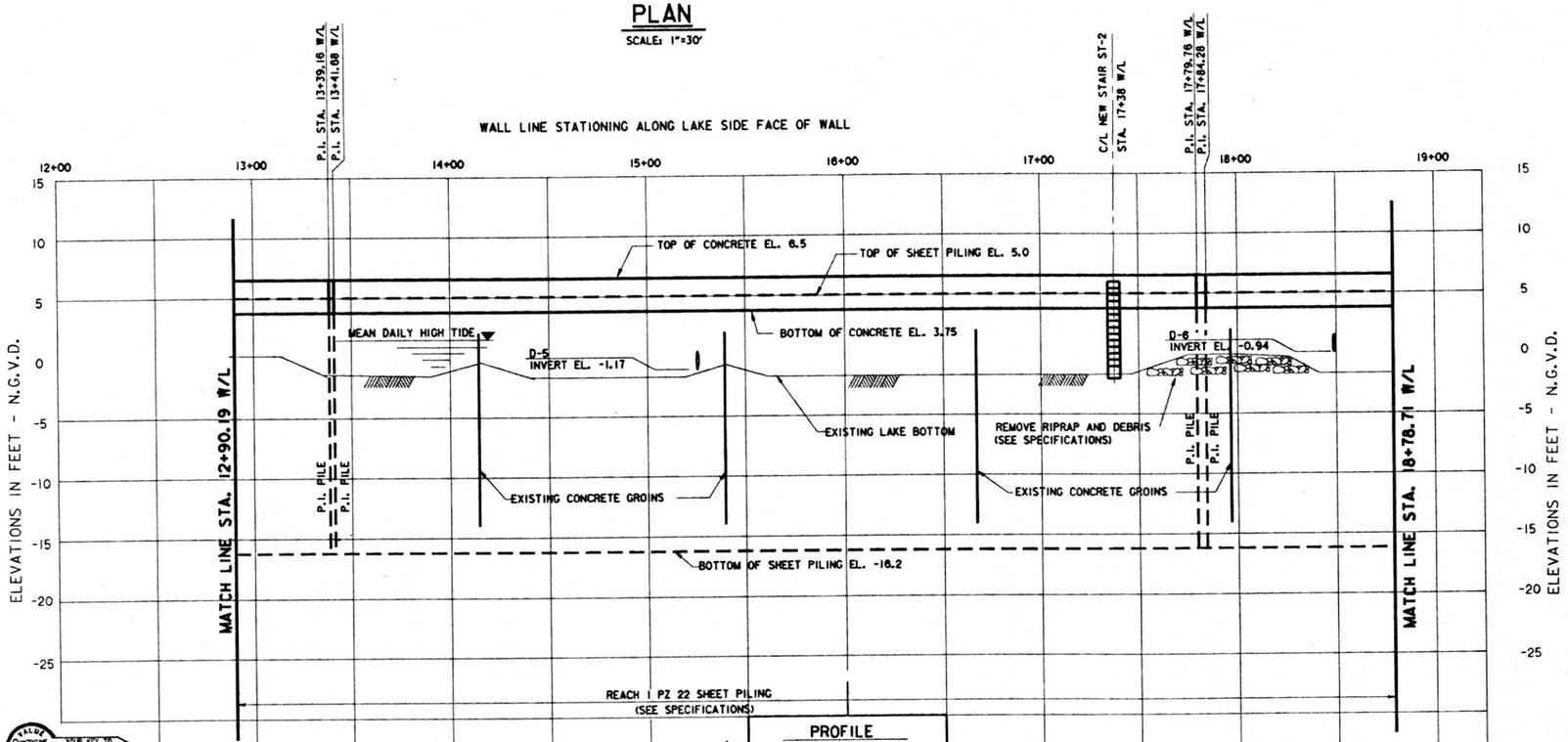
DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B.			
CHECKED BY: T.P.H.	CADD FILE: 40335-04.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 4 OF 31

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

WALL LINE DATA

P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
13	110+40.00	66.04	RT.	12+90.19
14	110+88.44	73.18	RT.	13+39.16
15	110+87.90	75.65	RT.	13+41.68
16	115+21.97	134.72	RT.	17+79.76
17	115+22.37	130.21	RT.	17+84.28
18	116+16	142.45	RT.	18+78.71

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
109	110+40.0	29.0' RT.	309	110+40.0	84.3' RT.
110	114+17.1	72.4' RT.	310	116+16.0	161.8' RT.
111	113+98.9	26.5' LT.			
112	114+29.4	26.6' LT.			
113	114+48.2	75.9' RT.			
114	116+16.0	99.6' RT.			

EXISTING FACILITIES

	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
	ST-2	CONCRETE STEPS	114+80	CITY OF MANDEVILLE	CONTR. REMOVE
*	W-1	8" WATER MAIN	114+04.2 TO 114+35.0	CITY OF MANDEVILLE	NOT AFFECTED
*	FM-1	6" SEWER FORCE MAIN	114+01.8 TO 114+31.6	CITY OF MANDEVILLE	NOT AFFECTED
	DL-3	24" CLAY PIPE DRAIN LINE	115+87.1	CITY OF MANDEVILLE	CONTR. RELOC.

* CONTRACTOR NOT TO DISTURB

000 DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

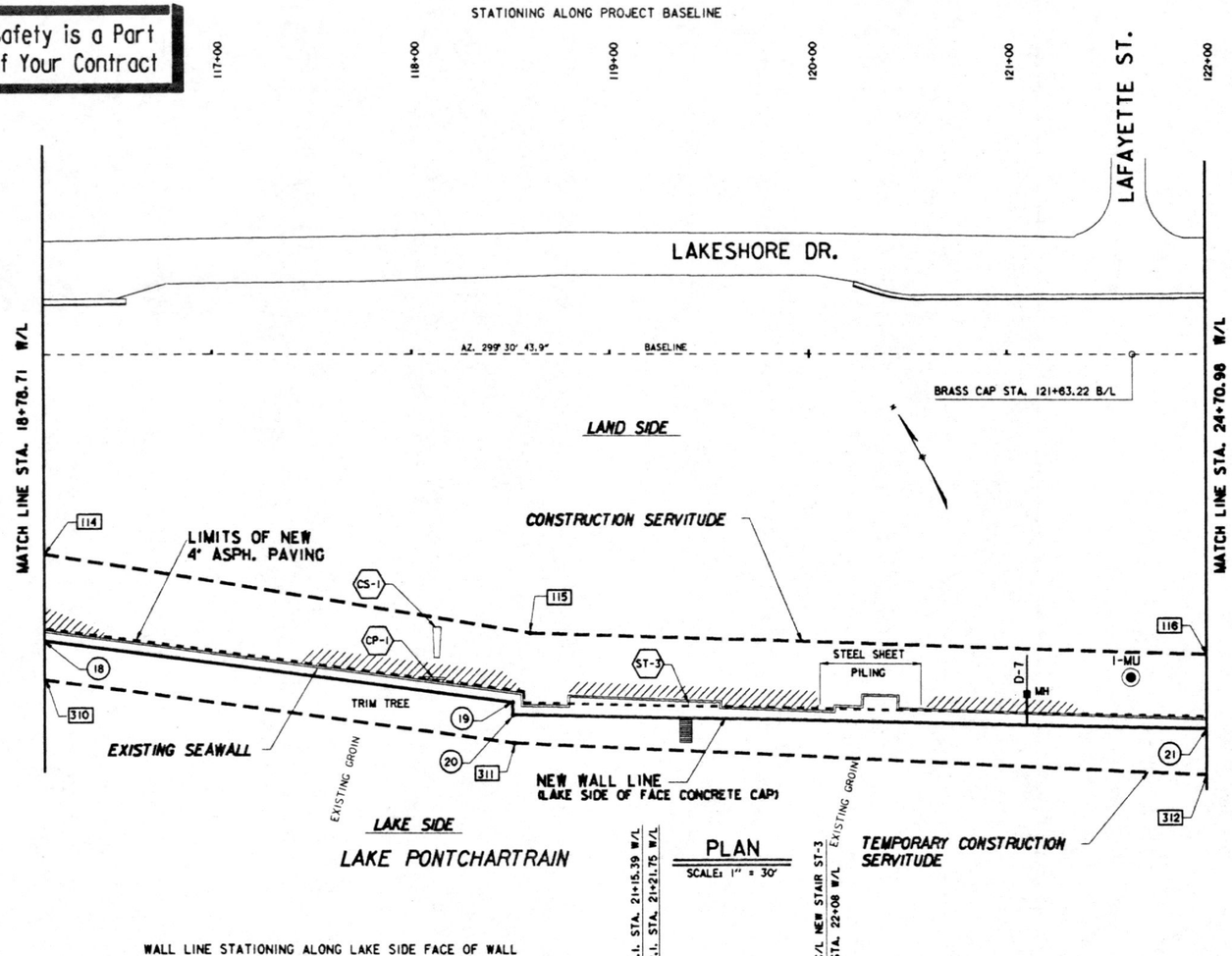
PLAN AND PROFILE

STA. 12+90.19 W/L TO STA. 18+78.71 W/L

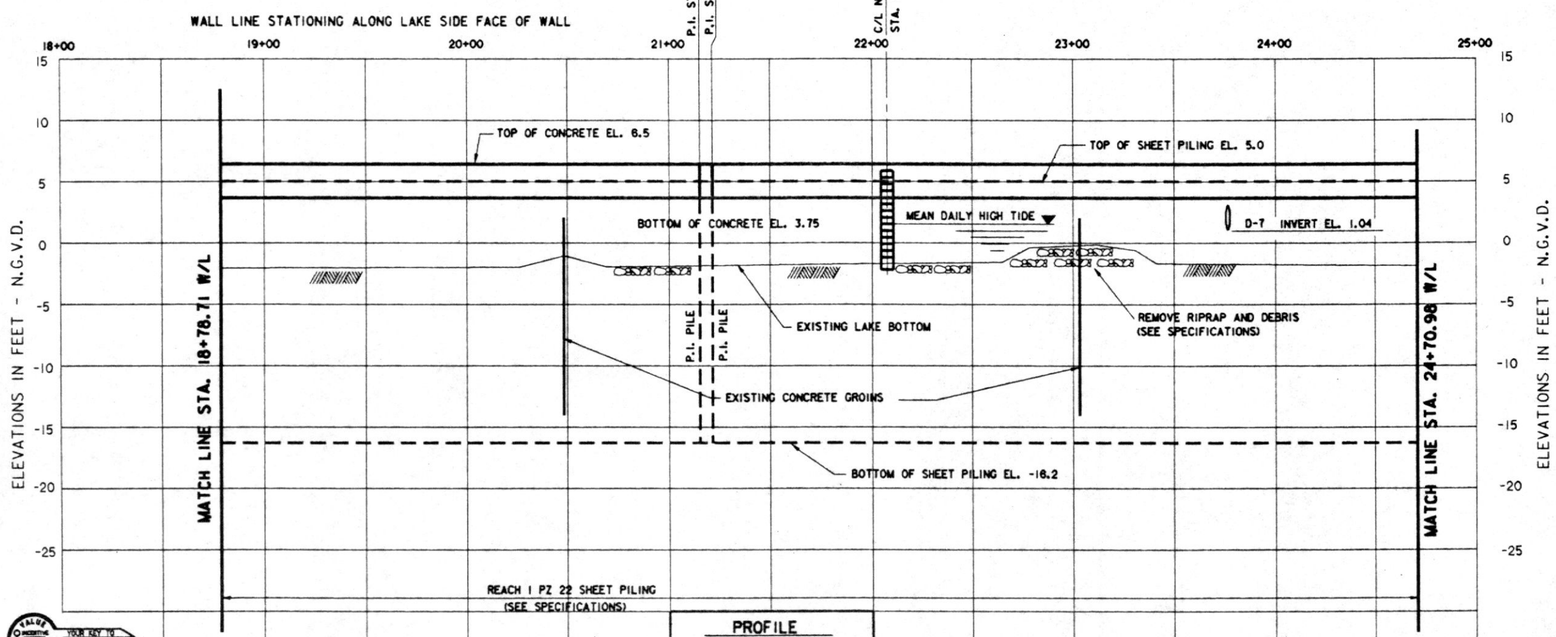
DESIGNED BY: R.W.Y. DRAWN BY: J.S.B CHECKED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
	CADD FILE: 40335-05.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 5 OF 31

VALUE ENGINEERING INCENTIVE CLAUSE YOUR KEY TO HIGHER PROFITS

Safety is a Part of Your Contract



PLAN
SCALE: 1" = 30'



PROFILE
SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
18	116 + 16.00	142.45	RT.	18 + 78.71
19	118 + 50.68	173.16	RT.	21 + 15.39
20	118 + 50.84	179.52	RT.	21 + 21.75
21	122 + 00.00	186.16	RT.	24 + 70.98

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
114	116+16.0	99.6' RT	310	116+16.0	161.8' RT.
115	118+59.7	138.8' RT.	311	118+51.5	193.5' RT.
116	122+00.0	149.3' RT.	312	122+00.0	209.2' RT.

EXISTING FACILITIES				
ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
CP-1	CONCRETE PIER	118+10.5	CITY OF MANDEVILLE	CONTR. REMOVE
CS-1	CONCRETE SLAB	118+12.1	CITY OF MANDEVILLE	CONTR. REMOVE
ST-3	CONCRETE STEPS	119+37.8	CITY OF MANDEVILLE	CONTR. REMOVE

000 DENOTES CONSTRUCTION SERVITUDE NUMBERS

6 DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'
30' 0 30' 60' 90' 120'

SCALE: 1" = 5'
5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

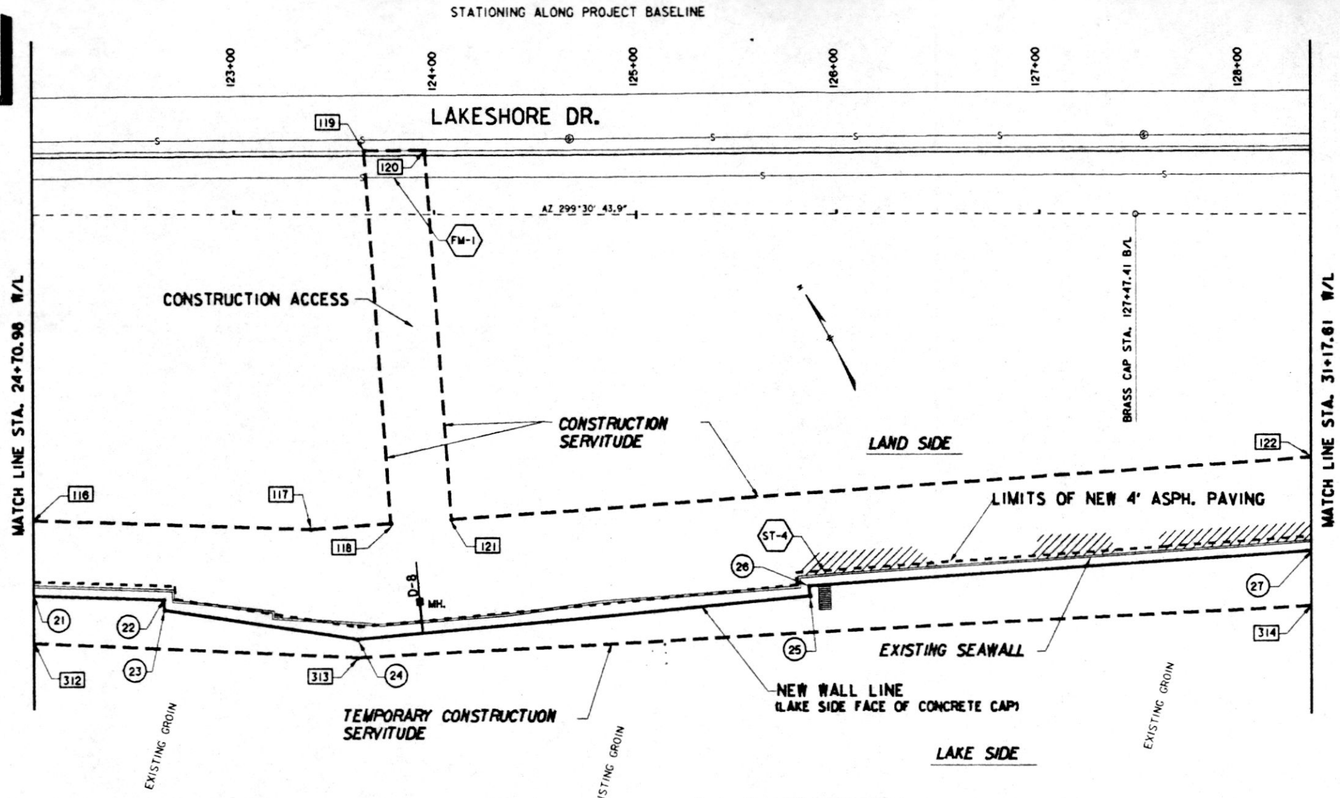
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 18+78.71 W/L TO STA. 24+70.98 W/L

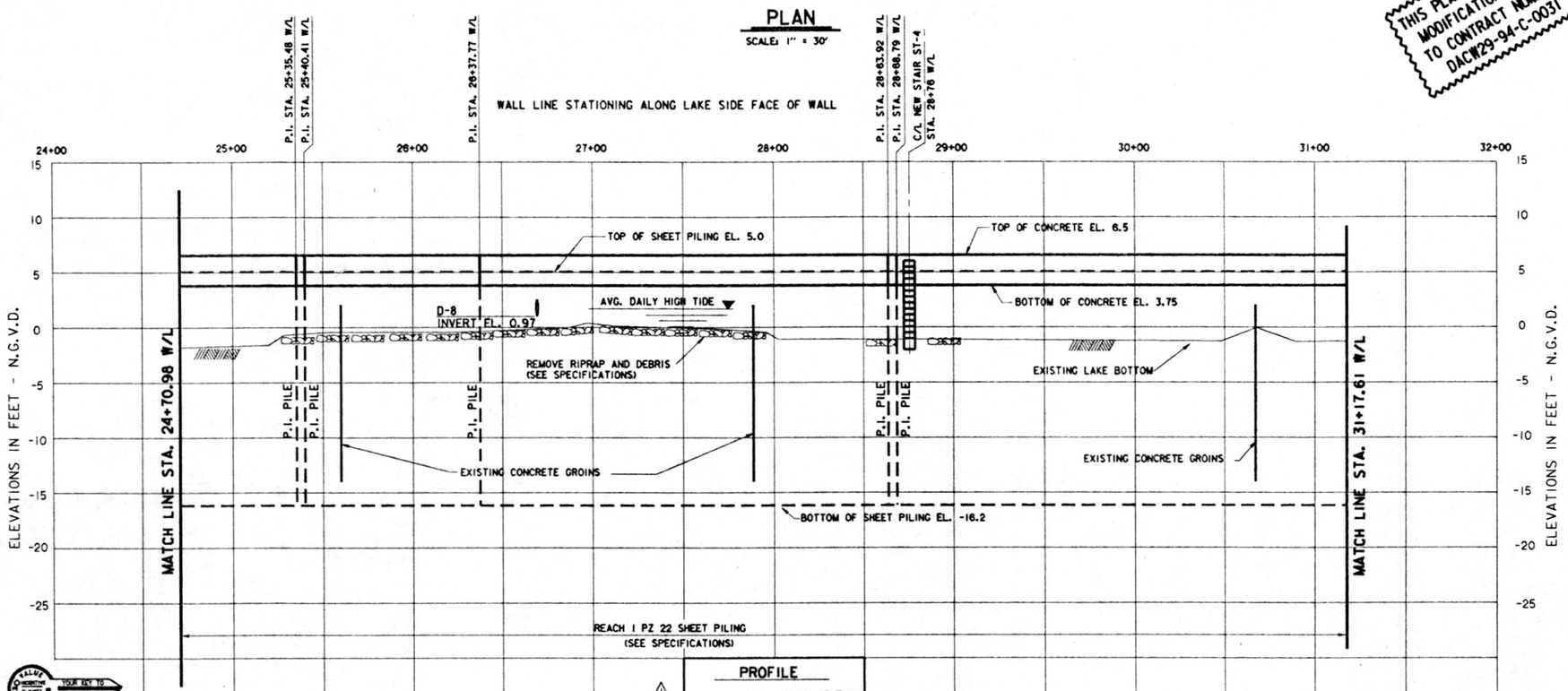
DESIGNED BY: R.W.Y. DRAWN BY: S.F.S CHECKED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
	CADD FILE: 40335-06.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 6 OF 31

Safety is a Part of Your Contract



PLAN

SCALE: 1" = 30'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

WALL LINE DATA

P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
21	122+00.00	186.16	RT.	24+70.98
22	122+64.47	188.24	RT.	25+35.48
23	122+64.77	193.16	RT.	25+40.41
24	123+61.07	207.48	RT.	26+37.77
25	125+86.25	186.53	RT.	28+63.92
26	125+85.80	181.68	RT.	28+68.79
27	128+34.00	164.16	RT.	31+17.61

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
116	122+00.0	149.3' RT.	312	122+00.0	209.2' RT.
117	123+37.9	153.5' RT.	313	123+61.1	216.5' RT.
118	123+78.0	150.7' RT.	314	128+34.0	191.1' RT.
119	123+65.3	31.2' LT.			
120	123+95.4	31.3' LT.			
121	124+08.0	148.6' RT.			
122	128+34.0	118.8' RT.			

EXISTING FACILITIES

	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
*	FM-1	6" SEWER FORCE MAIN	123+66.2 TO 123+96.3	CITY OF MANDEVILLE	NOT AFFECTED
	ST-4	CONCRETE STEPS	125+92.2	CITY OF MANDEVILLE	CONTR. REMOVE

* CONTRACTOR NOT TO DISTURB

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

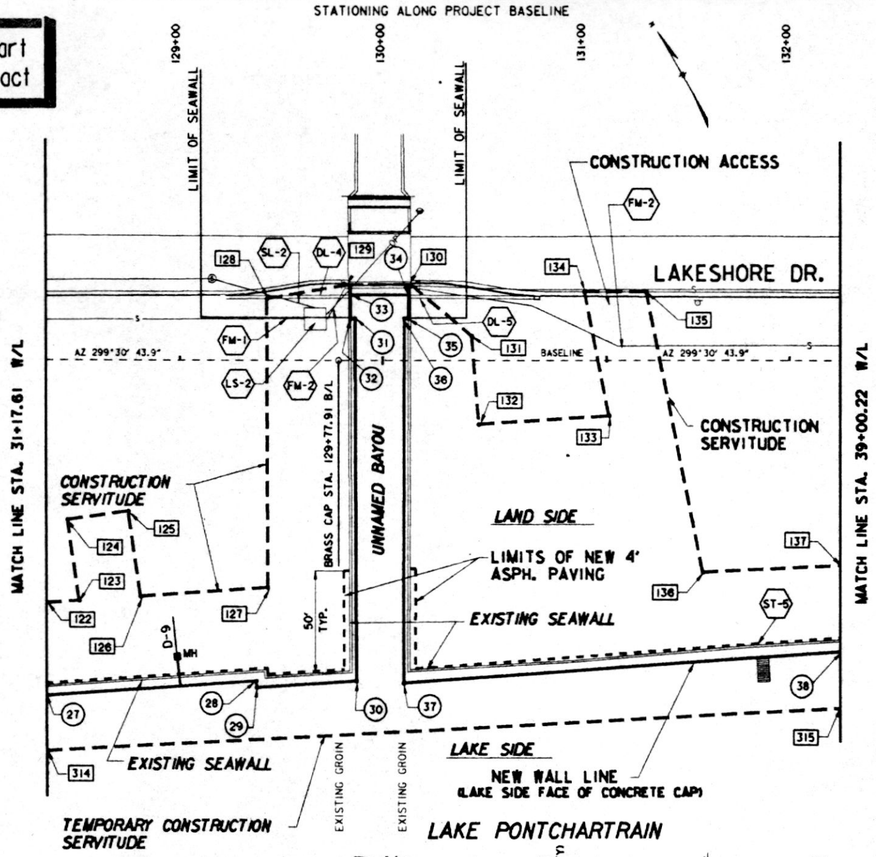
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 24+70.98 W/L TO STA. 31+17.61 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: S.F.S			
CHECKED BY: T.P.H.	CADD FILE: 40335-07.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 7 OF 31

Safety is a Part of Your Contract

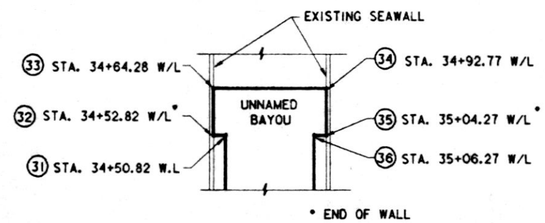


PLAN

SCALE: 1" = 30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
27	128 + 34.00	164.16	RT.	31 + 17.61
28	129 + 37.49	156.93	RT.	32 + 21.35
29	129 + 37.64	160.01	RT.	32 + 24.43
30	129 + 86.56	156.86	RT.	32 + 73.46
31	129 + 86.06	20.50	LT.	34 + 50.82
* 32	129 + 84.08	20.50	LT.	34 + 52.82
33	129 + 84.05	31.96	LT.	34 + 64.28
34	130 + 12.54	32.02	LT.	34 + 92.77
* 35	130 + 12.50	20.52	LT.	35 + 04.27
36	130 + 10.50	20.52	LT.	35 + 06.27
37	130 + 09.93	157.81	RT.	36 + 84.60
38	132 + 25.00	142.34	RT.	39 + 00.22

* LIMIT OF NEW SEAWALL



W/L STATIONG DETAIL

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
122	128+34.0	118.8' RT.	314	128+34.0	191.1' RT.
123	128+50.1	117.7' RT.	315	132+25.0	170.1' RT.
124	128+44.6	78.1' RT.			
125	128+74.3	73.9' RT.			
126	128+80.1	115.6' RT.			
127	129+43.2	111.2' RT.			
128	129+42.8	30.1' LT.			
129	129+82.8	37.0' LT.			
130	130+13.8	37.1' LT.			
131	130+43.7	11.9' LT.			
132	130+47.2	31.2' RT.			
133	131+11.4	27.1' RT.			
134	130+99.2	33.6' LT.			
135	131+29.8	33.5' LT.			
136	131+57.3	103.4' RT.			
137	132+25.0	99.9' RT.			

EXISTING FACILITIES				
ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
* FM-1	6" SEWER FORCE MAIN	129+42.8 TO 129+61	CITY OF MANDEVILLE	NOT AFFECTED
* SL-2	12" SEWER LINE	129+47.6 TO 129+65.7	CITY OF MANDEVILLE	NOT AFFECTED
* DL-4	18" RCP DRAIN LINE	129+47.6 TO 129+84.1	CITY OF MANDEVILLE	NOT AFFECTED
* LS-2	SEWERAGE LIFT STATION	129+66.4	CITY OF MANDEVILLE	NOT AFFECTED
FM-2	6" SEWER FORCE MAIN	129+72.6 TO 130+16	CITY OF MANDEVILLE	NOT AFFECTED
* DL-5	18" RCP DRAIN LINE	130+12.5 TO 130+20.7	CITY OF MANDEVILLE	NOT AFFECTED
* FM-2	6" SEWER FORCE MAIN	131+03.4 TO 131+35.1	CITY OF MANDEVILLE	NOT AFFECTED
ST-5	CONCRETE STEPS	131+86.1	CITY OF MANDEVILLE	CONTR. REMOVE

* CONTRACTOR NOT TO DISTURB

000 DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

6 DENOTES WALL LINE P.I. NUMBERS

NOTES:

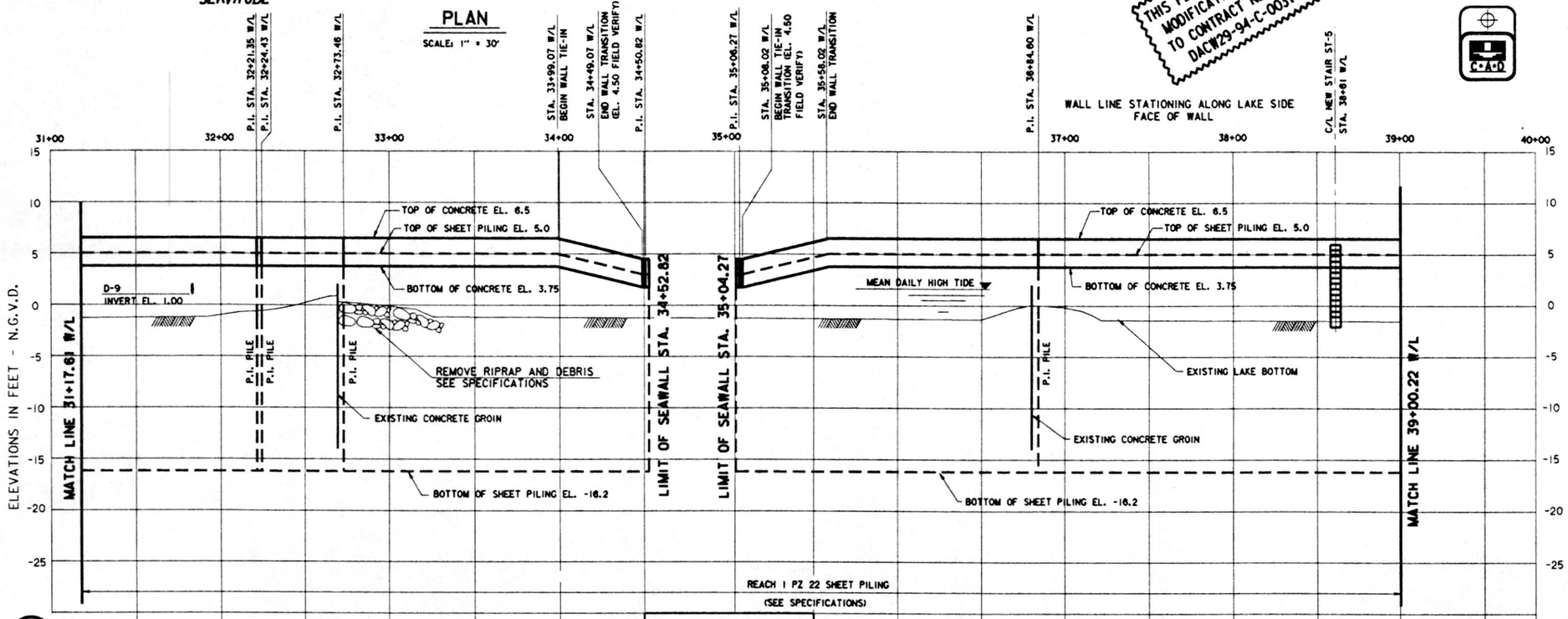
1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

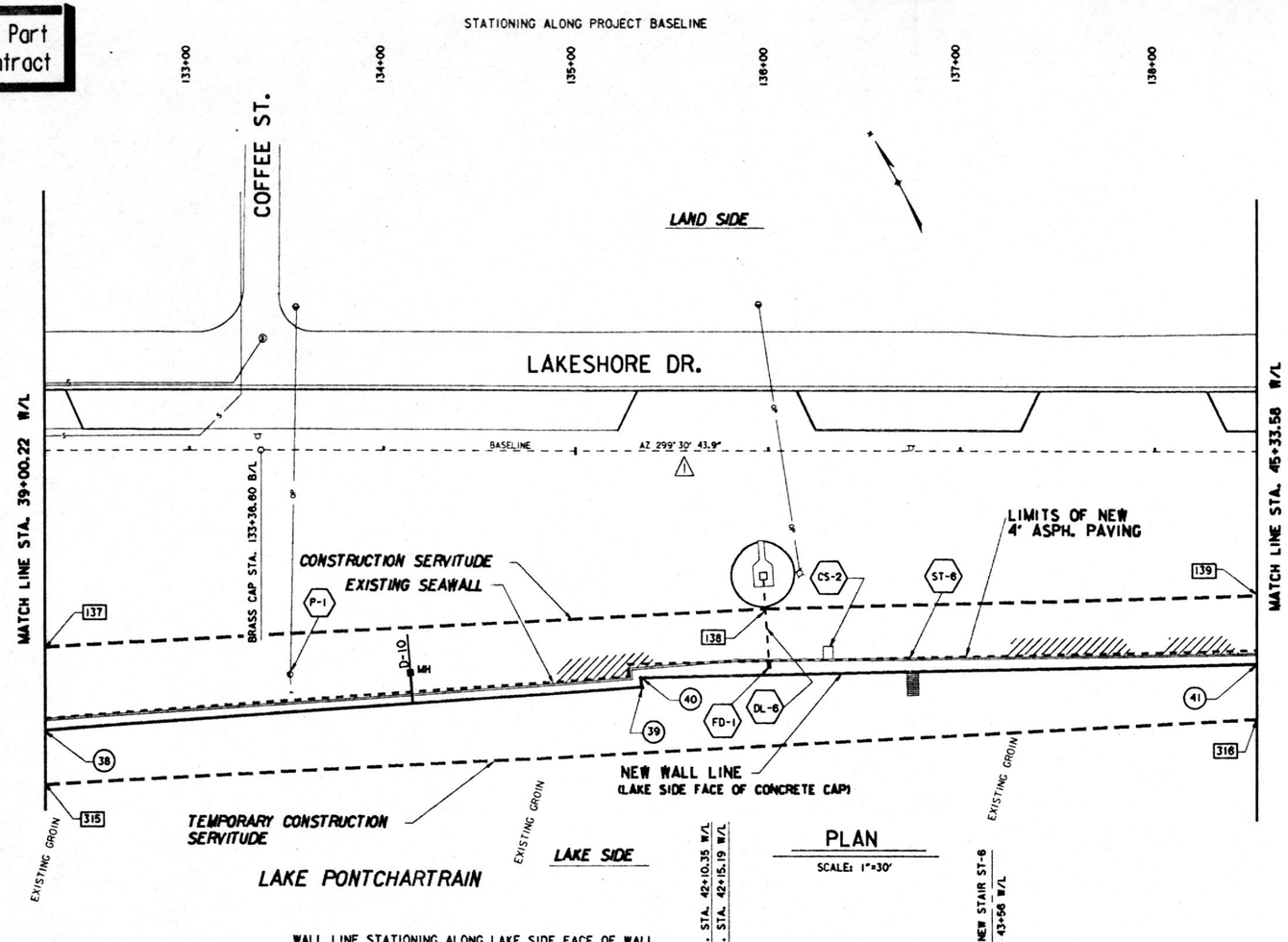
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 31+17.61 W/L TO STA. 39+00.22 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			FILE NO. H-4-40335
CHECKED BY: T.P.H.	CADD FILE: 40335-08.DGN		
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 8 OF 31

VALUE ENGINEERING CLAUSE — YOUR EFFORT TO REDUCE COSTS MEANS HIGHER PROFITS

Safety is a Part of Your Contract

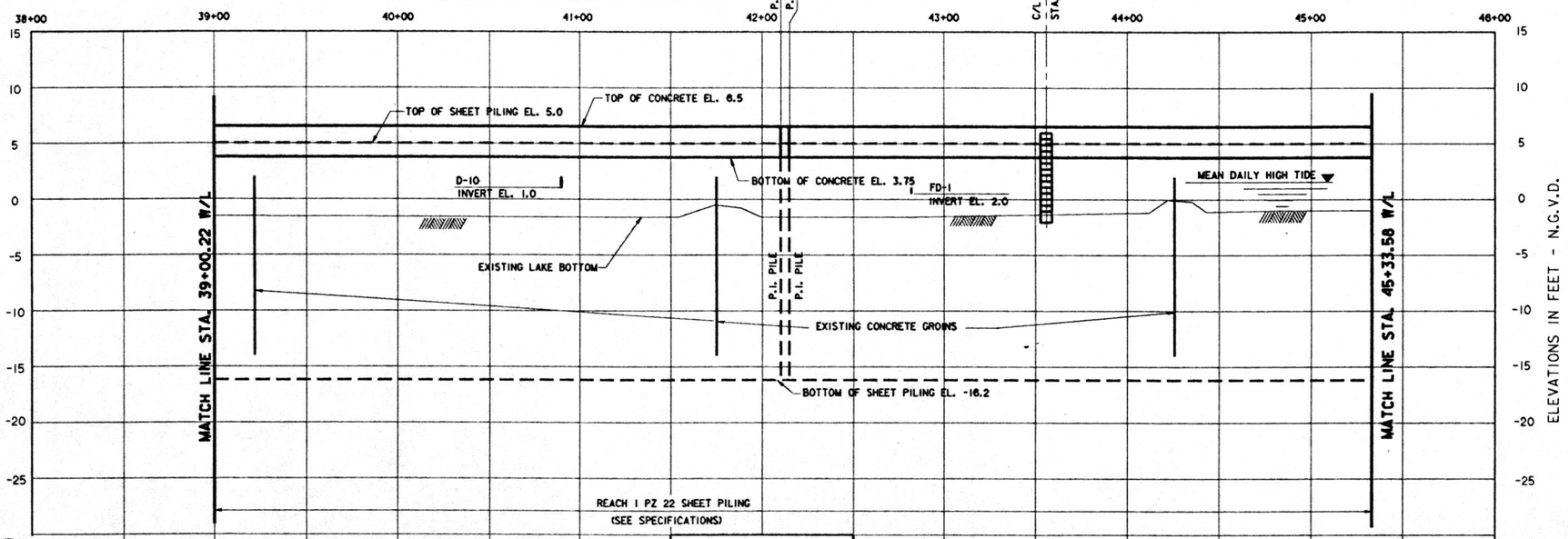


PLAN

SCALE: 1"=30'

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

WALL LINE STATIONING ALONG LAKE SIDE FACE OF WALL



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
38	132 + 25.00	142.34	RT.	39 + 00.22
39	135 + 34.33	120.09	RT.	42 + 10.35
40	135 + 33.69	115.29	RT.	42 + 15.19
41	138 + 52.00	108.17	RT.	45 + 33.58

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
137	132+25.0	99.9' RT.	315	132+25.0	170.1' RT.
138	135+98.0	80.8' RT.	316	138+52.0	136.4' RT.
139	138+52.0	73.4' RT.			

EXISTING FACILITIES				
ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
P-1	UTILITY POLE & GUY WIRE W/OP LINE	133+51.5	CLECO	OWNER RELOC.
DL-6	6" STEEL DRAIN LINE	135+98.8	CITY OF MANDEVILLE	CONTR. RELOC.
CS-2	CONCRETE SLAB	136+31.2	CITY OF MANDEVILLE	CONTR. REMOVE
ST-6	CONCRETE STEPS	136+74.8	CITY OF MANDEVILLE	CONTR. REMOVE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE AND REVISED AZ. IN PLAN; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.

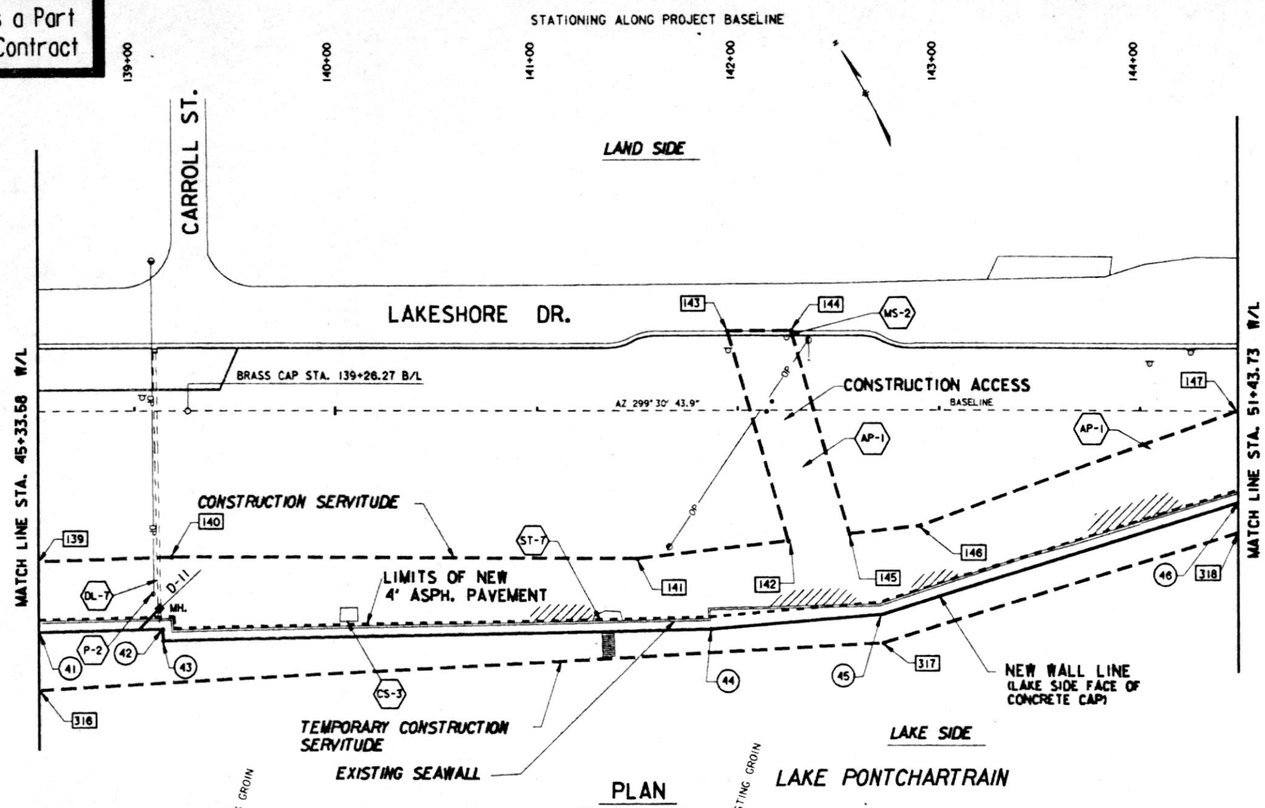
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 39+00.22 W/L TO STA. 45+33.58 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			
CHECKED BY: T.P.H.	CADD FILE: 40335-09.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 9 OF 31

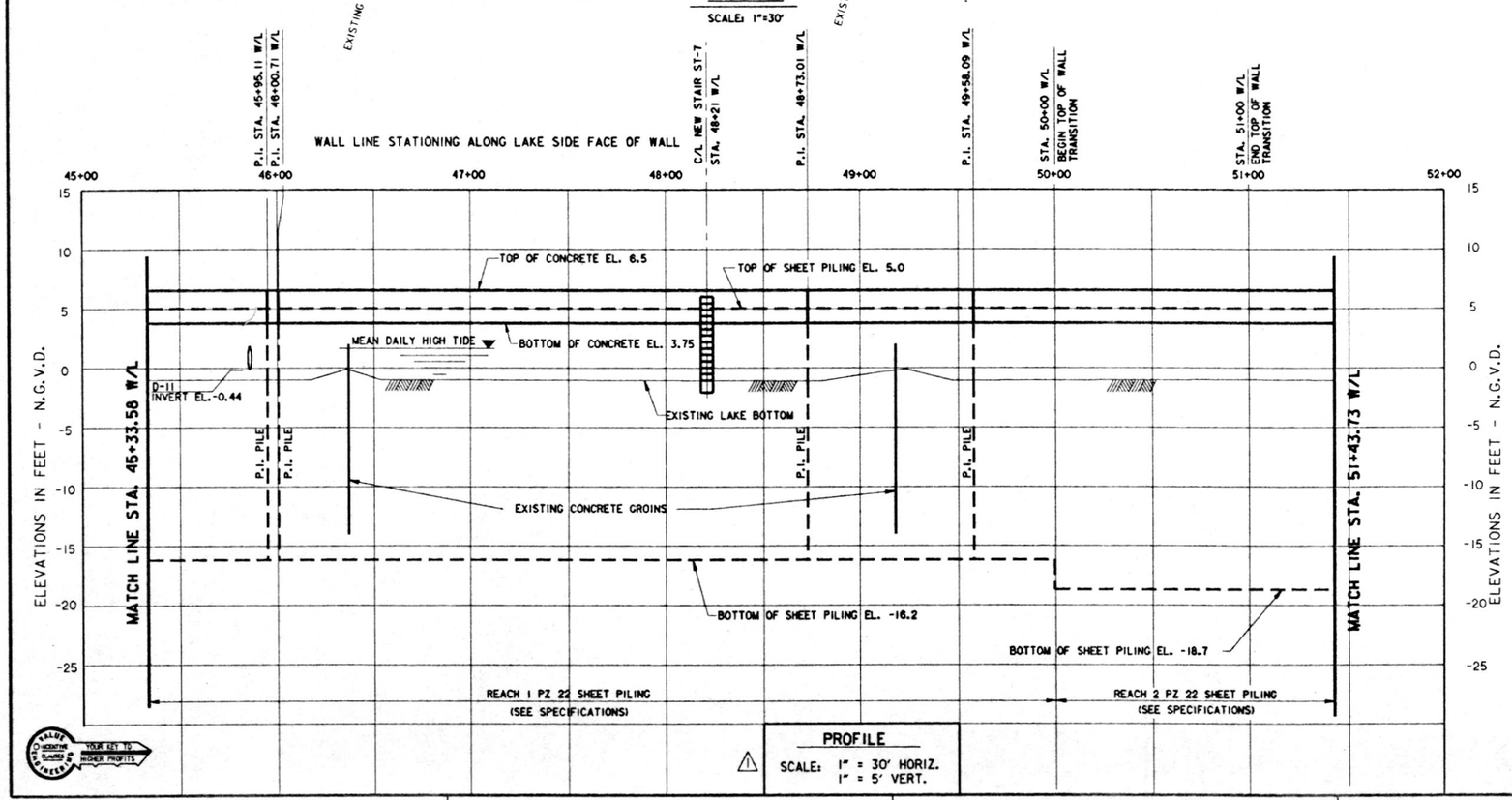
YOUR KEY TO HIGHER PROFITS

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

WALL LINE DATA

	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
41	138+52.00	108.17	RT.	45+33.58
42	139+13.51	106.80	RT.	45+95.11
43	139+13.66	112.40	RT.	46+00.71
44	141+85.90	106.89	RT.	48+73.01
45	142+70.70	99.90	RT.	49+58.09
46	144+48.00	44.90	RT.	51+43.73

CONSTRUCTION SERVITUDE

LAND SIDE

P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
139	138+52.0	73.4' RT.
140	139+18.1	71.5' RT.
141	141+49.0	72.3' RT.
142	142+24.6	63.8' RT.
143	141+94.8	38.7' LT.
144	142+26.0	38.7' LT.
145	142+54.9	60.5' RT.
146	142+90.3	56.5' RT.
147	144+48.0	0.0'

TEMPORARY CONSTRUCTION SERVITUDE

LAKE SIDE

P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
316	138+52.0	136.4' RT.
317	142+71.7	113.9' RT.
318	144+48.0	59.6' RT.

EXISTING FACILITIES

	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
**	AP-1	ASPHALT PATH	142+14 TO 142+44	CITY OF MANDEVILLE	TO REMAIN
	P-2	UTILITY POLE W/OP LINE	139+08.7	CLECO	OWNER RELOC.
	DL-7	24" CLAY PIPE DRAIN LINE	139+18.6	CITY OF MANDEVILLE	CONTR. RELOC.
	CS-3	CONCRETE SLAB	140+06.1	CITY OF MANDEVILLE	CONTR. REMOVE
	ST-7	CONCRETE STEPS	141+35.2	CITY OF MANDEVILLE	CONTR. REMOVE
	MS-2	METAL SIGN & POST	142+23.8	CITY OF MANDEVILLE	OWNER RELOC.
**	AP-1	ASPHALT PATH	143+85 TO 144+48	CITY OF MANDEVILLE	TO REMAIN

** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING AND BOTTOM OF WALL IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

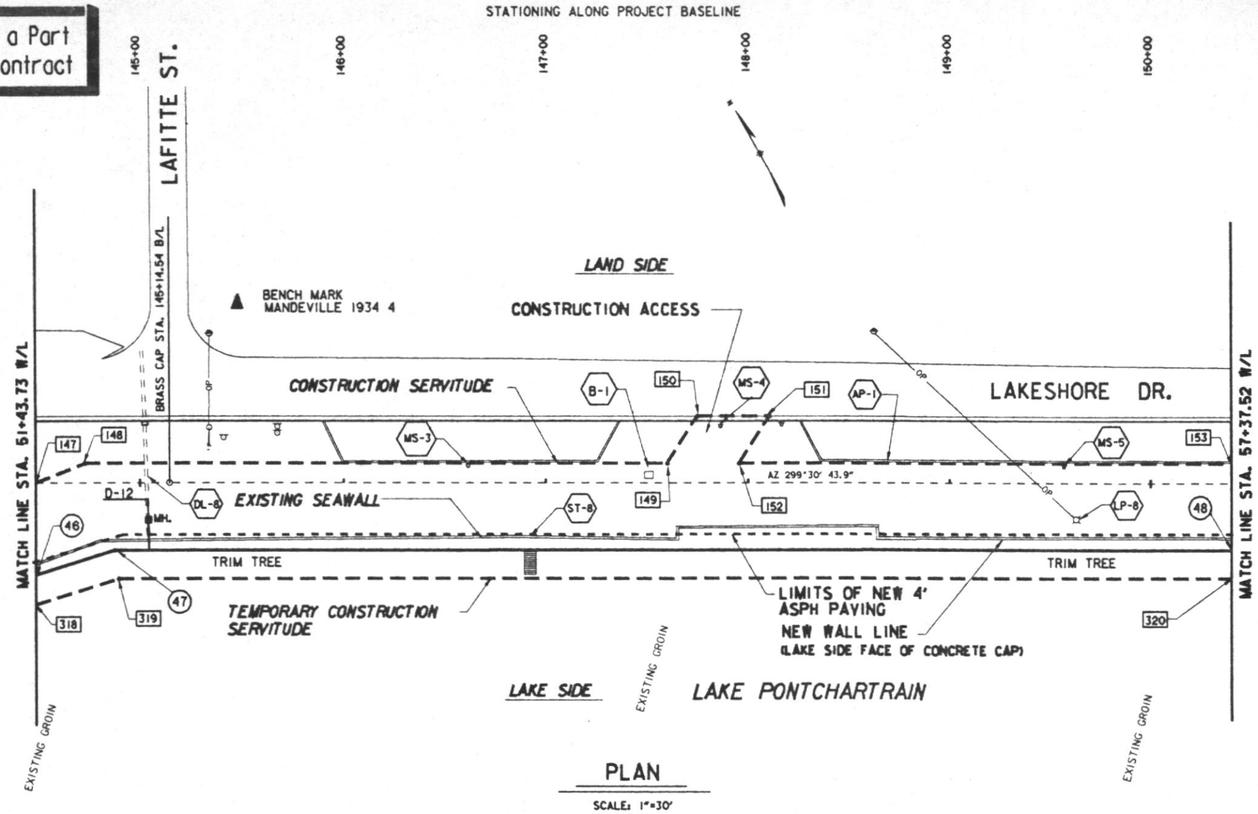
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE
STA. 45+33.58 W/L TO STA. 51+43.73 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B	CADD FILE: 40335-10.DGN		FILE NO. H-4-40335
CHECKED BY: T.P.H.			
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 10 OF 31

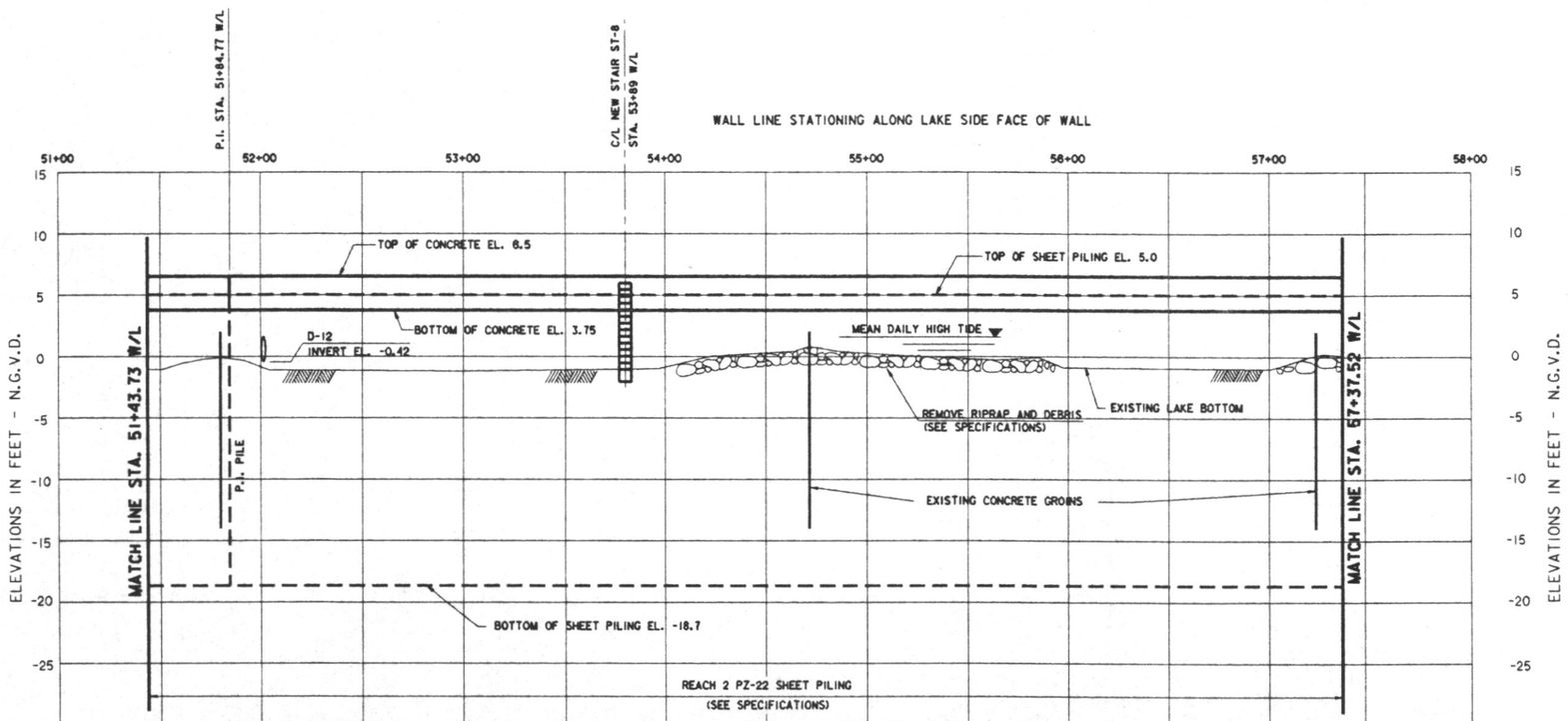
VALUE ENGINEERING YOUR KEY TO HIGHER PROFITS

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
46	144+48.00	44.90	RT.	51+43.73
47	144+87.25	32.90	RT.	51+84.77
48	150+40.00	32.41	RT.	57+37.52

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
147	144+48.0	0.0'	318	144+48.0	59.6' RT.
148	144+72.6	9.6' LT.	319	144+89.4	46.9' RT.
149	147+59.7	9.6' LT.	320	150+40.0	46.5' RT.
150	147+74.6	32.7' LT.			
151	148+10.2	32.7' LT.			
152	147+95.4	9.6' LT.			
153	150+40.0	9.6' LT.			

EXISTING FACILITIES					
	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
**	AP-1	ASPHALT PATH	144+48 TO 150+40	CITY OF MANDEVILLE	TO REMAIN
	DL-8	24" CLAY PIPE DRAIN LINE	145+04.1	CITY OF MANDEVILLE	CONTR. RELOC.
	MS-3	METAL SIGN & POST	146+60.9	CITY OF MANDEVILLE	OWNER RELOC.
	ST-8	CONCRETE STEPS	146+91.9	CITY OF MANDEVILLE	CONTR. REMOVE
*	B-1	WOODEN BENCH	147+51	CITY OF MANDEVILLE	TO REMAIN
	MS-4	METAL SIGN & POST	147+86.1	CITY OF MANDEVILLE	OWNER RELOC.
	MS-5	METAL SIGN & POST	149+56.7	CITY OF MANDEVILLE	OWNER RELOC.
	LP-8	LIGHT POLE W/OP LINE	149+62.8	CLECO	OWNER RELOC.

* CONTRACTOR NOT TO DISTRUB
** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF SHEET PILING AND BOTTOM OF WALL IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

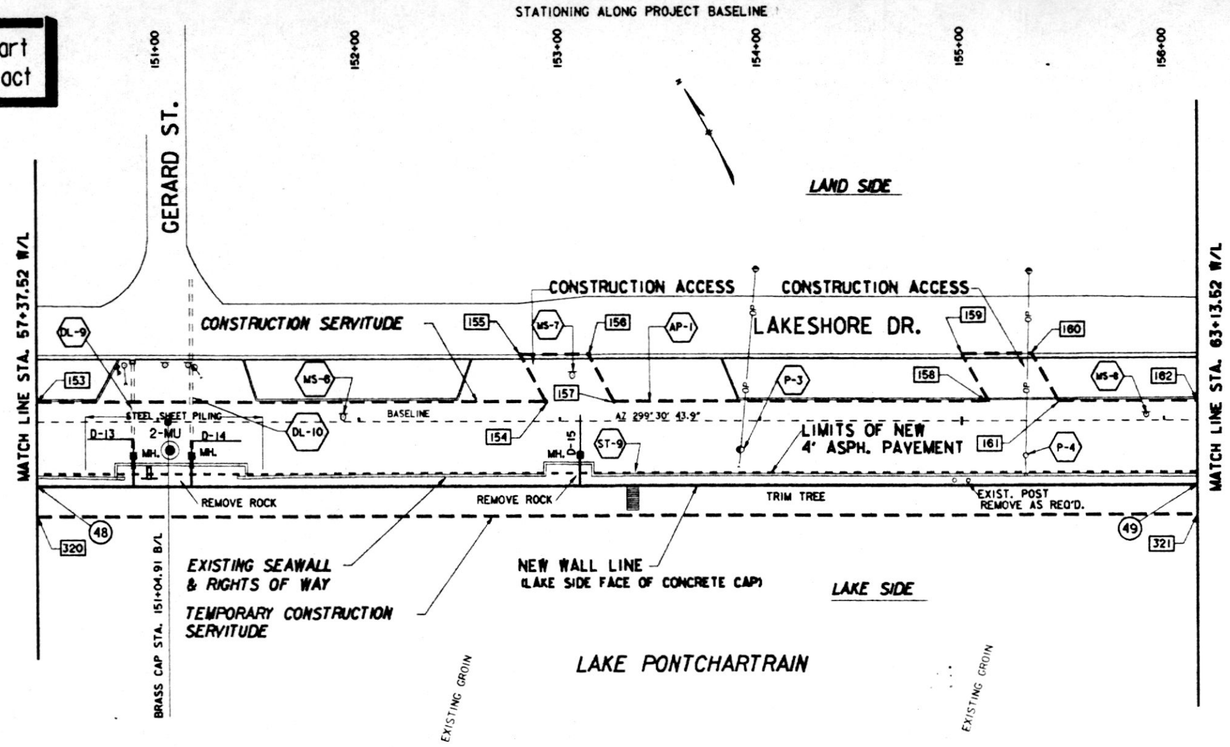
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE

STA. 51+43.73 W/L TO STA. 57+37.52 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			FILE NO. H-4-40335
CHECKED BY: T.P.H.	CADD FILE: 40335-11.DGN		
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 11 OF 30

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
48	150+40.00	32.41	RT.	57+37.52
49	156+16.00	31.91	RT.	63+13.52

CONSTRUCTION SEVRITUDE			TEMPORARY CONSTRUCTION SEVRITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
153	150+40.0	9.6' LT.	320	150+40.0	46.5' RT.
154	152+92.9	9.6' LT.	321	156+16.0	46.1' RT.
155	152+80.1	32.6' LT.			
156	153+14.5	32.6' LT.			
157	153+27.2	9.6' LT.			
158	155+13.4	9.6' LT.			
159	155+00.0	32.7' LT.			
160	155+34.7	32.7' LT.			
161	155+48.1	9.6' LT.			
162	156+16.0	9.6' LT.			

EXISTING FACILITIES					
	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
**	AP-1	ASPHALT PATH	150+40 TO 156+16	CITY OF MANDEVILLE	TO REMAIN
	DL-9	24"CLAY PIPE DRAIN LINE	150+87.5	CITY OF MANDEVILLE	CONTR. RELOC.
	DL-10	24"CLAY PIPE DRAIN LINE	151+16.8	CITY OF MANDEVILLE	CONTR. RELOC.
	MS-6	METAL SIGN & POST	151+92.1	CITY OF MANDEVILLE	OWNER RELOC.
	MS-7	METAL SIGN & POST	153+06.1	CITY OF MANDEVILLE	OWNER RELOC.
	ST-9	CONCRETE STEPS	153+36.3	CITY OF MANDEVILLE	CONTR. REMOVE
	P-3	UTILITY POLE & GUY WIRE W/OP LINE	153+90.1	CLECO	OWNER RELOC.
	P-4	UTILITY POLE & GUY WIRE W/OP LINE	155+31.7	CLECO	OWNER RELOC.
	MS-8	METAL SIGN & POST	155+91	CITY OF MANDEVILLE	OWNER RELOC.

** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

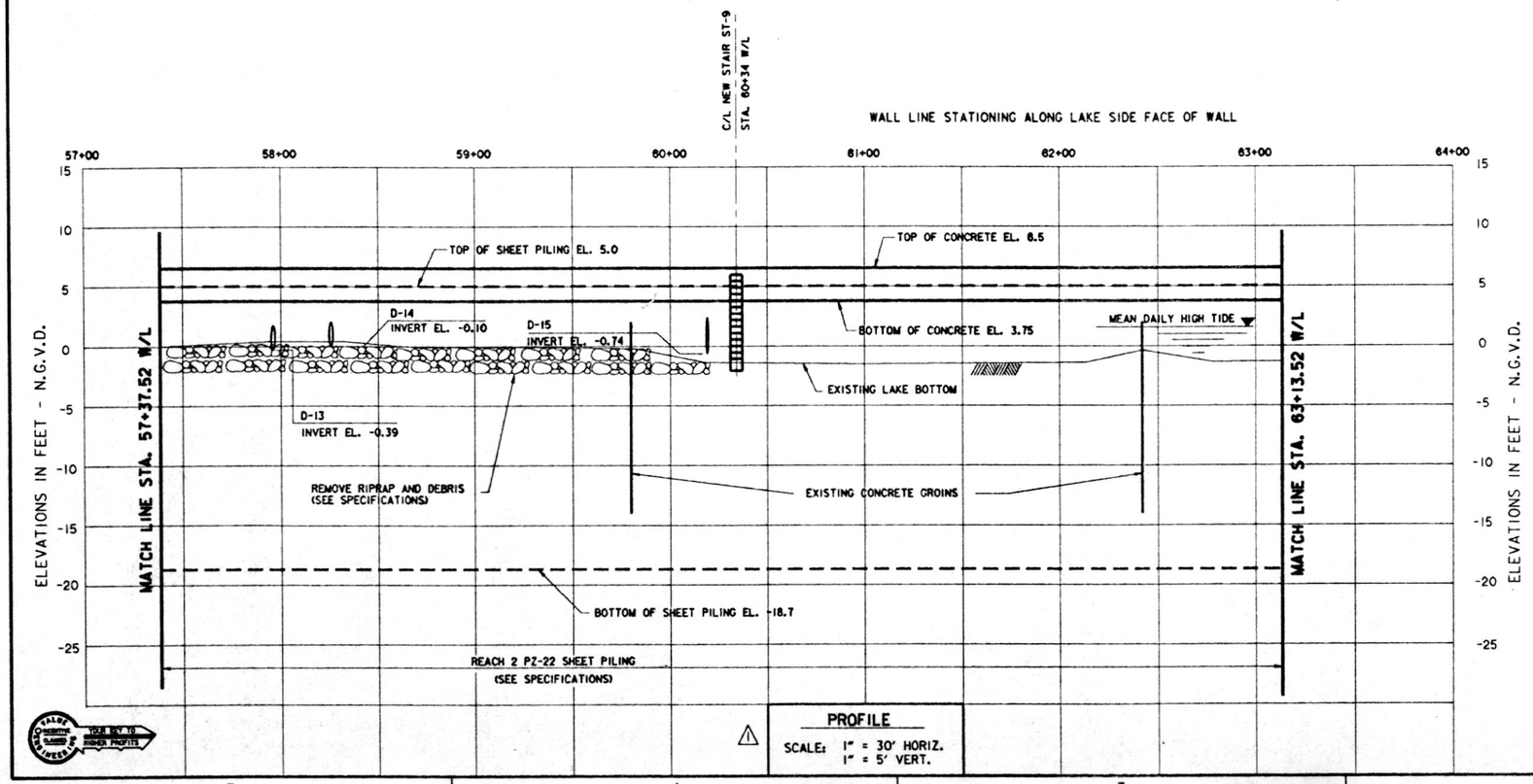
1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS SEE DWG. 30
8. FOR LAKE HYDROGRAPH SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF SHEET PILING AND BOTTOM OF WALL IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

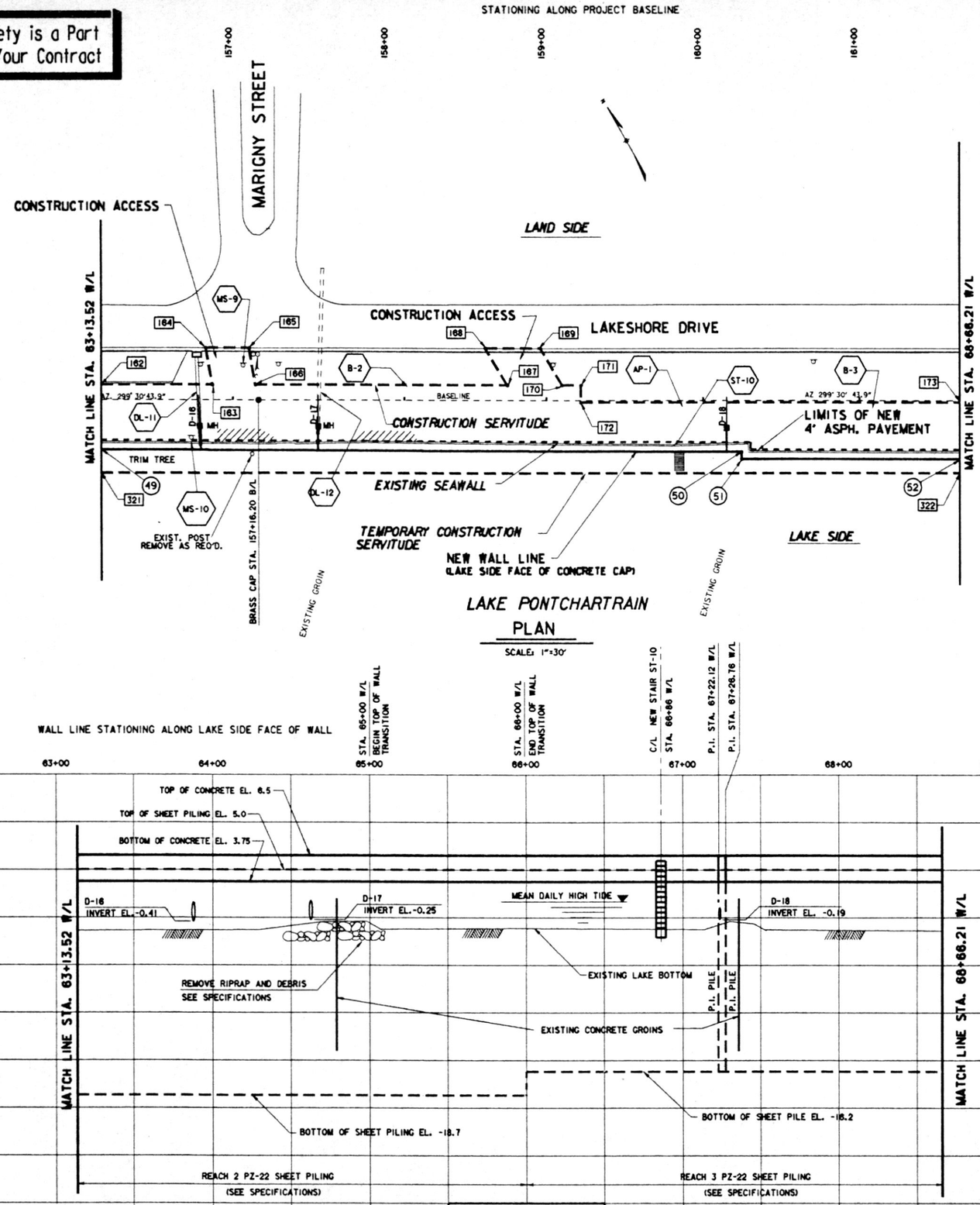
PLAN AND PROFILE

STA. 57+37.52 W/L TO STA. 63+13.52 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B	CADD FILE: 40335-12.DGN		FILE NO. H-4-40335
CHECKED BY: T.P.H.			
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 12 OF 31

C·A·D

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
49	156 + 16.00	31.91	RT.	63 + 13.52
50	160 + 24.00	32.16	RT.	67 + 22.12
51	160 + 24.55	36.80	RT.	67 + 26.76
52	161 + 64.00	36.91	RT.	68 + 66.21

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
162	156+16.0	9.6' LT.	321	156+16.0	46.1' RT.
163	156+86.7	9.6' LT.	322	161+64.0	45.7' RT.
164	156+82.6	32.9' LT.			
165	157+10.2	32.9' LT.			
166	157+14.2	9.6' LT.			
167	158+75.0	9.6' LT.			
168	158+60.9	32.9' LT.			
169	158+96.0	32.9' LT.			
170	159+10.1	9.6' LT.			
171	159+22.1	9.6' LT.			
172	159+22.1	0.0'			
173	161+64.0	0.0'			

	EXISTING FACILITIES				
	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
**	AP-1	ASPHALT PATH	156+16 TO 161+64	CITY OF MANDEVILLE	TO REMAIN
*	DL-11	24" CLAY PIPE DRAIN LINE	156+79.4	CITY OF MANDEVILLE	CONTR. RELOC.
	MS-9	METAL SIGN & POST	157+06.3	CITY OF MANDEVILLE	OWNER RELOC.
	MS-10	METAL SIGN & POST	156+73.6	CITY OF MANDEVILLE	OWNER RELOC.
*	DL-12	24" CLAY PIPE DRAIN LINE	157+54	CITY OF MANDEVILLE	CONTR. RELOC.
*	B-2	WOODEN BENCH	158+11	CITY OF MANDEVILLE	TO REMAIN
	ST-10	CONCRETE STEPS	159+84.3	CITY OF MANDEVILLE	CONTR. RELOC.
*	B-3	WOODEN BENCH	161+09	CITY OF MANDEVILLE	TO REMAIN

* CONTRACTOR NOT TO DISTURB

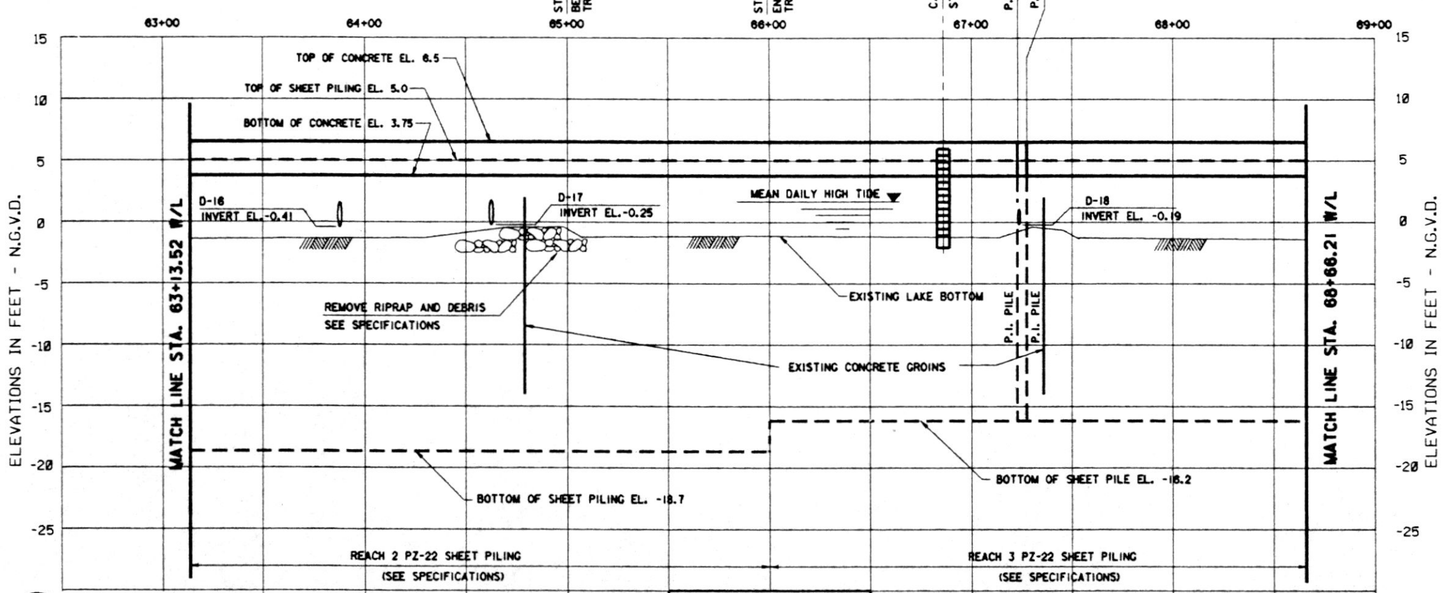
** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING AND BOTTOM OF WALL IN PROFILE; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

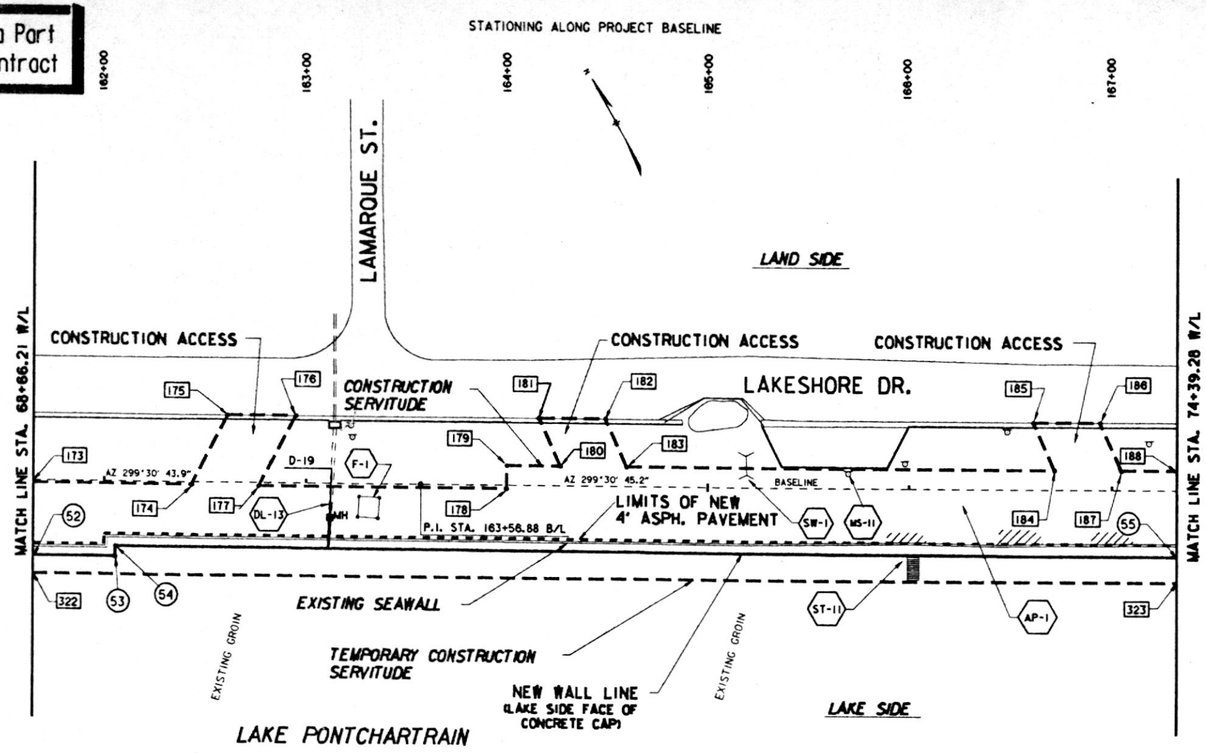
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE

STA. 63+13.52 W/L TO STA. 68+66.21 W/L

DESIGNED BY: R.W.Y. DRAWN BY: J.S.B. CHECKED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
	CADD FILE: 40335-13.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 13 OF 31

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
52	161 + 64.00	36.91	RT.	68 + 66.21
53	162 + 05.64	36.95	RT.	69 + 07.85
54	162 + 05.71	31.82	RT.	69 + 12.98
55	167 + 32.00	32.66	RT.	74 + 39.28 △

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
173	161+64.0	0.0'	322	161+64.0	45.7' RT.
174	162+43.6	0.0'	323	167+32.0	45.3' RT.
175	162+60.9	32.9' LT.			
176	162+94.8	32.9' LT.			
177	162+77.5	0.0'			
178	164+00.0	0.0'			
179	164+00.0	9.6' LT.			
180	164+26.9	9.6' LT.			
181	164+15.8	32.9' LT.			
182	164+49.2	32.9' LT.			
183	164+59.7	9.6' LT.			
184	166+71.6	9.6' LT.			
185	166+61.1	32.9' LT.			
186	166+94.0	32.9' LT.			
187	167+04.5	9.6' LT.			
188	167+32.0	9.6' LT.			

EXISTING FACILITIES					
	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
**	AP-1	ASPHALT PATH	161+64 TO 167+32	CITY OF MANDEVILLE	TO REMAIN
	DL-13	18" CLAY PIPE DRAIN LINE	163+11.2	CITY OF MANDEVILLE	CONTR. RELOC.
	F-1	SPLIT RAIL FENCE	163+31.1	CITY OF MANDEVILLE	NOT AFFECTED
	SW-1	SWING	165+18.7	CITY OF MANDEVILLE	OWNER RELOC.
	MS-11	METAL SIGN & POST	165+69.4	CITY OF MANDEVILLE	OWNER RELOC.
	ST-11	CONCRETE STEPS	166+02.4	CITY OF MANDEVILLE	CONTR. REMOVE

** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

* CONTRACTOR NOT TO DISTURB

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

NOTES:

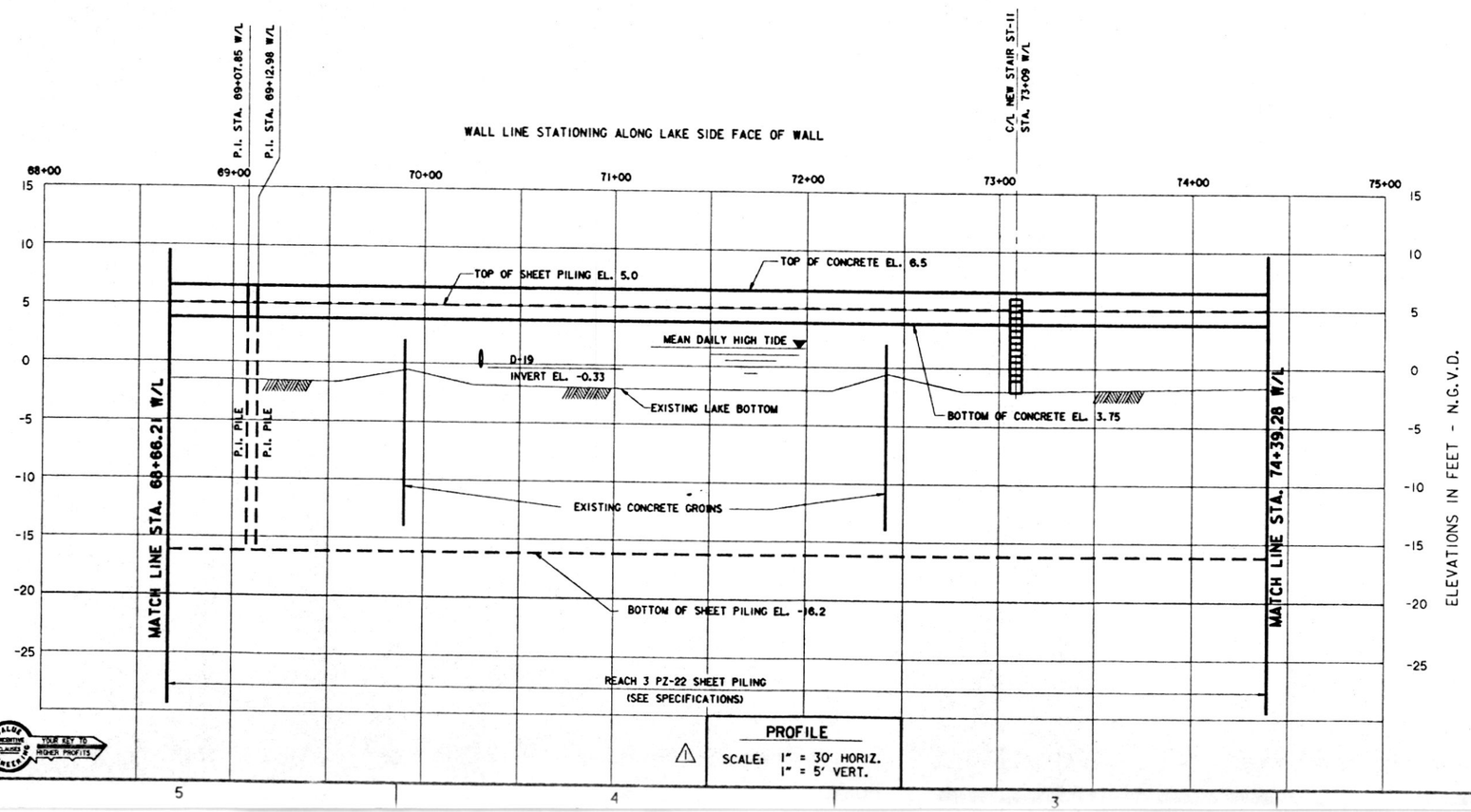
1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED TOP OF WALL AND SHEET PILING IN PROFILE AND B/L DIST. IN W/L DATA SHED.; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

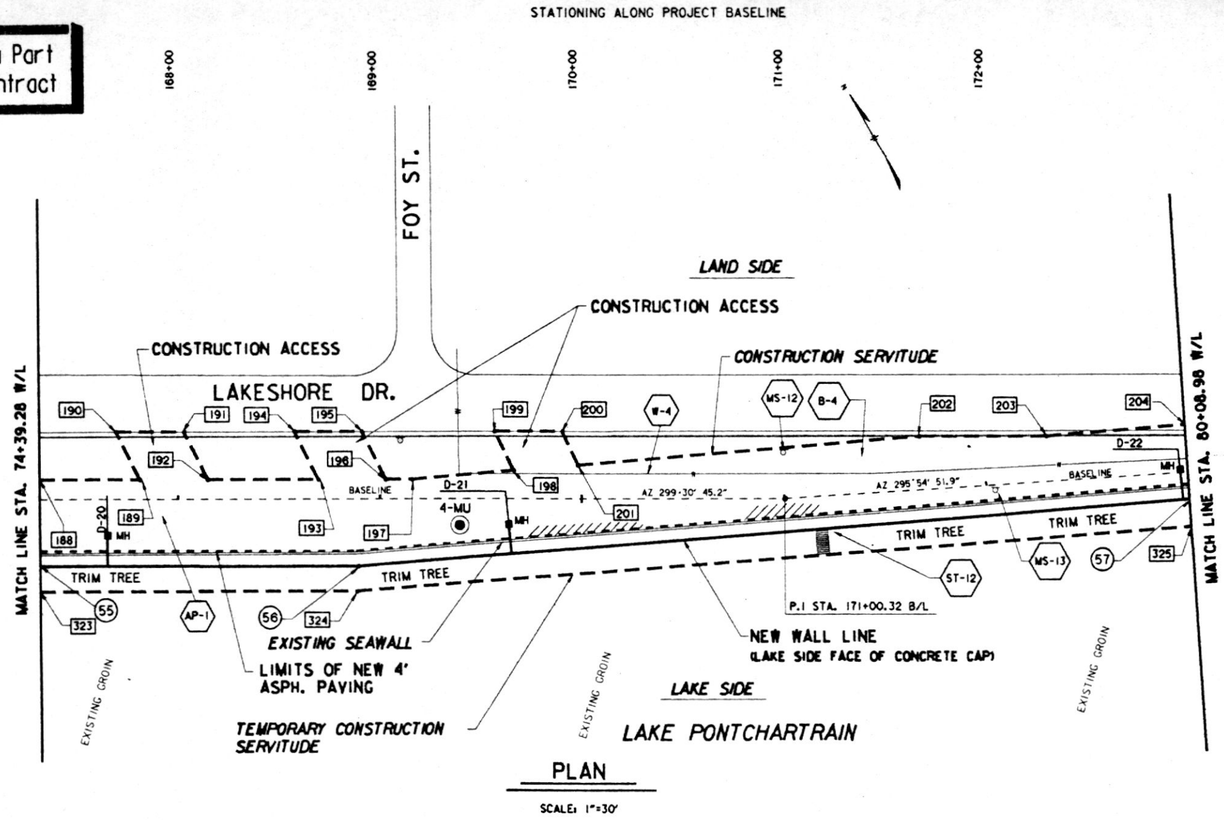
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE

STA. 68+66.21 W/L TO STA. 74+39.28 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			
CHECKED BY: T.P.H.	CADD FILE: 40335-14.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. (DESIGN ENGINEER)	SOLICITATION NO. DACW29-94-B-0024		DWG. 14 OF 31

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA				
P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION
55	167 + 32.00	32.66	RT.	74 + 39.28
56	168 + 88.53	32.91	RT.	75 + 95.81
57	173 + 00.00	13.15	RT.	80 + 08.98 △1

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
188	167+32.0	9.6' LT.	323	167+32.0	45.3' RT.
189	167+81.2	9.6' LT.	324	168+88.2	45.2' RT.
190	167+69.6	33.0' LT.	325	172+98.7	26.6' RT.
191	168+03.1	33.0' LT.			
192	168+14.7	9.6' LT.			
193	168+69.2	9.6' LT.			
194	168+57.6	33.3' LT.			
195	168+91.0	33.1' LT.			
196	169+02.7	9.6' LT.			
197	169+15.7	9.6' LT.			
198	169+66.1	13.8' LT.			
199	169+56.8	33.1' LT.			
200	169+90.2	33.0' LT.			
201	169+98.1	16.5' LT.			
202	171+68.1	26.3' LT.			
203	172+31.3	22.3' LT.			
204	173+01.9	23.4' LT.			

EXISTING FACILITIES				
ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
** AP-1	ASPHALT PATH	167+32 TO 169+16	CITY OF MANDEVILLE	TO REMAIN
* W-4	8" WATER MAIN	169+47.5 TO 173+00	CITY OF MANDEVILLE	NOT AFFECTED
MS-12	METAL SIGN & POST	170+99.5	CITY OF MANDEVILLE	OWNER RELOC.
ST-12	CONCRETE STEPS	171+17.3	CITY OF MANDEVILLE	CONTR. REMOVE
** B-4	CONCRETE SLAB & BENCH	171+37.5	CITY OF MANDEVILLE	TO REMAIN
MS-13	METAL SIGN & POST	172+04.6	CITY OF MANDEVILLE	OWNER RELOC.

* CONTRACTOR NOT TO DISTURB

** CONTRACTOR TO REPAIR CONSTRUCTION DAMAGE

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

NOTES:

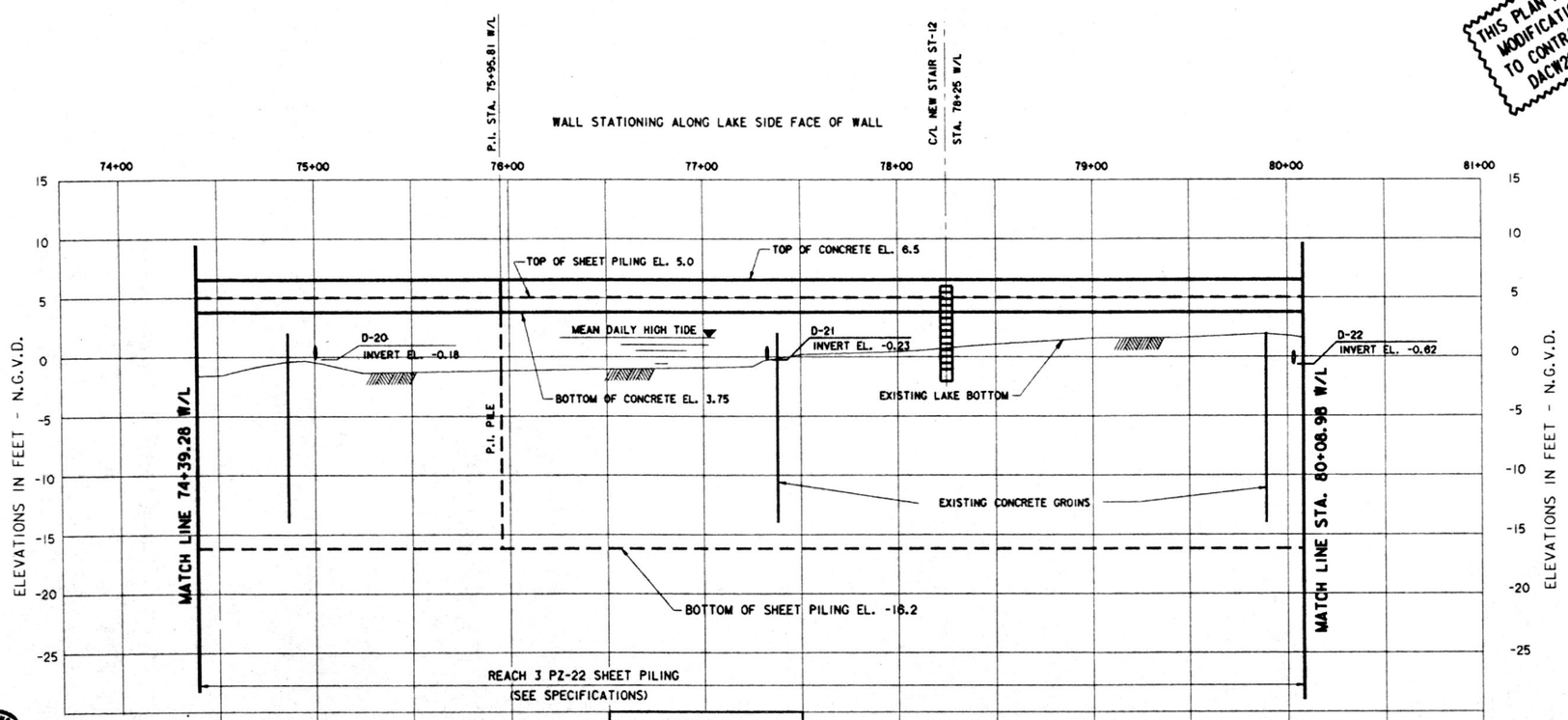
1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

SYMBOL	DESCRIPTION	DATE	APPROVED
△1	REVISED TOP OF WALL AND SHEET PILING IN PROFILE AND W/L STATIONS MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

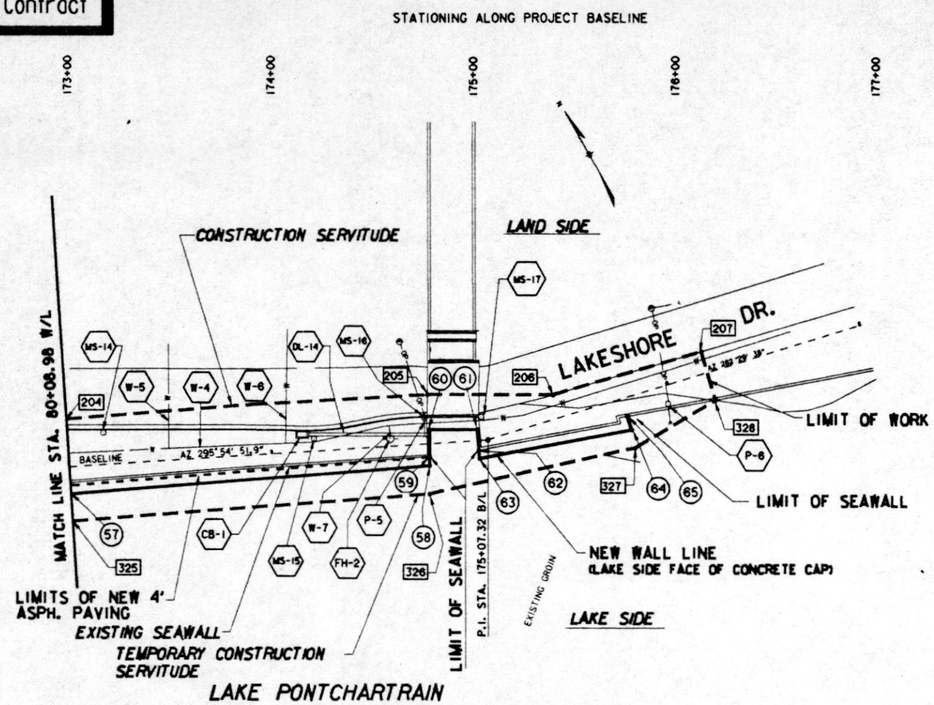
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

PLAN AND PROFILE

STA. 74+39.28 W/L TO STA. 80+08.98 W/L

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B			FILE NO. H-4-40335
CHECKED BY: T.P.H.	CADD FILE: 40335-15.DGN		
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 15 OF 31

Safety is a Part of Your Contract



PLAN

SCALE: 1"=30'

WALL LINE DATA

	P.I. NO.	BASELINE STATION	DISTANCE FROM BASELINE		WALL LINE STATION	
	57	173 + 00.00	13.15	RT.	80 + 08.98	△
	58	174 + 77.37	10.41	RT.	81 + 86.37	△
*	59	174 + 77.61	6.41	RT.	81 + 90.38	△
	60	174 + 78.41	6.90	LT.	82 + 03.71	△
	61	175 + 02.13	5.63	LT.	82 + 27.47	△
*	62	175 + 02.24	4.68	RT.	82 + 37.79	△
	63	175 + 02.47	8.70	RT.	82 + 41.80	△
	64	175 + 76.43	15.94	RT.	83 + 18.13	△
	65	175 + 76.42	8.98	RT.	83 + 25.09	△

* LIMIT OF NEW SEAWALL

CONSTRUCTION SERVITUDE			TEMPORARY CONSTRUCTION SERVITUDE		
LAND SIDE			LAKE SIDE		
P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L	P.I. NO.	B/L STATION	DISTANCE MEASURED FROM B/L
204	173+01.9	23.4' LT.	325	172+98.7	26.6' RT.
205	174+78.5	24.2' LT.	326	174+76.5	24.4' RT.
206	175+44.5	11.8' LT.	327	175+75.5	24.8' RT.
207	176+20.7	10.8' LT.	328	176+20.5	14.0' RT.

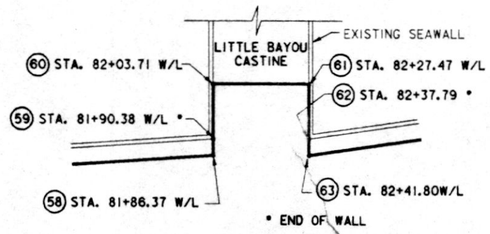
EXISTING FACILITIES

	ITEM	DESCRIPTION	B/L STATION	OWNER	DISPOSITION
*	W-4	8" WATER MAIN	173+00 TO 176+20.7	CITY OF MANDEVILLE	NOT AFFECTED
	MS-14	METAL SIGN & POST	173+17.9	CITY OF MANDEVILLE	OWNER RELOC.
*	W-5	2" WATER LINE	173+50.4	CITY OF MANDEVILLE	NOT AFFECTED
*	W-6	2" WATER LINE	174+08.5	CITY OF MANDEVILLE	NOT AFFECTED
*	CB-1	CATCH BASIN	174+15.5	CITY OF MANDEVILLE	NOT AFFECTED
*	DL-14	18" RCP DRAIN LINE	174+18.5 TO 174+78.3	CITY OF MANDEVILLE	NOT AFFECTED
	MS-15	METAL SIGN & POST	174+21.1	CITY OF MANDEVILLE	OWNER RELOC.
*	W-7	2" WATER LINE	173+50.4	CITY OF MANDEVILLE	NOT AFFECTED
*	FH-2	FIRE HYDRANT	174+58.6	CITY OF MANDEVILLE	NOT AFFECTED
	MS-16	METAL SIGN & POST	174+75.9	CITY OF MANDEVILLE	OWNER RELOC.
	P-5	UTILITY POLE & GUY WIRE W/OP LINE	174+76.5	CITY OF MANDEVILLE	OWNER RELOC.
	MS-17	METAL SIGN & POST	175+04.2	CITY OF MANDEVILLE	OWNER RELOC.
	P-6	UTILITY POLE & GUY WIRE W/OP LINE	175+97.4	CITY OF MANDEVILLE	OWNER RELOC.

* CONTRACTOR NOT TO DISTURB

[000] DENOTES CONSTRUCTION SERVITUDE P.I. NUMBERS

(6) DENOTES WALL LINE P.I. NUMBERS



W/L STATIONING DETAIL

NOTES:

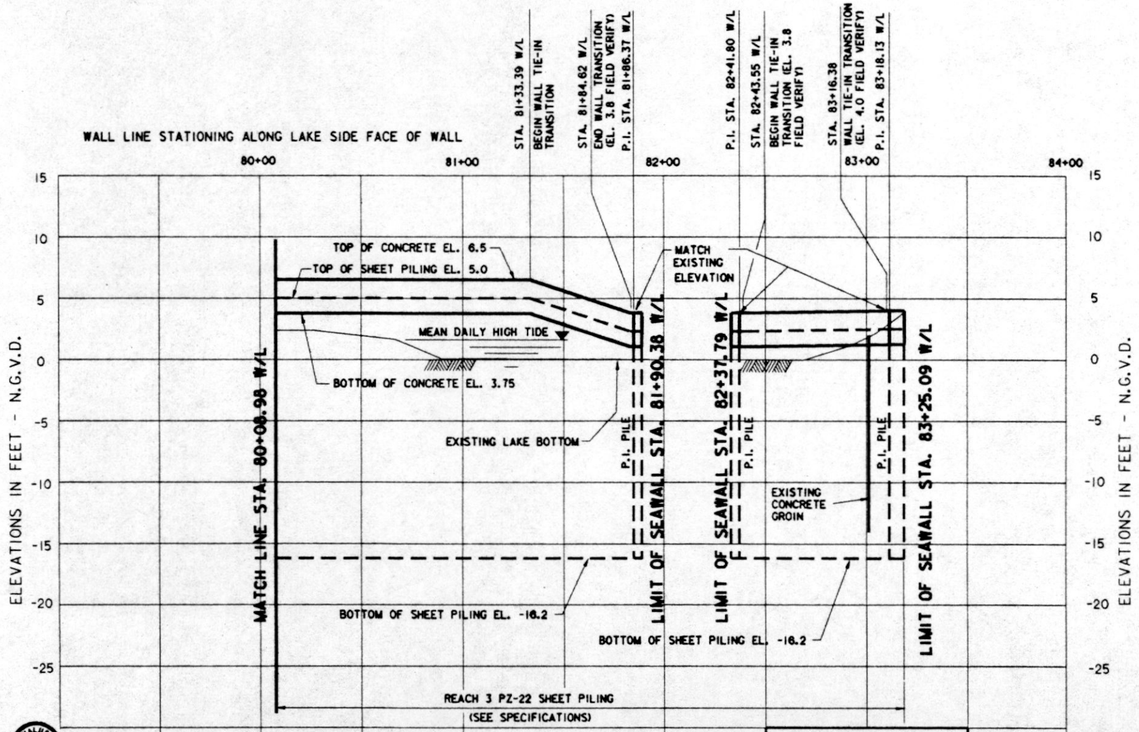
1. FOR GENERAL NOTES, SEE DWG. 2
2. FOR LEGEND, SEE DWG. 3
3. FOR GROIN MODIFICATIONS, SEE DWG. 24
4. FOR WALL TRANSITION DETAILS, SEE DWG. 25
5. FOR DRAIN DETAILS, SEE DWG. 26
6. FOR STAIR DETAILS, SEE DWG. 27
7. FOR SOIL BORING LOGS, SEE DWG. 30
8. FOR LAKE HYDROGRAPH, SEE DWG. 31
9. STAKES AND GUY WIRES AROUND SMALL TREES NOT SHOWN. CONTRACTOR TO MAINTAIN.
10. EXTENT OF RIPRAP ON LAKE BOTTOM AND DEBRIS BEHIND WALL MAY VARY FROM THAT SHOWN.

SCALE: 1" = 30'

30' 0 30' 60' 90' 120'

SCALE: 1" = 5'

5' 0 5' 10' 15' 20'



PROFILE

SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED TOP OF WALL AND SHEET PILING IN PROFILE AND W/L STATIONS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

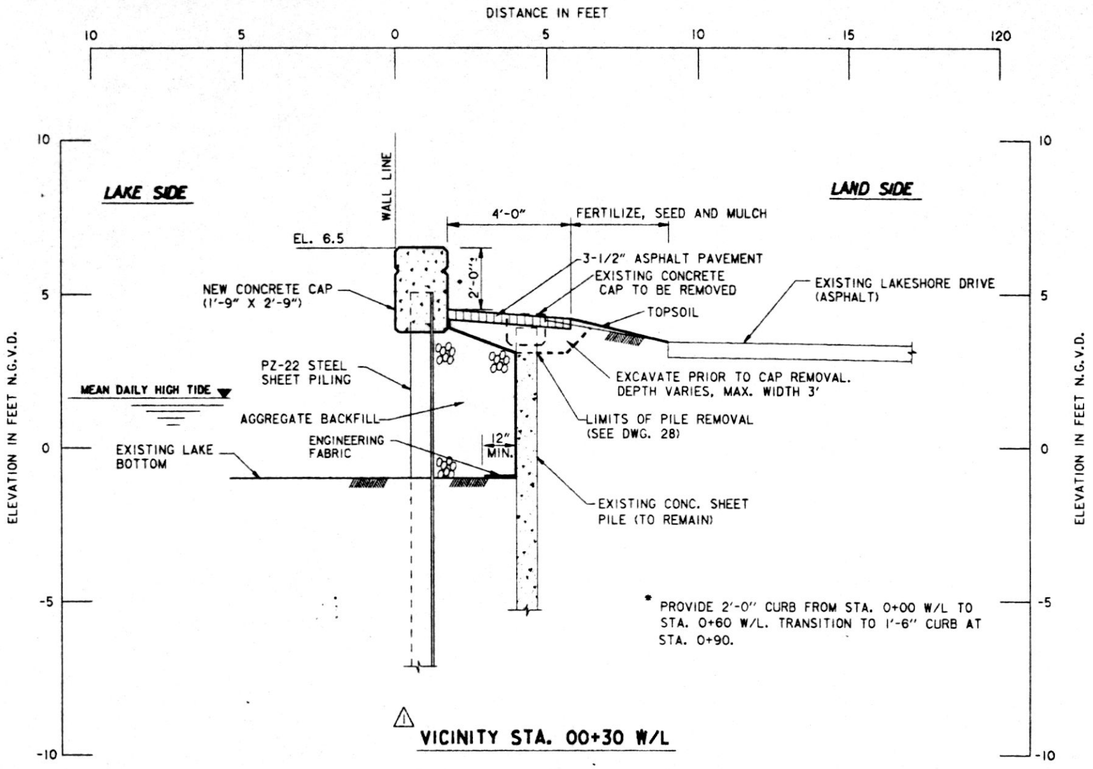
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

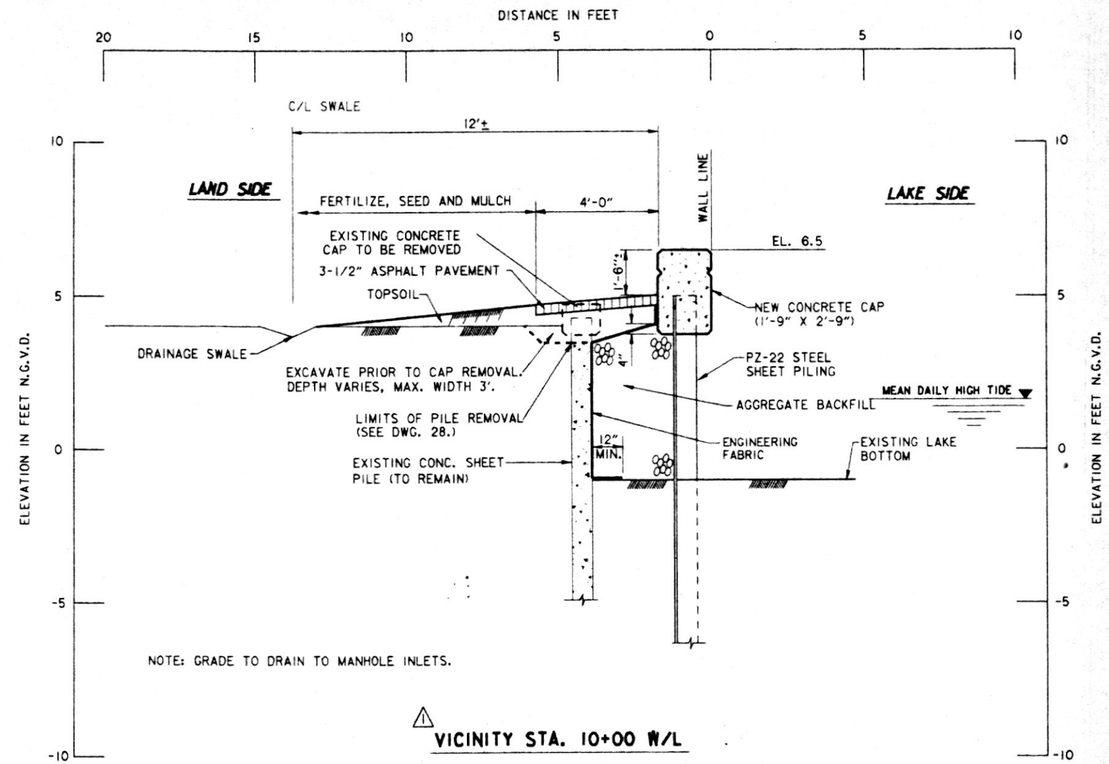
PLAN AND PROFILE

STA. 80+08.98 W/L TO STA. 83+25.09 W/L

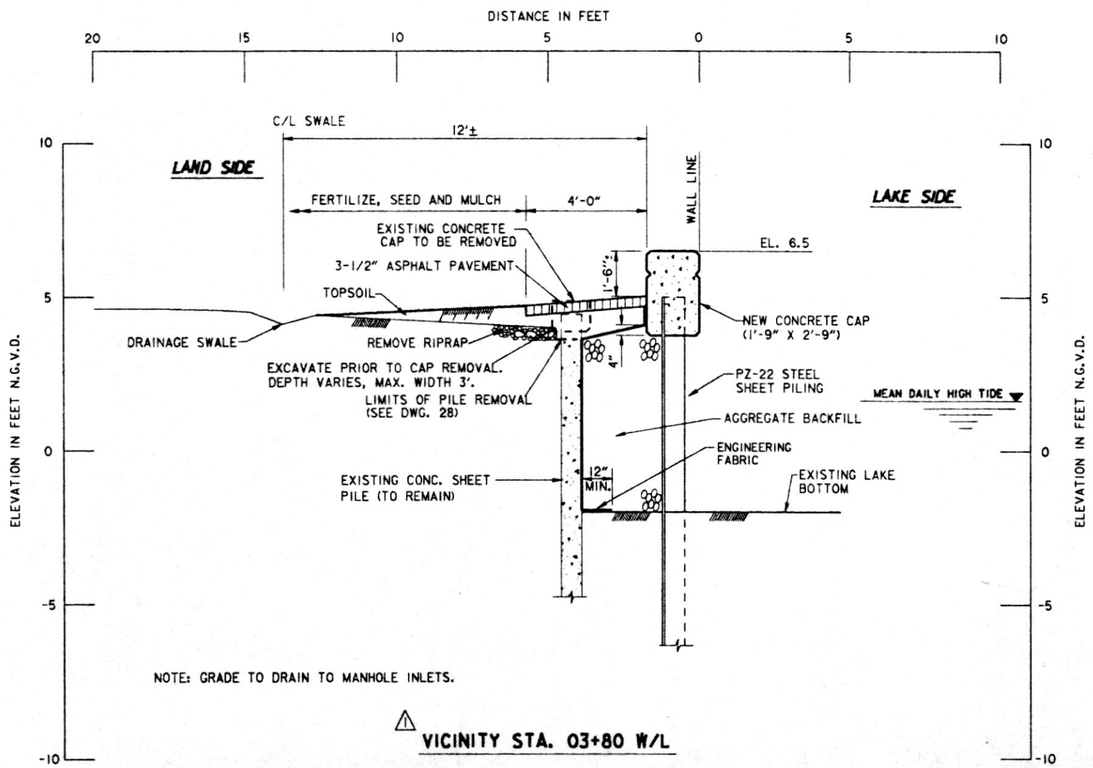
DESIGNED BY: R.W.Y. DRAWN BY: J.S.B CHECKED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 360	PLOT DATE: NOV. 1993
	CADD FILE: 40335-16.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 16 OF 31



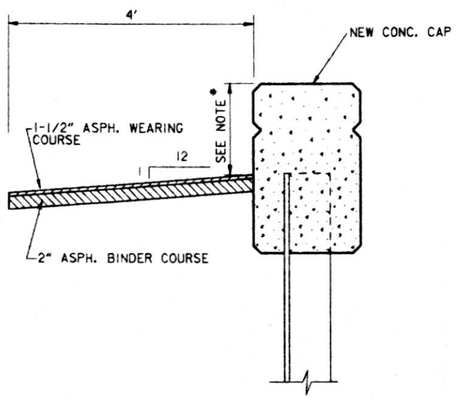
1 VICINITY STA. 00+30 W/L



1 VICINITY STA. 10+00 W/L



1 VICINITY STA. 03+80 W/L



1 TYPICAL ASPHALT PAVEMENT

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 2'

24" 0 2' 4' 6' 8'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN SECTIONS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL

ST. TAMMANY PARISH, LOUISIANA

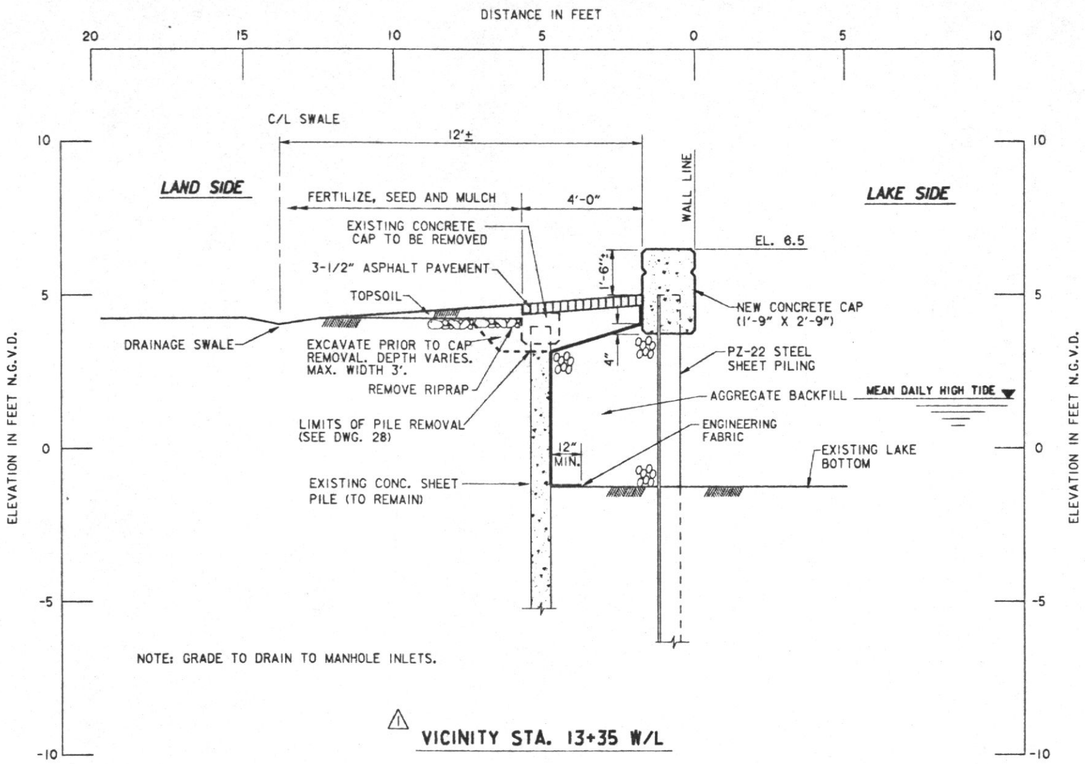
TYPICAL SECTIONS

STA. 00+30 W/L TO STA. 10+00 W/L

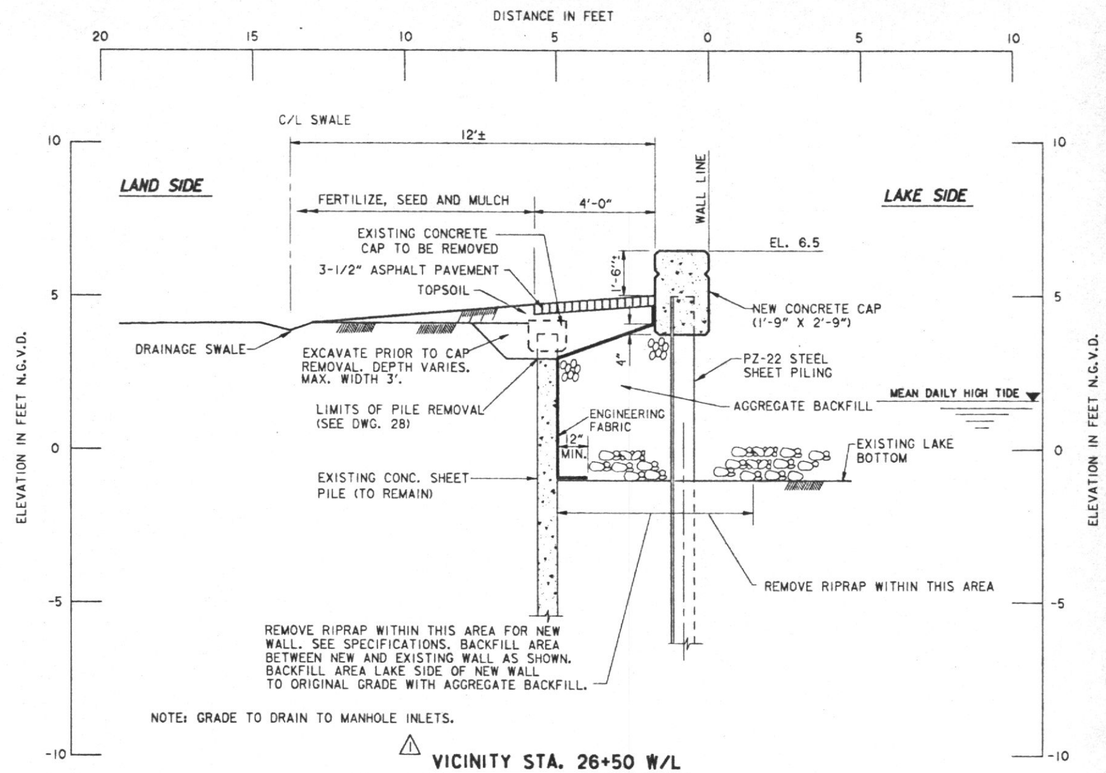
DESIGNED BY: T.P.H. DRAWN BY: S.F.S. CHECKED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 24	PLOT DATE: NOV. 1993
	CADD FILE: 40335-17.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 17 OF 31

Safety is a Part of Your Contract

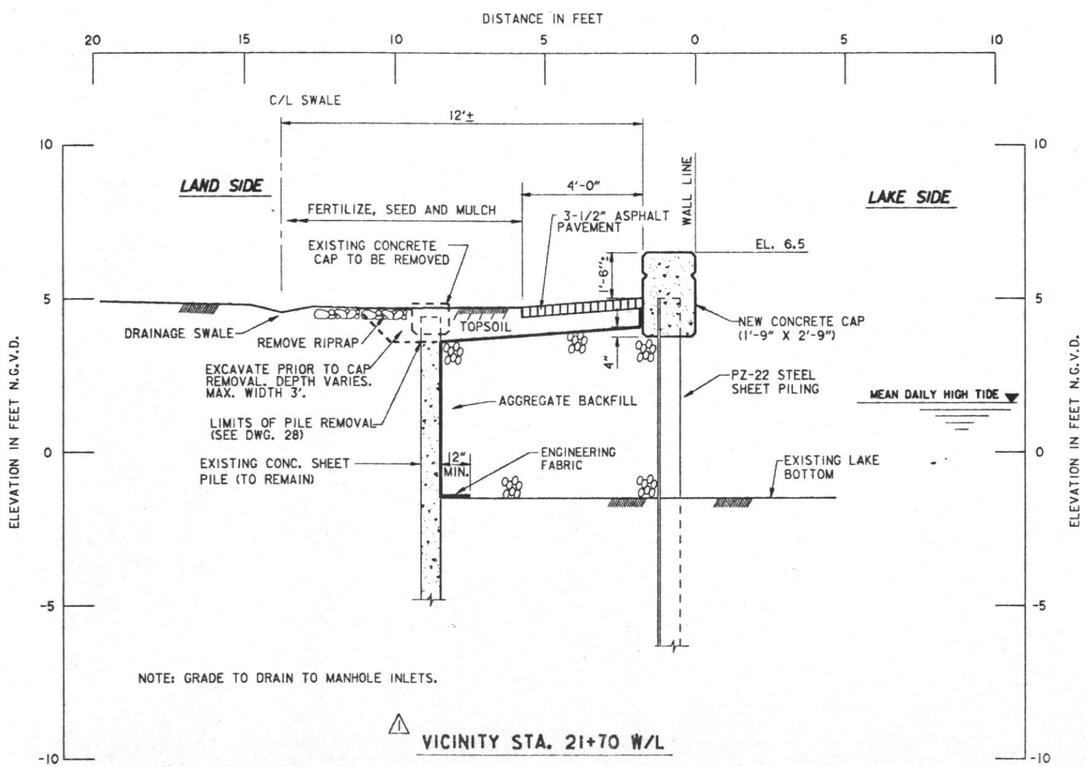
VALUE ENGINEERING ... YOUR BY TO HIGHER PROFITS



1 VICINITY STA. 13+35 W/L



1 VICINITY STA. 26+50 W/L



1 VICINITY STA. 21+70 W/L

SCALE: 1" = 2'

24" 0 2' 4' 6' 8'

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL AND SHEET PILING IN SECTIONS; MOD.	4-5-94	W.O.B.

REVISIONS

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

Safety is a Part of Your Contract

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.

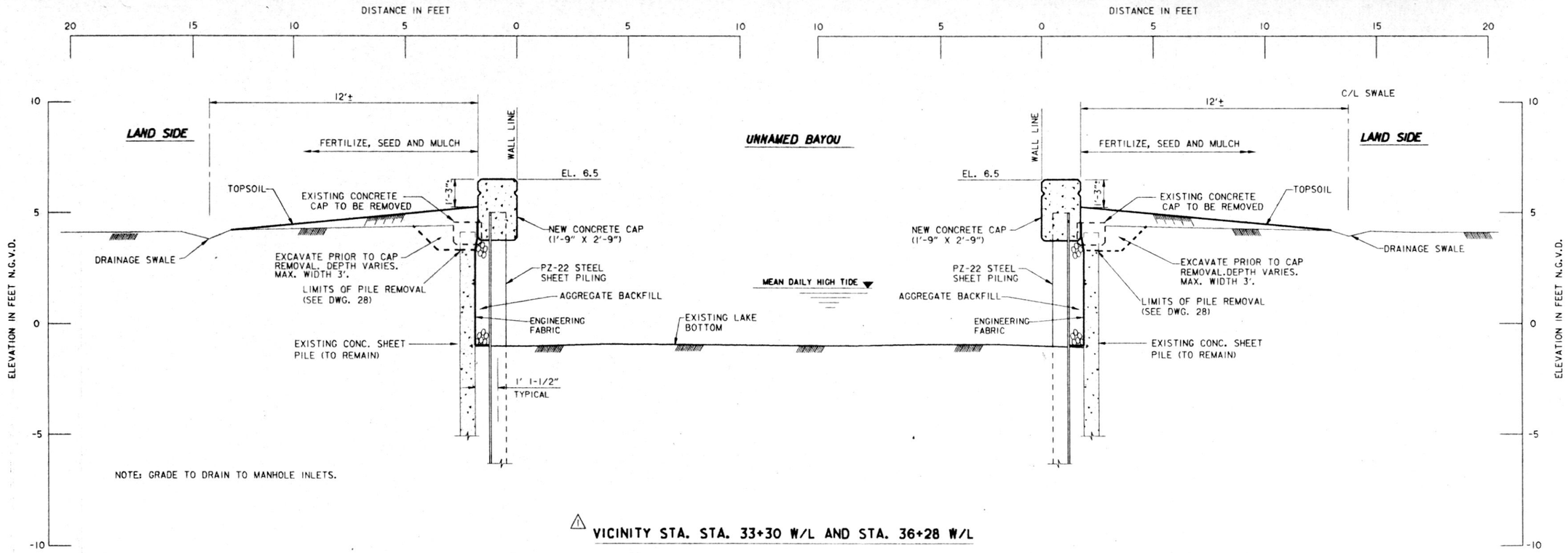
REPLACEMENT OF MANDEVILLE SEAWALL

ST. TAMMANY PARISH, LOUISIANA

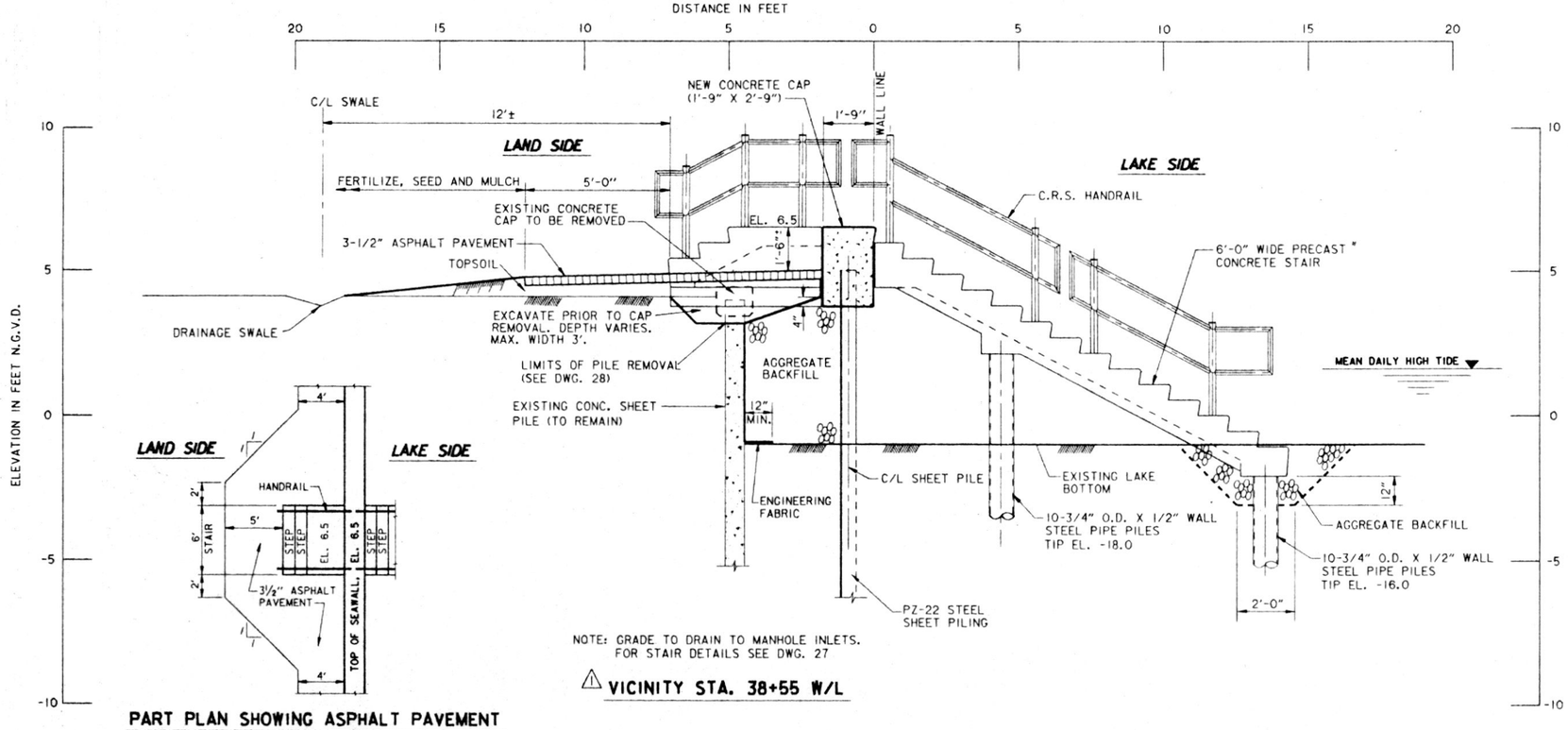
TYPICAL SECTIONS

STA. 13+35 W/L TO STA. 26+50 W/L

DESIGNED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 24	PLOT DATE: NOV. 1993
DRAWN BY: S.F.S.	CADD FILE: 40335-18.DGN		FILE NO. H-4-40335
CHECKED BY: R.W.Y.			
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 18 OF 31



⚠ VICINITY STA. STA. 33+30 W/L AND STA. 36+28 W/L



⚠ VICINITY STA. 38+55 W/L

PART PLAN SHOWING ASPHALT PAVEMENT CONFIGURATION AT STAIRS

SCALE: 1" = 5'

Safety is a Part of Your Contract

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 2'

SCALE: 1" = 5'

SYMBOL	DESCRIPTION	DATE	APPROVED
⚠	REVISED TOP OF WALL AND SHEET PILING IN SECTIONS AND STAIR DETAILS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

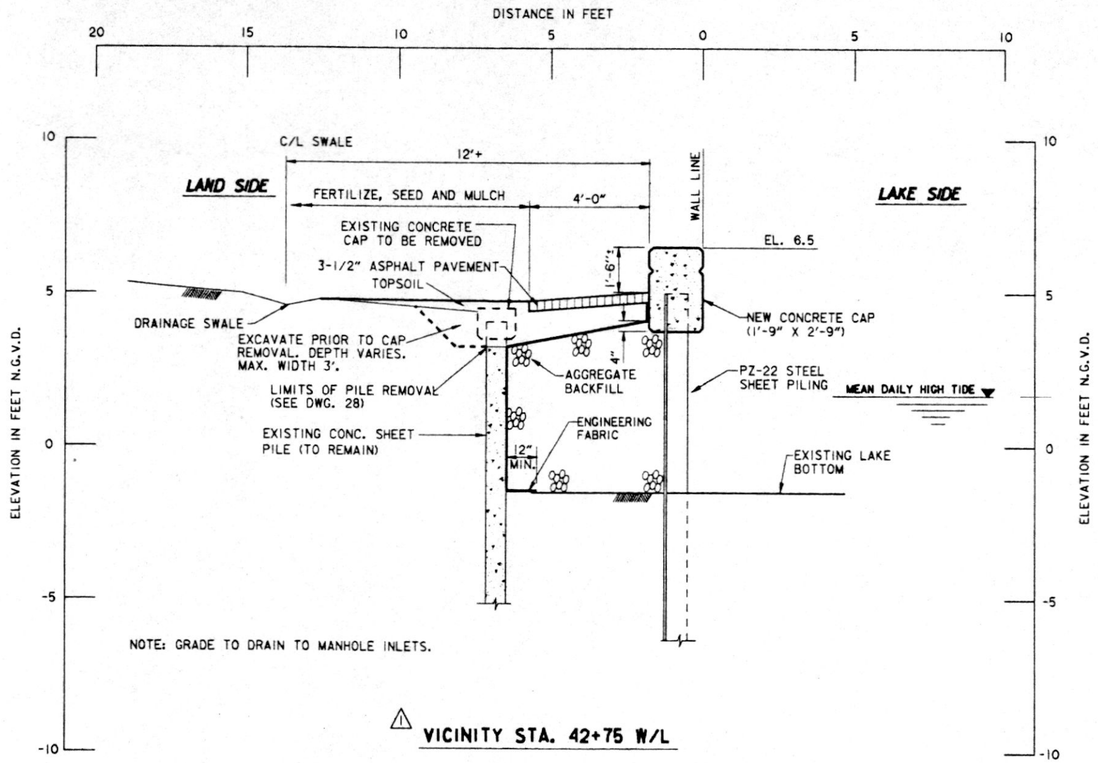
REPLACEMENT OF MANDEVILLE SEAWALL

ST. TAMMANY PARISH, LOUISIANA

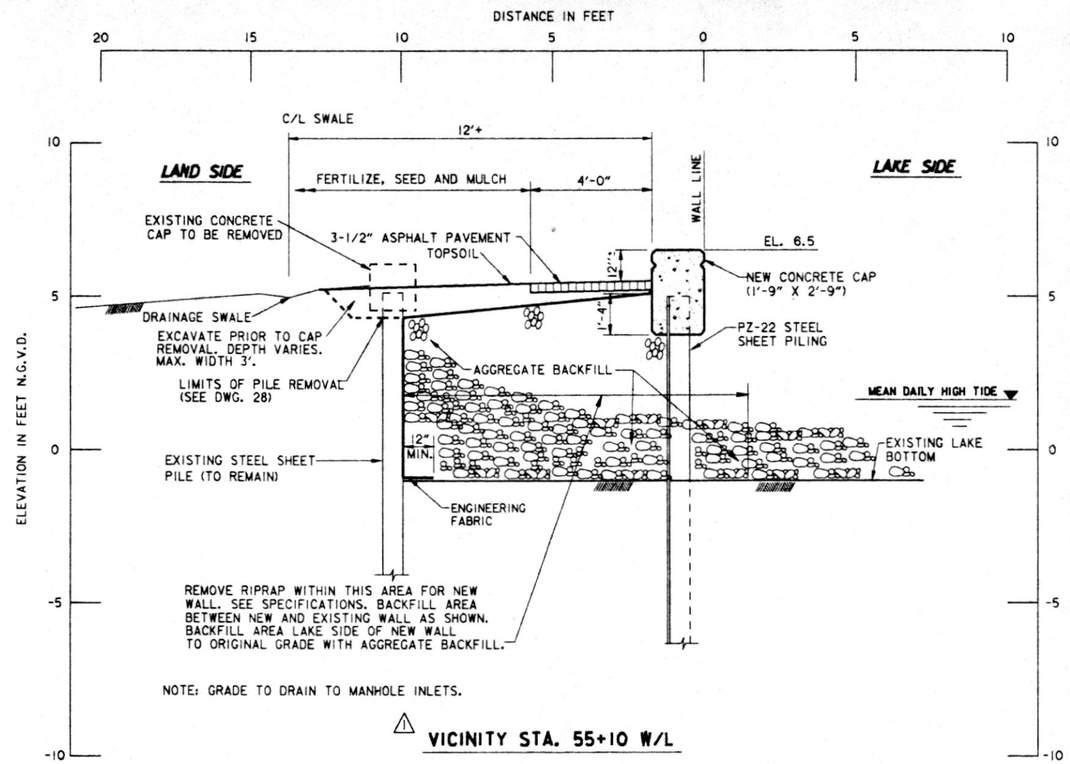
TYPICAL SECTIONS

STA. 33+30 W/L TO STA. 38+55 W/L

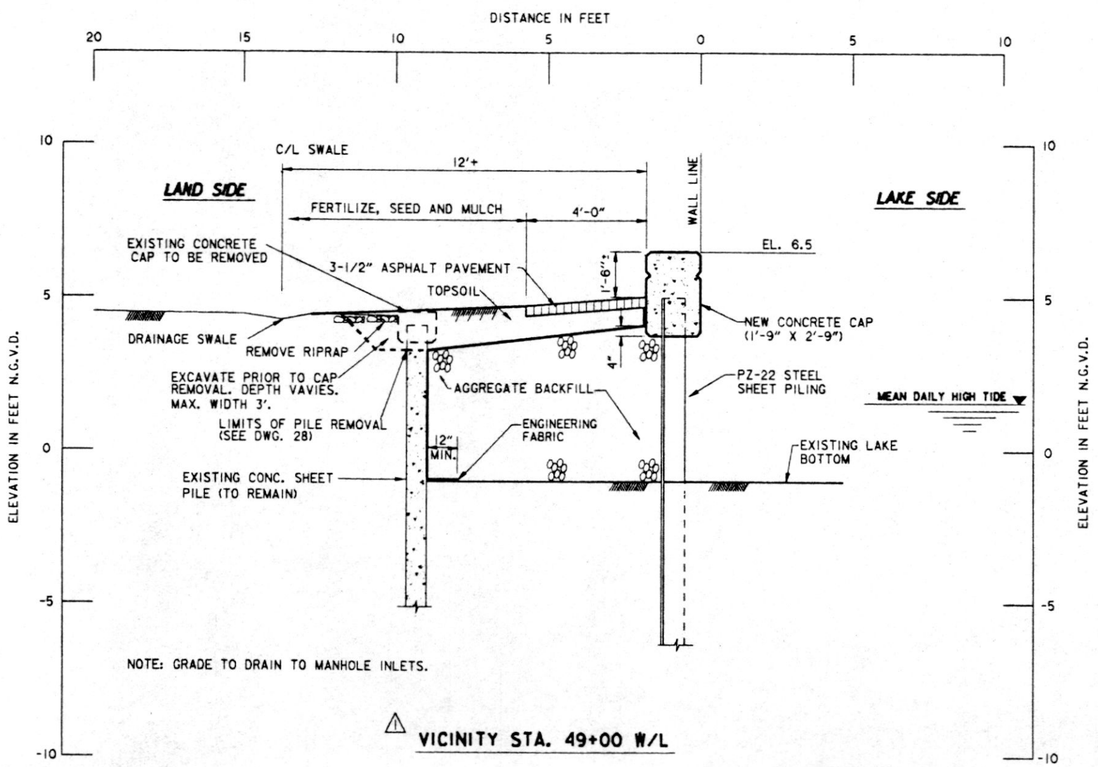
DESIGNED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 24	PLOT DATE: NOV. 1993
DRAWN BY: S.F.S.			
CHECKED BY: R.W.Y.	CADD FILE: 40335-19.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 19 OF 31



VICINITY STA. 42+75 W/L



VICINITY STA. 55+10 W/L



VICINITY STA. 49+00 W/L

NOTE:
TRANSITION TOP OF ASPHALT PAVEMENT FROM EL. 5.0 TO EL. 5.5 BETWEEN STA. 50+00 W/L AND STA. 51+00 W/L.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 2'

24" 0 2' 4' 6' 8'

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED TOP OF WALL AND SHEET PILING AND BOTTOM OF WALL IN SECTIONS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

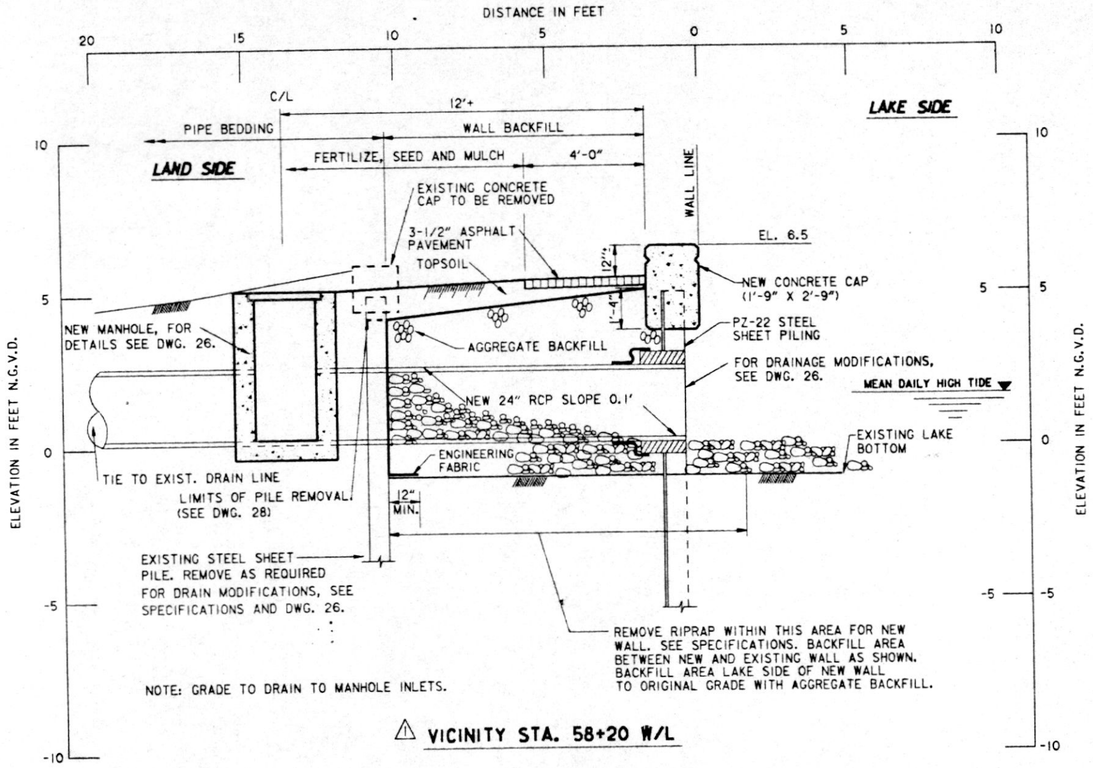
REPLACEMENT OF MANDEVILLE SEAWALL

ST. TAMMANY PARISH, LOUISIANA

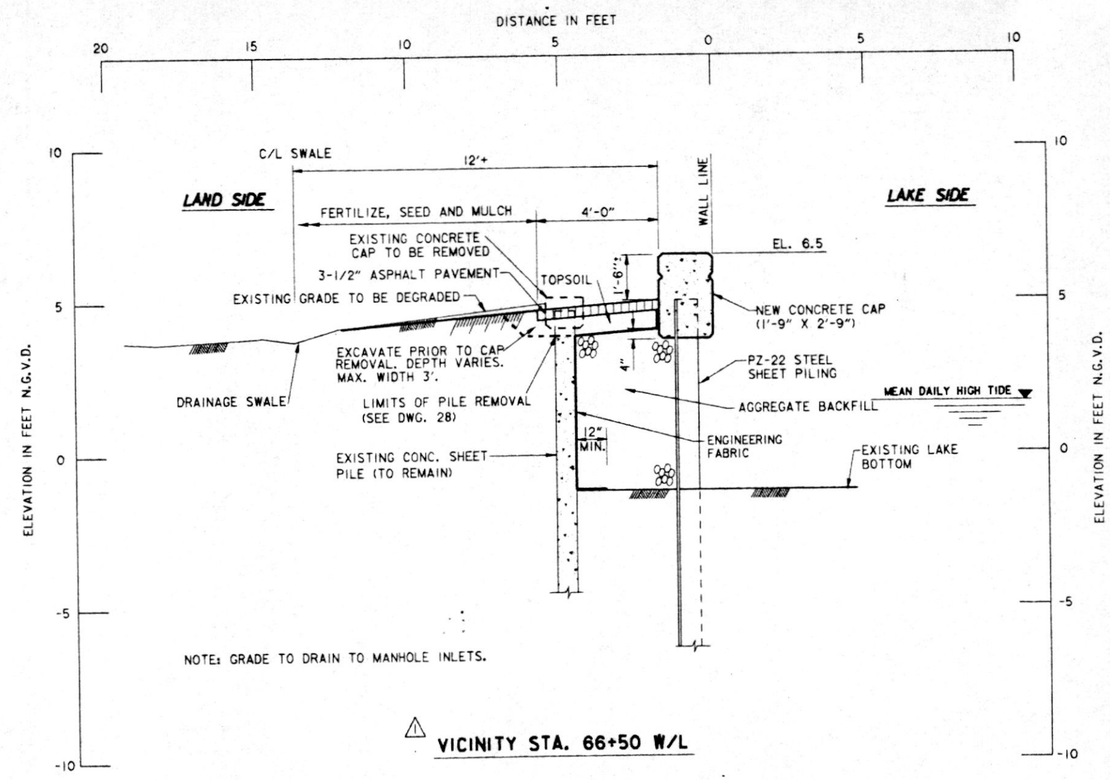
TYPICAL SECTIONS

STA. 42+75 W/L TO STA. 55+10 W/L

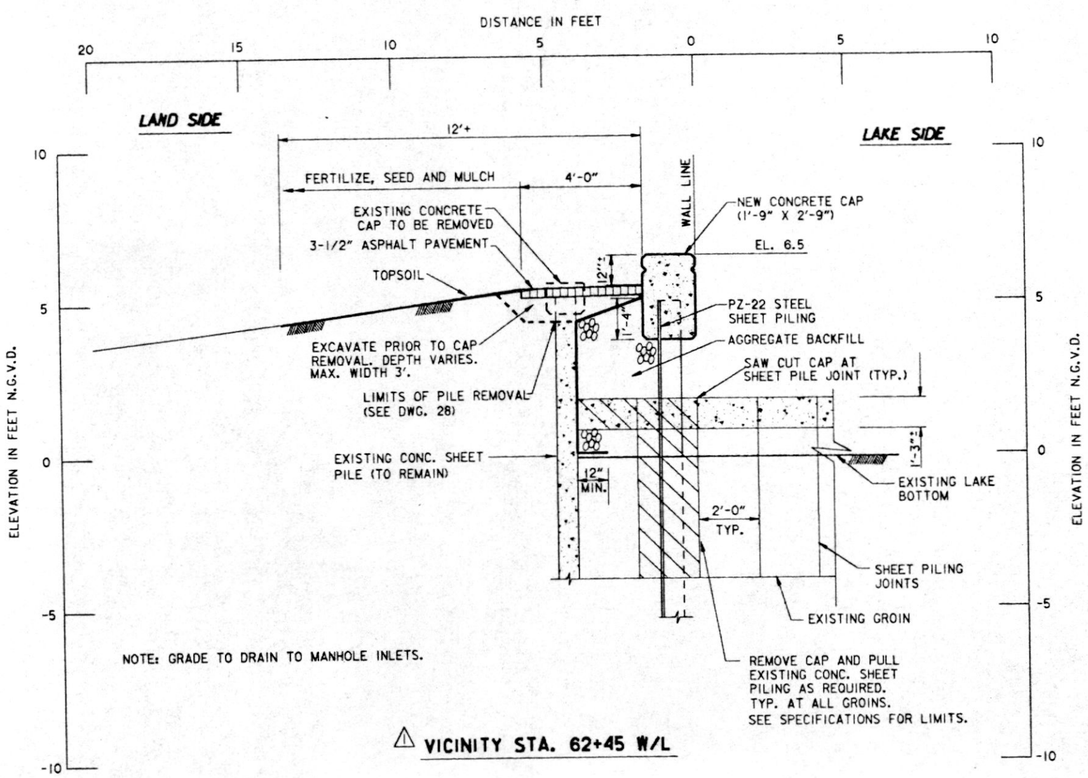
DESIGNED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 24	PLOT DATE: NOV. 1993
DRAWN BY: S.F.S.			FILE NO. H-4-40335
CHECKED BY: R.W.Y.	CADD FILE: 40335-20.DGN		
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 20 OF 31



△ VICINITY STA. 58+20 W/L



△ VICINITY STA. 66+50 W/L



△ VICINITY STA. 62+45 W/L

NOTE:
TRANSITION TOP OF ASPHALT PAVEMENT FROM EL. 5.5 TO EL. 5.0 BETWEEN STA. 65+00 W/L AND STA. 66+00 W/L.

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 2'

24" 0 2' 4' 6' 8'

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED TOP OF WALL AND SHEET PILING AND BOTTOM OF WALL IN SECTIONS; MOD.	4-5-94	W.O.B.

REVISIONS

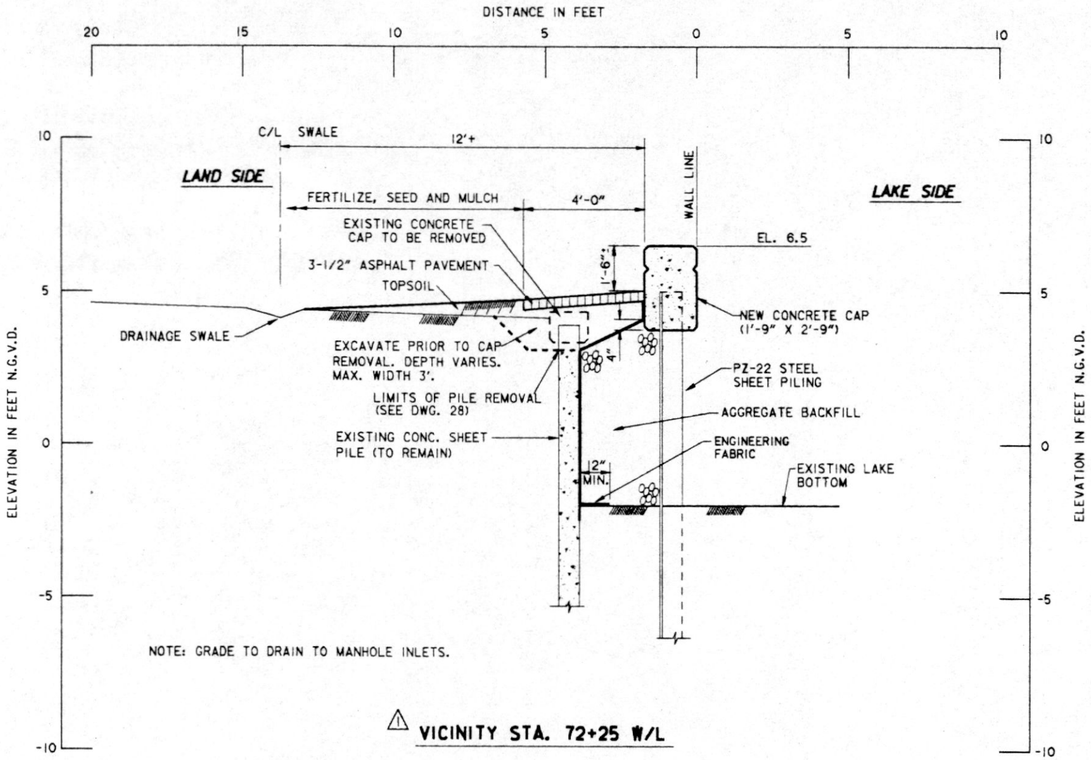
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

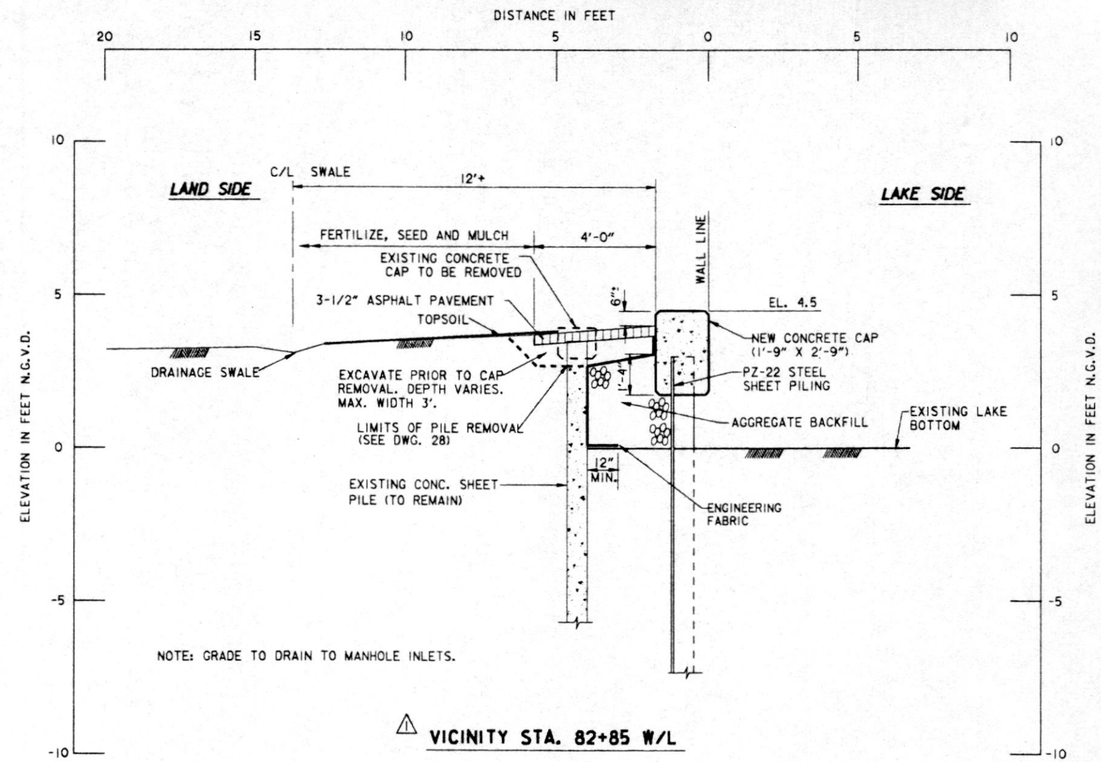
MANDEVILLE SEAWALL, LA.
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

TYPICAL SECTIONS
STA. 58+20 W/L TO STA. 66+50 W/L

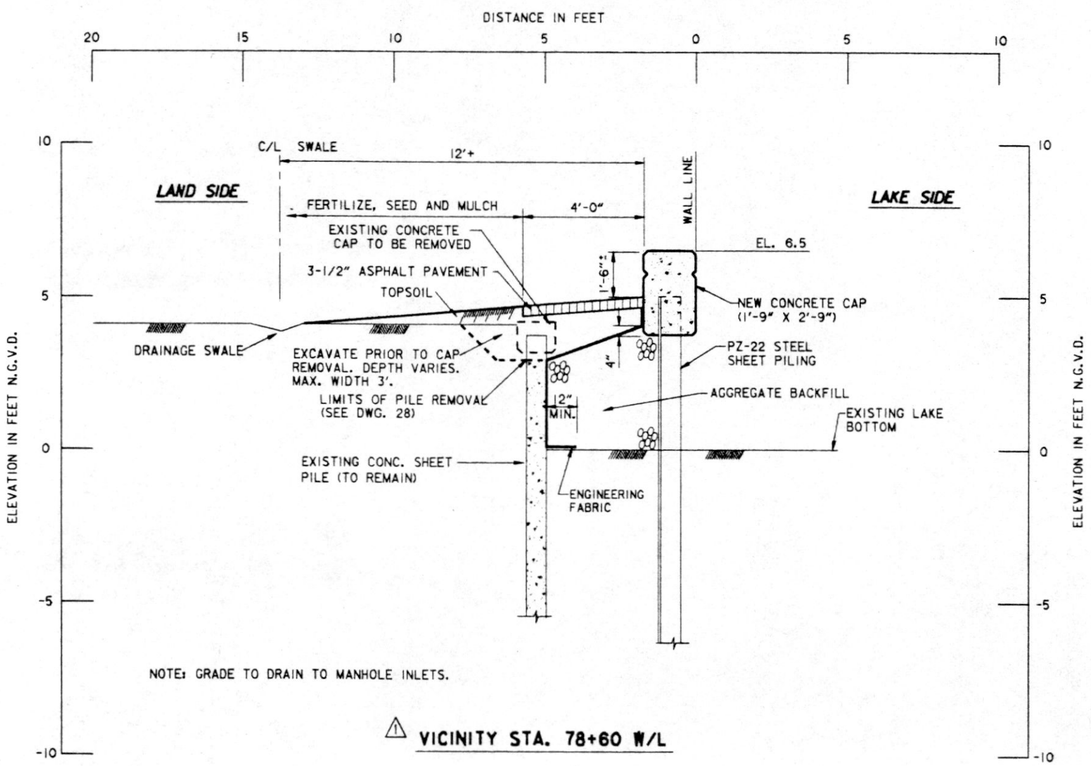
DESIGNED BY: T.P.H.
DRAWN BY: S.F.S.
CHECKED BY: R.W.Y.
DATE: NOV. 1993
PLOT SCALE: 24
PLOT DATE: NOV. 1993
CADD FILE: 40335-21.DGN
FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER
SOLICITATION NO. DACW29-94-B-0024
DWG. 21 OF 31



⚠ VICINITY STA. 72+25 W/L



⚠ VICINITY STA. 82+85 W/L



⚠ VICINITY STA. 78+60 W/L

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 1" = 2'

24" 0 2' 4' 6' 8'

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
⚠	REVISED TOP OF WALL AND SHEET PILING IN SECTIONS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.

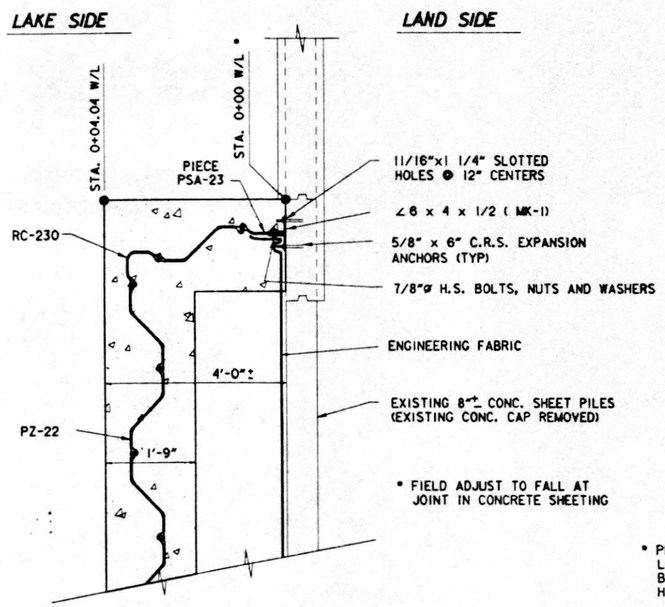
REPLACEMENT OF MANDEVILLE SEAWALL

ST. TAMMANY PARISH, LOUISIANA

TYPICAL SECTIONS
STA. 72+25 W/L TO STA. 82+85 W/L

DESIGNED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 24	PLOT DATE: NOV. 1993
DRAWN BY: S.F.S.	CADD FILE: 40335-22.DGN		FILE NO. H-4-40335
CHECKED BY: R.W.Y.			
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 22 OF 31

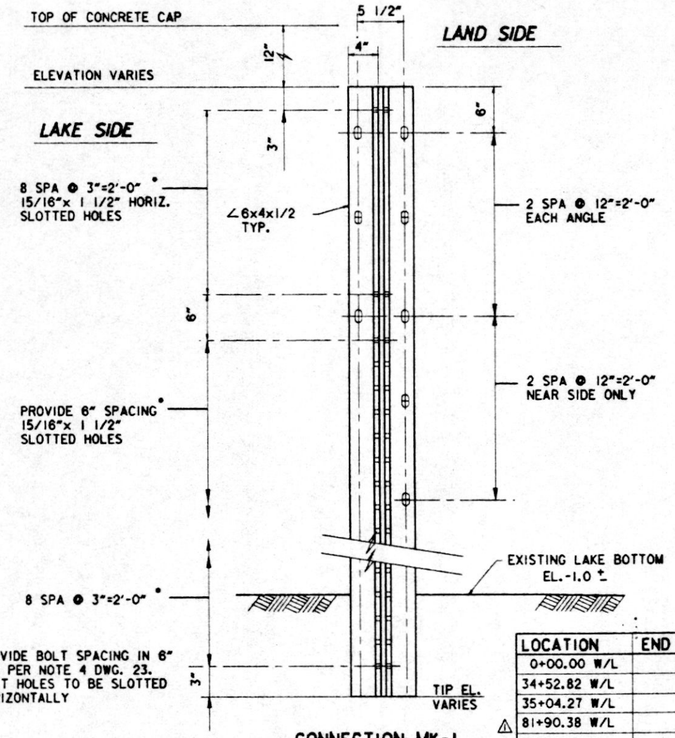
Safety is a Part of Your Contract



STA. 0 + 00 W/L SEAWALL CONNECTION

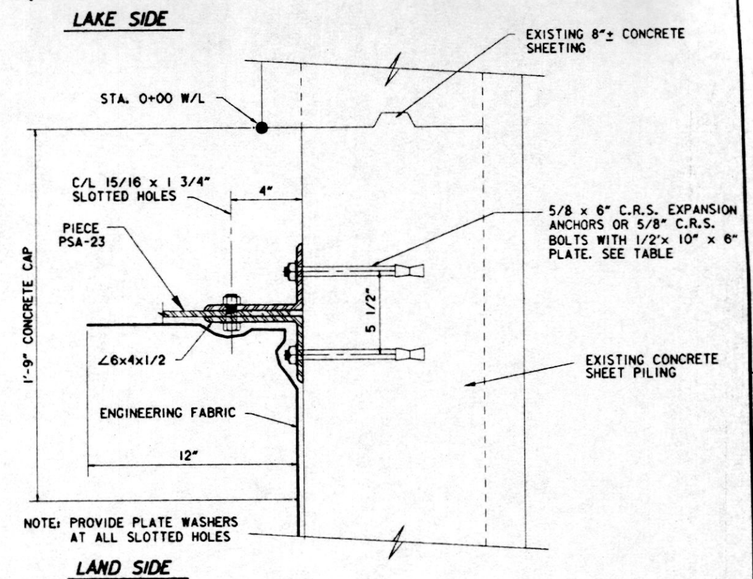
SCALE: 3/4" = 1'-0"

△ NOTE: CONNECTION AT W/L STATIONS 81+90.38, 82+37.79 AND 83+25.09 SIMILAR



CONNECTION MK-1

NOTE: MK-2 OPPOSITE HAND



PLAN

N.T.S.

LOCATION	END CONNECTION	CONNECTORS
0+00.00 W/L	MK-1	5/8 EXPANSION ANCHORS
34+52.82 W/L	MK-2	5/8x10" BOLTS
35+04.27 W/L	MK-1	5/8x10" BOLTS
△ 81+90.38 W/L	MK-2	5/8 EXPANSION ANCHORS
△ 82+37.79 W/L	MK-1	5/8 EXPANSION ANCHORS
△ 83+25.09 W/L	MK-2	5/8 EXPANSION ANCHORS

SHEET PILE END CONNECTION DETAILS

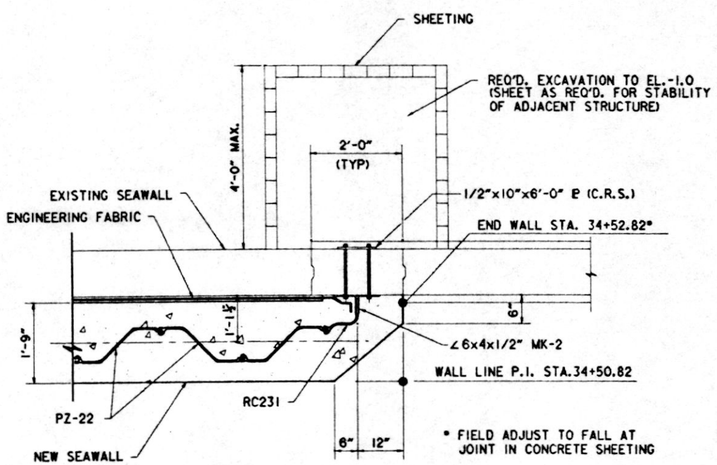
SCALE: 1 1/2" = 1'-0"

SCALE: 3/4" = 1'- 0"

12" 0 1' 2' 3' 4' 5'

SCALE: 1 1/2" = 1'- 0"

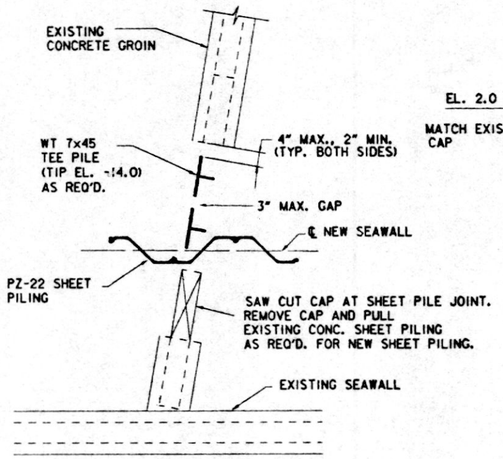
12" 0 1' 2' 3'



STA. 34+52.82 W/L SEAWALL CONNECTION DETAILS

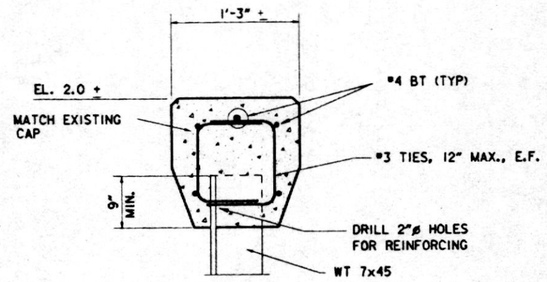
SCALE: 3/4" = 1'-0"

NOTE: CONNECTION STA. 35+04.27 W/L SIMILAR



PLAN

NOTE: FILL VOIDS RESULTING FROM GROIN REMOVAL. SEE SPECIFICATIONS.



SECTION

GROIN MODIFICATIONS

N.T.S

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SYMBOL	DESCRIPTION	DATE	APPROVED
△	REVISED W/L STATIONS IN SCHEDULE AND SEAWALL CONNECTION; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.

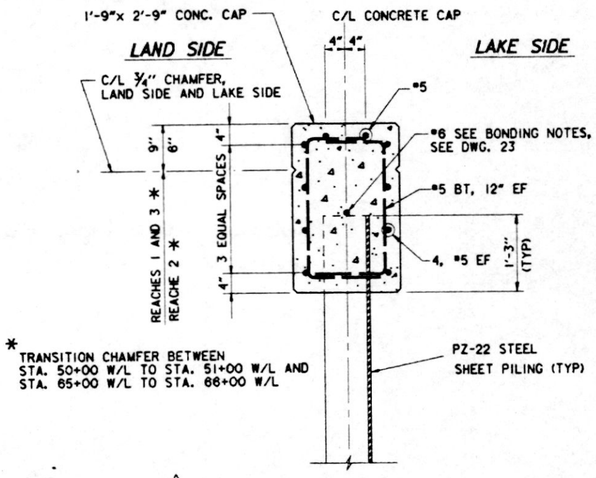
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

SHEET PILE DETAILS

DESIGNED BY: R.W.Y. DRAWN BY: J.S.B CHECKED BY: T.P.H.	DATE: NOV. 1993	PLOT SCALE: 16	PLOT DATE: NOV. 1993
	CADD FILE: 40335-24.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 24 OF 31

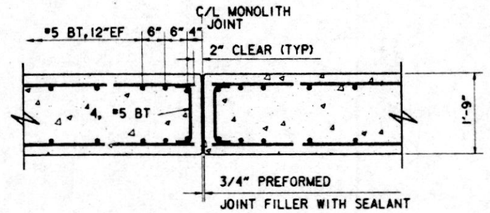
C.A.D.

VALUE ENGINEERING YOUR KEY TO HIGHER PROFITS



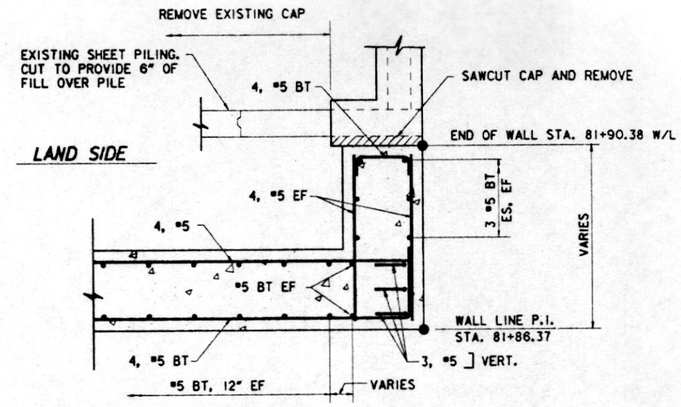
TYPICAL SEAWALL SECTION

SCALE: 1" = 1'-0"

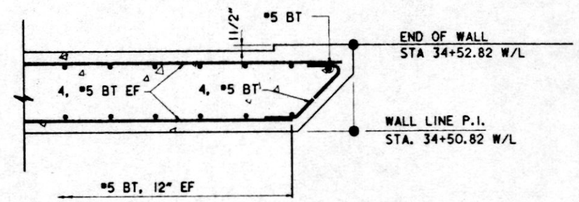


TYPICAL REINFORCEMENT AT MONOLITH JOINT

SCALE: 3/4" = 1'-0"



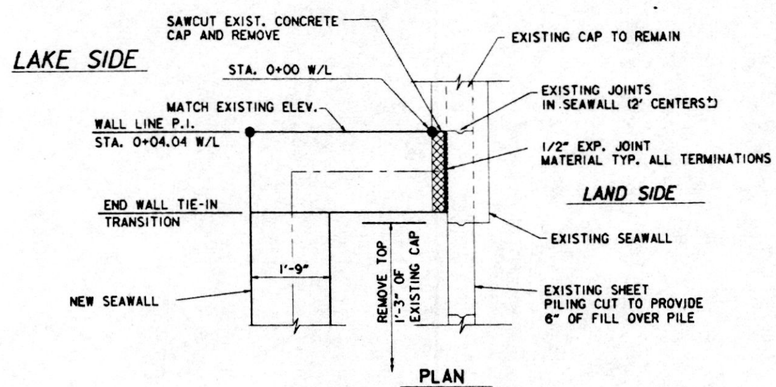
NOTE: STA. 0+00.00 W/L AND STA. 82+37.79 W/L OPPOSITE HAND AND STA. 83+25.09 SIMILAR



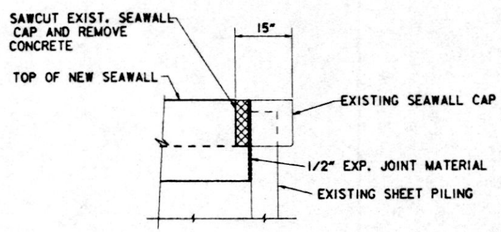
NOTE: STA. 35+04.27 W/L OPPOSITE HAND

TYPICAL REINFORCEMENT PLAN AT WALL TERMINATIONS

SCALE: 3/4" = 1'-0"



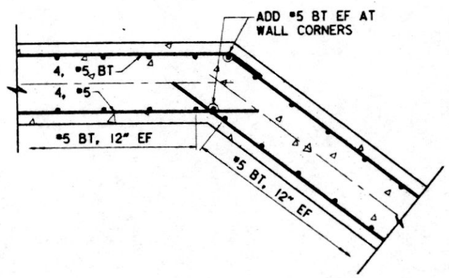
PLAN

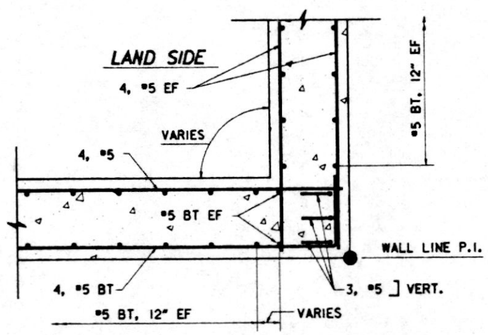


ELEVATION

SEAWALL TERMINATION DETAIL

SCALE: 3/4" = 1'-0"



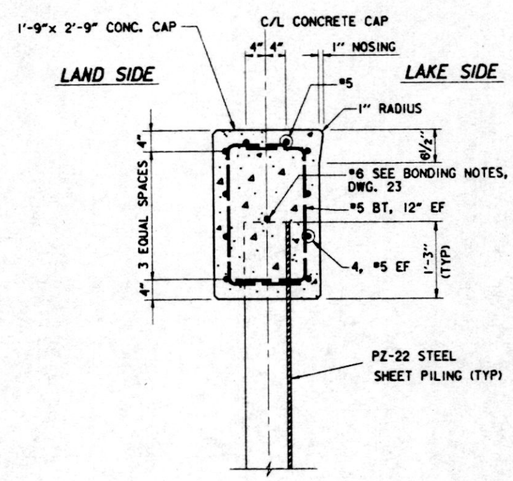


TYPICAL REINFORCEMENT PLAN AT POINTS OF INTERSECTION

SCALE: 3/4" = 1'-0"

NOTE:

TERMINATIONS AT W/L STATIONS 81+90.38, 82+37.79, AND 83+25.09 SIMILAR. CONTRACTOR TO FIELD VERIFY LOCATIONS OF WALL TERMINATIONS SO THAT CENTERLINE OF NEW WALL IS LOCATED BETWEEN JOINTS IN EXISTING SHEET PILING AS SHOWN.



TYPICAL SECTION AT STAIR

SCALE: 1" = 1'-0"

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 3/4" = 1'-0"

SCALE: 1" = 1'-0"

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
1	GENERAL REVISIONS TO SECTIONS AND PLANS AND W/L STATIONS; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

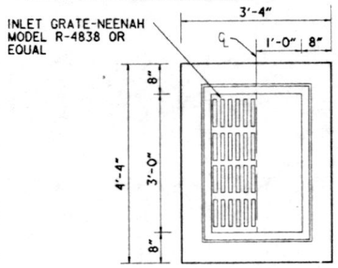
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

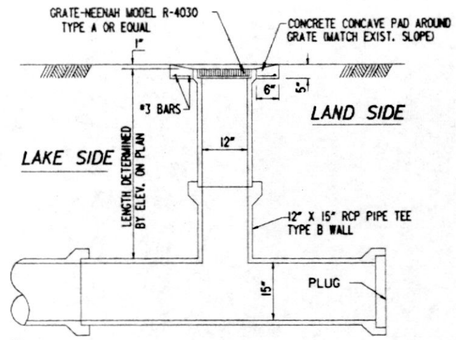
SEAWALL REINFORCEMENT AND DETAILS

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 16	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B.			
CHECKED BY: R.J.G.	CADD FILE: 40335-25.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. (DESIGN ENGINEER)	SOLICITATION NO. DACW29-94-0024		DWG. 25 OF 31

Safety is a Part of Your Contract



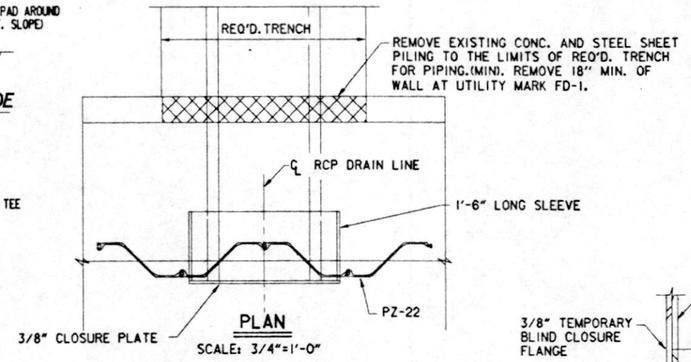
PLAN



TEE INLET DETAIL

SCALE: 3/4"=1'-0"

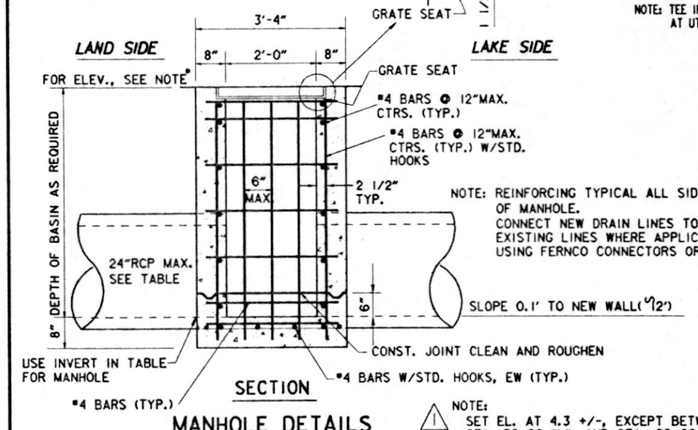
NOTE: TEE INLET REQUIRED ONLY AT UTILITY MARK D-1



PLAN

SCALE: 3/4"=1'-0"

NOTE: C/L OF PIPE SHALL BE LOCATED AT SHEETPILE INTERLOCK



NOTE: REINFORCING TYPICAL ALL SIDES OF MANHOLE. CONNECT NEW DRAIN LINES TO EXISTING LINES WHERE APPLICABLE USING FERNCO CONNECTORS OR EQUAL.

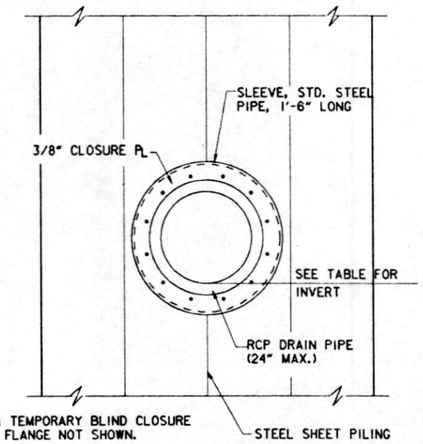
SECTION

MANHOLE DETAILS

SCALE: 3/4"=1'-0"

NOTE: AT UTILITY MARK D-13, D-16 AND D-19, THE DRAIN INVERT ON LAND SIDE IS ABOVE MANHOLE INVERT. SEE NOTE 3 BELOW.

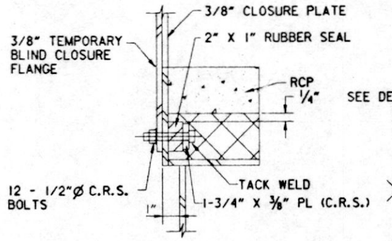
1 NOTE: SET EL. AT 4.3 +/-, EXCEPT BETWEEN STA. 50+00 W/L AND STA. 66+00 W/L SET AT EL. 4.9 +/-



NOTE: TEMPORARY BLIND CLOSURE FLANGE NOT SHOWN.

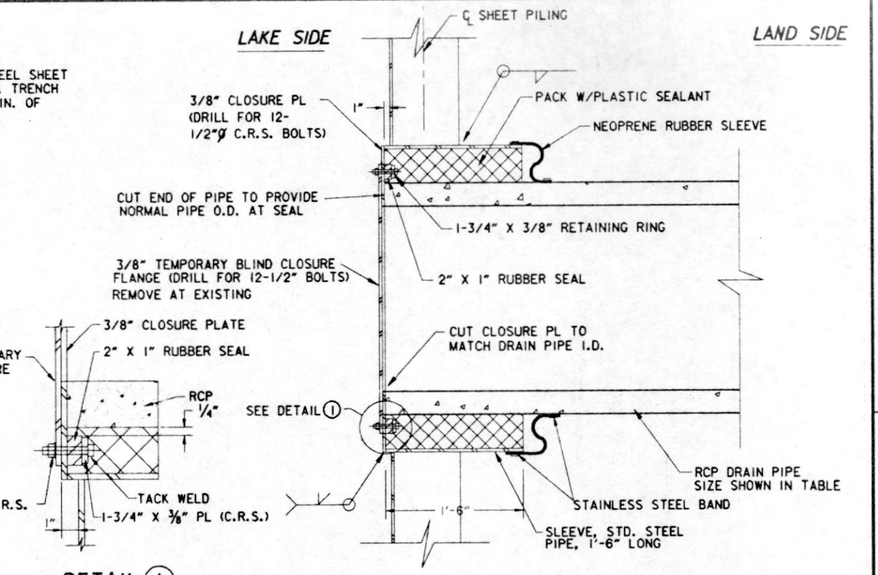
LAKE SIDE ELEVATION

SCALE: 3/4"=1'-0"



DETAIL 1

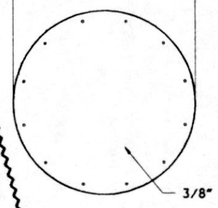
N.T.S.



SECTION

N.T.S

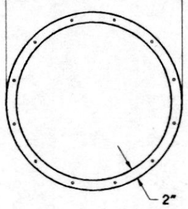
REQUIRED OUTSIDE DIAMETER	
6" STEEL	11.125"
12" RCP	20.5"
15" RCP	24.0"
18" RCP	27.5"
24" RCP	34.5"



BLIND CLOSURE FLANGE

SCALE: 1"=1'-0"

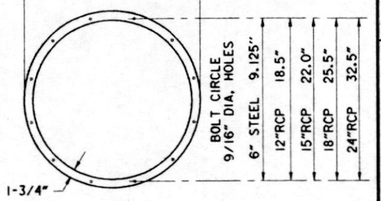
REQUIRED OUTSIDE DIAMETER	
6" STEEL	11.125"
12" RCP	20.5"
15" RCP	24.0"
18" RCP	27.5"
24" RCP	34.5"



RUBBER SEAL

SCALE: 1"=1'-0"

REQUIRED OUTSIDE DIAMETER	
6" STEEL	10.875"
12" RCP	20.25"
15" RCP	23.75"
18" RCP	27.25"
24" RCP	34.25"



RUBBER SEAL RETAINING RING

SCALE: 1"=1'-0"

TYPICAL RCP DRAIN LINE THRU STEEL SHEET PILING

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

SCALE: 3/4" = 1'-0"

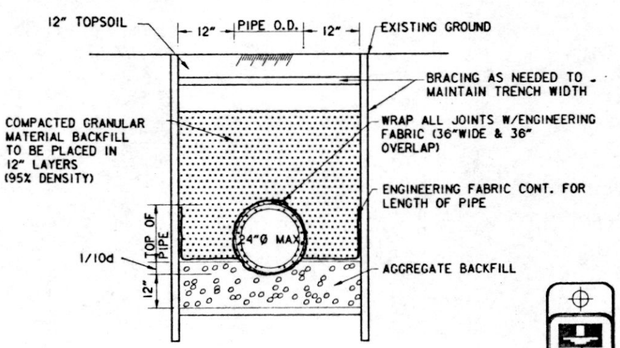
SCALE: 1" = 1'-0"

PIPE TABULATION AND SLEEVE TABLE

UTILITY MARK	APPROX. W/L STA.	EXISTING PIPE SIZE	EXISTING SLOPE *	EXISTING INVERT ELEVATION	NEW PIPE SIZE	NEW INVERT ELEVATION	MINIMUM SLEEVE SIZE (INCHES)			CLOSURE FLANGE DIA. (INCHES)	RUBBER SEAL INSIDE DIA. (INCHES)	UTILITY NOTES
							NOMINAL	INSIDE DIA.	OUTSIDE DIA.			
D - 1	0 + 54.7	12"X12" BOX	-	-	15" RCP	1.5	30	29.25	30	24	20	1
D - 2	3 + 69.2	-	-	-	15" RCP	-0.56	30	29.25	30	24	20	4
D - 3	9 + 13.0	-	-	-	15" RCP	-0.55	30	29.25	30	24	20	4
D - 4	12 + 48.3	24" RCP	.0085	-1.00	24" RCP	-1.0	40	39.25	40	34.5	30.5	2
D - 5	15 + 26.0	-	-	-	18" RCP	-1.07	34	33.25	34	27.5	23.5	4
D - 6	18 + 48.9	24" VCLAY	.0056	-1.22	24" RCP	-1.22	40	39.25	40	34.5	30.5	2
D - 7	23 + 76.4	-	-	-	24" RCP	1.14	40	39.25	40	34.5	30.5	4
D - 8	26 + 69.6	-		-	18" RCP	1.07	34	33.25	34	27.5	23.5	4
D - 9	31 + 83.6	-	-	-	12" RCP	0.90	24	23.25	24	20.5	16.5	5
D - 10	40 + 90.2	-	-	-	12" RCP	0.90	24	23.25	24	20.5	16.5	5
D - 11	45 + 85.6	24" VCLAY	.0105	-0.62	24" RCP	-0.62	40	39.25	40	34.5	30.5	2
D - 12	52 + 01.8	24" VCLAY	.0036	-0.44	24" RCP	-0.44	40	39.25	40	34.5	30.5	2
D - 13	57 + 96.4	24" VCLAY	.0024	0.76	24" RCP	-0.29	40	39.25	40	34.5	30.5	3
D - 14	58 + 25.6	24" VCLAY	.0017	0.35	24" RCP	0.00	40	39.25	40	34.5	30.5	2
D - 15	60 + 18.8	-	-	-	18" RCP	-0.64	34	33.25	34	27.5	23.5	4
D - 16	63 + 88.3	24" VCLAY	.0052	0.31	24" RCP	-0.31	40	39.25	40	34.5	30.5	3
D - 17	64 + 62.7	24" VCLAY	.0005	0.11	24" RCP	-0.15	40	39.25	40	34.5	30.5	2
D - 18	67 + 13.8	-	-	-	15" RCP	-0.09	30	29.25	30	24	20	4
D - 19	70 + 29.7	18" VCLAY	.0111	0.14	24" RCP	-0.23	40	39.25	40	34.5	30.5	3
D - 20	74 + 50.6	-	-	-	15" RCP	-0.08	30	29.25	30	24	20	4
D - 21	76 + 83.2	-	-	-	18" RCP	-0.13	34	33.25	34	27.5	23.5	4
D - 22	80 + 07.3	-	-	-	15" RCP	-0.52	30	29.25	30	24	20	4
FD - 1	42 + 82.0	6" STEEL*	-	2.1*	6" STEEL*	2.0*	12	12.00	12.75	11.125	7.125	6

* FIELD VERIFY

1. MANHOLE NOT REQUIRED, USE TEE INLET.
2. PROVIDE MANHOLE. TIE TO EXISTING DRAIN LINE (3% MAXIMUM SLOPE) USING NEW PIPE SIZE.
3. PROVIDE MANHOLE. TIE EXISTING DRAIN LINE INTO MANHOLE AT EXISTING SLOPE.
4. PROVIDE MANHOLE. PROVIDE ONE (1) 6' LENGTH RCP AT 0.12% SLOPE. PLUG END.
5. PROVIDE MANHOLE. MANHOLE FOR DROP INLET ONLY.
6. NO MANHOLE REQUIRED.



TYPICAL BEDDING DETAIL

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED NOTE IN MANHOLE DETAIL; MOD.	4-5-94	W.O.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

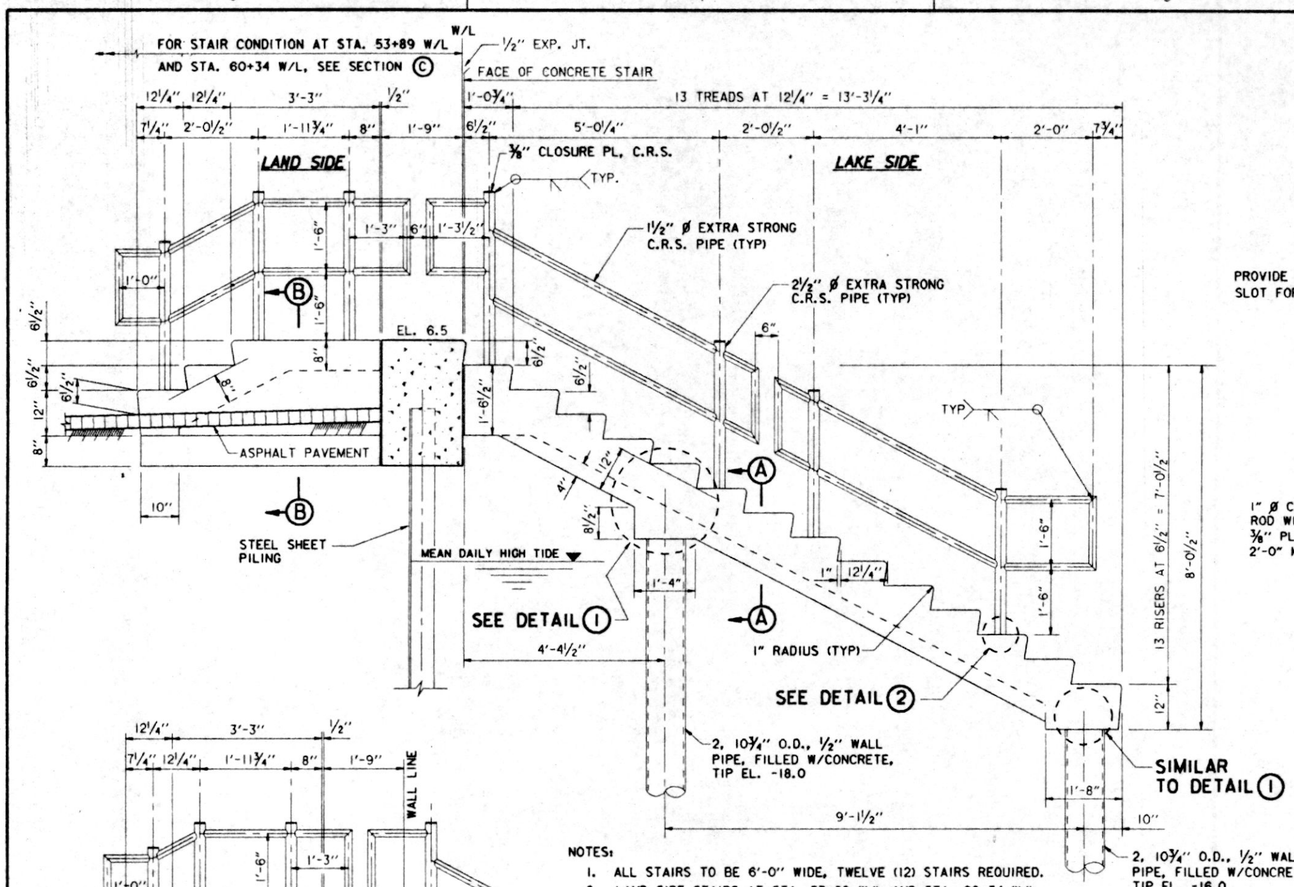
MANDEVILLE SEAWALL, LA.

REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

DRAINAGE MODIFICATION DETAILS

DESIGNED BY: M.J.P. DRAWN BY: J.S.B. CHECKED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 16	PLOT DATE: NOV. 1993
	CADD FILE: 40335-26.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 26 OF 31

VALUE ENGINEERING CHALLENGE — YOUR KEY TO HIGHER PROFITS

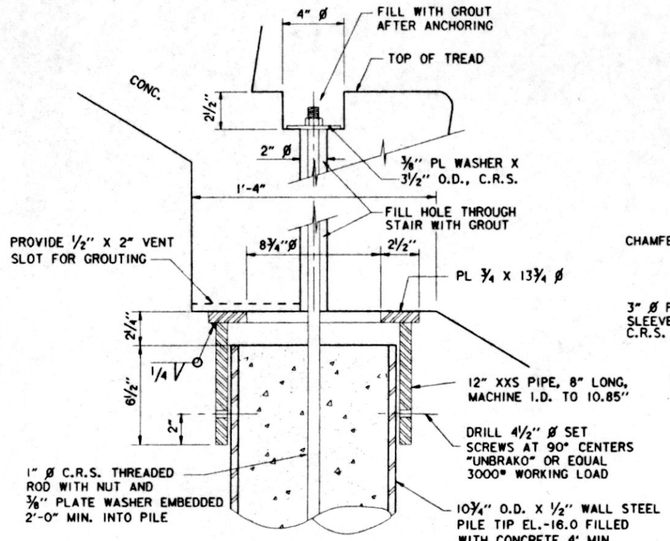


NOTES:

1. ALL STAIRS TO BE 6'-0" WIDE, TWELVE (12) STAIRS REQUIRED.
2. LAND SIDE STAIRS AT STA. 53+89 W/L AND STA. 60+34 W/L VARY FROM THAT SHOWN, SEE SECTION C FOR DETAILS.

TYPICAL STAIR

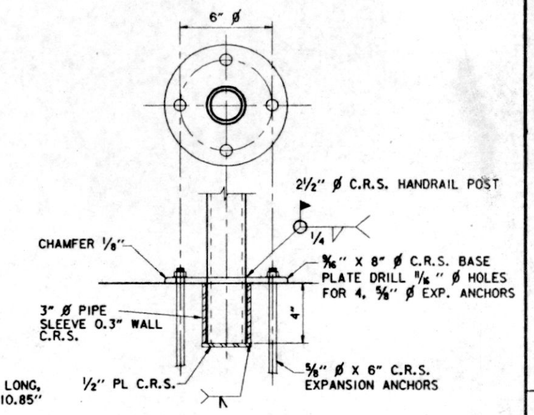
SCALE: 3/4" = 1'-0"



NOTE: DETAIL TYPICAL FOR ALL PILES.

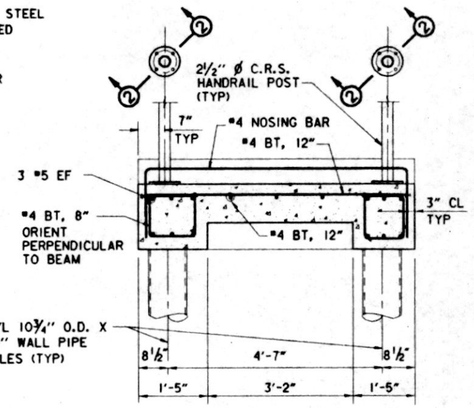
DETAIL 1

SCALE: 3" = 1'-0"



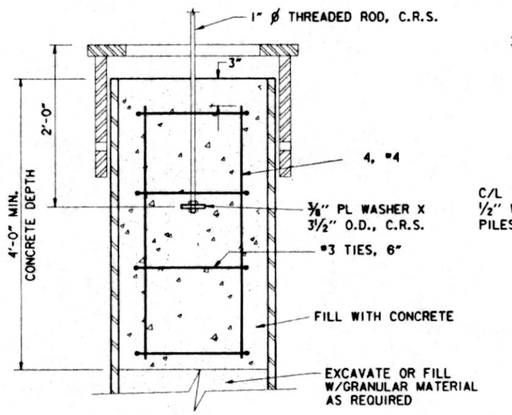
DETAIL 2

N.T.S.



SECTION A

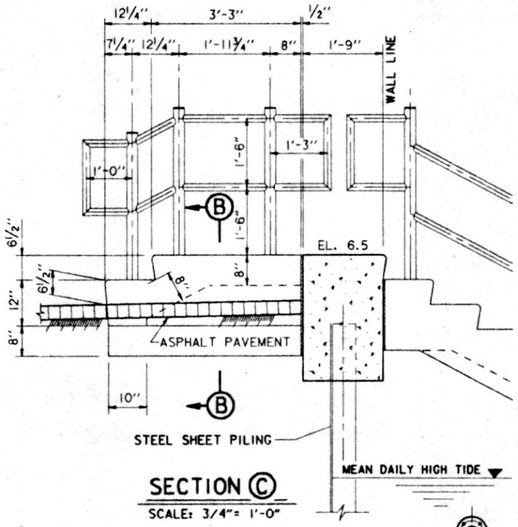
SCALE: 3/4" = 1'-0"



PIPE PILE REINFORCEMENT

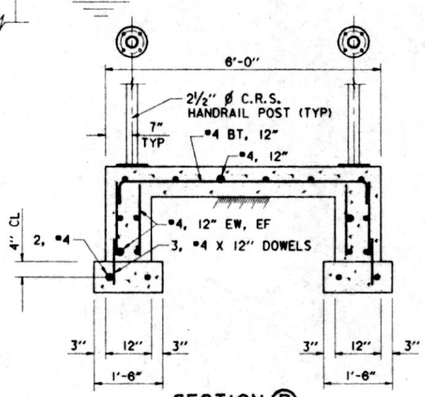
N.T.S.

NOTE: COAT EXTERIOR OF PIPE PILES TO EL. -5.0 N.G.V.D. PER SPECIFICATIONS



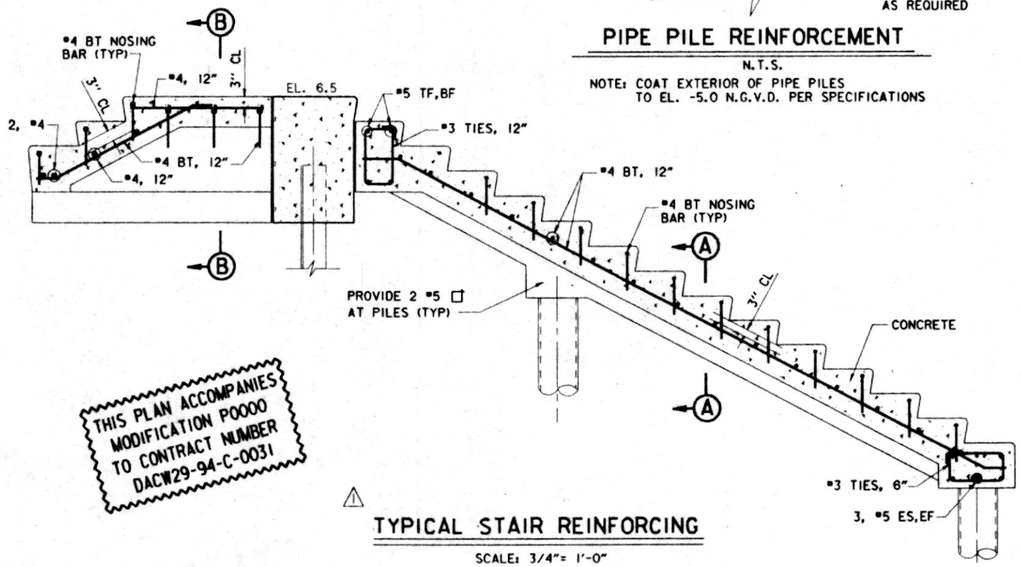
SECTION C

SCALE: 3/4" = 1'-0"



SECTION B

SCALE: 3/4" = 1'-0"



TYPICAL STAIR REINFORCING

SCALE: 3/4" = 1'-0"

SCALE: 3/4" = 1'-0"

SCALE: 3" = 1'-0"

THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
1	GENERAL REVISIONS; MOD.	4-5-94	W.O.B.

REVISIONS

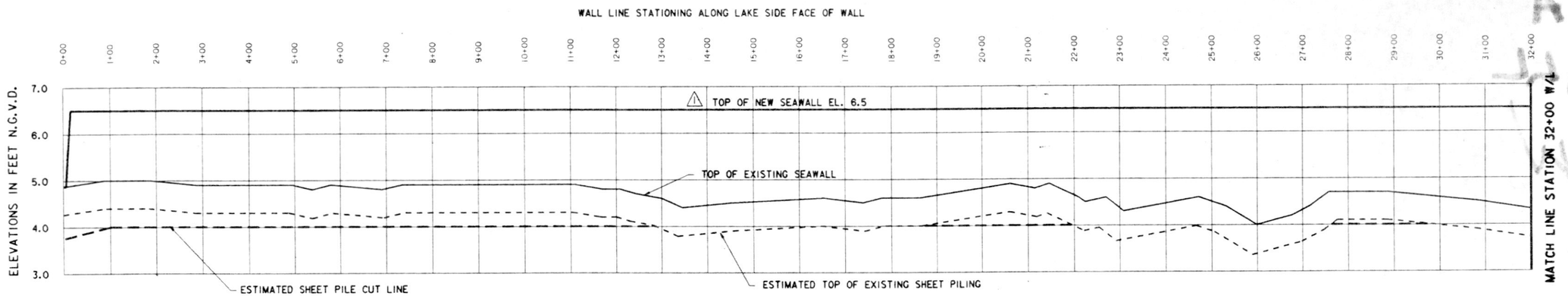
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

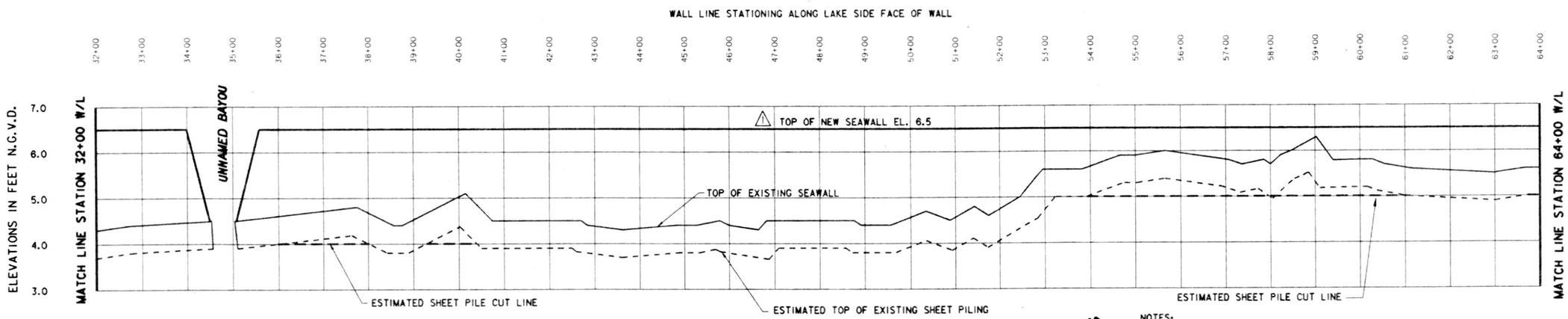
Brown Cunningham Gannuch
ENGINEERS • ARCHITECTS • CONSULTANTS

MANDEVILLE SEAWALL, LA.
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

CONCRETE STAIR DETAILS

DESIGNED BY: R.W.Y. DRAWN BY: J.S.B./S.F.S. CHECKED BY: R.J.G.	DATE: NOV. 1993	PLOT SCALE: 16	PLOT DATE: NOV. 1993
	CADD FILE: 40335-27.DGN		FILE NO. H-4-40335
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO. DACW29-94-B-0024		DWG. 27 OF 31

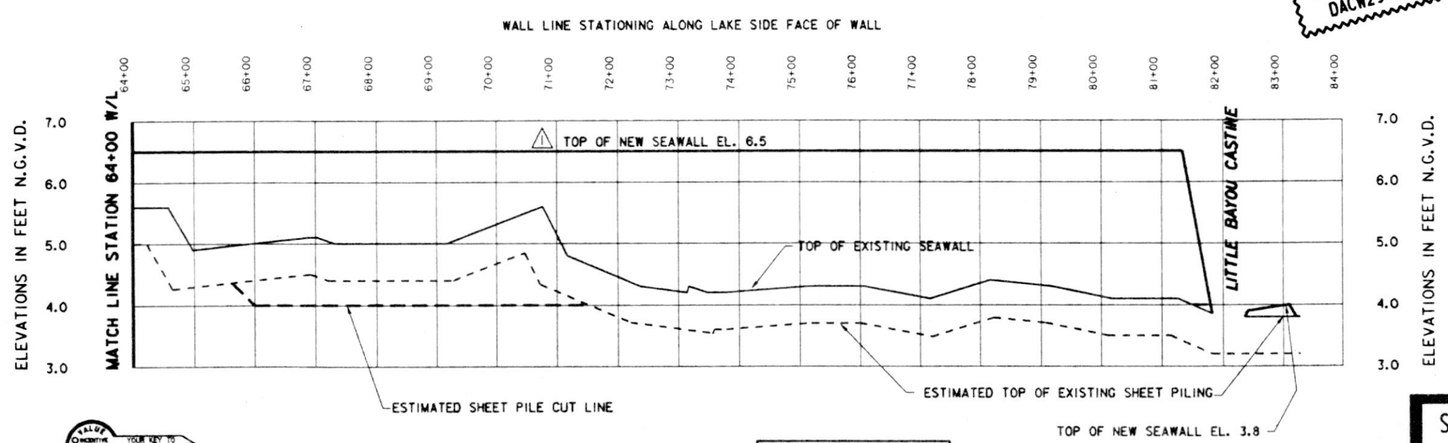




THIS PLAN ACCOMPANIES MODIFICATION P0000 TO CONTRACT NUMBER DACW29-94-C-0031

NOTES:

1. THE TOP OF THE EXISTING SHEET PILING IS ESTIMATED TO BE APPROXIMATELY 6" BELOW THE TOP OF THE EXISTING WALL BUT MAY VARY. FIELD VERIFY.
2. THE ESTIMATED SHEET PILE CUT LINE IS BASED ON PROVIDING A MINIMUM OF 6" OF FILL COVER BELOW FINISHED GRADES AND A FILL SLOPE OF 1V ON 12H FOR DRAINAGE.
3. IN LOCALIZED AREAS AND AT WALL TERMINATIONS ADDITIONAL SHEETPILE REMOVAL MAY BE REQUIRED TO PROVIDE 6" OF FILL COVER.
4. WALL REMOVAL SHALL BE ACCOMPLISHED IN A CONTROLLED MANNER.



SCALE: 1" = 1'

1' 0 1' 2' 3' 4'

SCALE: 1" = 100'

100 0 100 200 300 400

SCALE
1" = 100' HORIZ.
1" = 1' VERT.

Safety is a Part of Your Contract

SYMBOL	DESCRIPTION	DATE	APPROVED
1	REVISED TOP OF WALL IN PROFILE AND BAR SCALE; MOD.	4-5-94	W.D.B.

REVISIONS

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
NEW ORLEANS, LOUISIANA

Brown Cunningham Gannuch
ENGINEERS · ARCHITECTS · CONSULTANTS

MANDEVILLE SEAWALL, LA.
REPLACEMENT OF MANDEVILLE SEAWALL
ST. TAMMANY PARISH, LOUISIANA

EXISTING WALL PROFILE

DESIGNED BY: R.W.Y.	DATE: NOV. 1993	PLOT SCALE: 1200	PLOT DATE: NOV. 1993
DRAWN BY: J.S.B.			FILE NO. H-4-40335
CHECKED BY: T.P.H.	CADD FILE: 40335-28.DGN		
SUBMITTED BY: ROBERT W. YOKUM, P.E. DESIGN ENGINEER	SOLICITATION NO.: DACW29-94-B-0024		DWG. 28 OF 31