Operation, Maintenance, and Rehabilitation Plan
North Lake Mechant Landbridge Restoration Project
TE-44

April 5, 2011

OFFICE OF
Coastal Protection
and Restoration

OPERATION, MAINTENANCE, AND REHABILITATION PLAN

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT TE-44

April 5, 2011

Prepared by:
Louisiana Office of Coastal Protection and Restoration
Operations Division

OPERATION, MAINTENANCE, AND REHABILITATION PLAN

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT TE-44

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OPERATION, MAINTENANCE, AND REHABILITATION PLAN

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

(TE-44)

The Louisiana Office of Coastal Protection and Restoration (OCPR) and the United States Department of the Interior / Fish and Wildlife Service (USFWS) agree to carry out the terms of this Operation, Maintenance, Repair, and Rehabilitation Plan (hereinafter referred to as the "Plan") of the accepted, completed project features in accordance with the Cost Sharing Agreement No. 435-100346, DNR Agreement No. 2511-01-24 dated May 16, 2001 with Amendment No.1 effective September 24, 2002 (Attachment I).

The project features covered by this plan are inclusive of and are identified as the North Lake Mechant Landbridge Restoration Project (TE-44). The intention of the provisions of this Plan is to maintain this project in a condition that will generally provide the anticipated benefits that the project was based on. There are no requirements that this project function to any standard beyond the project life, except that it is not left as a hazard to navigation or a detriment to the environment.

Construction of the North Lake Mechant Landbridge Restoration Project (TE-44) is authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) enacted on November 29, 1990 as amended. The North Lake Mechant Landbridge Restoration Project (TE-44) was approved on the 10th Priority Project List.

1. PROJECT DESCRIPTION, PURPOSE, AND LOCATION

The North Lake Mechant Landbridge Restoration Project (TE-44) is located in Terrebonne Parish, Louisiana approximately 15 miles southwest of Theriot, Louisiana and lies within the Penchant sub-basin of the Terrebonne hydrologic basin. The project area is bounded by Lake Mechant to the south, by Lake Pagie to the west, by Bayou DeCade to the north, and by the natural levee of Small Bayou LaPointe to the east. The project encompasses approximately 7,570 acres of predominantly open water and intermediate marsh habitat with some fresh marsh in the northwest and brackish marsh in the southeast.

These marshes form a critical land bridge barrier that separates the fresh and intermediate marshes north of Bayou DeCade from the brackish waters and marine, tidally-dominated Lake Mechant system to the south. The TE-44 project is intended to protect and restore the north Lake Mechant land bridge and the Small Bayou LaPointe Ridge. Construction involves creation and nourishment of approximately 901 acres of marsh north of Lake Mechant using dredged material from northern Lake Mechant; construction of approximately 89,270 linear feet of earthen containment dike (including approximately 3,580 linear feet of earthen dike to be maintained for the life of the project); construction and maintenance of approximately 2,200 linear feet of armored earthen dike; repair and

maintenance of an existing earthen plug; and construction and maintenance of 8 canal plugs including the replacement of an existing fixed-crest weir.

The project has a twenty (20) year economic life, which began in December, 2010. The principal project features include:

- Earthen Plug No. 1
- Earthen Plug No. 2
- Rebuilt Earthen Plug (No. 3)
- Earthen Plug No.4
- Rock Plug No. 1
- Rock Plug No. 2
- Sheetpile Plug No. 1
- Sheetpile Plug No. 2
- Sheetpile Plug No. 3
- Sheetpile Weir (existing weir replacement)
- Armored Earthen Dike (2,200 Linear Feet)
- Earthen Dike (3,580 Linear Feet)
- Hydraulic-Dredged Fill Material (901 acres of marsh)

Dredged Material Fill Areas

Fill material was placed to a maximum elevation of 3.0 feet NAVD88. All earthen containment dikes were constructed to an elevation of 4.0 feet NAVD88 with a 3-foot crest width and 4 to 1 sideslopes.

Fill Area 1 – 57.7 acres located east of Lake Pagie bordered by a constructed, continuous earthen containment dike to the north and east; a pipeline canal to the south; and the eastern shoreline of Lake Pagie to the west.

Fill Area 2A – 141.0 acres located north of Lake Mechant along the eastern shoreline of Lake Pagie. This area is bordered by constructed earthen containment dikes and the eastern shoreline of Lake Pagie to the west; a pipeline canal to the north; existing marsh and a constructed earthen containment dike to the east; and Fill Area 2B to the south..

Fill Area 2B – 108.7 acres located north of Lake Mechant along the eastern shoreline of Lake Pagie. This area is bordered by constructed earthen containment dikes and the eastern shoreline of Lake Pagie to the west; Fill Area 2A to the north; existing marsh and a constructed earthen containment dike to the east; and Lake Mechant to the south.

Fill Area 2/3 – 24.7 acres bordered by existing marsh and a constructed earthen containment dike to the south; a pipeline canal to the north; Fill Area 2A to the west and Fill Area 3 to the east.

Fill Area 3 – 134.0 acres bordered by Lake Mechant to the south; a pipeline canal to the north and east; and a constructed, continuous earthen containment dike to the west.

Fill Area 4 – 124.8 acres bordered by Lake Mechant and existing marsh to the south; a pipeline canal to the west; a constructed, continuous earthen containment dike to the north; and a natural channel and existing marsh to the east. This fill area includes approximately 24 acres of marsh nourishment at the east end where fill placement was limited to a maximum of 6 to 12 inches above existing marsh.

Fill Area 5 – 28.6 acres located north of Lake Mechant bordered by a constructed, continuous earthen containment dike to the west and a natural channel to the east.

Fill Area 5-1 – 90.1 acres located south of Bay Raccourci bordered by Bayou Raccourci to the west and a natural channel to the east, and existing marsh and a constructed earthen containment dike to the west.

Fill Area 6 – 47.8 acres located north of Lake Mechant bordered by Bayou Raccourci and a constructed armored earthen dike to the west; a constructed earthen containment dike along the southern shoreline of Raccourci Bay to the north; and existing marsh to the east. This fill area includes approximately 16 acres of marsh nourishment at the southern end where fill placement was limited to a maximum of 6 to 12 inches above existing marsh.

Fill Area 7 – 31.0 acres bordered by a constructed earthen containment dike along the southern shoreline of Raccourci Bay to the north, existing marsh to the south, and an access canal to the east.

Fill Area 8 – 113.2 acres bordered by a constructed, continuous earthen containment dike to the north and the Small Bayou LaPointe ridge to the south.

2. CONSTRUCTION COMPLETION

The North Lake Mechant Landbridge Restoration Project (TE-44) completion report is included in Attachment III of this Plan. Within this completion report is a summary of information and significant events including: project personnel, final as-built project features and benefitted acres, construction cost and CWPPRA project estimates, construction oversight cost, construction activities and change orders, pipeline and utility crossing owner information, and other significant milestone dates and comments.

The project "As-Built" construction drawings updated with all field changes and modifications that occurred during construction are included in Attachment IV.

3. PROJECT PERMITS

Project permit applications were completed and submitted to appropriate agencies, and permits were received prior to construction. These permits and permit amendments are included in Attachment V. Provisions for the renewal of Federal and State permits may be required.

4. ITEMS REQUIRING OPERATION, MAINTENANCE, AND REHABILITATION

The following completed, structural components jointly accepted by OCPR and USFWS will require operation, maintenance, repair, and/or rehabilitation throughout the twenty (20) year life of the project.

Earthen Plug No. 1
This canal plug is located at Lat. 29°20'36.3", Long. 90°59'36.3" along the eastern shoreline of Lake Pagie in an existing canal. It was constructed from dredged material from the canal on a geotextile fabric layer. The plug is 165 feet long (direction along the shoreline) by 50 feet wide. The plug was constructed to an elevation of 4.0 feet NAVD88.

Earthen Plug No. 2
This plug is located at Lat. 29°21'31.3", Long. 90°53'40.0" along the southern bank of Small Bayou LaPointe. It was constructed from dredged material on a geotextile fabric layer. The borrow area is located in the open water area south of the plug. The plug is 105 feet long (direction along the bank) by 60 feet wide. The plug was constructed to an elevation of 3.0 feet NAVD88.

Earthen Plug No. 3 (Rebuilt)
This existing plug is located at Lat. 29°20'24.5", Long. 90°56'04.4" at the south end of a canal south of Raccourci Bay. The existing earthen plug was rebuilt using dredged material placed on geotextile fabric to an elevation of 4.0 feet NAVD88.

Earthen Plug No.4
This plug is located at Lat. 29°20'55.2", Long. 90°55'14.7" accross the Small Bayou LaPoint between Rock Plug No. 1 and Earthen Plug No.3. The earthen plug was constructed using dredge material from Small Bayou LaPoint to an elevation of approximately 4.0' NAVD. This plug was not included in the original design of the project but was added to the proposed features during construction.

Rock Plug No. 1
This plug is located at Lat. 29°21'10.9", Long. 90°54'24.6" along the southern bank of Small Bayou LaPointe. The plug was constructed using DOTD Class 250 lb Riprap to an elevation of 4.0 feet NAVD88 with a 10-foot crest width and 3 to 1 side slopes on a geotextile fabric base. The plug is 260 feet long.

Rock Plug No. 2

This canal plug is located at Lat. 29°21'40.9", Long. 90°53'28.9" just east of Small Bayou LaPointe in an intersecting pipeline canal. The plug was constructed using DOTD Class 250 lb Riprap to an elevation of 4.0 feet NAVD88 with a 10-foot crest width and 3 to 1 side slopes on a geotextile fabric base. The plug is 166 feet long.

Sheet Pile Plug No. 1

This plug is located at Lat. 29°20'22.2", Long. 90°59'09.2" along the southern bank of an access canal between Lake Pagie and Lake Mechant. The plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4.0 feet NAVD88. The sheet pile was installed to a maximum depth of -35.0 feet NAVD88. The plug is 207 feet long with earthen wingwalls constructed at both ends to an elevation of 5.0 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Sheet Pile Plug No. 2

This canal plug is located at Lat. 29°20'00.2", Long. 90°58'32.2" in an access canal between Lake Pagie and Lake Mechant. The plug was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4.0 feet NAVD88. The sheet pile was installed to a maximum depth of -23.0 feet NAVD88. The plug is 282 feet long with earthen wingwalls constructed at both ends to an elevation of 5.0 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Sheet Pile Plug No. 3

This canal plug is located at Lat. 29°20'22.2", Long. 90°56'12.3" in an access canal south of Raccourci Bay. The plug was constructed using PDA-27 Grade 42 and 50 steel sheet pile sections to an elevation of 4.0 feet NAVD88. The sheet pile was installed to a maximum depth of -44.5 feet NAVD88. The plug is 177 feet long with earthen wingwalls constructed at both ends to an elevation of 5.0 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Sheet Pile Weir (existing weir replacement)

This canal plug/weir is located at Lat. 29°20'19.8", Long. 90°57'19.5" in a natural channel north of Lake Mechant. An existing timber pile, timber sheeting weir was removed near this location. The new weir was constructed using PDA-27 Grade 42 steel sheet pile sections to an elevation of 4.0 feet NAVD88. The sheet pile was installed to a maximum depth of -34 feet NAVD88. A 40-foot wide weir opening was constructed to an elevation of 0.0 feet NAVD88 near the center of the channel. The plug is 116 feet long with earthen wingwalls constructed at both ends to an elevation of 5.0 feet NAVD88. The wingwalls were constructed from dredged material and armored with articulated concrete mats on geotextile fabric.

Armored Earthen Dike

This dike is located along the east bank of Bayou Raccourci, a natural channel between Raccourci Bay and Lake Mechant, along the western boundary of Fill Area 6. The dike was constructed using dredged in-situ material from within Fill Area 6 to an elevation of 4.0 feet NAVD88 with a 4-foot crest width, 4 to 1 foreslope, and 4 to 1 backslope on a geotextile fabric base. The earthen dike was armored with articulated concrete mats. The mats are 20 feet long by 8 feet wide and consist of individual 4.5-inch thick concrete cells cast onto a copolymer fiber rope. The dike is 2,200 feet long. This site includes an aluminum warning sign mounted on a 30' treated timber piling with galvanized hardware.

5. OPERATION AND MAINTENANCE BUDGET

The cost associated with the Operations, Maintenance, and Rehabilitation of the features outlined in Section 4 of this plan for the twenty (20) year project life is included and summarized in Attachment VI.

6. OPERATION OF STRUCTURES

No operations are required for this project.

7. RESPONSIBILITIES – MAINTENANCE AND REHABILITATION

A. OCPR will:

1. In accordance with the Cost Sharing Agreement No. 435-100346 outlined in Attachment I, assume all responsibilities for maintenance and rehabilitation of the accepted, completed project features identified in Section 4.

2. Conduct joint site inspections with USFWS of the project site at least annually and after major storm events if determined to be necessary by OCPR and USFWS. OCPR will submit to USFWS, a report detailing the condition of the project features and recommendations for any corrective action. If OCPR recommends that corrective actions are needed, the report will include the entire estimated cost for engineering and design, supervision and inspection, construction, contingencies, and the urgency of such action.

3. Perform or have performed any corrective actions needed, if such corrective actions have been approved by OCPR, USFWS, and the CWPPRA Task Force. USFWS will participate with OCPR, or its appointed representative, in the engineering and design phases of the corrective actions for the project. Oversight of engineering and construction of the corrective actions for the project will be the responsibility of OCPR or its appointed representative. At least thirty (30)

calendar days prior to the date of formal request for construction bids, OCPR or its appointed representative shall provide USFWS with final copies of all project corrective action designs and specifications for review and concurrence by USFWS. OCPR or its appointed representative shall approve the final designs and specifications prior to proceeding with bid solicitations on all project corrective action construction contracts in coordination with USFWS. Any plan and/or specification changes both before and after award of construction contracts shall be approved by OCPR in coordination with USFWS.

4. USFWS and OCPR representatives shall meet as necessary during the period of construction for corrective actions and shall make such recommendations as they deem necessary.

5. Provide the non-Federal contribution towards operation and maintenance activities as specified in the Cost Sharing Agreement between OCPR and USFWS.

B. USFWS will:

1. Conduct joint site inspections with OCPR of the project site at least annually and after major storm events if determined to be necessary by OCPR and USFWS.

2. Request funding and authorization from the CWPPRA Task Force for any corrective actions that are deemed necessary by OCPR and USFWS.

3. Provide guidance for the development of plans and implementation of the project, review final copies of any maintenance and rehabilitation project designs and specifications, and provide review and approval of all planning and construction details prior to formal request for construction bids or any corrective actions for the project.

4. Provide the Federal contribution towards operations and maintenance activities as specified in the Cost Sharing Agreement between OCPR and USFWS.

The undersigned parties, acting on behalf of their respective agencies, agree to operate, maintain, and rehabilitate the North Lake Mechant Landbridge Restoration Project (TE-44) according to this document, referenced Cost Sharing Agreement, plans, and all applicable permits and laws.

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

By: _____ Date: 4/18/11

Title: Field Supervisor, Louisiana Ecological Services - Acting

OFFICE OF COASTAL PROTECTION AND RESTORATION

By: David M. Ball, P.E. Date: 4/25/11

Title: Manager, Operations Division

ATTACHMENT I

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

COST SHARING AGREEMENT

State of Louisiana

M.J. "MIKE" FOSTER, JR.
GOVERNOR

JACK C. CALDWELL
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

October 31, 2002

Dave Fruge'
US Department of the Interior
Fish & Wildlife Service
Ecological Services
646 Cajun Dome Boulevard, Suite 400
Lafayette, Louisiana 70506

RE: North Lake Merchant Landbridge Restoration Project
DNR Cost Share Agreement No. 2511-01-24
OCR Cost Share Agreement No. 435-100346
Amendment No. 1

Dear Mr. Fruge':

Enclosed for your records please find an executed copy of the above mentioned agreement reflecting the required approval of the Louisiana Division of Administration, Office of Contractual Review.

If you have any questions, please call Julia Raiford of my staff at (225) 342-4566.

Sincerely,

Karen Y. Lewis

Karen Y. Lewis
Contracts & Grants Administrator

KYL/jr
Enclosures

11/04/02

cc: Chet Fruge/Dan Llewellyn, CRD
Verlie Wims, Fiscal
Gay Browning, NODCOE

AMENDMENT NO. 1

TO

COST SHARING AGREEMENT

BETWEEN

U.S. DEPARTMENT OF INTERIOR - FISH AND WILDLIFE SERVICE

AND

STATE OF LOUISIANA

FOR CONSTRUCTION, OPERATION, MAINTENANCE AND MONITORING OF THE

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

TE-44

Reference is made to ARTICLE XX-AMENDMENTS TO BE IN WRITING, of the Cost Sharing Agreement for the captioned Project entered into the 16th day of May, 2001, by and between the U.S. Department of Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Supervisor, Louisiana Field Office, and the State of Louisiana, acting by and through the Secretary, Department of Natural Resources (hereinafter referred to as "DNR"), which allows for the Cost Sharing Agreement to be amended in writing.

Therefore,

WITNESSETH THAT:

WHEREAS, Phase I categories of E&D (including supervision & administration), Easements and Landrights, and, Pre-Construction Monitoring are substantially completed for Construction Unit 1, Vegetative Plantings (hereinafter referred to as CU1); and,

WHEREAS, expenditure of Phase II, CU1 for the North Lake Mechant Landbridge Restoration Project (TE-44) was authorized by the PL 101-646 Task Force August 7, 2002.

NOW THEREFORE, the following Articles and Paragraphs are amended as follows:

1. ARTICLE VI – METHOD OF PAYMENT

Paragraph "a." contained in the May 16, 2001 Agreement is deleted in its entirety and the following is substituted therefor:

"a. DNR shall provide the contributions required under Article II of this Agreement. The PL 101-646 Task Force has estimated a Phase I cost of $1,880,670 and a Phase II, CU1 cost of $502,382.

To provide flexibility, the PL 101-646 Task Force has authorized a maximum Phase I cost of $2,350,838 and a maximum Phase II, CU1 cost of $627,978 for this particular Project. To meet its share, DNR will contribute, through in-kind services or in cash, the non-federal share of the maximum Phase I and Phase II costs. The maximum amount of DNR's contribution for Phase I is $352,626 and for Phase II, CU1 is $94,197, the total of which is $446,823. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the maximum Phase I cost of $352,626 or the maximum Phase II, CU1 cost of $94,197 are subject to amendment of this Agreement and Task Force approval, as provided in ARTICLE XIX. The maximum amount of DNR's required minimum five percent (5%) cash contribution for Phase I is $117,542 and Phase II, CU1 is $31,399. Funding methods and limits of obligations are specified in ARTICLE XIX-PROJECT COST LIMITS. When the PL 101-646 Task Force authorizes expenditures for post-construction monitoring and operation, maintenance and rehabilitation beyond the initial three (3) year minimum, this Agreement shall be amended in accordance with ARTICLE XX."

2. ARTICLE XIX – PROJECT COST LIMITS

Paragraph "a." contained in the May 16, 2001 Agreement is deleted in its entirety and the following is substituted therefor:

"a. The PL 101-646 Task Force has financed Phase I at an estimated cost of $1,880,670 and the Phase II, CU1 at an estimated cost of $502,382. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design and Real Estate requirements up to, but not including, the purchase of real estate. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, and Project Management. Phase II funding is comprised of those funds needed for Construction, the first three (3) years of Post-construction Biological Monitoring, Operation, Maintenance and Rehabilitation and the Purchase of Real Estate. Construction includes Project Management, Contract Management, Construction Supervision and Inspection. To provide flexibility in the funding of the Project, the PL 101-646 Task Force has authorized a maximum Phase I and Phase II cost of 125% of the estimated Phase I and Phase II, CU1 costs or $2,350,838 and $627,978 respectively. Any cost in excess of these maximum total Phase I and Phase II costs is subject to Task Force approval and amendment of this Agreement as provided in ARTICLE XX. The 100% budget for each Phase by funding category includes the following:

PHASE I

1.	E&D (including supervision & administration)	$ 1,785,497
2.	Easements and Landrights	$ 47,126
3.	Pre-Construction Monitoring	$ 48,047
Total Phase I		$ 1,880,670

PHASE II (CU1, Vegetative Plantings only)

1.	Construction (including Project & construction management and construction supervision & inspection)	$ 439,842
2.	Easements and Landrights	$ 0
3.	Post-Construction Monitoring	$ 60,291
4.	Operation, Maintenance and Rehabilitation	$ 0
5.	U.S. Corps of Engineers Project Management	$ 2,249
Total Phase II (Vegetative Plantings only)		$ 502,382

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed on this 24th day of September, 2002, before the undersigned witnesses.

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

BY: _____
David W. Frugé
Supervisor
Louisiana Field Office

WITNESSES:

_____

_____

_____

THE STATE OF LOUISIANA

BY: _____
Jack C. Caldwell, Secretary
Louisiana Department of
Natural Resources

WITNESSES:

_____

_____

_____

APPROVED
Office of the Governor
Office of Contractual Review

OCT 24 2002

_____
Asst DIRECTOR

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000.00 and not more than $100,000.00 for each such failure.

DATE: _____

_____
Jack C. Caldwell, Secretary
Department of Natural Resources
State of Louisiana

CERTIFICATION OF AUTHORITY

I, Warren A. Fleet, do hereby certify that I am the principal legal officer of the Department of Natural Resources for the State of Louisiana, that the Department of Natural Resources for the State of Louisiana is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the U. S. Fish and Wildlife Service and the State of Louisiana in connection with the **NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)**, Terrebonne Parish, LA, and that the persons who have executed this Amendment on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 25th day of September, 2002.

Warren A. Fleet
Warren A. Fleet
General Counsel

STATE OF LOUISIANA
PARISH OF LAFAYETTE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 1st day of October, 2002, personally came and appeared David W. Frugé who declared that he is the Supervisor of the U.S. Department of Interior, Fish and Wildlife Service, Louisiana Field Office, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.

Jennifer Pryor
NOTARY PUBLIC

My commission expires: At Death
(SEAL)

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 25th day of September, 2002, personally came and appeared Jack C. Caldwell, to me known, who declared that he is the Secretary of the Department of Natural Resources, State of Louisiana, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted by him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.

Mary T. Perkins
NOTARY PUBLIC

My commission expires: with life
(SEAL)

State of Louisiana

M.J. "MIKE" FOSTER, JR.
GOVERNOR

JACK C. CALDWELL
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

June 29, 2001

Dave Fruge'
US Department of the Interior
Fish & Wildlife Service
Ecological Services
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

RE: North Lake Merchant Landbridge Restoration Project
FWS Agreement No. _____
DNR Cost Share Agreement No. 2511-01-24
OCR Cost Share Agreement No. 435-100346

RECEIVED
2001 JUL 2 AM 9 47

Dear Mr. Fruge':

Enclosed for your records please find an executed copy of the above mentioned agreement reflecting the required approval of the Louisiana Division of Administration, Office of Contractual Review.

If you have any questions, please call me at (225) 342-4518.

Sincerely,

Karen Y. Lewis

Karen Y. Lewis
Contracts & Grants Administrator

Enclosures

cc: Dan Llewellyn, CRD
Verlie Wims, Fiscal

Rec'd
7/2/2001
CD

57245

FWS Agreement No._____

DNR Agreement No. 2511-01-24

Approved Format 16A

COST SHARE AGREEMENT

BETWEEN

U.S. DEPARTMENT OF THE INTERIOR - FISH AND WILDLIFE SERVICE

AND

THE STATE OF LOUISIANA

FOR PLANNING, ENGINEERING AND DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, REHABILITATION AND MONITORING OF THE NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

PTE-xx / TE-44

THIS AGREEMENT, entered into this 16th day of May, 2001 by and between the U.S. Department of the Interior, represented by the Fish and Wildlife Service (hereinafter referred to as "FWS"), acting by and through the Regional Director, Region 4, and the State of Louisiana, acting by and through the Secretary, Department of Natural Resources (hereinafter referred to as "DNR").

WITNESSETH, THAT:

WHEREAS, expenditure of Phase I funding for the North Lake Mechant Landbridge Restoration Project (PTE-xx/TE-44) was authorized by the Coastal Wetlands Planning, Protection and Restoration Act (hereinafter referred to as "CWPPRA") of 1990 (16 U.S.C. Section 3961 *et seq.*; Public Law 101-646, Title III), and for local sponsorship by the Louisiana Coastal Wetlands Conservation Plan, by the State of Louisiana in January 2001; and,

WHEREAS, upon successful completion of Phase I, expenditure of Phase II funding for the North Lake Mechant Landbridge Restoration Project may be authorized by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (hereafter referred to as the "Task Force");

WHEREAS, the State's Coastal Wetlands Conservation Plan was approved on November 30, 1997; all costs incurred on or after December 1, 1997 are shared at eighty-five percent (85%) Federal and fifteen percent (15%) non-Federal;

WHEREAS, Section 303(e) of CWPPRA states that the Secretary of the Army shall not fund the identified project unless said project is subject to such terms and conditions necessary to ensure that

Recd 7/2/01

wetlands restored, enhanced, or managed through the project will be administered for the long-term conservation of such lands and waters and dependent fish and wildlife populations; and,

WHEREAS, FWS is authorized by federal law to enter a cost-sharing agreement with DNR to provide financial cost-share assistance for the construction, operation, maintenance, rehabilitation, and monitoring of the Project; and,

WHEREAS, La. R.S. 49:213 and La. R.S. 49:214 state that the Secretary of DNR may enter into cost-sharing agreements with the federal government in order to conserve, restore, create, and enhance vegetated wetlands in coastal Louisiana in accordance with prescribed legislative oversight; and,

WHEREAS, DNR has agreed to pay 5% of the total Project cost in actual cash and the remaining balance of its share in the form of in-kind contributions; and,

WHEREAS, DNR is willing to participate in cost-sharing and financing in accordance with the terms of this Agreement;

NOW, THEREFORE, the parties agree as follows:

ARTICLE I – DEFINITIONS AND GENERAL PROVISIONS

For the purposes of this Agreement:

a. The term **"Project"** shall mean the work authorized by Congress as specified above for the construction of the North Lake Mechant Landbridge Restoration Project (PTE-xx/TE-44). The PTE-xx/TE-44 Project is located in Terrebonne Parish. The Project objectives are to protect and restore the north Lake Mechant landbridge and the Small Bayou LaPointe Ridge.

b. The term **"total Project costs"** shall mean all costs incurred by DNR and FWS directly related to implementation of the Project. Such costs shall be those costs incurred after January 10, 2001; and which shall include, but not necessarily be limited to, the following: actual costs of applicable project management, geotechnical investigations, detailed engineering and design; actual construction costs; construction management, supervision and inspection costs; operation costs; monitoring costs; the cost of land rights acquisition, easements, servitudes, rights-of-way; utility and facility alterations or relocations; maintenance; and rehabilitation for the Project.

c. The term **"total first costs"** shall mean all costs incurred by DNR and FWS directly related to completion of the construction phase of the project as identified in the official CWPPRA authorization document prepared by the CWPPRA Task Force January 10, 2001, and submitted to Congress.

d. The term **"period of construction"** shall mean the time from the advertisement of the first construction contract to the time that the Contracting Officer certifies to DNR that construction of

the entire project is complete. The Contracting Officer shall furnish to DNR copies of the government's written Notice of Acceptance of Complete Work furnished to contractor(s) for all contracts for the Project.

e. The term **"Contracting Officer"** shall mean the FWS Regional Director, Region 4, or his/her designee.

f. The term **"relocations"** shall mean the preparation of plans and specifications for, and the accomplishment of any alteration, modification, lowering or raising in place, and/or a new construction related to, but not limited to, existing: buildings, pipelines, public utilities (such as municipal water and sewer lines, telephone lines, and storm drains), aerial utilities, cemeteries, and other facilities, structures, and improvements determined by FWS and DNR to be necessary for the construction, operation, maintenance, monitoring, and rehabilitation of the Project.

g. The term **"utility"** shall mean pipelines, cables, and similar facilities.

h. The term **"fiscal year"** shall mean one fiscal year of the United States Government, unless otherwise specifically indicated. The Government fiscal year begins on October 1 and ends on September 30.

i. The term **"construction management costs"** shall mean costs incurred by FWS directly supervising and administering construction contracts, to include related overhead costs, as specified in applicable contracting regulations.

j. The term **"Project Monitoring Plan"** shall mean a plan jointly developed and approved by DNR and FWS specifically for the Project which identifies all monitoring requirements, parameters and procedures. DNR will be responsible for collection of monitoring data and assimilation as part of the local cost-share responsibilities. Monitoring will be conducted for the expected life of the Project or as agreed by FWS and DNR.

k. The term **"maintenance"** shall mean any action completed after the construction period that is required to maintain the Project at "as built" standards, and costing less than twenty percent (20%) of the original construction cost.

l. The term **"rehabilitation"** shall mean any action completed after the construction period that is required to maintain the Project at "as built" standards, and costing twenty percent (20%) or more of the original construction cost.

m. The term **"Operation, Maintenance, and Rehabilitation Plan"** shall be a plan jointly developed and approved by FWS and DNR upon completion of the Project and prior to acceptance by DNR of the completed Project or functional portion of the Project. The Operation, Maintenance, and Rehabilitation Plan will address specific items, including any related landrights issues, with estimated

costs, to be performed throughout the expected life-span of the Project and will be revised periodically to reflect actual needs.

n. The term **"operation, maintenance, and rehabilitation costs"** shall mean all costs incurred by DNR and FWS related to operating, maintaining, and rehabilitating the final accepted Project. Specific requirements and responsibilities shall be identified and mutually accepted by both parties in an "Operations, Maintenance, and Rehabilitation Plan".

o. The term **"obligation"** refers to amount of orders placed, contracts awarded, services rendered, or other commitments made during a given period which will require outlay during the same or some future period.

p. The term **"engineering and design costs"** shall mean all costs incurred by DNR and FWS related to the development, approval, and acceptance of detailed engineering and design plans, specifications, and Project bid documents. This will also include all supervision and administrative costs associated with the engineering and design phase of the Project and will terminate with the award of a Project construction contract.

q. The term **"monitoring costs"** shall mean all costs by DNR and FWS in developing and implementing the Project Monitoring Plan to evaluate the effectiveness of the Project in reaching Project objectives. This shall include, but not be limited to, such items as plan development and review, conducting pre- and post-construction monitoring procedures, collection and evaluation of data, and preparation of monitoring reports.

r. The term **"functional portion of the Project"** shall mean a completed portion of the Project as determined by the Contracting Officer and DNR in writing to be suitable for tender to DNR for operation and maintenance in advance of completion of the entire Project. To be suitable for tender, the Contracting Officer must determine that the completed portion of the Project can function independently and for a useful purpose, although the balance of the Project is not complete.

s. The term **"life of the Project"** shall mean the next twenty (20) years starting at the date of acceptance of the final Project, or functional portion of the Project, as provided in Article V.e. of this Agreement.

t. The term **"Phase I"** shall include but not be limited to any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate.

u. The term **"Phase II"** shall mean Construction, Post-construction Biological Monitoring, Operation and Maintenance, and Rehabilitation. Construction includes Project Management, Contract Management, Construction Supervision, Inspection, and the Purchase of Real Estate.

v. The term **"CWPPRA Project Standard Operating Procedures Manual"** shall mean the standard procedures to be used by FWS and the State in the management of the Project. These standard procedures shall not supersede nor invalidate any rules or regulations internal to FWS or the State.

ARTICLE II – OBLIGATIONS OF THE PARTIES

a. No federal funds may be used to meet the DNR share of Project costs under this Agreement unless the expenditure of such funds is expressly authorized by statute as verified in writing by the granting agency.

b. DNR shall:

1. Over the life of the Project, fund a total contribution equal to the non-federal share of the total Project costs, including a minimum cash contribution of five percent (5%) of the total Project costs. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of way obtained through or owned by DNR, or relocations credit granted for Project features furnished by DNR, and all administrative and management costs required by DNR to fulfill the obligations specified in this Agreement including pre- and post-construction Project monitoring, permitting coordination, geotechnical investigation, engineering services, landrights amendment processing and or acquisition, maintenance, operation, and/or rehabilitation responsibilities accepted by DNR.

2. Prior to advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a minimum cash contribution of five percent (5%) of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract.

3. Prior to the advertisement of each construction contract, and as further specified in Article VI.b.2. hereof, provide a contribution equal to the non-federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. Said contribution will include cash and/or credit granted from land rights, easements, servitudes, and rights-of-way obtained through or owned by DNR, or relocations credit granted for Project features furnished by DNR, administrative and management costs, and any engineering and/or, biological, or hydrological review evaluations required by DNR to fulfill the obligations specified in this Agreement.

4. Implement the Project Monitoring Plan in accordance with procedures jointly developed with FWS and, as further specified in Article VIII, to assure the performance of the long-term monitoring requirements.

5. Provide specific engineering services, associated with the Project, subject to the cost-sharing provisions, and as mutually agreeable to both DNR and FWS, or its engineering

representative. Specific engineering services to be provided by DNR may include design surveys, preparation of plans and specifications, post-construction surveys, geotechnical, engineering, design, land services, and construction management services, etc., associated with the project, as requested by the FWS, subject to the cost-sharing provisions identified. All such services will be approved by and subject to the supervision and guidance of FWS Project Manager or engineering representative.

6. Acquire all land rights, servitudes, rights-of-way, easements, and material borrow and disposal areas associated with the Project which are determined to be necessary, subject to cost-sharing terms previously identified.

7. Jointly develop an Operation, Maintenance, and Rehabilitation Plan with the FWS which will identify specific long-term maintenance, operation, and rehabilitation requirements. Said plan will be developed upon completion of the Project features in accordance with Article I.m., and will be reviewed and modified as necessary after an evaluation conducted by DNR, with FWS participation, within 12-18 months following completion of construction.

8. Provide for non-federal share of costs identified in the Operation, Maintenance, and Rehabilitation Plan, according to Article VIII.a.

9. Assume all responsibilities (including engineering, design, and construction services) for operation, maintenance, and rehabilitation of the Project upon acceptance of the completed Project, limited only by the provisions of Article XVI. FWS will reimburse DNR using electronic funds transfer (EFT) procedures in accordance with 31 CFR 208 for the federal share of such costs, subject to availability of funds.

10. Participate in a preliminary design review with FWS at thirty percent (30%) completion of Phase I project evaluation in accordance with Section 5.(k).8 and 5.(k).9, CWPPRA, Project Standard Operating Procedures Manual.

11. Provide authorized technical services including, but not limited to, obtaining basic information; preparation of drawings, design, and specifications; and performance of layout, inspection services, and quality assurance during construction. The design report, preliminary and final plans must be reviewed by the FWS Project Manager and concurred upon prior to advertisement.

12. Submit to FWS the completed As-built Surveys/Construction drawings and Construction Completion Report.

c. FWS shall:

1. Over the life of the Project, fund a total contribution equal to the federal share of the total Project costs, including any relocation costs associated with the Project.

2. Prior to the advertisement of each construction contract, FWS shall provide a contribution equal to the federal share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract, including any relocation costs associated with the Project.

3. Except as limited by the provisions of Article VIII.b., and subject to the availability of appropriations, reimburse DNR for the federal share of the approved cost of pre- and post-construction monitoring of the Project upon receipt of the request for reimbursement.

4. Reimburse DNR using electronic funds transfer (EFT) procedures in accordance with 31 CFR 208 for the federal share of the actual costs incurred by DNR for project management, geotechnical and engineering services, and permitting coordination provided for the Project, and acquiring all land rights (easements, servitudes, and rights-of-way, including suitable borrow material and disposal areas) as determined by FWS to be necessary for Project construction, operation, monitoring, maintenance, and rehabilitation.

5. Participate with DNR on the level of design effort needed to determine the effectiveness of a project in achieving intended environmental benefits.

6. Provide all engineering, design, including but not limited to surveying, geotechnical investigations, hydrological modeling as deemed necessary by DNR and FWS, land services, and construction services, except those mutually agreed as specified in Article II.b.5. and Article II.b.9. associated with the Project, subject to the cost-sharing provisions identified.

7. Participate in a preliminary design review with DNR at thirty percent (30%) completion of Phase I project evaluation in accordance with Section 5.(k).8 and 5.(k).9, CWPPRA, Standard Operating Procedure.

8. Provide the federal share of costs identified in the Operation, Maintenance, and Rehabilitation Plan and actually incurred by DNR, subject to the limitations on expenditures set forth in Article XIX.

9. Arrange for and conduct final inspection of the completed works of improvement with DNR to determine whether all work has been performed in accordance with the contractual requirements. Based on this determination, accept work from the contractor and notify DNR of acceptance.

10. Participate, with DNR, in an evaluation within 12 – 18 months following the completion of construction to assess maintenance, operation, and rehabilitation needs. FWS will also participate with DNR in any subsequent evaluations as the parties deem necessary to address long-term maintenance, operation, and rehabilitation of the Project.

11. Ensure that all National Environmental Policy Act (NEPA) and regulatory requirements, including permits, for the Project are met.

ARTICLE III – LAND RIGHTS, FACILITIES, AND PUBLIC LAW 91-646 RELOCATION ASSISTANCE

a. On non-Federal lands, DNR shall acquire all land rights, easements, servitudes, rights-of-way, and material borrow and disposal areas determined to be necessary for construction of the Project and as mutually agreed-to by DNR and FWS. Prior to the advertisement of any construction contract, DNR shall provide certification to FWS that all land rights, easements, servitudes, rights-of-way and material borrow and disposal areas required, have been acquired as part of this Agreement and shall furnish to FWS evidence supporting actual rights-of-way acquired by DNR for Project construction, operation, monitoring, and maintenance.

b. The State shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR part 24, in acquiring lands, easements, and rights-of-way for construction and subsequent operation, maintenance, and rehabilitation of the project.

c. No title to the property or minerals affected herein are transferred with any easements, servitudes, rights-of-way, and material borrow and disposal areas provided by DNR pursuant to this Agreement. No public rights of ownership shall be transferred and vested in private parties as a result of the Project. Further, any easements, servitudes, rights-of-way, and material borrow and disposal areas shall provide for reasonable access for mineral exploration and development.

ARTICLE IV – VALUE OF LAND RIGHTS AND FACILITIES

a. The value of the land rights, easements, servitudes, and rights-of-way to be included in total Project costs and credited towards DNR's share of total Project costs will be determined in accordance with the following procedures:

1. The costs associated with securing all land rights, easements, servitudes, and rights-of-way to be acquired by DNR (Article III.a.) shall be the actual costs including, but not limited to, expenses associated with securing legal land rights instruments from all sources (legal reviews, recording fees, etc.) associated with Project activities. An estimate of such costs will be prepared by DNR and approved by FWS for credit allowance as part of the DNR cost-share. Credit allowance for any costs above this estimate must be approved by FWS.

2. Any costs incurred for relocations will be included in total Project costs and will be accomplished as part of Project construction through the agreed cost-share arrangement.

ARTICLE V – CONSTRUCTION PHASING AND MANAGEMENT

a. To provide for consistent and effective communication between DNR and FWS during the period of construction, DNR and FWS shall appoint representatives to coordinate scheduling, plans, specifications, modifications, contract costs, and other matters relating to construction of the Project.

b. FWS will participate with DNR, or its appointed representative, in the engineering and design phases of the Project. Oversight of engineering and construction of the Project will be the responsibility of DNR or its appointed representative. At least thirty (30) calendar days prior to the date of formal request for construction bids, DNR, or its appointed representative, shall provide FWS with final copies of all Project designs and specifications for review and concurrence by FWS. FWS, or its appointed representative, and DNR shall concur in the final designs and specifications prior to proceeding with bid solicitations on all project construction contracts. Any plan and/or specification(s) changes, both before and after award of construction contracts, shall be jointly approved by FWS and DNR.

c. The representatives appointed above shall meet as necessary during the period of construction and shall make such recommendations as they deem warranted to the Contracting Officer.

d. The Contracting Officer shall consider the recommendations of the representatives in all matters relating to construction of the Project; but the Contracting Officer, having ultimate responsibility for construction of the Project, has complete discretion to accept, reject, or modify the recommendations.

e. Following completion of the Project, or functional portion of the Project, final acceptance of the Project, or functional portion of the Project, will be jointly made by FWS and DNR. Should the Project, or functional portion of the Project, not meet plan specification objectives, then DNR will have the option to approve modification of the Operation, Maintenance, and Rehabilitation Plan, or to terminate this Agreement. However, both DNR and FWS shall endeavor to modify the Project and/or its Operation, Maintenance, and Rehabilitation Plan to ensure that the original plan specification objectives are achieved.

ARTICLE VI – METHOD OF PAYMENT

a. DNR shall provide the contributions required under Article II of this Agreement. The Task Force has estimated a Phase I cost of $1,880,670 and authorized a maximum Phase I cost of $2,350,840 for this particular Project. To meet its share, DNR will contribute, through in-kind services or in cash, the non-federal share of the maximum Phase I costs. The maximum amount of DNR's contribution is $352,626. This figure is subject to modification as provided for in Section 303(f) of CWPPRA. Any costs in excess of the maximum Phase I cost of $2,350,840 are subject to amendment of this Agreement and Task Force approval, as provided in Article XIX. The maximum amount of DNR's required minimum five percent (5%) cash contribution for Phase I is $117,542. Funding methods and limits of obligations are specified in Article XIX – Project Cost Limits. Should the Task Force authorize expenditure of Phase II funding, this Agreement shall be amended in accordance with Article XX.

b. DNR shall provide its required cash contribution in proportion to the rate of federal expenditures in accordance with the following provisions:

1. For purposes of budget planning, FWS shall notify DNR by October 1 of each year of the estimated funds that will be required from DNR to meet its share of total Project costs for the subsequent fiscal year.

2. No later than sixty (60) calendar days prior to the advertisement of each construction contract, FWS shall notify DNR of DNR's share of that portion of total first costs incurred to date and anticipated to be expended through completion of that construction contract. This amount will include the non-federal share of total first costs in cash and/or credit as described in Article II.b.3., and the minimum cash contribution of five percent (5%) of total first costs as described in Article II.b.2. No later than thirty (30) calendar days thereafter, DNR shall verify to the satisfaction of FWS or its representative, that it has deposited the requisite amount in an escrow account with interest accruing to DNR.

3. For the second and subsequent fiscal years of Project implementation, no later than sixty (60) calendar days prior to the beginning of the fiscal year, DNR shall make the necessary funds available to FWS through the funding mechanism specified in Article VI.b.2. of this Agreement. As construction of the Project proceeds, FWS shall adjust the amount required to be provided under this paragraph to reflect actual costs.

4. If, at any time during the period of construction, FWS determines that additional funds will be needed from DNR to meet DNR's required share, FWS shall so notify DNR, and DNR, no later than forty-five (45) calendar days from receipt of such notice, shall make the necessary funds available through the funding mechanism specified in Article VI.b.2. of this Agreement.

c. FWS will draw on the escrow account such sums as FWS deems necessary to cover contractual and in-house fiscal obligations attributable to the Project on an annual basis, as well as costs incurred by FWS prior to the initiation of construction but after January 10, 2001, according to Article I.b.

d. The escrow account will be managed for FWS by the New Orleans District, U.S. Army Corps of Engineers. Funds will be withdrawn from the account and disbursed to FWS as requested.

e. Upon completion of the Project, or termination of this Agreement in accordance with Article XV of this Agreement, and resolution of all relevant contract claims and appeals, FWS shall compute the total Project costs and tender to DNR a final accounting of DNR's share of total Project costs. In the event that the total contribution by DNR is less than its minimum required share of total Project costs, DNR shall, no later than ninety (90) calendar days after receipt of written notice, make a

cash payment to FWS of whatever sum is required to meet its minimum required non-federal share of total Project costs, subject to the availability of appropriations.

f. In the event DNR has made cash contributions in excess of five percent (5%) of total Project costs which result in DNR having provided more than its required share of total Project costs, FWS shall, no later than ninety (90) calendar days after the final accounting is complete, subject to the availability of appropriations, return said excess to DNR; however, DNR shall not be entitled to any refund of the five percent (5%) cash contribution required pursuant to Article II.b.2. of this Agreement.

g. If DNR's total contribution under this Agreement (including land rights, easements, rights-of-way, relocations, material borrow and disposal areas, and work-in-kind provided by DNR and approved by FWS) exceeds DNR's required non-federal share of total Project costs, FWS shall verify the actual exceeded costs and direct the U.S. Army Corps of Engineers, subject to the availability of appropriations for that purpose, and the minimum five percent (5%) cash requirement, refund the excess to DNR no later than ninety (90) calendar days after the final accounting is complete.

ARTICLE VII – DISPUTES

Before any party to this Agreement may bring suit in any court concerning an issue relating to this Agreement, such party must first seek in good faith to resolve the issue through negotiations or other forms of non-binding alternative dispute resolution mutually acceptable to the parties.

ARTICLE VIII – MONITORING, OPERATING, MAINTENANCE, AND REHABILITATION

a. After FWS has accepted, with the concurrence of DNR, the completed Project, or the functional portion of the Project, DNR shall assume long-term monitoring responsibilities in accordance with the Project Monitoring Plan defined in Article I.j. of this Agreement. At this same time, DNR will also assume responsibilities for operation, maintenance and rehabilitation of the completed Project, or functional portion of the Project, following the recommendations jointly developed and approved by DNR and FWS in the Project Operation, Maintenance, and Rehabilitation Plan defined in Article I.m. of this Agreement. These responsibilities will remain in effect for the expected life of the Project which is twenty (20) years from the date of acceptance of the completed Project unless otherwise agreed to by FWS and DNR.

b. DNR grants FWS the right to enter, at reasonable times and in a reasonable manner, upon land which it owns or maintains access easements to the Project, for the purpose of inspection related to monitoring, operating, maintaining, replacing, or rehabilitating the Project. If an inspection shows that DNR, for any reason, is failing to fulfill its obligations under this Agreement, FWS will send a written notice to DNR concerning a need for compliance. If DNR persists in such failure for ninety (90) calendar days after receipt of this notice, then FWS shall have a right to cancel the federal assistance portion of this Agreement for any additional expenses related to monitoring, operation, maintenance, and rehabilitation costs of the Project.

ARTICLE IX – MAINTENANCE OF RECORDS

FWS and DNR shall keep books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect total Project costs. FWS and DNR shall maintain such books, records, documents and other evidence for a minimum of three (3) years after completion of construction, operation, maintenance, repair, replacement, rehabilitation, and monitoring of the Project and resolution of all relevant claims arising therefrom, and shall make available at their offices at reasonable times, such books, records, documents, and other evidence for inspection and audit by authorized representatives of the parties to this Agreement.

ARTICLE X – GOVERNMENT REVIEW OF RECORDS

FWS shall have the right to conduct an audit, when appropriate, of DNR's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the non-federal share of Project costs.

ARTICLE XI – STATE REVIEW OF RECORDS

DNR shall have the right to conduct an audit, when appropriate, of FWS's records for the Project to ascertain the reasonableness and allowability of its costs for inclusion as credit against the federal share of Project costs.

ARTICLE XII – RELATIONSHIP OF PARTIES

The parties to this Agreement act in an independent capacity in the performance of their respective functions under this Agreement, and neither party is to be considered the officer, agent, or employee of the other.

ARTICLE XIII – OFFICIALS NOT TO BENEFIT

No member of, or delegate to, the Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

ARTICLE XIV – COVENANT AGAINST CONTINGENT FEES

DNR warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by DNR for the purpose of securing business. For breach or violation of this warranty, FWS shall have the right to annul this Agreement without liability, or, in its discretion, to add to the Agreement or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

ARTICLE XV – TERMINATION OR SUSPENSION

a. If FWS or DNR fails to receive annual appropriations for the Project in amount sufficient to meet Project expenditure for the then-current or upcoming fiscal year, FWS or DNR shall so notify the other Party. After sixty (60) calendar days from such notification either party may elect, without penalty, to terminate this Agreement pursuant to this Article or to defer future performance hereunder; however, deferral of future performance under this Agreement shall not affect existing obligations or relieve the parties of liability for any obligation previously incurred. In the event that either party elects to terminate this Agreement pursuant to this Article, both parties shall conclude their activities relating to the Project and proceed to final accounting in accordance with Article VI of this Agreement. In the event that either party elects to defer future performance under this Agreement pursuant to this Article, such deferral shall remain in effect until such time as FWS or DNR receives sufficient appropriations or until either party elects to terminate this Agreement.

b. Except as provided in paragraph (a) above, if at any time DNR fails to make the payments required under this Agreement, FWS shall terminate or suspend work on the Project until DNR is no longer in arrears, unless FWS determines that continuation of work on the Project is in the best interest of the United States or is necessary in order to satisfy agreements with any other non-federal interests in connection with the Project. DNR shall not be liable for any future payments should FWS continue work on the Project, but shall remain liable for obligations previously incurred.

ARTICLE XVI – OBLIGATIONS OF FUTURE APPROPRIATIONS

Nothing herein shall constitute, or be deemed to constitute, an obligation of future appropriations by the legislature of the State of Louisiana when obligating future appropriations would be inconsistent with the State's constitutional or statutory limitations.

ARTICLE XVII – NOTICES

a. All notices, requests, demands, and other communications required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and delivered personally, given by prepaid telegram, or mailed by first-class (postage pre-paid), registered, or certified mail, as follows:

If to DNR:

Secretary, Department of Natural Resources
P.O. Box 94396
Baton Rouge, LA 70804-9396

If to FWS:

Regional Director, U.S. Fish and Wildlife Service
1875 Century Boulevard
Atlanta, Georgia 30345

b. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

c. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at such time as it is personally delivered or seven (7) calendar days after it is mailed, as the case may be.

ARTICLE XVIII – CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XIX – PROJECT COST LIMITS

a. The Task Force will finance the Project in two phases. Phase I funding is comprised of those funds needed for any necessary analysis of environmental benefits, any necessary hydrologic data collection and analysis, Pre-construction Biological Monitoring, and Engineering and Design. Engineering and Design includes Engineering, Design, Environmental Clearances, Permitting, Project Management and Real Estate requirements up to, but not including, the purchase of real estate. The Task Force estimated Phase I cost for this Project at $1,880,670. To provide flexibility in Phase I of the Project, the Task Force has authorized a maximum Phase I cost of 125% of the estimated Phase I cost or $2,350,840 for this particular Project. This is the total funding and obligation for FWS and the State until Phase II funding is approved. Any cost in excess of this maximum total Phase I cost is subject to Task Force approval and amendment of this Agreement, as provided in Article XX. The 125% budget for Phase I by funding category includes the following:

1.	E & D (including supervision & administration)	$2,231,872
2.	Easements and Landrights	$ 58,908
3.	Pre – Construction Monitoring	$ 60,060
	Total	$2,350,840

b. If, at any time during the performance of work for a particular funding category, the actual or anticipated cost of that category exceeds the 125% cost of that particular funding category as set forth in Article XIX.a. of this Agreement, all work in that particular category shall cease. FWS and DNR may agree to increase the cost of completing that particular category by transferring funds from one category to the other, but only if such increase would not result in the total Phase I costs exceeding the maximum total cost defined in Article XIX.a. of this Agreement. Such agreement regarding transferring funds from one category to the other shall be made by letter agreement confirmed by the mutual written approval of both the FWS Regional Director and the DNR Secretary. Work on that particular funding category shall thereafter resume.

c. After Phase I has been substantially completed, the Task Force may authorize expenditure of Phase II funding. This process will be accomplished as specified in the CWPPRA Project Standard Operating Procedures Manual. This Agreement shall then be amended in accordance with the provisions of Article XX to include the Phase II costs of Construction, Post-construction Biological Monitoring, Operation and Maintenance, and Rehabilitation. Construction includes Project Management, Contract Management, Construction Supervision, Inspection, and the purchase of real estate.

d. Post-construction Biological Monitoring and Operation, Maintenance and Rehabilitation costs will be funded in accordance with Section 5.(k).(1),(2),(3) of the CWPPRA Project Standard Operating Procedures Manual. This Agreement will be amended in accordance with the provisions of Article XX to reflect these CWPPRA and State funding obligations as they occur.

ARTICLE XX – AMENDMENTS TO BE IN WRITING

This Agreement may be modified by agreement of the parties, in accordance with the provisions of CWPPRA and applicable federal and state regulations. All such amendments, modifications, revisions, and/or changes to this Agreement must be made in writing and acknowledged by signature of the authorized representatives of all parties of this Agreement. All such amendments, modifications, revisions, and/or changes to this Agreement shall be subject to review and approval by the Division of Administration, State of Louisiana.

ARTICLE XXI – EQUAL OPPORTUNITY AND CIVIL RIGHTS

a. The program or activities conducted under this Agreement will be in compliance with the nondiscrimination provisions contained in the following Federal anti-discrimination laws: (1) Titles VI and VII of the Civil Rights Act of 1964 (Public Law 88-352), as amended; (2) the Civil Rights Restoration Act of 1987 (Public Law 100-259); (3) the Civil Rights Act of 1991 (Public Law 102-166), as amended; (4) Executive Order 11478, as amended; (5) Section 504 of the Rehabilitation Act of 1973 (PL 93-112), as amended; (6) Title II of the Americans with Disabilities Act of 1990 (PL 101-336); (7) the Age Discrimination in Employment Act (PL 93-259), as amended; (8) Age Discrimination Act of 1975 (PL 94-135); (9) Equal Pay Act; (10) Title IX of the Education Amendments of 1972, as amended; and (11) other Federal statutes that prohibit discrimination. They will also be in accordance with nondiscrimination regulations of the Secretary of Interior (43 CFR 17). The program or activities conducted under this Agreement will provide that no person in the United States shall on the grounds of race, color, national origin, age, sex, religion, marital status, handicap or sexual orientation be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial assistance from the Department of Interior or any agency thereof.

ARTICLE XXII – SURVEY

Prior to commencement of any construction activities, FWS or the Office of Coastal Restoration and Management of DNR, at the option of DNR, shall (1) cause to be conducted, a survey to determine the highest tide during winter season or such other time which will indicate the extent of State ownership existing prior to commencement of any restoration activities, or (2) obtain aerial photographs or satellite images of the project area taken within one (1) year prior to commencement of the restoration activity, or (3) acquire such other information as is acceptable to DNR to indicate the extent of State ownership. Any costs associated with this Article are considered a part of total Project costs and shall be cost-shared according to the terms previously identified.

ARTICLE XXIII – FEDERAL AND STATE LAWS

a. In exercise of DNR's rights and obligations hereunder, DNR agrees to comply with all applicable Federal and State laws and regulations.

b. FWS agrees to comply with all applicable Federal and State of Louisiana laws and/or regulations, unless state law and regulations are preempted by federal law.

ARTICLE XXIV – FISCAL FUNDING

The continuation of this contract is contingent upon the appropriation of funds by the Louisiana Legislature to fulfill the requirements of the agreement. If the Louisiana Legislature fails to appropriate sufficient monies to provide for the continuation of the agreement, or if such appropriation is reduced by the veto of the governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the agreement, the agreement shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT/ PTE-xx / TE-44

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the 29th day of May, 2001, before the undersigned witnesses.

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

BY: for Sam D. Hamilton
Regional Director

THE STATE OF LOUISIANA

BY: Jack C. Caldwell, Secretary
Louisiana Department of
Natural Resources

WITNESSES:

WITNESSES:

APPROVED
Office of the Governor
Office of Contractual Review
JUN 2 9 2001
DIRECTOR

CERTIFICATE OF AUTHORITY

I, Warren A. Fleet, do hereby certify that I am the principal legal officer of the Department of Natural Resources for the State of Louisiana, that the Department of Natural Resources for the State of Louisiana is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Natural Resources Conservation Service and the State of Louisiana in connection with the NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (PTE-xx / TE-44), Terrebonne Parish, LA, and that the persons who have executed this Agreement on behalf of the State have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 17th day of May, 2001.

Warren A. Fleet
General Counsel

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

DATE: 5-16-01

Jack Caldwell

JACK CALDWELL, Secretary
Department of Natural Resources
State of Louisiana

STATE OF GEORGIA
COUNTY OF DEKALB

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said County and State aforesaid, on this 24th day of May 2001, personally came and appeared Sam D. Hamilton who declared that he is the Regional Director of the U.S. Department of the Interior, Fish and Wildlife Service, that he executed the foregoing instrument on behalf of said Federal Agency and that the instrument was signed pursuant to the authority granted to him by said Federal Agency and that he acknowledged the instrument to be the free act and deed of said Federal Agency.

Wanda E Purdy
NOTARY PUBLIC

My commission expires: January 17, 2004

(SEAL)

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for said Parish and State aforesaid, on this 16th day of MAY, 2001, personally came and appeared Jack C. Caldwell, to me known, who declared that he is the Secretary of the Department of Natural Resources, State of Louisiana, that he executed the foregoing instrument on behalf of said State Agency and that the instrument was signed pursuant to the authority granted to him by said State Agency and that he acknowledged the instrument to be the free act and deed of said State Agency.

NOTARY PUBLIC

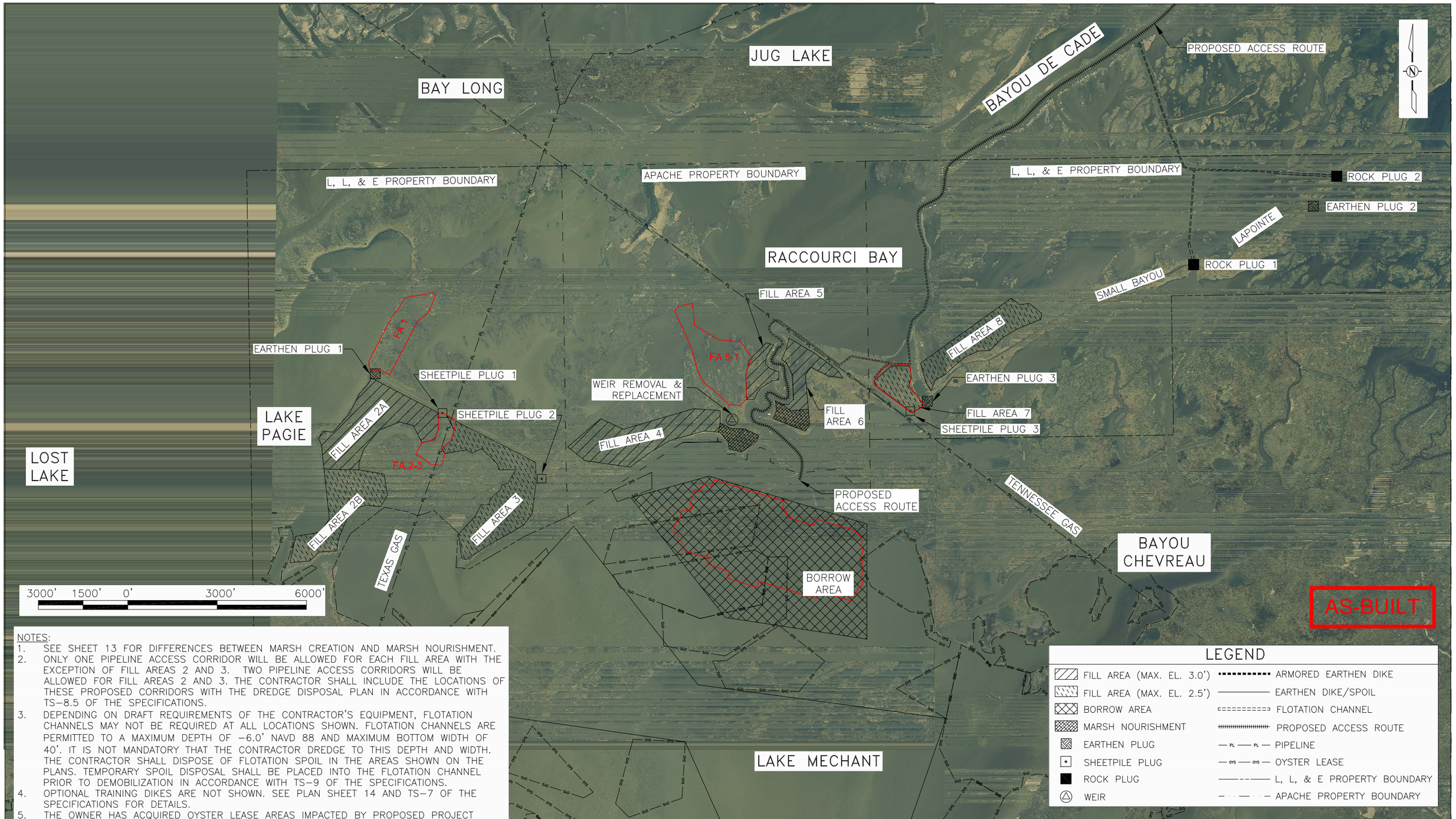
My commission expires: with death

(SEAL)

ATTACHMENT II

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

PROJECT FEATURES



NOTES:

1. SEE SHEET 13 FOR DIFFERENCES BETWEEN MARSH CREATION AND MARSH NOURISHMENT.
2. ONLY ONE PIPELINE ACCESS CORRIDOR WILL BE ALLOWED FOR EACH FILL AREA WITH THE EXCEPTION OF FILL AREAS 2 AND 3. TWO PIPELINE ACCESS CORRIDORS WILL BE ALLOWED FOR FILL AREAS 2 AND 3. THE CONTRACTOR SHALL INCLUDE THE LOCATIONS OF THESE PROPOSED CORRIDORS WITH THE DREDGE DISPOSAL PLAN IN ACCORDANCE WITH TS-8.5 OF THE SPECIFICATIONS.
3. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE TO THIS DEPTH AND WIDTH. THE CONTRACTOR SHALL DISPOSE OF FLOTATION SPOIL IN THE AREAS SHOWN ON THE PLANS. TEMPORARY SPOIL DISPOSAL SHALL BE PLACED INTO THE FLOTATION CHANNEL PRIOR TO DEMOBILIZATION IN ACCORDANCE WITH TS-9 OF THE SPECIFICATIONS.
4. OPTIONAL TRAINING DIKES ARE NOT SHOWN. SEE PLAN SHEET 14 AND TS-7 OF THE SPECIFICATIONS FOR DETAILS.
5. THE OWNER HAS ACQUIRED OYSTER LEASE AREAS IMPACTED BY PROPOSED PROJECT FEATURES. THE AREA ACQUIRED CONSISTS OF OYSTER LEASES WITHIN THE FILL AREA AND BORROW AREA BOUNDARIES, PLUS A 150.0' BUFFER AREA SURROUNDING THE BOUNDARIES. THE CONTRACTOR SHALL NOT IMPACT OYSTER LEASE AREAS OUTSIDE OF THE ACQUIRED LEASE AREA. WHERE THE CONTRACTOR CROSSES AN OYSTER LEASE AREA WITH THE DREDGE DISCHARGE PIPELINE, THE PIPELINE SHALL BE FLOATING ACROSS THE LEASE AREA.

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- BORROW AREA
- MARSH NOURISHMENT
- EARTHEN PLUG
- SHEETPILE PLUG
- ROCK PLUG
- WEIR
- ARMORED EARTHEN DIKE
- EARTHEN DIKE/SPOIL
- FLOTATION CHANNEL
- PROPOSED ACCESS ROUTE
- PIPELINE
- OYSTER LEASE
- L, L, & E PROPERTY BOUNDARY
- APACHE PROPERTY BOUNDARY

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT FEATURES

DATE: JANUARY 2008

SHEET 3 OF 65

ATTACHMENT III

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

PROJECT COMPLETION REPORT

North Lake Mechant Landbridge Restoration Project
TE-44

SCI PROJECT NO. 137876

FINAL
PROJECT COMPLETION REPORT

August 2010

Prepared for:
Louisiana Department of Natural Resources

Prepared By:
Shaw Coastal, Inc.
197 Elysian Drive
Houma, Louisiana 70363

Shaw® Shaw Coastal, Inc.

CPRA

North Lake Mechant Landbridge Restoration Project (TE-44)

PROJECT COMPLETION REPORT

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APPENDICES

A Progress Schedules

B Change Order No. 1 through No. 5 and Field Orders No. 1 through No. 7

C Preliminary Meeting & Pre-Construction Conference

D Final Inspection & Acceptance

E Project Data & Fact Sheet

F As-Built Drawings

G Survey Methodology

H Magnetometer Surveys

I Dredge Surveys

J Permits

K OCPR Acceptance of Work

L Staff Gauge Specifications

M Report on CD-ROM

PROJECT COMPLETION REPORT

PROJECT NAME: North Lake Mechant Land Bridge Restoration Project

CWPPRA/STATE PROJECT NO.: TE-44

Report Date: August 5, 2010 **By: Shaw Coastal, Inc.**

1. Project Managers/Contracting Officer

OCPR Construction Project Manager	Daniel Dearmond, P.E.	Telephone: 985-449-5103
OCPR Monitoring Manager	Andrew Beall	Telephone: 225-342-1952
Federal Agency Project Manager	Robert Dubois	Telephone: 337-291-3100
Construction Administration/Inspection	Hilary Thibodeaux, P.E.	Telephone: 985-858-3950

2. Location and Description of Projects as Approved for Construction by Task Force:

The North Lake Mechant Land Bridge Restoration Project (TE-44) is a shoreline protection and marsh creation project in the Terrebonne Hydraulic Basin in Terrebonne Parish, Louisiana. The North Lake Mechant Land Bridge Restoration Project area is located in an area bordered on the south by Lake Mechant, to the north by Bayou DeCade, to the west by Lake Pagie, and to the east by the natural levee of small Bayou LaPointe.

The site is accessible only by boat. The nearest boat launch is the Falgout Canal Marina, located on Falgout Canal in Dularge, Louisiana.

The purpose of the project is to prevent erosion along approximately 44,000 feet of North Lake Mechant Shoreline, create 600 Acres of intermediate marsh; reduce the land loss rates by over 50% over the life of the project, and restore the natural salinity barrier provided by the Small Bayou LaPointe ridge. The project consists of constructing 7 rock or earthen plugs, replacing an old weir, using dredged material to create 901 acres of marsh and armoring 2200 linear feet of channel slope. This project is sponsored by the Louisiana Office of Coastal Protection and Restoration Division and U.S Fish and Wildlife.

(Refer to Appendix E for fact sheet and project site map.)

3. Features, Boundaries and Resulting Acreage:

The project was constructed as described above. For additional information see attached Appendix F, As-built drawings.

This project created approximately 901 acres of marsh platform. Approximately 2200 feet of shoreline armor were put into place. Approximately 12,000 tons of rock was used to create 2 plugs.

4. Key Project Cost Elements:

	OCPR Project Report Estimates Data	Cost Incurred as of March, 2010
Construction	$	$33,128,619.49
E & D	$	$ 737,797.96
Land Rights	$	$ 134,868.92
Monitoring	$	$ 68,975.79
O & M	$	$ 127.20
Total	$	$34,070,389.36

Most Recent Estimate from CWPPRA project report see Appendix E.

Does not include state sponsor administrative costs.

5. Items of Work:

Schedule of Items							
Item No.	**Work**	**Unit**	**Bid Quant.**	**Bid Unit Price**	**Bid Amount**	**As-Built quantity**	**As-Built Amount**
Base Bid							
1	Mobilization and Demobilization	LS	1	$5,800,000	$5,800,000	1	$5,800,000
2	Surveying	LS	1	$300,000	$300,000	1	$300,000
3	Grade Stakes	EA	138	$1,700	$234,600	128	$217,600
4	Earthen Containment Dikes	LF	89,270	$13.00	$1,160,510	89,270	$1,160,510
5	Hydraulic Dredging	CY	4,970,000	$3.75	$18,637,500	5,076,776	$19,037,910
6	Access and Flotation Channels	LS	1	$675,000	$675,000	1	$675,000
7	Riprap	TN	12,000	$80.00	$967,000	12,088	$967,040
8	Woven Geotextile Fabric	SQY	25,000	$7.50	$187,500	25,000	$187,500
9	Non Woven Geotextile Fabric	SQY	16,535	$3.20	$52,912	16,577	$53,046.40
10	Concrete Mats	SQY	16,535	$84.00	$1,388,940	16,577	$1,392,468
11	Sheet Piling	SQF	21,788	$61.00	$1,329,068	21,788	$1,329,068
12	Earth Work	CY	12,600	$5.50	$69,300	6,592	$36,256
13	Existing Weir Removal	LS	1	$39,600	$39,600	1	$39,600
14	Settlement Plates	EA	7	$3,850	$26,950	7	$26,950
15	Warning Signs	EA	9	$4,400	$39,600	9	$39,600
				Original Bid Amount:	**$30,908,520.00**	**As-Built Amount:**	**$31,262,548.40**

Additional Change Orders								
Item No.	**Change Order**	**Work**	**Unit**	**Bid Quant.**	**Bid Unit Price**	**Bid Amount**	**As-Built quantity**	**As-Built Amount**
16	CO 1	Removal of Sunken Debris	LS	1	$15,400	$15,400	1	$15,400
17	CO 2	Fill Area 1 Mobilization and Demobilization	LS	1	$198,720	$198,720	1	$198,720
18	CO 2	Fill Area 1 Surveying	LS	1	$56,731.93	$56,731.93	1	$56,731.93
19	CO 2	Fill Area 1 Grade Stakes	LS	1	$20,161	$20,161	1	$20,161
20	CO 2	Fill Area 1 Earthen Containment Dikes	LF	7,862	$18.11	$142,380.82	7,862	$142,380.82
21	CO 3	Fill Areas 2/3 & 5-1 Mobilization and Demob.	LS	1	$190,691.72	$190,691.72	1	$190,691.72
22	CO 3	Fill Areas 2/3 & 5-1 Surveying	LS	1	$102,080	$102,080	1	$102,080
23	CO 3	Fill Areas 2/3 & 5-1 Grade Stakes	LS	1	$34,239	$34,239	1	$34,239
24	CO 3	Fill Areas 2/3 & 5-1 Earthen Containment Dikes	LF	10,057	$33.24	$334,294.68	10,057	$334,294.68
25	CO 4	Add Warning Signs Brackets	EA	4	$756.25	$3,025.00	4	$3,025.00
26	CO 4	Add Weir Barricade	EA	1	$3,718.00	$3,718.00	1	$3,718.00
					Original Amount:	**$1,101,442.15**	**As-Built Amount:**	**$1,101,442.15**

6. Construction and Construction Oversight:

Prime Construction Contractor	Manson Gulf, LLC
Subcontractor - Survey	C.H. Fenstermaker & Associates
Subcontractors – Containment Levees	Marsh Buggies Inc.
	Frogco
	Wilco Marsh Buggies, Inc.
	American Amphibious
Subcontractor – Rock	Bertucci
Subcontractor – Sheet Pile, Concrete Mats	Dupre Brothers
Subcontractors –Airboats	Chem Spray, Inc.
	All Terrain Services
Original Construction Contract	$30,866,770.00
Change Orders	$ 1,497,220.55
Final Construction Contract	**$32,363,990.55**

7. Major Equipment Used:
Dupre Brothers const.

Spud barges w/ cranes:
- Barge "DB #4" w/ LS108B Linkbelt Crawler
  - Crane – 50-ton crane w/ 80-ft. of boom
  - Deck dimensions – 100' x 28'
  - Draft – loaded w/ equipment – 2.5'
- Barge "Lil David" w/ LS128 Linkbelt Crawler
  - Crane – 60-ton crane w/ 90-ft. of boom
  - Deck dimensions – 100' x 34'
  - Draft – loaded w/ equipment – 3.0'
- Barge "Gulf Fab 112" w/ LS118 Linkbelt Crawler
  - Crane – 60-ton crane w/ 100-ft. of boom
  - Deck dimensions – 110' x 32'
  - Draft – loaded w/ equipment – 3.0'
- Barge "Luke 8" w/ LS318 Linkbelt Crawler
  - Crane – 80-ton crane w/ 110-ft. of boom
  - Deck dimensions – 120' x 40'
  - Draft – loaded w/ equipment – 3.5'
- Barge "Garret Wilson" w/ American 9260 Crawler
  - Crane – 125-ton crane w/ 120-ft. of boom
  - Deck dimensions – 120' x 45'

Draft – loaded w/ equipment – 3.0’

Tug boats

M/V “S.J.”

Power – 400 HP single screw
Dimensions – 44’ x 16’
Draft – 5.0’

M/V “Miss Emily”

Power – 400 HP single screw
Dimensions – 51’ x 18’
Draft – 5.5’

4.2.3 M/V “West Bay”

4.2.3.1 Power – 400 HP single screw
4.2.3.2 Dimensions – 51’ x 18’
4.2.3.3 Draft – 5.5’

M/V “Kent”

Power – 200 HP single screw day tug
Dimensions – 36’ x 13’
Draft – 3.0’

Material barges

Spud barge “LML 102”

Deck dimensions – 120’ x 30’
Draft Unloaded – 1.5’
Draft loaded w/ material – add ±1.0’ for every 100 tons of material evenly placed on the deck.

Rental Deck barges

Deck dimensions – 120’ x 30’
Draft Unloaded – 1.5’
Draft loaded w/ material – add ±1.0’ for every 100 tons of material evenly placed on the deck.

Aluminum crew boats

18-ft. Hanko w/ 150 HP outboard
20-ft. Hanko w/ 150 HP outboard
20-ft. Scully w/ twin 115 HP outboards

Fenstermaker Equipment:

- 2 – Dual frequency Geodetic RTK GPS receivers with accessories
- 1 - Survey vehicle with relevant support equipment
- 1 – Hydrographic survey vessel with relevant support equipment
- 1 - Airboat with all necessary safety equipment
- 1 - Geometrics® 858 cesium magnetometer
- 1 – Tinker and Rasor® Holiday Detector pipe detection system

Marsh buggies Equipment:

- Marsh Excavators, Model SC 311855 with Long Boom and Standard Boom size (Qty 4 to 8)
- Skid Pontoon Fuel Barges 12' Wide x 28' Long (Qty 8)
- 20 ft. Crew Boats with cabin, Outboard 150 hp (Qty 2)
- Mud Boats (Qty 2)
- Air Boats (Qty 2)
- Spud Barge with Crane / Excavator (Qty 1)

Manson Construction:

Dredge Leonard J

Bertucci Construction:

- 150’x40’x7.5’ spud barge (placement barge)
- 71B Bucyrus Erie Dragline with 100 feet boom length
- 14’x60’ mobile home used for quarters
- Three drum Clyde spud winch diesel powered
- 30KW generator set diesel powered
- 120’x30’x7’ spud barge (light loading barge and assist with placement)
- 330LX long front excavator
- Two drum spud winch diesel powered
- 450 hp twin screw shallow draft shift boat
- 600 hp twin screw shift boat
- 1200 hp twin screw push boat

8. Construction Sequences and Activities:

- June 17, 2008: Sub Contractor, C.H. Fenstermaker began surveying the project area.
- June 21, 2008: Manson Construction began mobilizing to the project site. Subcontractor Dupre Brothers Construction began mobilizing to the site.
- July 7, 2008: Subcontractor Marsh Buggies, Inc. began containment dike construction.
- July 13, 2008: Subcontractor Dupre Brothers Construction began access and floatation channel excavation.
- August 28, 2008 - October 6, 2008 Hurricanes Gustav and Ike caused high winds, high water, and rough seas; no work was conducted.
- October 21, 2008 - October 23 2008: Sub Contractor, Wilco Marsh Buggies Mobilized to the project site.
- October 31, 2008: Subcontractor Wilco Marsh Buggies, Inc. began containment dike construction.
- November 18, 2008: Change Order #1
- December 2, 2008: Rock Plug 2 Construction began.
- December 8, 2009: Rock Plug 1 construction began.
- December 15, 2008: Subcontractor Bertucci Construction mobilized to site.
- January 2, 2009: Fenstermaker began surveying grade stakes.
- January 15, 2009: Hydraulic Dredging began.
- January 15, 2009: FA 3 pumping began.
- January 25, 2009: FA 5 pumping began.
- February 18, 2009: FA 7 pumping began.
- February 26, 2009: FA 4 pumping began.
- March 16, 2009: FA 8 pumping began.
- March 25, 2009: Bertucci Construction demobilized from site.
- March 27, 2009: Armored Earthen dike construction began.
- April 8, 2009: FA 5 pumping completed.
- April 17, 2009: FA 3 pumping completed.
- April 20, 2009: FA 2A pumping began.
- April 25, 2009: Earthen Plug 1 construction began.
- April 27, 2009: Earthen Plug 2 construction began.
- May 1, 2009: Change Order #2
- May 12, 2009: FA 7 pumping completed.
- May 12, 2009: FA 2B pumping began.
- May 18, 2009: Sheet Pile Plug 1 construction began.
- May 30, 2009: Earthen Plug 3 construction began.
- June 4, 2009: FA 4 pumping completed.
- June 4, 2009: FA 8 pumping completed.
- June 10, 2009: FA 1 pumping began.
- June 28, 2009: FA 2B pumping completed.
- June 28, 2009: FA 2A pumping completed.

- July 24, 2009: Change Order #3
- July 25, 2009: FA 6 pumping began.
- August 5, 2009: FA 2/3 pumping began.
- August 5, 2009: FA 1 pumping completed.
- August 10, 2009: FA 5-1 pumping began.
- August 13, 2009: Wilco Marsh Buggies demobilized from site.
- August 18, 2009: FA 2/3 pumping completed.
- September 2, 2009: Sheet Pile Plug 3 construction began.
- September 3, 2009: FA 5-1 pumping completed.
- September 3, 2009: FA 6 pumping completed.
- September 11, 2009: Dredge, Leonard J, demobilized from site.
- September 24, 2009: Sheet Pile Plug 2 construction began.
- June 19, 2009: Sheet Pile Plug 3 construction began.
- October 20, 2009: New Sheet Pile Weir construction began.
- November 22, 2009: Dupre Brothers Construction demobilizes from site.
- November 23, 2009: Removal of grade stakes and final degrading of containment dikes.
- November 23, 2009: Project Demobilized Completely.
- December 29, 2010: Notice of Completion
- December 18, 2009: Change Order #4
- February 10, 2010: Change Order #5.

9. Construction Change Orders and Field Orders

Change Order No. 1 (November 18, 2008):
Increase the total Construction Cost from $30,866,770.00 to $30,916,880.00 with an increase in project construction time from 510 days to 556 days. The 46 day increase is directly related to Hurricanes Gustav and Ike project schedule disruption, hurricane related debris, and hurricane related damage

Item No.	Item	Unit	Original Quantity	Unit Cost	Original Bid Amount	Additional Quantity	Additional $ Amount	Bid Item $ Amount
4	Earthen Containment Dike	Linear Feet	86,600	$13.00	$1,125,800.00	2,670	$34,710.00	$1,160,510.00
16	Removal of Debris	LS	N/A	$15,400.00	N/A	1	$15,400.00	$15,400.00
						TOTAL:	**$50,110.00**	

Change Order No. 2 (May 1, 2009)
Increase the total Construction Cost from $30,916,880.00 to $31,334,873.75 with no increase in project construction time. Fill Area 1 was added to the project to correct an estimated under run in dredging quantities with the initial proposed layout.

Item No.	Item	Unit	Original Quantity	Unit Cost	Original Bid Amount	Additional Quantity	Additional Amount	Bit Item Total $ Amount
17	Additional Mobilization and Demobilization	LS	0	$198,720.00	N/A	1	$198,720.00	$198,720.00
18	Additional Surveying	LS	0	$56,731.93	N/A	1	$56,731.93	$56,731.93
19	Additional Grade Stakes	LS	0	$20,161.00	N/A	1	$20,161.00	$20,161.00
20	Additional Earthen Containment Dikes	LF	0	$18.11	N/A	7,862	$142,380.82	$142,380.82
						TOTAL:	**$417,993.75**	

Change Order No. 3 (July 24, 2009)

Increase the total Construction Cost from $31,334,873.75 to $32,003,219.15 with no increase in project construction time. Fill Areas 2/3 and 5-1 were added to the project to correct an estimated under run in dredging quantities with the initial proposed layout.

Item No.	Item	Unit	Original Quantity	Unit Cost	Original Bid $ Amount	Additional Quantity	Additional Amount	Bid Item Total $ Amount
7	Riprap	TN	12,000	$80.00	$960,000.00	88	$7,040.00	$967,040.00
21	Additional Mobilization and Demobilization	LS	0	$190,691.72	N/A	1	$190,691.72	$190,691.72
22	Additional Surveying	LS	0	$102,080.00	N/A	1	$102,080.00	$102,080.00
23	Additional Grade Stakes	LS	0	$34,239.00	N/A	1	$34,239.00	$34,239.00
24	Additional Earthen Containment Dikes	LF	0	$33.24	N/A	10,057	$334,294.68	$334,294.68
						TOTAL:	**$668,345.40**	

Change Order No. 4 (December 18, 2009)
Increase the total Construction Cost from $32,003,219.15 to $32,410,815.40 with no increase in project construction time. Additional borrow material was added to complete FA 5-1 as well as warning signs for the sheet pile structure. Additional quantities of concrete mats were required for the armored dike as well.

Item No.	Item	Unit	Original Quantity	Unit Cost	Original Bid $ Amount	Additional Quantity	Additional Amount	Bid Item Total $ Amount
5	Increased Dredging	CY	4,970,000	$3.75	$18,637,500.00	106,776	$400,410.00	$19,037,910.00
9	Non Woven Geotextile Fabric	SY	16,535	$3.20	$52,912.00	42	$134.40	$53,046.40
10	Concrete Mats	SY	16,535	$84.00	$1,388,940.00	42	$3,528.00	$1,392,468.00
25	Add Warning Sign Brackets	EA	0	$756.25	0	4	$3,025.00	$3,025.00
26	Add Weir Barricade	EA	0	$3,718.00	0	1	$3,718.00	$3,718.00
						TOTAL:	**$410,815.40**	

Change Order No. 5 (February 10, 2010)
Decrease the total Construction Cost from $32,410,815.40 to $32,363,990.55 with no increase in project construction time. A final change order was issued to correct the quantity of material used on the project. This change order reconciles the bid quantities and the quantities used.

Item No.	Item	Unit	Original Quantity	Unit Cost	Original Bid $ Amount	Revised Quantity	Additional Amount	Bid Item Total $ Amount
3	Grade Stakes	EA	138	$1,700.00	$234,600	128	($17,00.00)	$217,600.00
12	Earthwork	CY	12,600	$5.50	$69,300	6,592	($33,044.00)	36,256.00
						Total:	**($50,044.00)**	

Field Order No. 1 (July 29, 2008)

This field order provides for a change to the construction plans because the containment alignment depicted on sheet 8 of 65 cannot be constructed due to the presence of power poles and guy wires. A new alignment was developed based on survey data provided by the contractor. The changes were to amend fill area 5 according to the attached drawing and stake the revised corners. Contractor submitted fill area drawings and volume calculations for approval prior to construction of containment dikes.

Field Order No. 2 (July 29, 2008)

This field order pertains to changes to the access dredging. The contractor submitted a proposed alternative access channel alignment; the dredge was unable to navigate a 90 degree turn on the plans. The contractor was required to perform and submit a magnetic survey and changed plans of the proposed alignment. The proposed alignment was reviewed and approved.

Field Order No. 3 (July 29, 2008)

This field order provides for a change to the construction drawings for Fill Area 3. This was done because one corner of Fill Area 3 containment dike was determined to be difficult to construct and the alignment was prone to failure. The dike alignment was changed in order to provide a more easily constructible dike with a safer alignment.

Field Order No. 4 (August 25, 2008)

This field order provides permission for additional access dredging. The contractor requested permission to dredge additional access to the borrow area because the dredge could not make the 90 degree turn called out in the plans.

Field Order No. 5 (December 23, 2008)

This field order provides permission for the contractor to modify the Fill area 7 Containment Dike. The alignment was shifted to the north due to problems during construction of the dike.

Field Order No. 6 (February 9, 2009)

This field order directed the contractor to extend rock plug 2 to the adjacent north bank using the remaining quantity of rock. The contractor was directed not to exceed the bid quantity of rock material.

Field Order No. 7 (March 24, 2009)

This field order provides instructions for the contractor to change the alignment of the armored earthen dike. The rock dike alignment was shifted to avoid adjacent power lines.

10. Pipelines and Other Utility Crossings

	Structure	Owner	Rep. To Contact
1.	Land	Apache Louisiana Minerals, Inc.	Tim Allen (985) 875-3528
2.	Land	Louisiana Land & Exploration Company	Jeff Deblieux (985) 863-3009
3.	Pipeline	Tennessee Gas Pipeline	Larry Slowik (985) 879-3516 ext. 2022
4.	Pipeline	Texas Gas Transmission	Dexter Faulk (985) 631-0186
5.	Power Line	South Louisiana Electric Cooperative Association	Todd Sullivan (985) 876-6880

11. Safety and Accidents

There were a few accidents on this project; however none resulted in serious injury or a fatality. All accidents below can be attributed to a lack of experience, lack of supervision, and maintenance on equipment.

- 8/9/08-8/15/08 Contractor Manson Construction struck a dock causing damage to the structure and shrimp nets located on the dock.
- 8/9/08-8/15/08 An airboat driver slipped in his airboat and sprained his ankle.
- 10/04/09 Contractor Manson Construction struck a dock, shed, and shrimp net causing damage to the structure.
- 10/26/08 One marsh buggy flipped on its side while towing dredge discharge pipe through a bay area. No injuries occurred.
- 2/22/09 One airboat was sunk due to an inexperienced operator. No injuries occurred
- 2/28/09-3/6/09 One airboat was sunk due to an inexperienced operator. No injuries occurred.
- 3/02/09 The Wilco quarter's barge was sunk due to lack of maintenance. No injuries occurred.
- 3/21/09-3/27/09 One airboat was sunk due to an inexperienced operator. No injuries occurred.
- 4/11/09-4/17/09 One marsh buggy flipped over due to operator error. No injuries occurred.
- 4/25/09-5/1/09 One marsh buggy flipped over due to operator error. No injuries occurred.
- ?/??/09 One airboat was sunk. The driver inadvertently drove the boat underneath the flowing dredge discharge pipe. No injuries occurred.
- ?/??/09 One airboat was sunk. The boat suffered catastrophic failure while operating due to lack of maintenance. No injuries occurred.

12. Marsh Creation Area Chart

Cell	Acreage	Pumping Began	Pumping Completed	As Built Surveys		Daily Report Cut	Cut/Fill Ratio
				Fill	Survey Date		
1	57.7	6/10/09	8/5/09	260,105	8/20/09	432,112	1.66
2A	141	4/20/09	7/12/09	464,817	7/17/09	628,145	1.35
2B	108.7	5/12/09	6/26/09	362,123	7/17/09	412,517	1.14
2/3	24.7	8/5/09	8/18/09	81,035	9/17/09	155,467	1.92
3	134.0	1/15/09	4/17/09	503,767	7/10/09	763,370	1.52
4	124.8	2/26/09	6/4/09	420,348	7/13/09	609,389	1.45
5	28.6	1/25/09	4/8/09	82,651	7/8/09	155,274	1.88
5-1	90.1	8/10/09	9/3/09	363,087	9/17/09	511,298	1.41
6	47.8	7/25/09	9/3/09	270,050	9/17/09	335,288	1.24
7	31.0	2/18/09	5/5/09	117,958	7/08/09	215,101	1.82
8	113.2	3/16/09	6/4/09	375,737	7/14/09	615,577	1.64
TOTAL:	**901.6**			**3,239,464.01**		**4,833,538**	**1.49**

13. Project Issues and Discussion

1. Issue: Dewatering Method

   Discussion: Manson Construction chose to use open cut dikes as their dewatering method. The open cut dike is simply excavating a cut in the containment dike. The potential benefits seen from this method were: increased marsh nourishment areas located adjacent to fill areas (increased essential fish habitat) and ease of constructing cut in a location of the fill area that is found to be holding water. The potential negatives seen from this method were: increased suspended material in the dewatering effluent when compared with weir boxes, possibility of the project expanding beyond permitted area, potential landowner issues with increased effluent, increased machine work and maintenance surrounding cut

location, increased machine movement around cut, and increased loss of material from containment cells.

2. Issue: Containment Dike Construction Problems

   Discussion: In many locations the designed section of the containment dike could not be constructed to the design template shown on the plans. Serious thought should be given to what/if any containment dike directions should be included in the plans. The issues of constructability due to poor in situ material and the differences in site location of the expansive containment dikes contributed to the problems. In most locations surveyed, the containment dike does not match the design section slopes and widths shown in the construction plans. Many times, deference was given to the machine operator to just simply "build a stable dike" along the alignment.

3. Issue: Difference between expected and actual Cut to Fill Ratio

   Discussion: This project was paid by the cut of the dredged material. The project used the very conservative design approach with the ratio of 1.76 cubic yards of cut material = 1 cubic yard of fill material placed, this ratio is based on previous experience of similar projects. In this project however, the cut: fill ratio was less than the design, with a range of 1.14-1.92 across the different fill areas and a total of 1.49. The lower ratio presented a problem for the project because OCPR was forced to permit additional areas during construction for fill material to be placed. The extra permitting was an additional expense that could have been planned for ahead of time. Consideration should be given to over permitting the fill areas, similar to the standard design practice of over permitting the borrow area by 1.5-2 times the needed material. A project that is over permitted for fill areas would remove the problem of acquiring additional permits during construction. This practice may however increase the design costs of a project, but could be considered a conservative design approach to the fill areas.

Significant Construction Dates: To be filled out by DNR Construction Project Manager or Contracting Officer for agency responsible for construction.

Action	Date
Bid Opening	April 3, 2008
Construction Contract	May 23, 2008
Notice to Proceed	June 6, 2008
Preconstruction Conference	June 12, 2008
Mobilization	June 20, 2008
Construction Start	July 7, 2008
Construction Completion	November 23, 2009
Final Acceptance	December 16, 2009

ATTACHMENT IV

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

AS-BUILT DRAWINGS

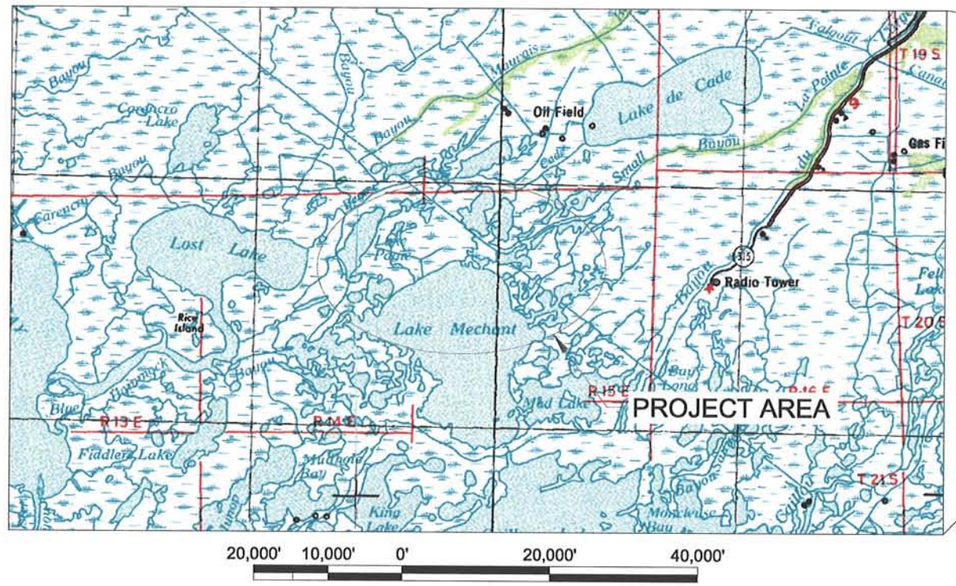
INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES
3	PROJECT FEATURES
4	EXISTING SURVEY AND BORING LAYOUT
5	CONSTRUCTION SURVEY & GRADE STAKE LAYOUT
6	GRADE STAKE COORDINATES
7	PROJECT AREA (WEST)
7A	PROJECT AREA (WEST)
7B	PROJECT AREA (WEST)
8-8A	PROJECT AREA (MIDDLE)
9-9A	PROJECT AREA (MIDDLE)
10	PROJECT AREA (EAST)
11	ARMORED EARTHEN DIKE & POWERLINE DETAIL
12-14	BORROW AND FILL AREA SECTION VIEWS
15	MARSH CREATION SECTION VIEWS
16	FLOTATION ACCESS CHANNEL SECTIONS
17	ARMORED EARTHEN DIKE
18	ROCK PLUG 1 DETAILS
19	ROCK PLUG 2 DETAILS
20	EARTHEN PLUG 1
21	EARTHEN PLUG 2
22	EARTHEN PLUG 3
23	SHEETPILE PLUG 1
24	SHEETPILE PLUG 2
25	SHEETPILE PLUG 3
26	SHEETPILE TYPICALS
27	EXISTING WEIR REMOVAL
28	WEIR REPLACEMENT PLAN VIEW
29	WEIR REPLACEMENT SECTION VIEWS
30-31	DETAILS
32	STEEL SHEET PILE DETAILS
33-58	SECTIONS
59-65	SECTIONS
(3 SHEETS)	FENSTERMAKER - BORROW AREA AS-BUILT
(5 SHEETS)	FENSTERMAKER - ACCESS CHANNEL WEST AS-BUILT
(4 SHEETS)	FENSTERMAKER - ACCESS CHANNEL EAST AS-BUILT
(6 SHEETS)	FENSTERMAKER - FILL AREA 1 AS-BUILT
(10 SHEETS)	FENSTERMAKER - FILL AREA 2A AS-BUILT
(9 SHEETS)	FENSTERMAKER - FILL AREA 2B AS-BUILT
(4 SHEETS)	FENSTERMAKER - FILL AREA 2-3 AS-BUILT
(15 SHEETS)	FENSTERMAKER - FILL AREA 3 AS-BUILT
(14 SHEETS)	FENSTERMAKER - FILL AREA 4 AS-BUILT
(3 SHEETS)	FENSTERMAKER - FILL AREA 5 AS-BUILT
(9 SHEETS)	FENSTERMAKER - FILL AREA 5-1 AS-BUILT
(4 SHEETS)	FENSTERMAKER - FILL AREA 6 AS-BUILT
(4 SHEETS)	FENSTERMAKER - FILL AREA 7 AS-BUILT
(9 SHEETS)	FENSTERMAKER - FILL AREA 8 AS-BUILT

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

TE-44
TERREBONNE PARISH



STATE OF LOUISIANA
INSET MAP

STATE OF LOUISIANA
HILARY J. THIBODEAUX
REG. No. 29934
REGISTERED
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING
8/10/10

AS-BUILT

FEDERAL PROJECT SPONSOR

STATE PROJECT SPONSOR

CED DIRECTOR

CED ENGINEER MANAGER

CED PROJECT ENGINEER

TYPE OF CONSTRUCTION

CLASSIFICATION III (Heavy Construction)
SHORELINE PROTECTION AND MARSH CREATION
HYDRAULIC DREDGING

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

TITLE SHEET

DATE: JANUARY 2008

SHEET 1 OF 65

GENERAL NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83, LOUISIANA STATE PLANE SOUTH ZONE US FEET). BACKGROUND IMAGERY WAS TAKEN AFTER HURRICANES KATRINA AND RITA (FALL 2005).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NAVIGATING FROM A NAVIGABLE WATER BODY TO THE PROJECT AREA. THE CONTRACTOR MUST ACCESS THE PROJECT AREA FROM THE NORTH THROUGH BAYOU DECADE AND BAYOU RACCOURCI (SEE SHEET 3). ACCESS FROM THE SOUTH THROUGH LAKE MECHANT WILL NOT BE PERMITTED. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR NAVIGATING WITHIN THE LIMITS OF THE PROJECT PLAN AREA AND DREDGING ONLY WITHIN THE LIMITS OF THE FLOTATION AND ACCESS CHANNELS. THE LDNR PROJECT ENGINEER OR HIS REPRESENTATIVE SHALL MONITOR THE EQUIPMENT LOCATION DURING CONSTRUCTION.
3. THE PROJECT FOOTPRINT ENCOMPASSES LAND OWNED BY APACHE LOUISIANA MINERALS, INC. AND LOUISIANA LAND AND EXPLORATION COMPANY (LL&E), A SUBSIDIARY OF BURLINGTON RESOURCES (BR). LANDS OWNED BY THESE COMPANIES ARE DEPICTED ON SHEET 3. THEIR CONTACT INFORMATION IS AS FOLLOWS:

   APACHE LOUISIANA MINERALS, INC.
   CONTACT: TIM ALLEN
   PHONE: (985) 879-3528

   LL&E/BR
   CONTACT: JEFF DEBLIEUX
   PHONE: (985) 853-3009

   THE CONTRACTOR SHALL OBTAIN A TEMPORARY ACCESS AND CONSTRUCTION PERMIT FROM LL&E PRIOR TO MOBILIZATION OF EQUIPMENT OR PERFORMING ANY WORK ON THE PROJECT. THE CONTRACTOR SHALL FURNISH LL&E AN INSURANCE CERTIFICATE NAMING THEM AS INSURED IN AN AMOUNT NOT LESS THAN $1 MILLION. A COPY OF THE APPLICATION HAS BEEN INCLUDED IN APPENDIX A OF THE SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT THE PERMIT APPLICATION AND INSURANCE CERTIFICATE TO THE ENGINEER PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE AND UTILITY OPERATORS 5 WORKING DAYS IN ADVANCE OF THE WORK. ALL PIPELINES AND UNDERGROUND UTILITIES SHALL BE MARKED FOR THE DURATION OF CONSTRUCTION BY THE CONTRACTOR OR PIPELINE OR UTILITY REPRESENTATIVE. THE CONTRACTOR SHALL NOT ANCHOR, SPUD, OR EXCAVATE WITHIN 50 FEET OF ANY PIPELINE. CROSSING OF PIPELINES SHALL BE MADE WITH FLOATING EQUIPMENT ONLY. THE FOLLOWING IS A LIST OF UTILITIES AND PIPELINE OPERATORS KNOWN TO HAVE PIPELINES IN THE VICINITY. PIPELINE LOCATIONS SHOWN ON SHEET 3 ARE APPROXIMATIONS. THE OWNER IS NOT LIABLE FOR EXACT LOCATIONS. THE CONTRACTOR MUST CALL LOUISIANA ONE CALL AT 1-800-272-3020 AT LEAST 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION OR DEMOLITION ACTIVITY. THE CONTRACTOR SHALL, AT ALL TIMES, COMPLY WITH THE LOUISIANA UNDERGROUND UTILITIES AND FACILITIES DAMAGE PREVENTION LAW.

   TENNESSEE GAS
   CONTACT: LARRY SLOWIK
   PHONE: (985) 879-3516 EXT. 2022
   PIPE SIZE: 24" AND 2"

   TEXAS GAS
   CONTACT: DEXTER FAULK
   PHONE: (985) 631-0186
   PIPE SIZE: 20"
5. THE WORK SPECIFIED ON SHEET 11 MAY REQUIRE DE-ENERGIZATION OF A SOUTH LOUISIANA ELECTRIC COOPERATIVE ASSOCIATION (SLECA) POWER LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING SLECA AND LDNR A MINIMUM OF 2 WEEKS IN ADVANCE OF PERFORMING ANY WORK WITHIN 500 FEET OF THE SLECA POWER LINE. POWER LINES WILL NOT BE DE-ENERGIZED DURING THE SHRIMP TRAWLING SEASON, AUGUST 15 THROUGH NOVEMBER 15 OF A CALENDAR YEAR. FURTHERMORE, THE POWER LINE WILL BE DE-ENERGIZED FROM MONDAY AT 9:00 AM UNTIL THE FOLLOWING THURSDAY AT 4:00 PM FOR SUCH TIME AS IS REQUIRED FOR THE CONSTRUCTION OF SAID WORK WITH THE EXCEPTION OF SHRIMP TRAWLING SEASON.

   SLECA
   CONTACT: TODD SULLIVAN
   PHONE: (985) 876-6880
6. ELEVATIONS SHOWN ON PLANS ARE BASED ON SURVEYS PERFORMED IN JUNE 2002 AND OCTOBER 2003 BY ABMB ENGINEERS, INC.
7. THE ALIGNMENT OF THE PROJECT FEATURES MAY BE REVISED BY THE LDNR PROJECT ENGINEER AT THE TIME OF CONSTRUCTION TO REFLECT CHANGES IN FIELD CONDITIONS.
8. ANY DAMAGE TO EXISTING U.S. COAST GUARD NAVIGATION AIDS OR PRIVATE NAVIGATION AIDS SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.
9. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY; WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS AND INTERPRETATIONS OF, OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED BY THE ENGINEER.
10. MATERIAL STOCKPILED LAKEWARD OF FLOTATION AND ACCESS CHANNELS SHALL BE DEPOSITED IN AREAS SHOWN ON THE PLANS AND PLACED SUCH THAT IT IS READILY AVAILABLE TO BE USED TO BACK FILL FLOTATION AND ACCESS CHANNELS. ONLY MATERIAL DREDGED FROM FLOTATION AND ACCESS CHANNELS SHALL BE BACK FILLED INTO SAID CHANNELS.
11. MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) WERE CALCULATED FROM THE NOAA GRAND ISLE TIDAL GAGE AND A USGS GAGE IN BAYOU RACCOURCI. DATA FROM 01/01/1984 TO 12/31/2002 WAS USED. ELEVATIONS ARE REFERENCED TO NAVD 88, US FEET. MHW=1.45' AND MLW =0.27'. THE USGS GAGE IN BAYOU RACCOURCI IS NO LONGER IN USE.
12. THE CONTRACTOR SHALL PERFORM A MAGNETOMETER SURVEY OF THE FLOATATION ACCESS CHANNELS, THE BORROW AREA AND ALL PROPOSED PIPELINE ACCESS CORRIDORS (SEE SHEET 3, NOTE #2). DRAWINGS SHOWING THE TRACK LINES, ANY MAGNETOMETER HITS, COORDINATES, AMPLITUDE, SIGNATURE TYPE, AND SIGNATURE WIDTH OF ALL MAGNETOMETER HITS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO MOBILIZATION FOR CONSTRUCTION. MAGNETOMETER LINES SHALL BE RUN ALONG THE CENTERLINE ALIGNMENT OF FLOTATION ACCESS CHANNELS. ADDITIONAL MAGNETOMETER LINES SHALL BE RUN PERPENDICULAR TO THE FLOTATION ACCESS CHANNEL, BEGINNING AT THE EDGE OF THE PERMANENT OR TEMPORARY SPOIL PLACEMENT AND EXTENDING 25.0' BEYOND THE PERMANENT OR TEMPORARY SPOIL, AND SHALL BE SPACED A MAXIMUM OF 500.0' APART. MAGNETOMETER LINES IN THE BORROW AREA SHALL FORM A GRID PATTERN WITH A MAXIMUM OFFSET OF 500.0' APART AND SHALL BE ORIENTED NORTH/SOUTH AND EAST/WEST. THE DRAWINGS SHALL BE STAMPED BY A REGISTERED PROFESSIONAL SURVEYOR LICENSED IN LOUISIANA. SEE SPECIFICATION SECTION "TS 3.5 MAGNETOMETER SURVEY" FOR ADDITIONAL REQUIREMENTS.
13. ALL EQUIPMENT SHALL BE FLOATING AT ALL TIMES DURING TRANSIT TO AND FROM THE PROJECT SITE.

SUMMARY OF ESTIMATED QUANTITIES

ITEM No.	DESCRIPTION	UNIT	ESTIMATED QUANTITY	AS-BUILT QUANTITY
1	MOBILIZATION AND DEMOBILIZATION	LS	1	1
2	SURVEYING	LS	1	1
3	GRADE STAKES	EACH	138	128
4	EARTHEN CONTAINMENT DIKES	LIN. FT.	86,600	89,270
5	HYDRAULIC DREDGING	CU. YDS.	4,970,000	5,076,776
6	FLOTATION ACCESS CHANNELS	LS	1	1
7	RIPRAP	TONS	12,000	12,088
8	WOVEN GEOTEXTILE FABRIC	SQ. YDS.	25,000	25,000
9	NON-WOVEN GEOTEXTILE FABRIC	SQ. YDS.	16,535	16,577
10	CONCRETE MATS	SQ. YDS.	16,535	16,577
11	STEEL SHEET PILING	SQ. FT.	21,788	21,788
12	EARTHWORK	CU. YDS.	12,600	6,592
13	EXISTING WEIR REMOVAL	LS	1	1
14	SETTLEMENT PLATES	EACH	7	7
15	WARNING SIGNS	EACH	9	9

QUANTITY NOTES:

1. QUANTITIES SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS SURVEYED IN JUNE 2002 AND OCTOBER 2003. THE OWNER RESERVES THE RIGHT TO ADJUST QUANTITIES WITHOUT ADJUSTMENT OF THE UNIT PRICE.
2. HYDRAULIC DREDGING QUANTITIES FOR MARSH CREATION AND MARSH NOURISHMENT AREA ARE BASED ON BORROW AREA CUT VOLUME. ACTUAL QUANTITIES FOR PAYMENT WILL BE BASED ON SURVEYS PERFORMED AS PART OF THIS CONTRACT AS REQUIRED IN "TS-3 SURVEYING" OF THE SPECIFICATIONS.
3. EARTHWORK QUANTITIES ARE BASED ON FILL IN PLACE. SETTLEMENT OF EARTHEN MATERIAL PLACED BY BUCKET IS NOT INCLUDED IN THE BID QUANTITIES.

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	03/27/08	REVISED ITEM NOS. 9 & 10 IN SUMMARY OF ESTIMATED QUANTITIES	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

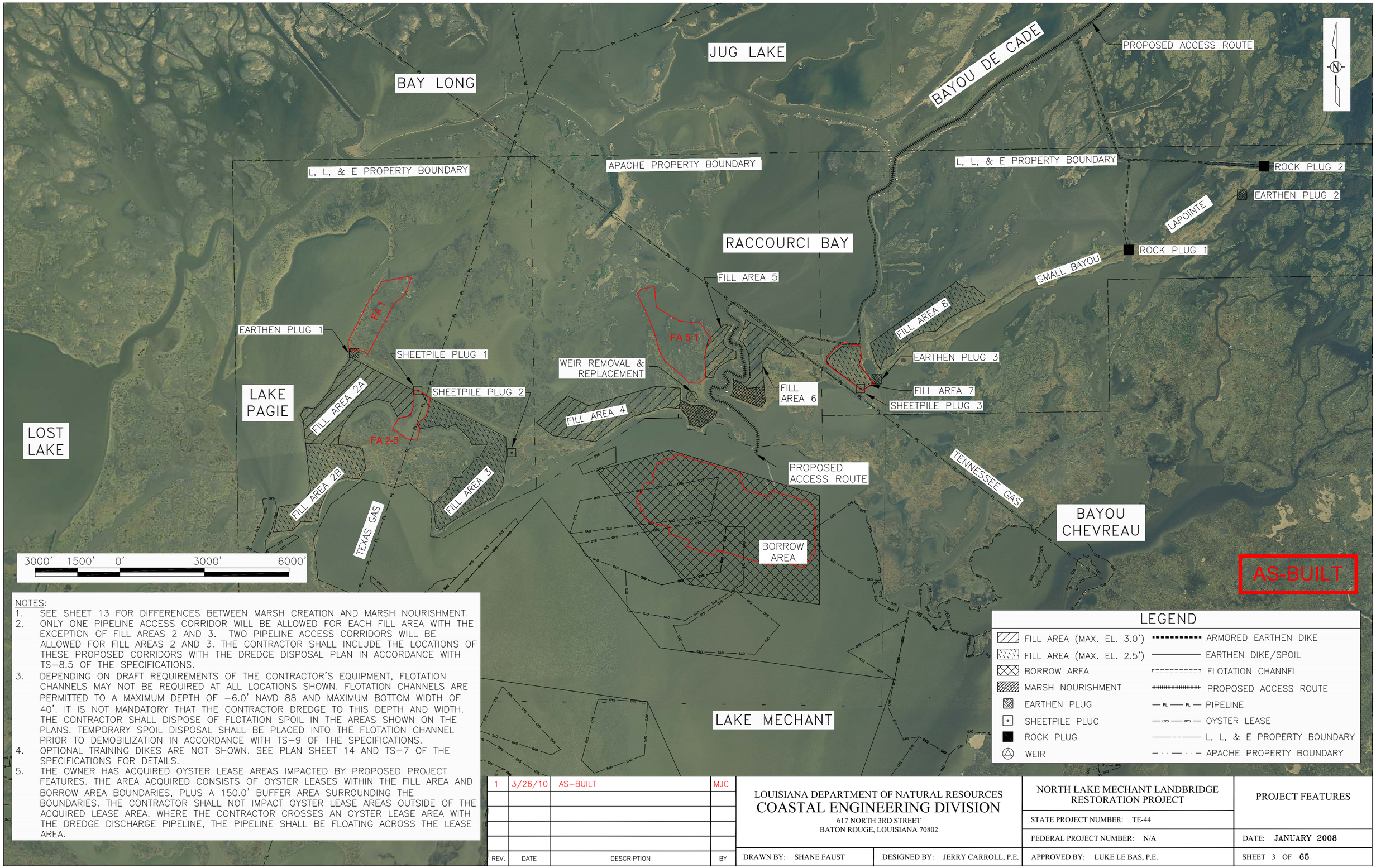
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

GENERAL NOTES

DATE: JANUARY 2008



NOTES:

1. SEE SHEET 13 FOR DIFFERENCES BETWEEN MARSH CREATION AND MARSH NOURISHMENT.
2. ONLY ONE PIPELINE ACCESS CORRIDOR WILL BE ALLOWED FOR EACH FILL AREA WITH THE EXCEPTION OF FILL AREAS 2 AND 3. TWO PIPELINE ACCESS CORRIDORS WILL BE ALLOWED FOR FILL AREAS 2 AND 3. THE CONTRACTOR SHALL INCLUDE THE LOCATIONS OF THESE PROPOSED CORRIDORS WITH THE DREDGE DISPOSAL PLAN IN ACCORDANCE WITH TS-8.5 OF THE SPECIFICATIONS.
3. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE TO THIS DEPTH AND WIDTH. THE CONTRACTOR SHALL DISPOSE OF FLOTATION SPOIL IN THE AREAS SHOWN ON THE PLANS. TEMPORARY SPOIL DISPOSAL SHALL BE PLACED INTO THE FLOTATION CHANNEL PRIOR TO DEMOBILIZATION IN ACCORDANCE WITH TS-9 OF THE SPECIFICATIONS.
4. OPTIONAL TRAINING DIKES ARE NOT SHOWN. SEE PLAN SHEET 14 AND TS-7 OF THE SPECIFICATIONS FOR DETAILS.
5. THE OWNER HAS ACQUIRED OYSTER LEASE AREAS IMPACTED BY PROPOSED PROJECT FEATURES. THE AREA ACQUIRED CONSISTS OF OYSTER LEASES WITHIN THE FILL AREA AND BORROW AREA BOUNDARIES, PLUS A 150.0' BUFFER AREA SURROUNDING THE BOUNDARIES. THE CONTRACTOR SHALL NOT IMPACT OYSTER LEASE AREAS OUTSIDE OF THE ACQUIRED LEASE AREA. WHERE THE CONTRACTOR CROSSES AN OYSTER LEASE AREA WITH THE DREDGE DISCHARGE PIPELINE, THE PIPELINE SHALL BE FLOATING ACROSS THE LEASE AREA.

LEGEND

FILL AREA (MAX. EL. 3.0')	ARMORED EARTHEN DIKE
FILL AREA (MAX. EL. 2.5')	EARTHEN DIKE/SPOIL
BORROW AREA	FLOTATION CHANNEL
MARSH NOURISHMENT	PROPOSED ACCESS ROUTE
EARTHEN PLUG	PIPELINE
SHEETPILE PLUG	OYSTER LEASE
ROCK PLUG	L, L, & E PROPERTY BOUNDARY
WEIR	APACHE PROPERTY BOUNDARY

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT FEATURES

DATE: JANUARY 2008

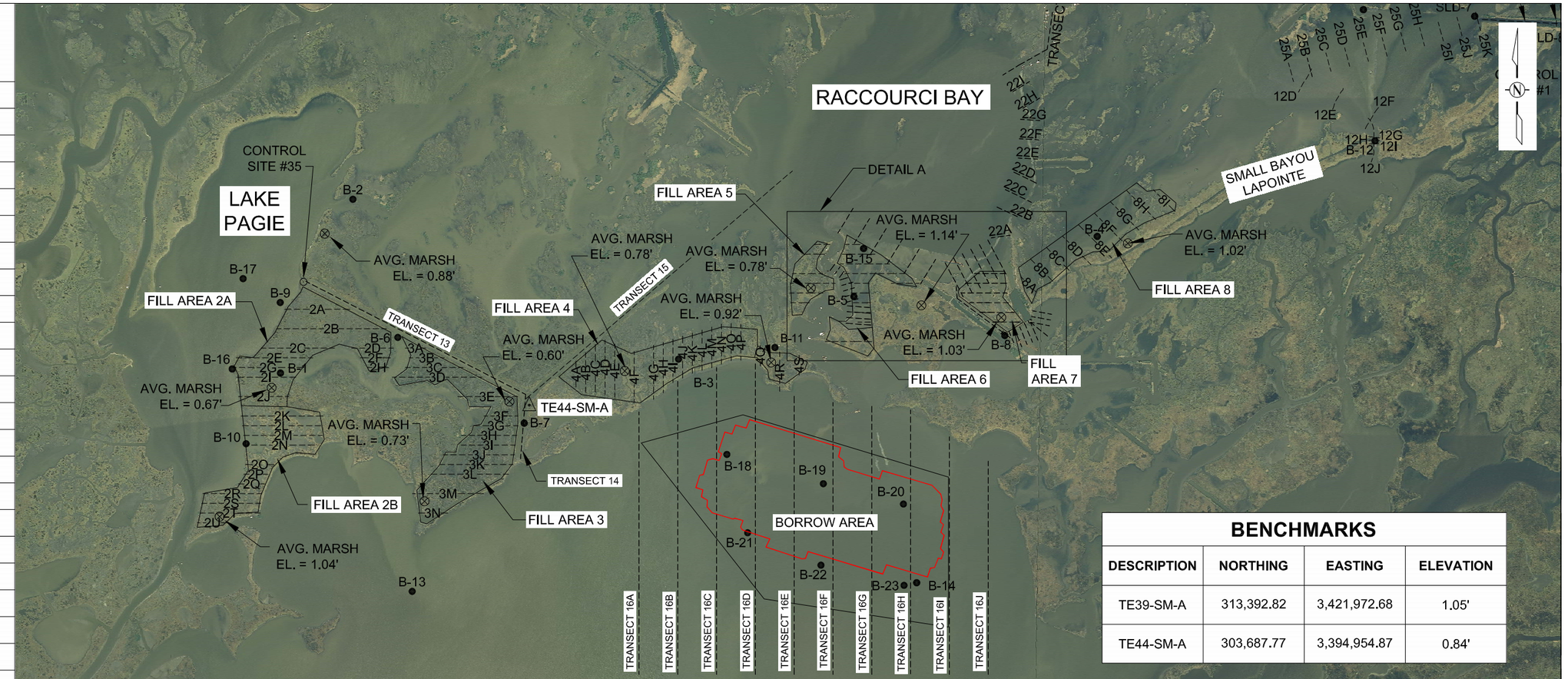
SHEET 3 OF 65

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT BORINGS

BORINGS	NORTHING	EASTING
B-1	304,514.13	3,388,542.86
B-2	308,992.59	3,390,409.38
B-3	304,873.12	3,398,801.84
B-4	308,036.98	3,409,592.42
B-5	306,488.07	3,403,321.04
B-6	305,432.30	3,391,567.13
B-7	303,224.06	3,394,824.05
B-8	305,483.10	3,407,211.70
B-9	306,332.37	3,388,537.49
B-10	302,693.27	3,387,656.00
B-11	305,172.15	3,401,286.21
B-12	310,499.40	3,416,751.94
B-13	298,887.71	3,391,937.54
B-14	299,111.41	3,404,939.22
B-15	307,725.32	3,403,571.78
B-16	304,619.58	3,387,299.86
B-17	306,947.76	3,387,579.83
B-18	302,417.26	3,400,046.36
B-19	301,661.63	3,402,534.14
B-20	301,139.74	3,404,596.48
B-21	300,399.18	3,400,583.02
B-22	299,564.19	3,402,471.88
B-23	299,044.43	3,404,613.25

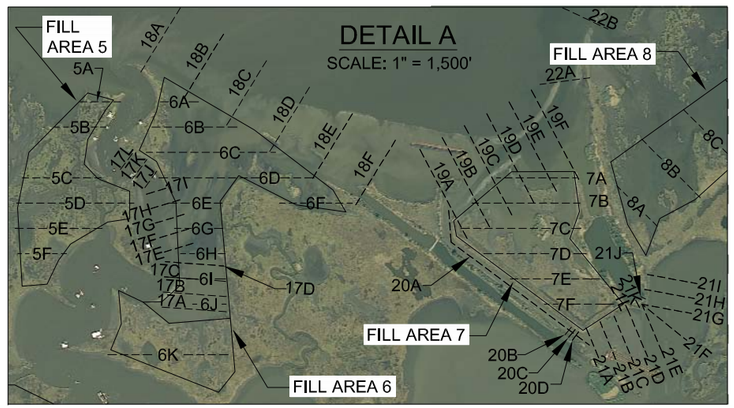
SOUTH LAKE DECADE FRESHWATER/SEDIMENT INTRODUCTION BORINGS

BORING	NORTHING	EASTING
SLD-6	313,880.24	3,416,452.65
SLD-7	313,709.18	3,419,320.32
SLD-8	313,419.02	3,421,698.54



BENCHMARKS

DESCRIPTION	NORTHING	EASTING	ELEVATION
TE39-SM-A	313,392.82	3,421,972.68	1.05'
TE44-SM-A	303,687.77	3,394,954.87	0.84'



AS-BUILT

3000' 1500' 0' 3000' 6000'

LEGEND

- SURVEY TRANSECT
- BENCHMARK
- AVERAGE MARSH ELEV.
- SOIL BORING
- CONTROL SITE

NOTES:
1. SEE SHEET 33-65 FOR CROSS SECTIONS.
2. BENCHMARK DATA SHEETS ARE INCLUDED IN APPENDIX B OF THE SPECIFICATIONS.
3. BORING LOGS ARE INCLUDED IN APPENDIX C OF THE SPECIFICATIONS.
4. SURVEY PERFORMED IN JUNE 2002 AND OCTOBER 2003 BY ABMB ENGINEERS, INC.
5. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THERE OF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

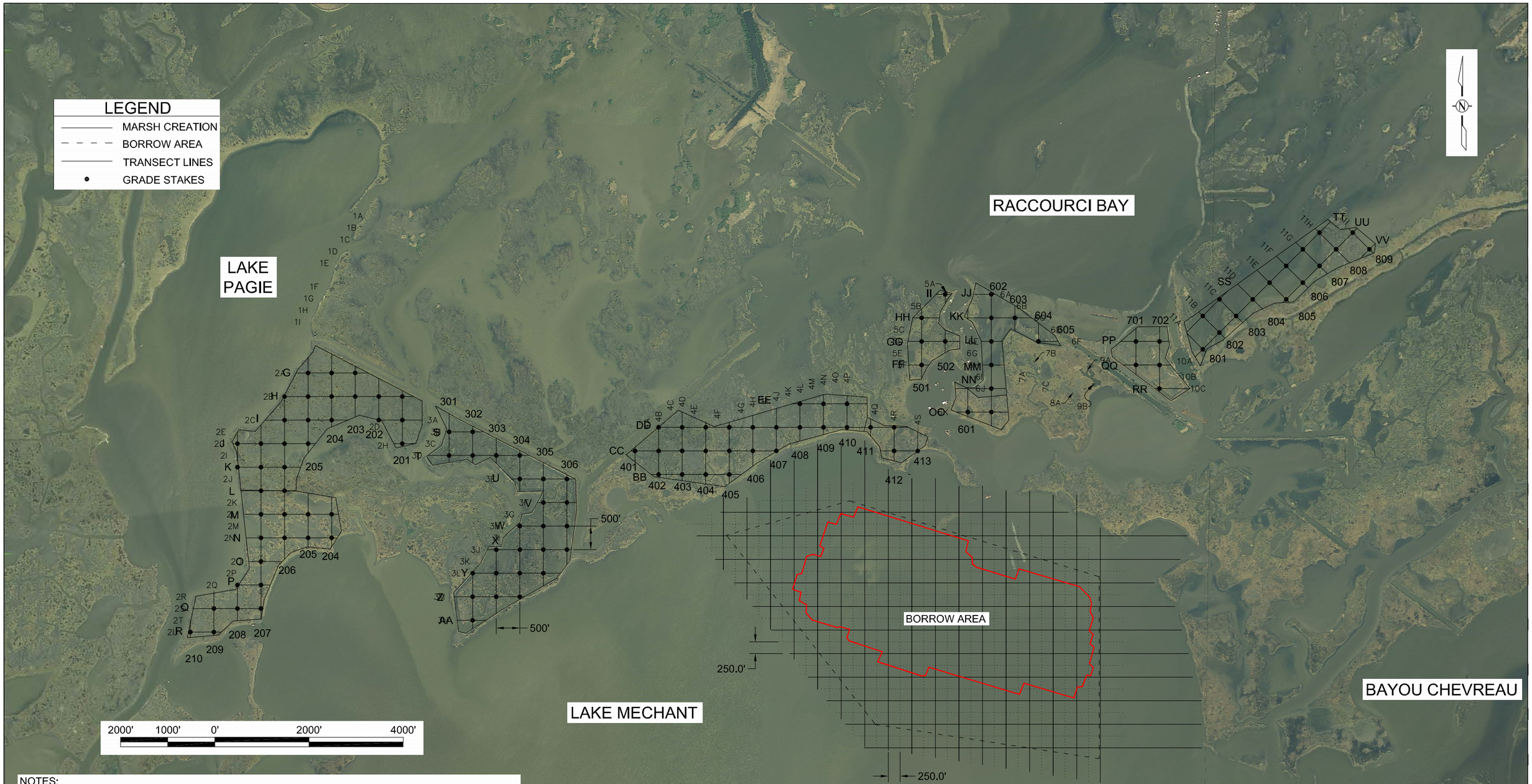
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER:

EXISTING SURVEY AND BORING LAYOUT

DATE: JANUARY 2008

SHEET 4 OF 65



NOTES:

1. SEE SHEET 6 FOR GRADE STAKE COORDINATES. GRADE STAKES SHALL ALSO BE INSTALLED AT FILL AREA BOUNDARIES ALONG THE LAYOUT LINES SHOWN. GRADE STAKES SHOWN NEAR FILL AREA BOUNDARIES MAY BE ADJUSTED BY LDNR ENGINEER OR REPRESENTATIVE.
2. CONTRACTOR TO INSTALL 2" BY 4" BY 12' NON TREATED PINE AT GRADE STAKE COORDINATES TO ELEVATIONS SHOWN ON SHEET 30.
3. CONTRACTOR TO USE GAUGE SIGN FOR GRADE ELEVATION AS SHOWN ON SHEET 30.
4. BORROW AREA TRANSECTS SHALL BE SPACED 250' APART IN NORTH-SOUTH AND EAST-WEST DIRECTIONS AND SHALL EXTEND FROM THE SHORELINE TO 500' BEYOND THE BORROW AREA, WHERE SHOWN.
5. ALL TRANSECTS SHOWN SHALL BE INCLUDED IN PRE-CONSTRUCTION AND AS-BUILT SURVEYS AS SPECIFIED IN TS-3 OF THE SPECIFICATIONS.
6. PLACEMENT OF THE DREDGE DISCHARGE WILL NOT BE ALLOWED WITHIN 100' OF ANY GRADE STAKE OR MARSH CREATION BOUNDARY OR CONTAINMENT DIKE.

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

CONSTRUCTION SURVEY & GRADE STAKE LAYOUT

DATE: JANUARY 2008

SHEET 5 OF 65

200
G, 203
X = 3389964.73
Y = 306156.91
G, 204
X = 3389464.73
Y = 306156.91
G, 205
X = 3388964.73
Y = 306156.91
H, 201
X = 3390964.73
Y = 305656.91
H,202
X = 3390464.73
Y = 305656.91
H, 203
X = 3389964.73
Y = 305656.91
H, 204
X = 3389464.73
Y = 305656.91
H, 205
X = 3388964.73
Y = 305656.91
H, 206
X = 3388464.73
Y = 305656.91
I, 201
X = 3390964.73
Y = 305156.91
I, 202
X = 3390464.73
Y = 305156.91
I, 204
X = 3389464.73
Y = 305156.91
I, 205
X = 3388964.73
Y = 305156.91
I, 206
X = 3388464.73
Y = 305156.91

200 Cont.
J, 201
X = 3390964.73
Y = 304656.91
J, 205
X = 3388964.73
Y = 304656.91
J, 206
X = 3388464.73
Y = 304656.91
J, 207
X = 3387964.73
Y = 304656.91
J, 208
X = 3387464.73
Y = 304656.91
K, 206
X = 3388464.73
Y = 304156.91
K, 207
X = 3387964.73
Y = 304156.91
K, 208
X = 3387464.73
Y = 304156.91
L, 206
X = 3388464.73
Y = 303656.91
L, 207
X = 3387964.73
Y = 303656.91
M, 204
X = 3389464.73
Y = 303156.91
M, 205
X = 3388964.73
Y = 303156.91
M, 206
X = 3388464.73
Y = 303156.91

200 Cont.
M, 207
X = 3387964.73
Y = 303156.91
N, 204
X = 3389464.73
Y = 302656.91
N, 205
X = 3388964.73
Y = 302656.91
N, 206
X = 3388464.73
Y = 302656.91
N, 207
X = 3387964.73
Y = 302656.91
O, 207
X = 3387964.73
Y = 302156.91
P, 207
X = 3387964.73
Y = 301656.91
P,208
X = 3387464.73
Y = 301656.91
Q, 207
X = 3387964.73
Y = 301156.91
Q, 208
X = 3387464.73
Y = 301156.91
Q, 209
X = 3386964.73
Y = 301156.91
R, 209
X = 3386964.73
Y = 300656.91
R, 210
X = 3386464.73
Y = 300656.91

300
S, 301
X = 3391959.37
Y = 304906.91
S, 302
X = 3392459.37
Y = 304906.91
T, 301
X = 3391959.37
Y = 304406.91
T, 302
X = 3392459.37
Y = 304406.91
T, 303
X = 3392959.37
Y = 304406.91
T, 304
X = 3393459.37
Y = 304406.91
U, 304
X = 3393459.37
Y = 303906.91
U, 305
X = 3393959.37
Y = 303906.91
U, 306
X = 3394459.37
Y = 303906.91
V, 305
X = 3393959.37
Y = 303406.91

300 Cont.
V, 306
X = 3394459.37
Y = 303406.91
W, 304
X = 3393459.37
Y = 302906.91
W, 305
X = 3393959.37
Y = 302906.91
W, 306
X = 3394459.37
Y = 302906.91
X, 303
X = 3392959.37
Y = 302406.91
X, 304
X = 3393459.37
Y = 302406.91
X, 305
X = 3393959.37
Y = 302406.91
X, 306
X = 3394459.37
Y = 302406.91
Y, 302
X = 3392459.37
Y = 301906.91
Y, 303
X = 3392959.37
Y = 301906.91
Y, 304
X = 3393459.37
Y = 301906.91

300 Cont.
Y, 305
X = 3393959.37
Y = 301906.91
Z, 302
X = 3392459.37
Y = 301406.91
Z, 303
X = 3392959.37
Y = 301406.91
Z, 304
X = 3393459.37
Y = 301406.91
AA, 302
X = 3392459.37
Y = 300906.91

400
BB, 402
X = 3396406.50
Y = 304003.26
BB, 403
X = 3396906.50
Y = 304003.26
BB, 404
X = 3397406.50
Y = 304003.26
BB, 405
X = 3397906.50
Y = 304003.26
CC, 401
X = 3395906.50
Y = 304503.26
CC, 402
X = 3396406.50
Y = 304503.26
CC, 403
X = 3396906.50
Y = 304503.26
CC, 404
X = 3397406.50
Y = 304503.26
CC, 405
X = 3397906.50
Y = 304503.26
CC, 406
X = 3398406.50
Y = 304503.26
CC, 407
X = 3398906.50
Y = 304503.26

400 Cont.
CC, 412
X = 3401406.50
Y = 304503.26
CC, 413
X = 3401906.50
Y = 304503.26
DD, 402
X = 3396406.50
Y = 305003.26
DD, 403
X = 3396906.50
Y = 305003.26
DD, 404
X = 3397406.50
Y = 305003.26
DD, 405
X = 3397906.50
Y = 305003.26
DD, 406
X = 3398406.50
Y = 305003.26
DD, 407
X = 3398906.50
Y = 305003.26
DD, 408
X = 3399406.50
Y = 305003.26
DD, 409
X = 3399906.50
Y = 305003.26
DD, 410
X = 3400406.50
Y = 305003.26

400 Cont.
DD, 411
X = 3400906.50
Y = 305003.26
DD, 412
X = 3401406.50
Y = 305003.26
EE, 408
X = 3399406.50
Y = 305503.26
EE, 409
X = 3399906.50
Y = 305503.26
EE, 410
X = 3400406.50
Y = 305503.26

500
FF, 501
X = 3401989.61
Y = 306327.22
GG, 501
X = 3401989.61
Y = 306827.22
GG, 502
X = 3402489.61
Y = 306827.22
HH, 501
X = 3401989.61
Y = 307327.22
II, 502
X = 3402489.61
Y = 307827.22

600
JJ, 602
X = 3403469.03
Y = 307827.22
KK, 602
X = 3403469.03
Y = 307327.22
KK, 603
X = 3403969.03
Y = 307327.22
LL, 602
X = 3403469.03
Y = 306827.22
LL, 604
X = 3404469.03
Y = 306827.22
MM, 602
X = 3403469.03
Y = 306327.22
NN, 602
X = 3403469.03
Y = 305827.22
OO, 601
X = 3402969.03
Y = 305327.22
OO, 602
X = 3403469.03
Y = 305327.22

700
PP, 701
X = 3406537.96
Y = 306827.22
PP, 702
X = 3407037.96
Y = 306827.22
QQ, 701
X = 3406537.96
Y = 306327.22
QQ, 702
X = 3407037.96
Y = 306327.22
RR, 702
X = 3407037.96
Y = 305827.22

800
SS, 802
X = 3407958.85
Y = 307367.68
SS, 803
X = 3408312.40
Y = 307721.23
TT, 801
X = 3407958.85
Y = 306660.57
TT, 802
X = 3408312.40
Y = 307014.13
TT, 803
X = 3408665.96
Y = 307367.68
TT, 804
X = 3409019.51
Y = 307721.23

800 Cont.
TT, 805
X = 3409373.06
Y = 308074.79
TT, 806
X = 3409726.62
Y = 308428.34
TT, 807
X = 3410080.17
Y = 308781.89
TT, 808
X = 3410433.72
Y = 309135.45
UU, 805
X = 3409726.62
Y = 307721.23
UU, 806
X = 3410080.17
Y = 308074.79
UU, 807
X = 3410433.72
Y = 308428.34
UU, 808
X = 3410787.28
Y = 308781.89
UU, 809
X = 3411140.83
Y = 309135.45
VV, 809
X = 3411494.38
Y = 308781.89

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

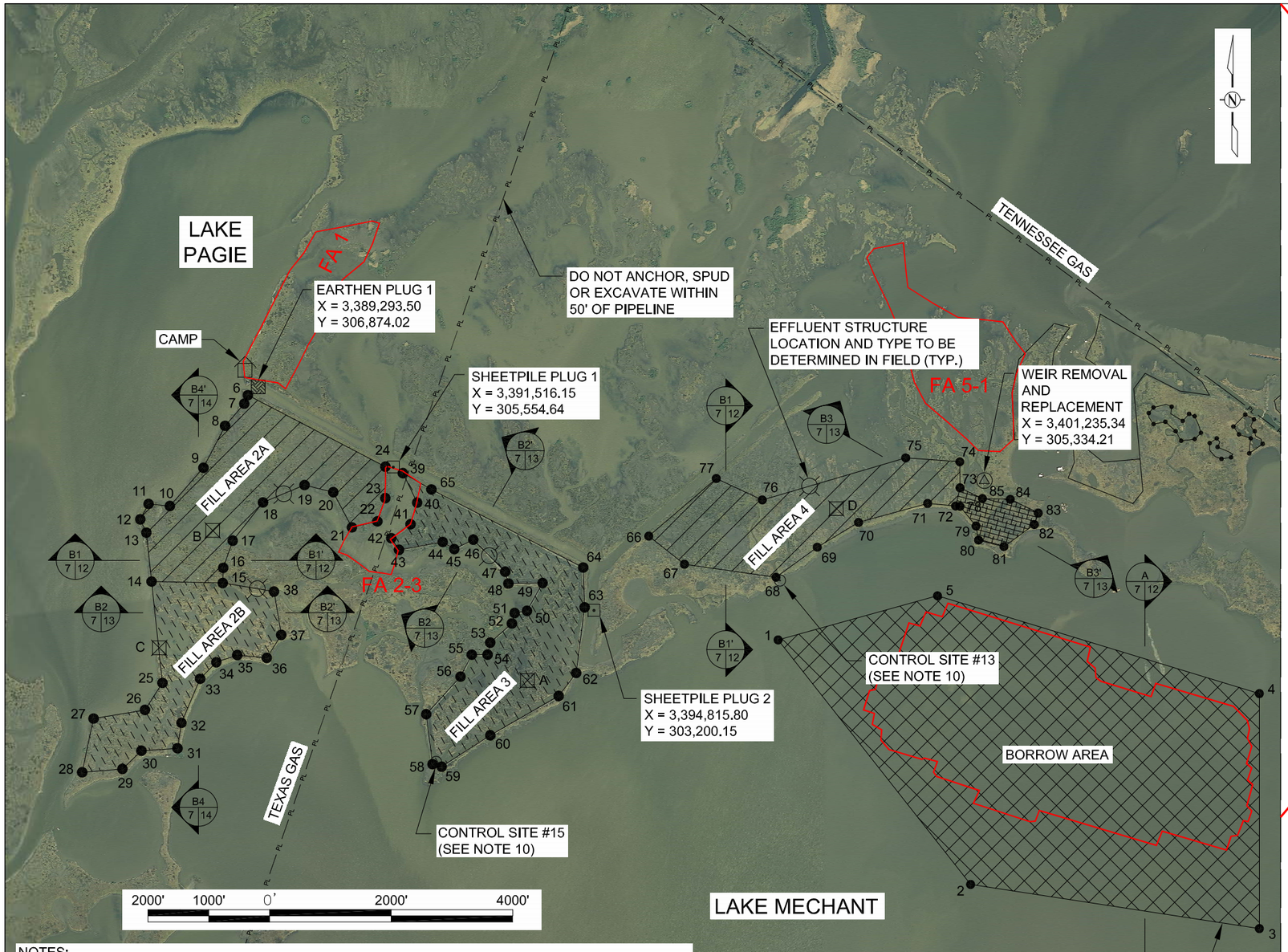
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER:

GRADE STAKE COORDINATES

DATE: JANUARY 2008

SHEET 6 OF 65



BORROW AREA		
PT.	NORTHING	EASTING
1	302,713.79	3,397,843.66
2	298,694.64	3,401,009.55
3	297,068.60	3,405,758.38
4	301,831.94	3,405,758.38
5	303,439.84	3,400,464.61

FILL AREA 3		
PT.	NORTHING	EASTING
39	305,455.86	3,391,672.39
40	304,970.69	3,391,907.52
41	304,615.80	3,391,797.96
42	304,387.56	3,391,480.90
43	304,195.01	3,391,608.94
44	304,324.47	3,392,327.26
45	304,206.86	3,392,517.03
46	304,362.38	3,392,830.77
47	303,836.70	3,393,355.49
48	303,640.89	3,393,408.32
49	303,649.70	3,393,969.46
50	303,192.32	3,393,713.30
51	303,155.33	3,393,509.83
52	302,984.48	3,393,465.22
53	302,670.23	3,393,108.59
54	302,472.11	3,393,065.83
55	302,471.32	3,392,805.59
56	302,111.14	3,392,620.81
57	301,492.22	3,392,056.19
58	300,671.29	3,392,159.61
59	300,630.33	3,392,310.21
60	301,145.93	3,393,109.73
61	301,792.87	3,394,234.57
62	302,171.56	3,394,522.84
63	303,249.81	3,394,661.11
64	303,904.31	3,394,637.82
65	305,187.58	3,392,141.41

SETTLEMENT PLATE COORDINATES		
PT.	NORTHING	EASTING
A	308,992.50	3,390,409.39
B	304,514.34	3,388,542.91
C	302,585.08	3,387,665.49
D	304,873.12	3,398,801.84

FILL AREA 2A		
PT.	NORTHING	EASTING
6	306,737.15	3,389,123.09
7	306,596.56	3,389,063.32
8	306,234.00	3,388,749.31
9	305,544.03	3,388,392.01
10	304,915.11	3,387,839.80
11	304,950.45	3,387,490.08
12	304,696.51	3,387,353.63
13	304,477.60	3,387,453.40
14	303,673.95	3,387,539.56
15	303,649.94	3,388,710.04
16	303,897.45	3,388,716.39
17	304,345.41	3,388,874.39
18	304,974.18	3,389,371.72
19	305,260.07	3,390,055.04
20	305,142.28	3,390,527.15
21	304,563.39	3,390,834.25
22	304,663.64	3,391,252.60
23	305,044.86	3,391,384.21
24	305,562.06	3,391,385.30

FILL AREA 4		
PT.	NORTHING	EASTING
66	304,419.83	3,395,716.05
67	303,958.03	3,396,303.45
68	303,743.61	3,397,807.95
69	304,238.75	3,398,487.02
70	304,646.01	3,399,166.35
71	304,957.80	3,400,302.63
72	304,915.59	3,400,762.53
73	305,214.11	3,400,835.56
74	305,642.39	3,400,831.50
75	305,706.15	3,399,942.67
76	305,015.67	3,397,583.49
77	305,367.82	3,396,826.50

FILL AREA 2B		
PT.	NORTHING	EASTING
14	303,673.95	3,387,539.56
25	302,007.57	3,387,718.20
26	301,562.26	3,387,430.05
27	301,421.42	3,386,585.11
28	300,538.01	3,386,398.24
29	300,592.46	3,387,060.21
30	300,892.37	3,387,371.81
31	300,932.49	3,387,965.66
32	301,350.88	3,388,030.82
33	302,075.05	3,388,338.50
34	302,346.54	3,388,603.25
35	302,465.75	3,388,948.99
36	302,418.71	3,389,434.20
37	302,796.20	3,389,672.06
38	303,510.01	3,389,553.10
15	303,649.94	3,388,710.04

**FILL AREA 4		
PT.	NORTHING	EASTING
72	304,915.59	3,400,762.53
78	304,909.04	3,400,833.91
79	304,586.66	3,401,097.84
80	304,355.48	3,401,140.20
81	304,248.77	3,401,558.33
82	304,610.04	3,402,057.22
83	304,799.15	3,402,122.97
84	305,025.91	3,401,661.97
85	305,038.54	3,401,204.33
73	305,214.11	3,400,835.56

**MARSH NOURISHMENT

AS-BUILT

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- BORROW AREA
- MARSH NOURISHMENT
- EARTHEN PLUG
- WEIR
- SHEETPILE PLUG
- SETTLEMENT PLATE
- EXISTING CAMP
- CONTAINMENT DIKE
- PL — PIPELINE
- EFFLUENT STRUCTURE

NOTES:

1. CONTRACTOR TO NOTIFY PIPELINE COMPANIES A MINIMUM OF 5 WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION.
2. SEE TS-8.6 OF THE SPECIFICATIONS FOR DEWATERING DETAILS.
3. CONTRACTOR IS TO MAINTAIN CONTAINMENT DIKES TO ELEVATIONS SHOWN IN APPROPRIATE SECTION VIEWS FOR THE DURATION OF CONSTRUCTION.
4. SEE SHEET 30 FOR WARNING SIGN DETAILS.
5. SEE SHEET 20 FOR EARTHEN PLUG 1 DETAILS.
6. SEE SHEET 23 FOR SHEETPILE PLUG 1 DETAILS.
7. SEE SHEET 24 FOR SHEETPILE PLUG 2 DETAILS
8. SEE SHEET 27-29 FOR WEIR REMOVAL AND REPLACEMENT DETAILS.
9. SEE SHEETS 30 & 31 FOR SETTLEMENT PLATE DETAILS.
10. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THEREOF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

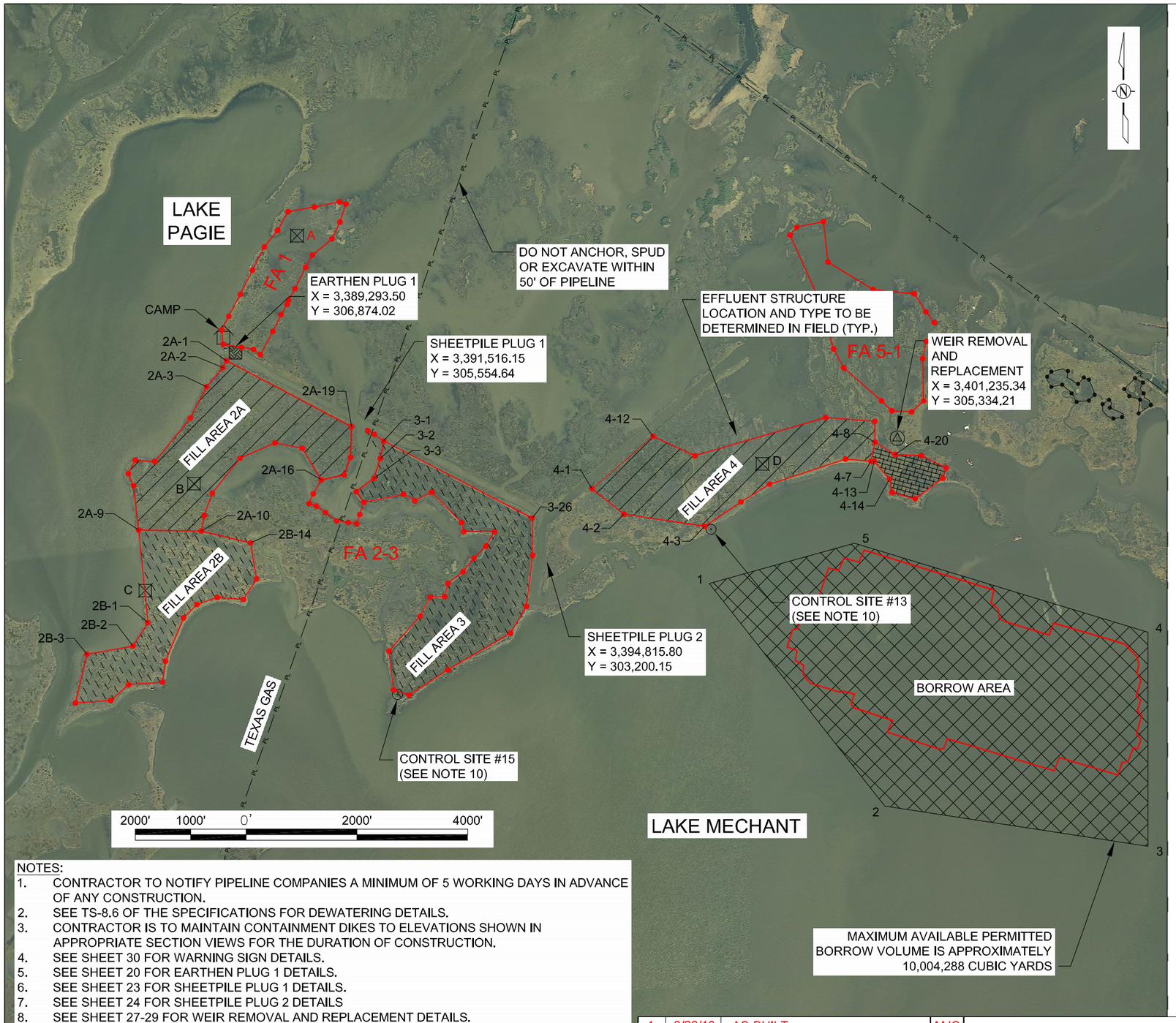
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (WEST)

DATE: JANUARY 2008

SHEET 7 OF 65



FILL AREA 2A		
PT.	NORTHING	EASTING
2A-1	306733.69	3389131.27
2A-2	306608.15	3389065.98
2A-3	306262.53	3388772.36
2A-4	305697.47	3388477.75
2A-5	304913.72	3387837.17
2A-6	304939.01	3387485.92
2A-7	304695.02	3387359.32
2A-8	304472.28	3387454.20
2A-9	303675.01	3387545.43
2A-10	303658.24	3388675.44
2A-11	303937.97	3388726.48
2A-12	304341.37	3388872.93
2A-13	304974.18	3389375.10
2A-14	305250.00	3390004.98
2A-15	305153.85	3390496.94
2A-16	304582.12	3390842.76
2A-17	304674.44	3391256.02
2A-18	304986.84	3391366.91
2A-19	305542.46	3391387.40

FILL AREA 4		
PT.	NORTHING	EASTING
4-1	304420.92	3395726.85
4-2	303964.58	3396302.84
4-3	303744.45	3397760.96
4-4	304184.78	3398414.94
4-5	304504.00	3398931.90
4-6	304959.71	3400301.46
4-7	304918.55	3400760.61
4-8	305263.17	3400833.68
4-9	305640.96	3400831.25
4-10	305708.67	3399941.44
4-11	305019.46	3397581.78
4-12	305368.55	3396827.65

BORROW AREA		
PT.	NORTHING	EASTING
1	302713.79	3397843.66
2	298694.64	3401009.55
3	297968.60	3405758.38
4	301831.94	3405758.38
5	303439.84	3400464.61

FILL AREA 2B		
PT.	NORTHING	EASTING
2A-9	303675.01	3387545.43
2B-1	302004.52	3387712.39
2B-2	301584.05	3387443.96
2B-3	301435.20	3386611.01
2B-4	300556.35	3386403.51
2B-5	300601.11	3387040.50
2B-6	300888.38	3387365.56
2B-7	300931.00	3387976.21
2B-8	301310.19	3388030.42
2B-9	302092.12	3388354.78
2B-10	302334.31	3388597.96
2B-11	302462.80	3388963.53
2B-12	302425.05	3389434.05
2B-13	302789.59	3389673.54
2B-14	303445.60	3389565.32
2A-10	303658.24	3388675.44

**FILL AREA 4		
PT.	NORTHING	EASTING
4-7	304918.55	3400760.61
4-13	304920.40	3400816.15
4-14	304598.35	3401095.40
4-15	304356.45	3401142.86
4-16	304241.18	3401559.13
4-17	304612.47	3402058.57
4-18	304798.14	3402117.34
4-19	305022.41	3401667.28
4-20	305039.07	3401196.65
4-8	305263.17	3400833.68

**MARSH NOURISHMENT

SETTLEMENT PLATES		
PT.	NORTHING	EASTING
A	308990.10	3390403.00
B	304511.41	3388544.30
C	302587.62	3387666.97
D	304889.23	3398786.25

FILL AREA 3		
PT.	NORTHING	EASTING
3-1	305284.88	3391966.48
3-2	304970.21	3391905.73
3-3	304610.27	3391792.85
3-4	304371.01	3391471.17
3-5	304179.22	3391608.30
3-6	304322.73	3392329.25
3-7	304205.82	3392527.47
3-8	304361.55	3392833.04
3-9	303812.37	3393371.52
3-10	303648.09	3393413.67
3-11	303644.70	3393967.77
3-12	303385.58	3393812.19
3-13	303171.34	3393595.11
3-14	302924.36	3393398.14
3-15	302711.77	3393125.86
3-16	302474.58	3393067.32
3-17	302468.34	3392808.46
3-18	302121.19	3392625.53
3-19	301493.23	3392062.78
3-20	300793.09	3392145.12
3-21	300697.78	3392422.62
3-22	301154.99	3393126.86
3-23	301817.67	3394257.30
3-24	302298.40	3394543.16
3-25	303221.69	3394656.91
3-26	303892.68	3394644.76

AS-BUILT

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- BORROW AREA
- MARSH NOURISHMENT
- EARTHEN PLUG
- WEIR
- SHEETPILE PLUG
- SETTLEMENT PLATE
- EXISTING CAMP
- CONTAINMENT DIKE
- PL — PIPELINE
- EFFLUENT STRUCTURE

NOTES:
1. CONTRACTOR TO NOTIFY PIPELINE COMPANIES A MINIMUM OF 5 WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION.
2. SEE TS-8.6 OF THE SPECIFICATIONS FOR DEWATERING DETAILS.
3. CONTRACTOR IS TO MAINTAIN CONTAINMENT DIKES TO ELEVATIONS SHOWN IN APPROPRIATE SECTION VIEWS FOR THE DURATION OF CONSTRUCTION.
4. SEE SHEET 30 FOR WARNING SIGN DETAILS.
5. SEE SHEET 20 FOR EARTHEN PLUG 1 DETAILS.
6. SEE SHEET 23 FOR SHEETPILE PLUG 1 DETAILS.
7. SEE SHEET 24 FOR SHEETPILE PLUG 2 DETAILS
8. SEE SHEET 27-29 FOR WEIR REMOVAL AND REPLACEMENT DETAILS.
9. SEE SHEETS 30 & 31 FOR SETTLEMENT PLATE DETAILS.
10. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THEREOF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

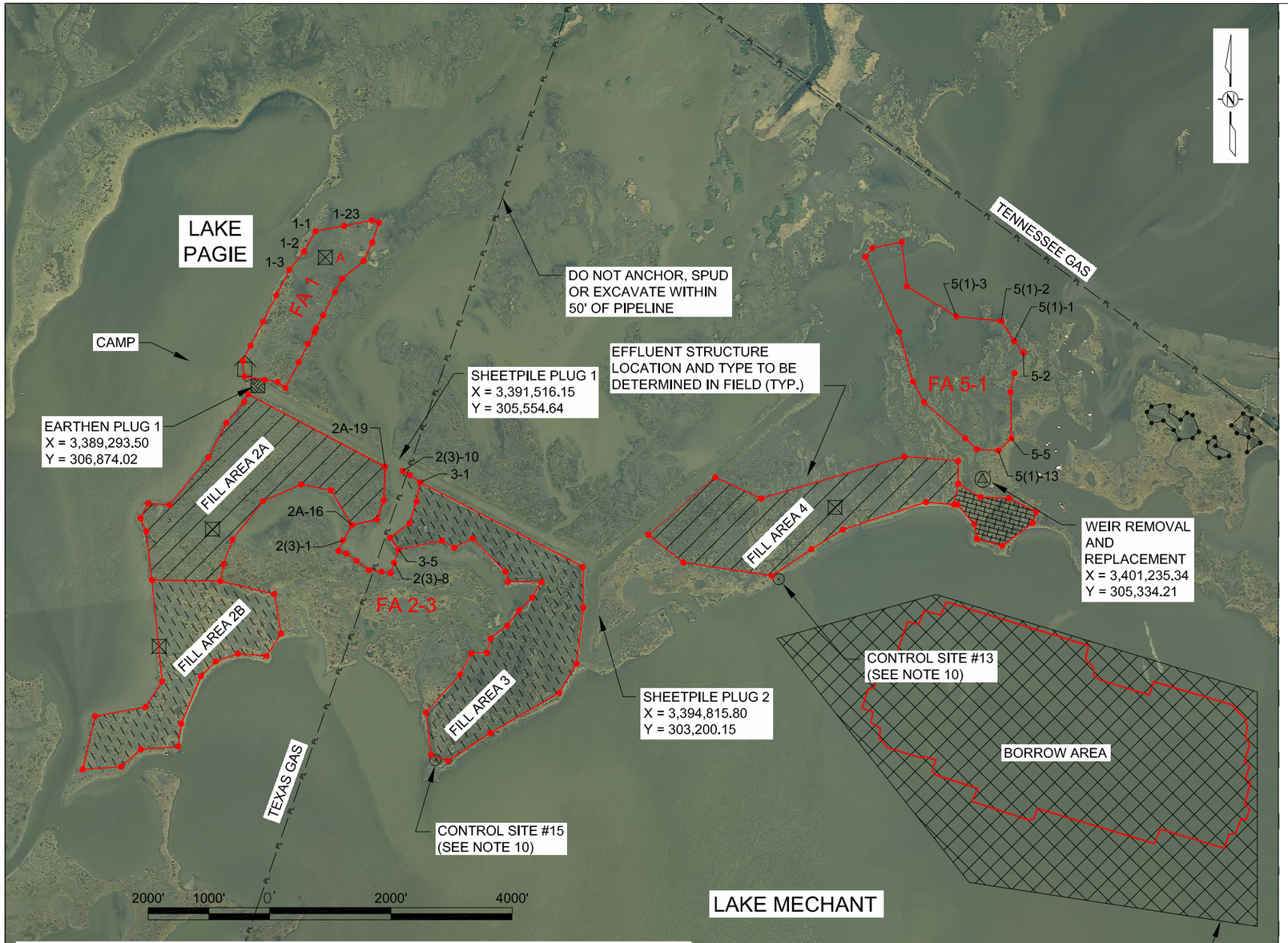
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (WEST)

DATE: JANUARY 2008

SHEET 7-A OF 65



FILL AREA 1		
PT.	NORTHING	EASTING
1-1	309421.61	3390241.35
1-2	309086.79	3390053.51
1-3	308786.11	3389811.16
1-4	308368.62	3389598.41
1-5	307931.52	3389380.23
1-6	307534.20	3389172.13
1-7	307286.72	3389046.18
1-8	307029.45	3389072.11
1-9	306973.27	3389399.93
1-10	306939.27	3389618.64
1-11	306841.04	3389743.82
1-12	307263.65	3389967.59
1-13	307563.82	3390115.33
1-14	307753.90	3390226.44
1-15	307824.32	3390249.51
1-16	308033.86	3390369.40
1-17	308417.93	3390557.72
1-18	308640.70	3390681.88
1-19	308933.72	3391034.34
1-20	309236.36	3391177.24
1-21	309562.71	3391287.38
1-22	309599.25	3391169.42
1-23	309508.98	3390714.45

FILL AREA 2-3		
PT.	NORTHING	EASTING
2A-19	305542.46	3391387.40
2A-18	304986.84	3391366.91
2A-17	304674.44	3391256.02
2A-16	304582.12	3390842.76
2(3)-1	304330.99	3390695.78
2(3)-2	304155.55	3390618.36
2(3)-3	304110.48	3390749.49
2(3)-4	303994.97	3390915.15
2(3)-5	303841.68	3391120.47
2(3)-6	303813.39	3391328.44
2(3)-7	303789.19	3391479.54
2(3)-8	303957.06	3391535.68
3-5	304179.22	3391608.30
3-4	304371.01	3391471.17
3-3	304610.27	3391792.85
3-2	304970.21	3391905.73
3-1	305284.88	3391966.48
2(3)-9	305403.53	3391797.97
2(3)-10	305472.97	3391678.28

FILL AREA 5-1		
PT.	NORTHING	EASTING
5-2	307420.54	3401906.48
5(1)-1	307615.27	3401753.30
5(1)-2	307943.28	3401539.54
5(1)-3	308015.81	3400801.69
5(1)-4	308513.18	3399985.43
5(1)-5	309245.56	3399902.71
5(1)-6	309144.15	3399418.01
5(1)-7	308999.59	3399300.42
5(1)-8	307764.36	3399856.01
5(1)-9	306946.79	3400085.78
5(1)-10	306604.18	3400268.51
5(1)-11	306011.22	3400951.25
5(1)-12	305829.47	3401137.46
5(1)-13	305810.30	3401491.84
5-5	306010.39	3401711.45
5-4	306769.91	3401693.51
5-3	307084.15	3401760.51

AS-BUILT

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- BORROW AREA
- MARSH NOURISHMENT
- EARTHEN PLUG
- WEIR
- SHEETPILE PLUG
- SETTLEMENT PLATE
- EXISTING CAMP
- CONTAINMENT DIKE
- PIPELINE
- EFFLUENT STRUCTURE

NOTES:

1. CONTRACTOR TO NOTIFY PIPELINE COMPANIES A MINIMUM OF 5 WORKING DAYS IN ADVANCE OF ANY CONSTRUCTION.
2. SEE TS-8.6 OF THE SPECIFICATIONS FOR DEWATERING DETAILS.
3. CONTRACTOR IS TO MAINTAIN CONTAINMENT DIKES TO ELEVATIONS SHOWN IN APPROPRIATE SECTION VIEWS FOR THE DURATION OF CONSTRUCTION.
4. SEE SHEET 30 FOR WARNING SIGN DETAILS.
5. SEE SHEET 20 FOR EARTHEN PLUG 1 DETAILS.
6. SEE SHEET 23 FOR SHEETPILE PLUG 1 DETAILS.
7. SEE SHEET 24 FOR SHEETPILE PLUG 2 DETAILS
8. SEE SHEET 27-29 FOR WEIR REMOVAL AND REPLACEMENT DETAILS.
9. SEE SHEETS 30 & 31 FOR SETTLEMENT PLATE DETAILS.
10. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THEREOF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

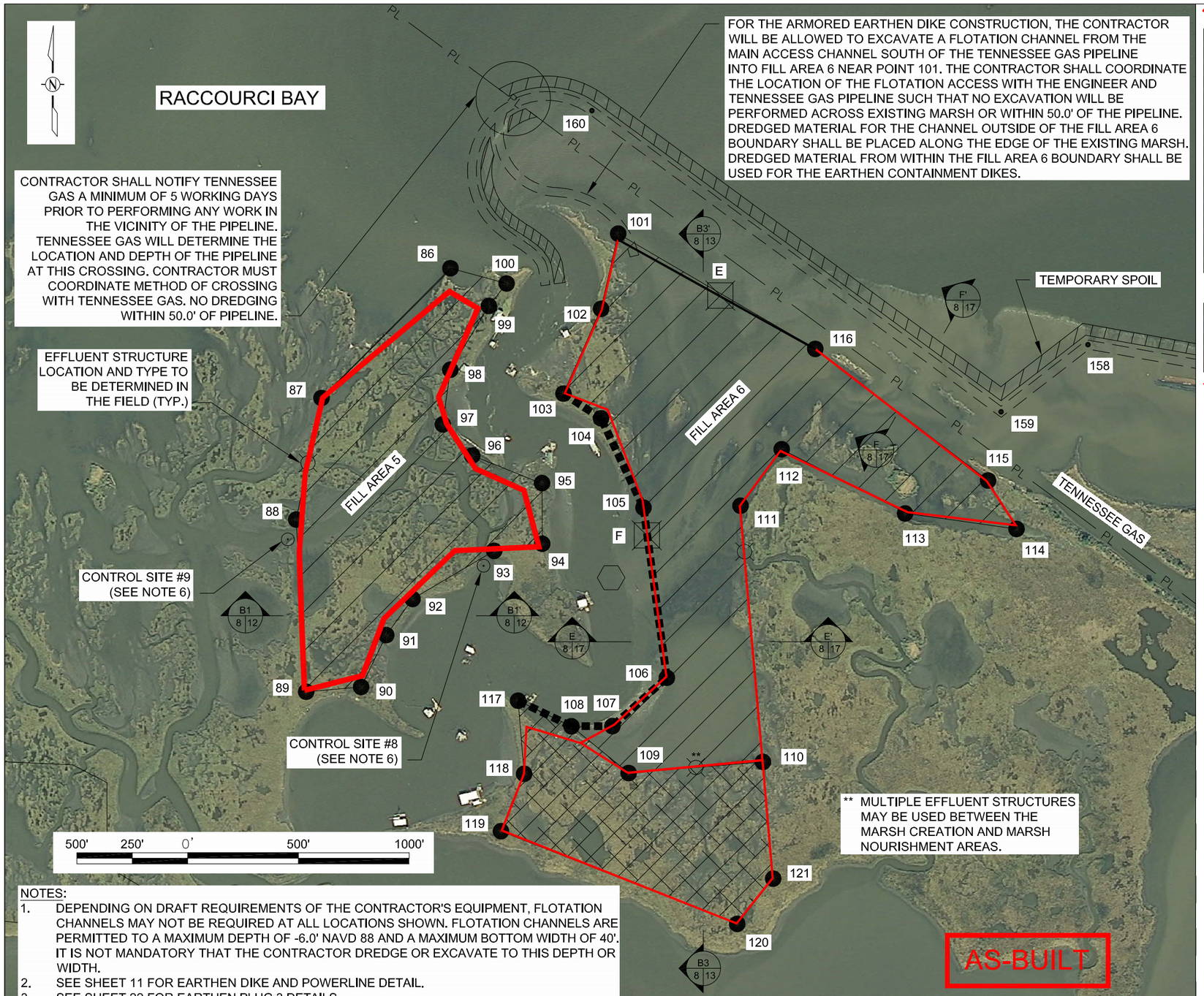
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (WEST)

DATE: JANUARY 2008

SHEET 7-B OF 65



FILL AREA 5		
PT.	NORTHING	EASTING
86	307,915.30	3,402,385.21
87	307,329.50	3,401,803.03
88	306,780.62	3,401,688.91
89	306,002.96	3,401,733.97
90	306,024.66	3,401,981.85
91	306,258.71	3,402,095.11
92	306,421.74	3,402,214.05
93	306,639.14	3,402,582.40
94	306,671.18	3,402,799.13
95	306,942.90	3,402,798.22
96	307,069.13	3,402,483.61
97	307,210.11	3,402,350.38
98	307,456.69	3,402,384.08
99	307,745.16	3,402,558.35
100	307,846.44	3,402,638.55

FILL AREA 6		
PT.	NORTHING	EASTING
101	308,071.37	3,403,142.27
102	307,731.70	3,403,064.64
103	307,349.30	3,402,895.10
104	307,237.74	3,403,064.52
105	306,834.33	3,403,256.16
106	306,066.17	3,403,361.62
107	305,847.96	3,403,110.08
108	305,847.34	3,402,931.10
109	305,636.08	3,403,189.37
110	305,686.52	3,403,795.39
111	306,942.87	3,403,694.23
112	307,098.05	3,403,880.11
113	306,808.03	3,404,445.75
114	306,737.99	3,404,939.85
115	306,956.75	3,404,811.66
116	307,551.11	3,404,031.70

**FILL AREA 6		
PT.	NORTHING	EASTING
108	305,847.34	3,402,931.10
117	305,962.70	3,402,689.98
118	305,632.48	3,402,717.63
119	305,373.53	3,402,613.17
120	304,954.86	3,403,679.34
121	305,159.46	3,403,841.51
110	305,686.52	3,403,795.39
109	305,636.08	3,403,189.37

**MARSH NOURISHMENT

SETTLEMENT PLATE COORDINATES		
PT.	NORTHING	EASTING
E	307,791.97	3,403,603.39
F	306,709.05	3,403,273.36
G	308,036.91	3,409,592.50

FLOTATION ACCESS CHANNEL		
PT.	NORTHING	EASTING
158	307,570.33	3,405,262.53
159	307,267.26	3,404,870.42
160	308,626.90	3,403,023.46

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- TEMPORARY SPOIL
- PERMANENT SPOIL
- MARSH NOURISHMENT
- EARTHEN PLUG
- SHEETPILE PLUG
- WARNING SIGN
- SETTLEMENT PLATE
- EFFLUENT STRUCTURE
- CONTROL SITE
- PL — PIPELINE
- FLOTATION ACCESS CHANNEL
- ARMORED EARTHEN DIKE
- CONTAINMENT DIKE

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND A MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THIS DEPTH OR WIDTH.
2. SEE SHEET 11 FOR EARTHEN DIKE AND POWERLINE DETAIL.
3. SEE SHEET 22 FOR EARTHEN PLUG 3 DETAILS
4. SEE SHEET 25 FOR SHEET PILE PLUG 3 DETAILS.
5. SEE SHEET 30 FOR WARNING SIGN DETAILS.
6. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THERE OF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

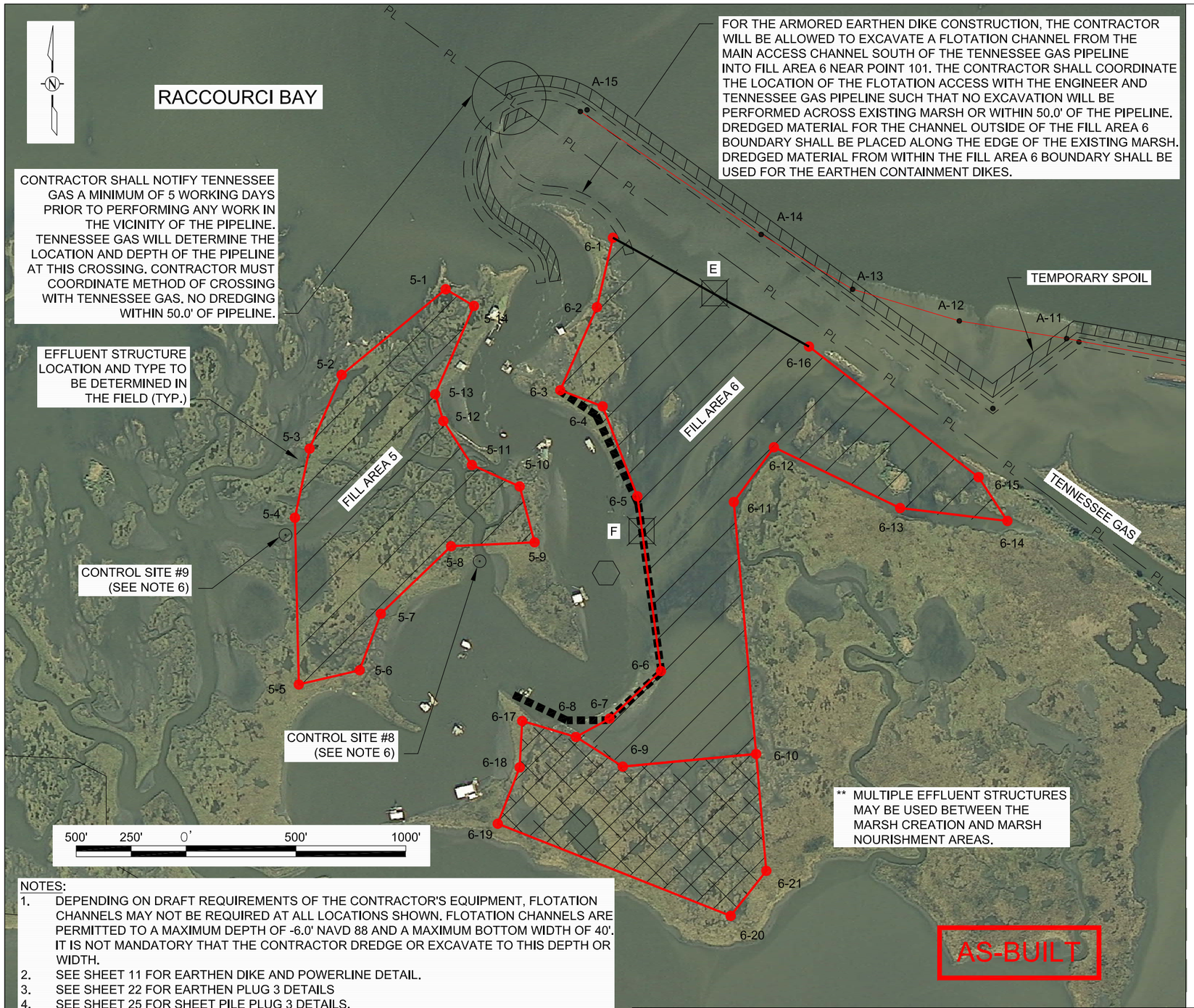
REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED BOUNDARY FOR FILL AREA 6 BY MODIFYING COORDINATES FOR POINT 106	SF
2	03/27/2008	REVISED COORDINATE FOR SETTLEMENT PLATE F	SF
3	03/27/2008	ADDED FLOTATION CHANNEL TO FILL AREA 6	SF
4	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (MIDDLE)
DATE: JANUARY 2008
SHEET 8 OF 65



FILL AREA 5		
PT.	NORTHING	EASTING
5-1	307810.07	3402379.91
5-2	307420.54	3401906.48
5-3	307084.15	3401760.51
5-4	306769.91	3401693.51
5-5	306010.39	3401711.45
5-6	306075.58	3401988.14
5-7	306332.43	3402084.67
5-8	306640.04	3402404.47
5-9	306657.81	3402784.56
5-10	306912.24	3402716.77
5-11	307009.96	3402498.99
5-12	307211.40	3402368.71
5-13	307331.99	3402331.95
5-14	307734.29	3402508.78

FILL AREA 6		
PT.	NORTHING	EASTING
6-1	308044.45	3403141.02
6-2	307728.28	3403068.27
6-3	307350.40	3402901.28
6-4	307276.94	3403094.27
6-5	306867.43	3403252.33
6-6	306071.55	3403359.97
6-7	305855.27	3403125.99
6-8	305771.55	3402972.83
6-9	305636.81	3403186.02
6-10	305694.24	3403793.00
6-11	306841.39	3403691.25
6-12	307090.48	3403873.93
6-13	306813.82	3404448.48
6-14	306755.08	3404936.68
6-15	306954.24	3404805.41
6-16	307549.20	3404033.56

**FILL AREA 6		
PT.	NORTHING	EASTING
6-8	305771.55	3402972.83
6-17	305844.17	3402727.90
6-18	305633.26	3402716.76
6-19	305376.72	3402616.87
6-20	304957.00	3403677.06
6-21	305161.99	3403839.37
6-10	305694.24	3403793.00
6-9	305636.81	3403186.02

**MARSH NOURISHMENT

SETTLEMENT PLATES		
PT.	NORTHING	EASTING
E	307062.18	3403855.27
F	306699.56	3403273.07
G	308016.01	3409596.58

ACCESS CHANNEL		
PT.	NORTHING	EASTING
A-11	307585.53	3405206.25
A-12	307665.80	3404717.75
A-13	307809.96	3404232.02
A-14	308059.51	3403815.82
A-15	308619.43	3402992.90

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- TEMPORARY SPOIL
- PERMANENT SPOIL
- MARSH NOURISHMENT
- EARTHEN PLUG
- SHEETPILE PLUG
- WARNING SIGN
- SETTLEMENT PLATE
- EFFLUENT STRUCTURE
- CONTROL SITE
- PL — PIPELINE
- FLOTATION ACCESS CHANNEL
- ARMORED EARTHEN DIKE CONTAINMENT DIKE

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND A MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THIS DEPTH OR WIDTH.
2. SEE SHEET 11 FOR EARTHEN DIKE AND POWERLINE DETAIL.
3. SEE SHEET 22 FOR EARTHEN PLUG 3 DETAILS
4. SEE SHEET 25 FOR SHEET PILE PLUG 3 DETAILS.
5. SEE SHEET 30 FOR WARNING SIGN DETAILS.
6. CONTRACTOR WILL BE ALLOWED TO PLACE TEMPORARY SHEETING AT THE DESIGNATED CONTROL SITE LOCATIONS TO ASSIST IN CONSTRUCTION AND MAINTENANCE OF THE EARTHEN CONTAINMENT DIKE. ALL TEMPORARY SHEETING AND THE LOCATIONS FOR PLACEMENT THERE OF SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION AND SHALL BE CAREFULLY REMOVED UPON PROJECT COMPLETION. SEE SHEET 65 FOR SECTIONS OF THE DESIGNATED CONTROL SITE LOCATIONS.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED BOUNDARY FOR FILL AREA 6 BY MODIFYING COORDINATES FOR POINT 106	SF
2	03/27/2008	REVISED COORDINATE FOR SETTLEMENT PLATE F	SF
3	03/27/2008	ADDED FLOTATION CHANNEL TO FILL AREA 6	SF
4	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

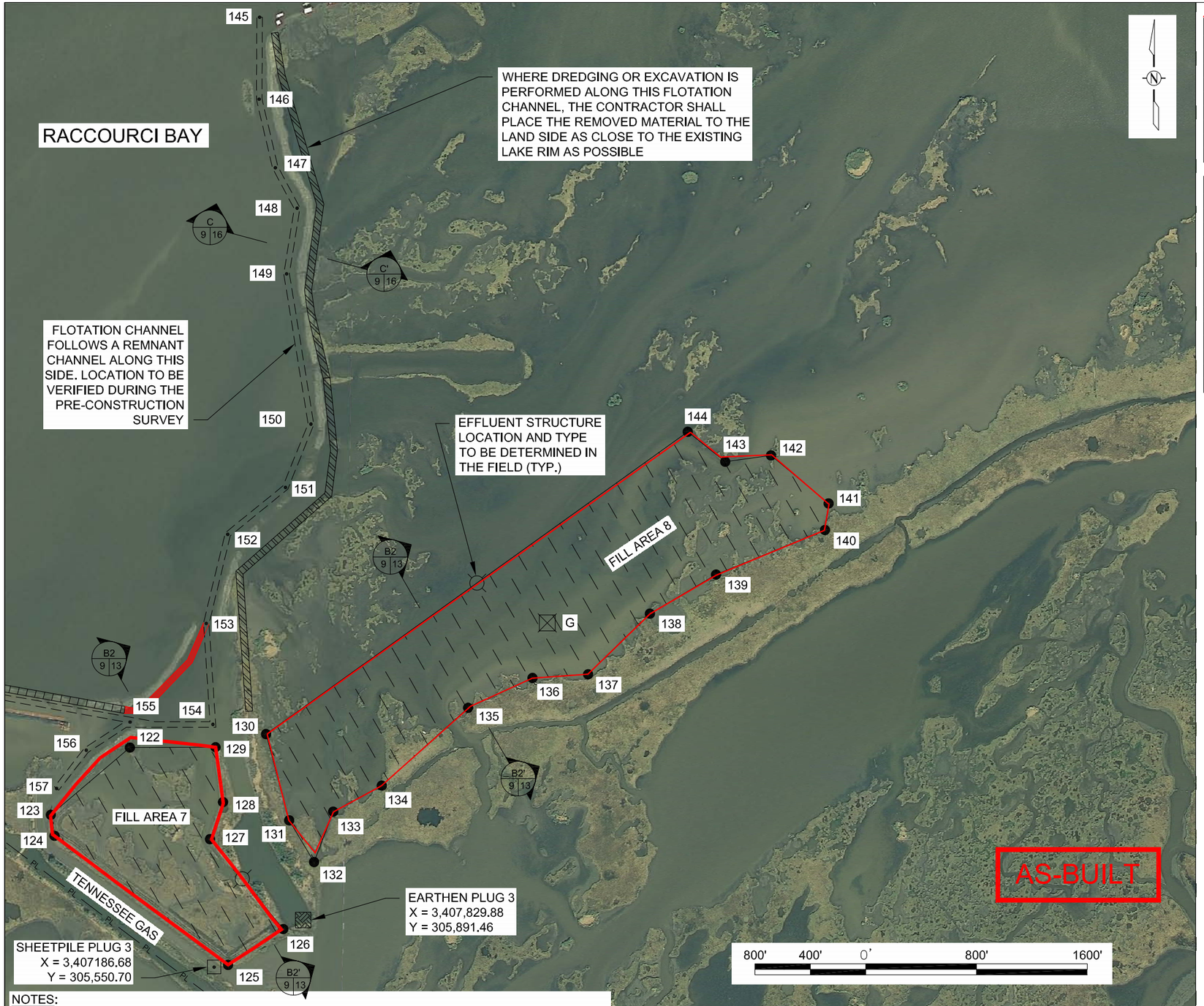
FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (MIDDLE)

DATE: JANUARY 2008

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

SHEET 8-A OF 65



FILL AREA 7		
PT.	NORTHING	EASTING
122	307,136.54	3,406,578.48
123	306,659.72	3,406,007.52
124	306,499.29	3,406,034.59
125	305,567.21	3,407,287.53
126	305,826.18	3,407,685.80
127	306,474.87	3,407,156.93
128	306,742.89	3,407,250.71
129	307,138.68	3,407,197.12

CHANNEL CENTER		
PT.	NORTHING	EASTING
145	312,410.00	3,407,515.00
146	311,818.00	3,407,512.00
147	311,323.00	3,407,629.00
148	311,031.00	3,407,786.00
149	310,557.00	3,407,710.00
150	309,472.00	3,407,896.00
151	309,015.00	3,407,702.00
152	308,676.00	3,407,285.00
153	308,033.00	3,407,130.00
154	307,303.81	3,407,181.68
155	307,320.68	3,406,580.01
156	307,117.36	3,406,263.14
157	306,841.25	3,406,049.39

FILL AREA 8		
PT.	NORTHING	EASTING
130	307,233.88	3,407,561.43
131	306,611.20	3,407,728.21
132	306,309.80	3,407,908.92
133	306,673.93	3,408,046.61
134	306,862.03	3,408,397.32
135	307,423.83	3,409,021.08
136	307,638.61	3,409,485.85
137	307,665.28	3,409,887.56
138	308,103.24	3,410,333.83
139	308,385.76	3,410,811.63
140	308,706.76	3,411,598.14
141	308,898.78	3,411,624.00
142	309,245.80	3,411,208.58
143	309,200.17	3,410,977.76
144	309,416.39	3,410,607.96

SETTLEMENT PLATE COORDINATES		
PT.	NORTHING	EASTING
E	307,791.97	3,403,603.39
F	306,709.05	3,403,262.07
G	306,036.91	3,409,592.50

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- TEMPORARY SPOIL
- PERMANENT SPOIL
- MARSH NOURISHMENT
- EARTHEN PLUG
- SHEETPILE PLUG
- WARNING SIGN
- SETTLEMENT PLATE
- EFFLUENT STRUCTURE
- PL — PIPELINE
- FLOTATION ACCESS CHANNEL
- ARMORED EARTHEN DIKE
- CONTAINMENT DIKE

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND A MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THIS DEPTH OR WIDTH.
2. SEE SHEET 22 FOR EARTHEN PLUG 3 DETAILS
3. SEE SHEET 25 FOR SHEET PILE PLUG 3 DETAILS.
4. SEE SHEET 30 FOR WARNING SIGN DETAILS.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	LABELED AND PROVIDED COORDINATES FOR SHEETPILE PLUG 3	SF
2	03/27/2008	REVISED NOTE FOR PLACEMENT OF ACCESS CHANNEL DREDGED MATERIAL.	SF
3	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

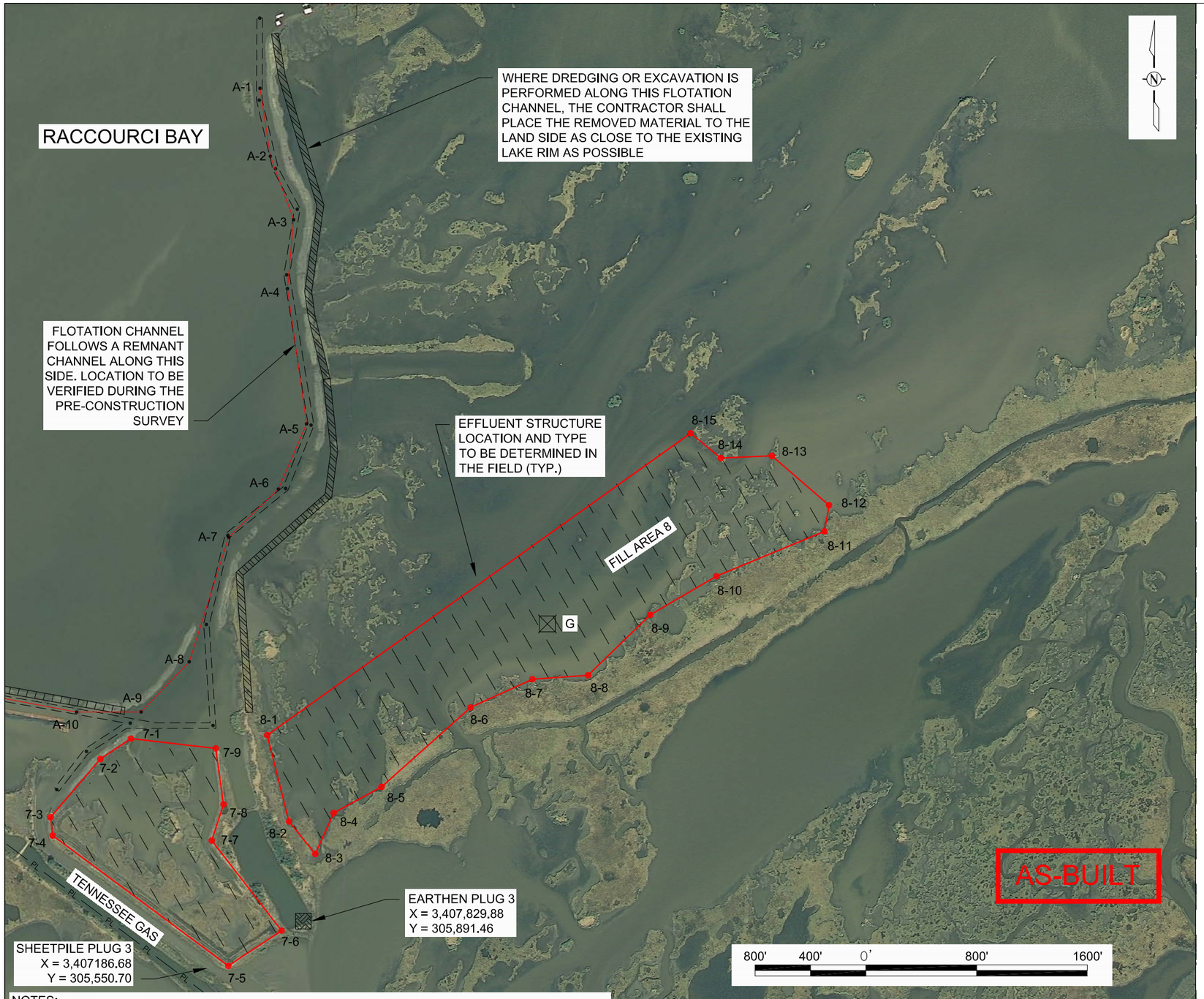
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (MIDDLE)

DATE: JANUARY 2008

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.



FILL AREA 7		
PT.	NORTHING	EASTING
7-1	307209.25	3406584.37
7-2	307062.11	3406363.62
7-3	306641.87	3406004.97
7-4	306509.35	3406018.99
7-5	305568.70	3407288.19
7-6	305823.07	3407672.87
7-7	306472.99	3407167.94
7-8	306734.77	3407253.74
7-9	307138.51	3407197.37

SETTLEMENT PLATES		
PT.	NORTHING	EASTING
E	307062.18	3403855.27
F	306699.56	3403273.07
G	308016.01	3409596.58

FILL AREA 8		
PT.	NORTHING	EASTING
8-1	307233.77	3407569.05
8-2	306610.56	3407726.74
8-3	306376.73	3407916.49
8-4	306672.11	3408048.91
8-5	306860.69	3408394.95
8-6	307434.09	3409037.51
8-7	307637.64	3409483.83
8-8	307666.22	3409886.40
8-9	308102.44	3410334.75
8-10	308381.14	3410812.62
8-11	308705.28	3411594.10
8-12	308893.71	3411626.90
8-13	309250.34	3411212.69
8-14	309233.93	3410845.34
8-15	309413.19	3410626.62

ACCESS CHANNEL		
PT.	NORTHING	EASTING
A-1	311903.42	3407516.98
A-2	311412.82	3407591.79
A-3	310955.23	3407760.40
A-4	310457.08	3407715.46
A-5	309481.24	3407853.28
A-6	309010.30	3407650.16
A-7	308662.14	3407290.31
A-8	307763.82	3407006.10
A-9	307401.20	3406658.63
A-10	307400.67	3406192.54

LEGEND

- FILL AREA (MAX. EL. 3.0')
- FILL AREA (MAX. EL. 2.5')
- TEMPORARY SPOIL
- PERMANENT SPOIL
- MARSH NOURISHMENT
- EARTHEN PLUG
- SHEETPILE PLUG
- WARNING SIGN
- SETTLEMENT PLATE
- EFFLUENT STRUCTURE
- PL — PIPELINE
- FLOTATION ACCESS CHANNEL
- ARMORED EARTHEN DIKE CONTAINMENT DIKE

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND A MAXIMUM BOTTOM WIDTH OF 40'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THIS DEPTH OR WIDTH.
2. SEE SHEET 22 FOR EARTHEN PLUG 3 DETAILS
3. SEE SHEET 25 FOR SHEET PILE PLUG 3 DETAILS.
4. SEE SHEET 30 FOR WARNING SIGN DETAILS.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	LABELED AND PROVIDED COORDINATES FOR SHEETPILE PLUG 3	SF
2	03/27/2008	REVISED NOTE FOR PLACEMENT OF ACCESS CHANNEL DREDGED MATERIAL.	SF
3	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

PROJECT AREA (MIDDLE)

DATE: JANUARY 2008

SHEET 9-A OF 65

ACCESS CHANNEL TO ROCK PLUG 2		
PT.	NORTHING	EASTING
161	317,996.98	3,414,888.18
162	314,764.49	3,415,997.83
163	313,812.20	3,416,389.27
164	313,767.07	3,416,951.39
165	313,687.01	3,418,771.54
166	313,630.07	3,419,511.82
167	313,515.70	3,421,663.82

ACCESS CHANNEL TO ROCK PLUG 1		
PT.	NORTHING	EASTING
168	313,527.23	3,416,724.51
169	311,238.32	3,416,570.17
170	310,705.50	3,416,717.54

FLOTATION ACCESS CHANNEL CONTINUES TO BAYOU DECADE (SEE SHEET 3)

PERMANENT SPOIL

162

EXISTING PLUG TO BE REMOVED AND REPLACED TO PRE-DREDGE DIMENSIONS (NO DIRECT PAY)

D' 10 16

163

164

168

165

166

PERMANENT SPOIL

167

ROCK PLUG 2
X = 3,421,821.81
Y = 313,501.57

FLOTATION ACCESS CHANNEL

D 10 16

RADIUS = 200.0' (TYP.)

D 10 16

D' 10 16

EARTHEN PLUG 2
X = 3,420,666.60
Y = 312,537.73

TEMPORARY SPOIL

169

600' 300' 0' 600' 1200'

AS-BUILT

LEGEND

- PERMANENT SPOIL
- TEMPORARY SPOIL
- EARTHEN PLUG
- ROCK PLUG
- WARNING SIGN
- FLOTATION ACCESS CHANNEL

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88 AND A MAXIMUM WIDTH OF 40.0'. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE OR EXCAVATE TO THIS DEPTH OR WIDTH.
2. SEE SHEET 18 FOR ROCK PLUG 1 DETAILS
3. SEE SHEET 19 FOR ROCK PLUG 2 DETAILS.
4. SEE SHEET 21 FOR EARTHEN PLUG 2 DETAILS.

ROCK PLUG 1
X = 3,416,723.93
Y = 310,540.78

170

REV.	DATE	DESCRIPTION	BY
1	06/23/2008	ADDED COORDINATES FOR ACCESS CHANNEL	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

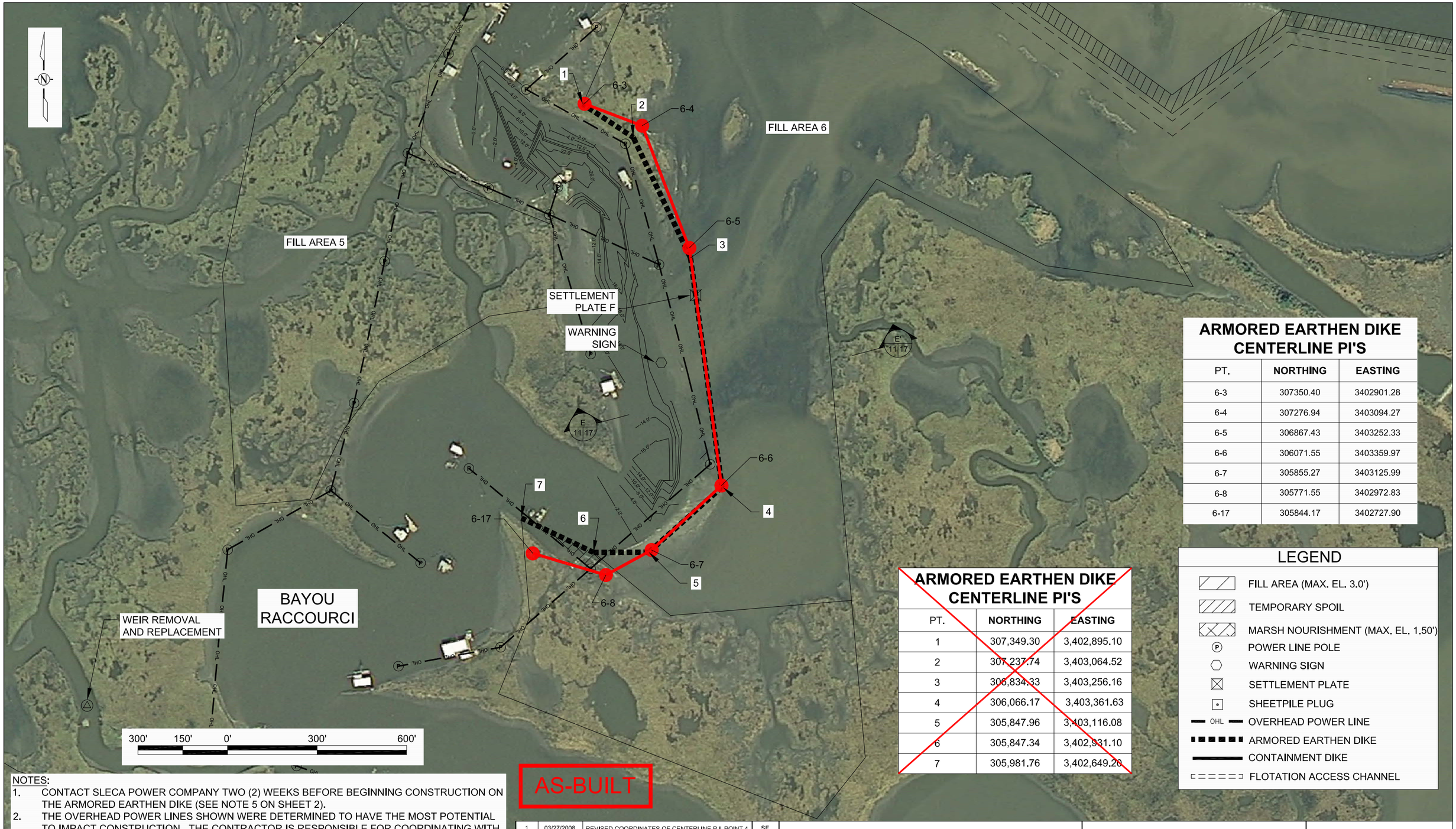
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

PROJECT AREA (EAST)

DATE: JANUARY 2008

SHEET 10 OF 65



ARMORED EARTHEN DIKE CENTERLINE PI'S

PT.	NORTHING	EASTING
6-3	307350.40	3402901.28
6-4	307276.94	3403094.27
6-5	306867.43	3403252.33
6-6	306071.55	3403359.97
6-7	305855.27	3403125.99
6-8	305771.55	3402972.83
6-17	305844.17	3402727.90

ARMORED EARTHEN DIKE CENTERLINE PI'S

PT.	NORTHING	EASTING
1	307,349.30	3,402,895.10
2	307,237.74	3,403,064.52
3	306,834.33	3,403,256.16
4	306,066.17	3,403,361.63
5	305,847.96	3,403,116.08
6	305,847.34	3,402,931.10
7	305,981.76	3,402,649.20

LEGEND

- FILL AREA (MAX. EL. 3.0')
- TEMPORARY SPOIL
- MARSH NOURISHMENT (MAX. EL. 1.50')
- POWER LINE POLE
- WARNING SIGN
- SETTLEMENT PLATE
- SHEETPILE PLUG
- OVERHEAD POWER LINE
- ARMORED EARTHEN DIKE
- CONTAINMENT DIKE
- FLOTATION ACCESS CHANNEL

NOTES:

1. CONTACT SLECA POWER COMPANY TWO (2) WEEKS BEFORE BEGINNING CONSTRUCTION ON THE ARMORED EARTHEN DIKE (SEE NOTE 5 ON SHEET 2).
2. THE OVERHEAD POWER LINES SHOWN WERE DETERMINED TO HAVE THE MOST POTENTIAL TO IMPACT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH SLECA TO DETERMINE IF OTHER LINES IN THE VICINITY OF BAYOU RACOURCCI MAY CONFLICT WITH ACCESS OF CONSTRUCTION EQUIPMENT OR OTHER CONSTRUCTION ACTIVITIES.
3. NO DREDGING WILL BE ALLOWED WITHIN 50 FEET OF ANY POWER LINE POLE.
4. THE ARMORED EARTHEN DIKE CORE SHALL BE CONSTRUCTED OF IN-SITU MATERIAL IN A MINIMUM OF 2 LIFTS BEFORE BEING ARMORED.

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED COORDINATES OF CENTERLINE P.I. POINT 4	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

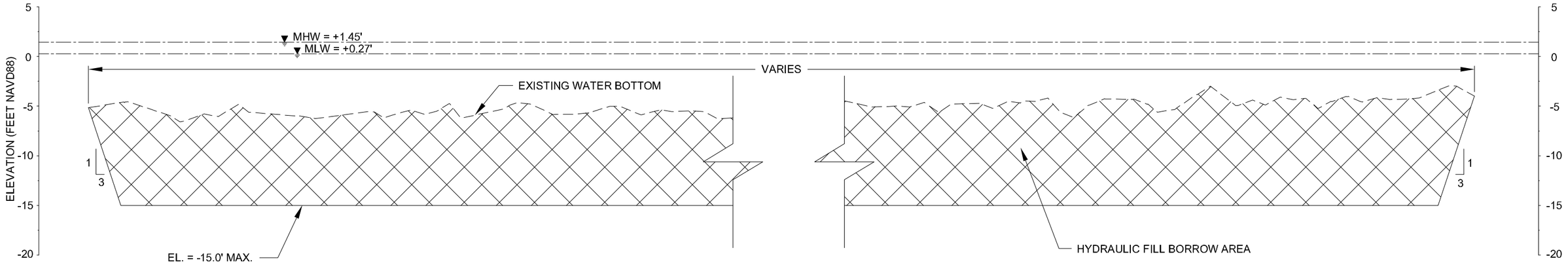
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

ARMORED EARTHEN DIKE AND POWERLINE DETAIL

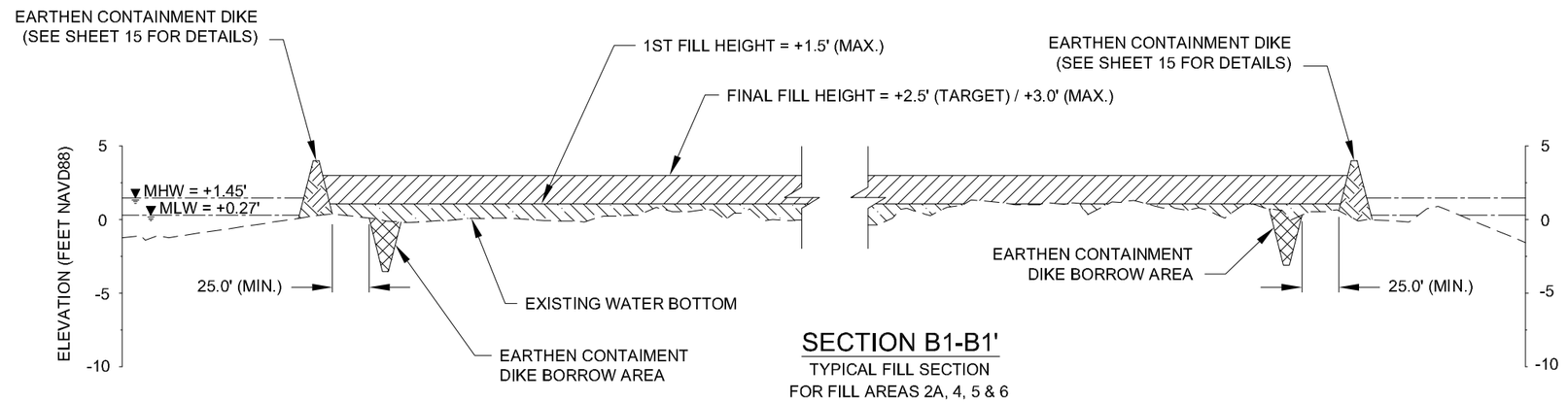
DATE: JANUARY 2008



SECTION A-A'

TYPICAL BORROW SECTION
(SEE SHEET 7)

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE



SECTION B1-B1'

TYPICAL FILL SECTION
FOR FILL AREAS 2A, 4, 5 & 6

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

AS-BUILT

NOTES:
1. IN MARSH CREATION AREAS, HYDRAULIC FILL SHALL BE PLACED USING A MINIMUM OF TWO LIFTS. HYDRAULIC FILL FOR MARSH NOURISHMENT AREAS SHALL BE PLACED USING ONE LIFT.
2. REFER TO TS-8 OF THE SPECIFICATIONS FOR DREDGING PLACEMENT AND PAYMENT DETAILS.
3. CONTRACTOR SHALL SUBMIT A DREDGE DISPOSAL PLAN PRIOR TO CONSTRUCTION IN ACCORDANCE WITH TS-8.4 OF THE SPECIFICATIONS. THE PLAN SHALL INCLUDE A TIMELINE OF ALL DREDGING OPERATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

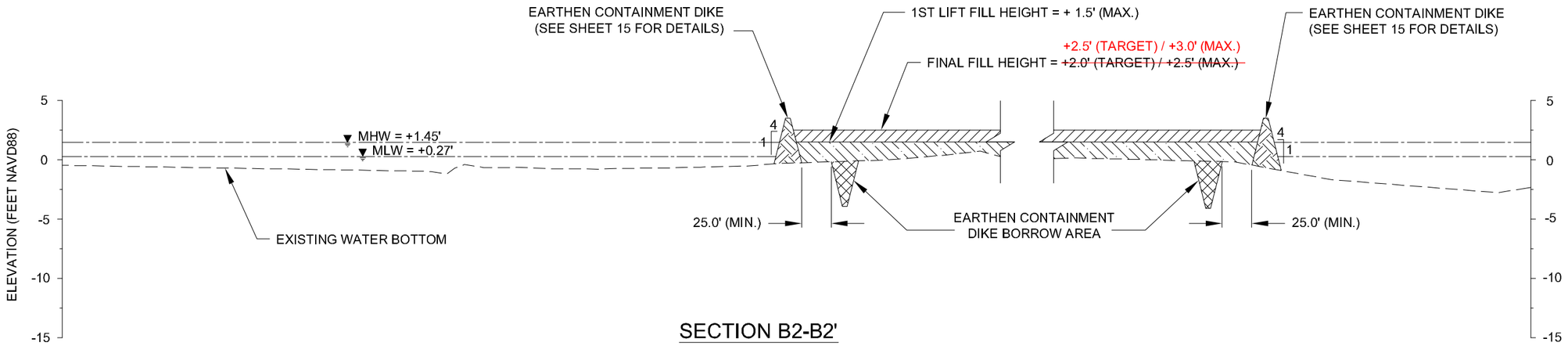
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

BORROW AND FILL AREA SECTION VIEWS

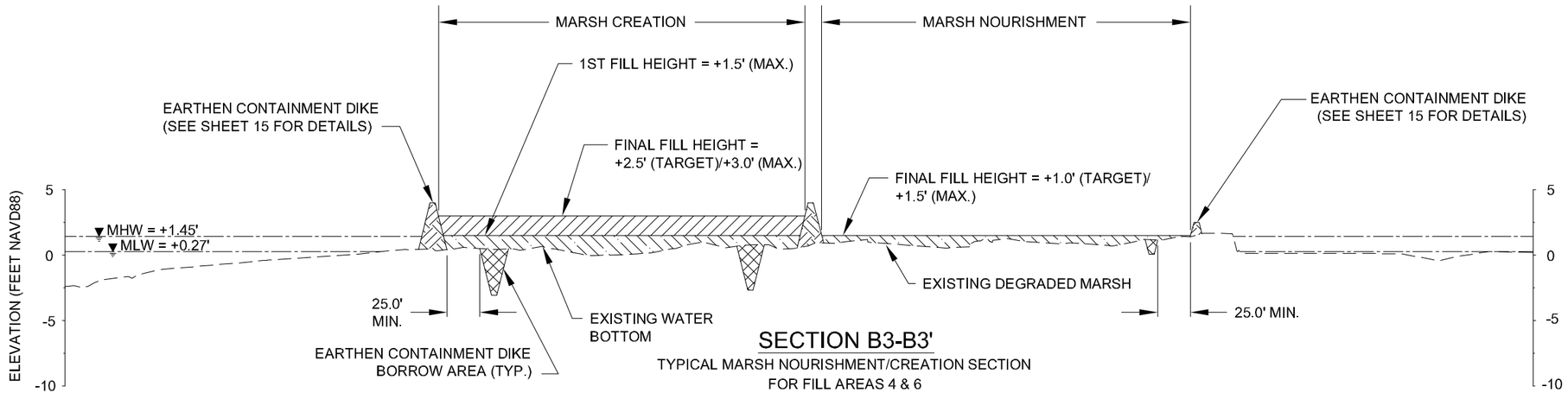
DATE: JANUARY 2008
SHEET 12 OF 65



SECTION B2-B2'

TYPICAL MARSH CREATION FILL SECTION
FOR FILL AREAS 2B, 3, 7 & 8

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE



SECTION B3-B3'

TYPICAL MARSH NOURISHMENT/CREATION SECTION
FOR FILL AREAS 4 & 6

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

AS-BUILT

NOTES:

1. IN MARSH CREATION AREAS, HYDRAULIC FILL SHALL BE PLACED USING A MINIMUM OF TWO LIFTS. HYDRAULIC FILL FOR MARSH NOURISHMENT AREAS SHALL BE PLACED USING ONE LIFT.
2. REFER TO TS-8 OF THE SPECIFICATIONS FOR DREDGING PLACEMENT AND PAYMENT DETAILS.
3. CONTRACTOR SHALL SUBMIT A DREDGE DISPOSAL PLAN PRIOR TO CONSTRUCTION IN ACCORDANCE WITH TS-8.4 OF THE SPECIFICATIONS. THE PLAN SHALL INCLUDE A TIMELINE OF ALL DREDGING OPERATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

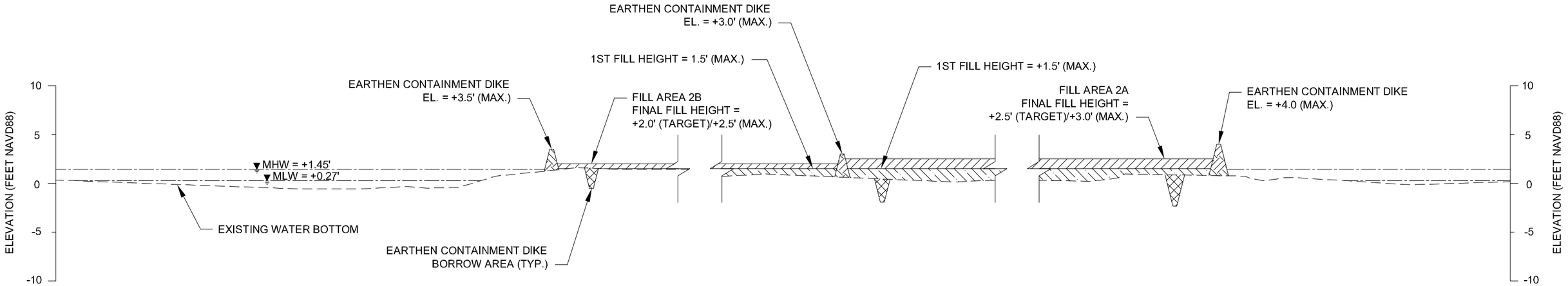
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

BORROW AND FILL AREA SECTION VIEWS

DATE: JANUARY 2008
SHEET 13 OF 65



SECTION B4-B4'

TYPICAL MARSH CREATION FILL SECTION
FOR FILL AREAS 2A & 2B

HORIZONTAL GRAPHIC SCALE

100' 50' 0 100' 200'

10' 5' 0 10' 20'

VERTICAL GRAPHIC SCALE

NOTES:

1. IN MARSH CREATION AREAS, HYDRAULIC FILL SHALL BE PLACED USING A MINIMUM OF TWO LIFTS. HYDRAULIC FILL FOR MARSH NOURISHMENT AREAS SHALL BE PLACED USING ONE LIFT.
2. REFER TO TS-8 OF THE SPECIFICATIONS FOR DREDGING PLACEMENT AND PAYMENT DETAILS.
3. CONTRACTOR SHALL SUBMIT A DREDGE DISPOSAL PLAN PRIOR TO CONSTRUCTION IN ACCORDANCE WITH TS-8.4 OF THE SPECIFICATIONS. THE PLAN SHALL INCLUDE A TIMELINE OF ALL DREDGING OPERATIONS.

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

BORROW AND FILL AREA SECTION VIEWS

DATE: JANUARY 2008
SHEET 14 OF 65

MARSH CREATION CONTAINMENT DIKE HEIGHT

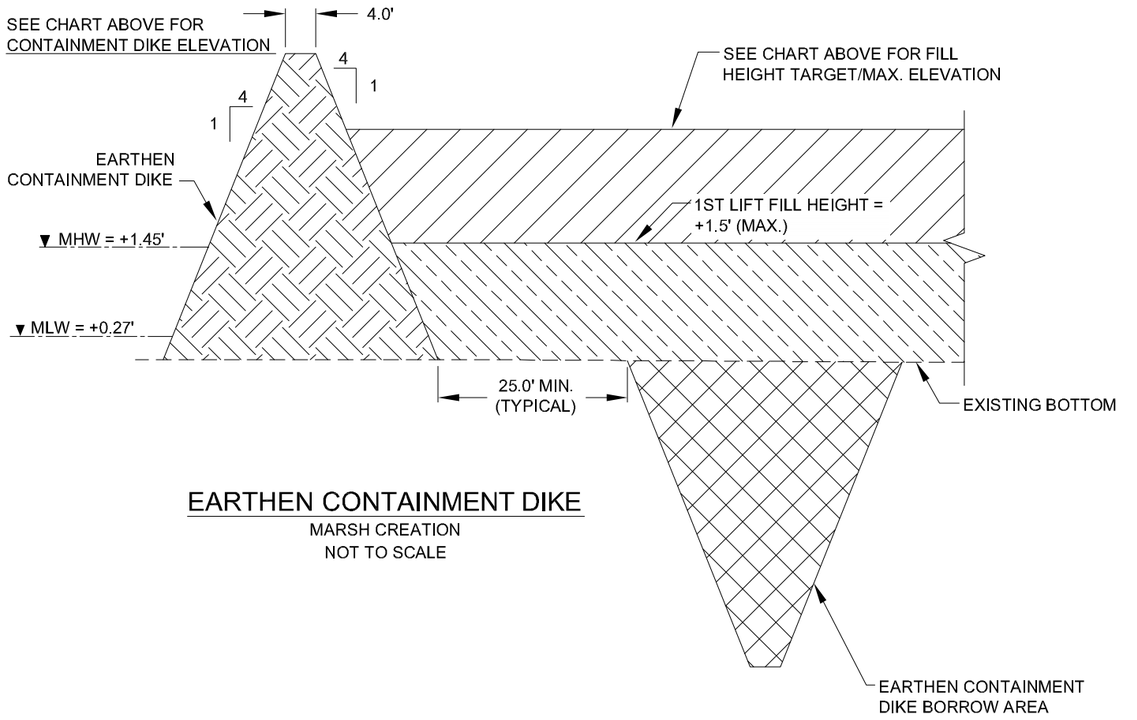
FILL AREA	ELEVATION
2A	4.0'
2B	3.5'
3	3.5'
4	4.0'
5	4.0'
6	4.0'
7	3.5'
8	3.5'

MARSH CREATION FILL HEIGHT

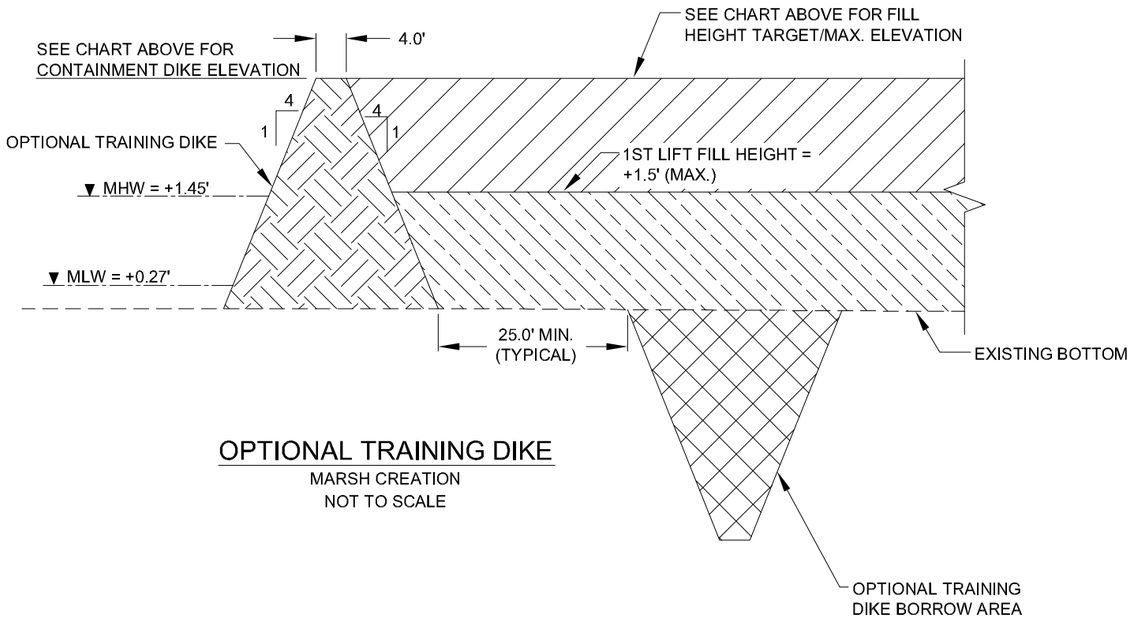
FILL AREA	TARGET ELEVATION/MAX.
2A	2.5'/3.0'
2B	~~2.0'/2.5'~~ 2.5'/3.0'
3	~~2.0'/2.5'~~ 2.5'/3.0'
4	2.5'/3.0'
5	2.5'/3.0'
6	2.5/3.0'
7	~~2.0'/2.5'~~ 2.5'/3.0'
8	~~2.0'/2.5'~~ 2.5'/3.0'

MARSH CREATION OPTIONAL CONTAINMENT DIKE HEIGHT

FILL AREA	ELEVATION
2A	3.0'
2B	2.5'
3	2.5'
4	3.0'
5	3.0'
6	3.0'
7	2.5'
8	2.5'



EARTHEN CONTAINMENT DIKE
MARSH CREATION
NOT TO SCALE



OPTIONAL TRAINING DIKE
MARSH CREATION
NOT TO SCALE

AS-BUILT

NOTES:
1. SEE SHEETS 7 AND 8 FOR LOCATIONS OF FILL AREAS.
2. CONTRACTOR SHALL SUBMIT A DREDGE DISPOSAL PLAN PRIOR TO CONSTRUCTION IN ACCORDANCE WITH TS-8.4 OF THE SPECIFICATIONS. THE PLAN SHALL INCLUDE THE LOCATION OF ALL PROPOSED OPTIONAL TRAINING DIKES. NO EXISTING WETLAND VEGETATION SHALL BE DREDGED OR FILLED BY OPTIONAL TRAINING DIKE CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. SEE SECTION TS-7 FOR OPTIONAL TRAINING DIKE SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: MITCH ANDRUS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LEBAS, P.E.

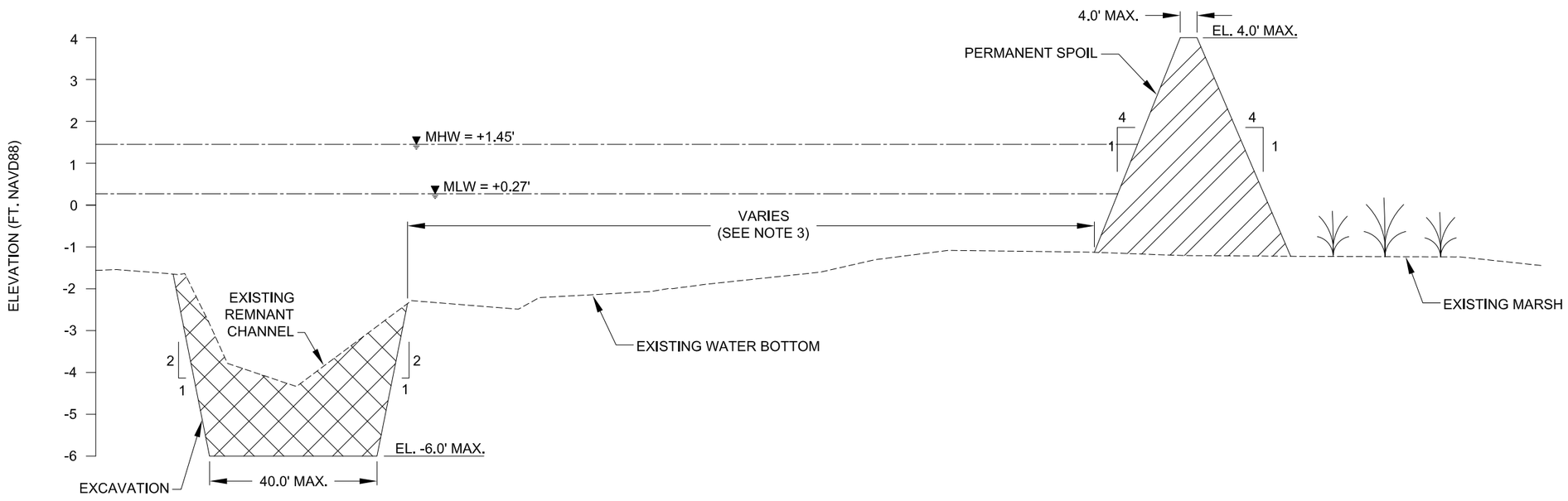
MARSH CREATION SECTION VIEWS

DATE: JANUARY 2008

SHEET 15 OF 65

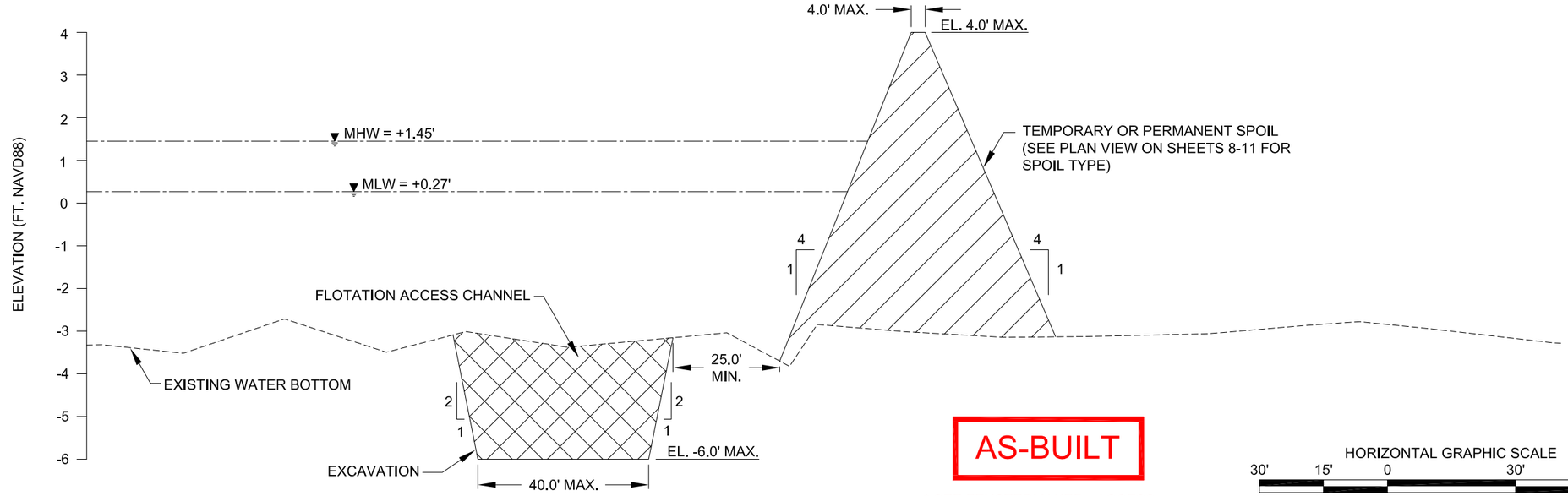
SECTION C-C'

FLOTATION ACCESS CHANNEL
(SEE SHEET 9)



SECTION D-D'

FLOTATION ACCESS CHANNEL
(SEE SHEET 10)



AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.

HORIZONTAL GRAPHIC SCALE
30' 15' 0 30' 60'
3' 1.5' 0 3' 6'
VERTICAL GRAPHIC SCALE

NOTES:

1. DEPENDING ON DRAFT REQUIREMENTS OF THE CONTRACTOR'S EQUIPMENT, FLOTATION CHANNELS MAY NOT BE REQUIRED AT ALL LOCATIONS SHOWN. FLOTATION CHANNELS ARE PERMITTED TO A MAXIMUM DEPTH OF -6.0' NAVD 88. IT IS NOT MANDATORY THAT THE CONTRACTOR DREDGE TO THIS DEPTH. THE CONTRACTOR SHALL DISPOSE OF FLOATATION SPOIL IN THE AREAS SHOWN ON THE PLANS. TEMPORARY SPOIL DISPOSAL SHALL BE PLACED INTO THE FLOTATION CHANNEL PRIOR TO DEMOBILIZATION IN ACCORDANCE WITH TS-9 OF THE SPECIFICATIONS.
2. FOR SECTION C-C' THE FLOTATION ACCESS CHANNEL FOLLOWS A REMNANT CHANNEL. DREDGED MATERIAL SHALL BE PLACED TO THE LAND SIDE AS CLOSE TO THE EXISTING LAKE RIM AS POSSIBLE.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED NOTE 2. DELETED NOTE 3. REVISED PLAN VIEW LOCATIONS FOR SECTION C-C' & D-D'.	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

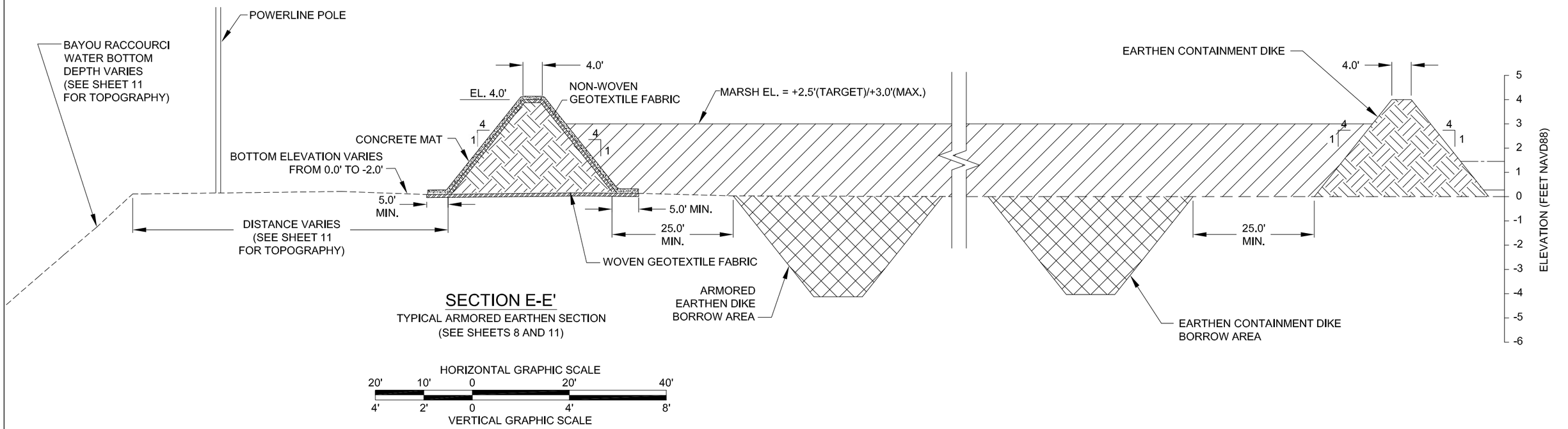
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

FLOTATION ACCESS CHANNEL SECTIONS

DATE: JANUARY 2008

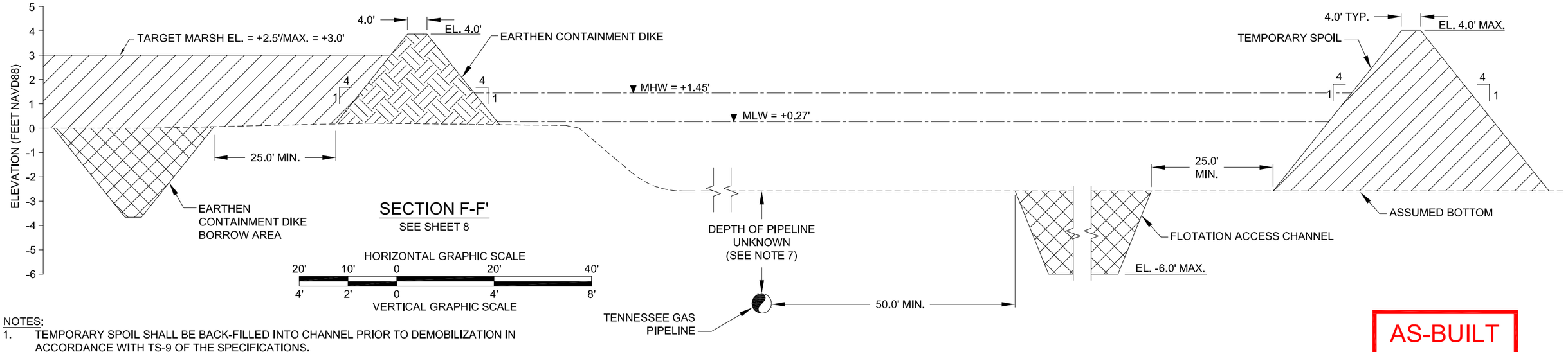
SHEET 16 OF 65



SECTION E-E'

TYPICAL ARMORED EARTHEN SECTION
(SEE SHEETS 8 AND 11)

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
4' 2' 0 4' 8'
VERTICAL GRAPHIC SCALE



SECTION F-F'

SEE SHEET 8

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
4' 2' 0 4' 8'
VERTICAL GRAPHIC SCALE

NOTES:

1. TEMPORARY SPOIL SHALL BE BACK-FILLED INTO CHANNEL PRIOR TO DEMOBILIZATION IN ACCORDANCE WITH TS-9 OF THE SPECIFICATIONS.
2. FOR THE CONSTRUCTION OF THE ARMORED EARTHEN DIKE, WOVEN GEOTEXTILE FABRIC SHALL BE PLACED PRIOR TO CONSTRUCTION OF IN-SITU EARTHEN DIKE.
3. CORE OF ARMORED EARTHEN DIKE TO BE CONSTRUCTED OF IN-SITU EARTHEN MATERIAL IN A MINIMUM OF 2 LIFTS. ELEVATION OF THE EARTHEN DIKE MUST BE APPROVED BY THE ENGINEER OR INSPECTOR PRIOR TO PLACEMENT OF NON-WOVEN GEOTEXTILE AND CONCRETE MATS IN ACCORDANCE WITH TS-6 OF THE SPECIFICATIONS.
4. NON-WOVEN GEOTEXTILE TO BE PLACED OVER IN-SITU EARTHEN DIKE PRIOR TO CONCRETE MAT PLACEMENT.
5. SEE TS-11 AND TS-12 FOR WOVEN GEOTEXTILE AND NON-WOVEN GEOTEXTILE SPECIFICATIONS. SEE SHEET 31 FOR CONCRETE MAT DETAILS.
6. SEE SHEET 11 FOR POWER LINE AND POLE LOCATIONS AND RESTRICTIONS.
7. PIPELINE LOCATION AND DEPTH WILL BE DETERMINED AND MARKED BY TENNESSEE GAS. NO DREDGING WILL BE ALLOWED WITHIN 50.0' OF PIPELINE.

AS-BUILT

* SEE FENSTERMAKER - FILL AREA 6 SECTION SHEETS, AFTER SHEET 65

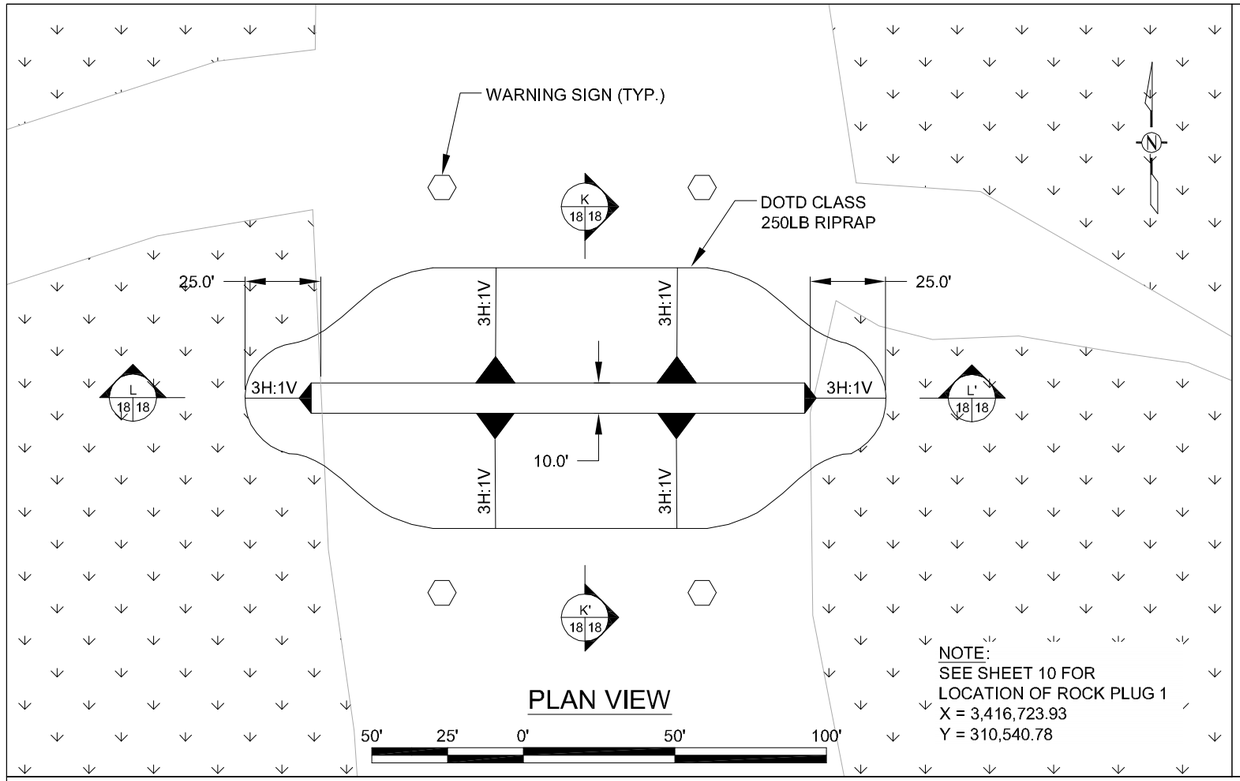
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

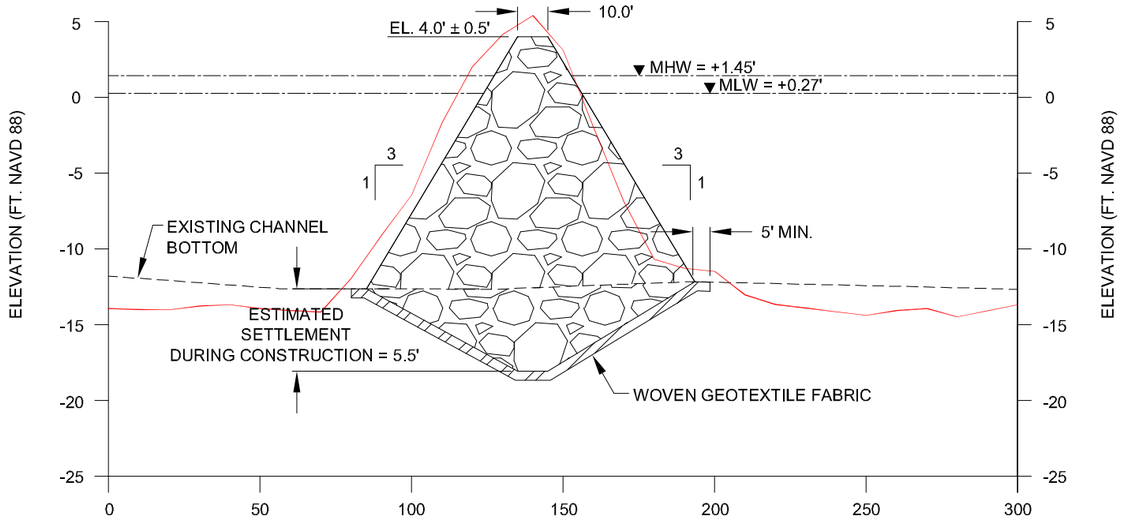
ARMORED EARTHEN DIKE
DATE: JANUARY 2008
SHEET 17 OF 65



PLAN VIEW

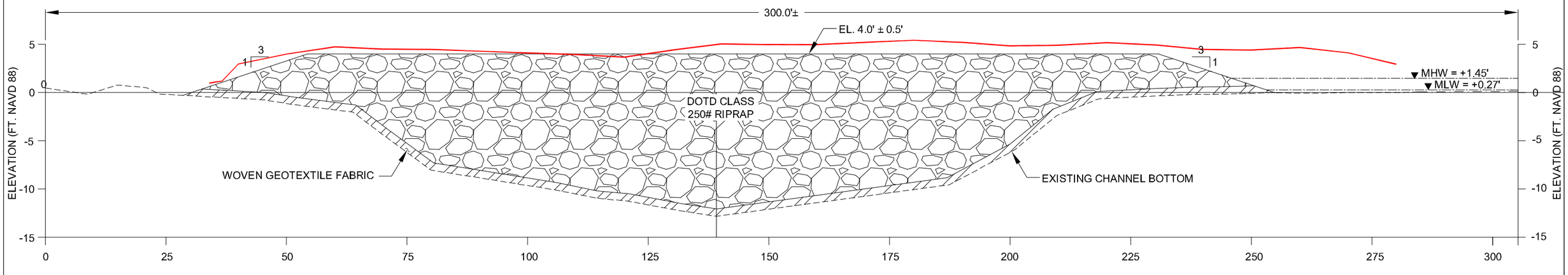
50' 25' 0' 50' 100'

NOTE:
SEE SHEET 10 FOR
LOCATION OF ROCK PLUG 1
X = 3,416,723.93
Y = 310,540.78



SECTION K-K'
LOOKING EAST

HORIZONTAL GRAPHIC SCALE
50' 25' 0 50' 100'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE



HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

SECTION L-L'
LOOKING NORTH
REFERENCE SECTION 12l

AS-BUILT

NOTES:
1. ROCK QUANTITY = 9,000 TONS
2. WOVEN GEOTEXTILE FABRIC AREA = 4,000 SQ. YARDS.
3. SEE SHEET 30 FOR WOVEN GEOTEXTILE LAYOUT AND TS-11 OF THE SPECIFICATIONS FOR PHYSICAL REQUIREMENTS.
4. THE ROCK PLUG SHALL BE CONSTRUCTED IN LIFTS. THE HEIGHT OF EACH LIFT SHALL NOT EXCEED FIVE FEET.
5. ACTUAL LOCATIONS OF THE WARNING SIGNS SHALL BE DETERMINED BY DNR FIELD ENGINEER.

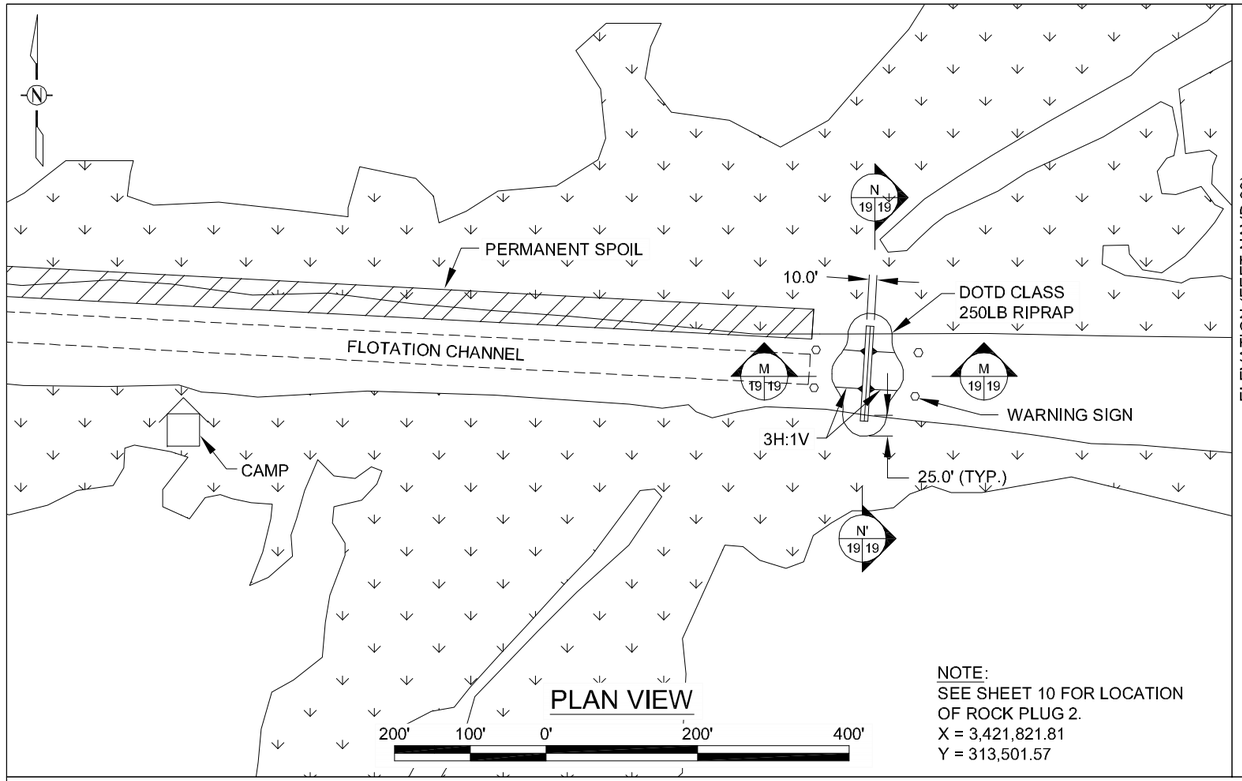
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

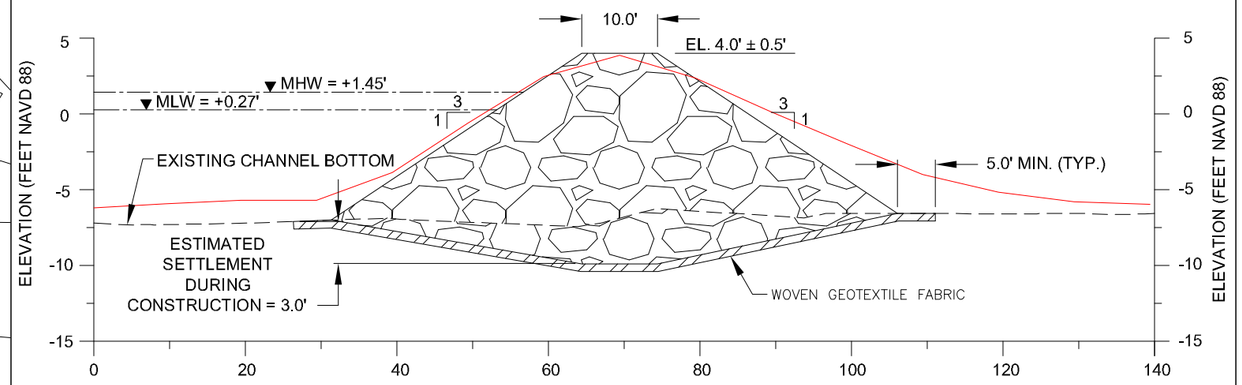
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

ROCK PLUG I DETAILS
DATE: JANUARY 2008
SHEET 18 OF 65



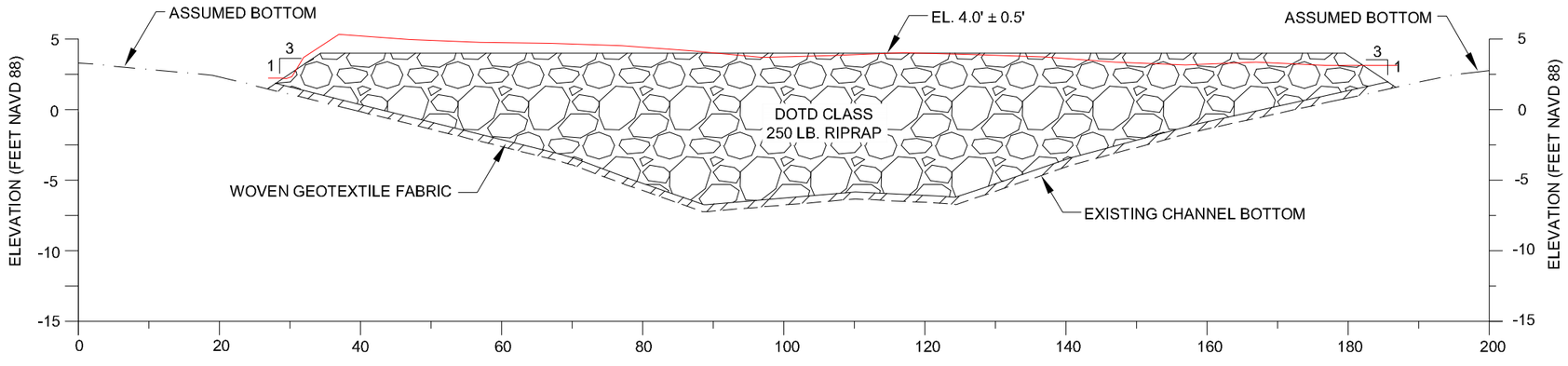
PLAN VIEW

NOTE:
SEE SHEET 10 FOR LOCATION OF ROCK PLUG 2.
X = 3,421,821.81
Y = 313,501.57



SECTION M-M'
LOOKING NORTH

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE



HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

SECTION N-N'
LOOKING EAST
REFERENCE SECTION 26D

AS-BUILT

NOTES:
1. ROCK QUANTITY = 3,000 TONS.
2. WOVEN GEOTEXTILE AREA = 2,250 SQ. YARDS.
3. SEE SHEET 30 FOR WOVEN GEOTEXTILE LAYOUT AND TS-11 OF THE SPECIFICATIONS FOR PHYSICAL REQUIREMENTS.
4. THE ROCK PLUG SHALL BE CONSTRUCTED IN LIFTS. THE HEIGHT OF EACH LIFT SHALL NOT EXCEED FIVE FEET.
5. ACTUAL LOCATIONS OF THE WARNING SIGNS SHALL BE DETERMINED BY THE LDNR FIELD ENGINEER.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED QUANTITY IN NOTE 1	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

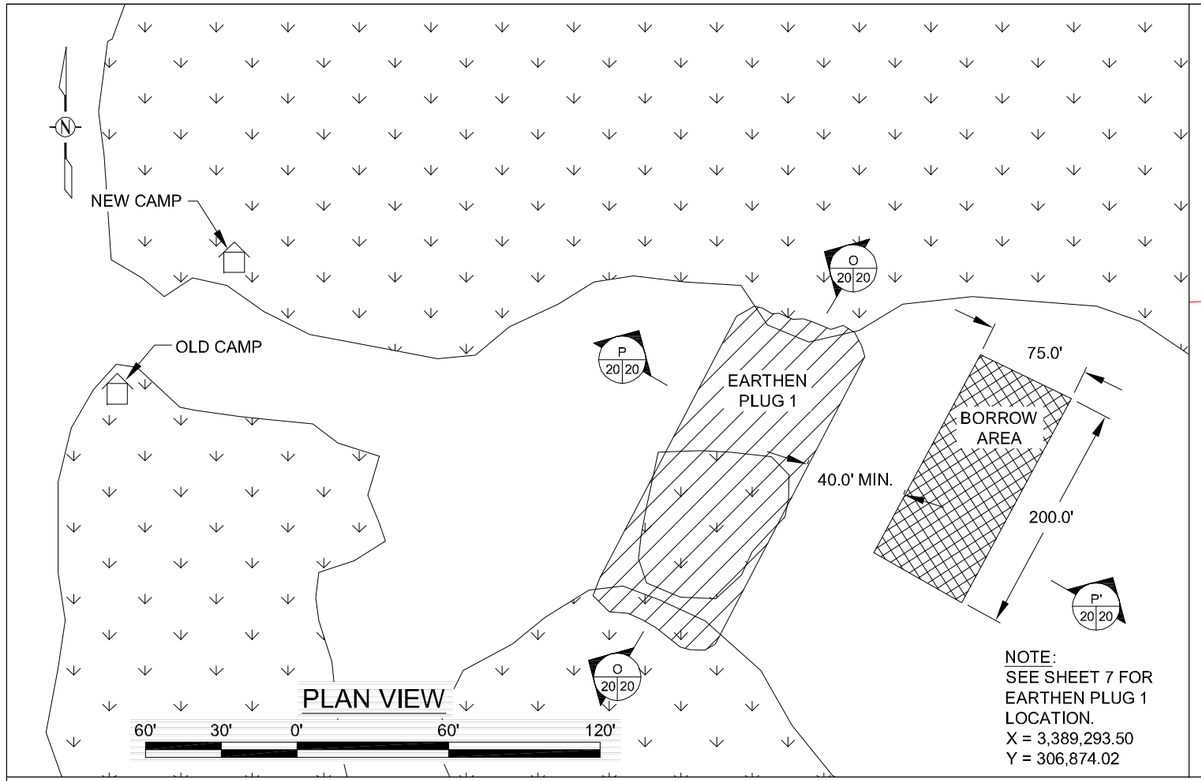
DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

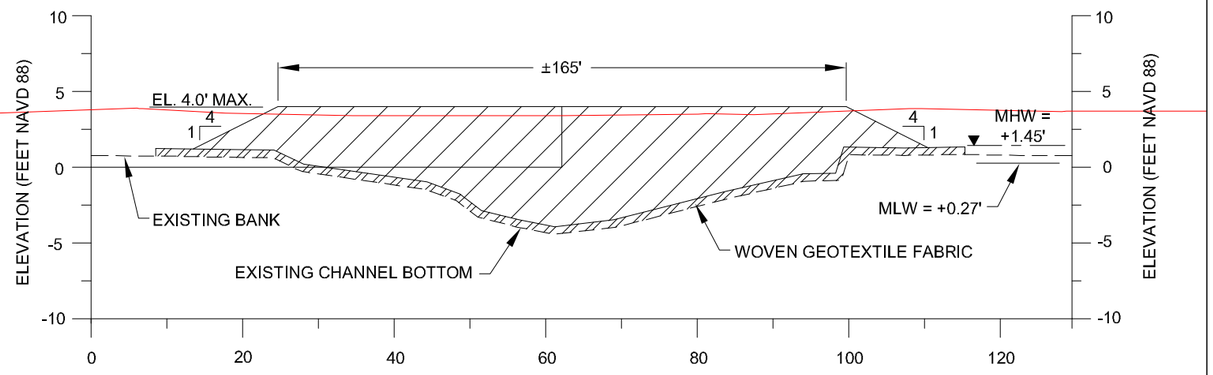
ROCK PLUG 2 DETAILS

DATE: JANUARY 2008
SHEET 19 OF 65



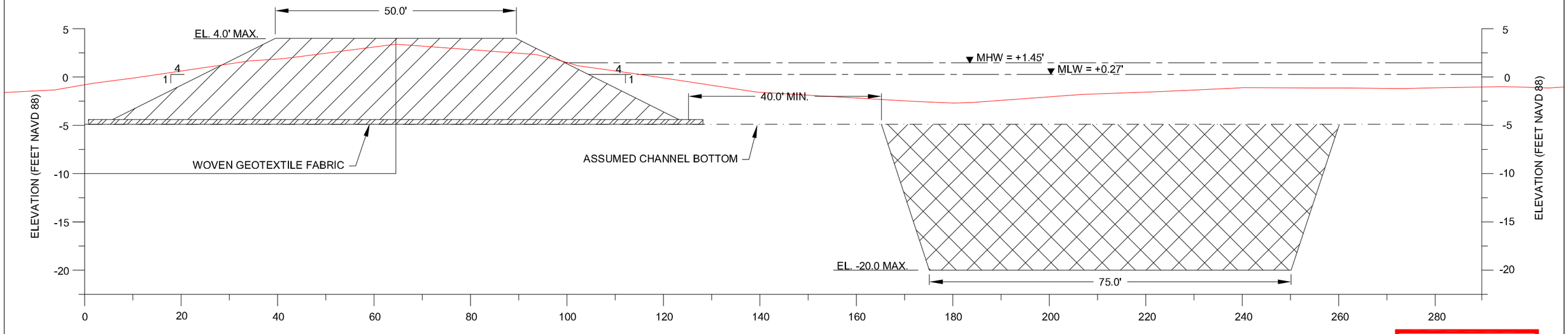
PLAN VIEW

NOTE:
SEE SHEET 7 FOR EARTHEN PLUG 1 LOCATION.
X = 3,389,293.50
Y = 306,874.02



SECTION O-O'
LOOKING WEST

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'



SECTION P-P'
LOOKING NORTH

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

AS-BUILT

NOTES:
1. FILL VOLUME = 3,300 CU. YARDS.
2. WOVEN GEOTEXTILE AREA = 2,900 SQ. YARDS.
3. EARTHEN PLUGS SHALL BE CONSTRUCTED USING A MINIMUM OF 2 LIFTS.
4. SEE SHEET 30 FOR WOVEN GEOTEXTILE LAYOUT AND TS-11 OF THE SPECIFICATIONS FOR PHYSICAL REQUIREMENTS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

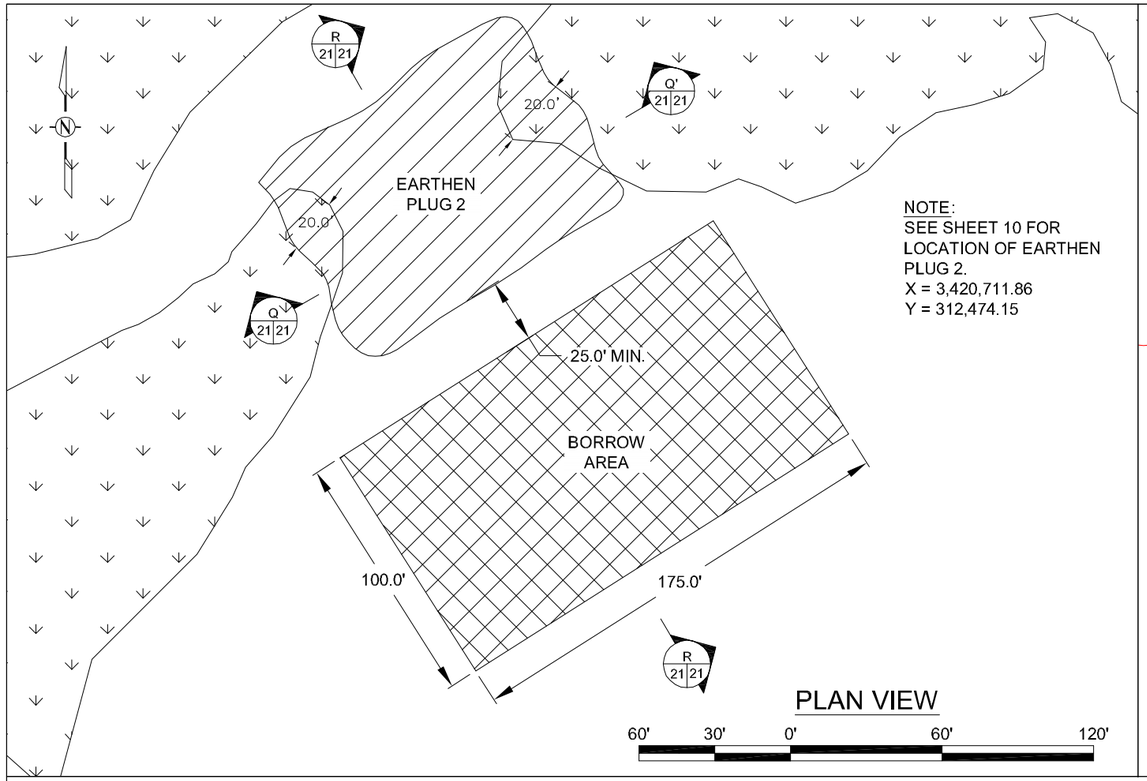
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

EARTHEN PLUG I

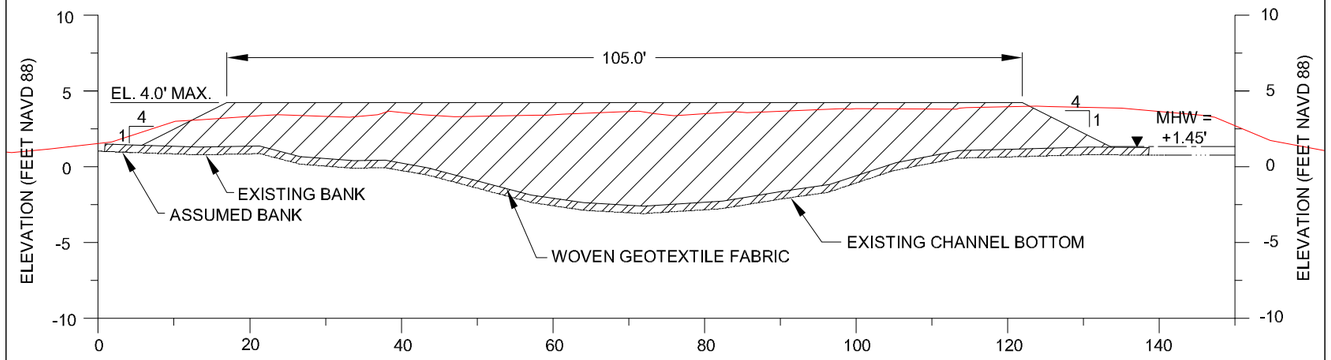
DATE: JANUARY 2008
SHEET 20 OF 65



NOTE:
SEE SHEET 10 FOR LOCATION OF EARTHEN PLUG 2.
X = 3,420,711.86
Y = 312,474.15

PLAN VIEW

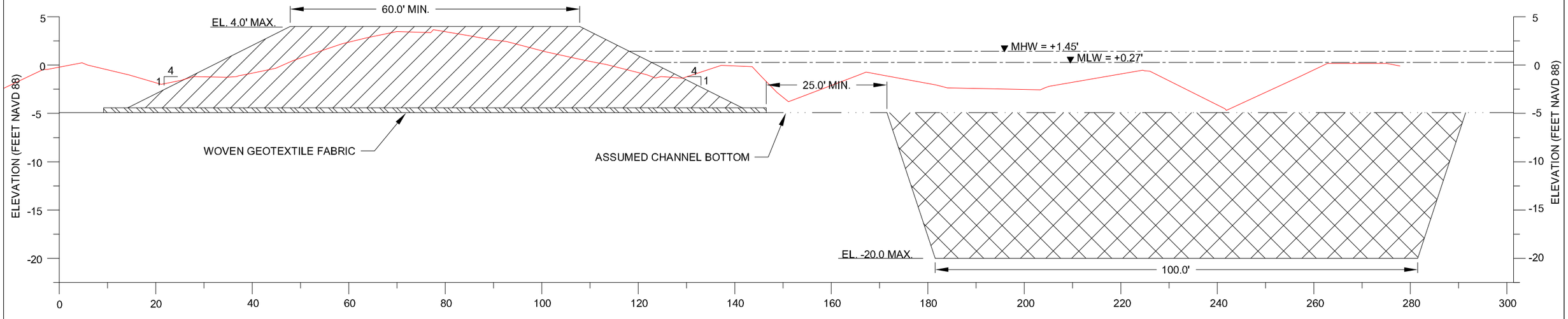
60' 30' 0' 60' 120'



SECTION Q-Q'

LOOKING NORTH
REFERENCE CONTROL SITE #1

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE



SECTION R-R'

LOOKING EAST

HORIZONTAL GRAPHIC SCALE
20' 10' 0 20' 40'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

AS-BUILT

NOTES:
1. FILL VOLUME = 2,500 CU. YARDS.
2. WOVEN GEOTEXTILE AREA = 2,200 SQ. YARDS.
3. EARTHEN PLUGS SHALL BE CONSTRUCTION USING A MINIMUM OF 2 LIFTS.
4. SEE SHEET 30 FOR WOVEN GEOTEXTILE LAYOUT AND TS-11 OF THE SPECIFICATIONS FOR PHYSICAL REQUIREMENTS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

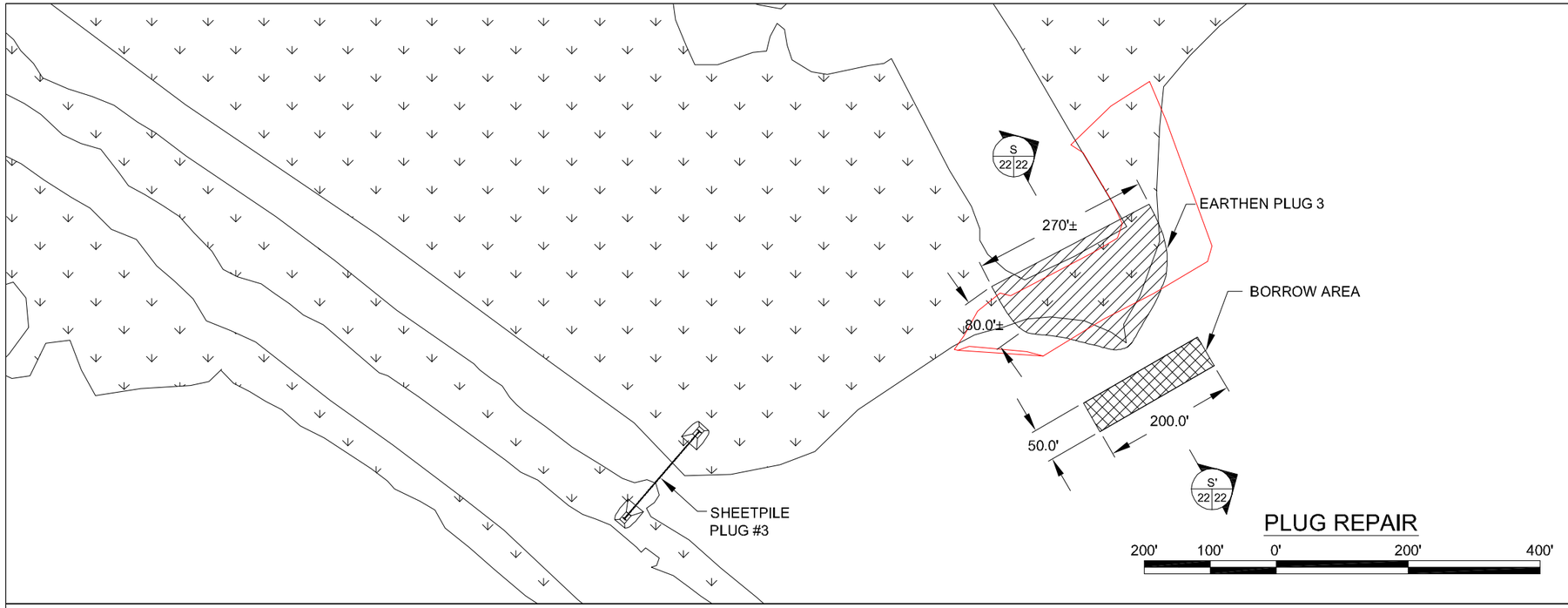
DRAWN BY: KRISTI CANTU | DESIGNED BY: MITCH ANDRUS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LEBAS, P.E.

EARTHEN PLUG 2

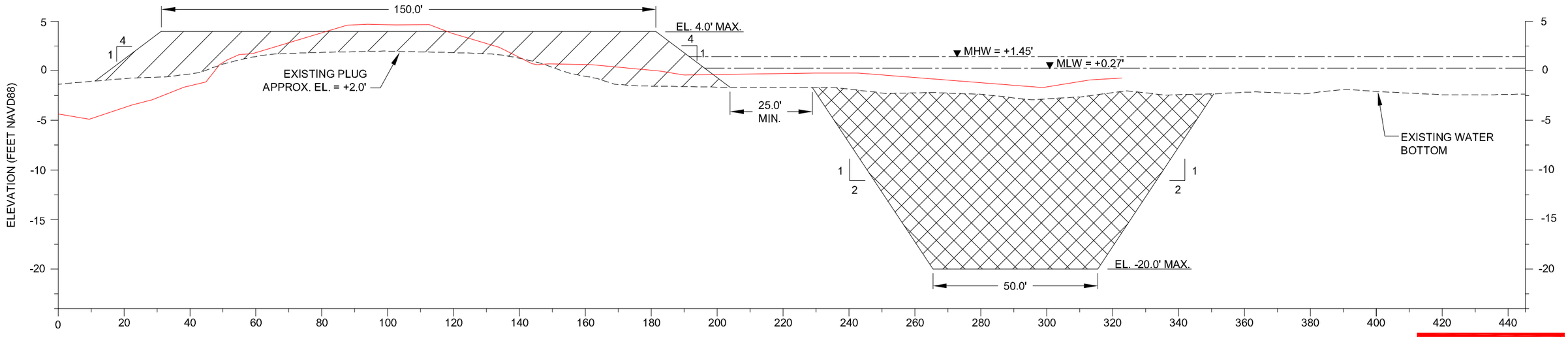
DATE: JANUARY 2008
SHEET 21 OF 65



PLUG REPAIR

200' 100' 0' 200' 400'

NOTES:
1. SEE SHEET 9 FOR LOCATION OF EARTHEN PLUG 3.
   X = 3,407,829.88
   Y = 305,891.46
2. SEE SHEET 25 FOR SHEET PILE PLUG 3 DETAIL.
3. FILL VOLUME = 5,200 CU. YARDS.
4. REFER TO SECTIONS 21J, 21K, & 21L ON SHEET 63 FOR EXISTING PLUG TOPOGRAPHY SURVEYED OCTOBER 2003.
5. MULTIPLE LIFTS ARE NOT REQUIRED AT THIS LOCATION.
6. NO WOVEN GEOTEXTILE IS REQUIRED FOR THIS PLUG SITE.



SECTION S-S'

LOOKING EAST

AS-BUILT

HORIZONTAL GRAPHIC SCALE
30' 15' 0 30' 60'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

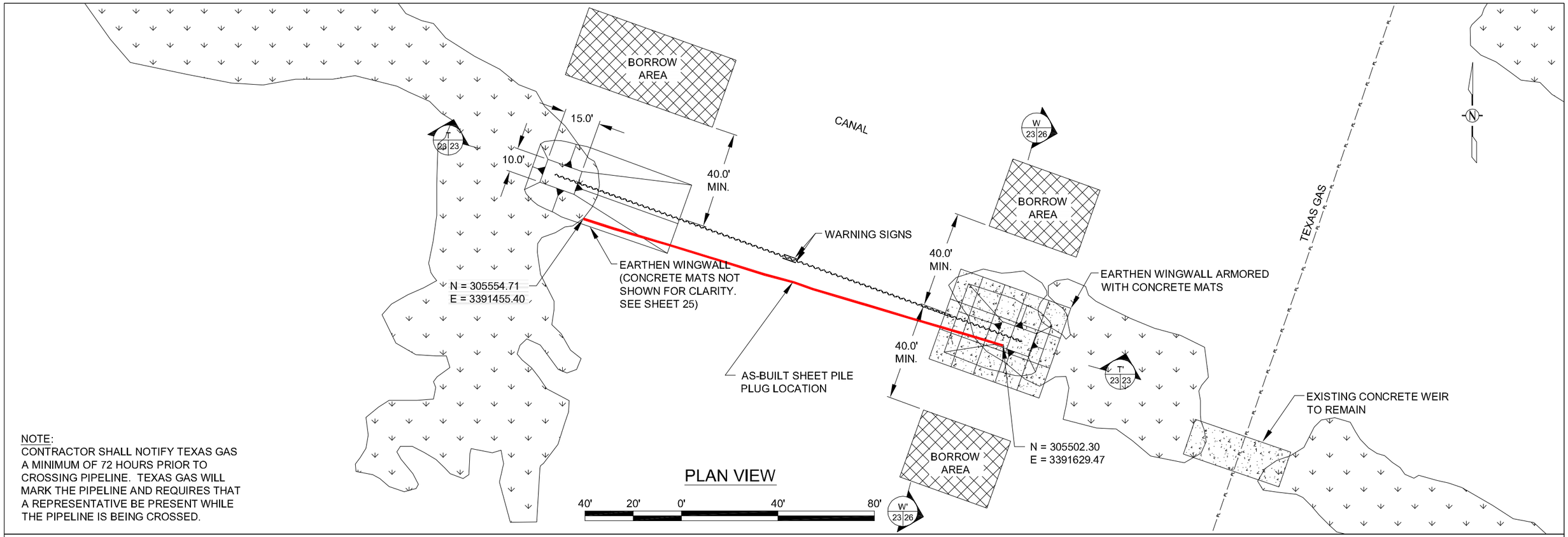
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

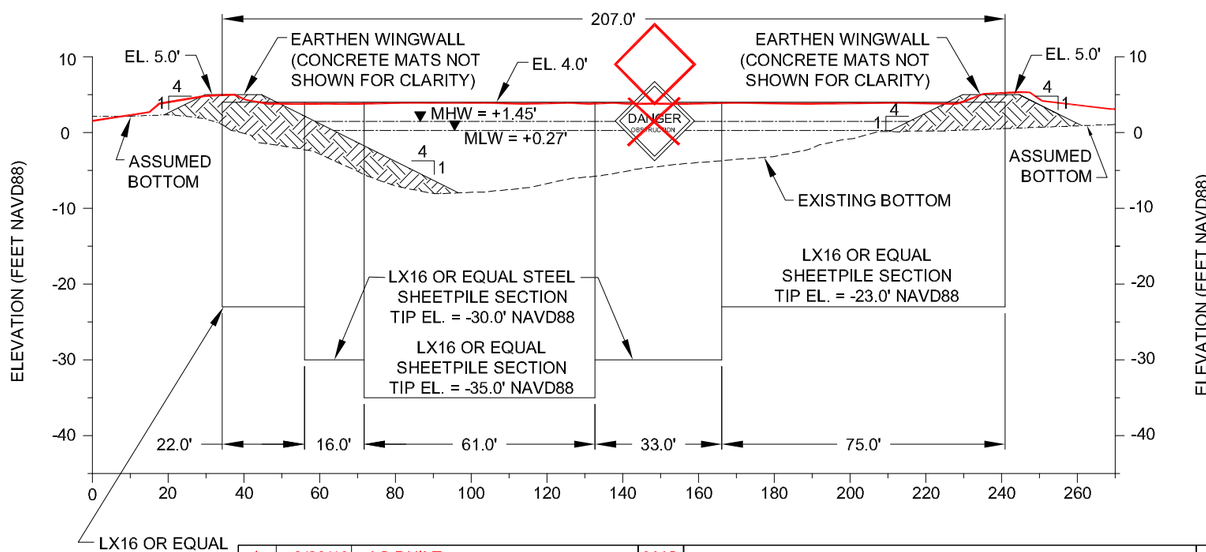
EARTHEN PLUG 3

DATE: JANUARY 2008

SHEET 22 OF 65



NOTE:
CONTRACTOR SHALL NOTIFY TEXAS GAS A MINIMUM OF 72 HOURS PRIOR TO CROSSING PIPELINE. TEXAS GAS WILL MARK THE PIPELINE AND REQUIRES THAT A REPRESENTATIVE BE PRESENT WHILE THE PIPELINE IS BEING CROSSED.



AS-BUILT

SECTION T-T'
LOOKING NORTH

HORIZONTAL GRAPHIC SCALE
40' 20' 0' 40' 80'
20' 10' 0' 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. SEE SHEET 7 FOR SHEETPILE PLUG 1 LOCATION.
   X = 3,391,516.15
   Y = 305,554.64
2. SEE SHEET 26 FOR TYPICAL SECTIONS AND SHEET 32 FOR DESIGN DETAILS.
3. THE COST OF THE WARNING SIGNS ATTACHED TO THE STEEL SHEETING SHALL BE INCLUDED IN THE STEEL SHEET PILE ITEM.
4. SEE SHEET 30 FOR WARNING SIGN DETAIL.
5. WARNING SIGNS SHALL BE PLACED ON EACH SIDE OF THE STRUCTURE.

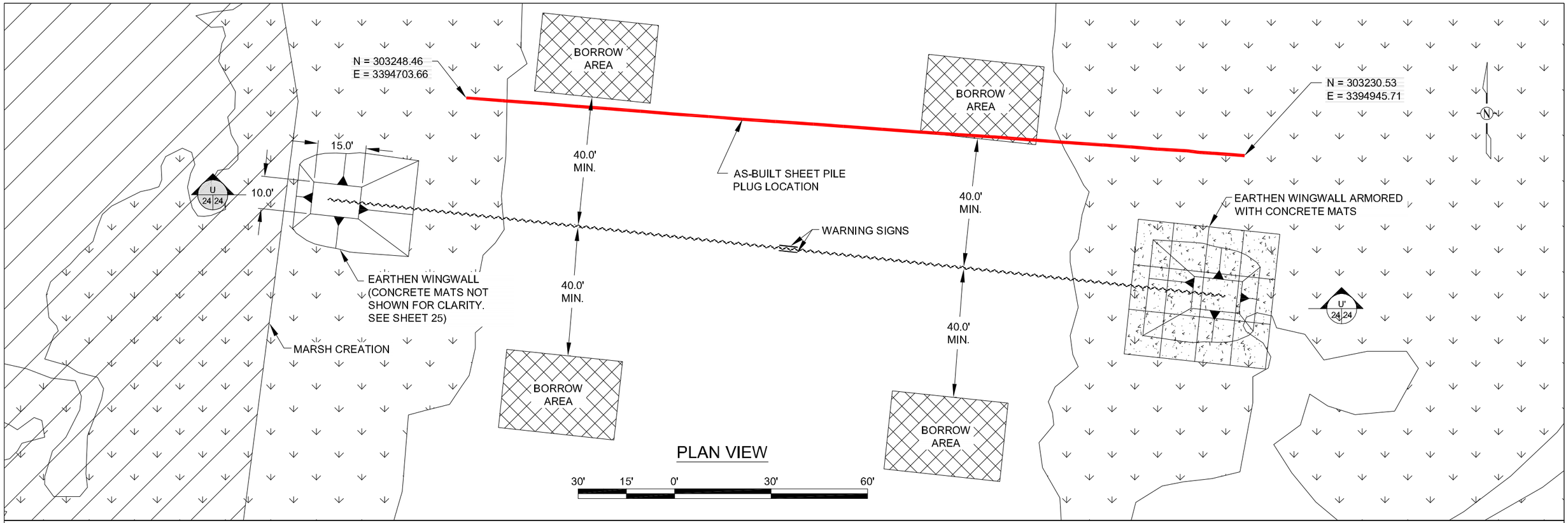
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

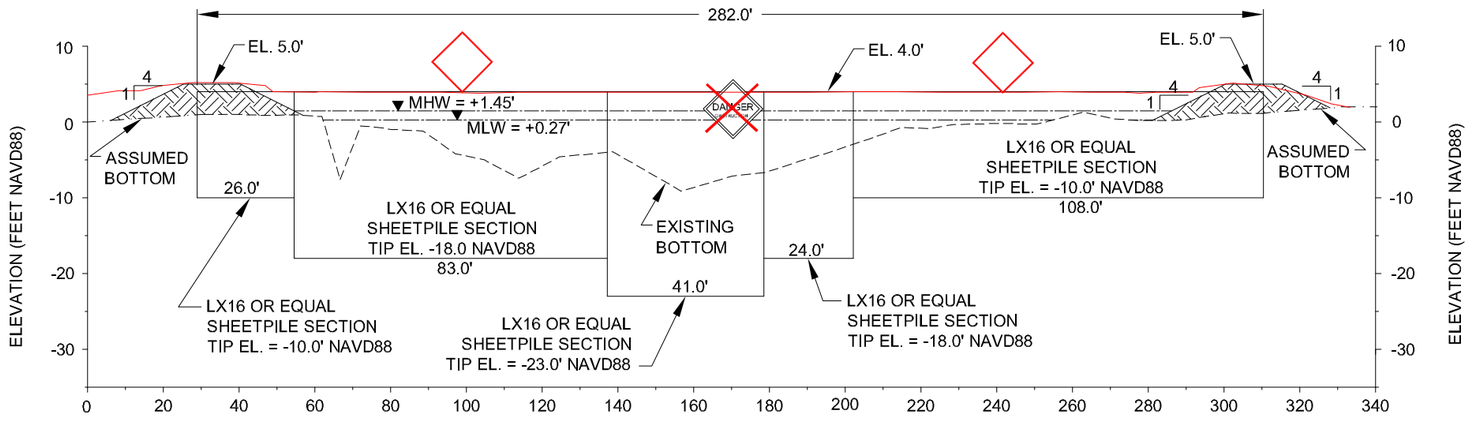
LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SHEETPILE PLUG 1
DATE: JANUARY 2008
SHEET 23 OF 65





SECTION U-U'
LOOKING NORTH

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:
1. SEE SHEET 7 FOR SHEET PILE PLUG 2 LOCATION.
   X = 3,394,815.80
   Y = 303,200.15
2. SEE SHEET 26 FOR TYPICAL SECTIONS AND SHEET 32 FOR DESIGN DETAILS.
3. THE COST OF THE WARNING SIGNS ATTACHED TO THE STEEL SHEETING SHALL BE INCLUDED IN THE STEEL SHEET PILING ITEM.
4. SEE SHEET 30 FOR WARNING SIGN DETAIL.
5. WARNING SIGNS SHALL BE PLACED ON EACH SIDE OF THE STRUCTURE.

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

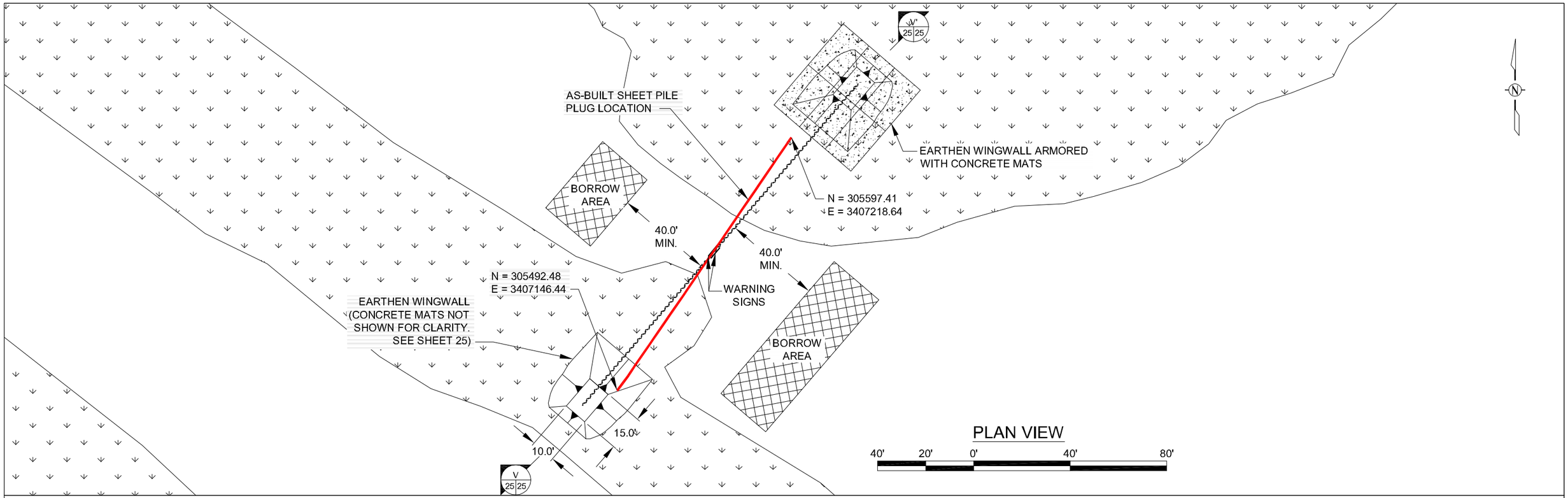
DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

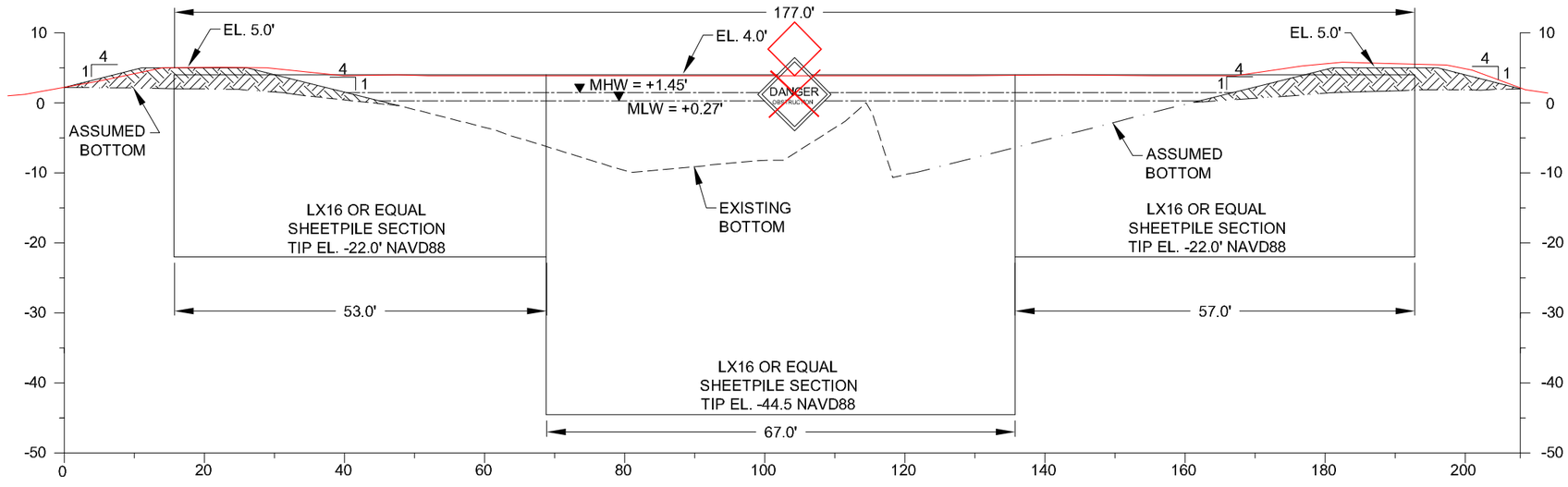
SHEETPILE PLUG 2

DATE: JANUARY 2008



PLAN VIEW

40' 20' 0' 40' 80'



SECTION V-V'
LOOKING NORTH

40' 20' 0' 40' 80'

AS-BUILT

HORIZONTAL GRAPHIC SCALE
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

NOTES:
1. SEE SHEET 8 FOR SHEETPILE PLUG 3 LOCATION.
   X = 3,407,186.68
   Y = 305,550.70
2. SEE SHEET 26 FOR TYPICAL SECTIONS AND SHEET 32 FOR DESIGN DETAILS.
3. THE COST OF THE WARNING SIGNS ATTACHED TO THE STEEL SHEETING SHALL BE INCLUDED IN THE STEEL SHEETPILING ITEM.
4. SEE SHEET 30 FOR WARNING SIGN DETAIL.
5. WARNING SIGNS SHALL BE PLACED ON EACH SIDE OF THE STRUCTURE.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

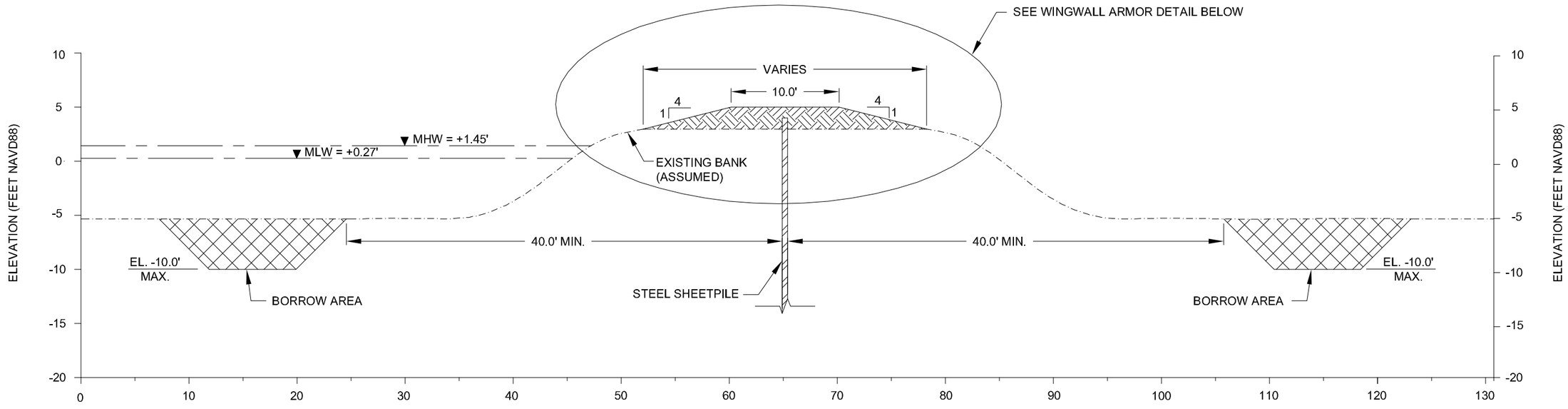
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

SHEETPILE PLUG 3

DATE: JANUARY 2008

SHEET 25 OF 65



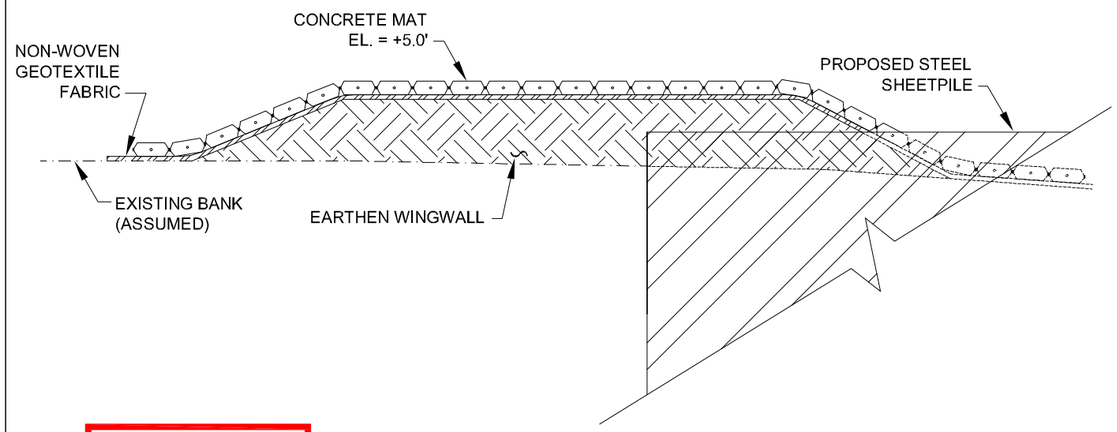
SECTION W-W'

LOOKING EAST

10' 5' 0' 10' 20'

NOTES:

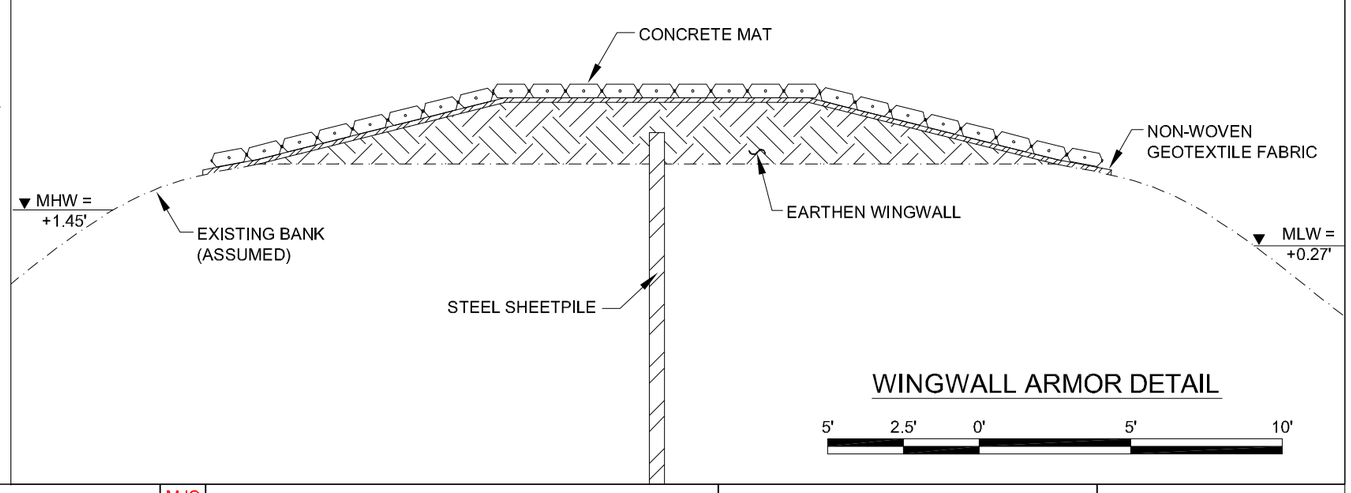
1. SEE SHEET 22, 23, AND 24 FOR SHEETPILE TIP ELEVATIONS.
2. SEE SHEET 31 FOR CONCRETE MAT DETAILS AND TS-13.



AS-BUILT

PROFILE

5' 2.5' 0' 5' 10'



WINGWALL ARMOR DETAIL

5' 2.5' 0' 5' 10'

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

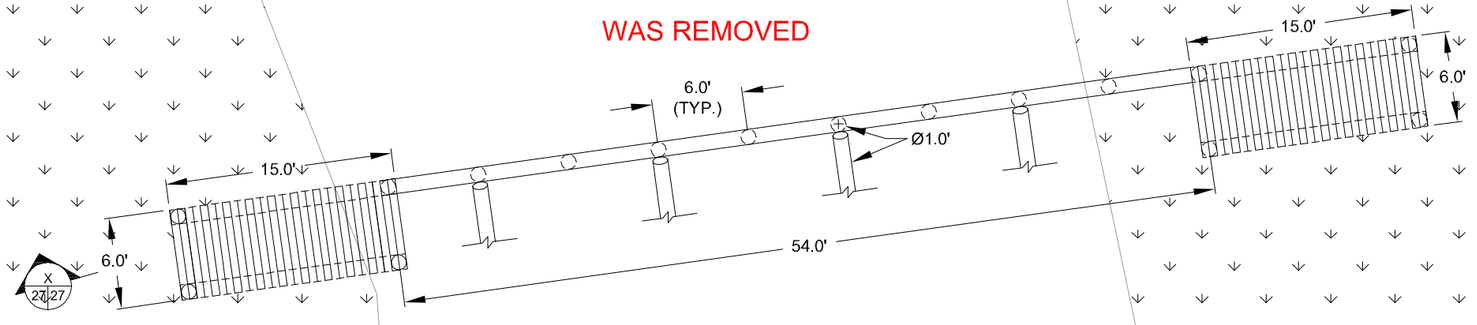
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

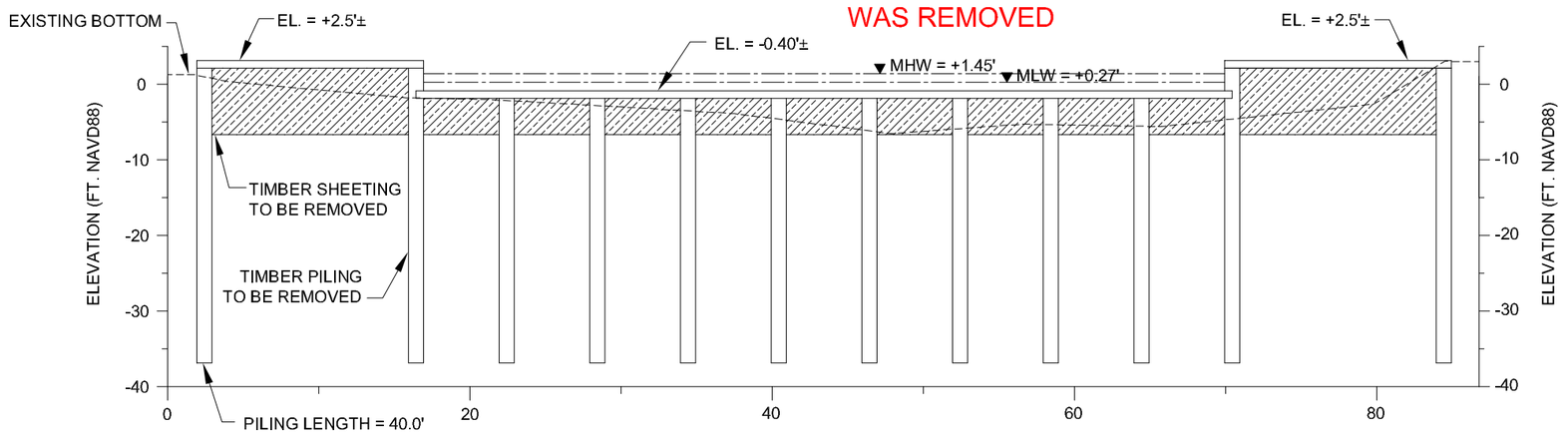
SHEETPILE TYPICALS

DATE: JANUARY 2008



EXISTING WEIR
TO BE REMOVED

10' 5' 0' 10' 20'



SECTION X-X'
LOOKING NORTH

AS-BUILT

HORIZONTAL GRAPHIC SCALE
10' 5' 0' 10' 20'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

NOTES:

1. SEE SHEET 7 FOR LOCATION OF WEIR.
   X = 3,401,235.34
   Y = 305,334.21
2. WEIR TO BE REMOVED AND REPLACED WITH A STEEL SHEETPILE WEIR SHOWN ON SHEET 28.
3. CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE. THE EXISTING STRUCTURE CONDITION MAY NOT BE AS DEPICTED.
4. THE MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH TITLE 33, PART VII, SUB-PART 1 (SOLID WASTE) OF THE LOUISIANA ENVIRONMENTAL REGULATORY CODE, LATEST REVISION.
5. CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL COSTS ASSOCIATED WITH THE DEMOLITION, REMOVAL AND DISPOSAL OF THE EXISTING STRUCTURE.
6. ANY STRUCTURE PENETRATING THE MUDLINE MUST BE REMOVED IN ITS ENTIRETY WITH AS LITTLE SOIL DISTURBANCE AS POSSIBLE. IF THIS IS NOT POSSIBLE, ANY AND ALL SUCH STRUCTURES SHALL BE REMOVED TO FOUR (4) FEET BELOW THE MUDLINE OR LOWER.
7. SEE TS-16 FOR WEIR REMOVAL SPECIFICATIONS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

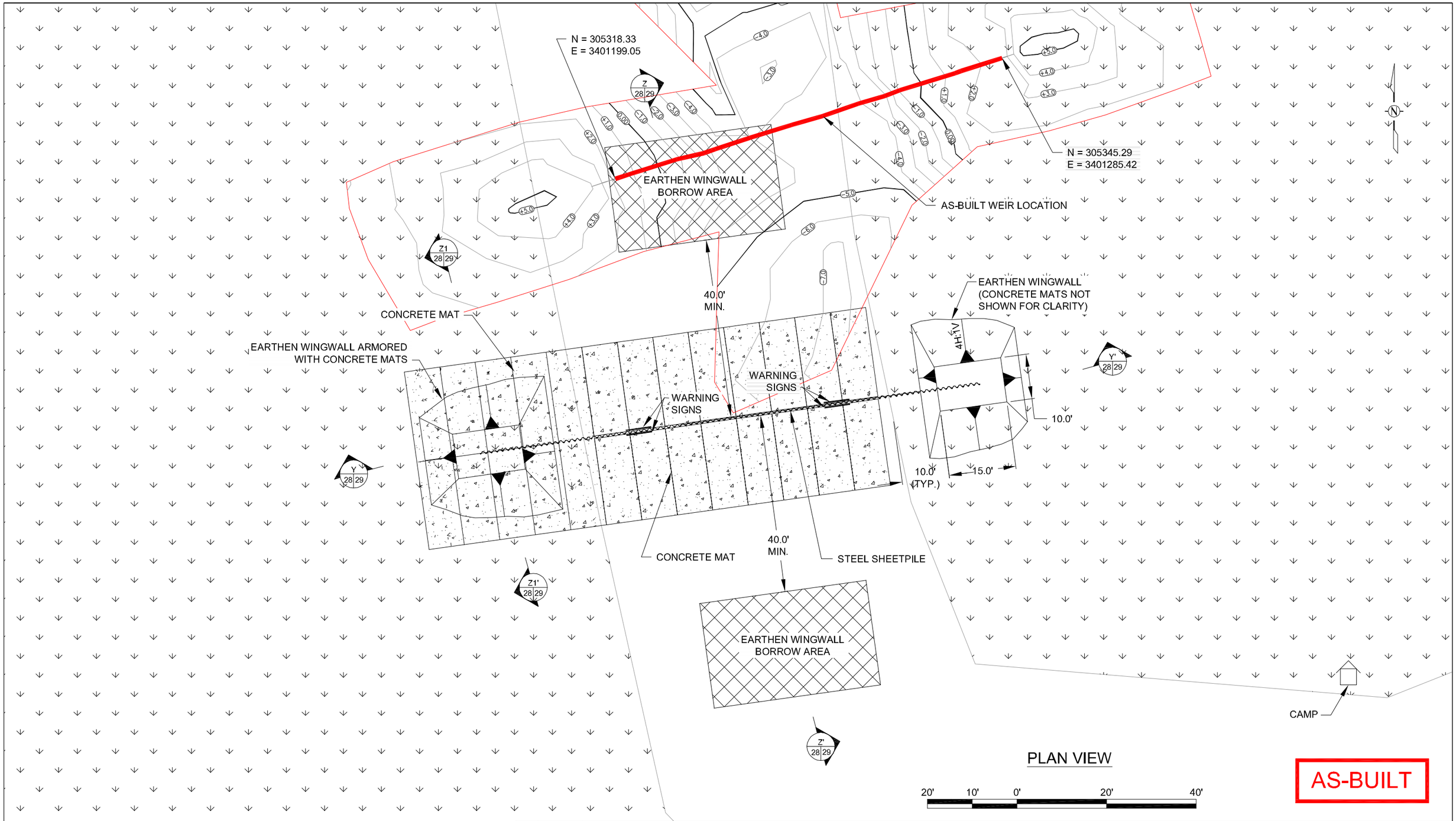
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LEBAS, P.E.

EXISTING WEIR REMOVAL

DATE: JANUARY 2008

SHEET 27 OF 65



PLAN VIEW

20' 10' 0' 20' 40'

AS-BUILT

NOTES:

1. SEE SHEET 7 FOR LOCATION OF EXISTING WEIR.
2. SEE SHEET 29 FOR SECTIONS AND DESIGN DETAILS.
3. DEPENDING ON SITE AND SOIL CONDITIONS AFTER EXISTING WEIR REMOVAL, THE EXACT LOCATION OF THE REPLACEMENT WEIR MAY BE MODIFIED BY THE LDNR PROJECT ENGINEER.
4. SEE SHEET 26 FOR WING WALL DETAILS.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

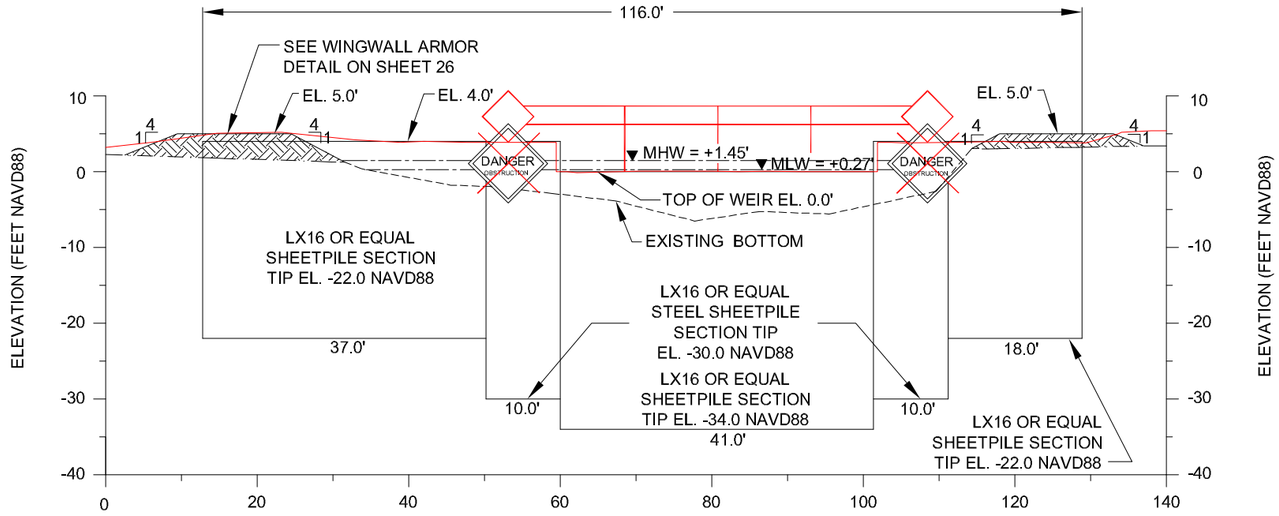
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

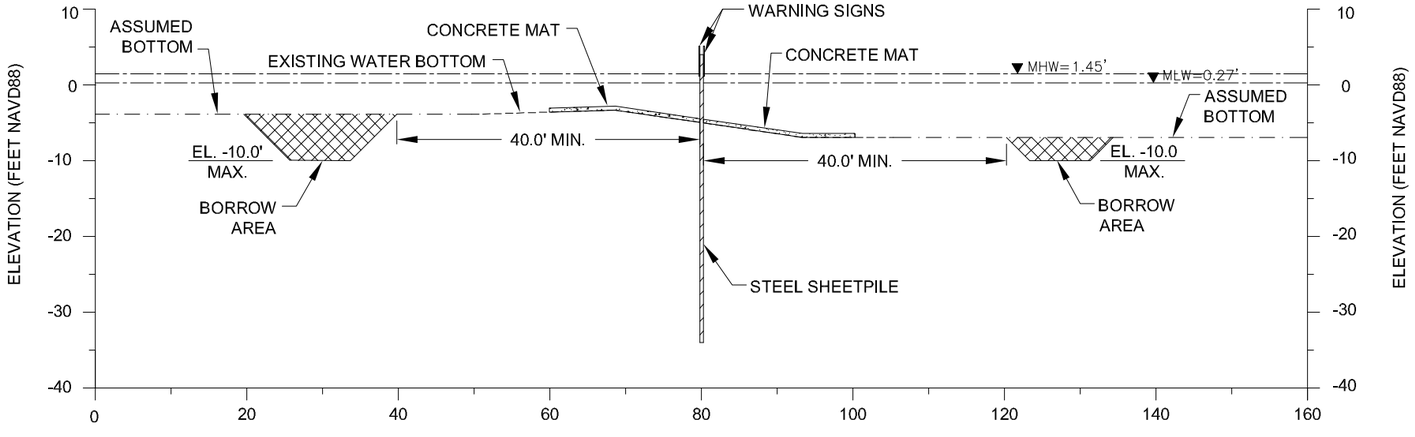
WEIR REPLACEMENT PLAN VIEW

DATE: JANUARY 2008
SHEET 28 OF 65



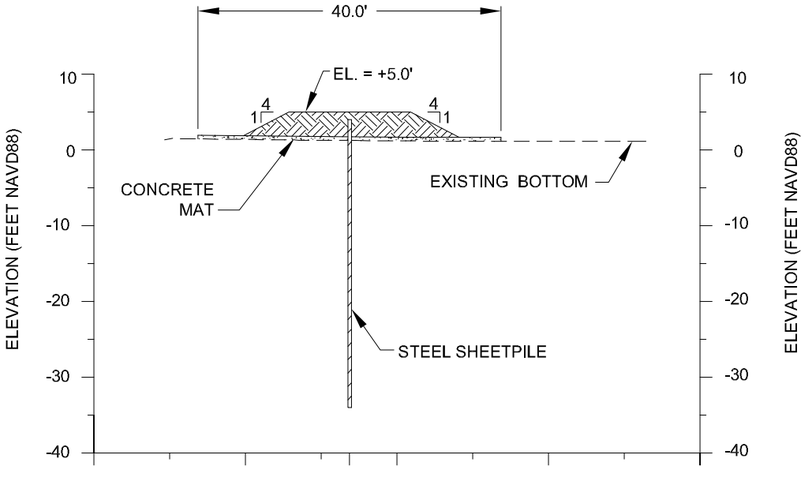
SECTION Y-Y'

LOOKING NORTH



SECTION Z-Z'

LOOKING EAST



SECTION Z1-Z1'

LOOKING WEST

HORIZONTAL GRAPHIC SCALE

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

20' 10' 0 20' 40'

AS-BUILT

NOTES:

1. SEE SHEET 26 FOR TYPICAL SECTIONS AND SHEET 32 FOR DESIGN DETAILS.
2. COST OF WARNING SIGNS SHALL BE INCLUDED IN COST OF STEEL SHEETPILING.
3. SEE SHEET 30 FOR WARNING SIGN DETAIL.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

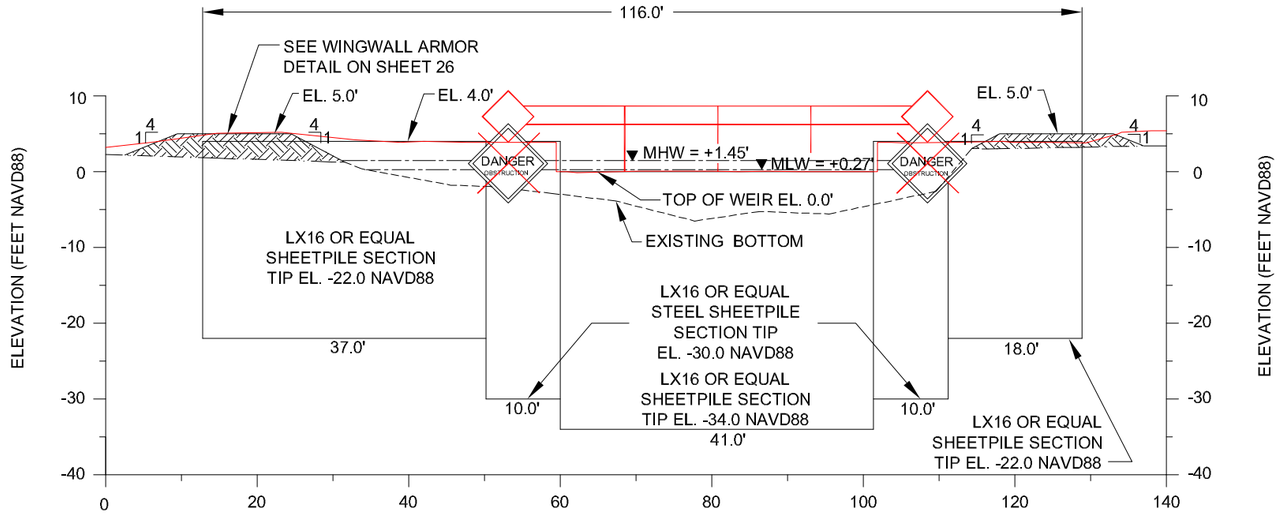
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

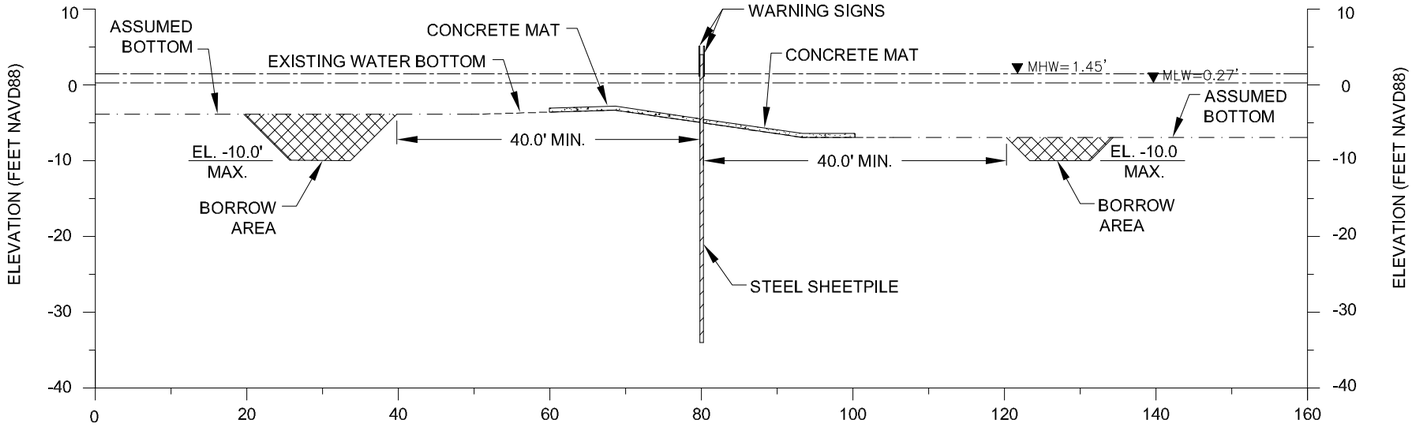
WEIR REPLACEMENT SECTION VIEWS

DATE: JANUARY 2008



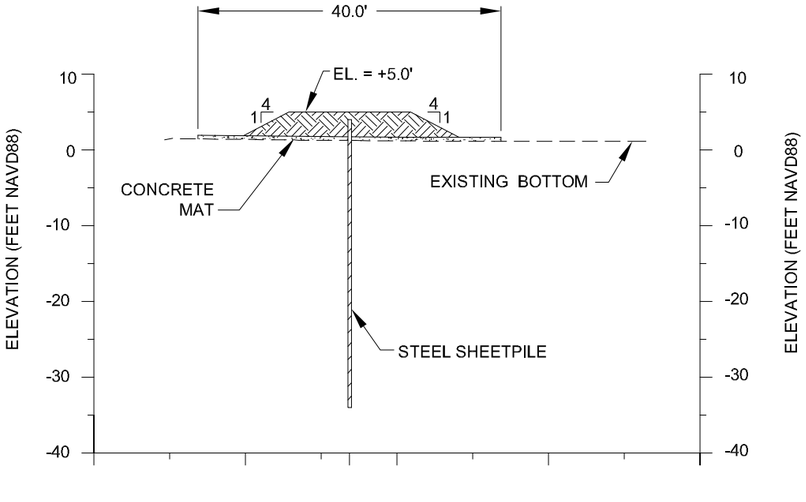
SECTION Y-Y'

LOOKING NORTH



SECTION Z-Z'

LOOKING EAST



SECTION Z1-Z1'

LOOKING WEST

HORIZONTAL GRAPHIC SCALE

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

20' 10' 0 20' 40'

AS-BUILT

NOTES:

1. SEE SHEET 26 FOR TYPICAL SECTIONS AND SHEET 32 FOR DESIGN DETAILS.
2. COST OF WARNING SIGNS SHALL BE INCLUDED IN COST OF STEEL SHEETPILING.
3. SEE SHEET 30 FOR WARNING SIGN DETAIL.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

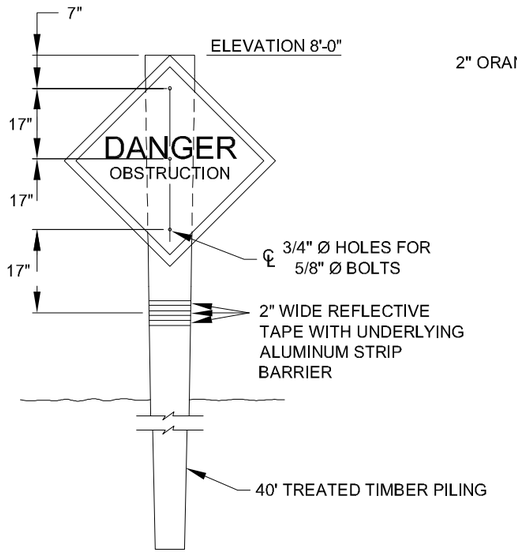
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

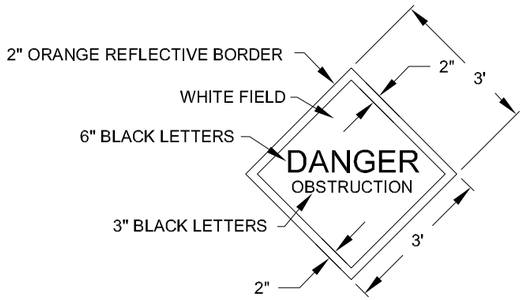
FEDERAL PROJECT NUMBER: N/A

WEIR REPLACEMENT SECTION VIEWS

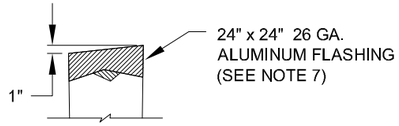
DATE: JANUARY 2008



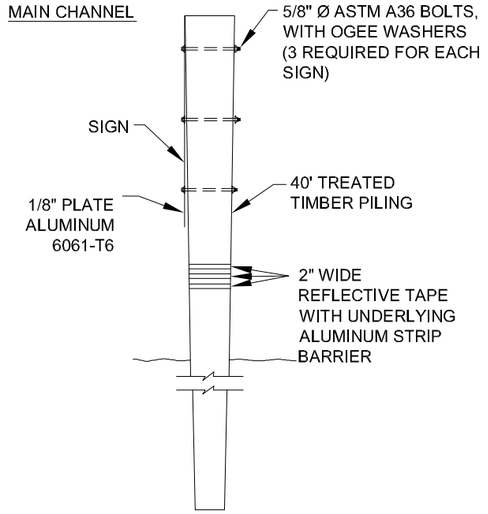
WARNING SIGN ELEVATION
NOT TO SCALE



SIGN DETAIL
NOT TO SCALE



TYPICAL TIMBER PILE CAP
NOT TO SCALE



WARNING SIGN SIDE DETAIL
NOT TO SCALE

GENERAL NOTES:
1. NINE PERMANENT WARNING SIGNS, INCLUDING TIMBER PILES, SHALL BE INSTALLED AT LOCATIONS SHOWN ON SHEETS 8 AND 9.
2. THE 2" BORDER ON THE WARNING SIGN WILL BE A REFLECTIVE MATERIAL OF ORANGE COLOR. THE LETTERING FIELD WILL BE A REFLECTIVE MATERIAL OF WHITE COLOR. THE LETTERING FOR THE WARNING SIGNS WILL BE BLACK. ALL SIGNS MUST MEET U.S. COAST GUARD STANDARDS; IN ACCORDANCE WITH 33 CFR 330.4 (a) (1) WHICH CAN BE DOWNLOADED AT http://www.access.gpo.gov/nara/cfr/waisidx_02/33cfr330_02.html
3. NEOPRENE WASHERS SHALL BE PLACED BETWEEN THE SIGN AND THE PILING AT ALL POINTS OF CONTACT.
4. HARDWARE FOR TIMBER CONNECTIONS SHALL NOT BE HOT DIP GALVANIZED IN ACCORDANCE WITH SECTION 811.5 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION.
5. TIMBER PILES SHALL CONFORM TO SECTIONS 804 AND 1014 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, AS PUBLISHED BY THE LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, LATEST EDITION. PILES SHALL BE TREATED WITH A CREOSOTE SOLUTION CONFORMING TO AWPA P2 TO A MINIMUM RETENTION OF 20 PCF AND CAPPED ACCORDING TO LA DOTD SPECIFICATION 812.06.
6. TIMBER PILINGS SHALL BE 40' IN LENGTH WITH A NORMAL 12" DIAMETER BUTT AND 7" MINIMUM DIAMETER AT THE TIP.
7. THE TOP OF THE PILES SHALL BE COATED WITH COAL TAR EPOXY PAINT PRIOR TO PLACING CAP. THE PILE CAP SHALL BE ATTACHED USING ALUMINUM OR STAINLESS STEEL NAILS.
8. THE WOVEN GEOTEXTILE FABRIC SHALL EXTEND PAST PLUG OR DIKE EDGE BY A MINIMUM OF THREE (3) FEET ON ALL SIDES. ANY SEAM PARALLEL TO PLUG OR DIKE CENTERLINE SHALL BE SEWN. THE MINIMUM OVERLAP AT THE ROLL/GEOTEXTILE PANEL ENDS, PERPENDICULAR TO THE PLUG OR DIKE CENTERLINE, SHALL BE FIVE (5) FEET UNLESS OTHER WISE DIRECTED BY THE ENGINEER.
9. SEE SECTION TS-12 FOR NON-WOVEN GEOTEXTILE FABRIC SPECIFICATIONS.

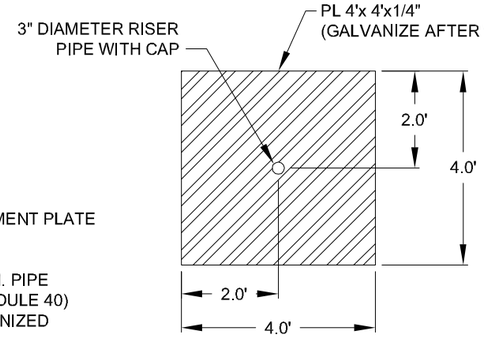
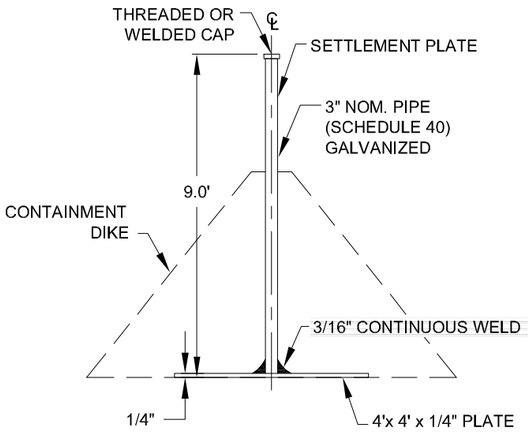
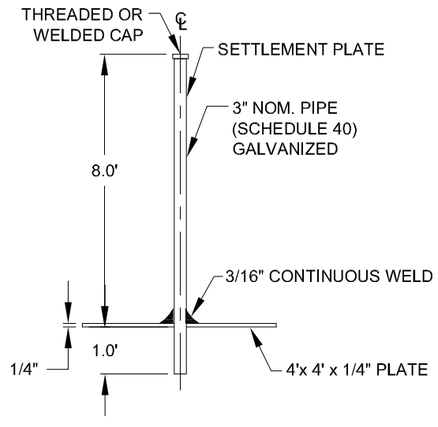


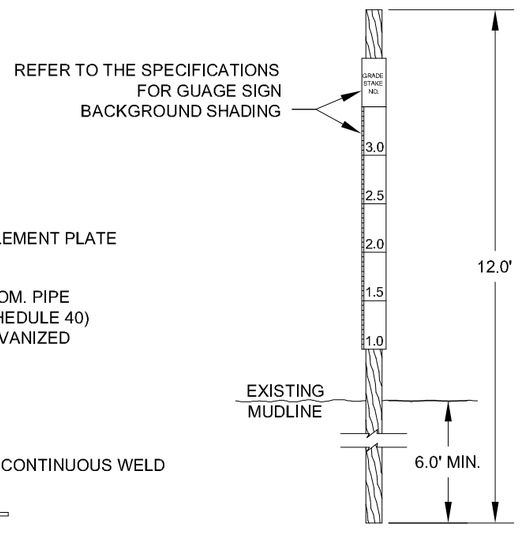
PLATE DETAIL
NOT TO SCALE



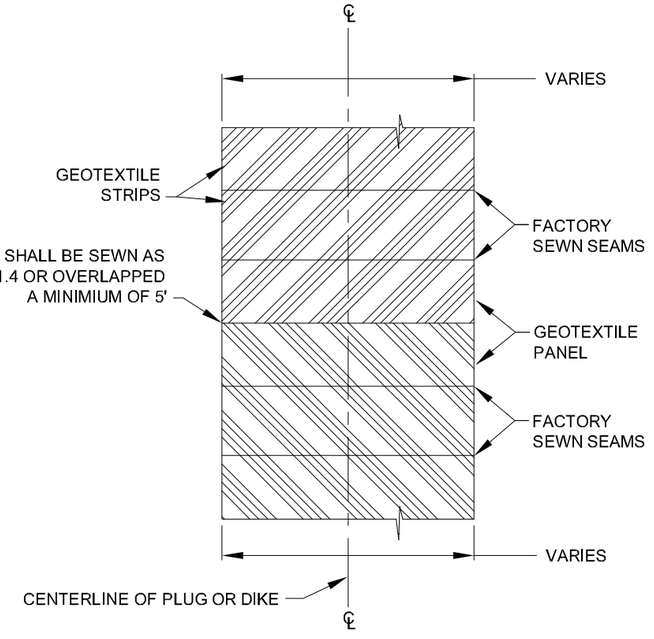
CONTAINMENT DIKE SETTLEMENT PLATE
NOT TO SCALE



MARSH CREATION SETTLEMENT PLATE
NOT TO SCALE



GRADE STAKE DETAIL
NOT TO SCALE



WOVEN GEOTEXTILE LAYOUT
NOT TO SCALE

AS-BUILT

SETTLEMENT PLATE NOTES:
1. THREE CONTAINMENT DIKE SETTLEMENT PLATES AND FOUR MARSH CREATION SETTLEMENT PLATES SHALL BE INSTALLED AT LOCATIONS SHOWN ON SHEETS 7, 8 AND 9.
2. THE SETTLEMENT PLATES SHALL BE SURVEYED BY THE CONTRACTOR AND WITNESSED BY THE DNR INSPECTOR UPON INSTALLATION AND WEEKLY UNTIL CONSTRUCTION IS COMPLETE.
3. SETTLEMENT PLATES SHALL BE BUILT USING ASTM A36 STEEL AND HOT-DIPPED GALVANIZED AFTER FABRICATION PER SPECIFICATION TS-17.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED GRADE STAKE DETAIL	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

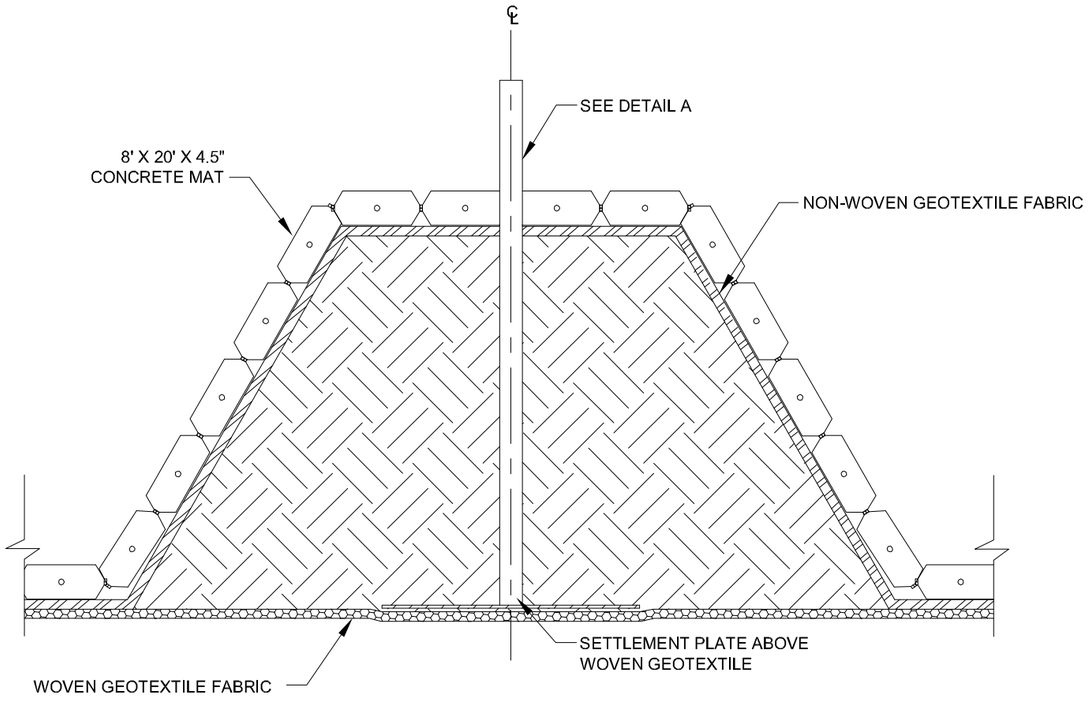
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

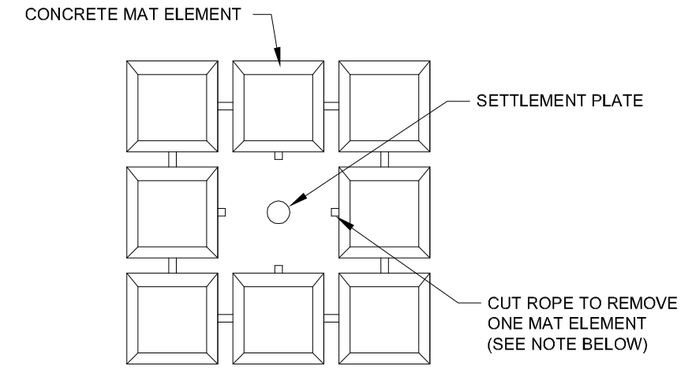
DETAILS

DATE: JANUARY 2008

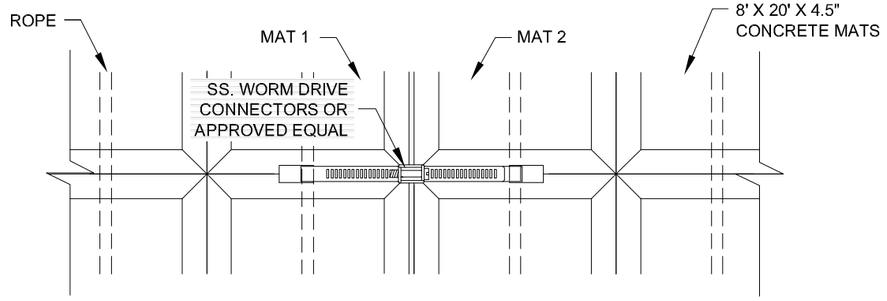
SHEET 30 OF 65

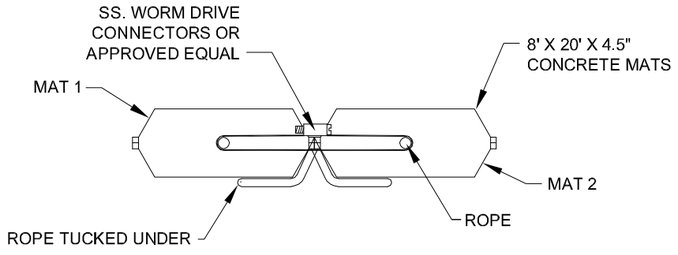


ARMORED EARTHEN DIKE
SETTLEMENT PLATE DETAIL
NOT TO SCALE



DETAIL A
NOT TO SCALE





NOTES:
1. THE CONTRACTOR SHALL BE ALLOWED TO REMOVE ONE MAT ELEMENT FOR THE PLACEMENT OF THE CONCRETE MAT OVER THE SETTLEMENT PLATE. (SEE DETAIL "A").
2. ONE SETTLEMENT PLATE SHALL BE INSTALLED ALONG THE CENTERLINE OF THE CONCRETE MAT STRUCTURE AS SHOWN, OR AS DIRECTED BY THE LDNR PROJECT ENGINEER. APPROXIMATE LOCATION OF THE SETTLEMENT PLATE IS SHOWN ON SHEET 8. ACTUAL LOCATION WILL BE DETERMINED IN THE FIELD. FOR INSTALLATION METHOD REFER TO THE PROJECT SPECIFICATIONS TS-17. SETTLEMENT PLATES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
3. SEE SPECIFICATION SECTION TS-12, NON-WOVEN GEOTEXTILE FABRIC, FOR STRENGTH AND PLACEMENT REQUIREMENTS.
4. SEE SPECIFICATION SECTION TS-13, CONCRETE MATS FOR MATERIAL AND PHYSICAL REQUIREMENTS.

AS-BUILT

NOTE:
ALL CONNECTORS SHALL BE A 316 STAINLESS STEEL. CONNECTORS SHALL BE PROVIDED BY THE MAT MANUFACTURER AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	ADDED NOTE 4 & CHANGED NOTE FOR MAT CONNECTORS	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: KRISTI CANTU | DESIGNED BY: MITCH ANDRUS, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

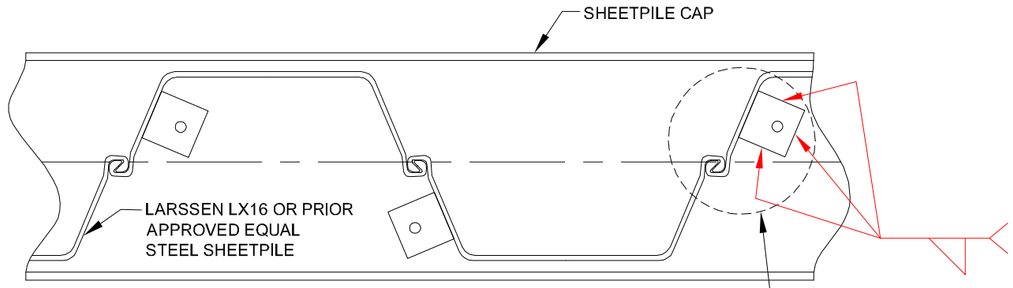
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

DETAILS

DATE: JANUARY 2008

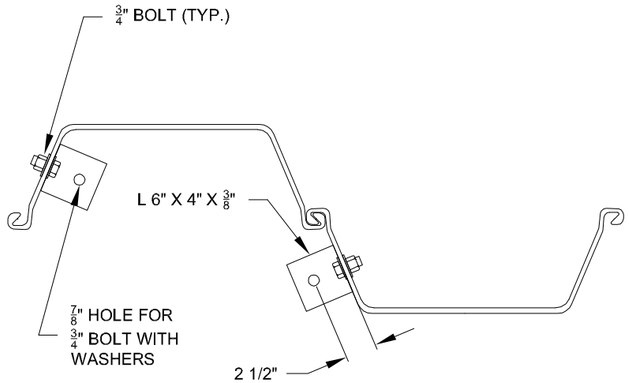
SHEET 31 OF 65



SHEET PILE CAP

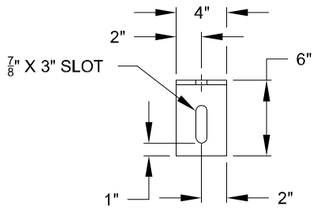
PLAN VIEW
SCALE: 1" = 1'

NOTE:
THE SHEETPILE CAP IS TO BE BOLTED TO THE SHEETPILING AT LOCATIONS SHOWN. USE L6" X 4" X $\frac{3}{8}$" STEEL CLIP.



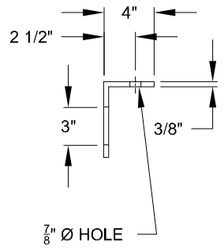
DETAIL A

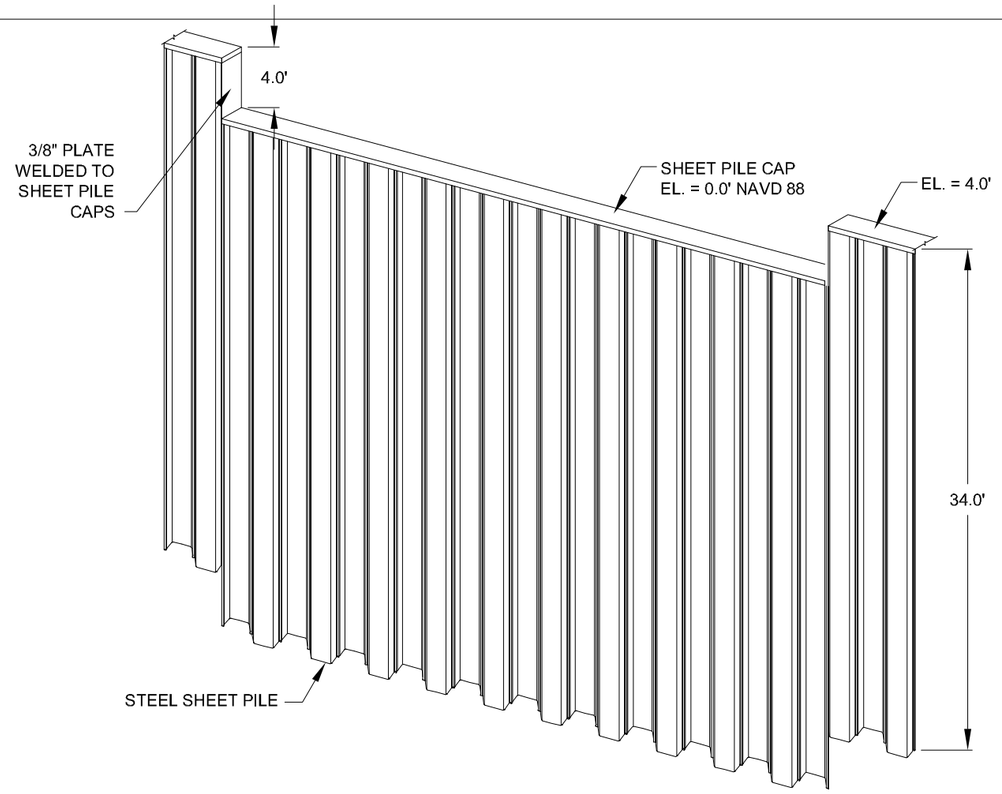
PLAN VIEW
SCALE: 1" = 1'



DETAIL B

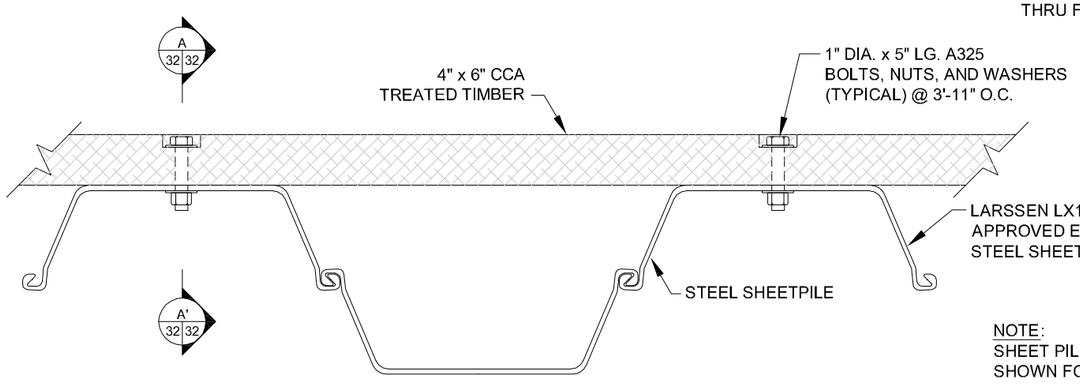
SIDE & TOP VIEW
SCALE: 1" = 1'





WEIR REPLACEMENT DETAIL

NOT TO SCALE

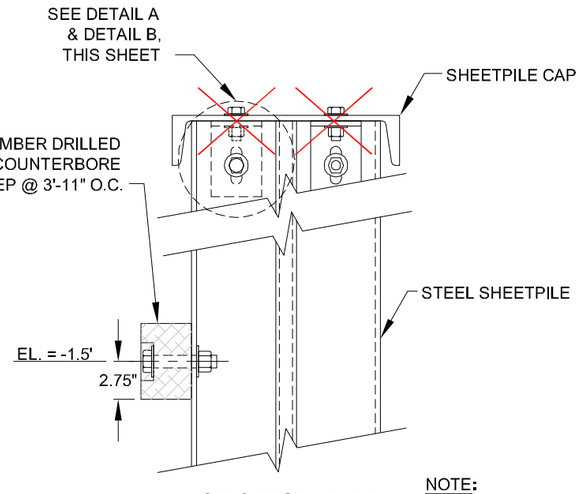


NOTE:
SHEET PILE CAP NOT SHOWN FOR CLARITY.

WALER CONNECTION DETAIL

SCALE: 1" = 1'

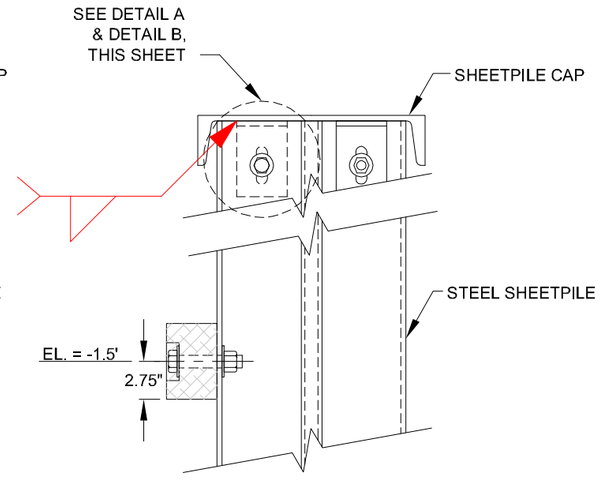
AS-BUILT



SECTION A-A'

SCALE: 1" = 1'

NOTE:
TIMBER WALER FOR WEIR PORTION OF SHEETPILE SHALL BE AT EL. = -1.5'



SECTION A-A'

SCALE: 1" = 1'

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	DETAILS FOR CONNECTION OF SHEET PILE CAP REVISED FROM WELDED TO BOLTED CONNECTION	SF
2	03/27/2008	NOTED ELEVATION OF WALER FOR WEIR SECTION	SF
3	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E. | APPROVED BY: LUKE LEBAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

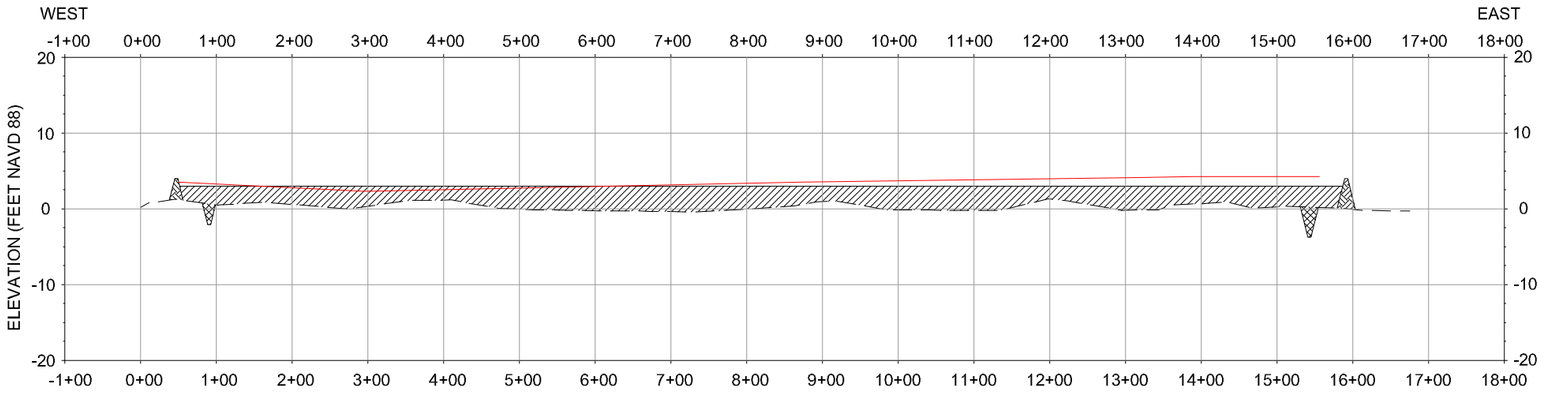
STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

WEIR AND STEEL SHEET PILE DETAILS

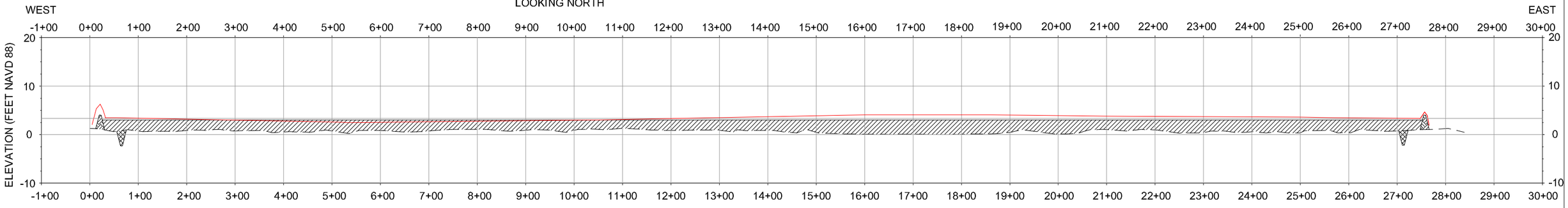
DATE: JANUARY 2008

SHEET 32 OF 65



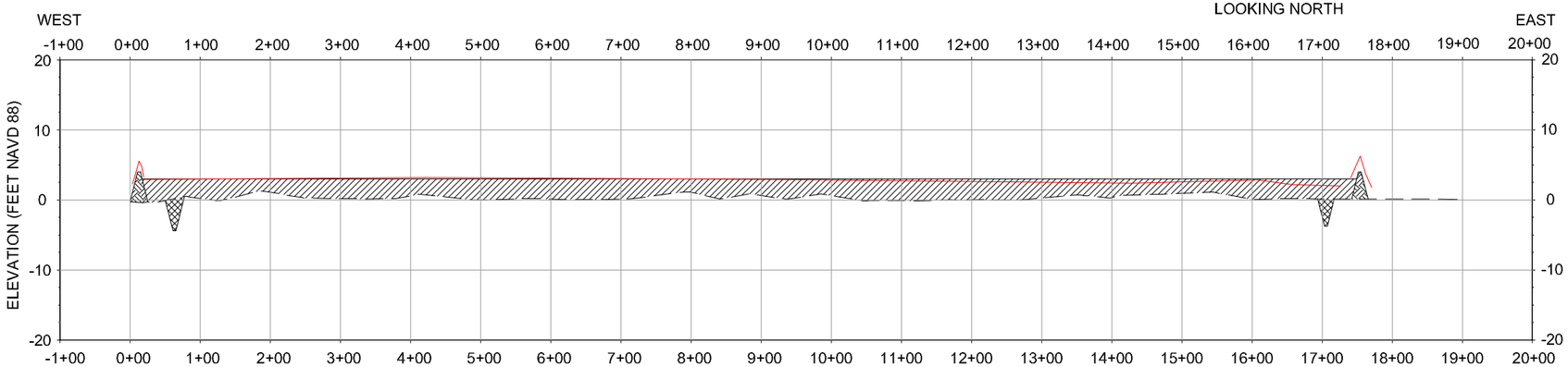
2A PROFILE

FILL AREA 2A
LOOKING NORTH



2B PROFILE

FILL AREA 2A
LOOKING NORTH



2C PROFILE

FILL AREA 2A
LOOKING NORTH

AS-BUILT

LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

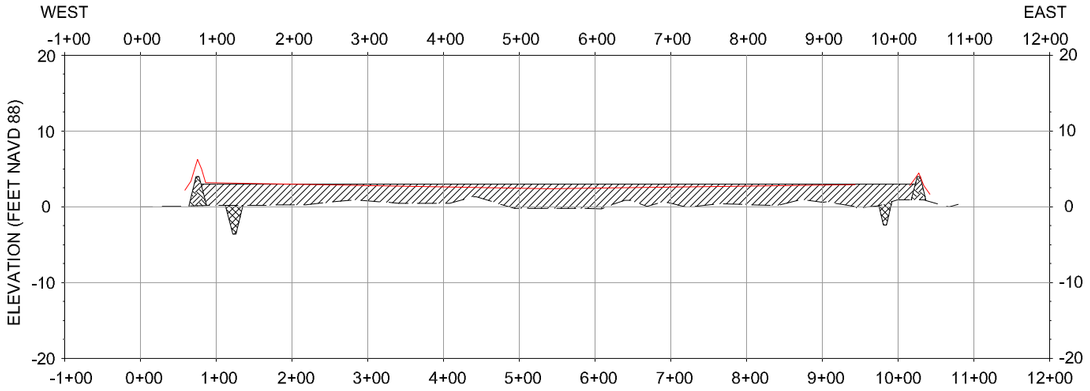
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

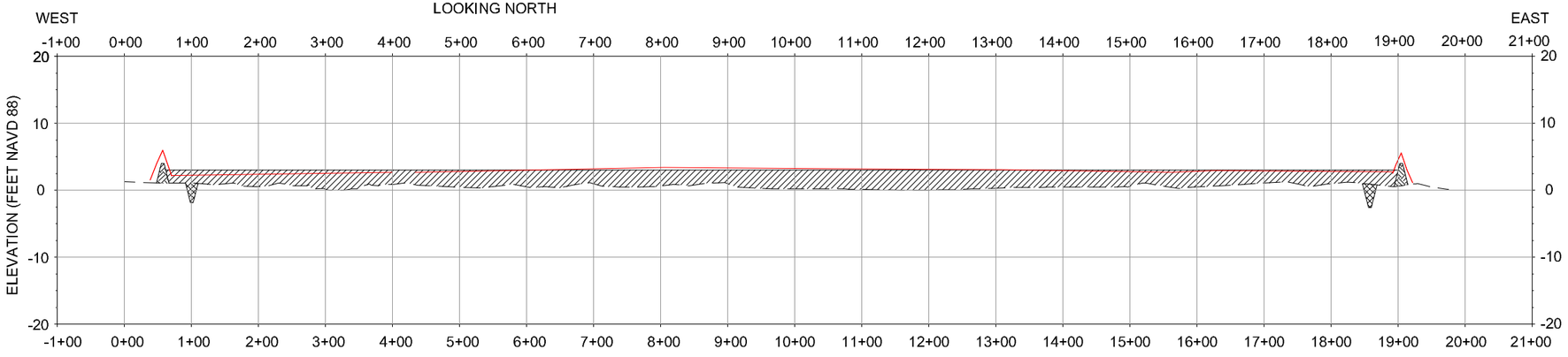
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

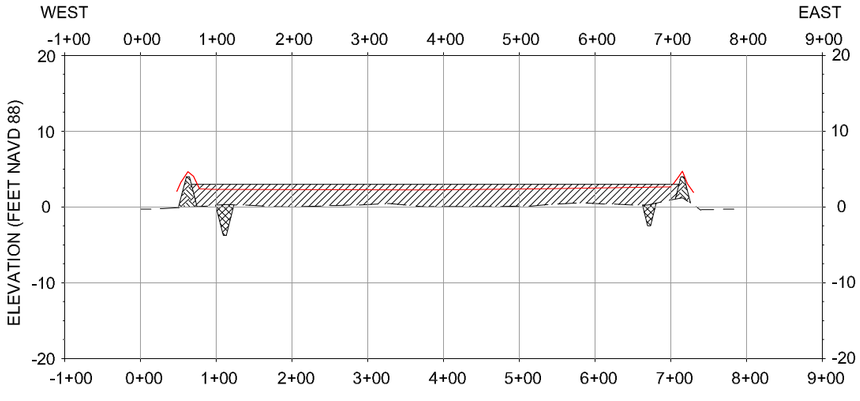
SECTIONS
DATE: JANUARY 2008
SHEET 33 OF 65



2D PROFILE
FILL AREA 2A
LOOKING NORTH



2E PROFILE
FILL AREA 2A
LOOKING NORTH



2F PROFILE
FILL AREA 2A
LOOKING NORTH

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

AS-BUILT

LEGEND
- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

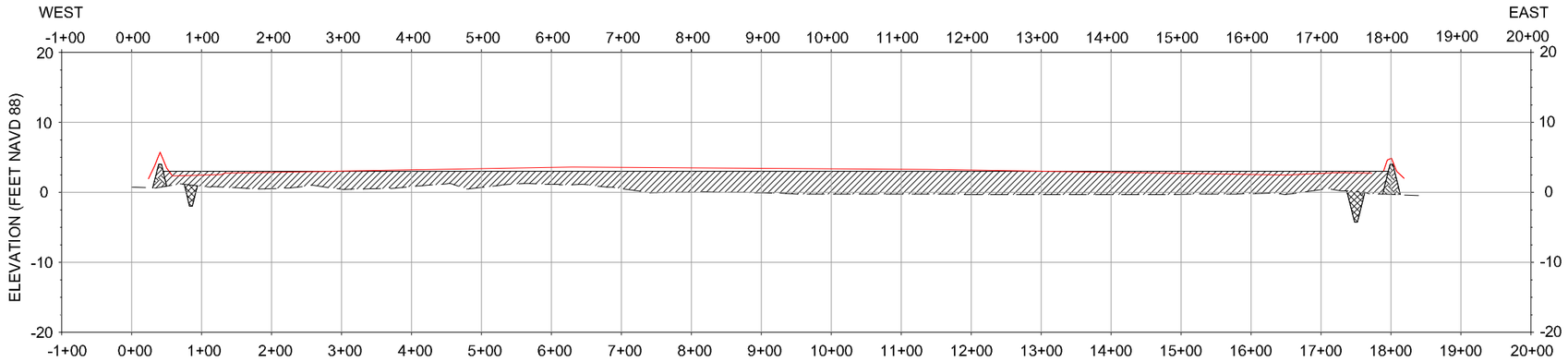
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

SECTIONS

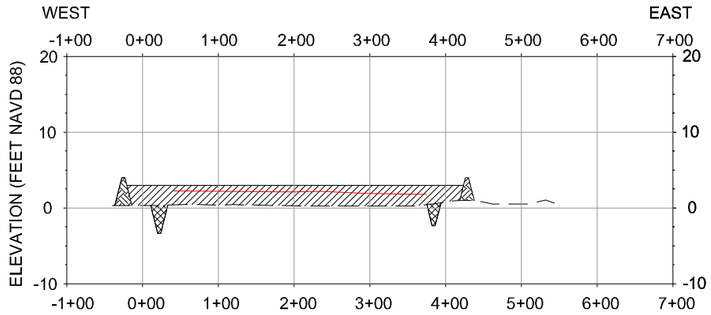
DATE: JANUARY 2008

SHEET 34 OF 65



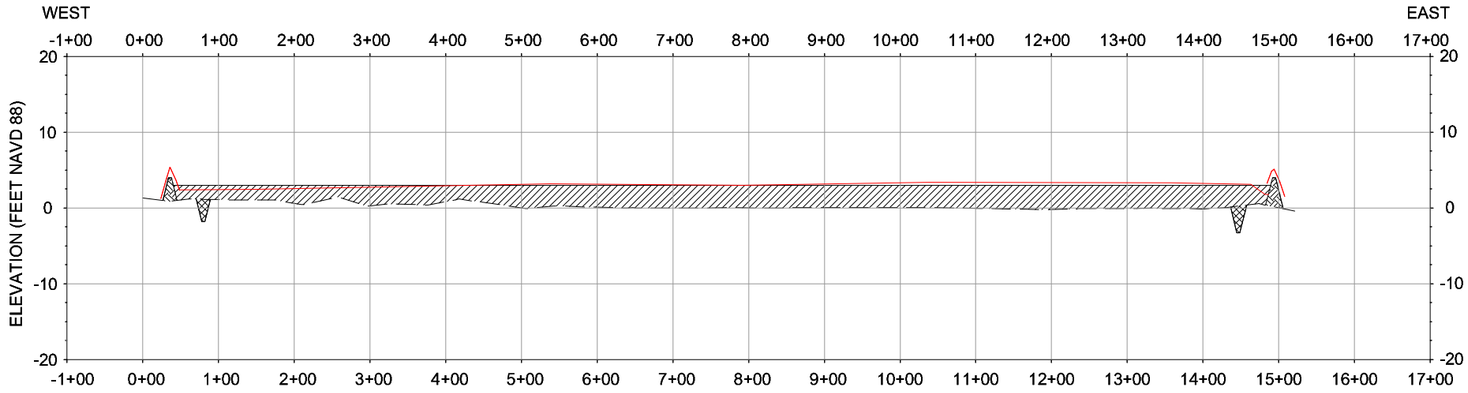
2G PROFILE

FILL AREA 2A
LOOKING NORTH



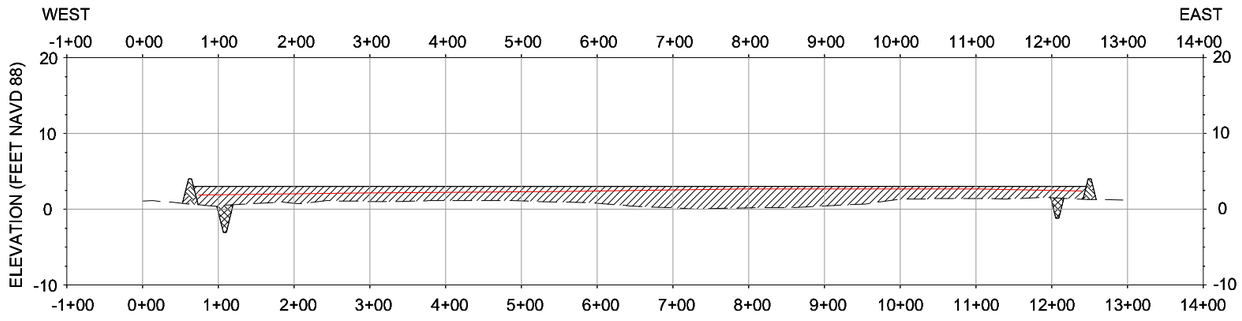
2H PROFILE

FILL AREA 2A
LOOKING NORTH



2I PROFILE

FILL AREA 2A
LOOKING NORTH



2J PROFILE

FILL AREA 2A
LOOKING NORTH

AS-BUILT

LEGEND

- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

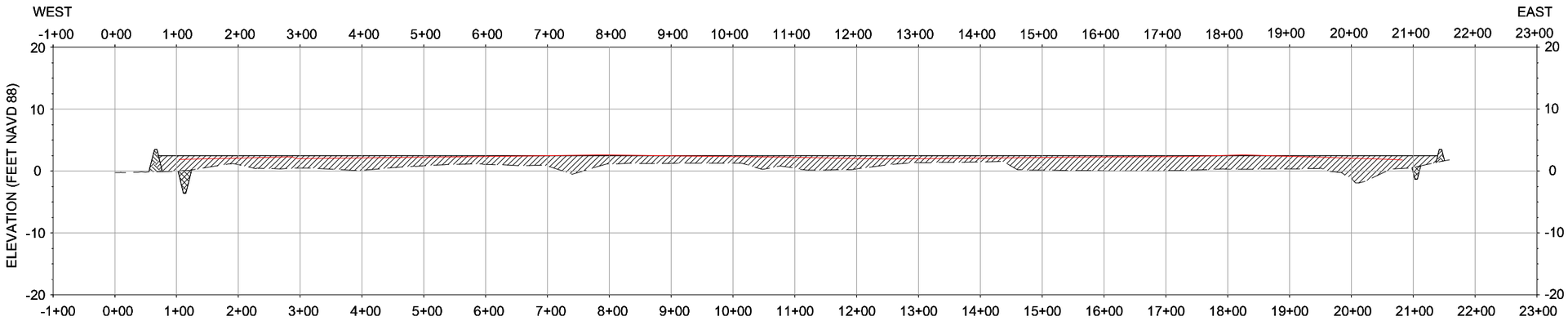
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

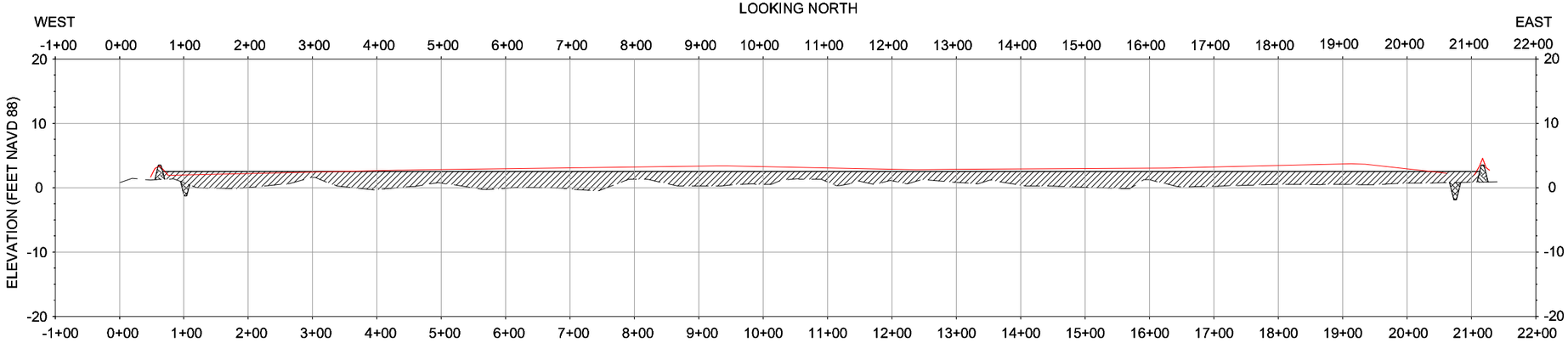
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS
DATE: JANUARY 2008
SHEET 35 OF 65



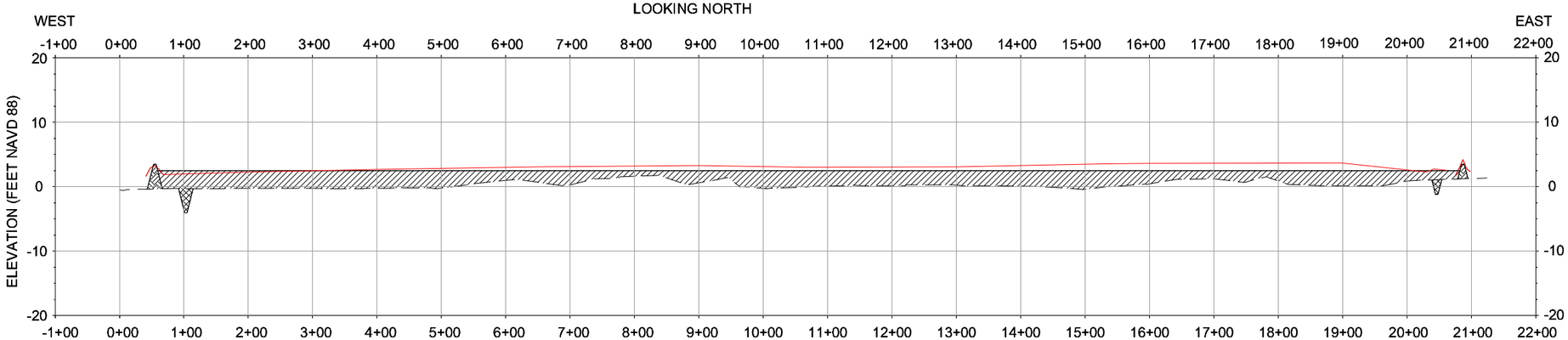
2K PROFILE

FILL AREA 2B
LOOKING NORTH



2L PROFILE

FILL AREA 2B
LOOKING NORTH



2M PROFILE

FILL AREA 2B
LOOKING NORTH

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

AS-BUILT

LEGEND

- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

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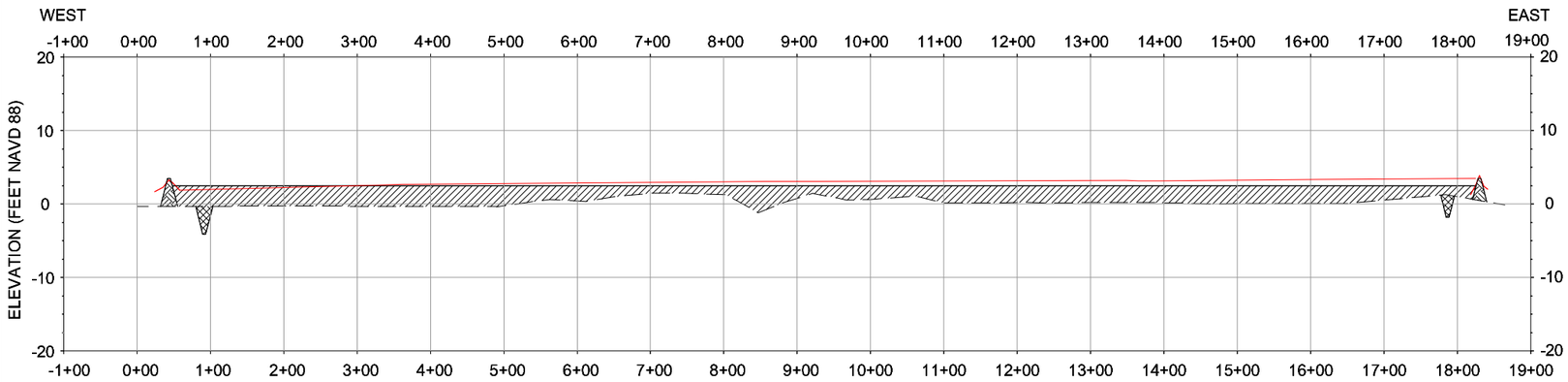
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

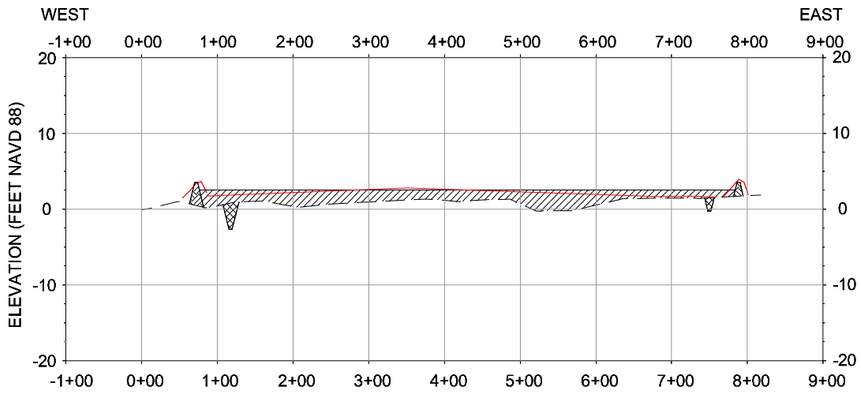
SECTIONS

DATE: JANUARY 2008



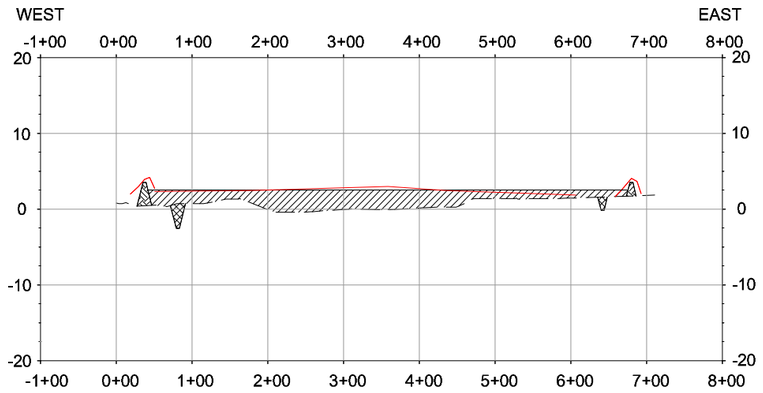
2N PROFILE

FILL AREA 2B
LOOKING NORTH



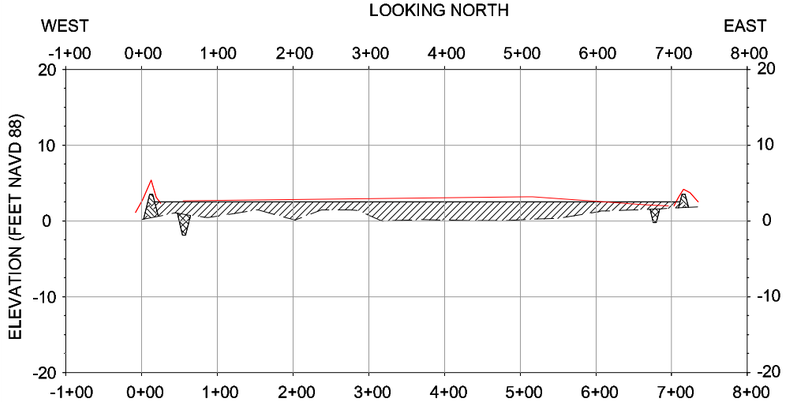
2O PROFILE

FILL AREA 2B
LOOKING NORTH



2P PROFILE

FILL AREA 2B
LOOKING NORTH



2Q PROFILE

FILL AREA 2B
LOOKING NORTH

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

AS-BUILT

LEGEND

- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

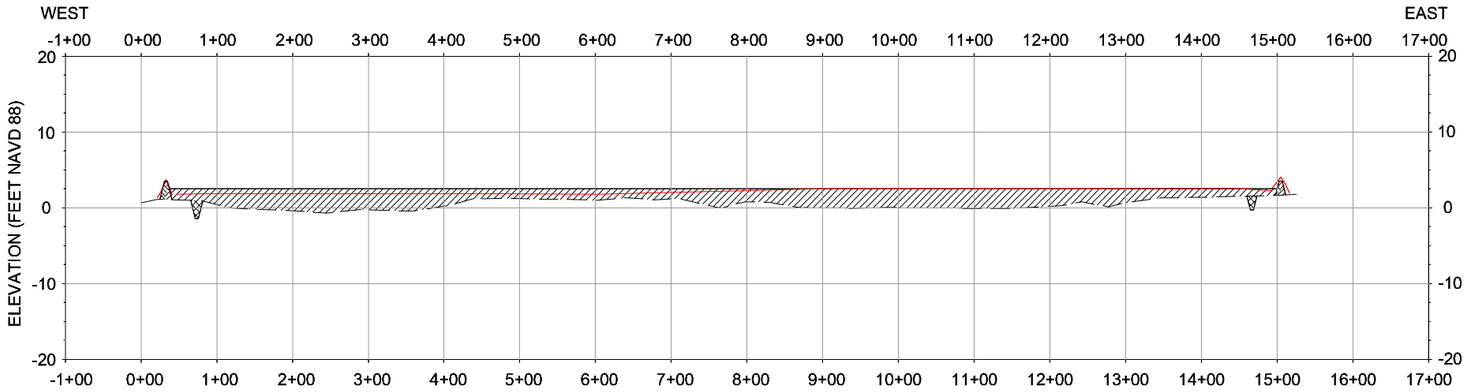
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

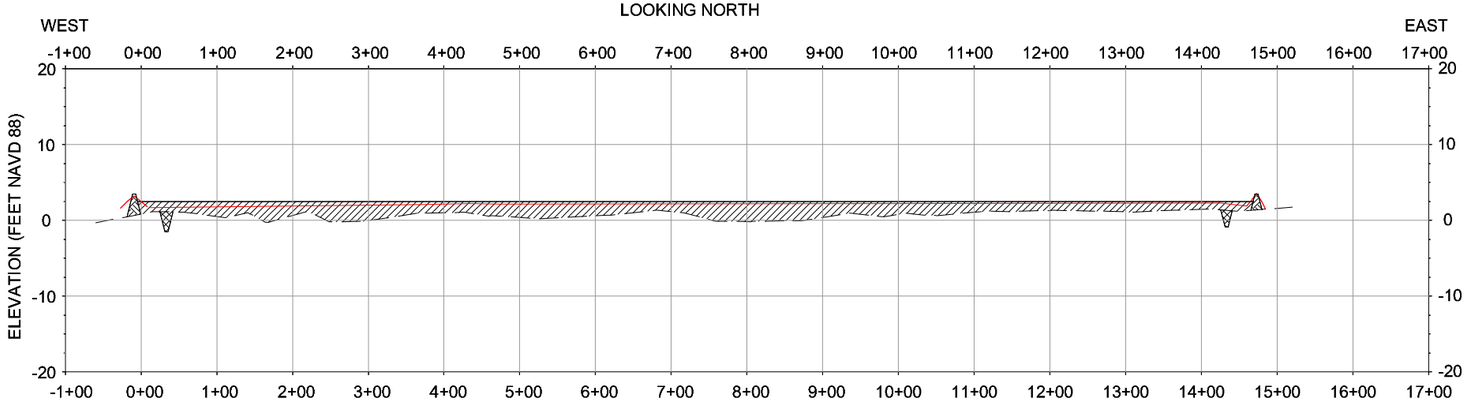
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

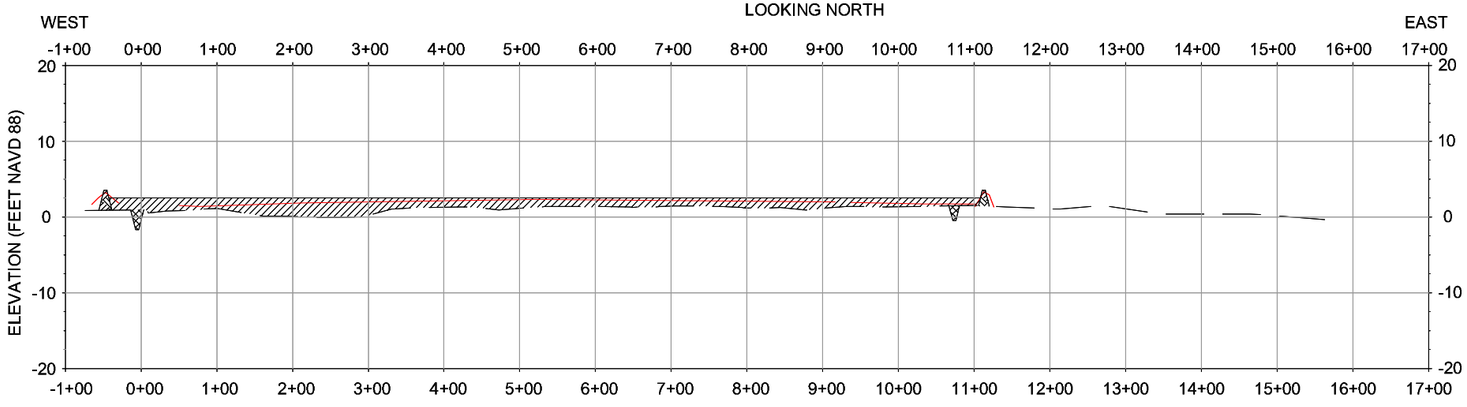
SECTIONS
DATE: JANUARY 2008
SHEET 37 OF 65



2R PROFILE
FILL AREA 2B
LOOKING NORTH



2S PROFILE
FILL AREA 2B
LOOKING NORTH



2T PROFILE
FILL AREA 2B
LOOKING NORTH

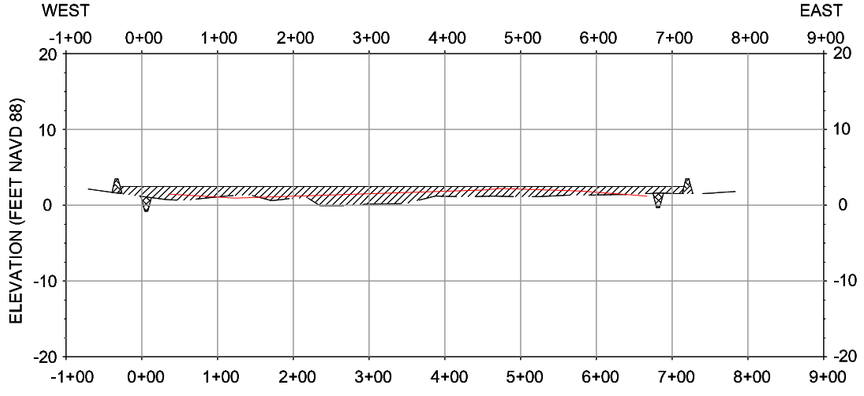
HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

LEGEND

- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

AS-BUILT



2U PROFILE
FILL AREA 2B
LOOKING NORTH

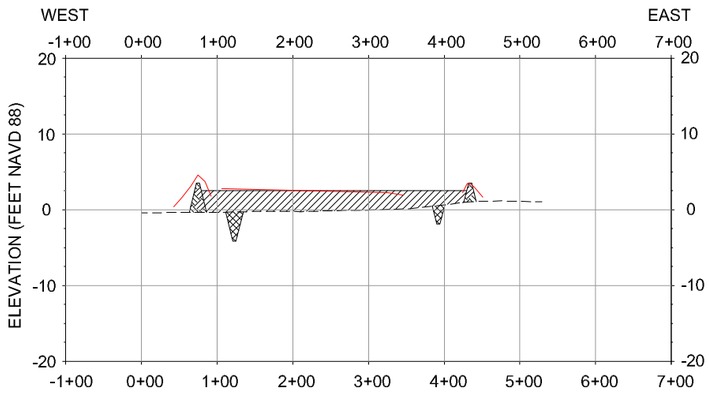
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

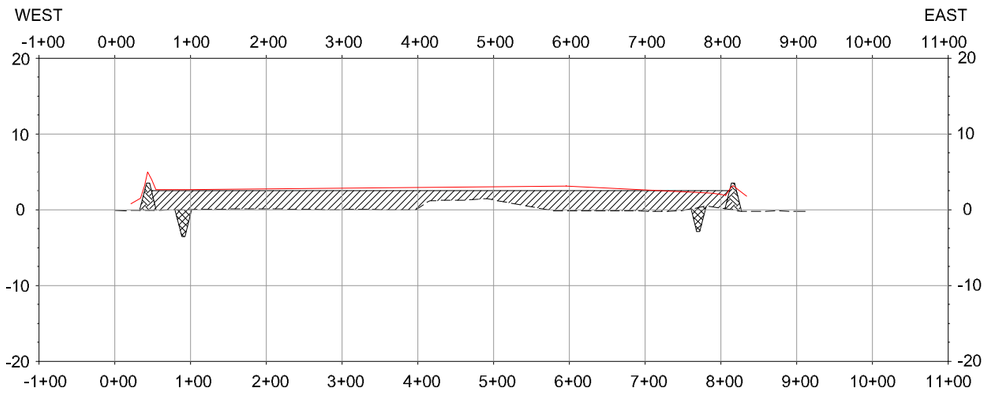
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS
DATE: JANUARY 2008
SHEET 38 OF 65



3A PROFILE
LOOKING NORTH

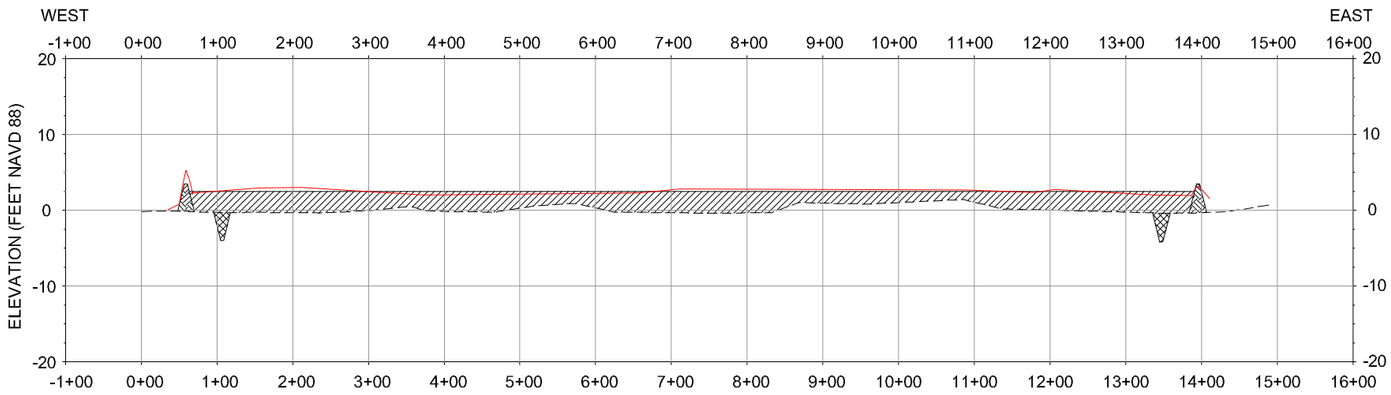


3B PROFILE
LOOKING NORTH

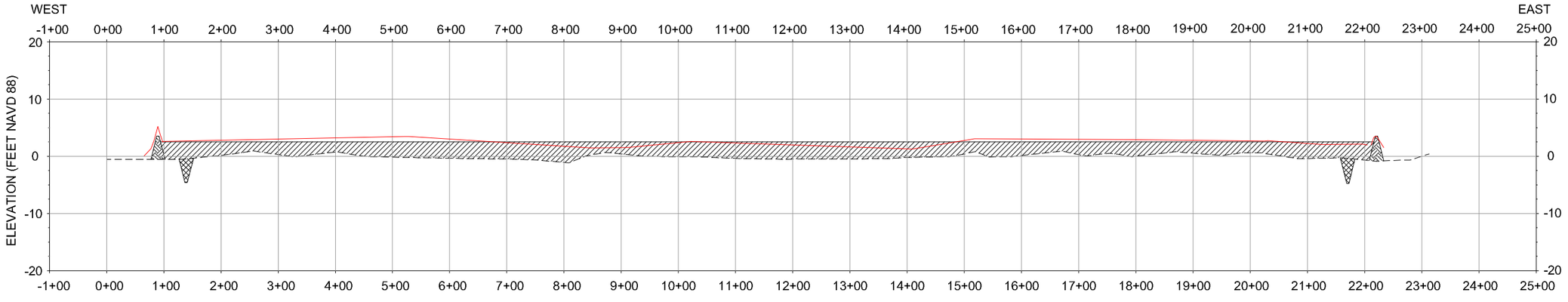
LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

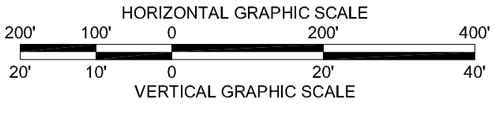
NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

AS-BUILT



3C PROFILE
LOOKING NORTH





3D PROFILE
LOOKING NORTH

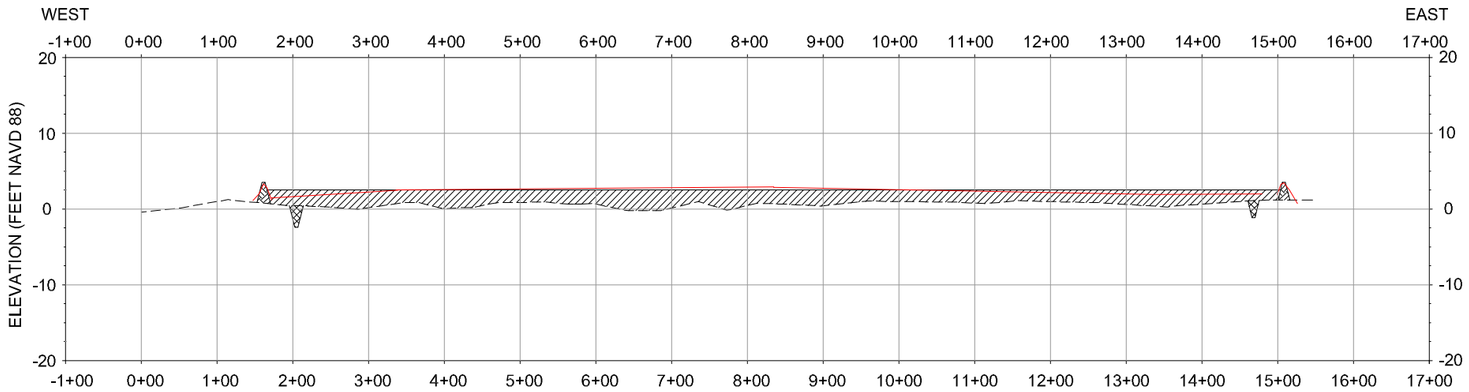
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

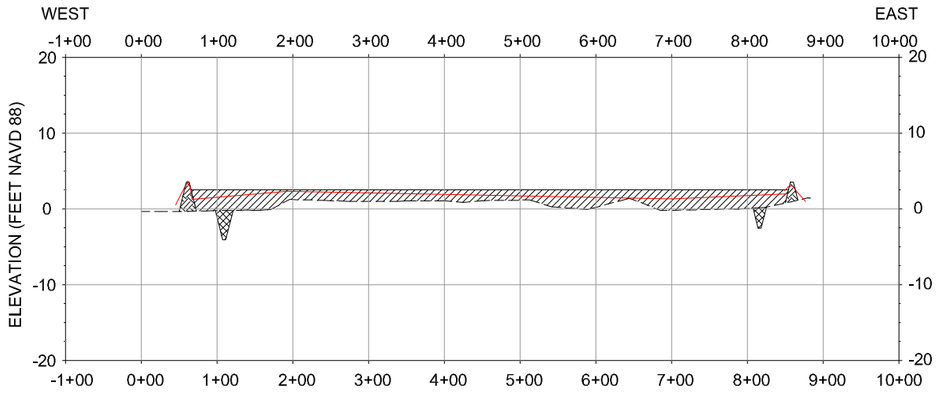
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

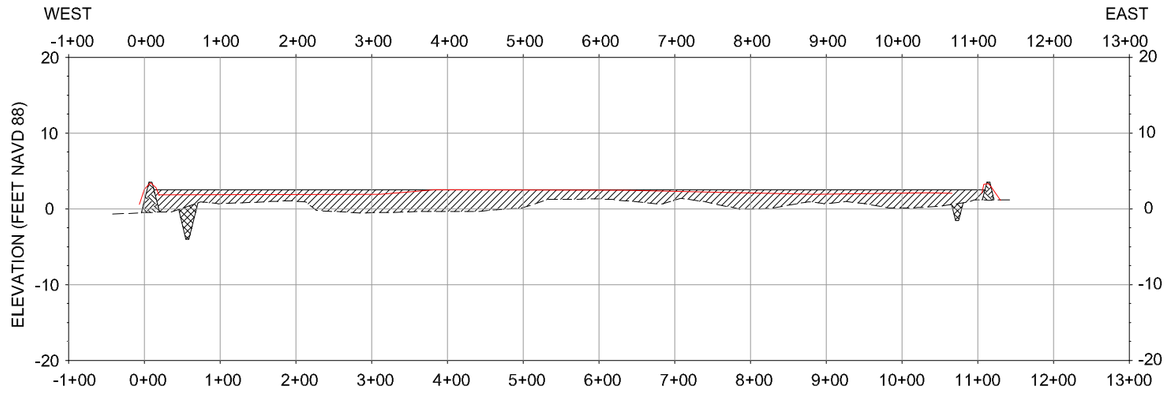
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS
DATE: JANUARY 2008
SHEET 39 OF 65



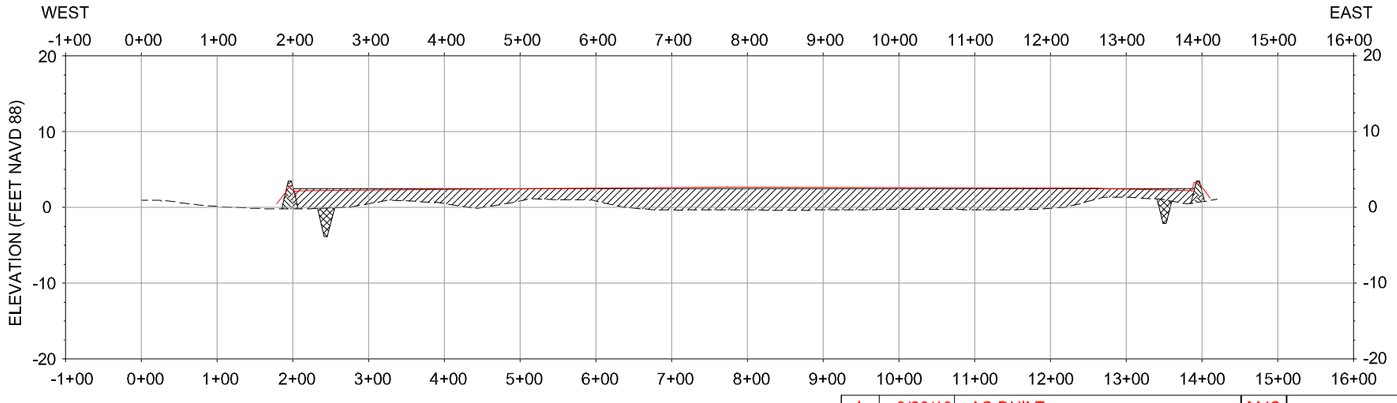
3E PROFILE
LOOKING NORTH





3G PROFILE
LOOKING NORTH

3F PROFILE
LOOKING NORTH



AS-BUILT

LEGEND
------ EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

3H PROFILE
LOOKING NORTH

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
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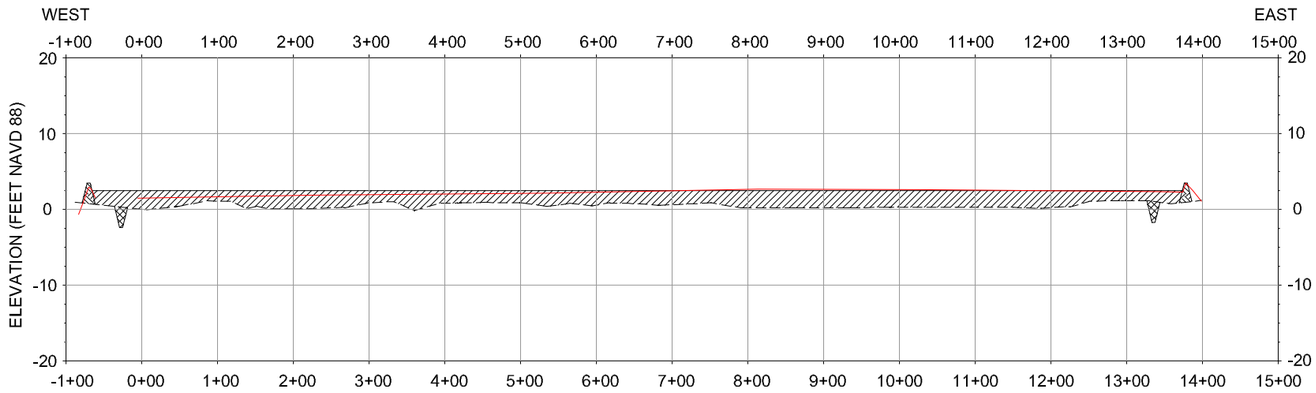
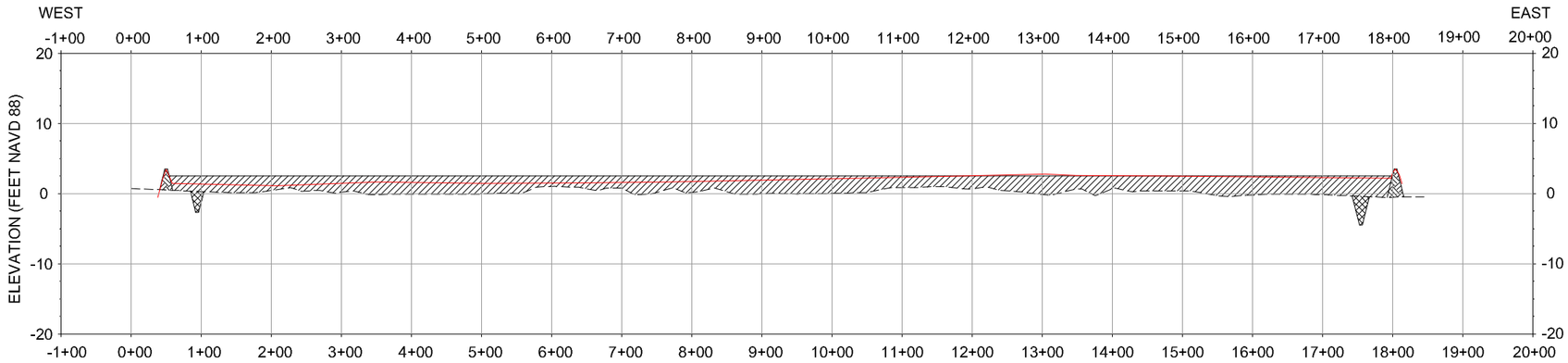
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

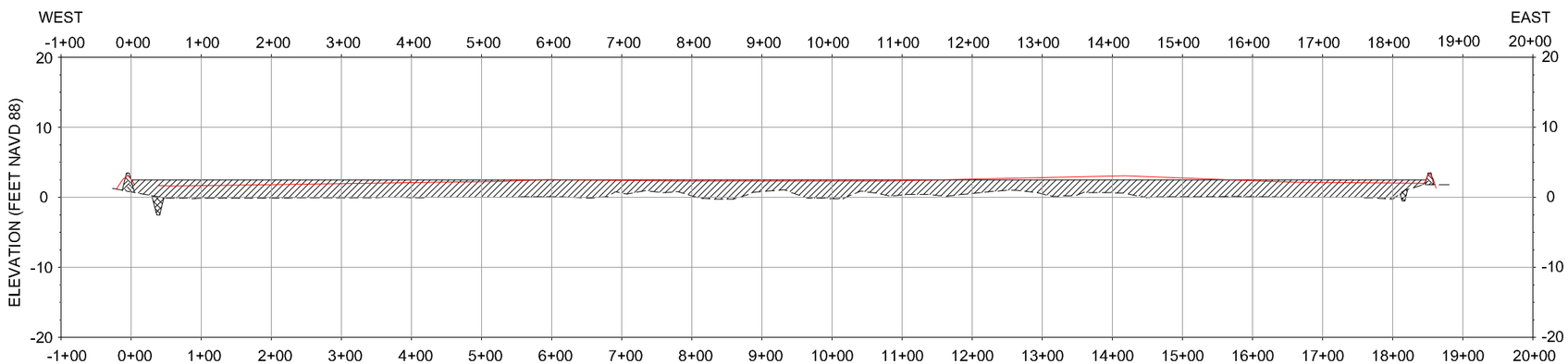
SECTIONS
DATE: JANUARY 2008
SHEET 40 OF 65



3I PROFILE
LOOKING NORTH



3J PROFILE
LOOKING NORTH



3K PROFILE
LOOKING NORTH

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

AS-BUILT

LEGEND
- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
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REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

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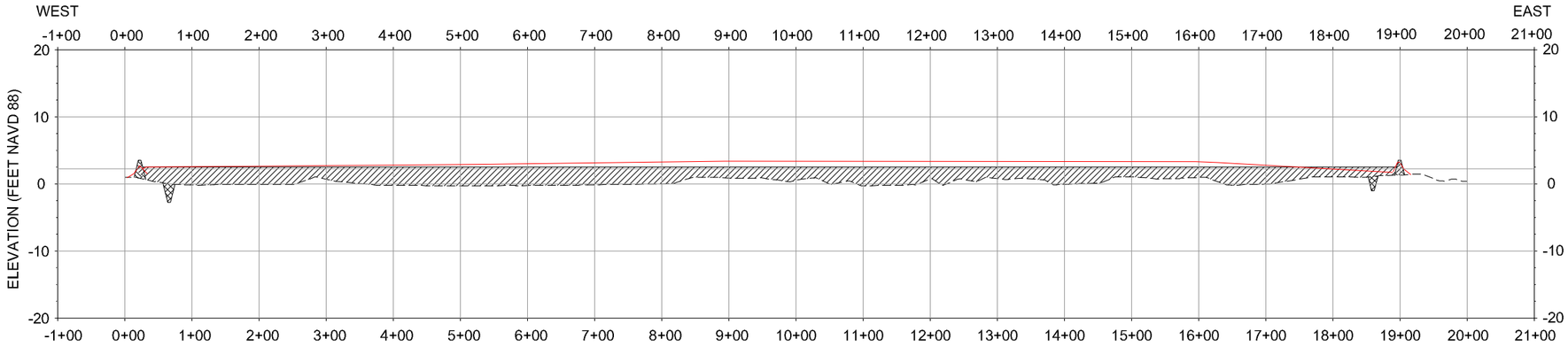
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

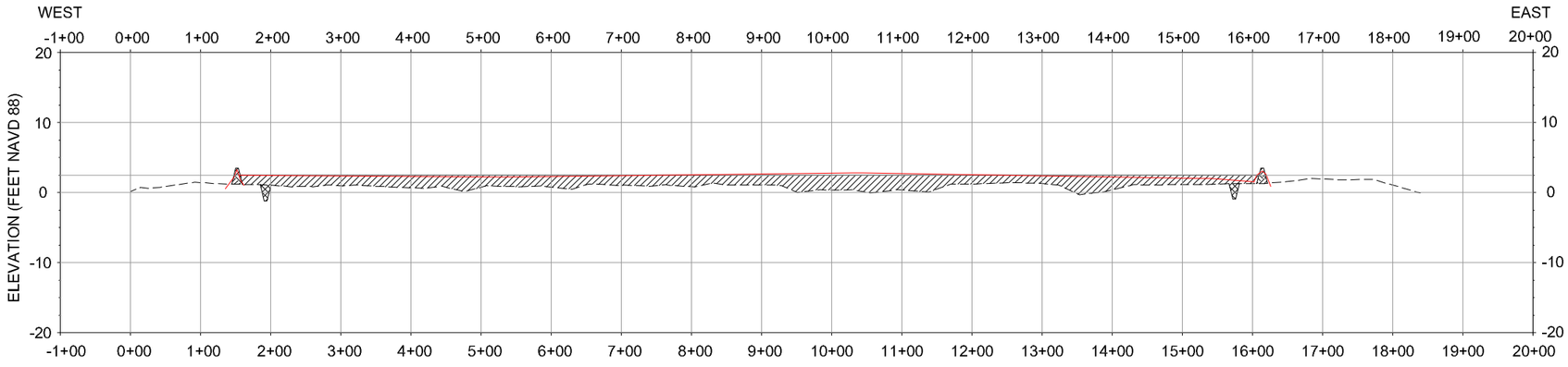
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

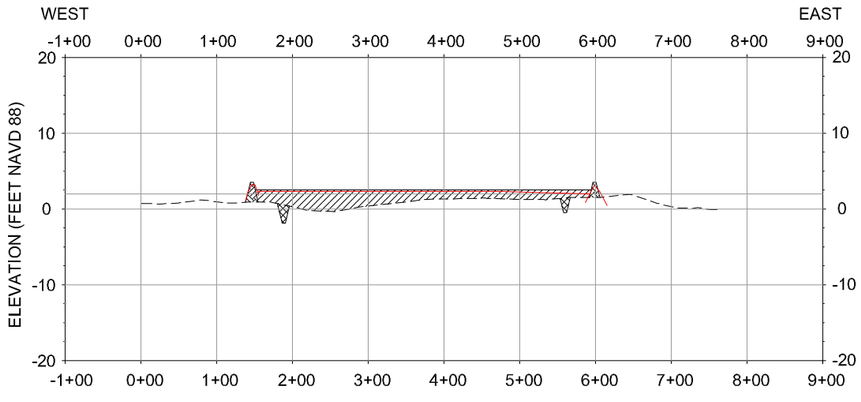
SECTIONS
DATE: JANUARY 2008
SHEET 41 OF 65



3L PROFILE
LOOKING NORTH



3M PROFILE
LOOKING NORTH



3N PROFILE
LOOKING NORTH

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

AS-BUILT

LEGEND
- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

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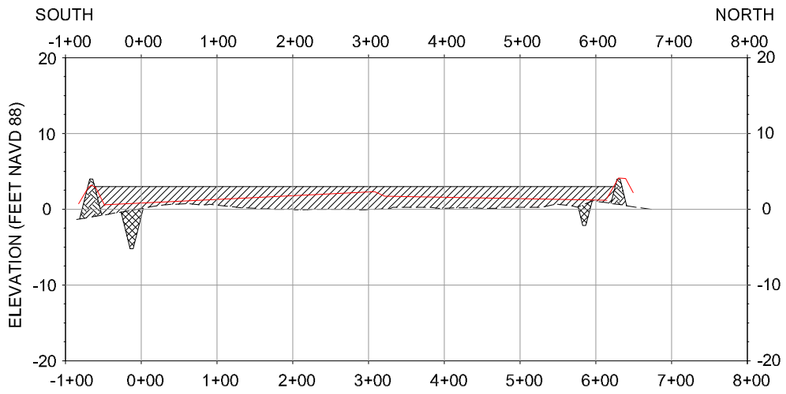
FEDERAL PROJECT NUMBER: N/A

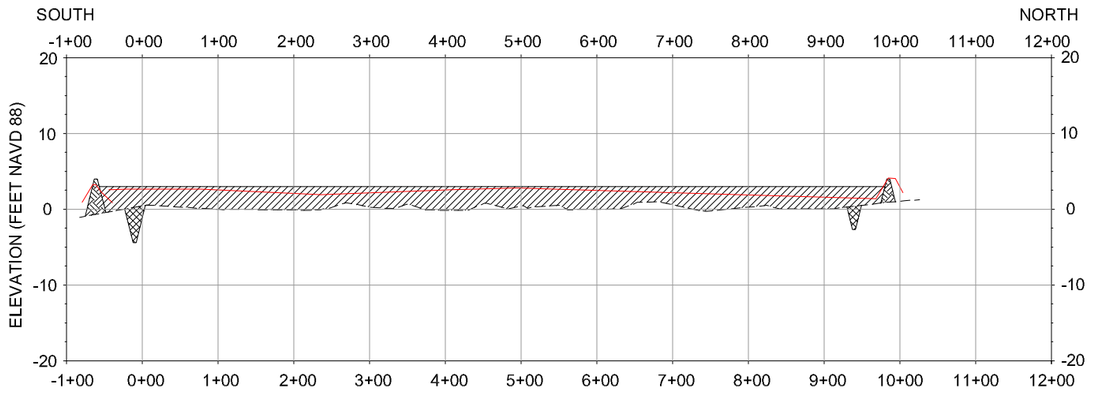
APPROVED BY: LUKE LE BAS, P.E.

SECTIONS

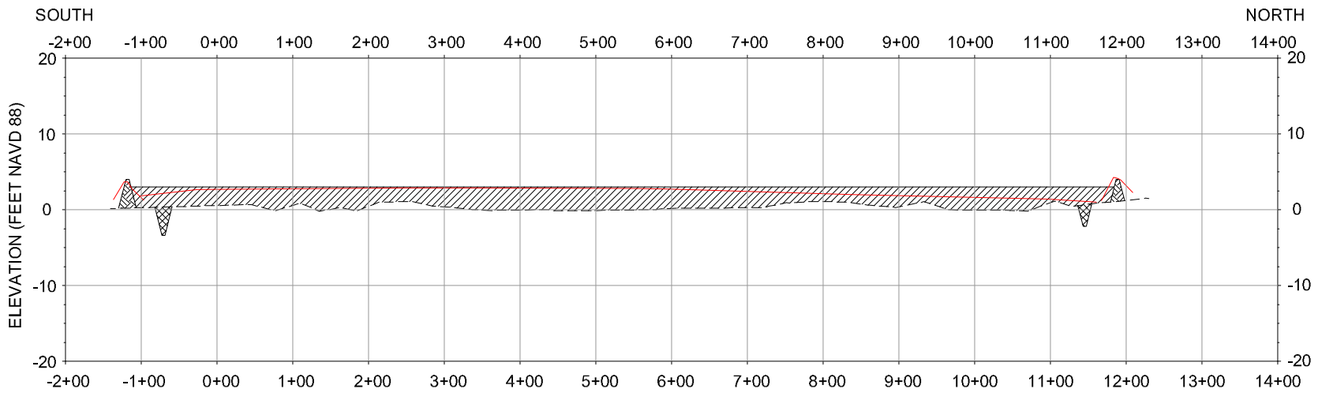
DATE: JANUARY 2008



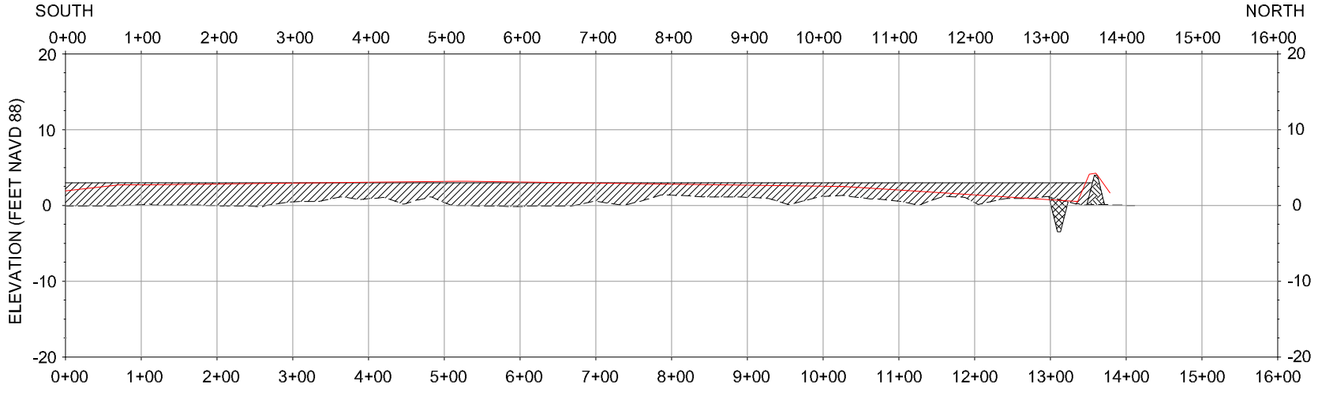
4A PROFILE
LOOKING WEST



4B PROFILE
LOOKING WEST



4C PROFILE
LOOKING WEST



4D PROFILE
LOOKING WEST

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

AS-BUILT

LEGEND
------- EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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1	3/26/10	AS-BUILT	MJC

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617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

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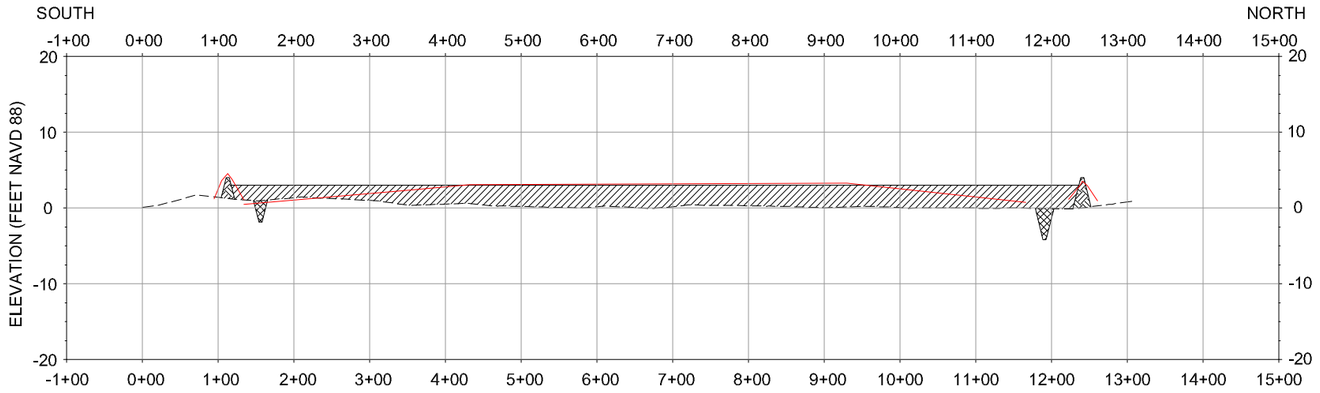
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

SECTIONS

DATE: JANUARY 2008



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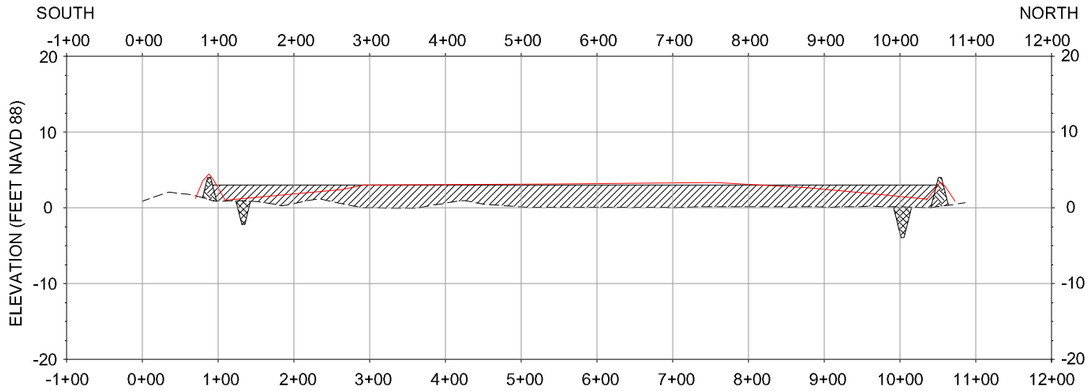
LOOKING WEST



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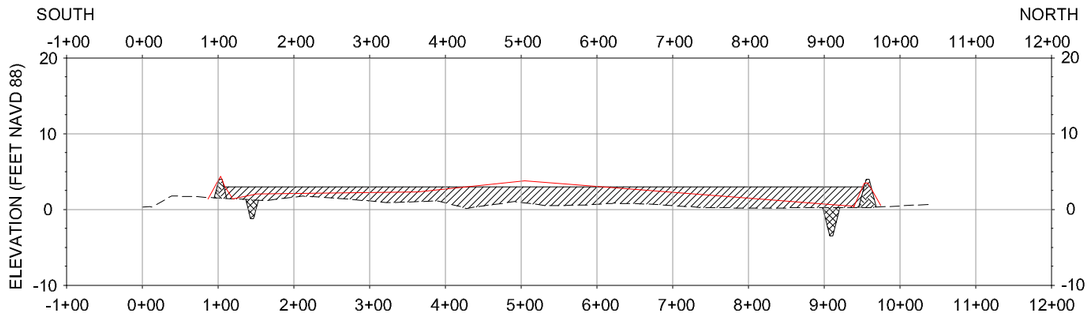

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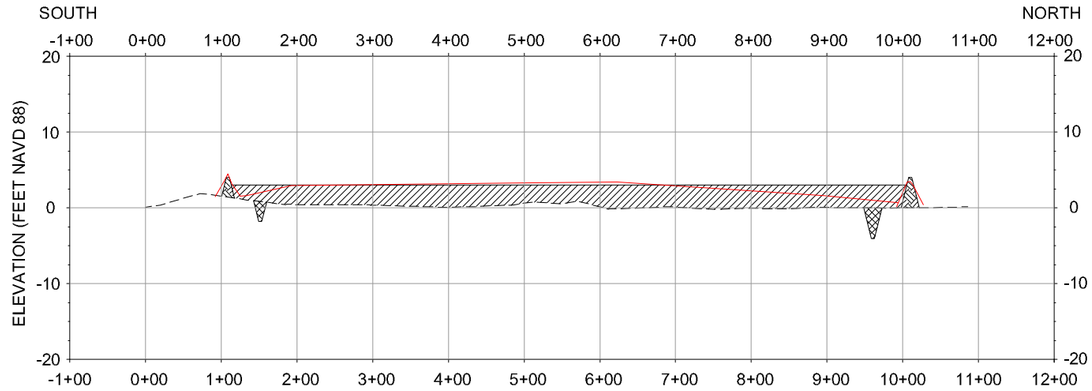
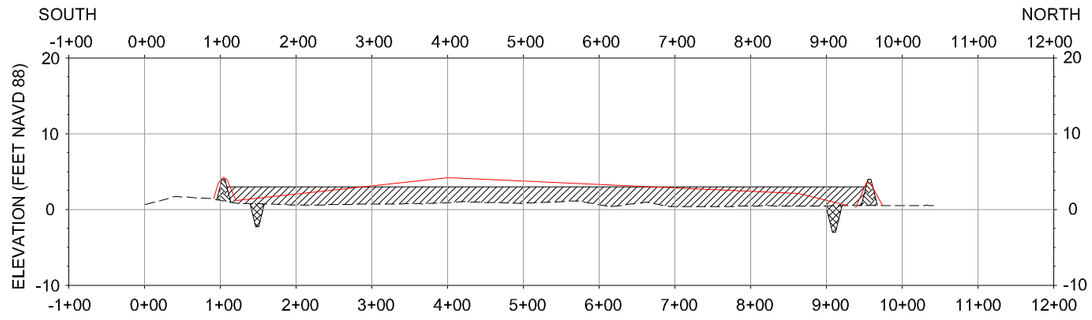


4J PROFILE
LOOKING WEST



4L PROFILE
LOOKING WEST

LEGEND

- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

AS-BUILT

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

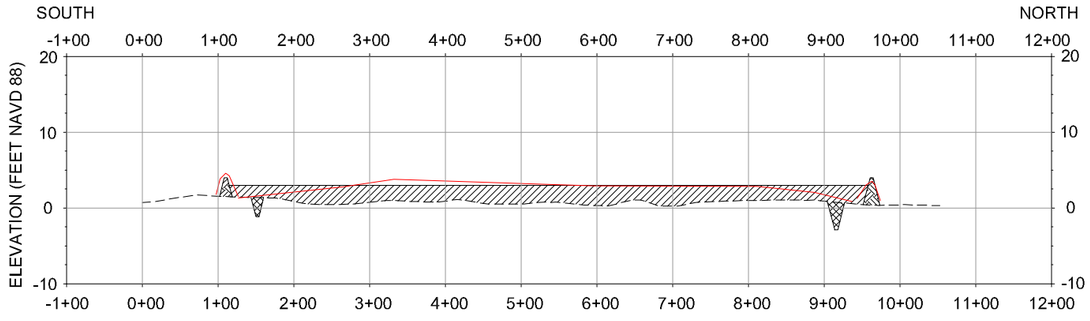
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

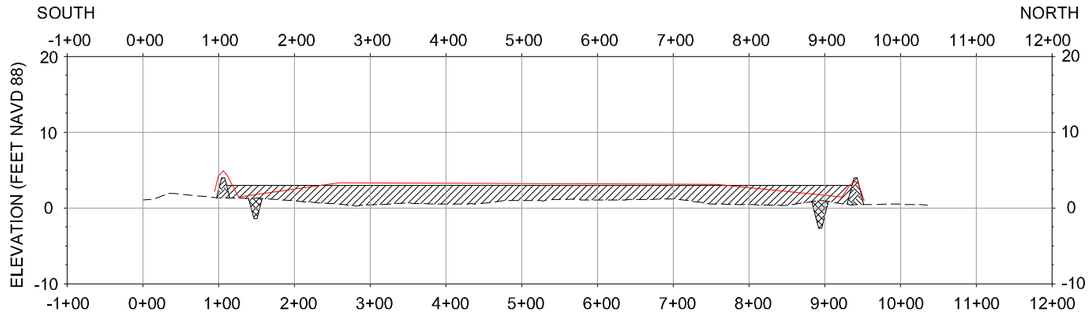
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS
DATE: JANUARY 2008
SHEET 45 OF 65



4M PROFILE
LOOKING WEST



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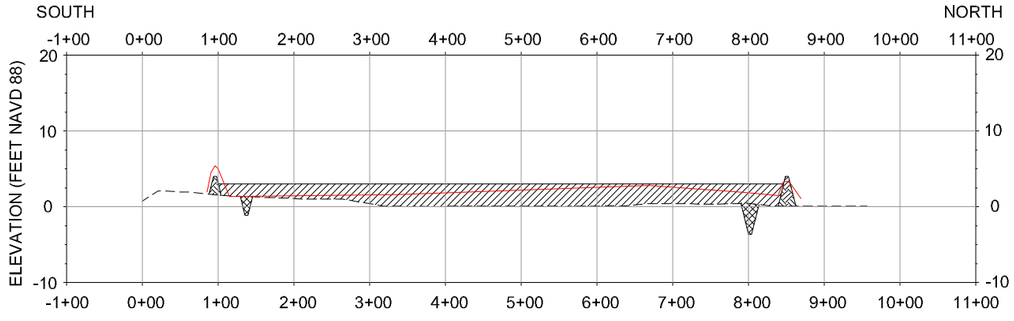
LOOKING WEST



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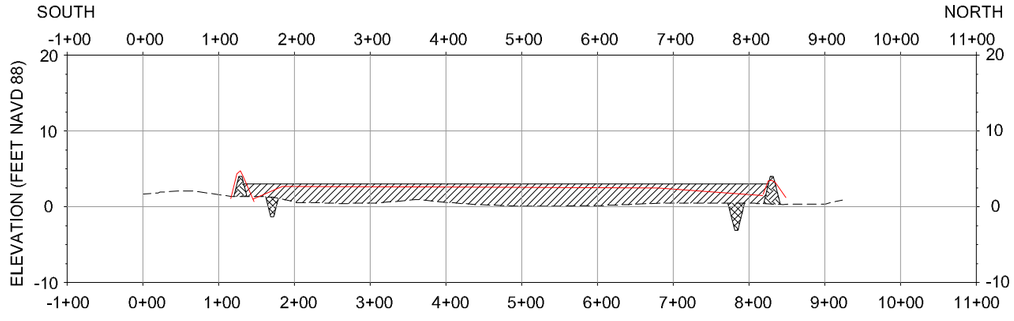
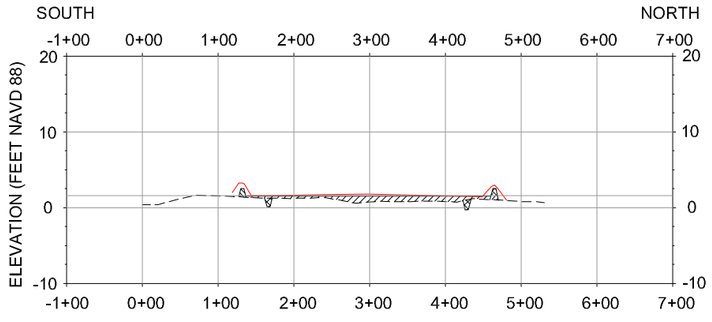
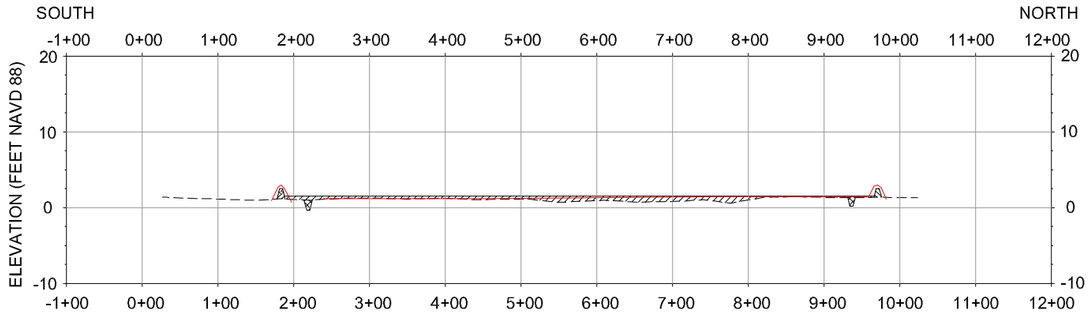
LOOKING WEST



4P PROFILE
LOOKING WEST



4Q PROFILE
LOOKING WEST



4R PROFILE
LOOKING WEST

AS-BUILT

LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
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HORIZONTAL GRAPHIC SCALE
200' 100' 0 200' 400'
20' 10' 0 20' 40'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
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DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

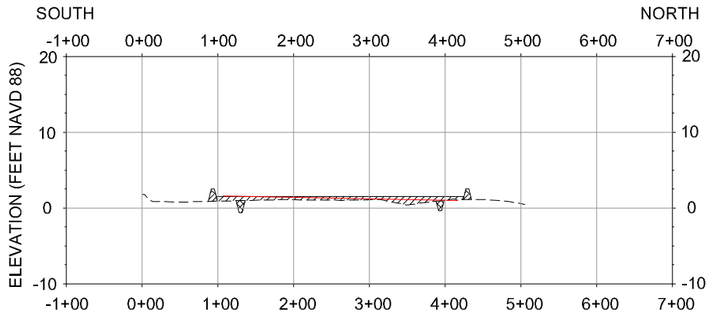
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

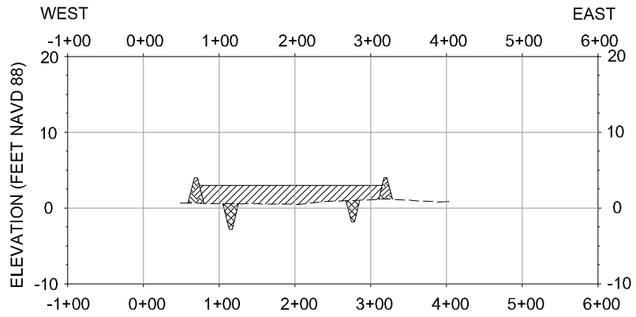
APPROVED BY: LUKE LE BAS, P.E.

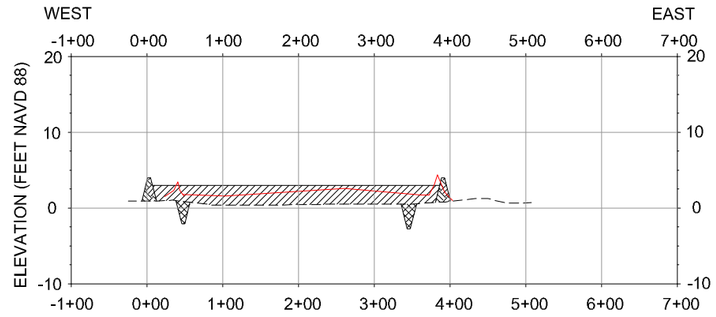
SECTIONS

DATE: JANUARY 2008

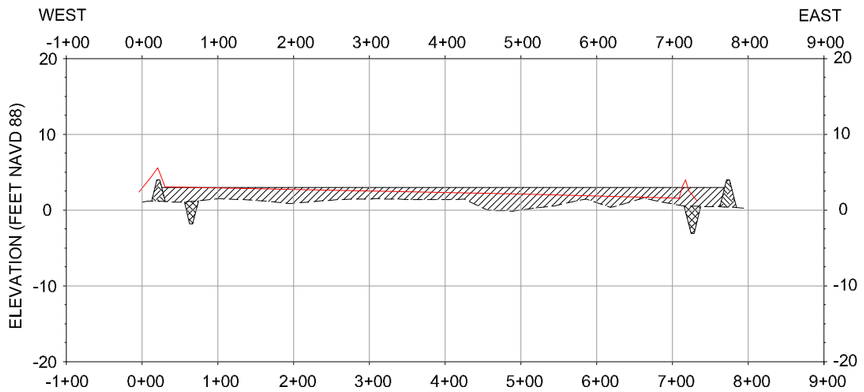
SHEET 46 OF 65



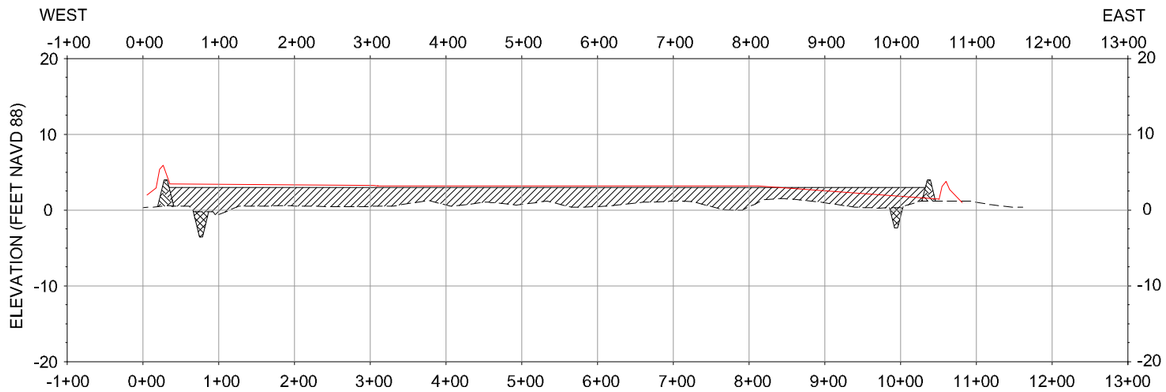




4S PROFILE
LOOKING WEST

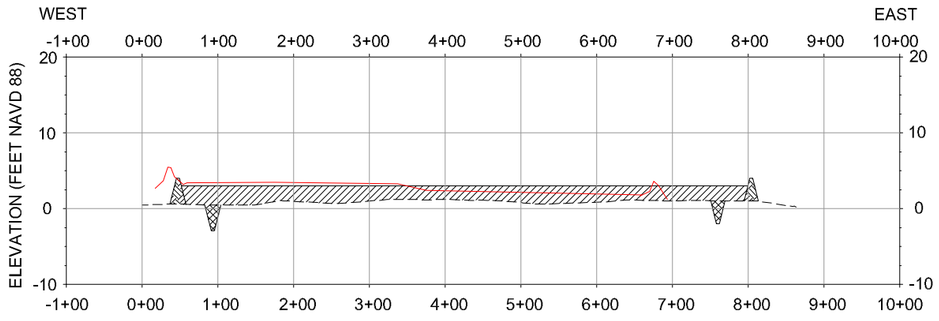


5A PROFILE
LOOKING NORTH

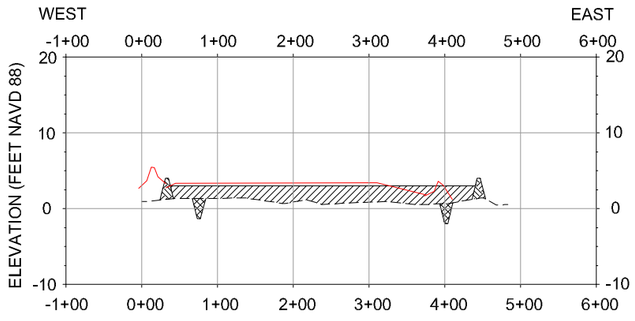


5B PROFILE
LOOKING NORTH

5C PROFILE
LOOKING NORTH



5D PROFILE
LOOKING NORTH



5E PROFILE
LOOKING NORTH

5F PROFILE
LOOKING NORTH

AS-BUILT

LEGEND
- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
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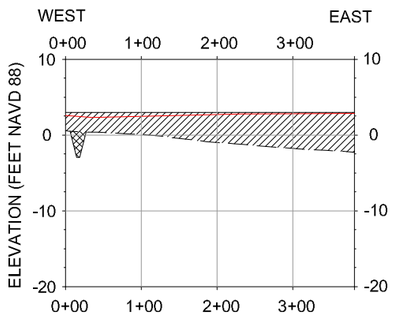
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS
DATE: JANUARY 2008
SHEET 47 OF 64



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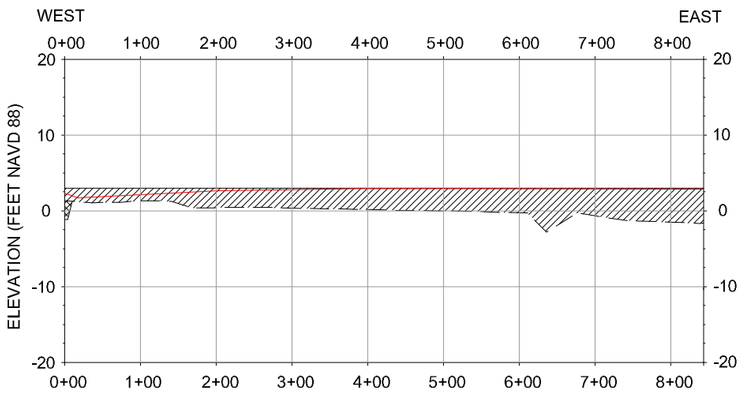
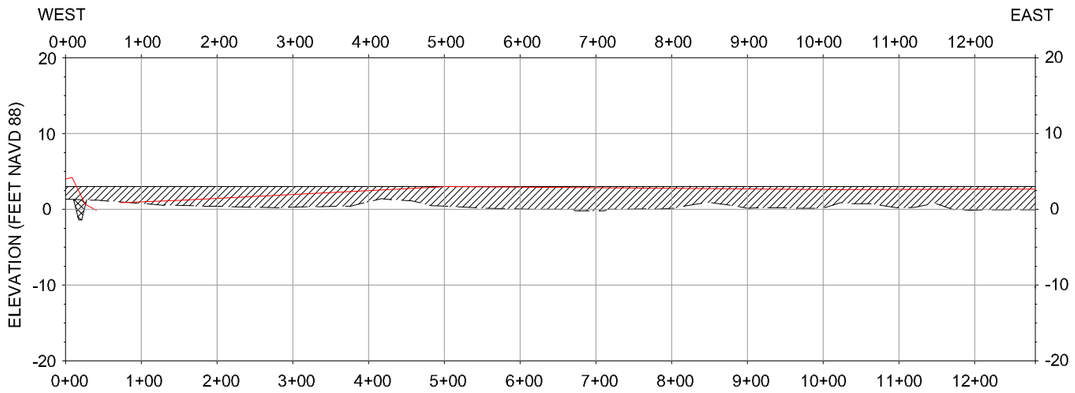


6B PROFILE



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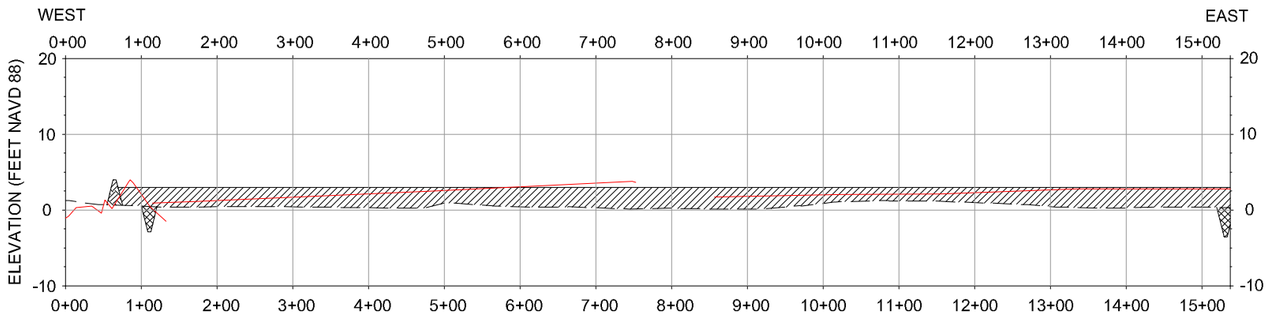
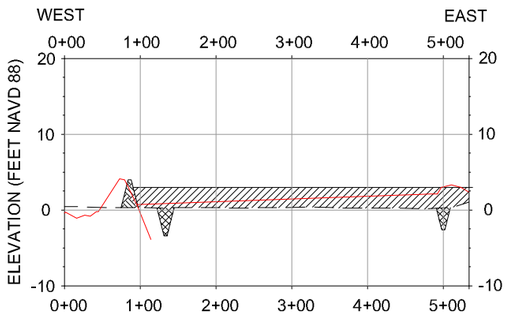


6D PROFILE

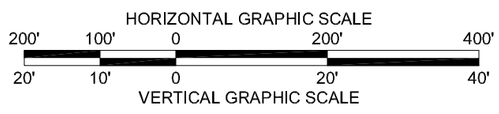


6E PROFILE

LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

AS-BUILT



REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

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617 NORTH 3RD STREET
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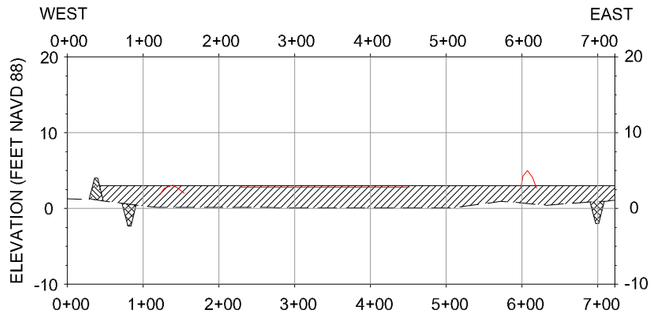
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS

DATE: JANUARY 2008
SHEET 48 OF 65



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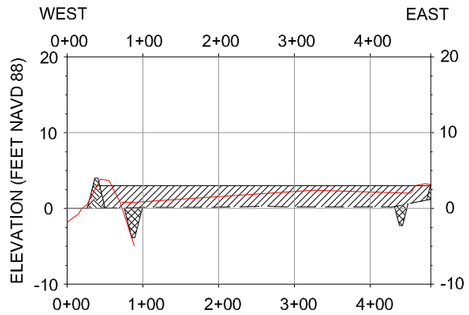

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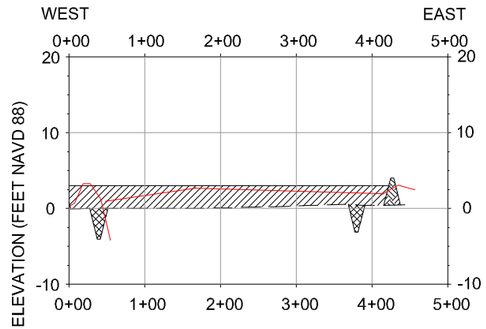
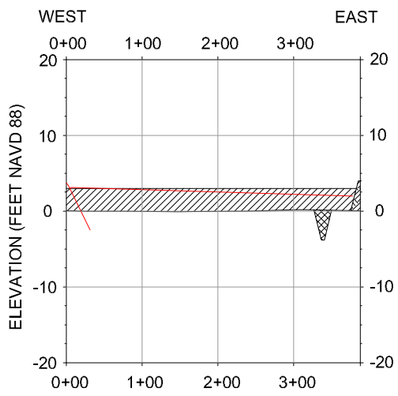
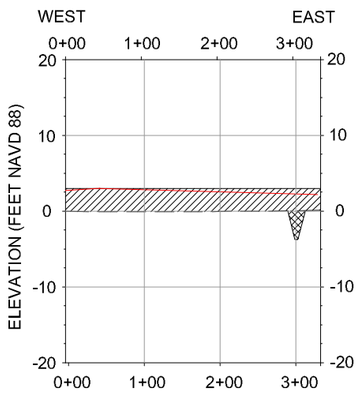


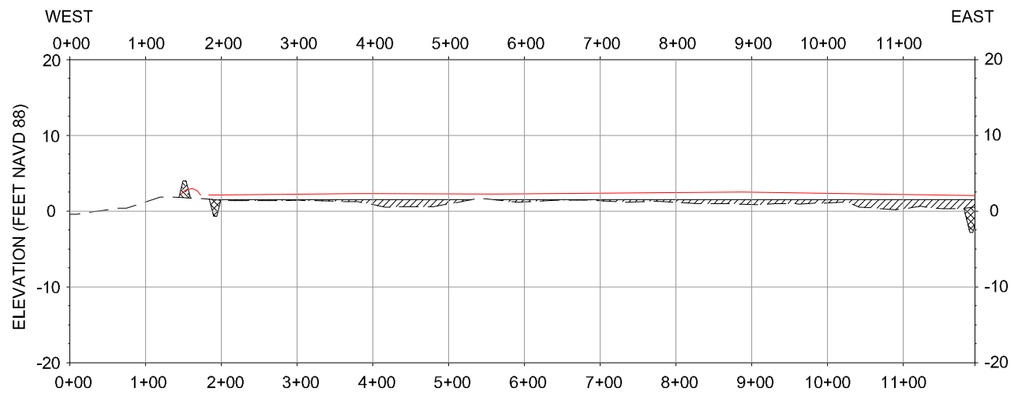
6H PROFILE



6I PROFILE



6J PROFILE



6K PROFILE

AS-BUILT

LEGEND

- ------- EXISTING BOTTOM
- EARTHEN CONTAINMENT DIKE
- FILL AREA
- BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

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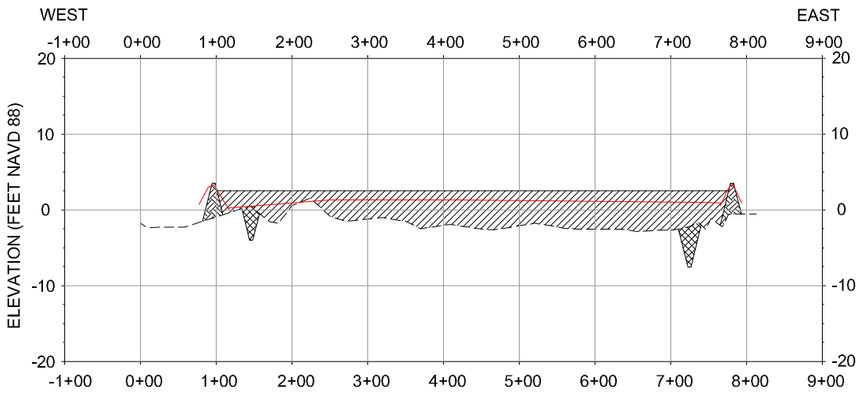
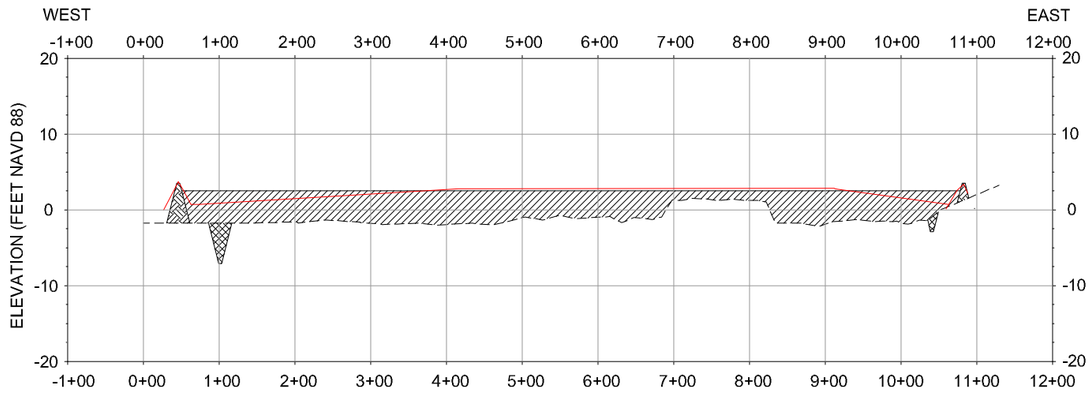
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

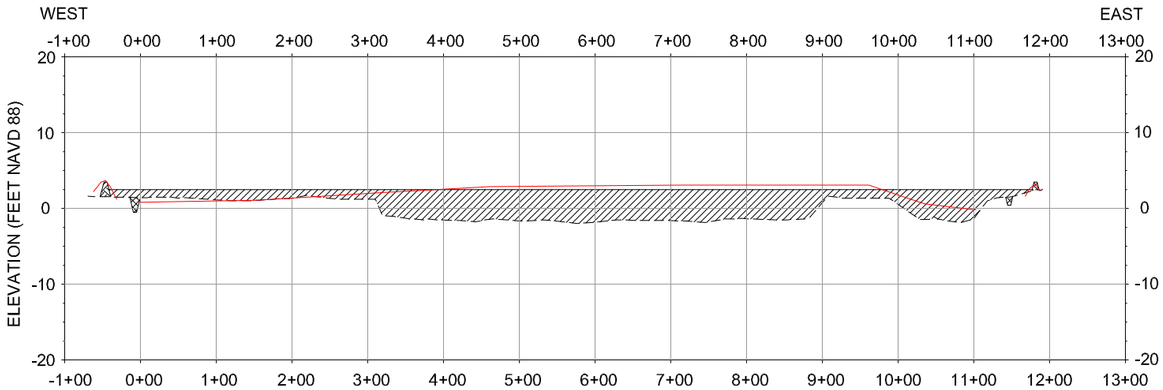
SECTIONS

DATE: JANUARY 2008
SHEET 49 OF 65

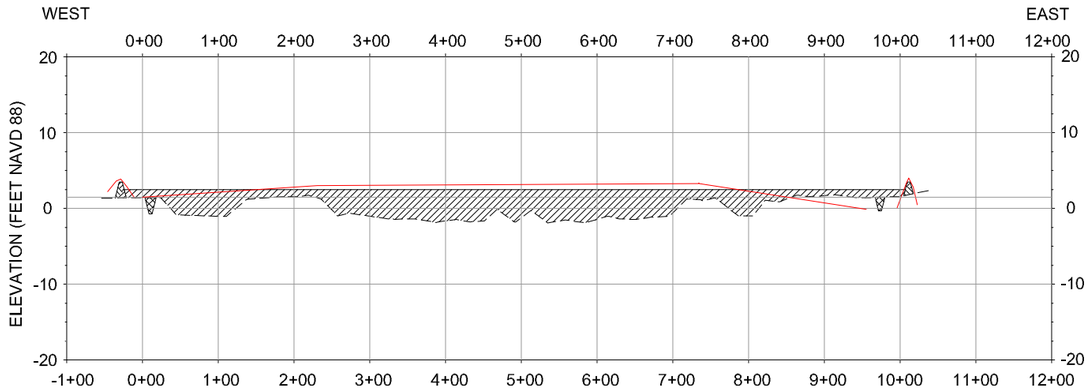




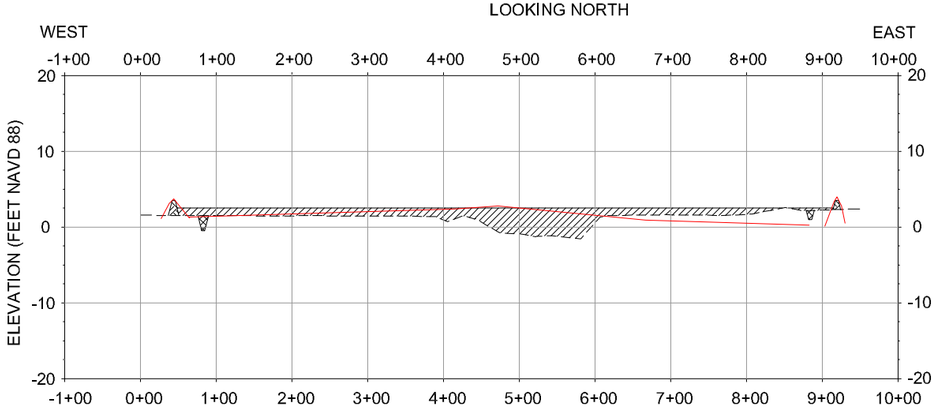
7A PROFILE
LOOKING NORTH



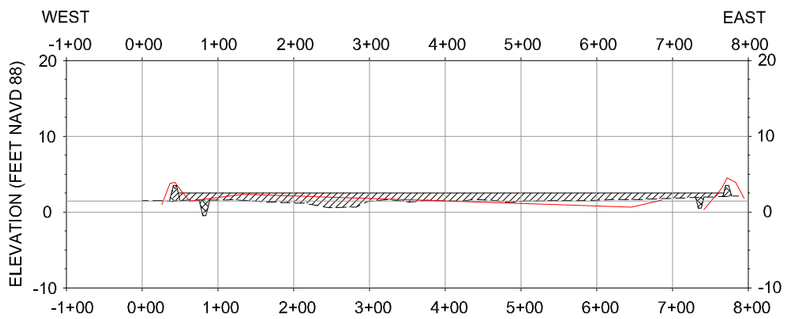
7B PROFILE
LOOKING NORTH



7C PROFILE
LOOKING NORTH



7D PROFILE
LOOKING NORTH



AS-BUILT

LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

7E PROFILE
LOOKING NORTH

7F PROFILE
LOOKING NORTH

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

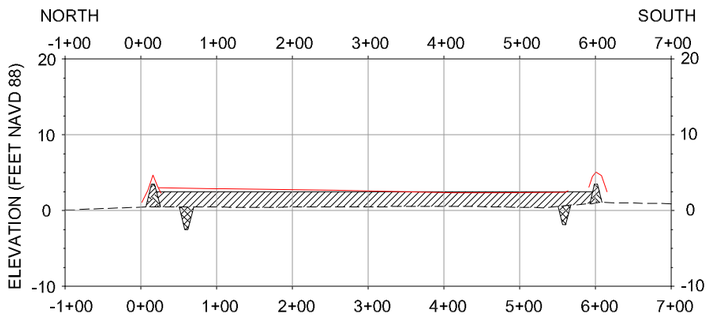
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

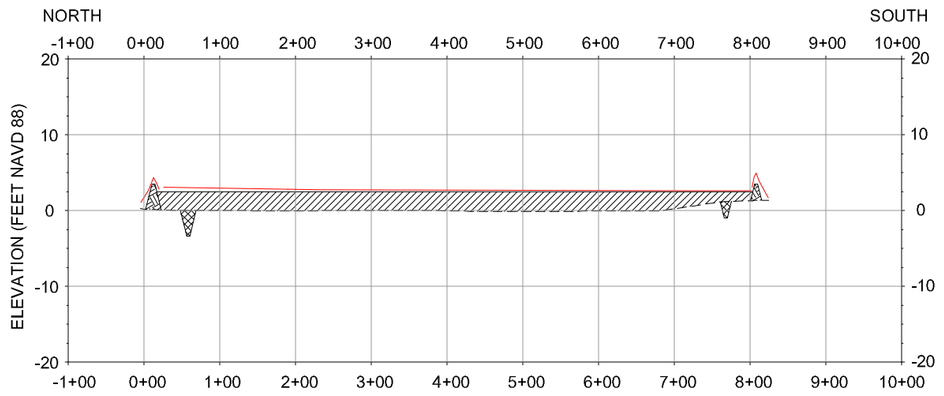
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

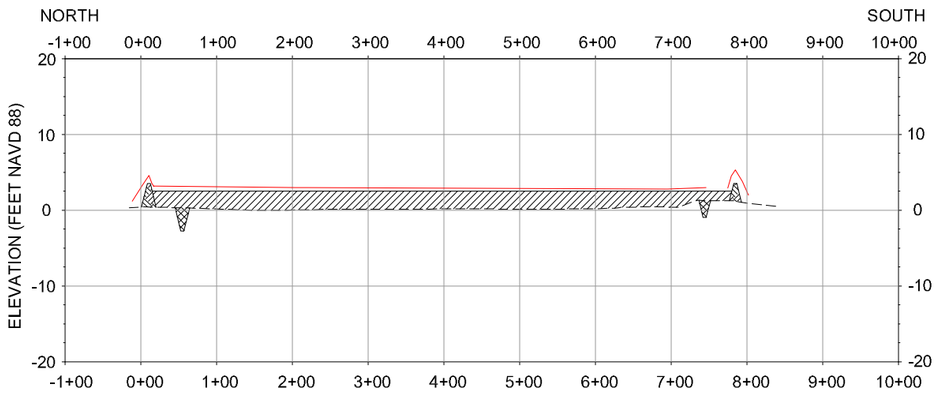
SECTIONS
DATE: JANUARY 2008
SHEET 50 OF 64



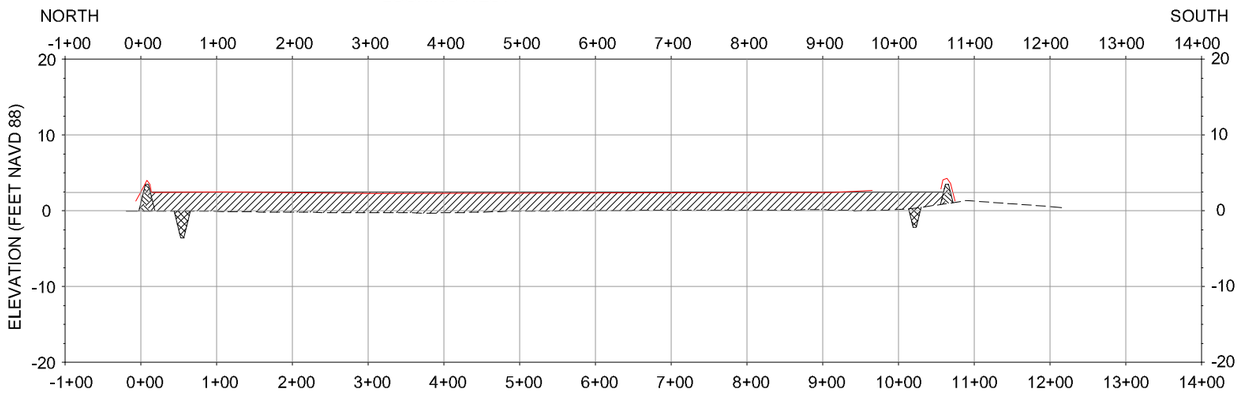
8A PROFILE
LOOKING WEST



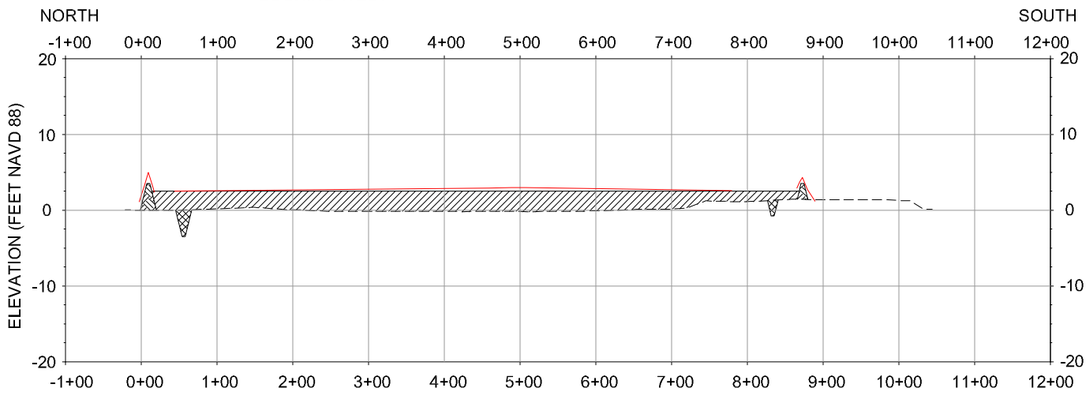
8B PROFILE
LOOKING WEST



8C PROFILE
LOOKING WEST



8D PROFILE
LOOKING WEST



8E PROFILE
LOOKING WEST

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

AS-BUILT

LEGEND
EXISTING BOTTOM
EARTHEN CONTAINMENT DIKE
FILL AREA
BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

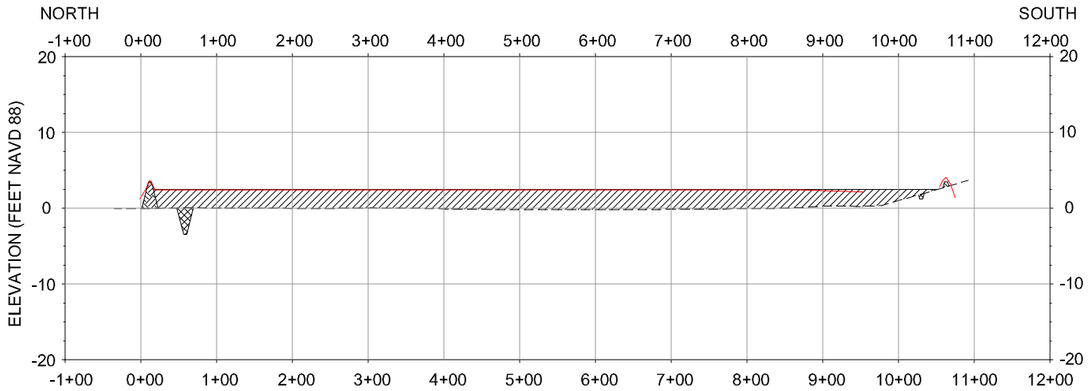
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

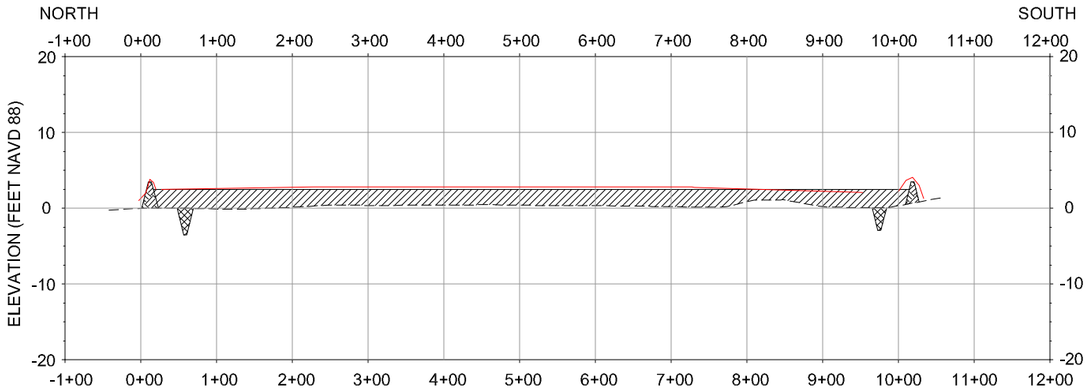
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

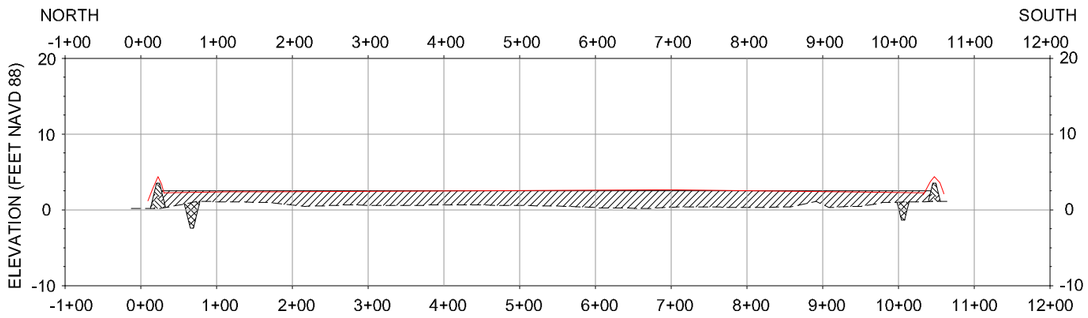
SECTIONS
DATE: JANUARY 2008
SHEET 51 OF 65



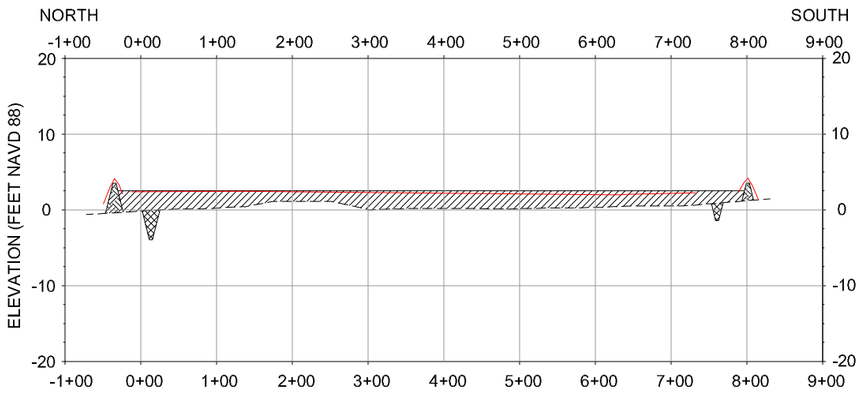
8F PROFILE
LOOKING WEST



8G PROFILE
LOOKING WEST



8H PROFILE
LOOKING WEST



8I PROFILE
LOOKING WEST

AS-BUILT

LEGEND	
-------	EXISTING BOTTOM
	EARTHEN CONTAINMENT DIKE
	FILL AREA
	BORROW AREA

NOTE:
SEE SHEET 14 FOR ELEVATION OF CONTAINMENT DIKE AND TARGET/MAX. ELEVATION OF MARSH FILL HEIGHT.

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

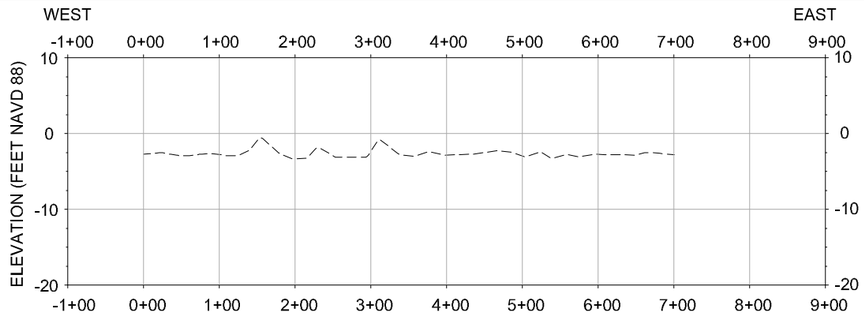
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

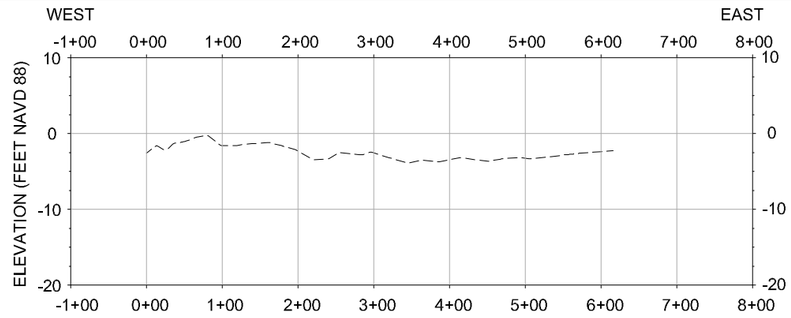
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

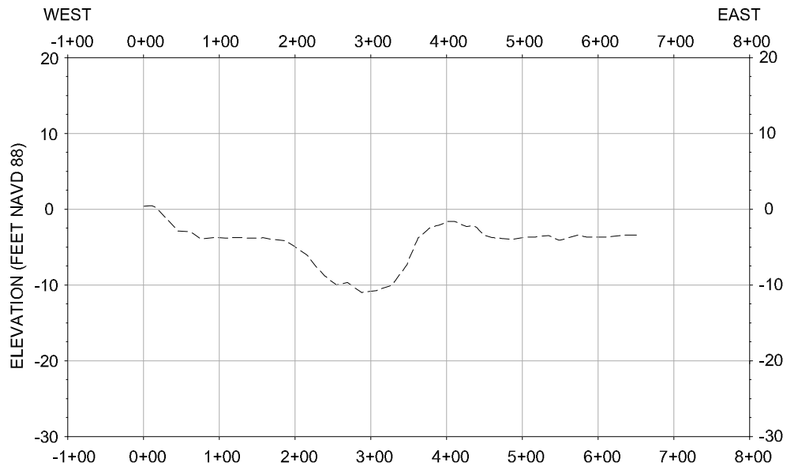
SECTIONS

DATE: JANUARY 2008
SHEET 52 OF 65

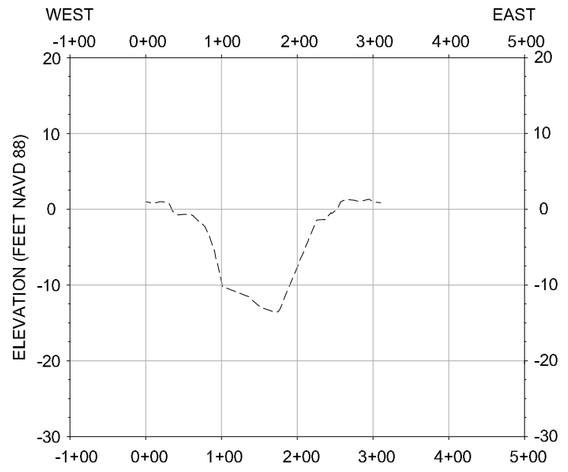


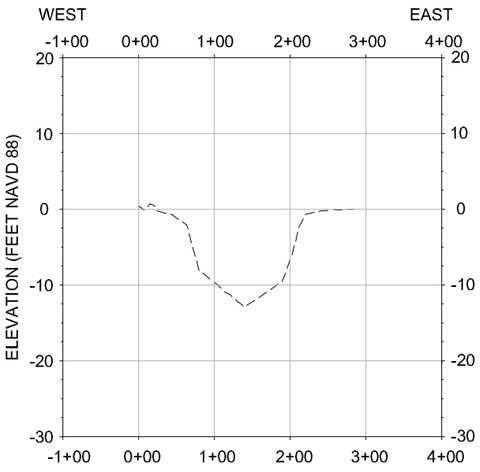


12D PROFILE
LOOKING NORTH

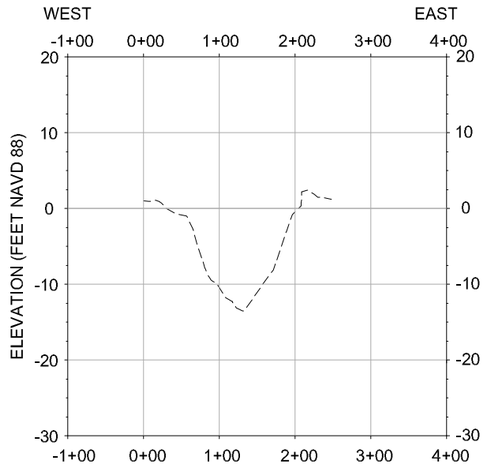


12E PROFILE
LOOKING NORTH



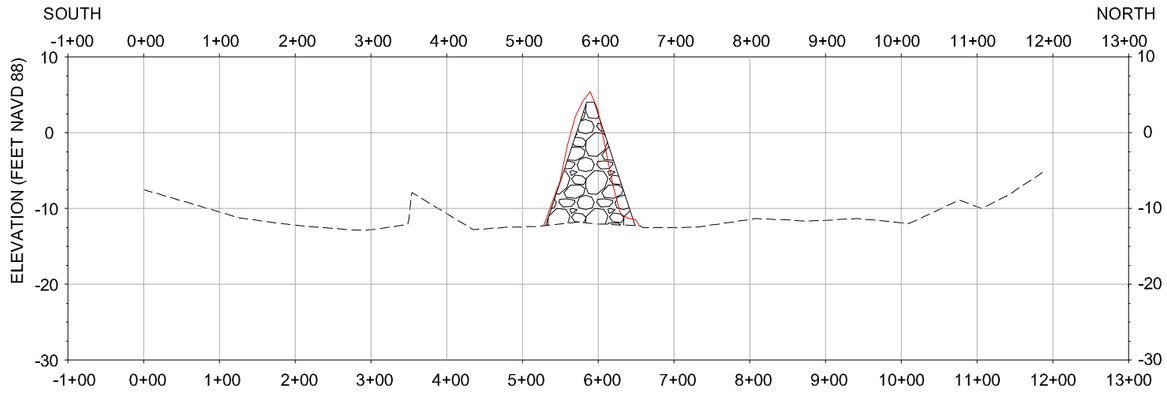


12F PROFILE
LOOKING NORTH



12G PROFILE
LOOKING NORTH

12H PROFILE
LOOKING NORTH



12J PROFILE
LOOKING NORTH

AS-BUILT

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

12I PROFILE
LOOKING NORTH

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

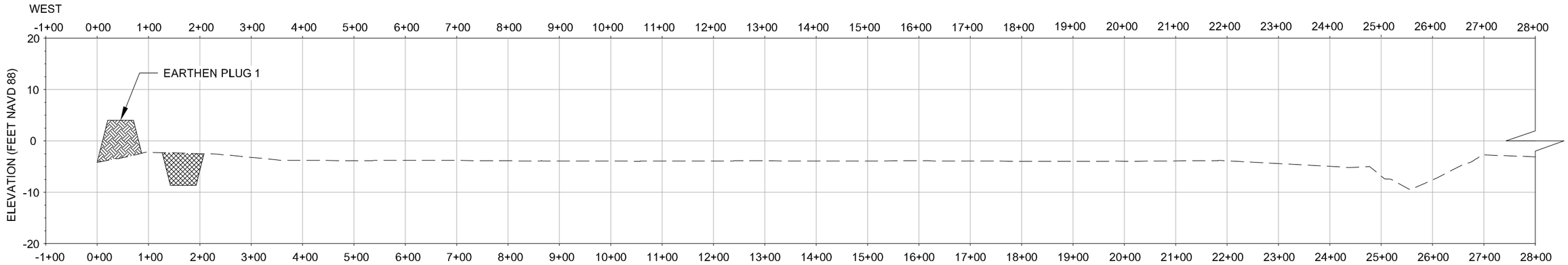
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

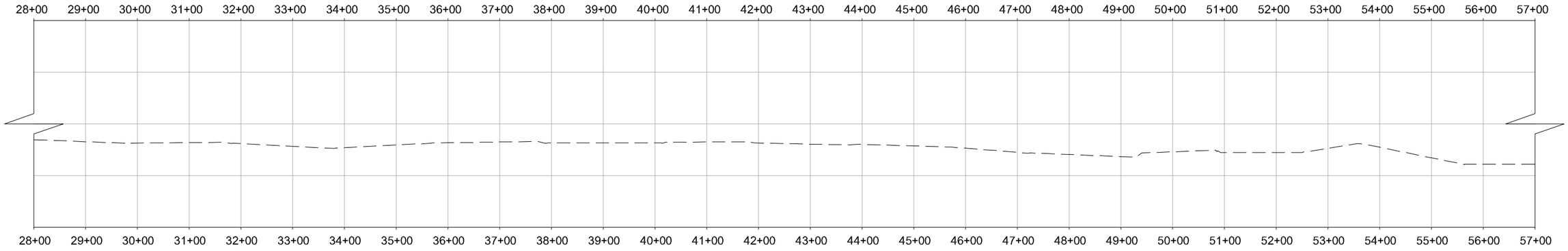
SECTIONS

DATE: JANUARY 2008
SHEET 53 OF 64

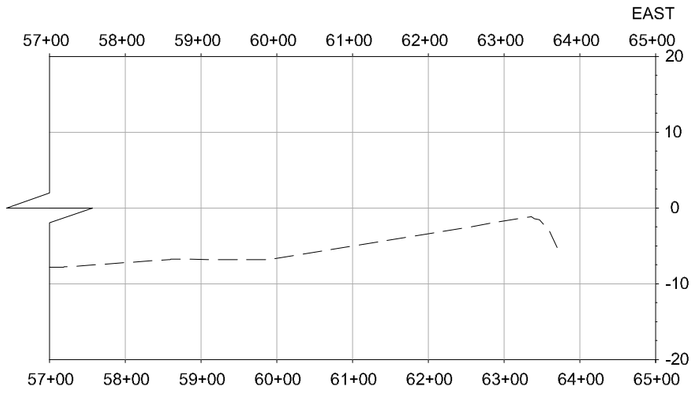


13 PROFILE

LOOKING NORTH

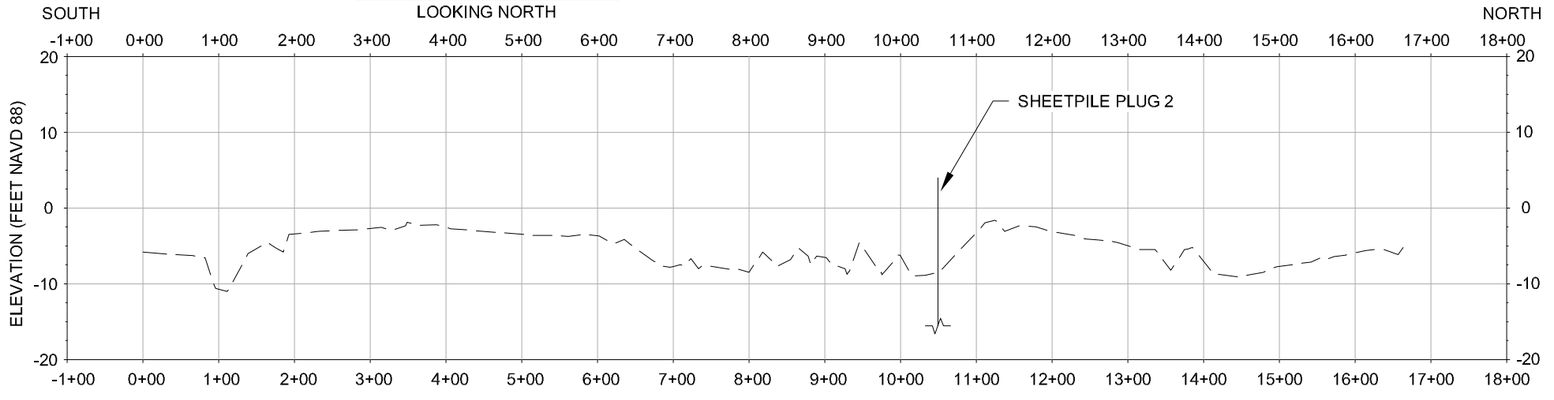


13 PROFILE CONT'D.



13 PROFILE CONT'D.

LOOKING NORTH



14 PROFILE

LOOKING WEST

HORIZONTAL GRAPHIC SCALE

200' 100' 0 200' 400'

20' 10' 0 20' 40'

VERTICAL GRAPHIC SCALE

AS-BUILT

REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED TRANSECT 13 & 14 PROFILES	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST

DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

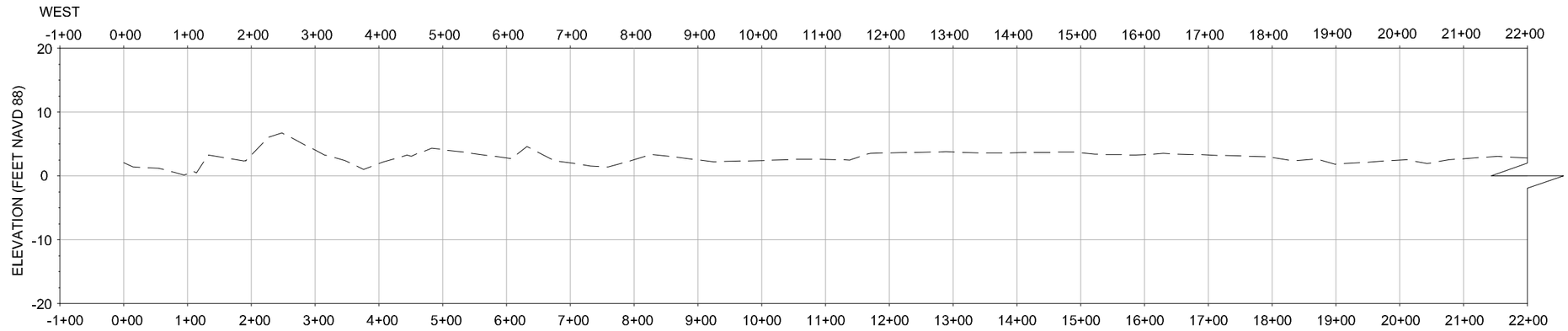
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

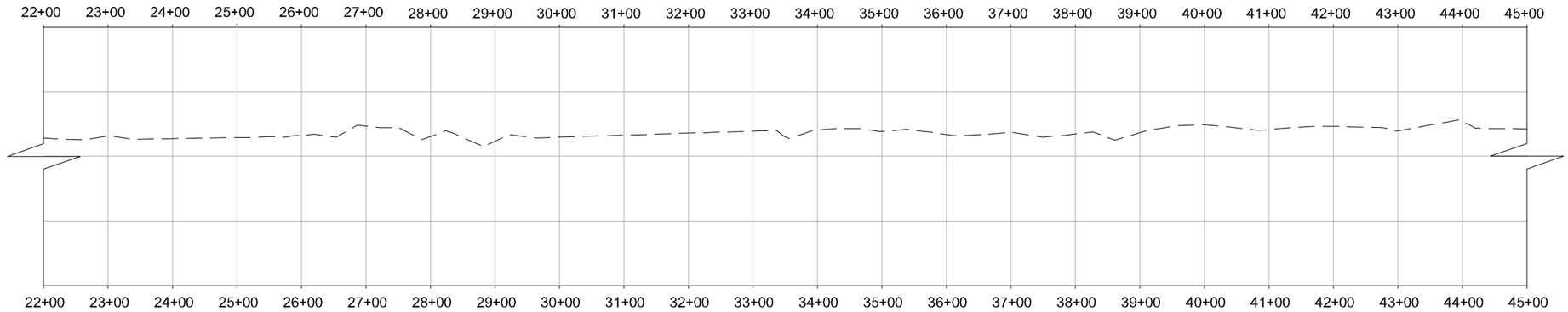
SECTIONS

DATE: JANUARY 2008

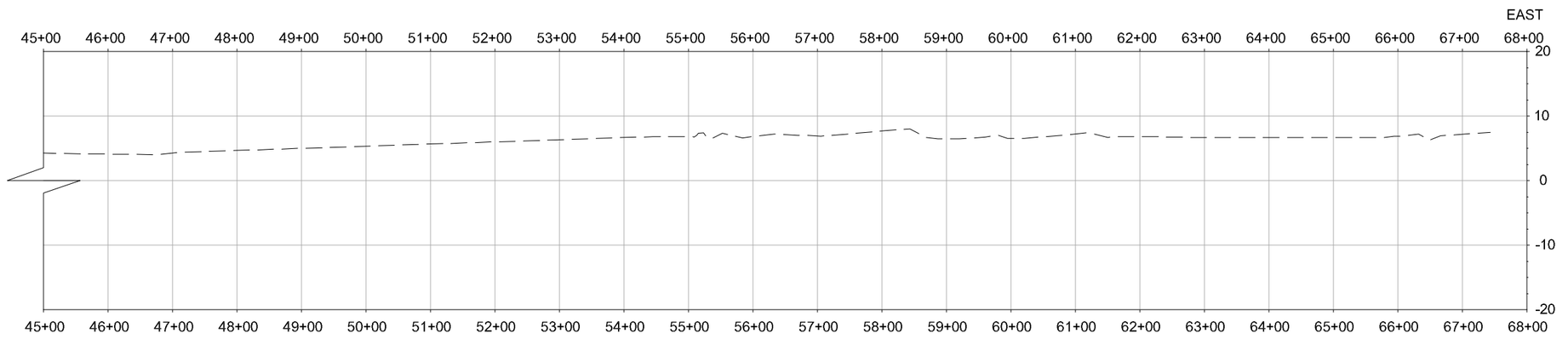
SHEET 54 OF 65



15 PROFILE
LOOKING NORTH



15 PROFILE CONT'D.
LOOKING NORTH



AS-BUILT

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

15 PROFILE CONT'D.
LOOKING NORTH

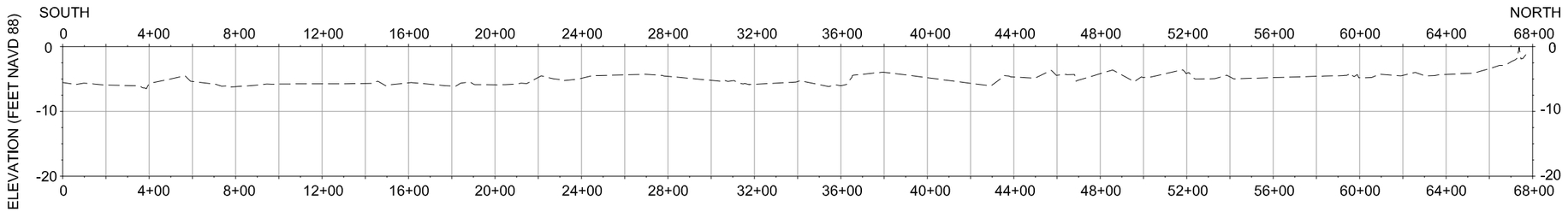
REV.	DATE	DESCRIPTION	BY
1	03/27/2008	REVISED TRANSECT 15 PROFILE	SF
2	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

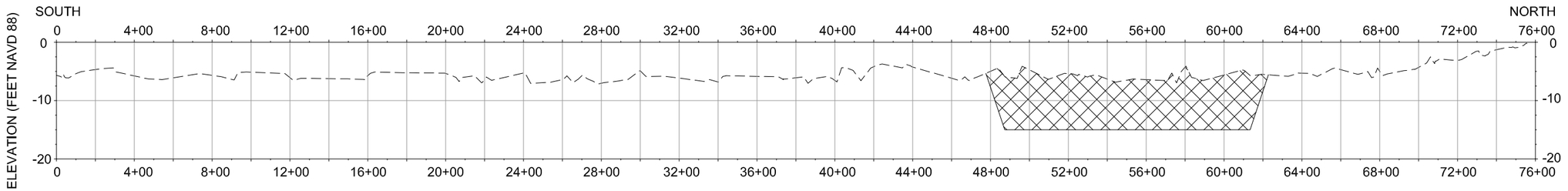
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

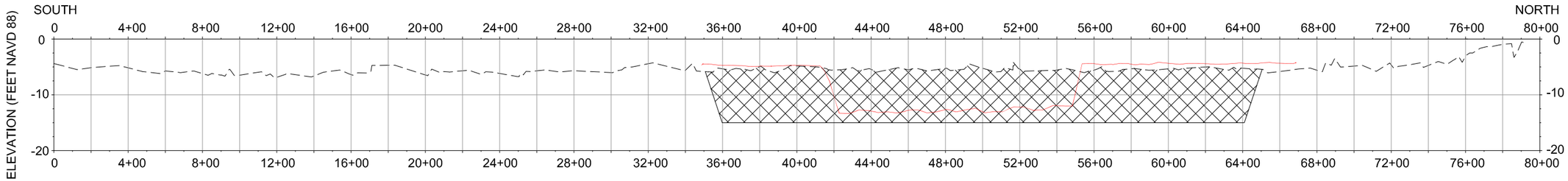
SECTIONS
DATE: JANUARY 2008
SHEET 55 OF 65



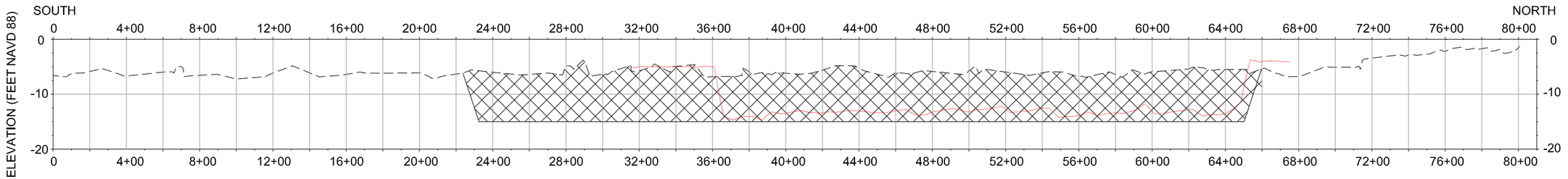
16A PROFILE
LOOKING NORTH



16B PROFILE
LOOKING NORTH



16C PROFILE
LOOKING NORTH



16D PROFILE
LOOKING NORTH

AS-BUILT

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
VERTICAL GRAPHIC SCALE
10' 5' 0 10' 20'

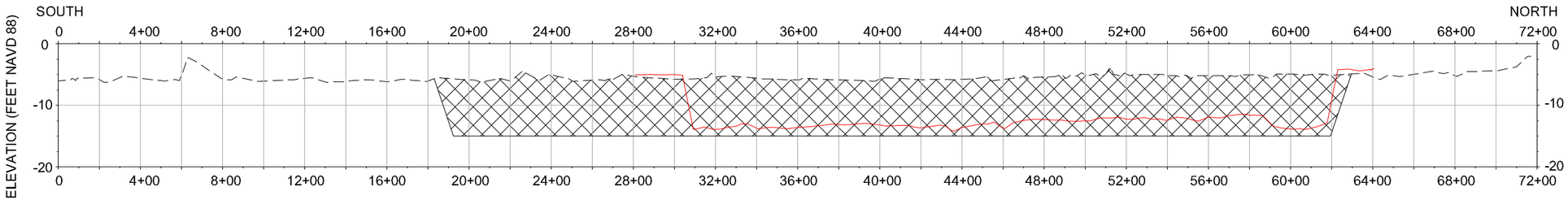
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

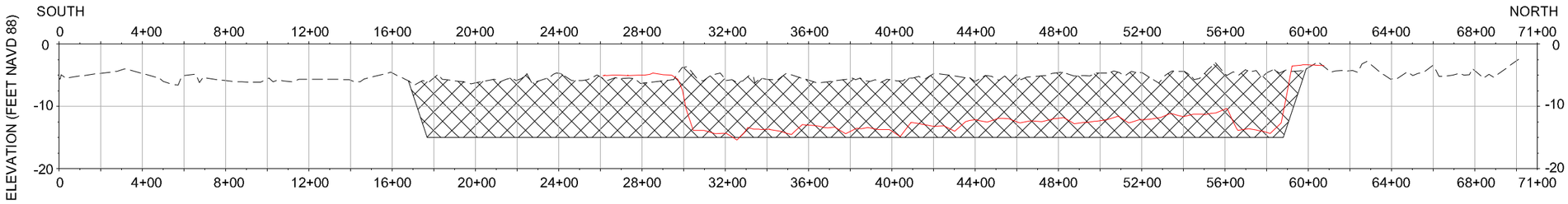
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

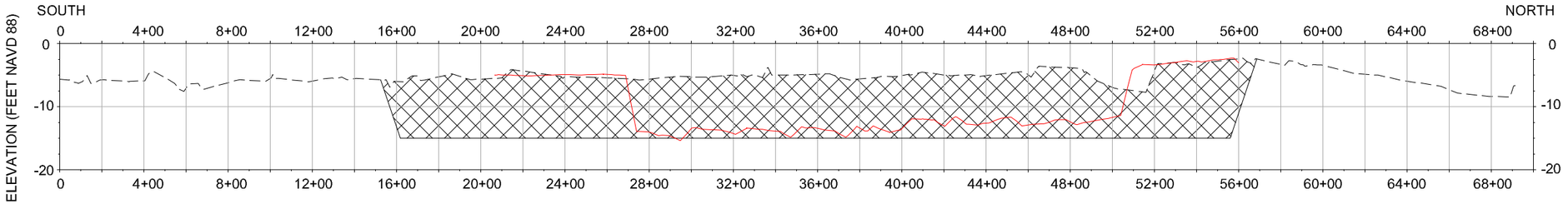
BORROW AND FILL AREA SECTION VIEWS
DATE: JANUARY 2008
SHEET 56 OF 65



16E PROFILE
LOOKING NORTH



16F PROFILE
LOOKING NORTH



16G PROFILE
LOOKING NORTH

AS-BUILT

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

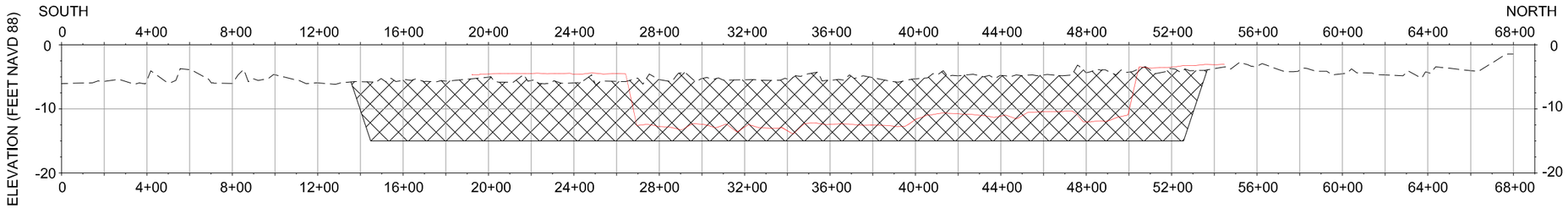
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

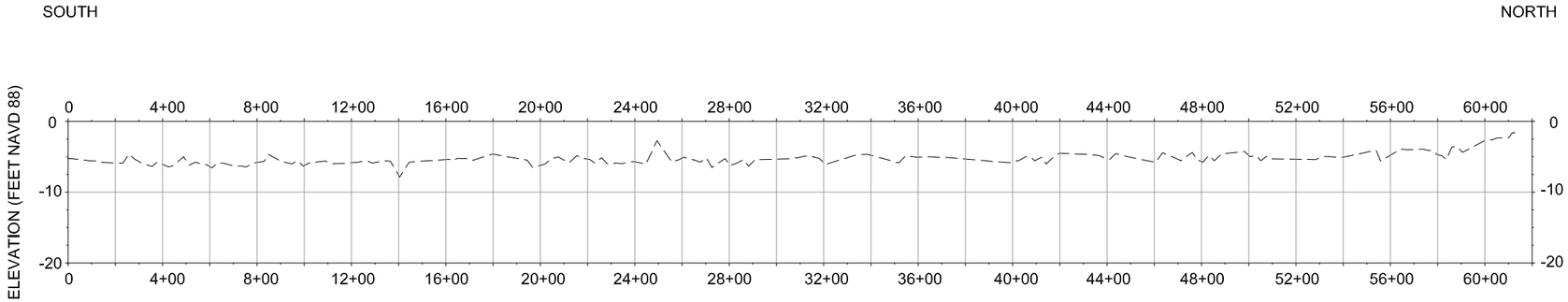
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

BORROW AND FILL AREA SECTION VIEWS

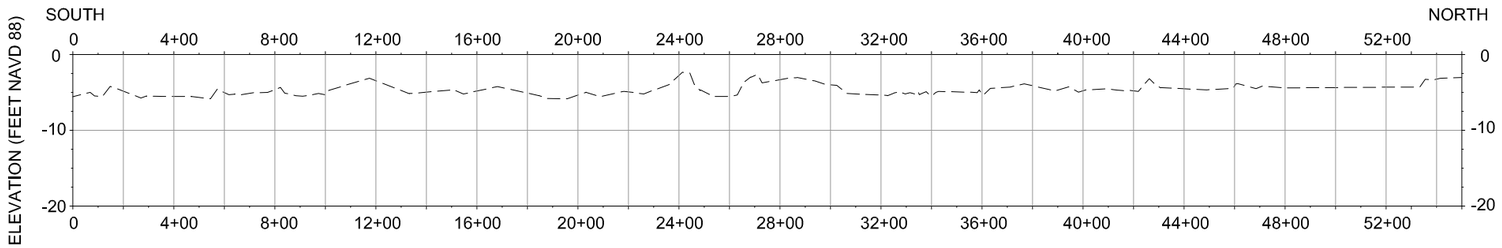
DATE: JANUARY 2008
SHEET 57 OF 65



16H PROFILE
LOOKING NORTH



16I PROFILE
LOOKING NORTH



16J PROFILE
LOOKING NORTH

AS-BUILT

* SEE FENSTERMAKER - BORROW AS-BUILT SECTION SHEETS, AFTER SHEET 65.

HORIZONTAL GRAPHIC SCALE
100' 50' 0 100' 200'
10' 5' 0 10' 20'
VERTICAL GRAPHIC SCALE

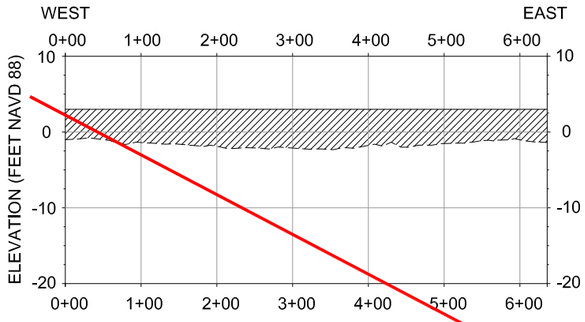
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

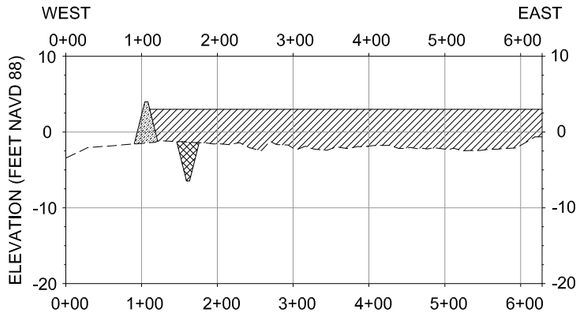
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

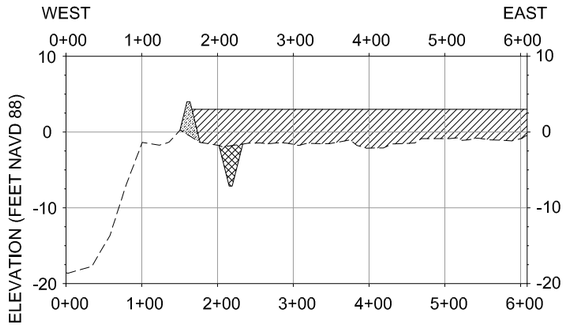
BORROW AND FILL AREA SECTION VIEWS
DATE: JANUARY 2008
SHEET 58 OF 65



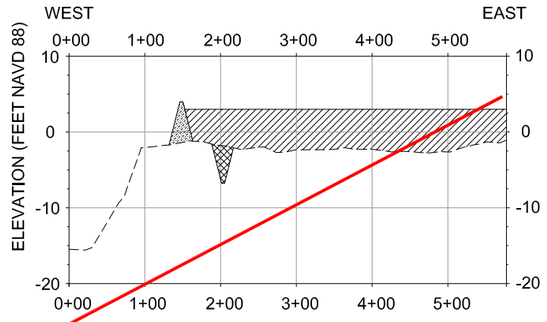
17A PROFILE
LOOKING NORTH



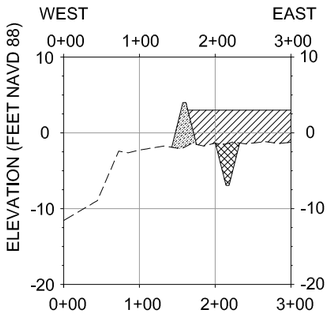
17B PROFILE
LOOKING NORTH



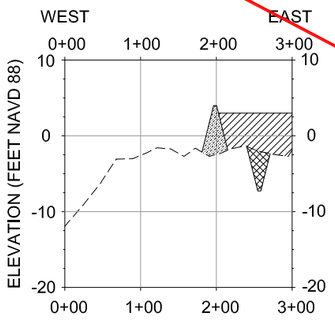
17C PROFILE
LOOKING NORTH



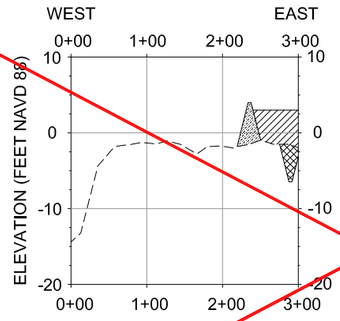
17D PROFILE
LOOKING NORTH



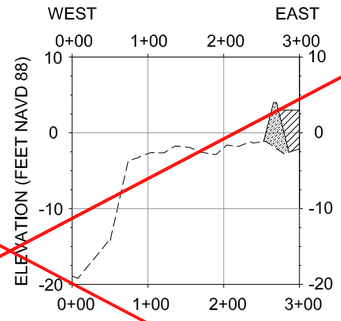
17E PROFILE
LOOKING NORTH



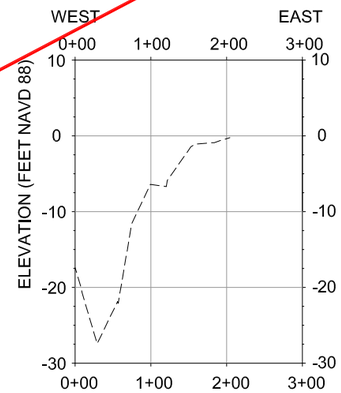
17F PROFILE
LOOKING NORTH



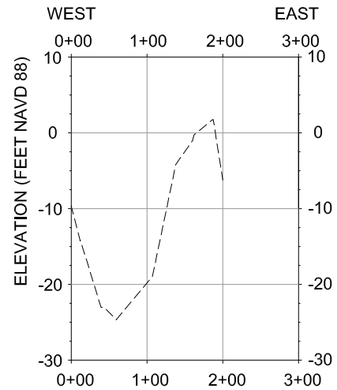
17G PROFILE
LOOKING NORTH



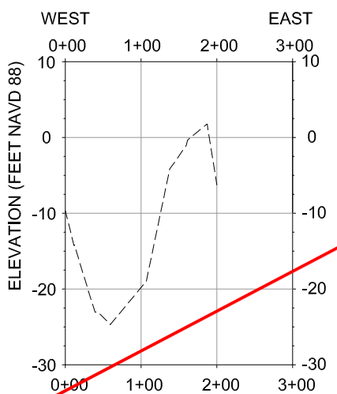
17H PROFILE
LOOKING NORTH



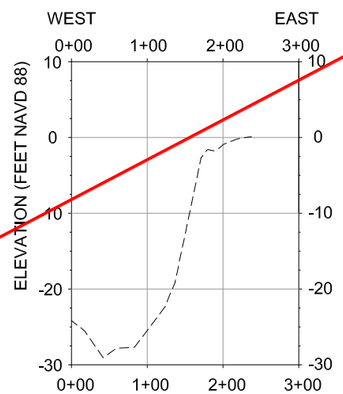
17I PROFILE
LOOKING NORTH



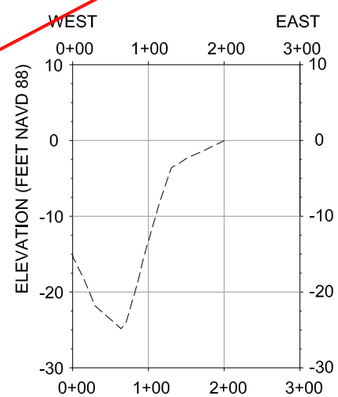
17J PROFILE
LOOKING NORTH



17J PROFILE
LOOKING NORTH



17K PROFILE
LOOKING NORTH



17L PROFILE
LOOKING NORTH

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

AS-BUILT

* SEE FENSTERMAKER - FILL AREA 6 SECTION SHEETS, AFTER SHEET 65.

LEGEND
- FILL AREA
- BORROW AREA
- ARMORED EARTHEN DIKE
- EXISTING GROUND

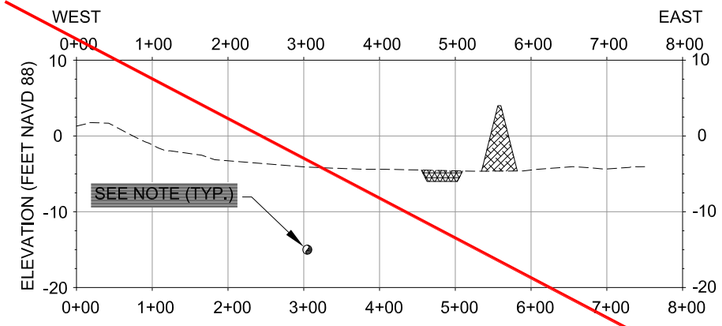
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

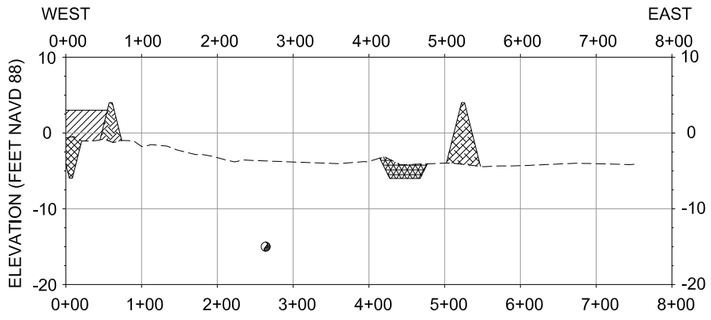
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

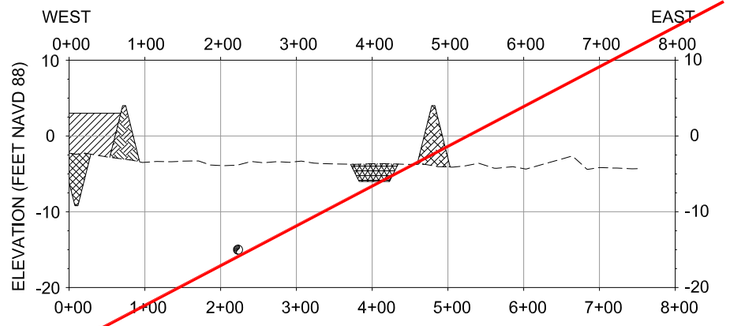
SECTIONS
DATE: OCTOBER 2007
SHEET 59 OF 65



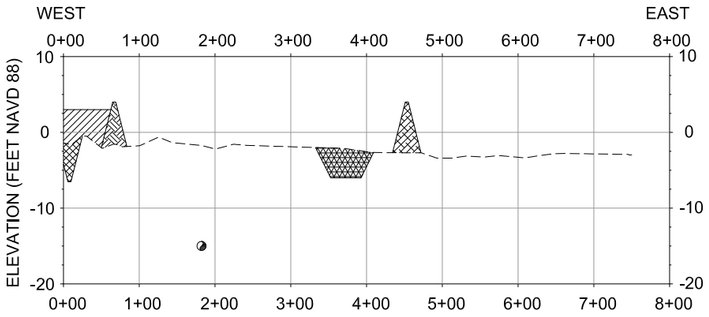
18A PROFILE
LOOKING NORTH



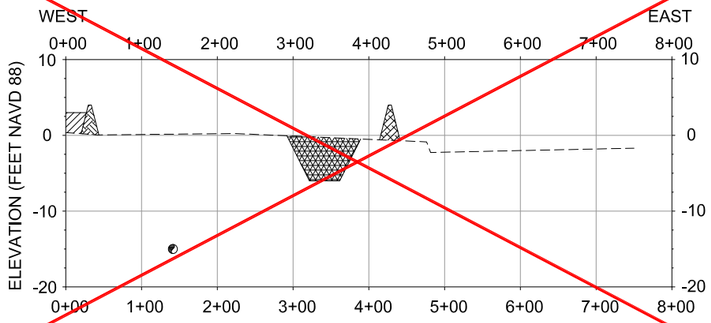
18B PROFILE
LOOKING NORTH



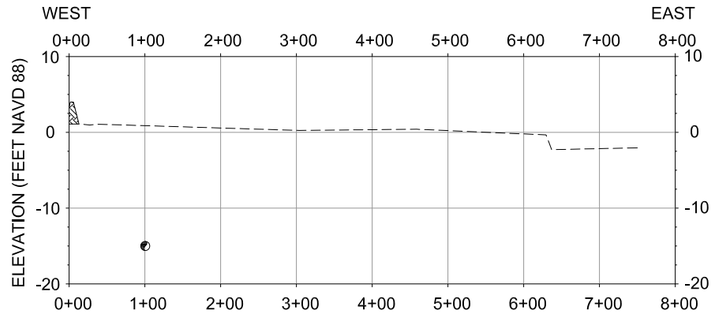
18C PROFILE
LOOKING NORTH



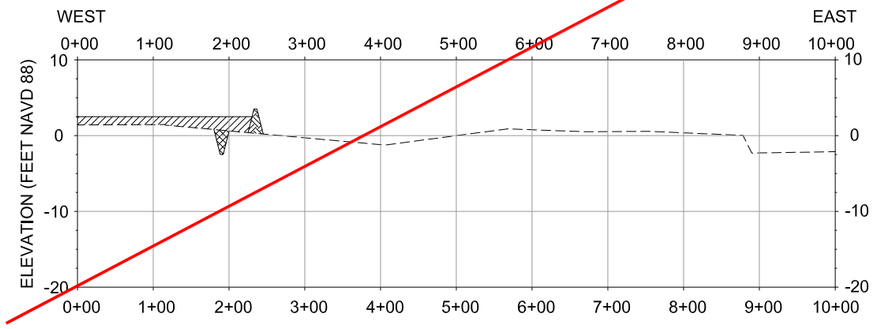
18D PROFILE
LOOKING NORTH



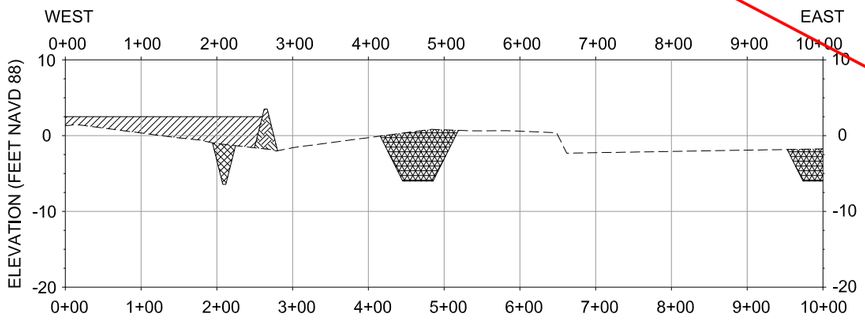
18E PROFILE
LOOKING NORTH



18F PROFILE
LOOKING NORTH



19A PROFILE
LOOKING NORTH



19B PROFILE
LOOKING NORTH

AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.

LEGEND

- FILL AREA
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING GROUND
- PIPELINE

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

NOTE:
PIPELINE LOCATION AND DEPTH WILL BE DETERMINED AND MARKED BY TENNESSEE GAS. NO DREDGING WILL BE ALLOWED WITH 50' OF PIPELINE.

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

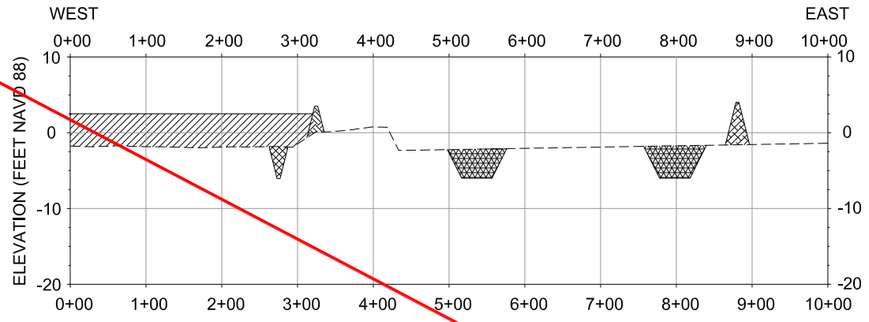
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

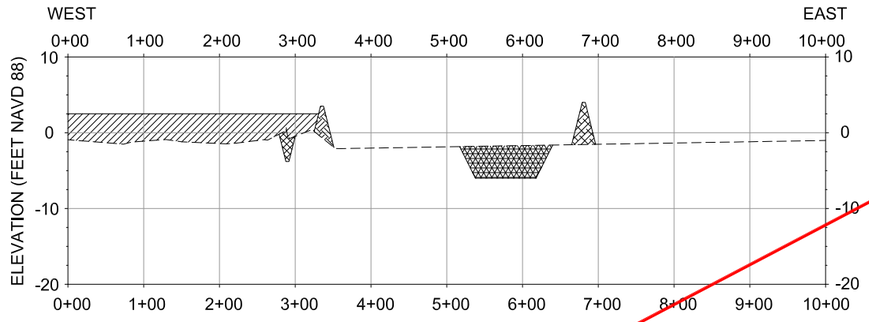
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

SECTIONS

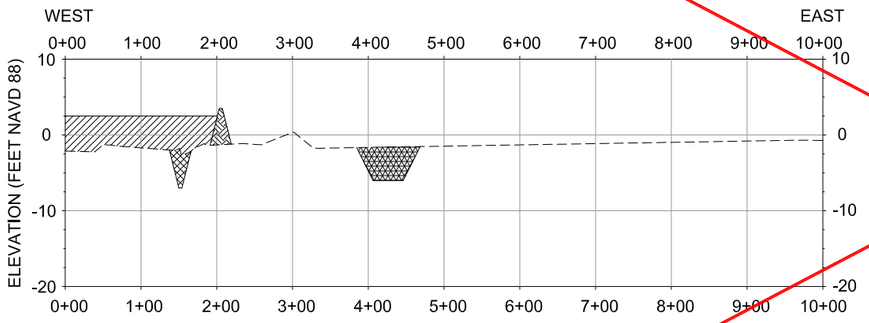
DATE: JANUARY 2008
SHEET 60 OF 65



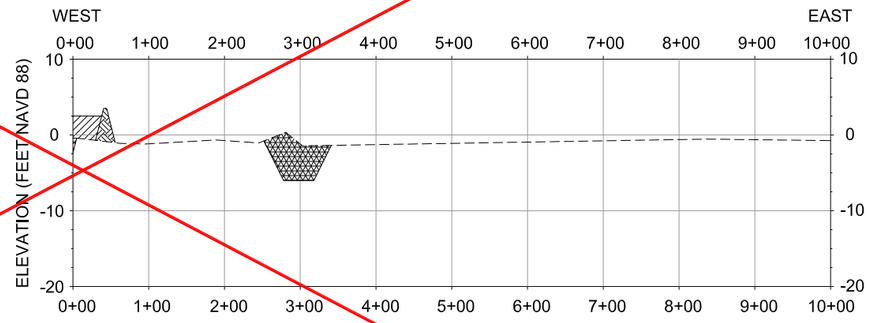
19C PROFILE
LOOKING NORTH



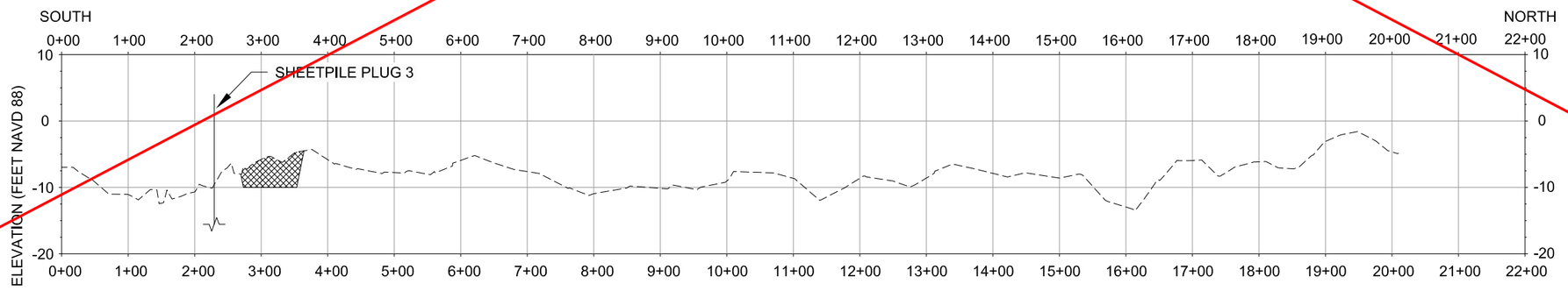
19D PROFILE
LOOKING NORTH



19E PROFILE
LOOKING NORTH



19F PROFILE
LOOKING NORTH



20A PROFILE
LOOKING NORTH

AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.

LEGEND

- FILL AREA
- BORROW AREA
- EARTHEN CONTAINMENT DIKE
- TEMPORARY SPOIL
- FLOATATION CHANNEL
- EXISTING GROUND

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

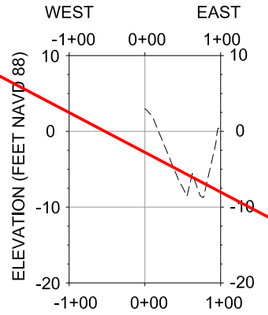
REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

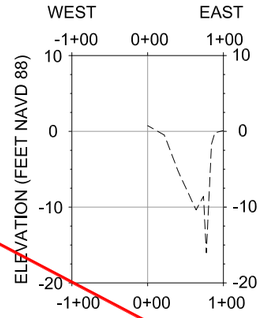
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

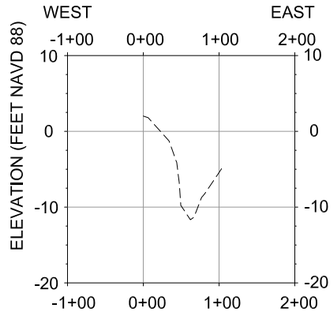
SECTIONS
DATE: JANUARY 2008
SHEET 61 OF 65



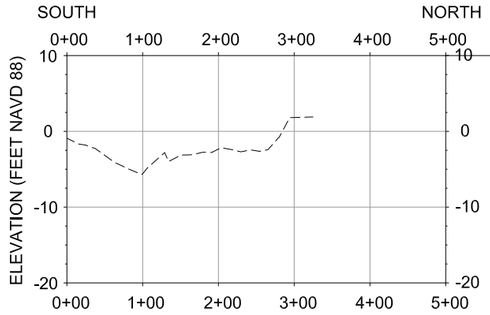
20B PROFILE
LOOKING NORTH



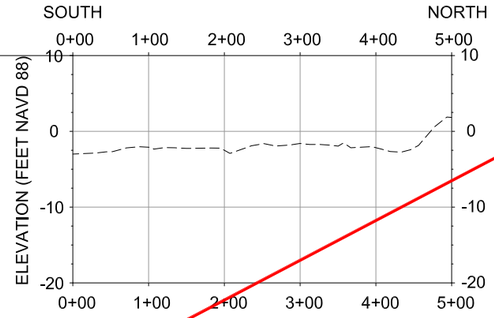
20C PROFILE
LOOKING NORTH



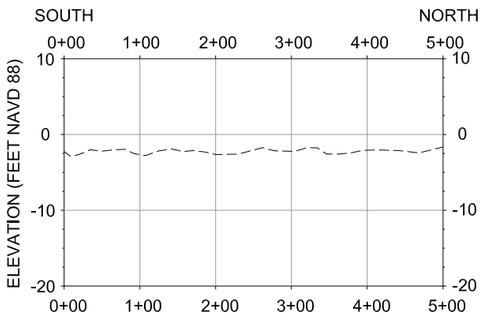
20D PROFILE
LOOKING NORTH



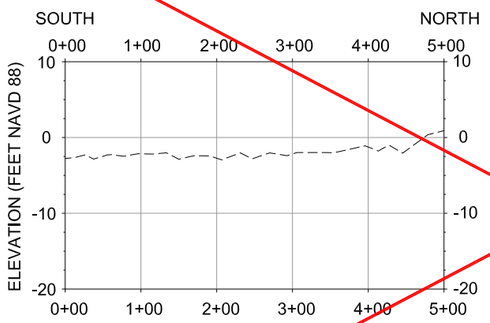
21A PROFILE
LOOKING WEST



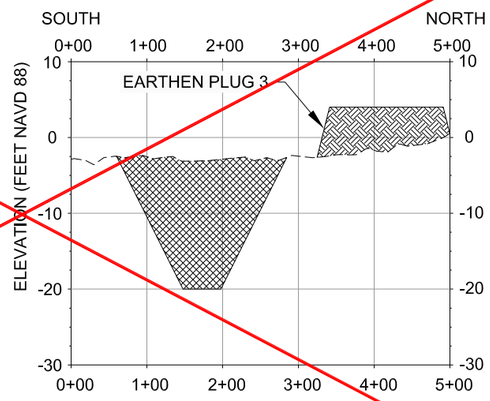
21B PROFILE
LOOKING WEST



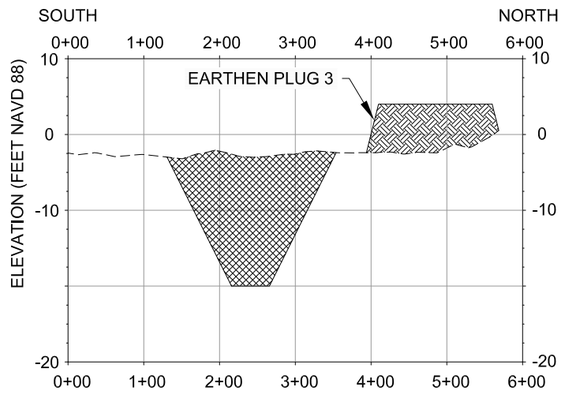
21C PROFILE
LOOKING WEST



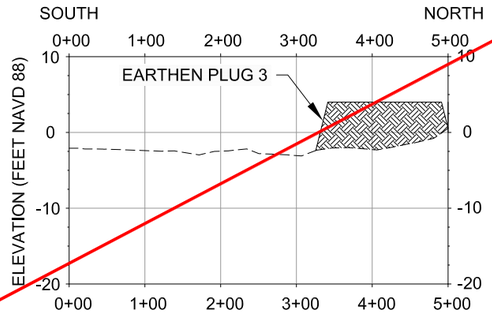
21D PROFILE
LOOKING WEST



21E PROFILE
LOOKING WEST



21F PROFILE
LOOKING WEST



21G PROFILE
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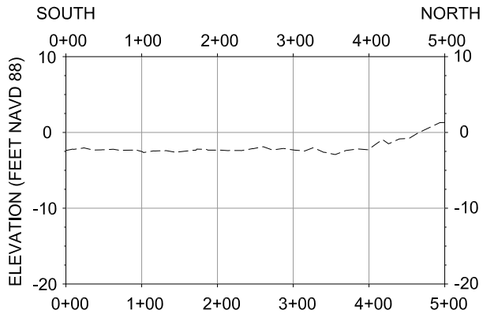
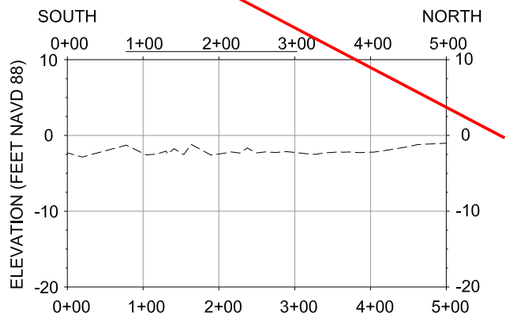


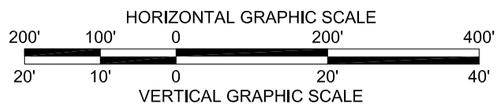
21H PROFILE
LOOKING WEST



21I PROFILE
LOOKING WEST

AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.



REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST | DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44

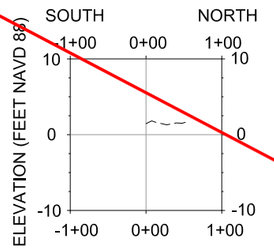
FEDERAL PROJECT NUMBER: N/A

APPROVED BY: LUKE LE BAS, P.E.

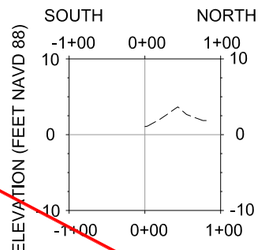
SECTIONS

DATE: JANUARY 2008

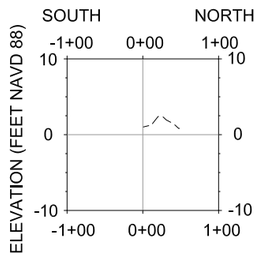
SHEET 62 OF 65



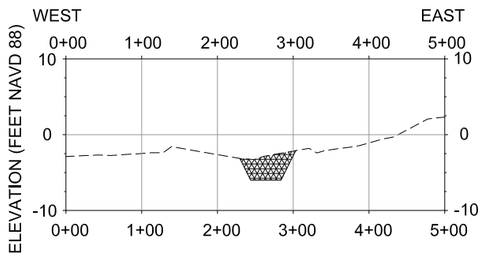
21J PROFILE
LOOKING WEST



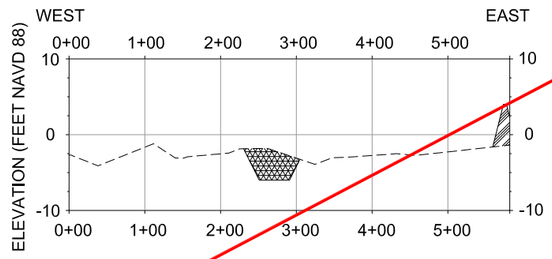
21K PROFILE
LOOKING WEST



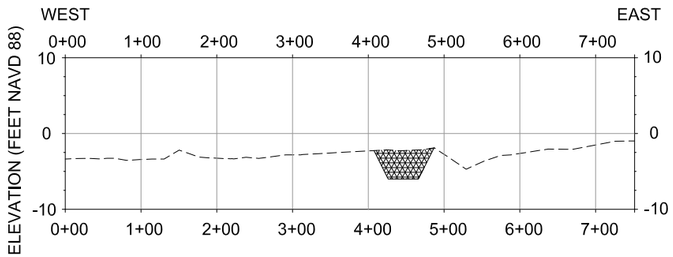
21L PROFILE
LOOKING WEST



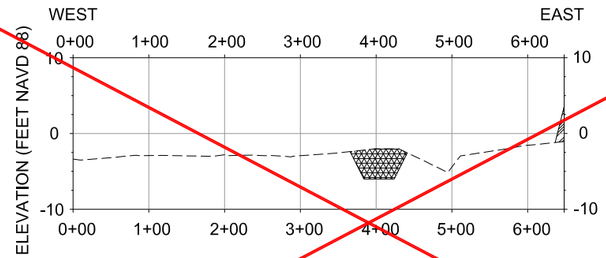
22A PROFILE
LOOKING NORTH



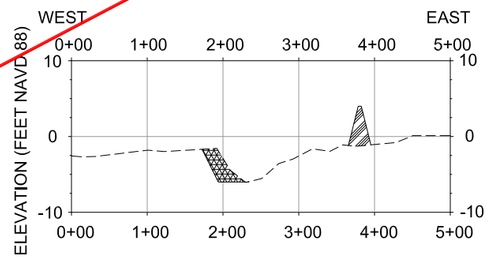
22B PROFILE
LOOKING NORTH



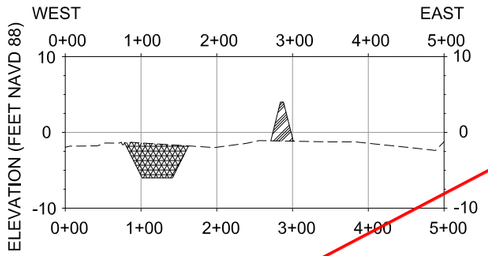
22C PROFILE
LOOKING NORTH



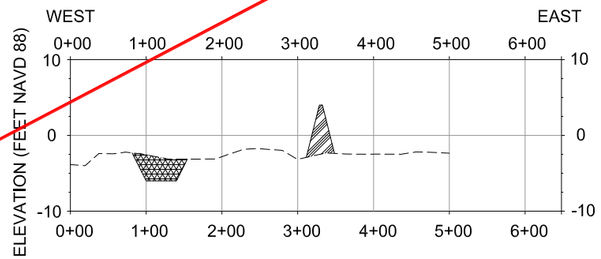
22D PROFILE
LOOKING NORTH



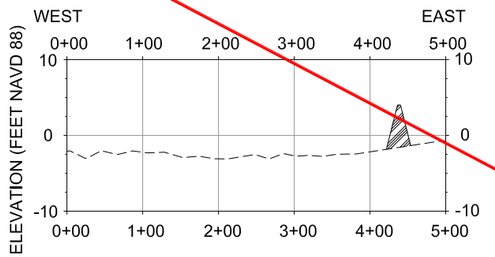
22E PROFILE
LOOKING NORTH



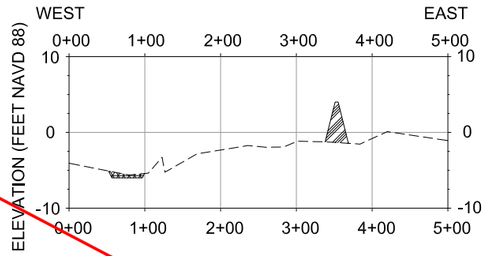
22F PROFILE
LOOKING NORTH



22G PROFILE
LOOKING NORTH



22H PROFILE
LOOKING NORTH



22I PROFILE
LOOKING NORTH

AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.

LEGEND

- PERMANENT SPOIL
- FLOATATION CHANNEL
- EXISTING GROUND

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

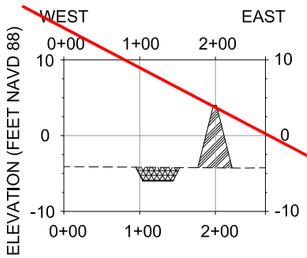
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

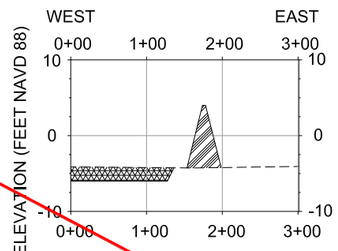
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS

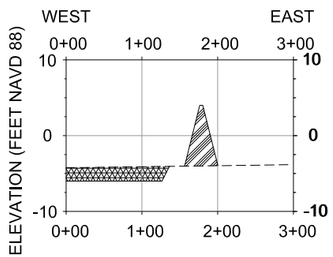
DATE: JANUARY 2008
SHEET 63 OF 65



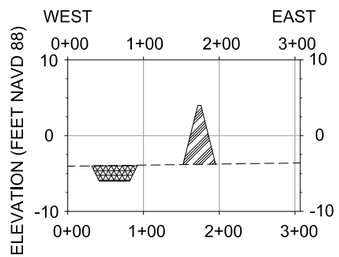
25A PROFILE
LOOKING NORTH



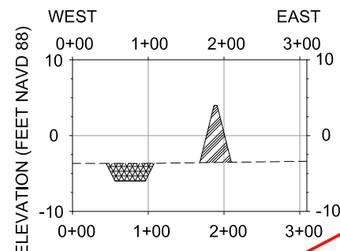
25B PROFILE
LOOKING NORTH



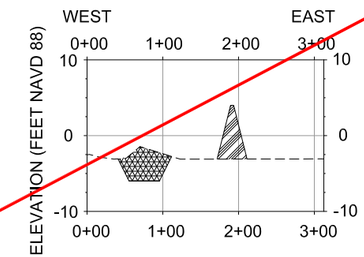
25C PROFILE
LOOKING NORTH



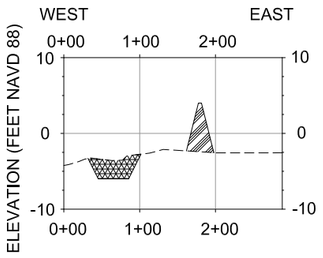
25D PROFILE
LOOKING NORTH



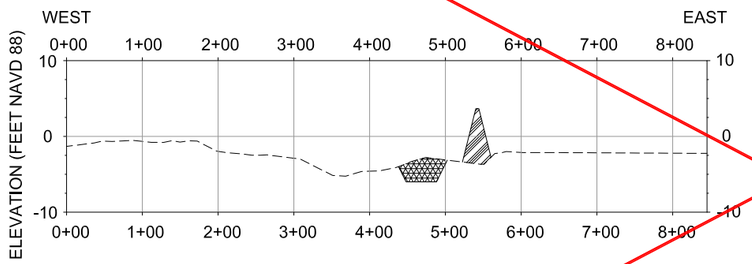
25E PROFILE
LOOKING NORTH



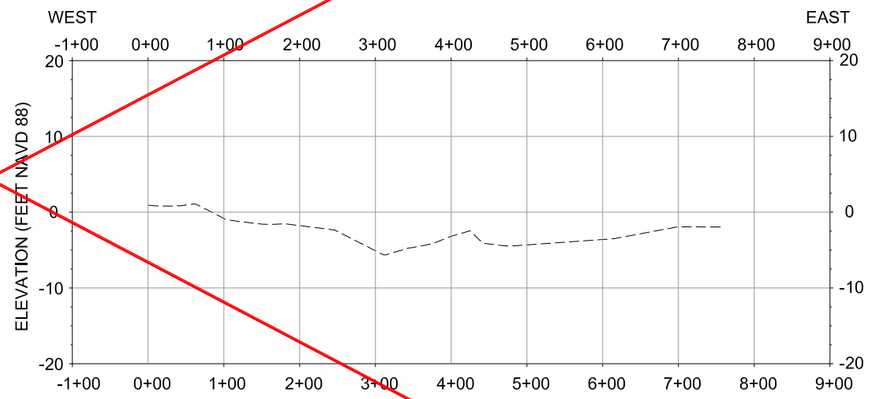
25F PROFILE
LOOKING NORTH



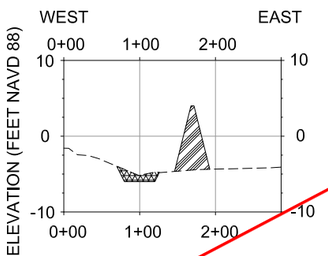
25G PROFILE
LOOKING NORTH



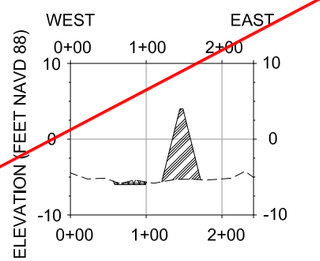
22H PROFILE
LOOKING NORTH



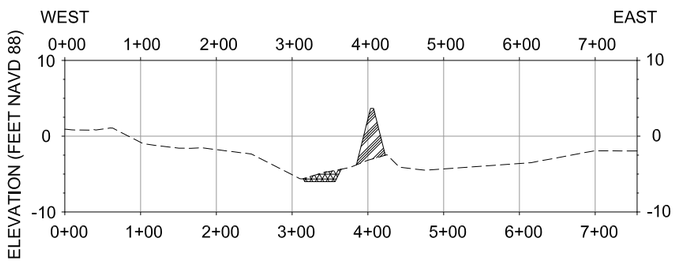
25I PROFILE
LOOKING NORTH



25J PROFILE
LOOKING NORTH



25I PROFILE
LOOKING NORTH



22I PROFILE
LOOKING NORTH

AS-BUILT

* SEE FENSTERMAKER - ACCESS AS-BUILT SECTION SHEETS, AFTER SHEET 65.

LEGEND

- PERMANENT SPOIL
- FLOATATION CHANNEL
- EXISTING GROUND

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

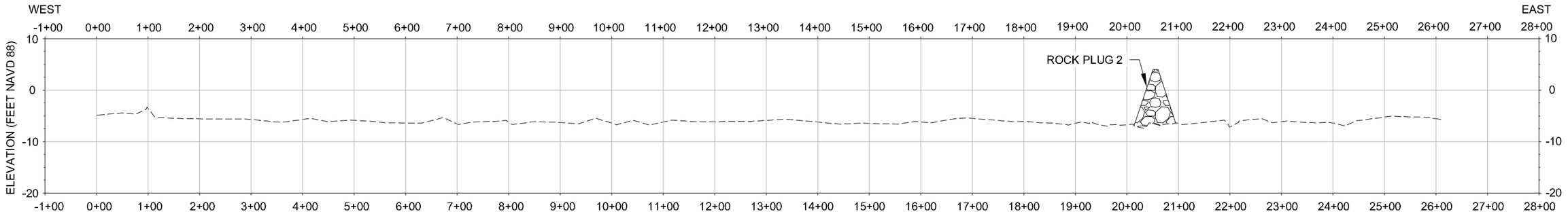
DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.
APPROVED BY: LUKE LE BAS, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

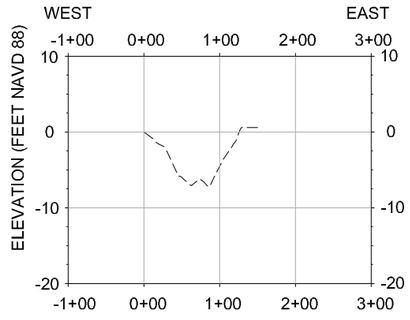
STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A

SECTIONS

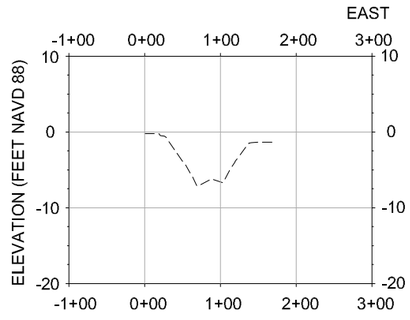
DATE: JANUARY 2008



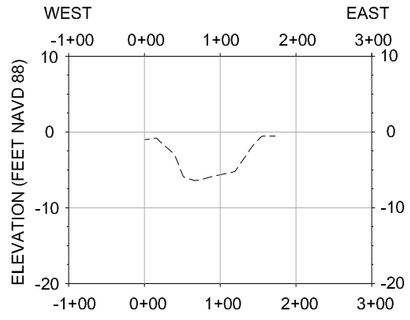
26A PROFILE
LOOKING NORTH



26B PROFILE
LOOKING NORTH

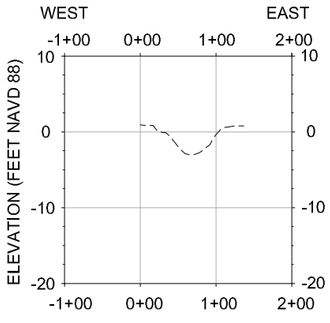


26C PROFILE
LOOKING NORTH

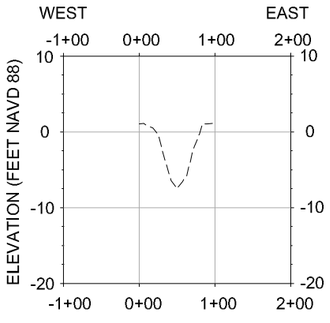


26D PROFILE
LOOKING NORTH

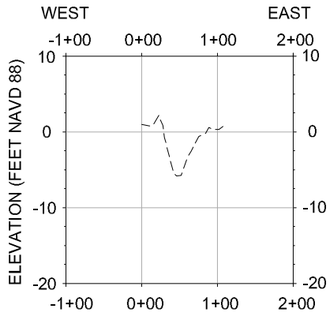
AS-BUILT



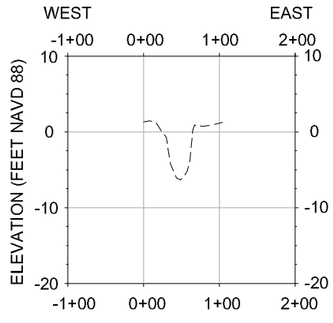
CONTROL SITE #1
LOOKING NORTH



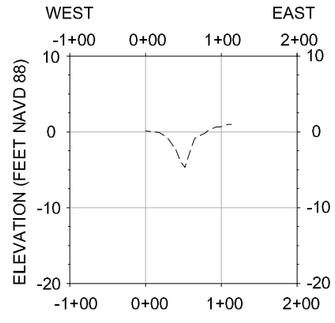
CONTROL SITE #8
LOOKING NORTH



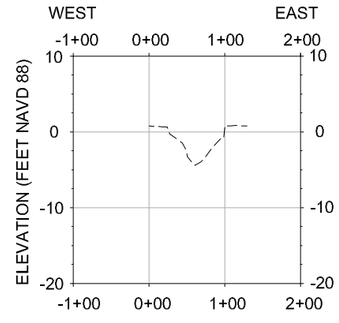
CONTROL SITE #9
LOOKING NORTH



CONTROL SITE #13
LOOKING NORTH



CONTROL SITE #15
LOOKING NORTH



CONTROL SITE #35
LOOKING NORTH

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

REV.	DATE	DESCRIPTION	BY
1	3/26/10	AS-BUILT	MJC

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL ENGINEERING DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

DRAWN BY: SHANE FAUST
DESIGNED BY: JERRY CARROLL, P.E.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

STATE PROJECT NUMBER: TE-44
FEDERAL PROJECT NUMBER: N/A
APPROVED BY: LUKE LE BAS, P.E.

SECTIONS

DATE: JANUARY 2008
SHEET 65 OF 65

GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SEVERAL SURVEYS PERFORMED BY FENSTERMAKER PERSONNEL ON AUGUST 19, 25, AND SEPTEMBER 02, 2009. FINAL SURFACE POINTS WERE ALSO SUPPLIED BY MANSON FOR SEPTEMBER 3 AND 4, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99). ELEVATION CONTOURS ARE US SURVEY FEET, NAVD88 WITH A TWO–FOOT CONTOUR INTERVAL.
3. FINAL EXCAVATED VOLUME WAS CALCULATED TO BE 5,076,776 CUBIC YARDS USING AUTOCAD CIVIL 3D 2010.

NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" = 500'
500 0 250 500

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237–2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

BORROW AREA AS-BUILT

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

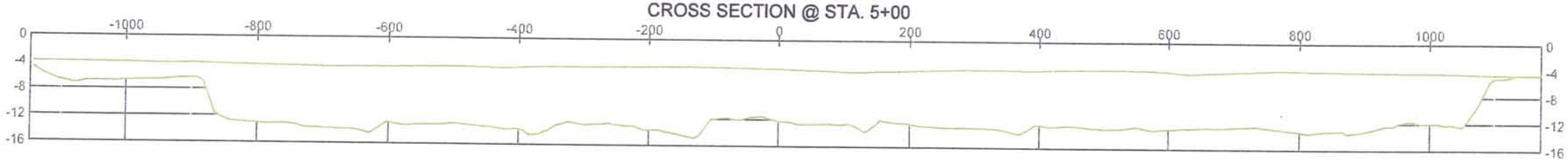
FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 1 OF 3	
DATE: 12/08/09 REVISED:	
FILENAME:	BORROW AREA AS-BUILT

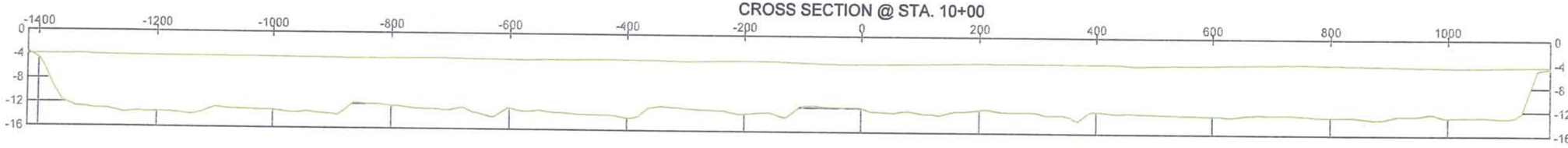
SOUTH

NORTH

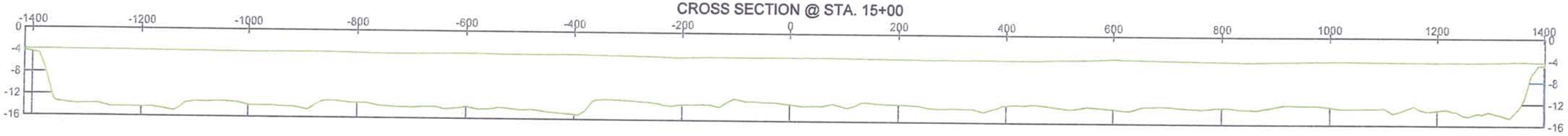
CROSS SECTION @ STA. 5+00



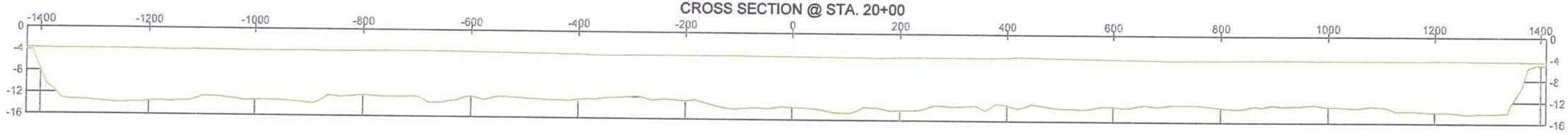
CROSS SECTION @ STA. 10+00



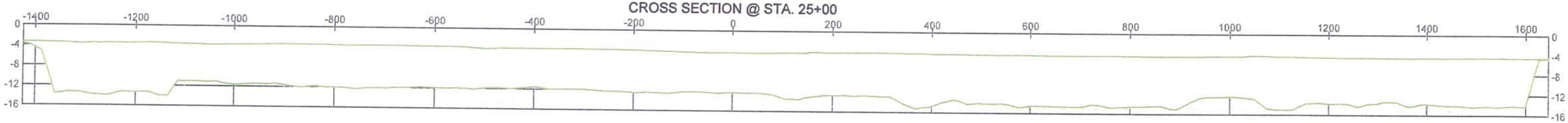
CROSS SECTION @ STA. 15+00



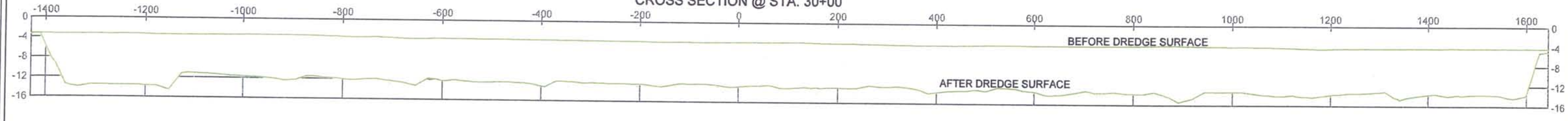
CROSS SECTION @ STA. 20+00



CROSS SECTION @ STA. 25+00



CROSS SECTION @ STA. 30+00



ALL PROFILES LOOKING NORTHWEST

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

BORROW AREA AS-BUILT

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

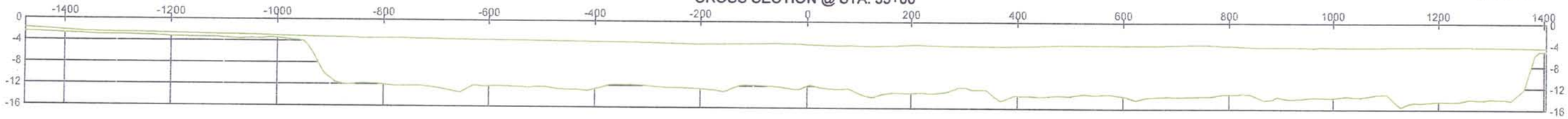
FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 2 OF 3	
DATE: 12/08/09 REVISED:	
FILENAME: BORROW AREA AS-BUILT.DWG	

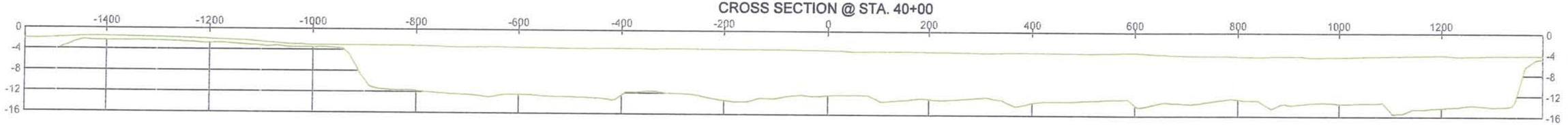
SOUTH

NORTH

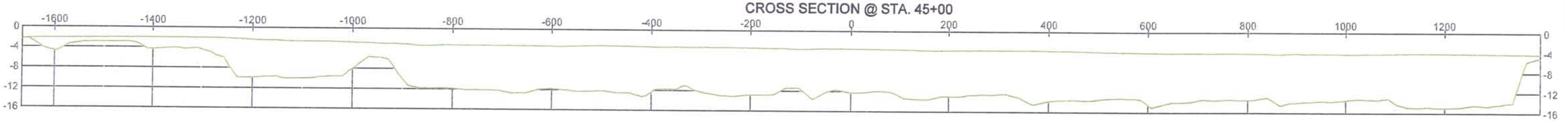
CROSS SECTION @ STA. 35+00



CROSS SECTION @ STA. 40+00

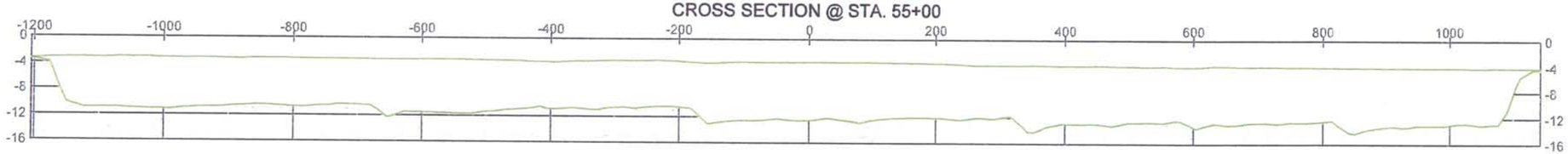


CROSS SECTION @ STA. 45+00

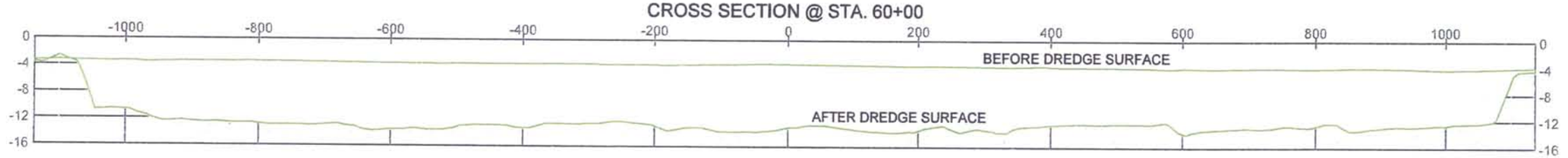


CROSS SECTION @ STA. 50+00

CROSS SECTION @ STA. 55+00



CROSS SECTION @ STA. 60+00



ALL PROFILES LOOKING NORTHWEST

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

BORROW AREA AS-BUILT

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

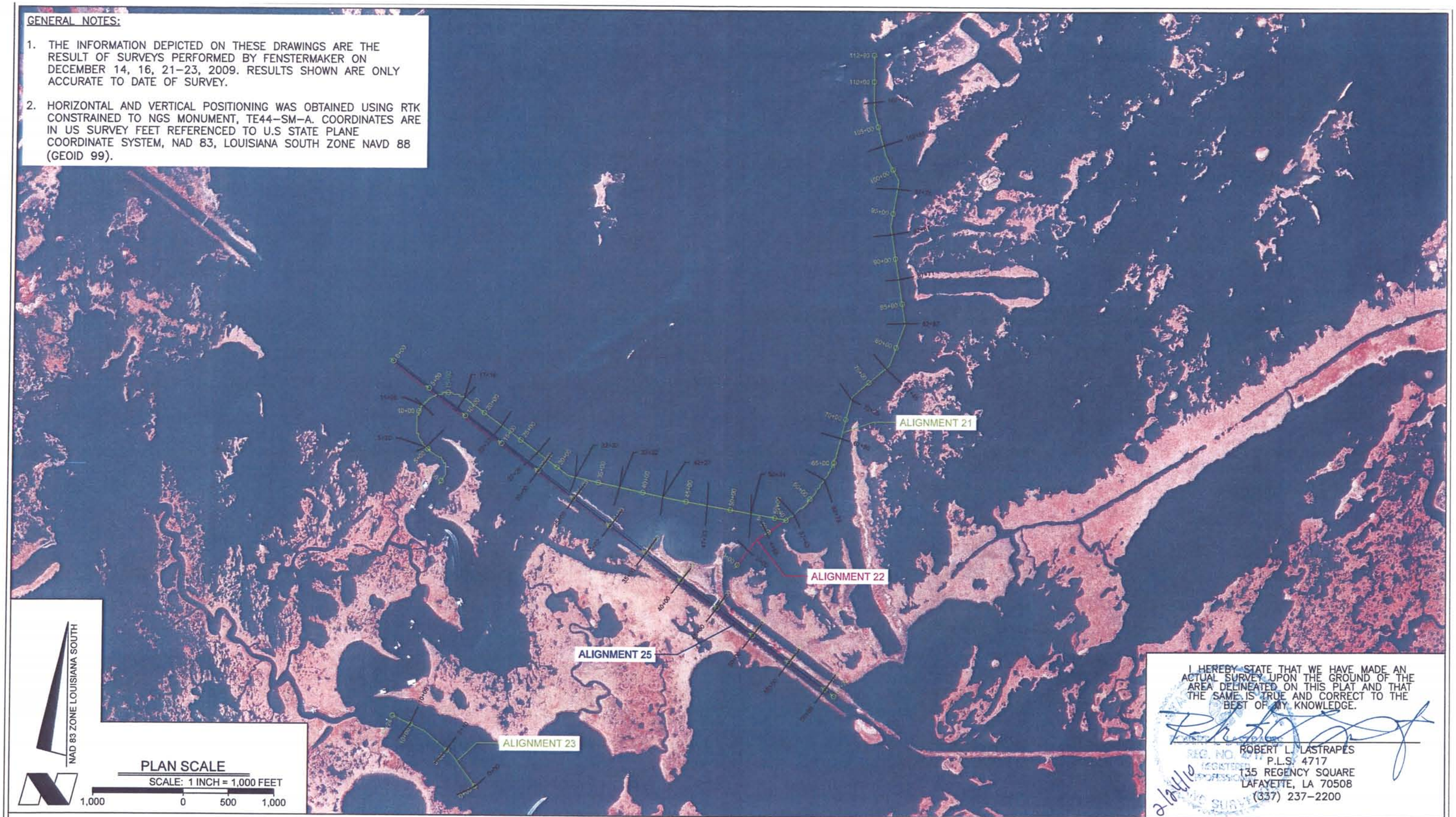
FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 3 OF 3	
DATE: 12/08/09 REVISED:	
FILENAME: BORROW AREA AS-BUILT.DWG	

GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS ARE THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER ON DECEMBER 14, 16, 21–23, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN US SURVEY FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1 INCH = 1,000 FEET
1,000 0 500 1,000

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237–2200

2/24/10

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

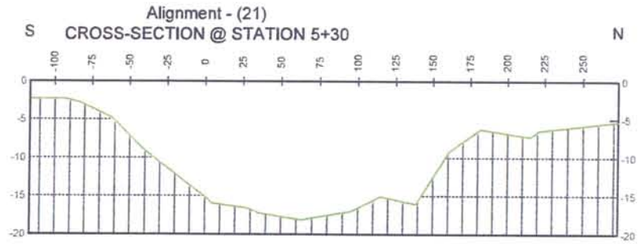
PLAN VIEW WEST

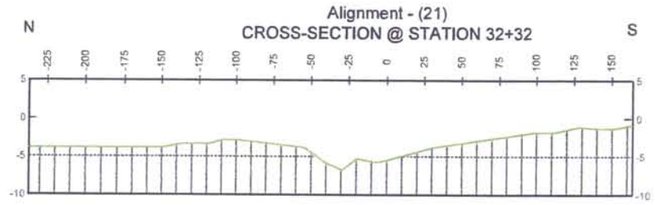
TERREBONNE PARISH, LOUISIANA

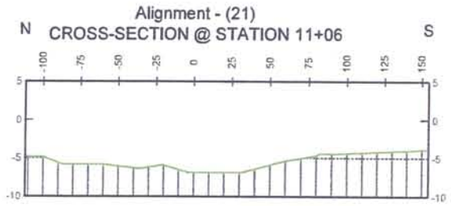
C. H. FENSTERMAKER & ASSOCIATES, INC.

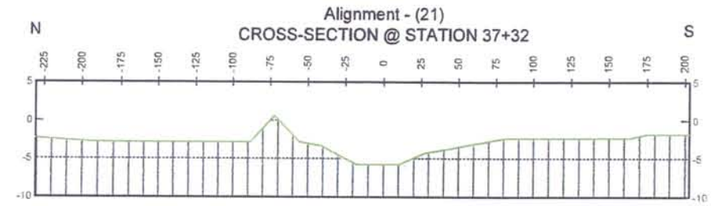
FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

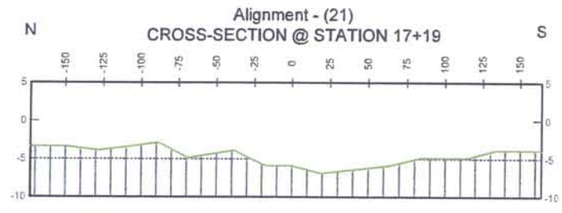
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 1 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME:	ACCESS CHANNELS 022210

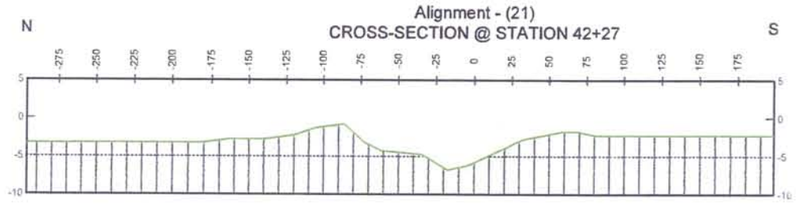


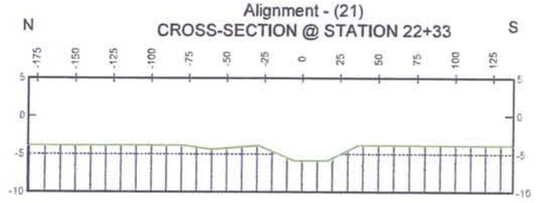


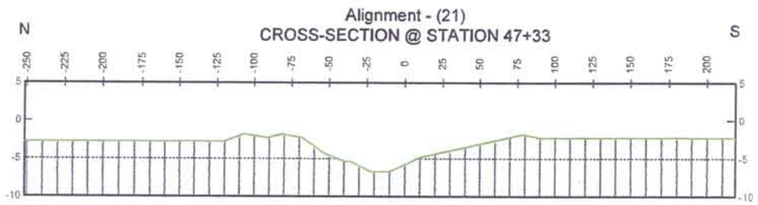


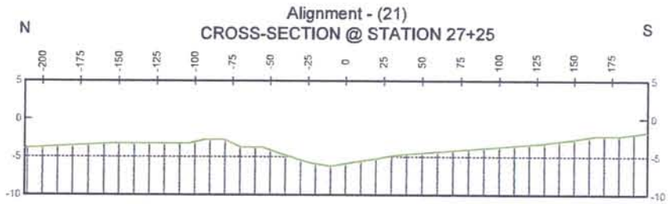


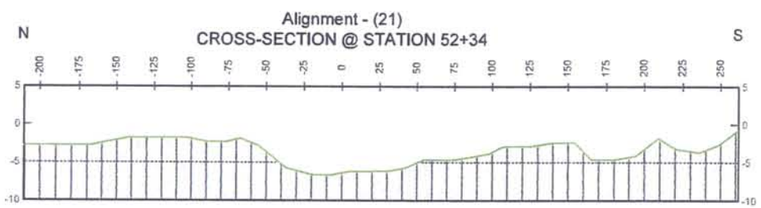












HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER & ASSOCIATES, LLC

Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

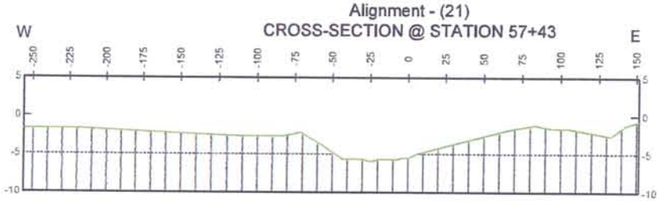
ALIGNMENT 21 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

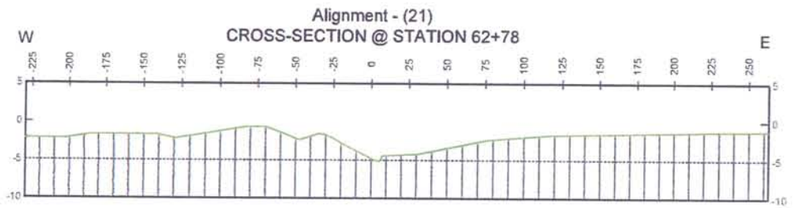
C. H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 2 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

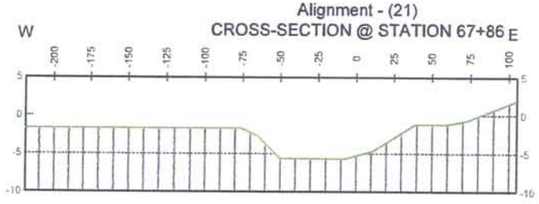
Alignment - (21)
CROSS-SECTION @ STATION 57+43



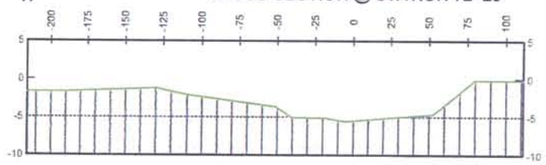
Alignment - (21)
CROSS-SECTION @ STATION 62+78



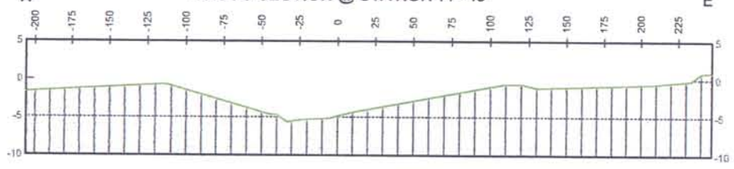
Alignment - (21)
CROSS-SECTION @ STATION 67+86



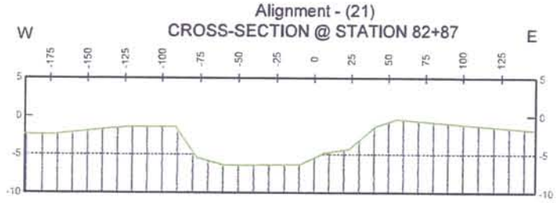
Alignment - (21)
CROSS-SECTION @ STATION 72+29



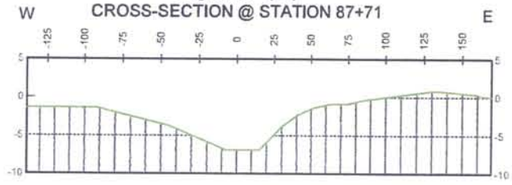
Alignment - (21)
CROSS-SECTION @ STATION 77+45



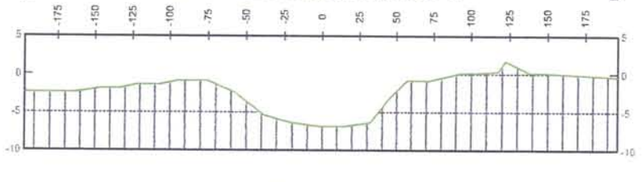
Alignment - (21)
CROSS-SECTION @ STATION 82+87



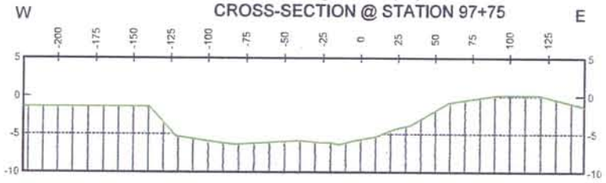
Alignment - (21)
CROSS-SECTION @ STATION 87+71



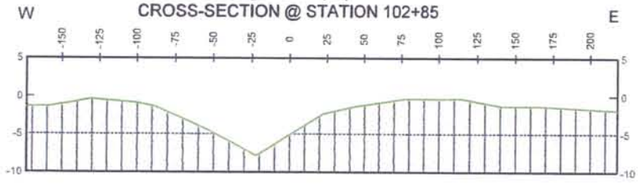
Alignment - (21)
CROSS-SECTION @ STATION 92+67



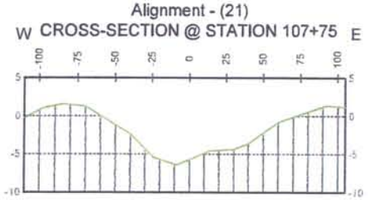
Alignment - (21)
CROSS-SECTION @ STATION 97+75



Alignment - (21)
CROSS-SECTION @ STATION 102+85



Alignment - (21)
CROSS-SECTION @ STATION 107+75



HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

ALIGNMENT 21 CROSS-SECTIONS

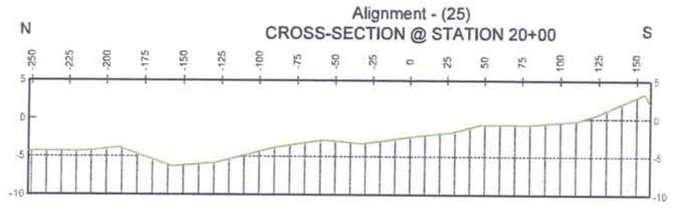
TERREBONNE PARISH, LOUISIANA

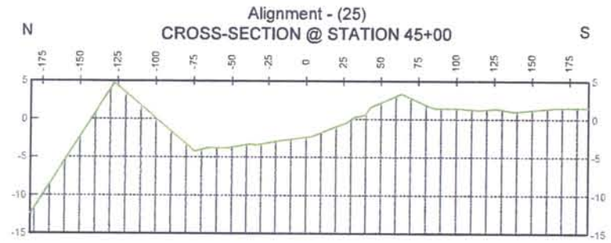
C. H. FENSTERMAKER & ASSOCIATES, INC.

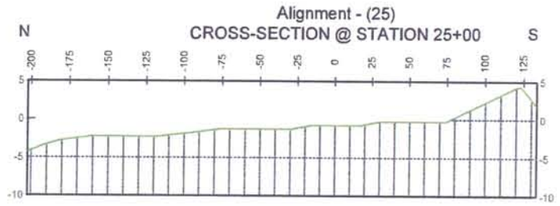
FENSTERMAKER

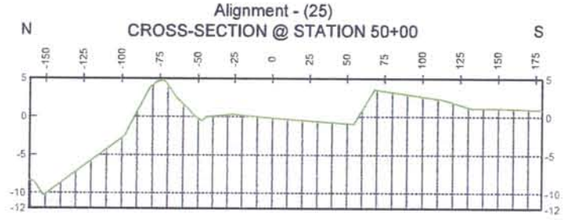
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

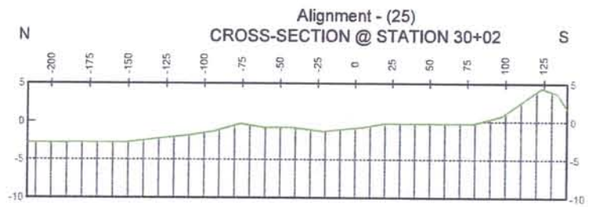
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 3 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

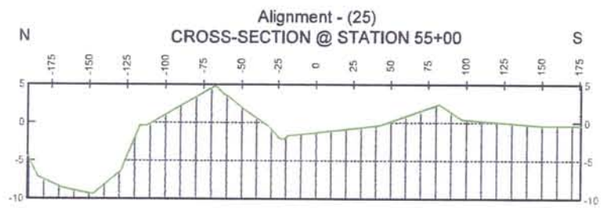


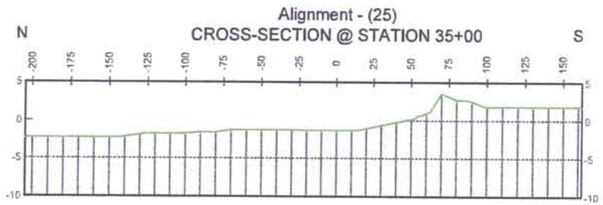


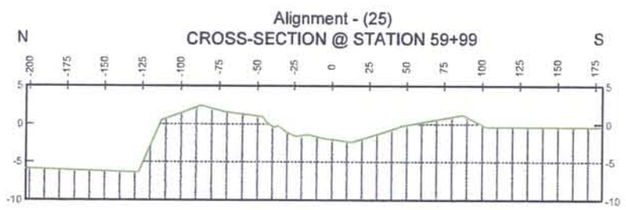


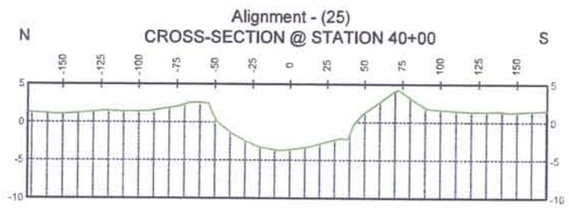












HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

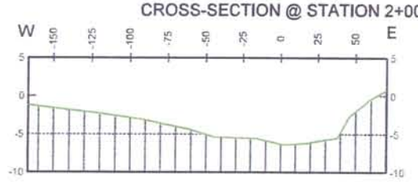
ALIGNMENT 25 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

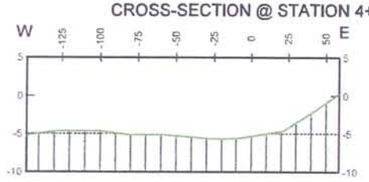
C. H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 4 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

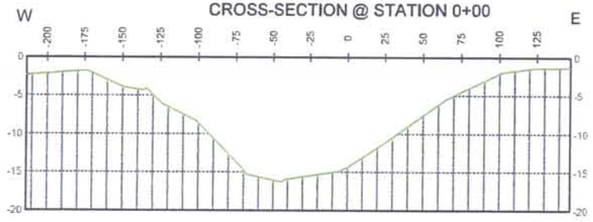
Alignment - (22)
CROSS-SECTION @ STATION 2+00



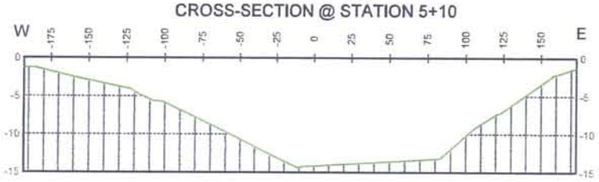
Alignment - (22)
CROSS-SECTION @ STATION 4+85



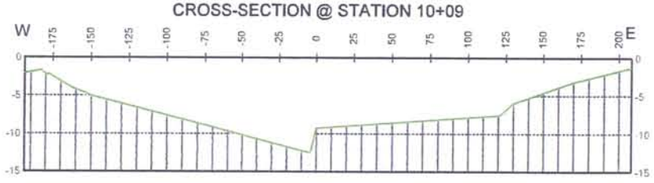
Alignment - (23)
CROSS-SECTION @ STATION 0+00



Alignment - (23)
CROSS-SECTION @ STATION 5+10



Alignment - (23)
CROSS-SECTION @ STATION 10+09



HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

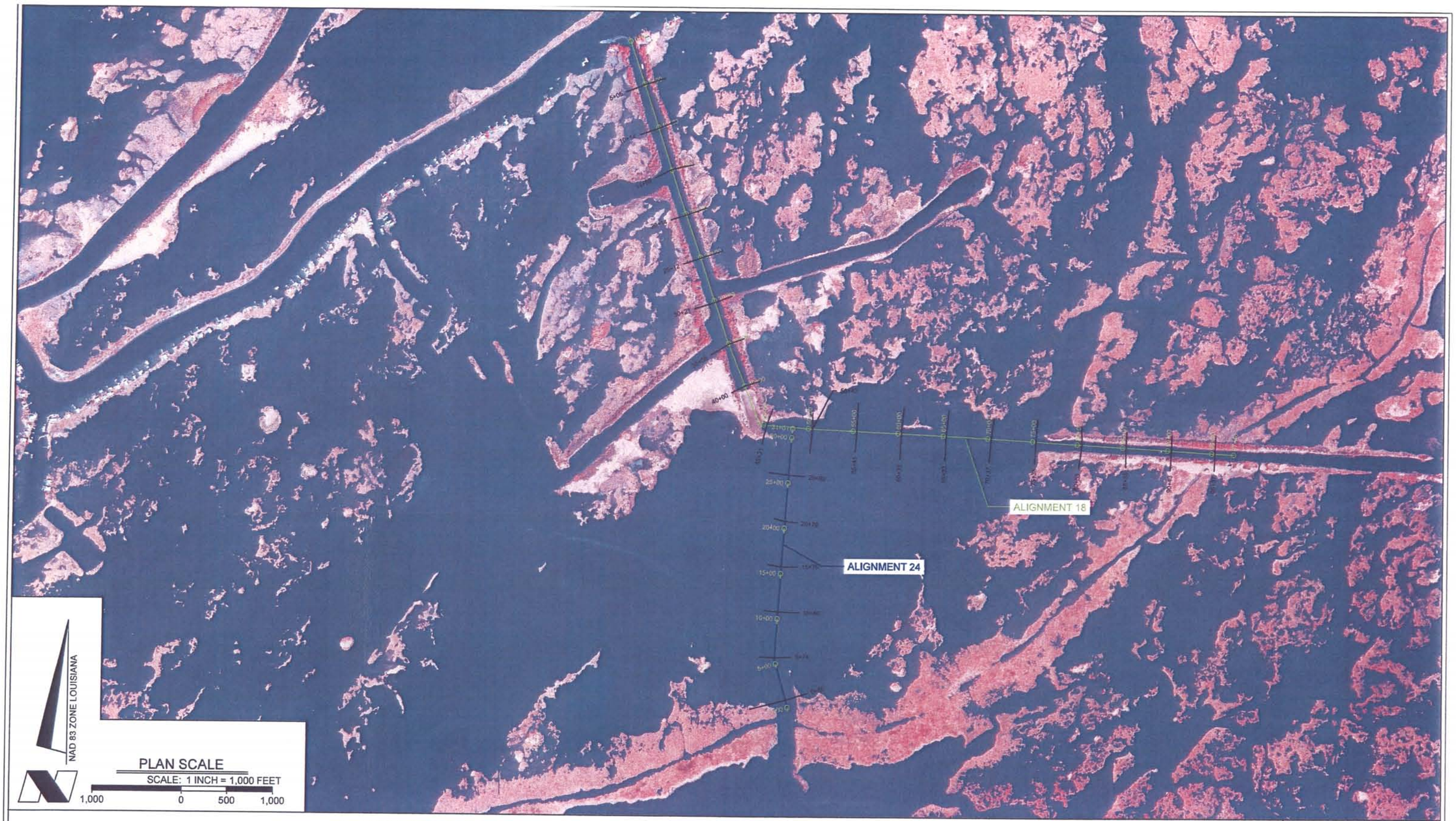
POST-CONSTRUCTION ACCESS CHANNEL SURVEY

ALIGNMENTS 22 & 23 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

C. H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 5 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	



LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

PLAN VIEW EAST

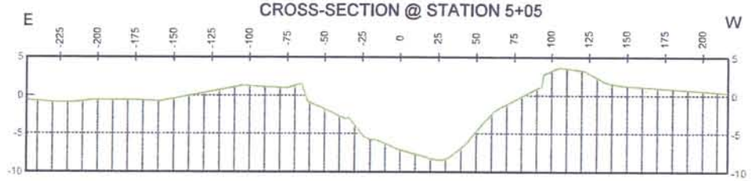
TERREBONNE PARISH, LOUISIANA

C. H. FENSTERMAKER & ASSOCIATES, INC.

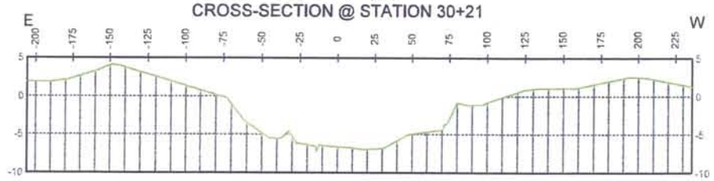
FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 6 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

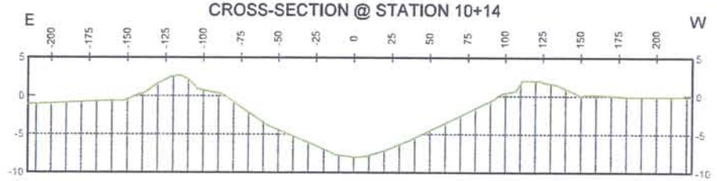
Alignment - (18)
CROSS-SECTION @ STATION 5+05



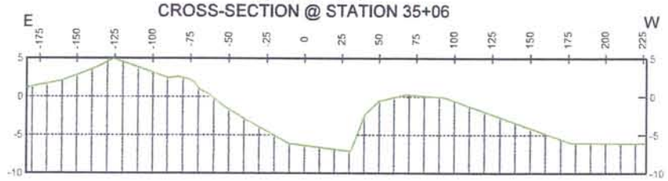
Alignment - (18)
CROSS-SECTION @ STATION 30+21



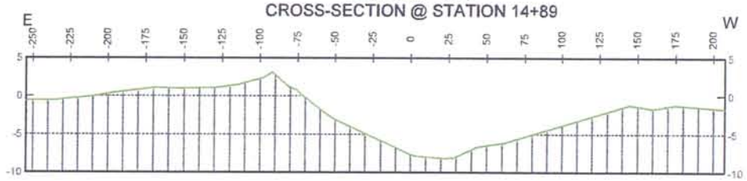
Alignment - (18)
CROSS-SECTION @ STATION 10+14



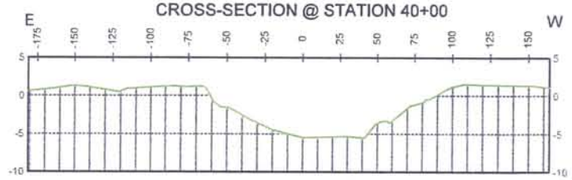
Alignment - (18)
CROSS-SECTION @ STATION 35+06



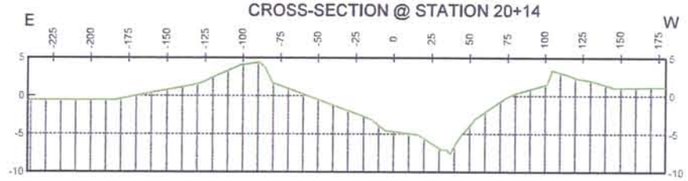
Alignment - (18)
CROSS-SECTION @ STATION 14+89



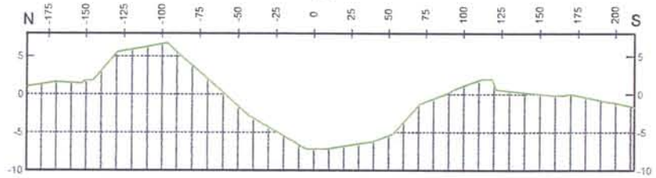
Alignment - (18)
CROSS-SECTION @ STATION 40+00



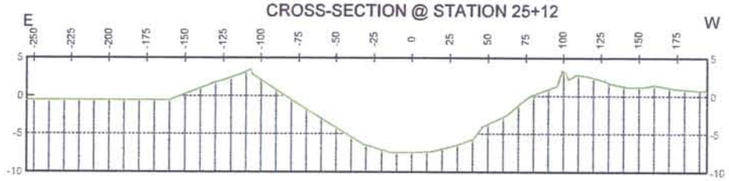
Alignment - (18)
CROSS-SECTION @ STATION 20+14



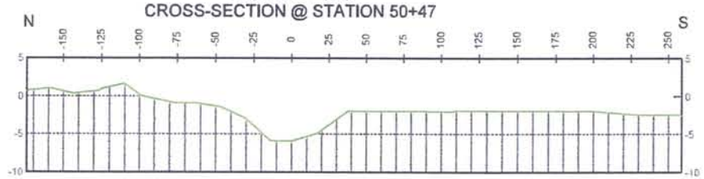
Alignment - (18)
CROSS-SECTION @ STATION 45+31



Alignment - (18)
CROSS-SECTION @ STATION 25+12



Alignment - (18)
CROSS-SECTION @ STATION 50+47



HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
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LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

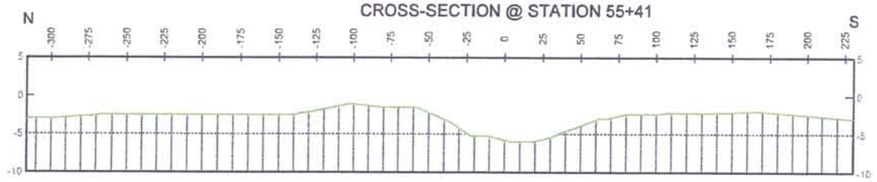
ALIGNMENT 18 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

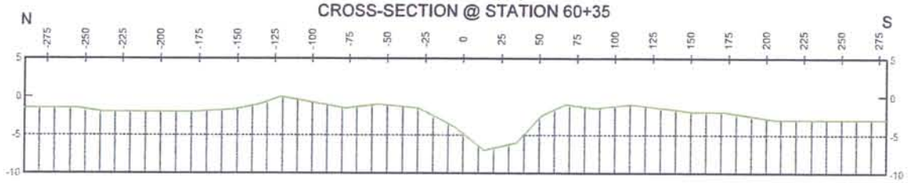
C. H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 7 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

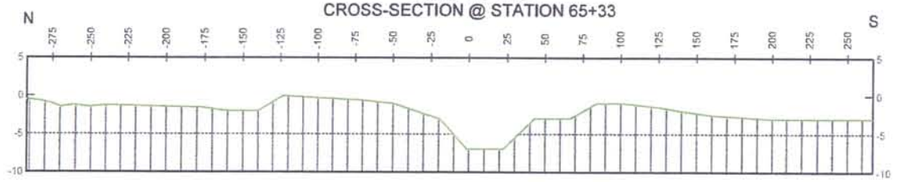
Alignment - (18)
CROSS-SECTION @ STATION 55+41



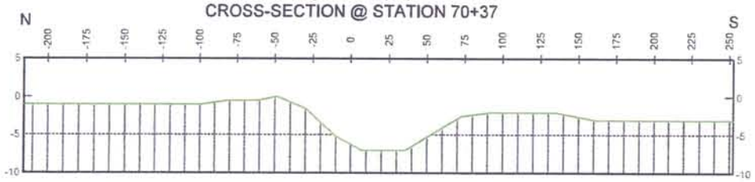
Alignment - (18)
CROSS-SECTION @ STATION 60+35



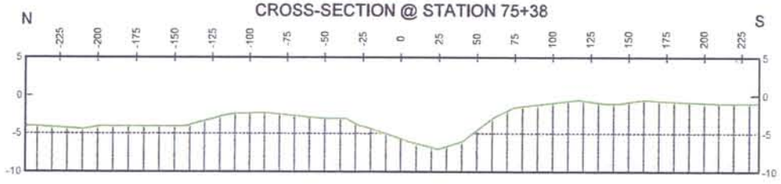
Alignment - (18)
CROSS-SECTION @ STATION 65+33



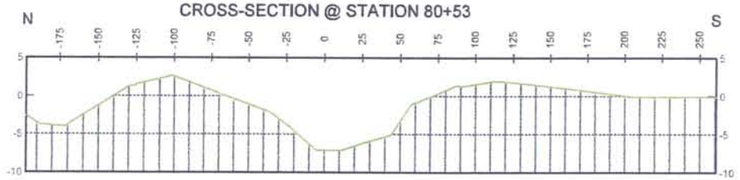
Alignment - (18)
CROSS-SECTION @ STATION 70+37



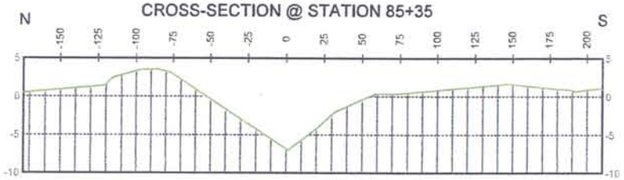
Alignment - (18)
CROSS-SECTION @ STATION 75+38



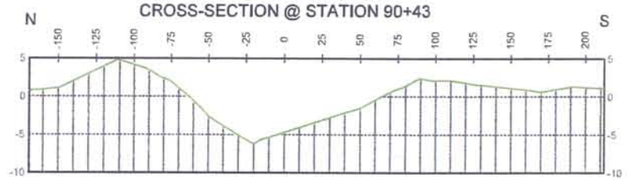
Alignment - (18)
CROSS-SECTION @ STATION 80+53



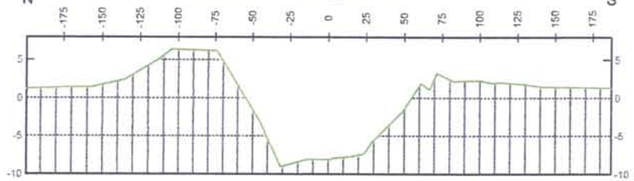
Alignment - (18)
CROSS-SECTION @ STATION 85+35



Alignment - (18)
CROSS-SECTION @ STATION 90+43



Alignment - (18)
CROSS-SECTION @ STATION 95+37



HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

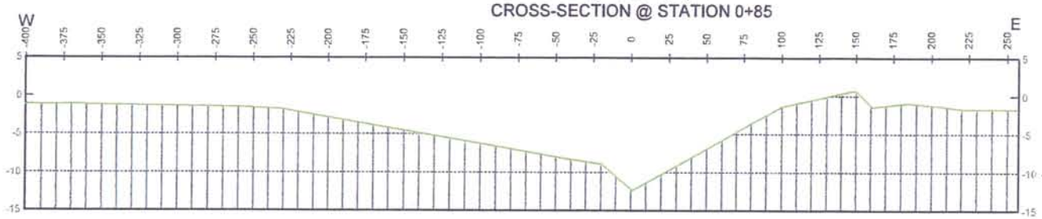
ALIGNMENT 18 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

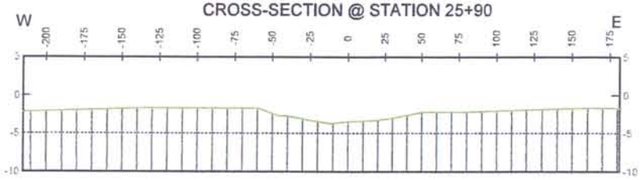
C. H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 8 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

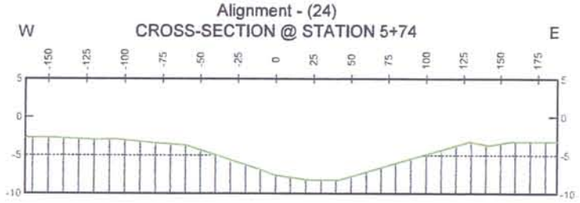
Alignment - (24)
CROSS-SECTION @ STATION 0+85



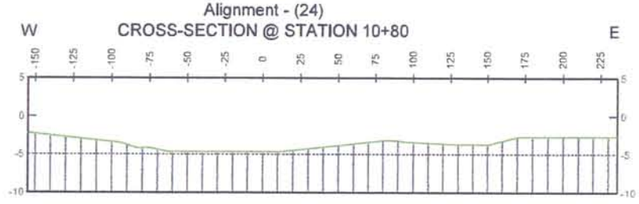
Alignment - (24)
CROSS-SECTION @ STATION 25+90



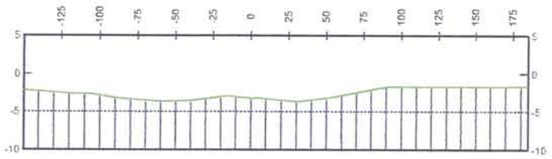
Alignment - (24)
CROSS-SECTION @ STATION 5+74



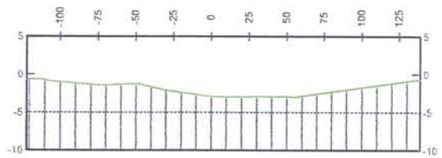
Alignment - (24)
CROSS-SECTION @ STATION 10+80



Alignment - (24)
CROSS-SECTION @ STATION 15+76



Alignment - (24)
CROSS-SECTION @ STATION 20+79



HORIZONTAL SCALE: 1 INCH = 100 FEET

100 0 50 100

FENSTERMAKER
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135 Regency Square Lafayette, LA 70508
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LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

POST-CONSTRUCTION ACCESS CHANNEL SURVEY

ALIGNMENT 24 CROSS-SECTIONS

TERREBONNE PARISH, LOUISIANA

C. H. FENSTERMAKER & ASSOCIATES, INC.

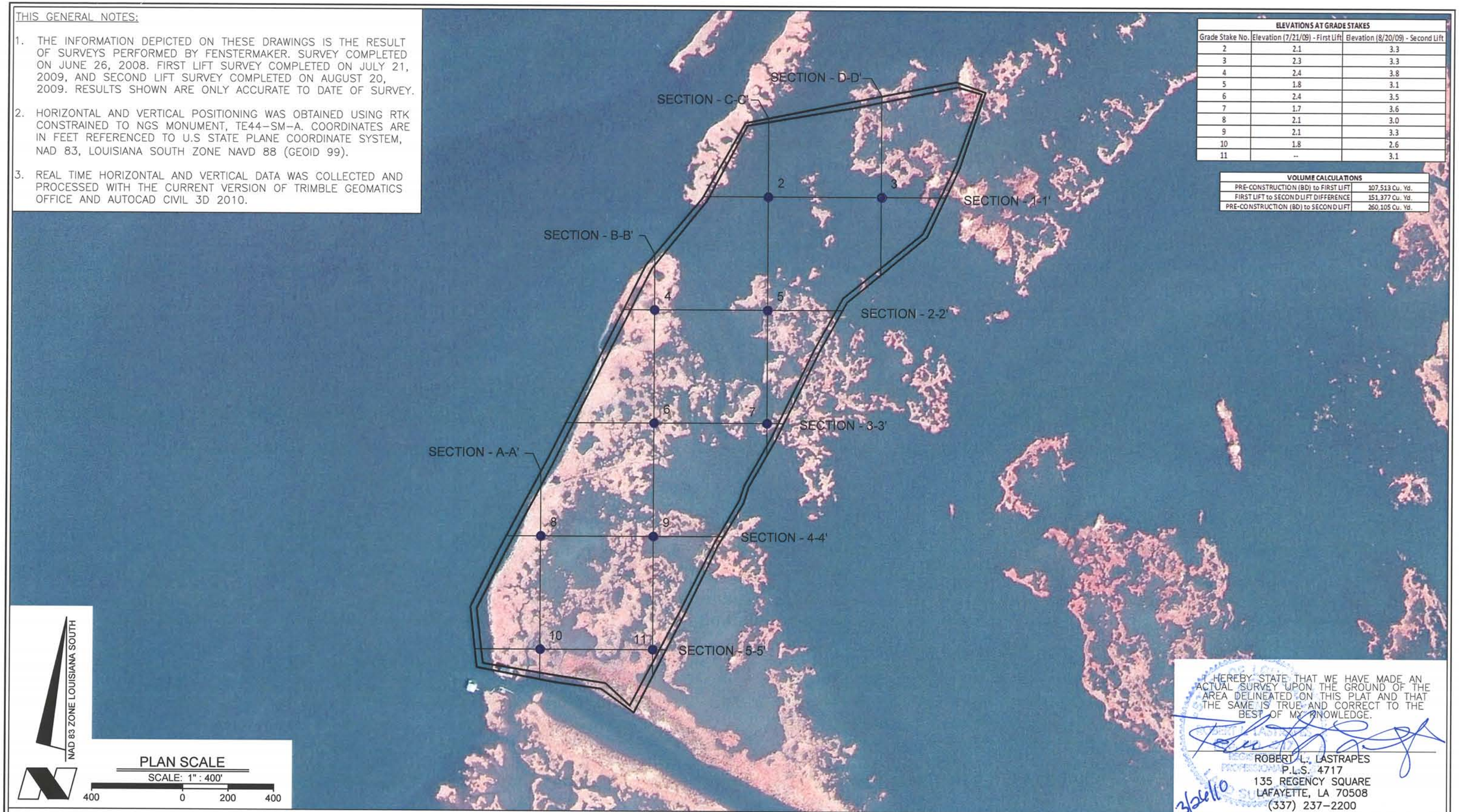
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 9 OF 9	
DATE: 02/22/10 REVISED:	
FILENAME: ACCESS CHANNELS 022210	

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. SURVEY COMPLETED ON JUNE 26, 2008. FIRST LIFT SURVEY COMPLETED ON JULY 21, 2009, AND SECOND LIFT SURVEY COMPLETED ON AUGUST 20, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.



ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (7/21/09) - First Lift	Elevation (8/20/09) - Second Lift
2	2.1	3.3
3	2.3	3.3
4	2.4	3.8
5	1.8	3.1
6	2.4	3.5
7	1.7	3.6
8	2.1	3.0
9	2.1	3.3
10	1.8	2.6
11	--	3.1

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	107,513 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	151,377 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	260,105 Cu. Yd.

NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 400'
400 0 200 400

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237–2200

3/26/10

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

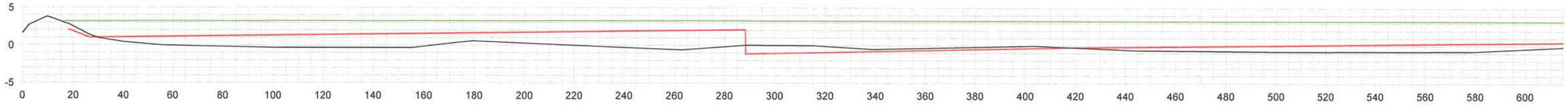
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

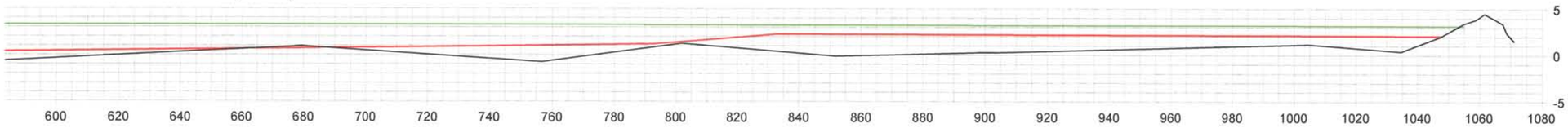
FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 1 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

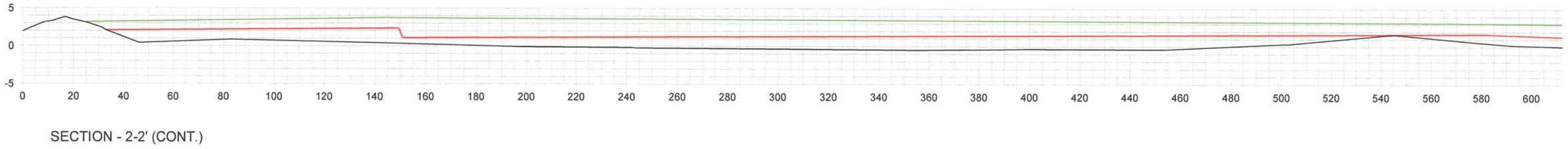
SECTION - 1 - 1'



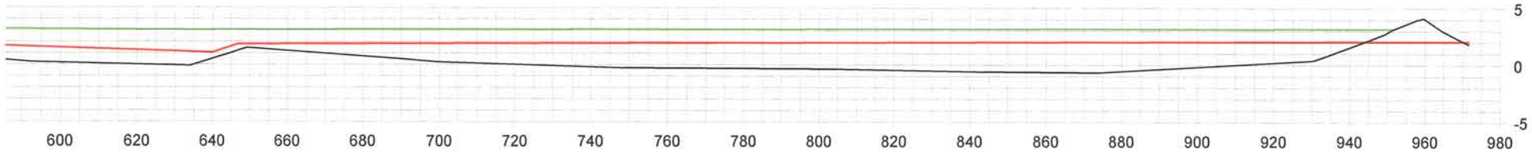
SECTION - 1-1' (CONT.)



SECTION - 2 - 2'



SECTION - 2-2' (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

3/22/10

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
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LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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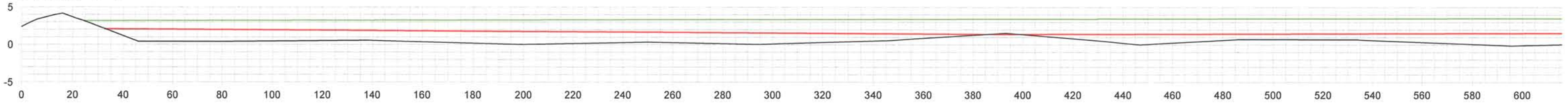
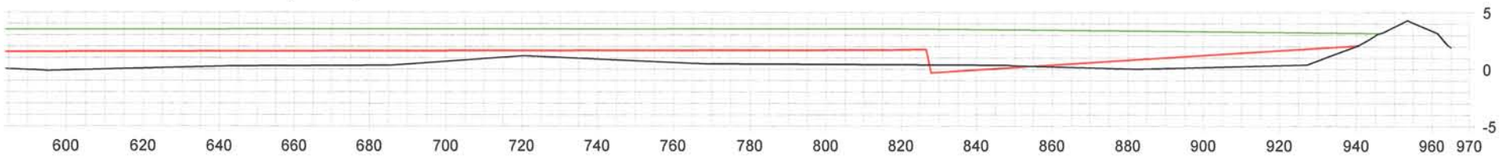
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 2 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

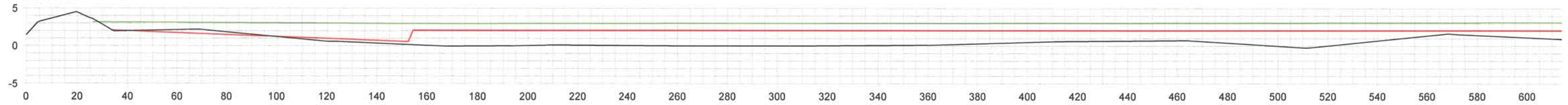
SECTION - 3 - 3'



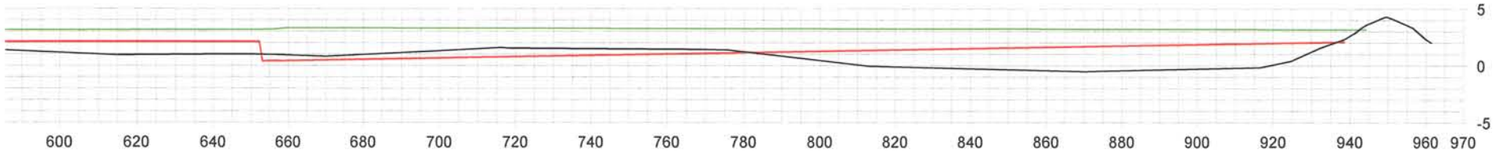
SECTION - 3-3' (CONT.)



SECTION - 4 - 4'



SECTION - 4-4' (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

TERREBONNE PARISH, LA

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CONTRACT NO.:	TE-44
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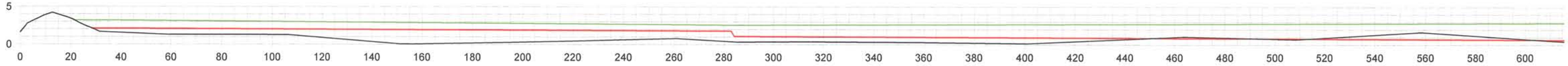
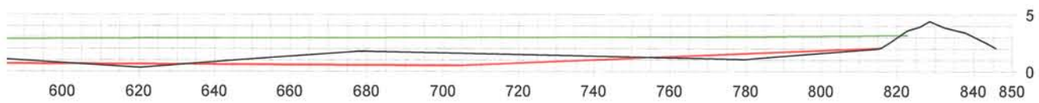
DRAWN BY:	BTL
CHECKED BY:	
SHEET 3 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

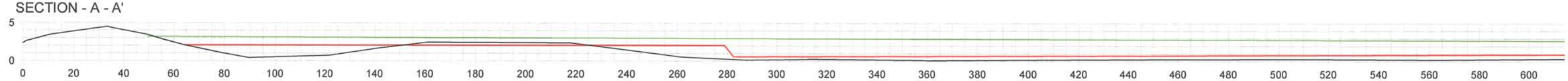
SECTION - 5 - 5'



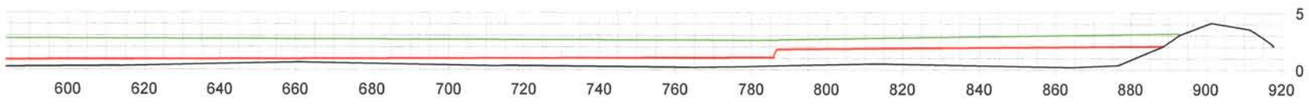
SECTION - 5-5' (CONT.)



SECTION - A - A'



SECTION - A-A' (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

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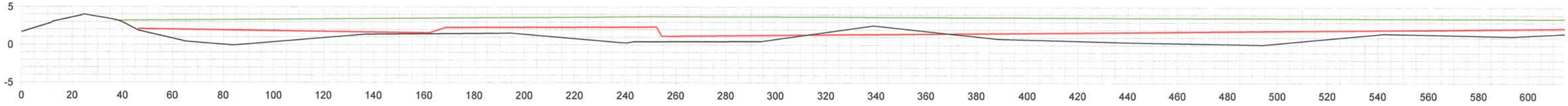
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

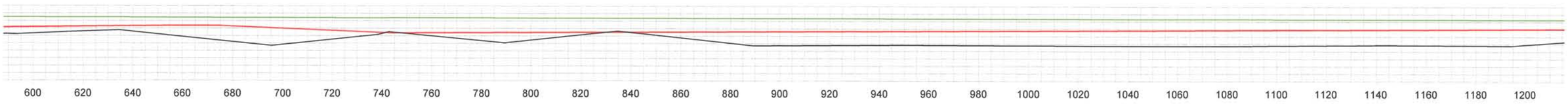
TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 4 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

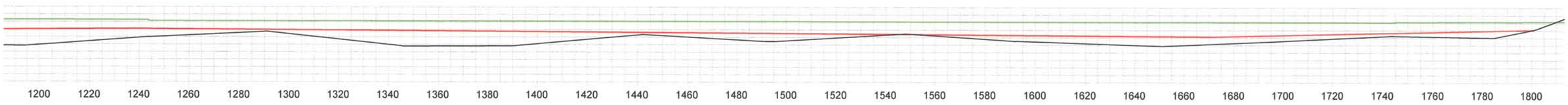
SECTION - B - B'



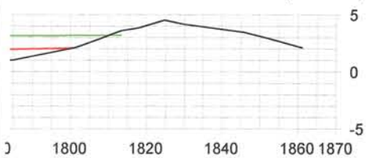
SECTION - B-B' (CONT.)



SECTION - B-B' (CONT.)



SECTION - B-B' (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/29/10

ROBERT L. LASTRAPES
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LAFAYETTE, LA 70508
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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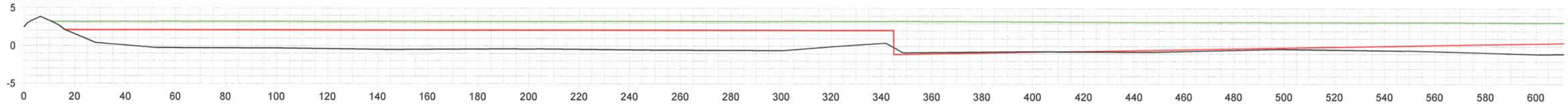
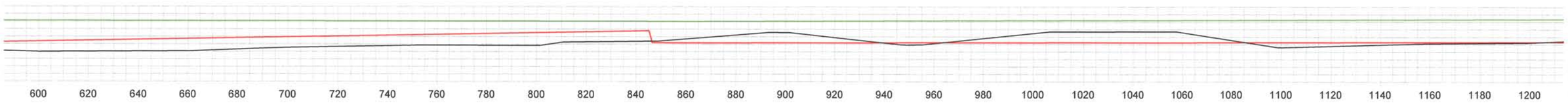
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 5 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

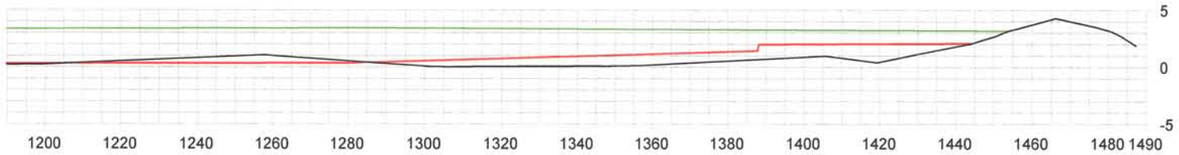
SECTION - C - C'



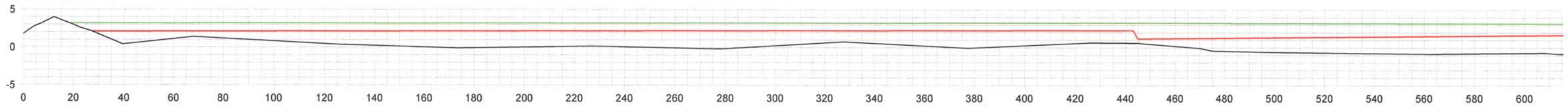
SECTION - C-C' (CONT.)



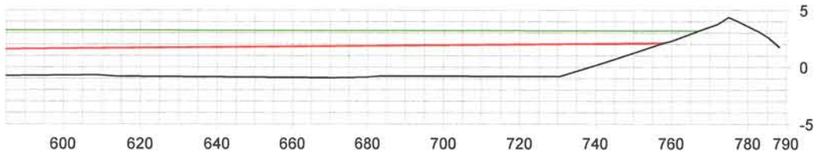
SECTION - C-C' (CONT.)



SECTION - D - D'



SECTION - D-D' (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
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LAFAYETTE, LA 70508
(337) 237-2200

FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 1

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

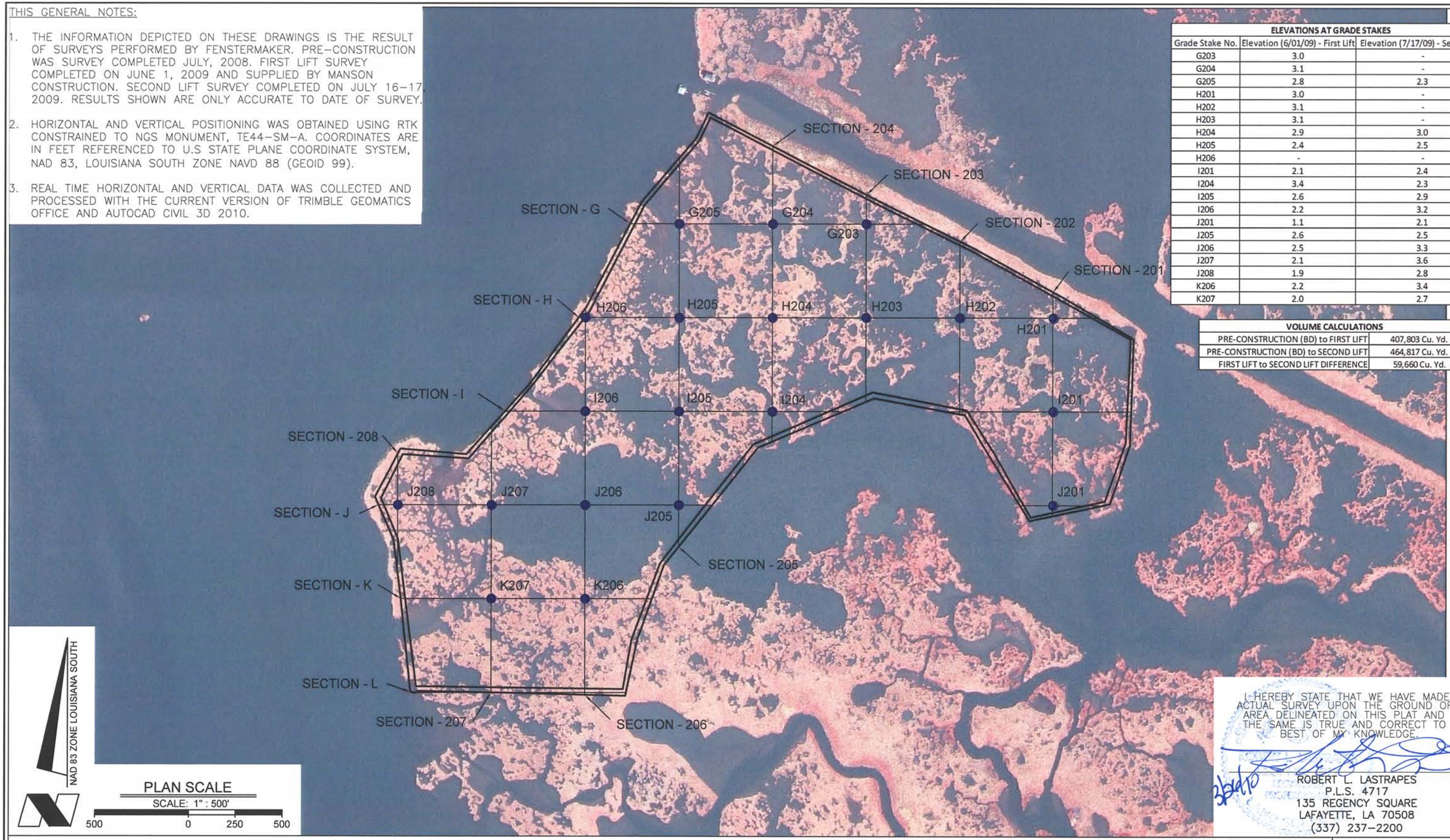
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 6 OF 6	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 1 031910

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. PRE-CONSTRUCTION WAS SURVEY COMPLETED JULY, 2008. FIRST LIFT SURVEY COMPLETED ON JUNE 1, 2009 AND SUPPLIED BY MANSON CONSTRUCTION. SECOND LIFT SURVEY COMPLETED ON JULY 16-17, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.



ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (6/01/09) - First Lift	Elevation (7/17/09) - Second Lift
G203	3.0	-
G204	3.1	-
G205	2.8	2.3
H201	3.0	-
H202	3.1	-
H203	3.1	-
H204	2.9	3.0
H205	2.4	2.5
H206	-	-
I201	2.1	2.4
I204	3.4	2.3
I205	2.6	2.9
I206	2.2	3.2
J201	1.1	2.1
J205	2.6	2.5
J206	2.5	3.3
J207	2.1	3.6
J208	1.9	2.8
K206	2.2	3.4
K207	2.0	2.7

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	407,803 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	464,817 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	59,660 Cu. Yd.

NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 500'
500 0 250 500

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

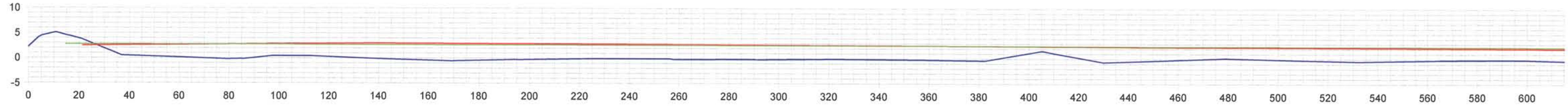
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 1 OF 10	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - 201



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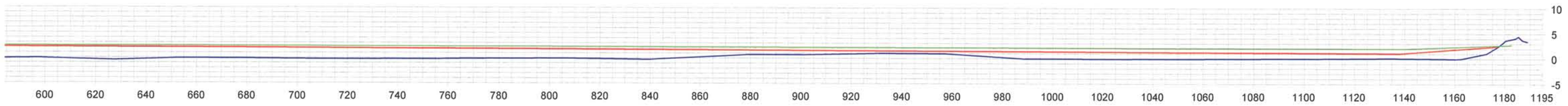
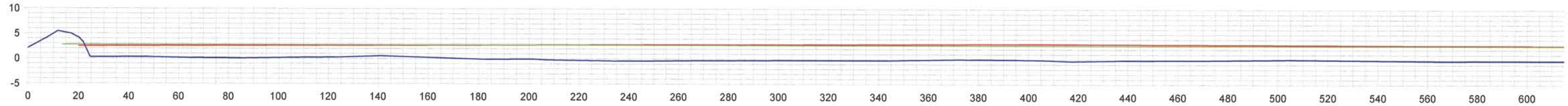


SECTION - 202



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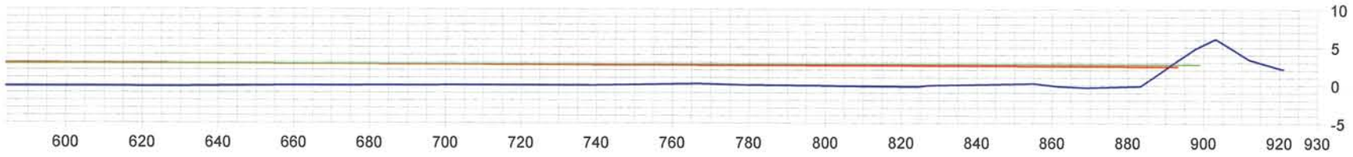

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

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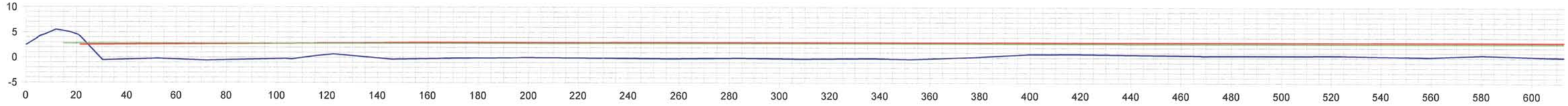
CHECKED BY:	
SHEET 2 OF 10	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - 203



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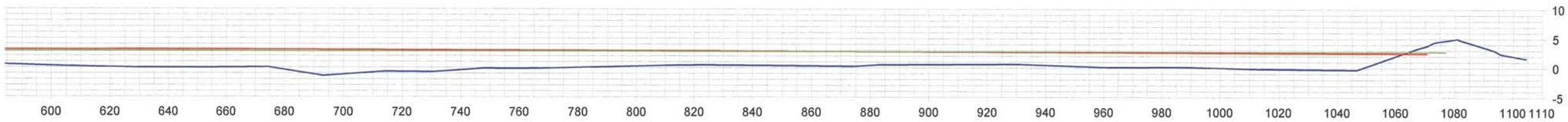

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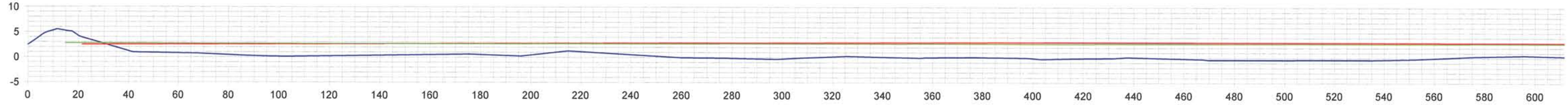

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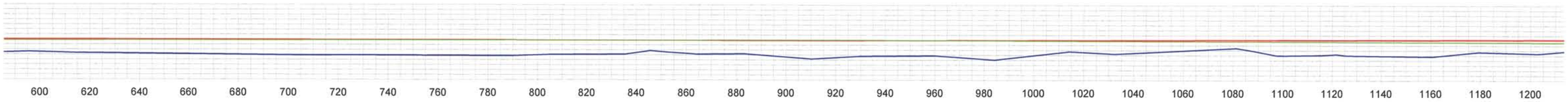

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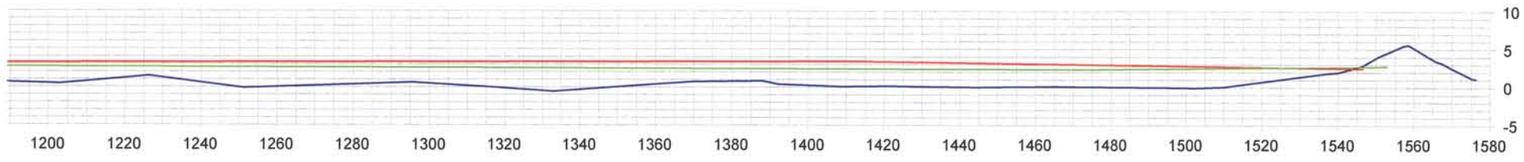

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/22/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
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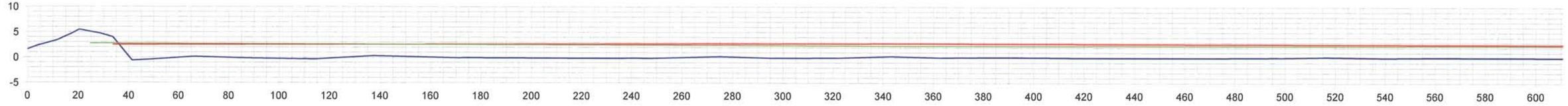
DRAWN BY:	
CHECKED BY:	
SHEET 3 OF 10	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - 205



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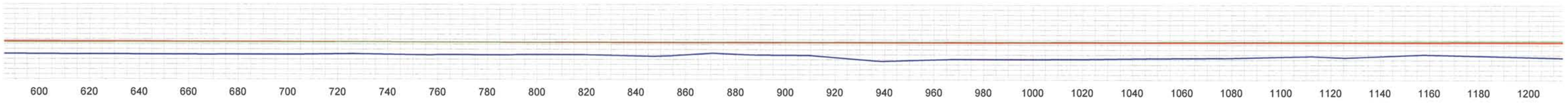

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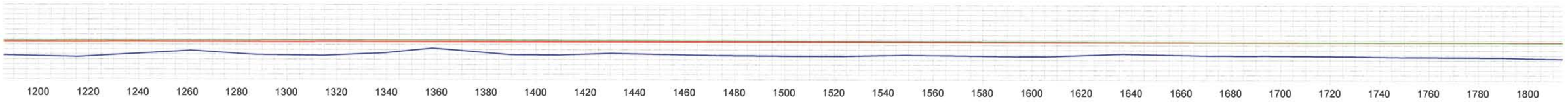

SECTION - 205 (CONT.)

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

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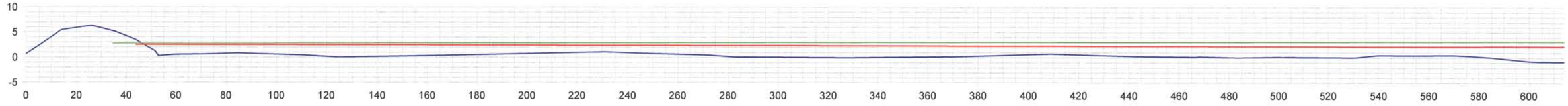
SECTION - 206



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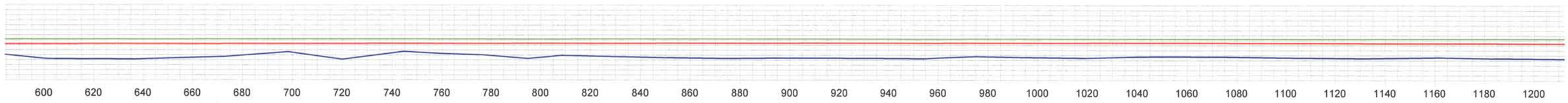

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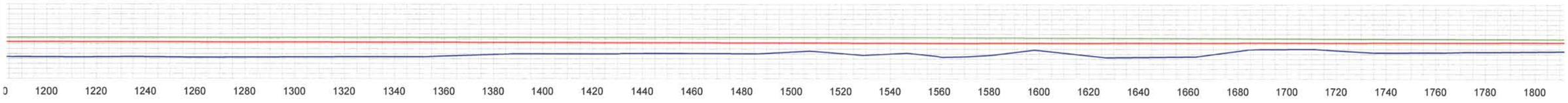

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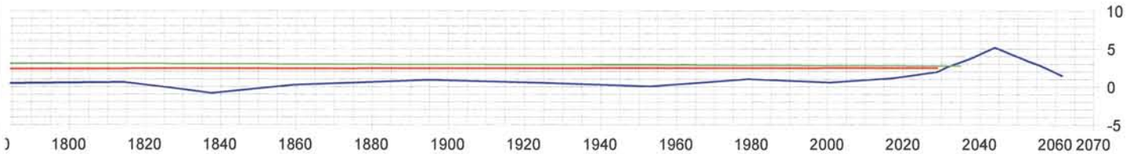

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

3/26/10

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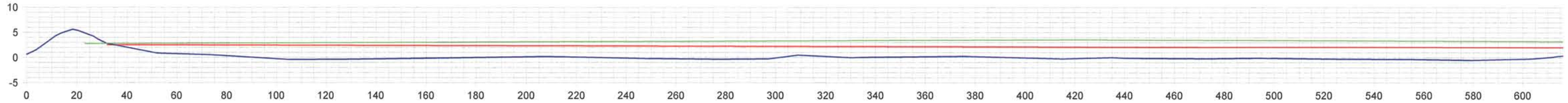
SECTION - 207



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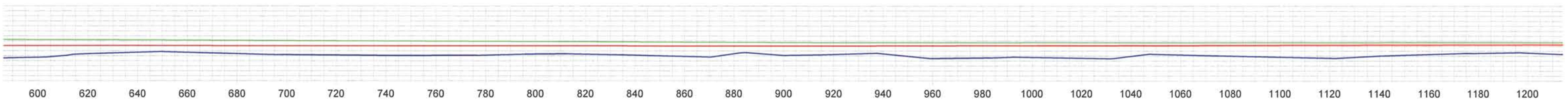

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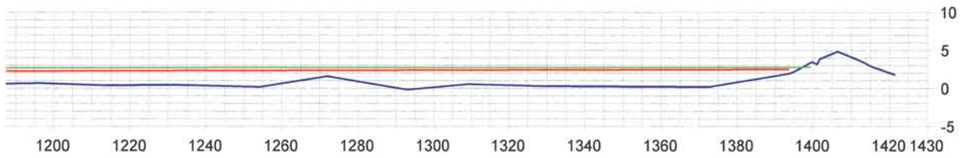

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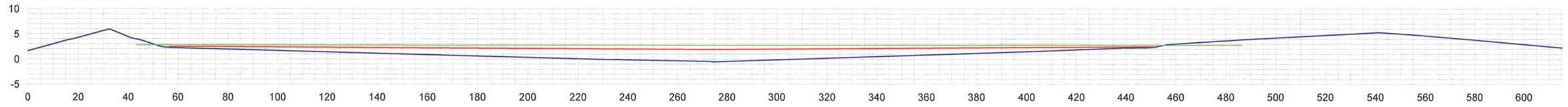

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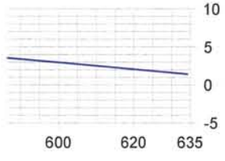

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/22/10

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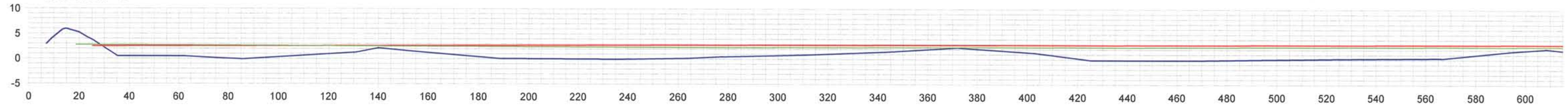
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 6 OF 10	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - G



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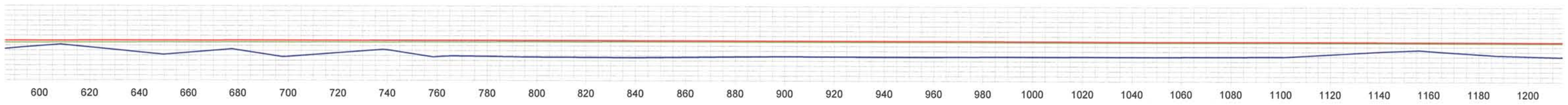

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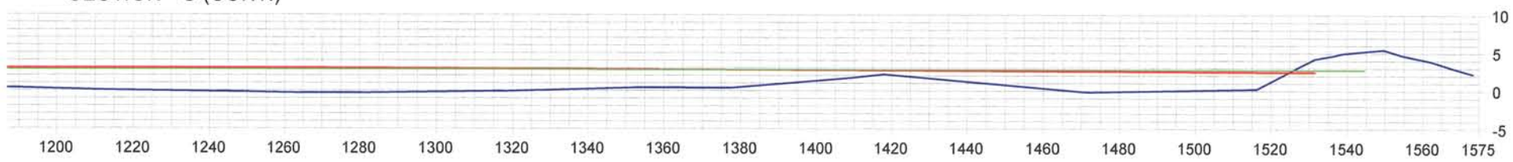
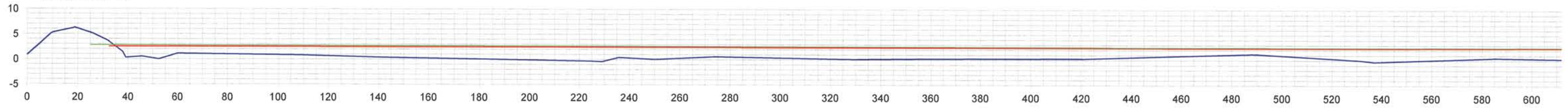


SECTION - H



LEGEND

- DIKE
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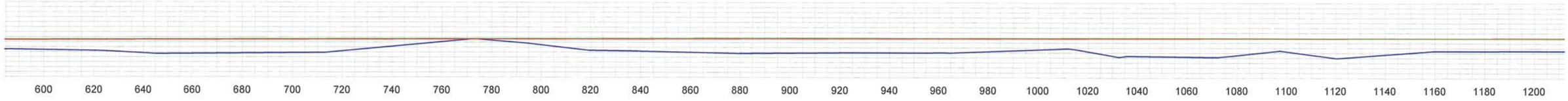

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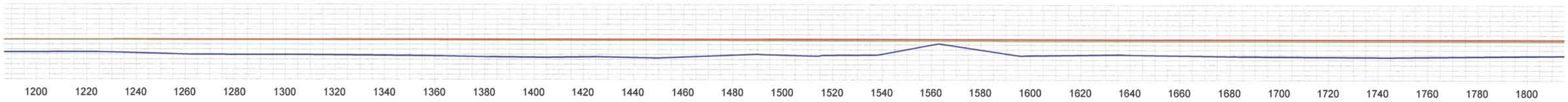

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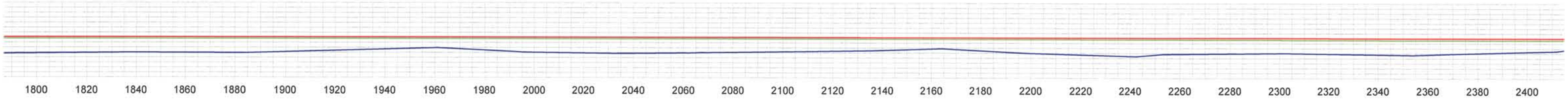

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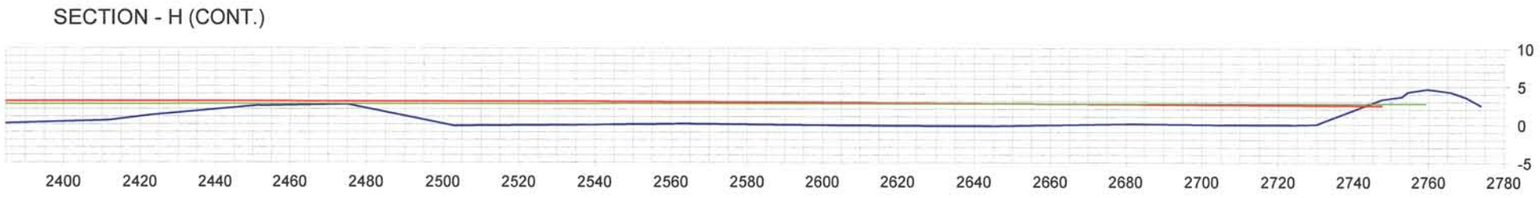

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
REG. NO. 4717
REGISTERED PROFESSIONAL LAND SURVEYOR

3/26/10

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

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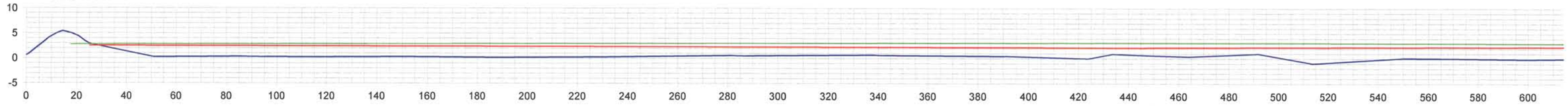
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 8 OF 10	
DATE: 031910 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - I



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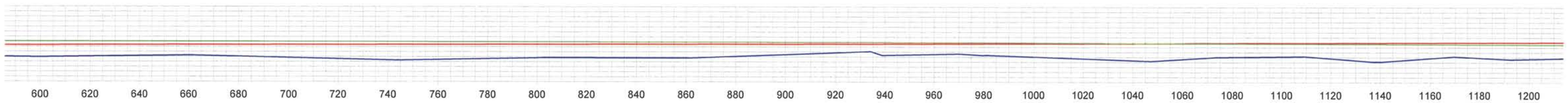

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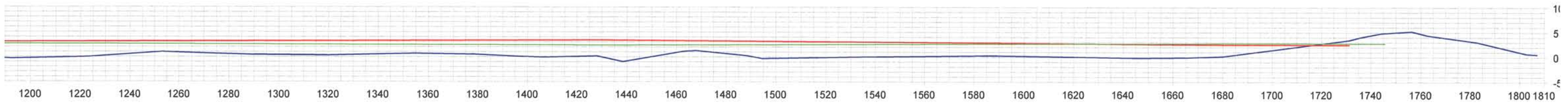
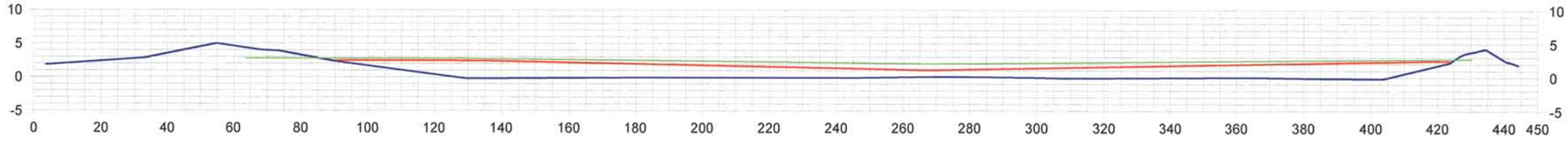


SECTION - J



LEGEND

- DIKE
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- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

C.H. FENSTERMAKER & ASSOCIATES, INC.
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phone 337-237-2200 fax 337-232-3299

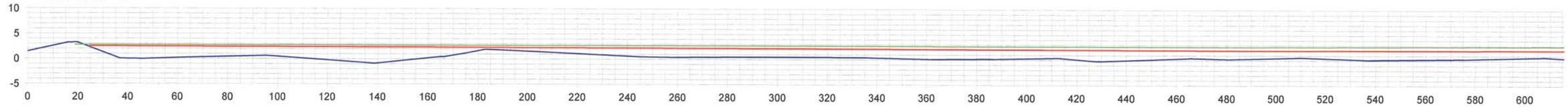
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 9 OF 10	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2A 031910

SECTION - K



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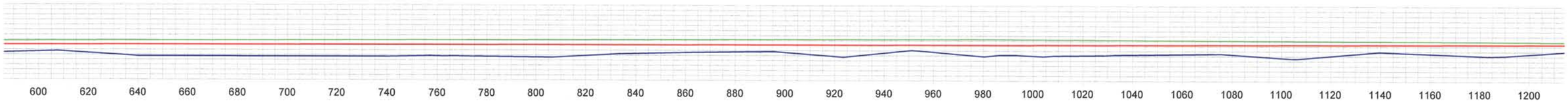

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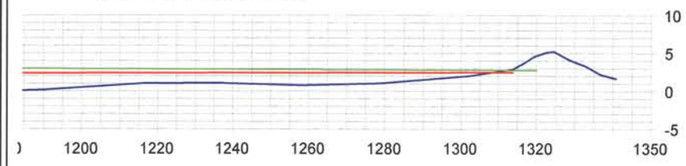

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/29/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2A

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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SHEET 10 OF 10	
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FILENAME:	FILL AREA 2A 031910

THIS GENERAL NOTES:

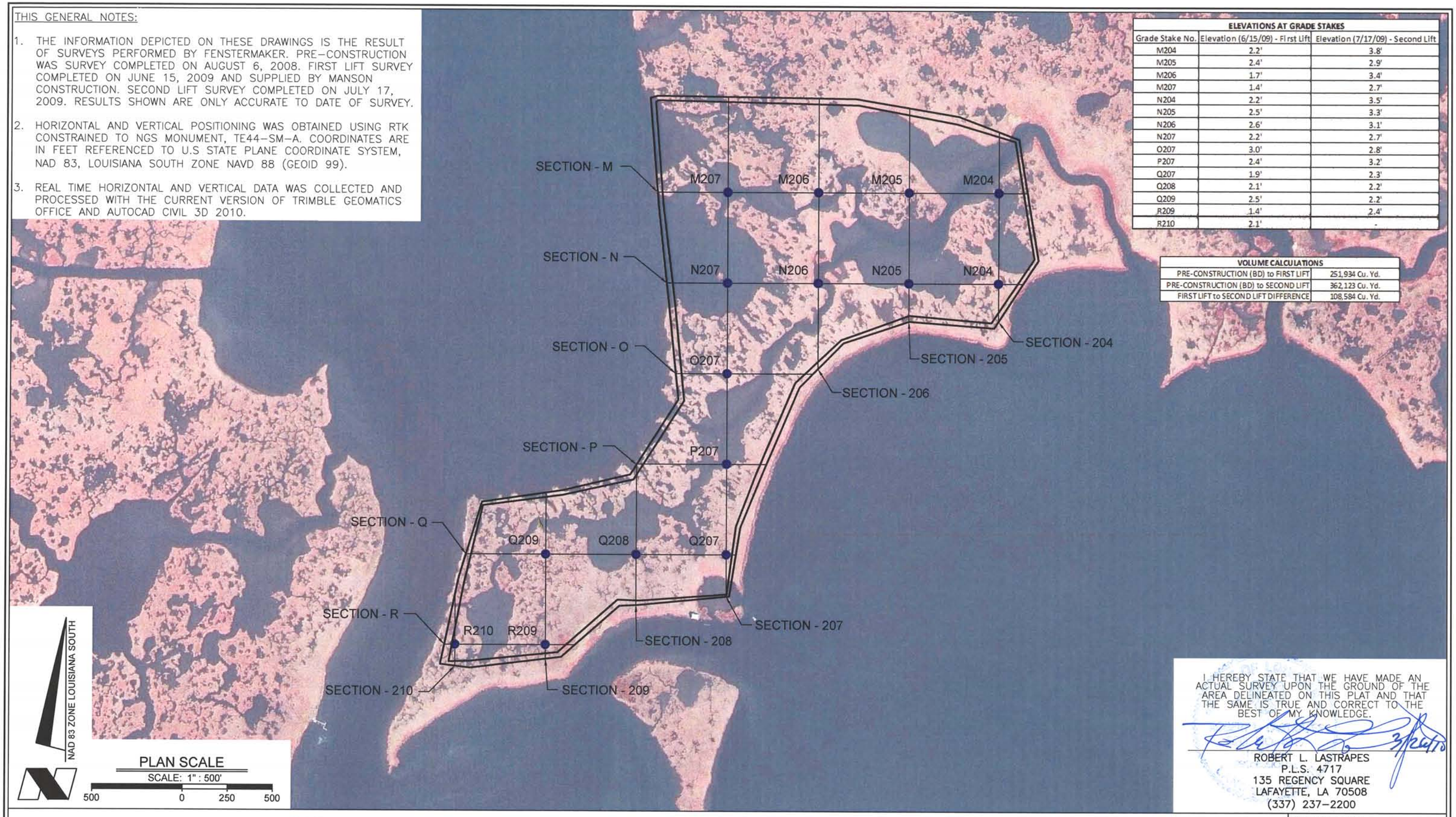
1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. PRE-CONSTRUCTION WAS SURVEY COMPLETED ON AUGUST 6, 2008. FIRST LIFT SURVEY COMPLETED ON JUNE 15, 2009 AND SUPPLIED BY MANSON CONSTRUCTION. SECOND LIFT SURVEY COMPLETED ON JULY 17, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (6/15/09) - First Lift	Elevation (7/17/09) - Second Lift
M204	2.2'	3.8'
M205	2.4'	2.9'
M206	1.7'	3.4'
M207	1.4'	2.7'
N204	2.2'	3.5'
N205	2.5'	3.3'
N206	2.6'	3.1'
N207	2.2'	2.7'
O207	3.0'	2.8'
P207	2.4'	3.2'
Q207	1.9'	2.3'
Q208	2.1'	2.2'
Q209	2.5'	2.2'
R209	1.4'	2.4'
R210	2.1'	-

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	251,934 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	362,123 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	108,584 Cu. Yd.



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 500'
500 0 250 500

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2B

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER
Houston Lafayette New Orleans
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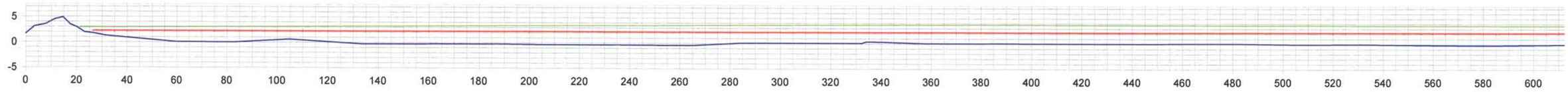
SECTION 204



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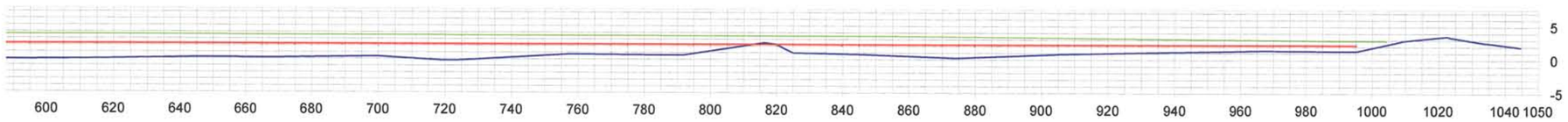

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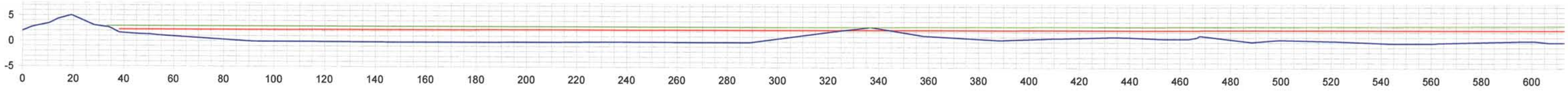

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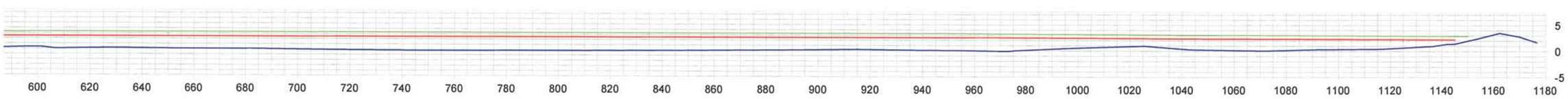

LEGEND

- DIKE
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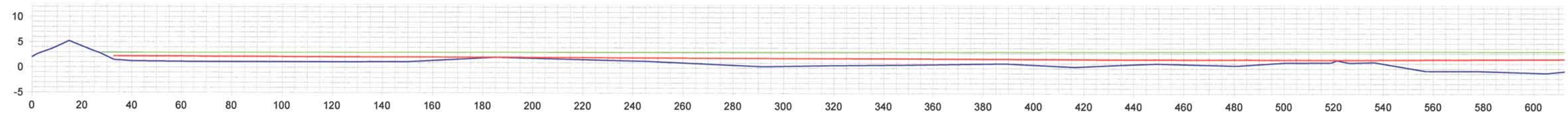
SECTION - 206



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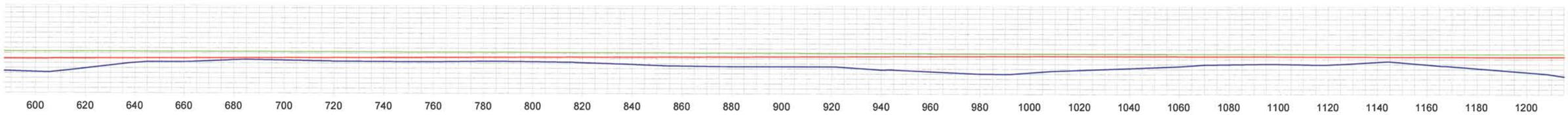

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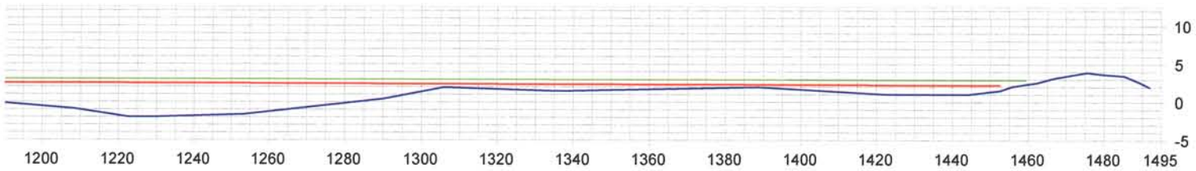

SECTION - 207

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
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STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED
PROFESSIONAL
LAND SURVEYOR

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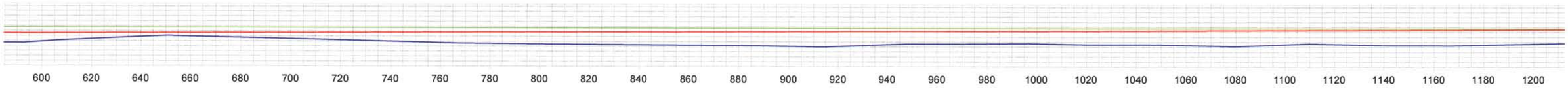

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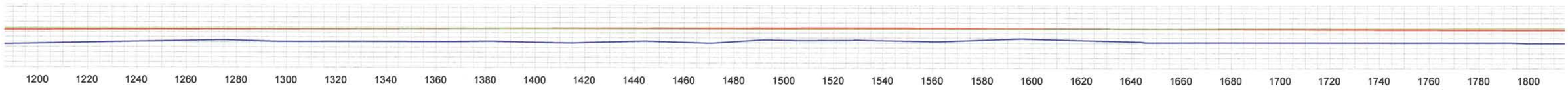

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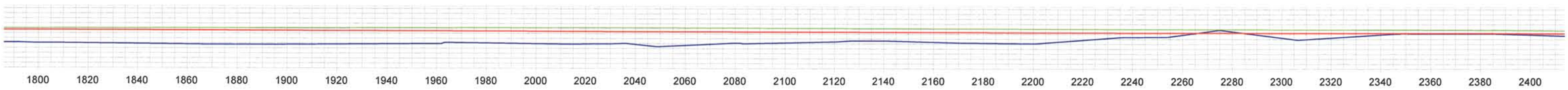

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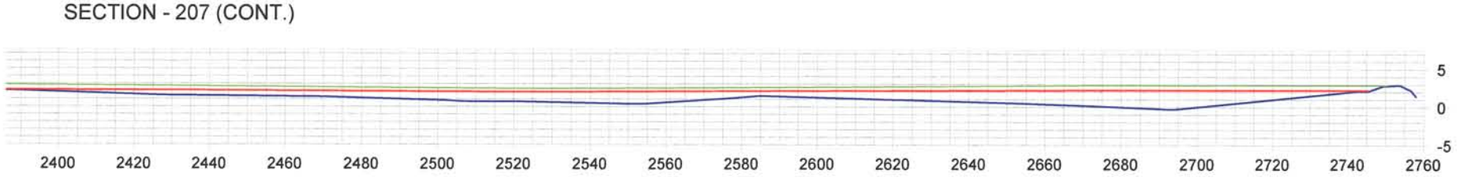

LEGEND

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2B

TERREBONNE PARISH, LA

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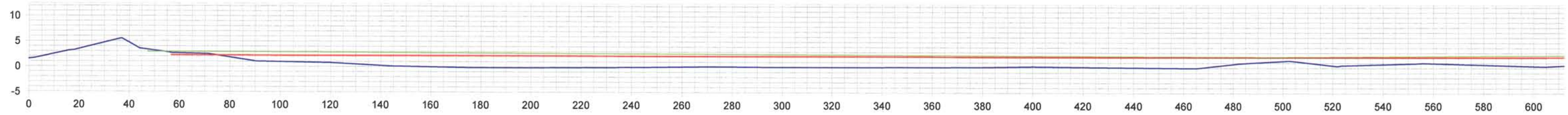
SECTION - 208



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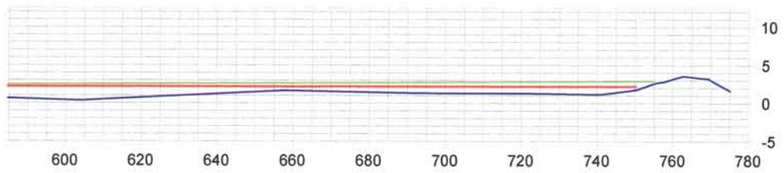

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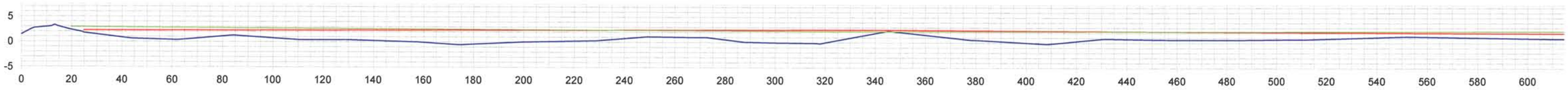

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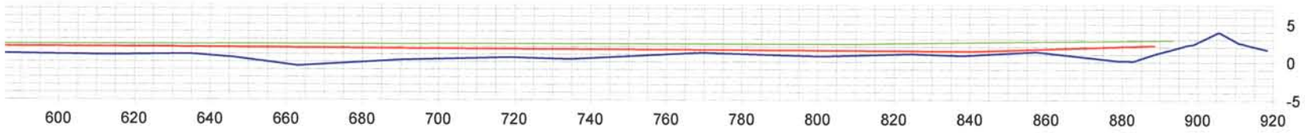

LEGEND

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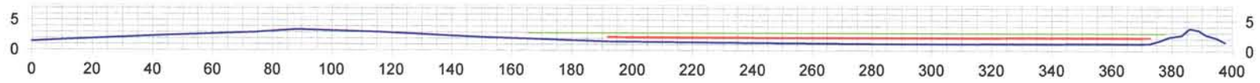
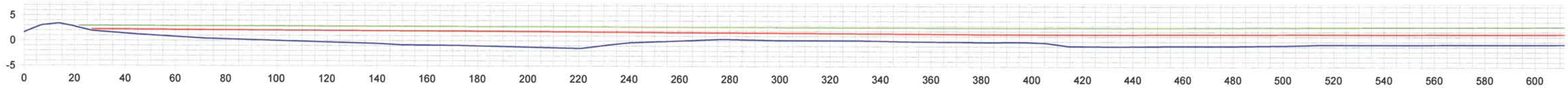
SECTION - 210



SECTION - M



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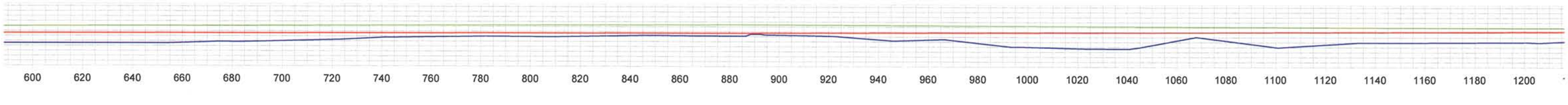

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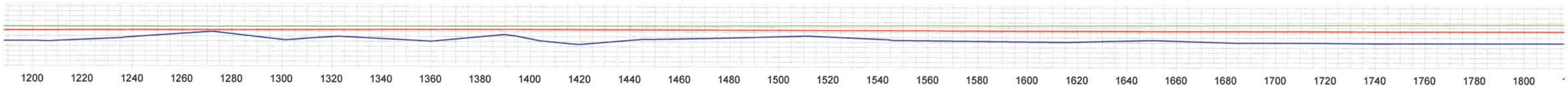

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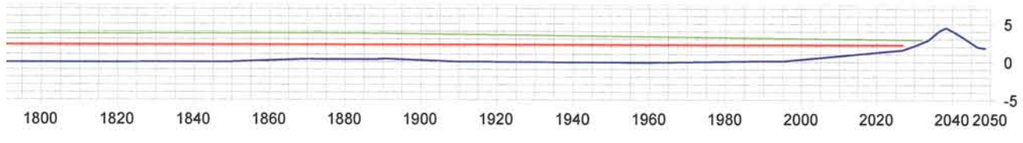

LEGEND

- DIKE
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2B

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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SHEET 6 OF 9	
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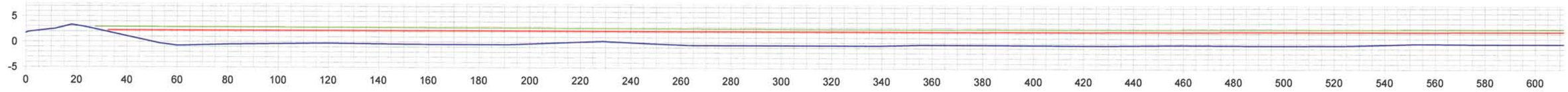
SECTION - N



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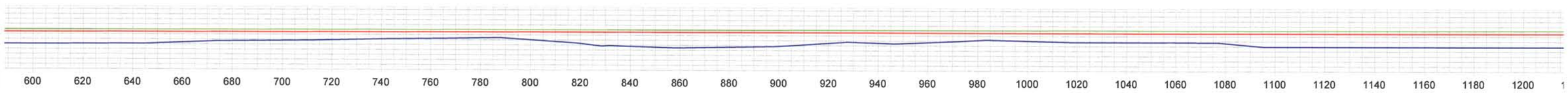

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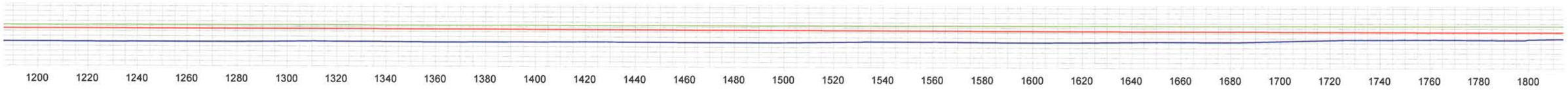

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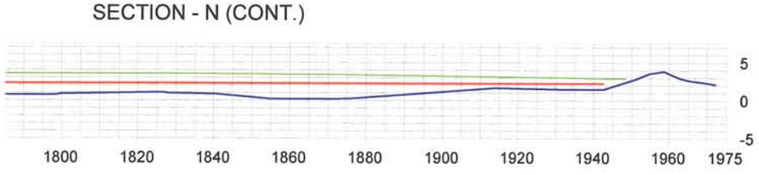

LEGEND

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STATE OF LOUISIANA · ROBERT L. LASTRAPES · REG. NO. 4717 · REGISTERED PROFESSIONAL LAND SURVEYOR

3/24/10

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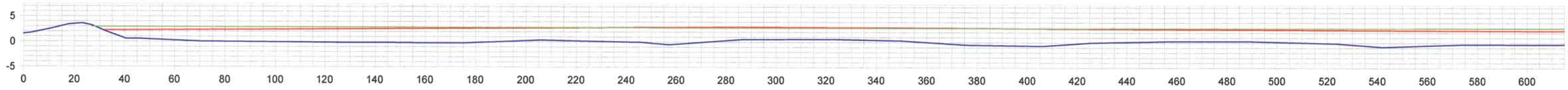
SECTION - O



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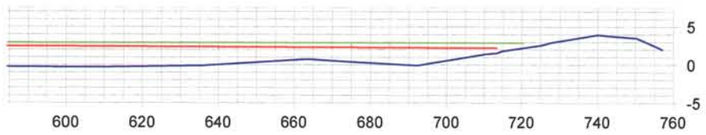
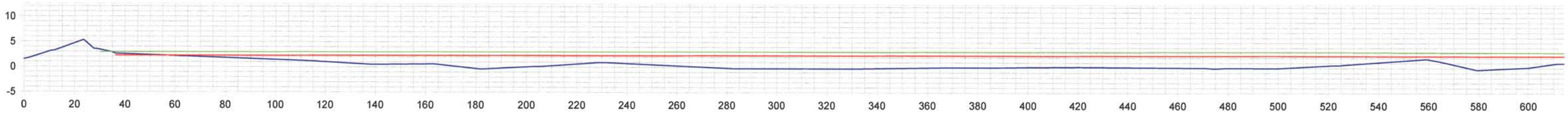


SECTION - P



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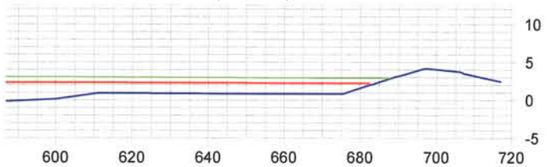

LEGEND

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- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2B

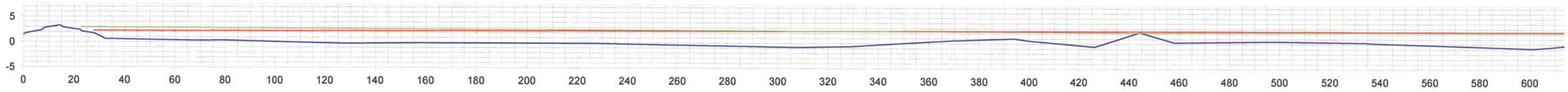
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

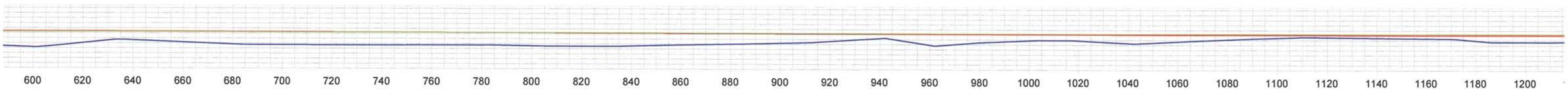
FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 8 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2B 031910

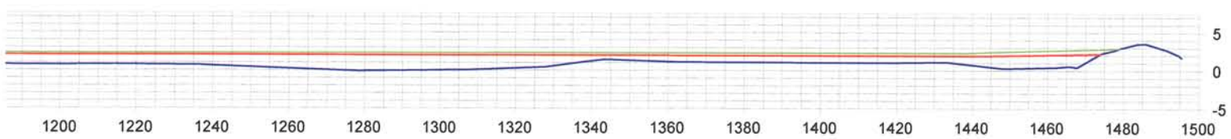
SECTION - Q



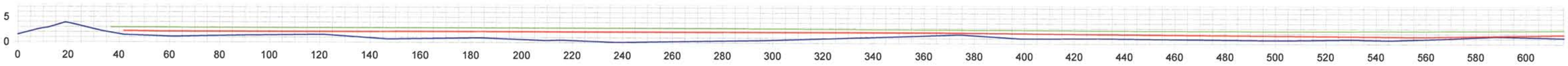
SECTION - Q (CONT.)



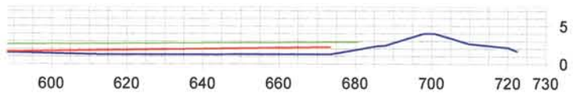
SECTION - Q (CONT.)



SECTION - R



SECTION - R (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2B

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 9 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2B 031910

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. PRE-CONSTRUCTION SURVEY COMPLETED ON AUGUST 4-5, 2009. FIRST LIFT SURVEY COMPLETED ON AUGUST 19, 2009 AND SUPPLIED BY MANSON CONSTRUCTION. SECOND LIFT SURVEY COMPLETED ON SEPTEMBER 17, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

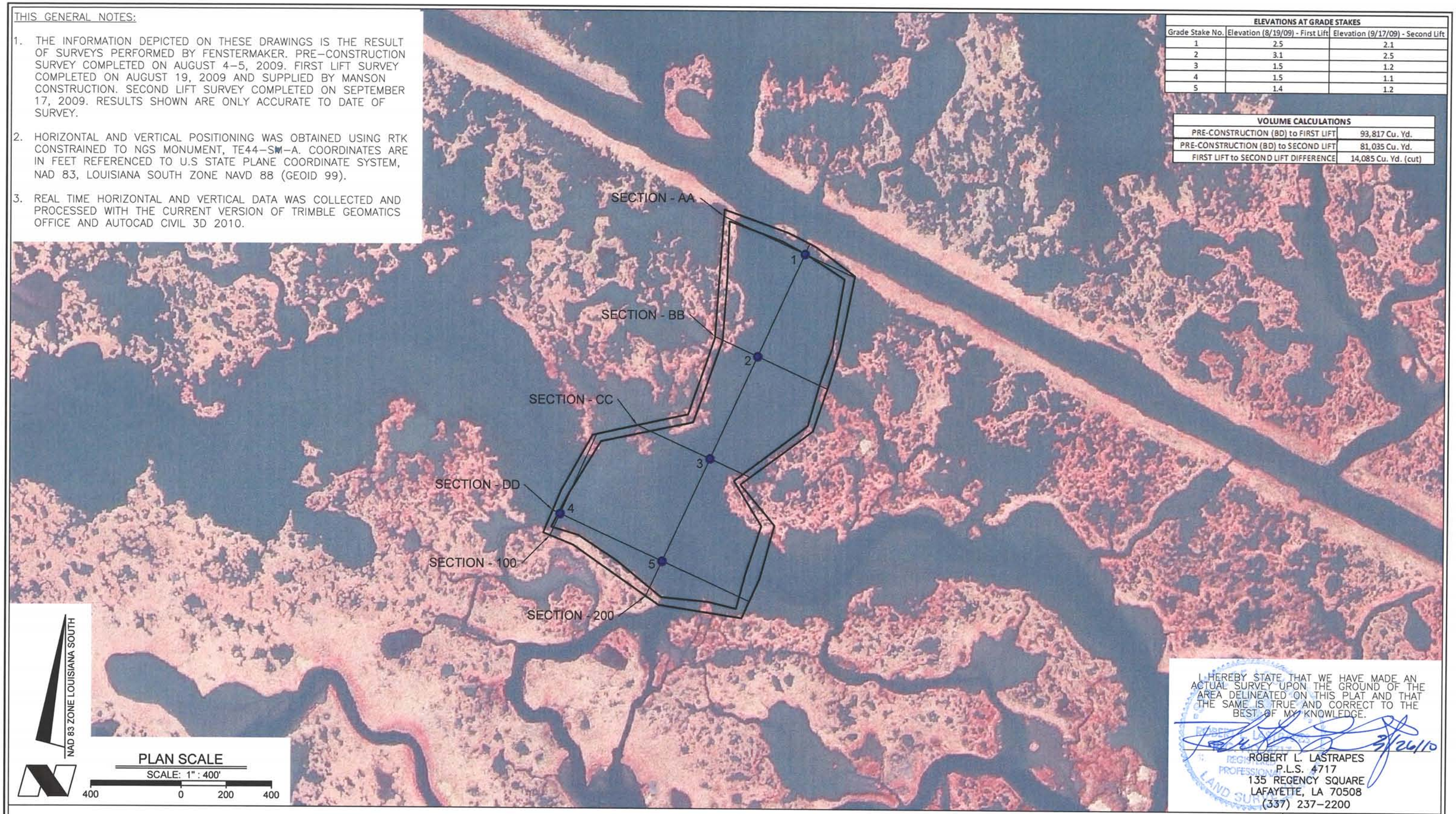
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

ELEVATIONS AT GRADE STAKES

Grade Stake No.	Elevation (8/19/09) - First Lift	Elevation (9/17/09) - Second Lift
1	2.5	2.1
2	3.1	2.5
3	1.5	1.2
4	1.5	1.1
5	1.4	1.2

VOLUME CALCULATIONS

PRE-CONSTRUCTION (BD) to FIRST LIFT	93,817 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	81,035 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	14,085 Cu. Yd. (cut)



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 400'
400 0 200 400

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2-3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
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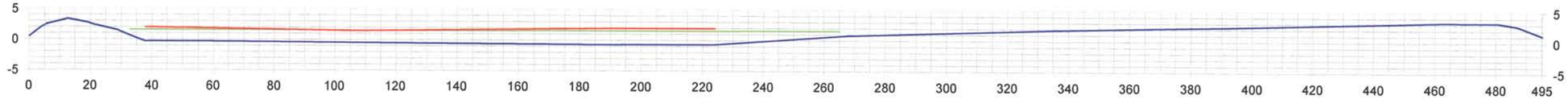
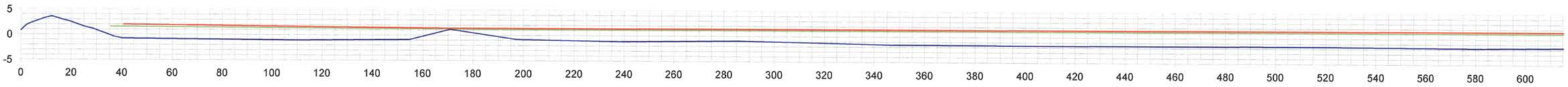
CHECKED BY:	
SHEET 1 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2-3 031910

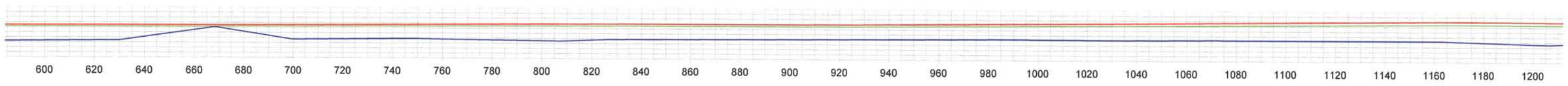
SECTION - 100



SECTION - 200



SECTION - 200 (CONT.)



SECTION - 200 (CONT.)

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
4717
PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

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135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2-3

TERREBONNE PARISH, LA

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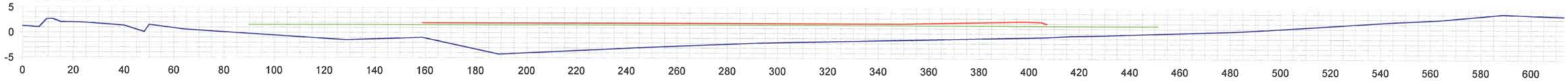
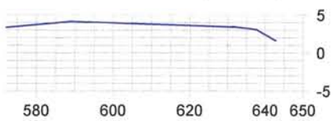
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 2 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2-3 031910

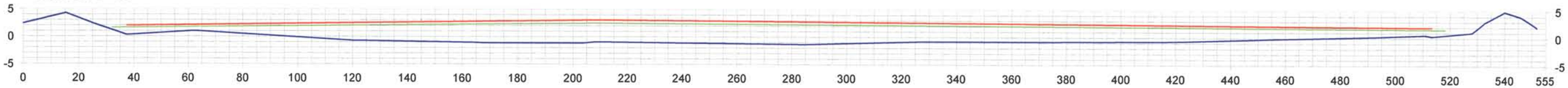
SECTION - AA



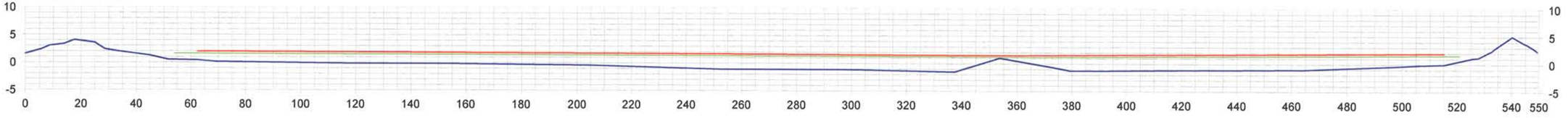
SECTION - AA (CONT.)



SECTION - BB



SECTION - CC



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REGISTERED
PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2-3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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Houston Lafayette New Orleans
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CONTRACT NO.:	TE-44
DELIVERY NO.:	
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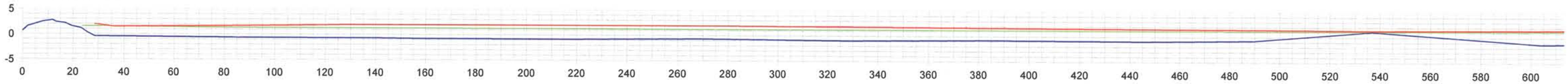
CHECKED BY:	
SHEET 3 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2-3 031910

SECTION - DD



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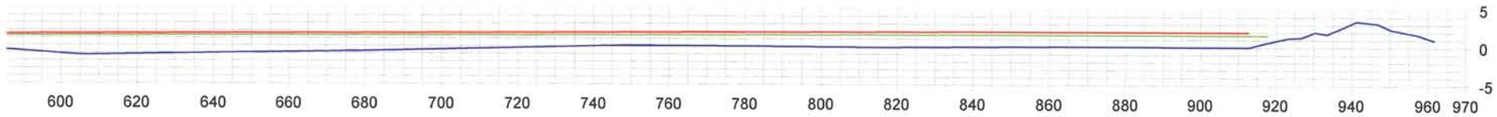

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

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LAFAYETTE, LA 70508
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 2-3

TERREBONNE PARISH, LA

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CONTRACT NO.:	TE-44
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DRAWN BY:	
CHECKED BY:	
SHEET 4 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 2-3 031910

THIS GENERAL NOTES:

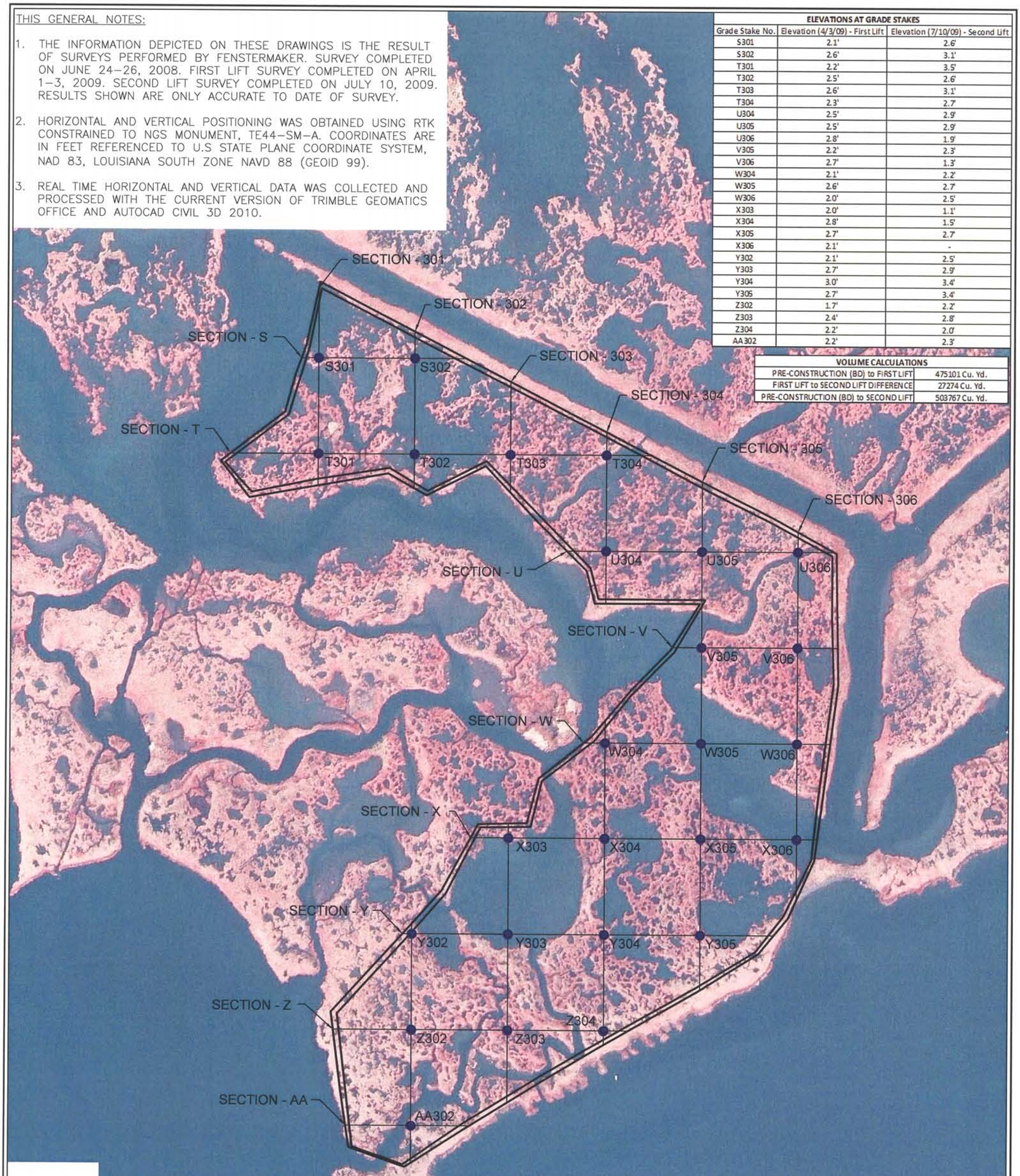
1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. SURVEY COMPLETED ON JUNE 24–26, 2008. FIRST LIFT SURVEY COMPLETED ON APRIL 1–3, 2009. SECOND LIFT SURVEY COMPLETED ON JULY 10, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

ELEVATIONS AT GRADE STAKES

Grade Stake No.	Elevation (4/3/09) - First Lift	Elevation (7/10/09) - Second Lift
S301	2.1'	2.6'
S302	2.6'	3.1'
T301	2.2'	3.5'
T302	2.5'	2.6'
T303	2.6'	3.1'
T304	2.3'	2.7'
U304	2.5'	2.9'
U305	2.5'	2.9'
U306	2.8'	1.9'
V305	2.2'	2.3'
V306	2.7'	1.3'
W304	2.1'	2.2'
W305	2.6'	2.7'
W306	2.0'	2.5'
X303	2.0'	1.1'
X304	2.8'	1.5'
X305	2.7'	2.7'
X306	2.1'	-
Y302	2.1'	2.5'
Y303	2.7'	2.9'
Y304	3.0'	3.4'
Y305	2.7'	3.4'
Z302	1.7'	2.2'
Z303	2.4'	2.8'
Z304	2.2'	2.0'
AA302	2.2'	2.3'

VOLUME CALCULATIONS

PRE-CONSTRUCTION (BD) to FIRST LIFT	475101 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	27274 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	503767 Cu. Yd.



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1"=500'
500 0 250 500

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237–2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
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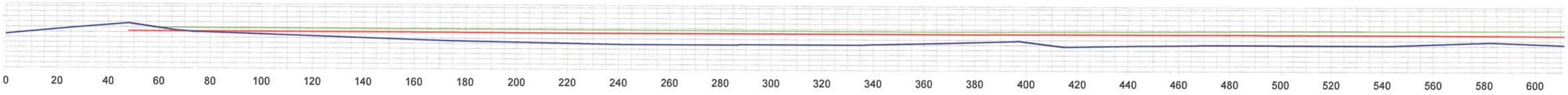
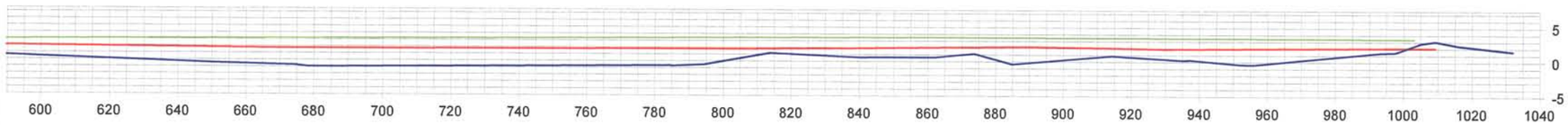
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 1 OF 15	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 3 031910

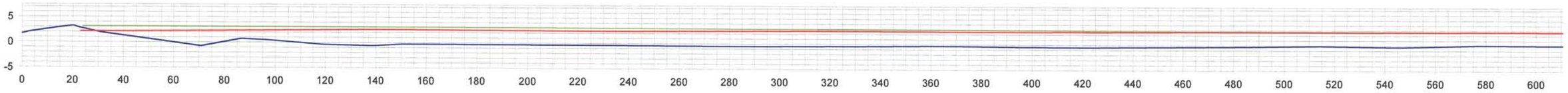
SECTION - 301



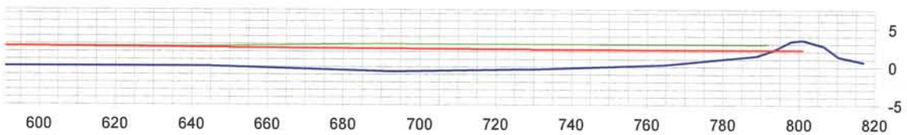
SECTION - 301 (CONT.)



SECTION - 302(1)



SECTION - 302(1) (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

3/24/10

ROBERT L. LASTRAPES
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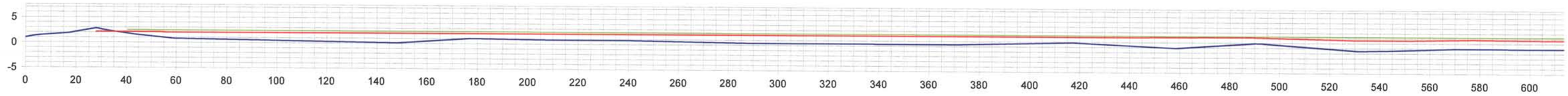
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

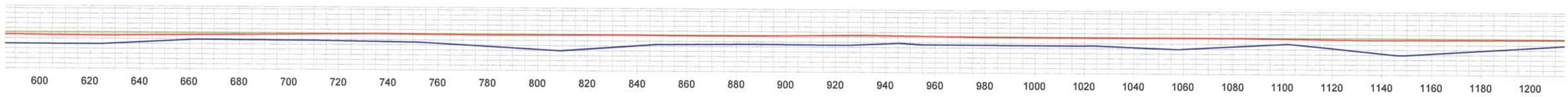
TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 2 OF 15	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 3 031910

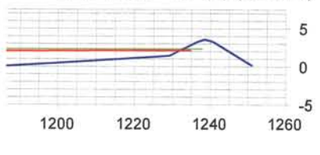
SECTION - 302(2)



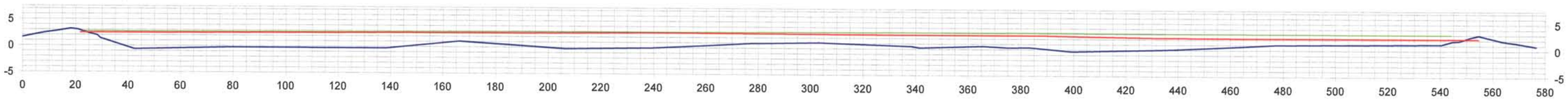
SECTION - 302(2) (CONT.)



SECTION - 302(2) (CONT.)



SECTION - 303(1)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REGISTERED
PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/22/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

TERREBONNE PARISH, LA

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CONTRACT NO.:	TE-44
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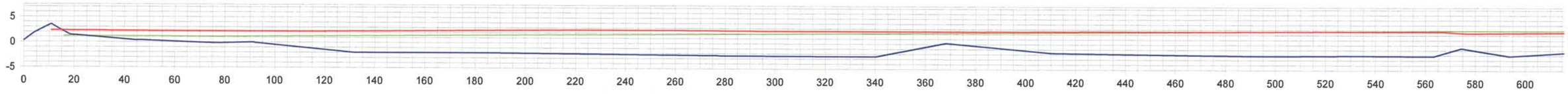
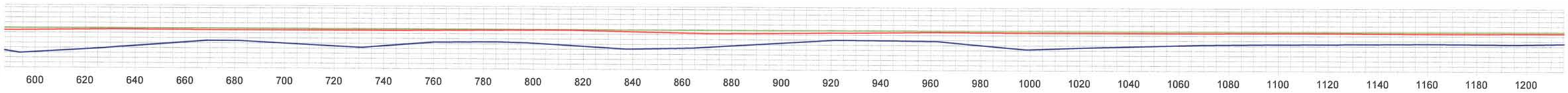
DRAWN BY:	
CHECKED BY:	
SHEET 3 OF 15	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 3 031910

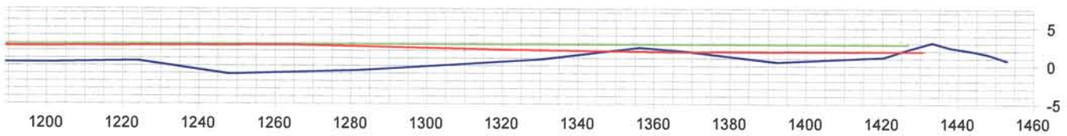
SECTION - 303(2)



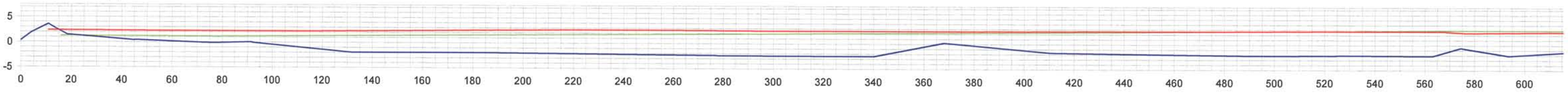
SECTION - 303(2) (CONT.)



SECTION - 303(2) (CONT.)



SECTION - 303(2)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

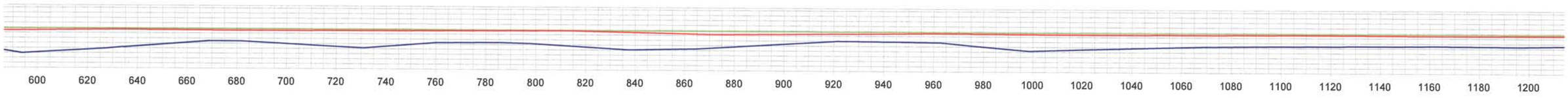
FILL AREA 3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 4 OF 15	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 3 031910

SECTION - 303(2) (CONT.)



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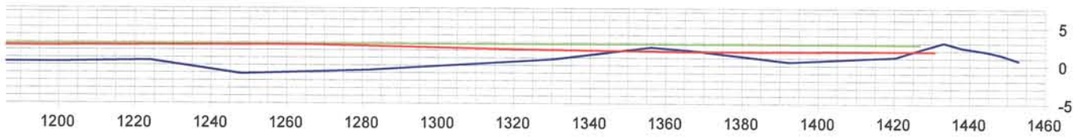

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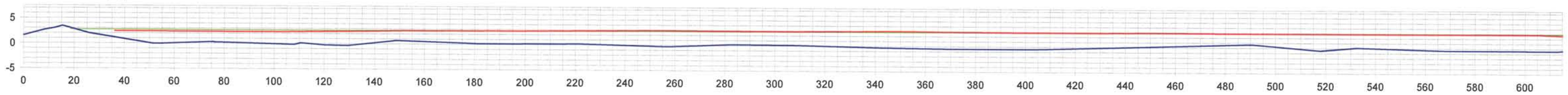

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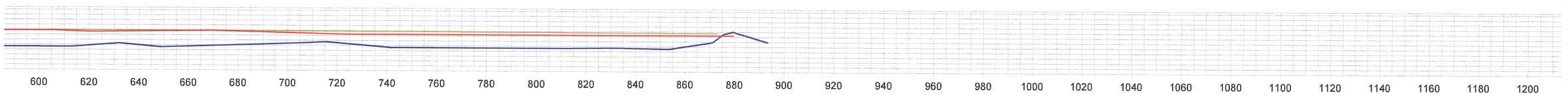

LEGEND

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- BD SURFACE
- FIRST LIFT
- SECOND LIFT

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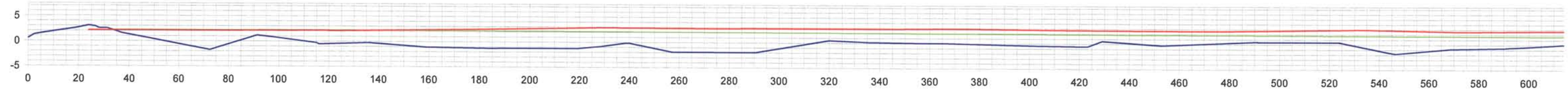
SECTION - 304(2)



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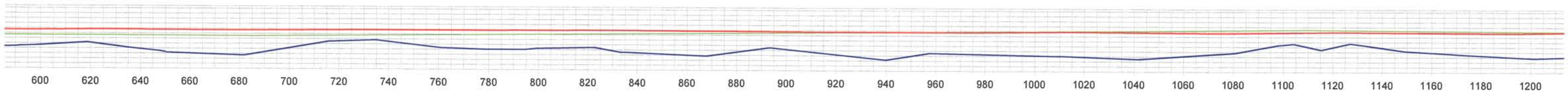

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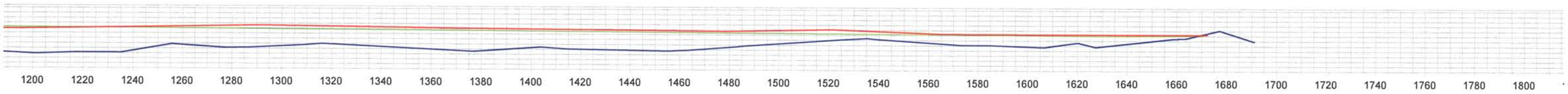

SECTION - 305

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED PROFESSIONAL LAND SURVEYOR

3/22/10

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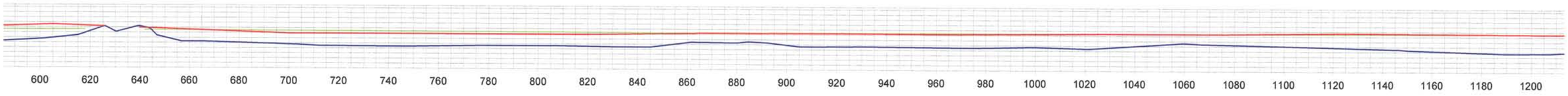
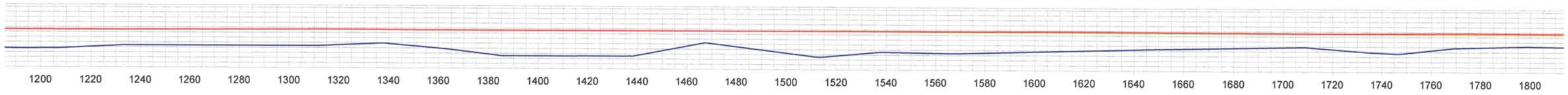
SECTION - 305 (CONT.)



SECTION - 305 (CONT.)



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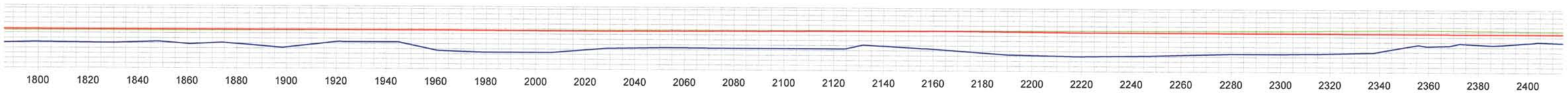

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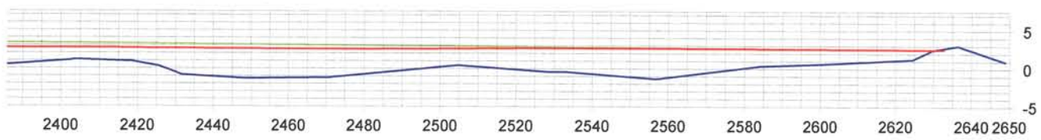

LEGEND

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TERREBONNE PARISH, LA

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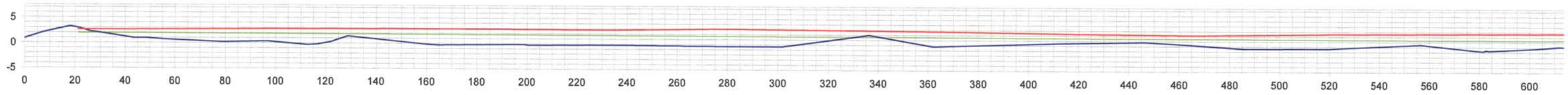
SECTION - 306



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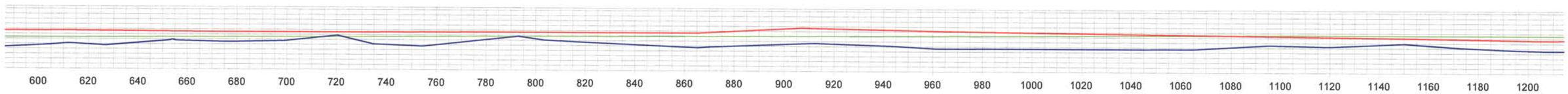

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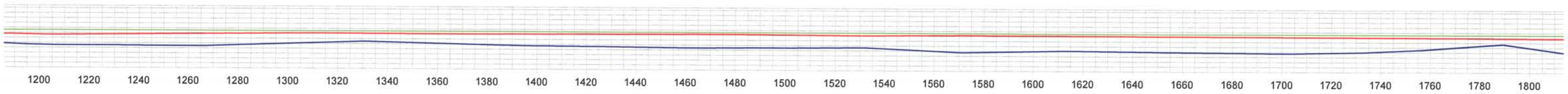

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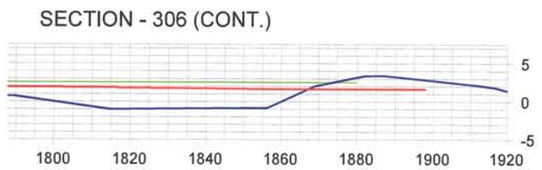
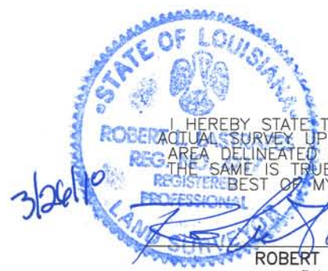


LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT



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3/26/10

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(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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Houston Lafayette New Orleans
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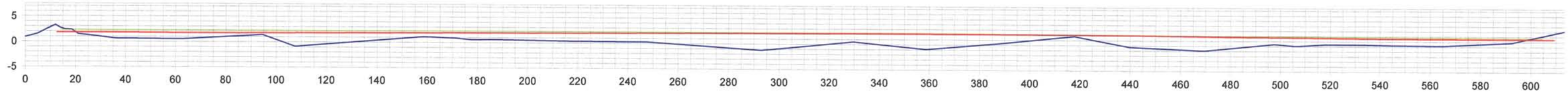
FILENAME:	FILL AREA 3 031910

SECTION - AA



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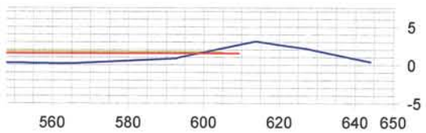
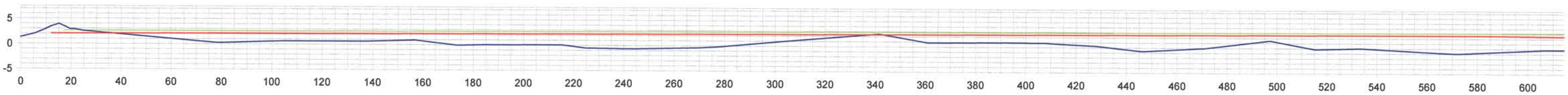


SECTION - S



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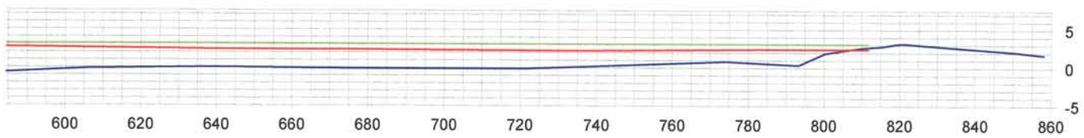

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

3/26/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

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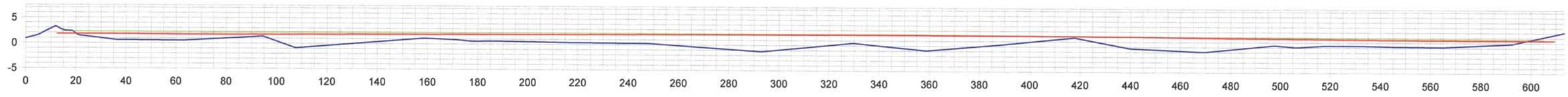
SECTION - AA



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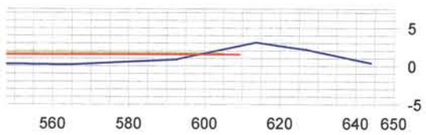
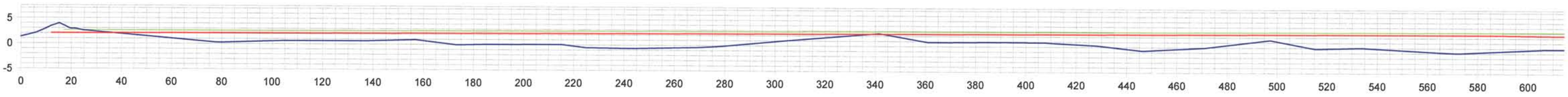


SECTION - S



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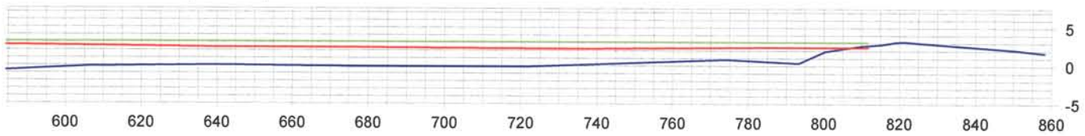

LEGEND

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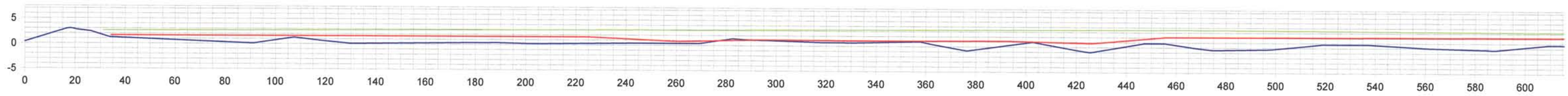
SECTION - T



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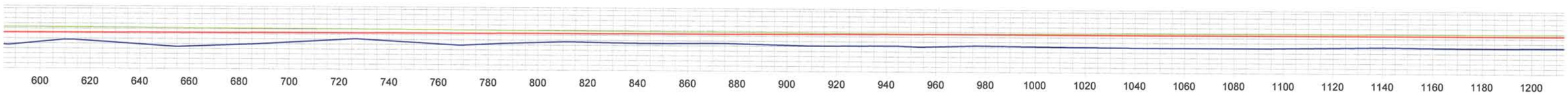

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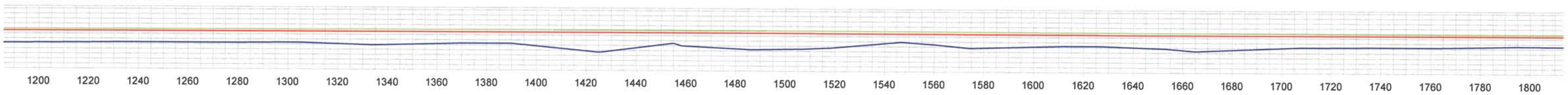
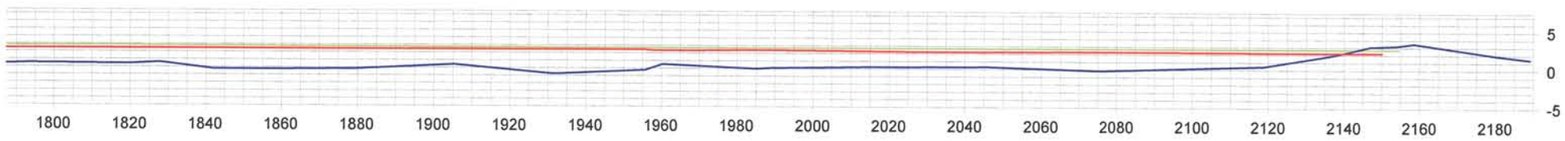


SECTION - T (CONT.)



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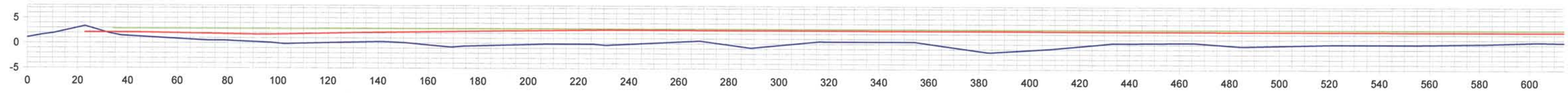
SECTION - U



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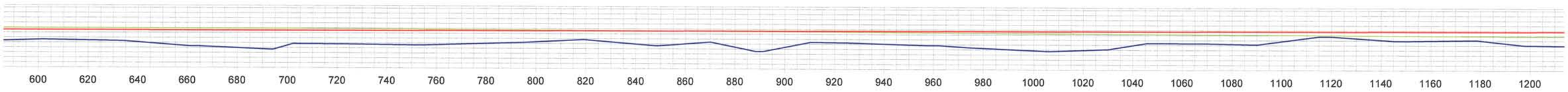

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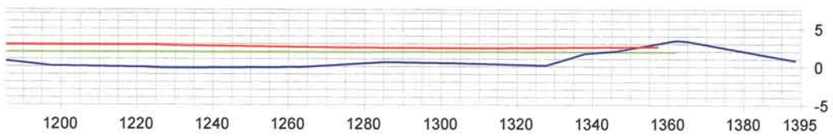
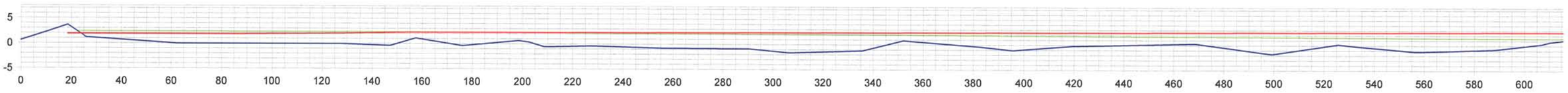


SECTION - V



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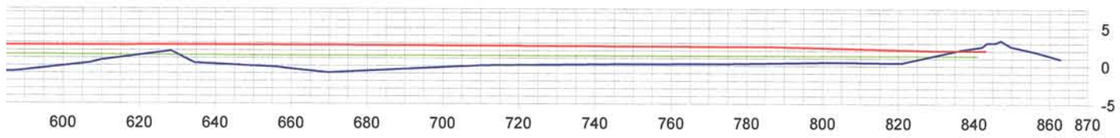

LEGEND

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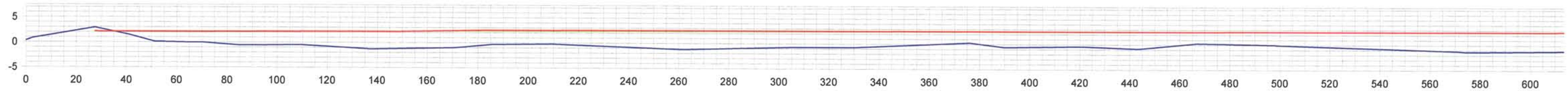
SECTION - W



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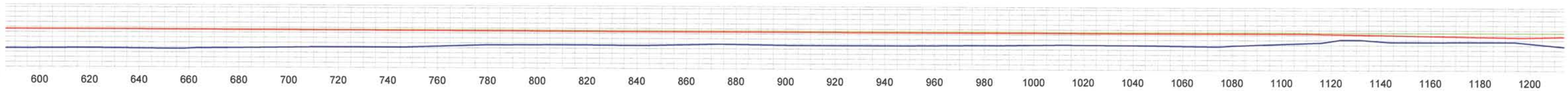

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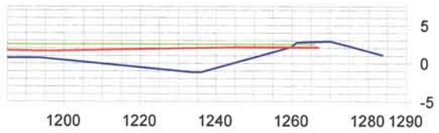
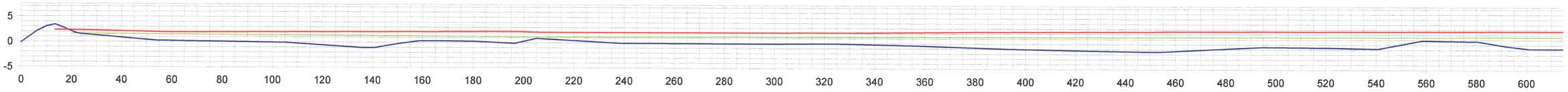


SECTION - X



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 3

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER & ASSOCIATES INC
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
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DRAWN BY:	
CHECKED BY:	
SHEET 13 OF 15	
DATE: 03/19/10 REVISED:	
FILENAME:	CAD\FILL AREA 3 031910

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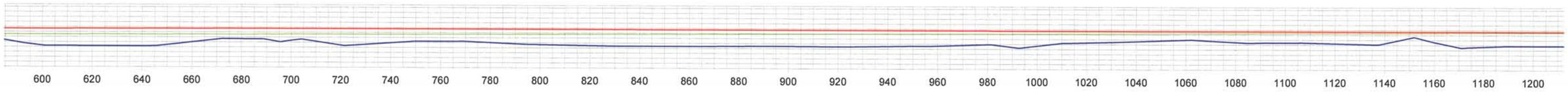

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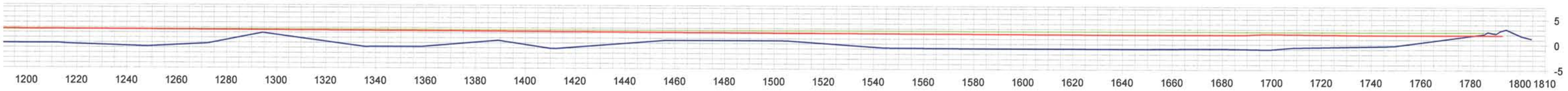
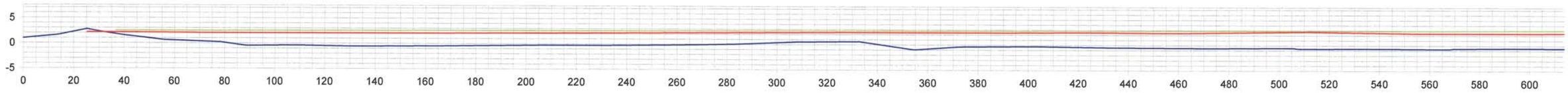


SECTION - Y



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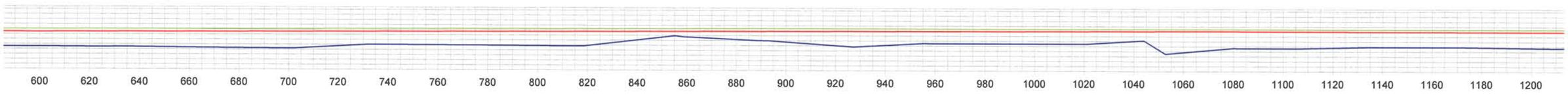

LEGEND

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FILL AREA 3

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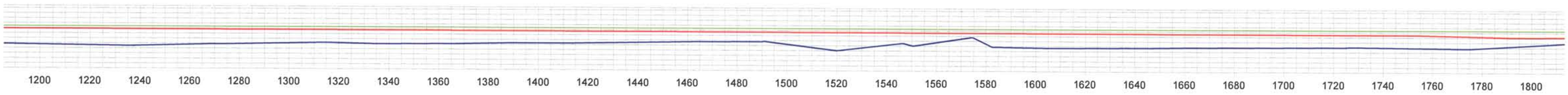
SECTION - Y(CONT.)



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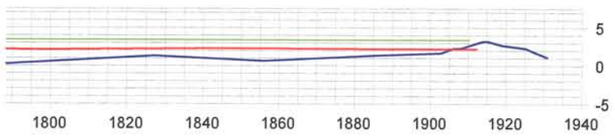

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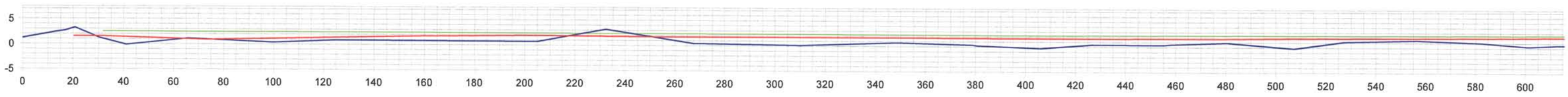

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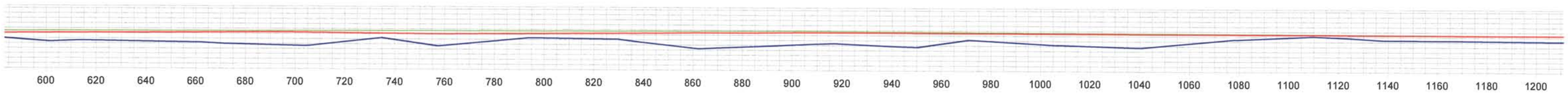

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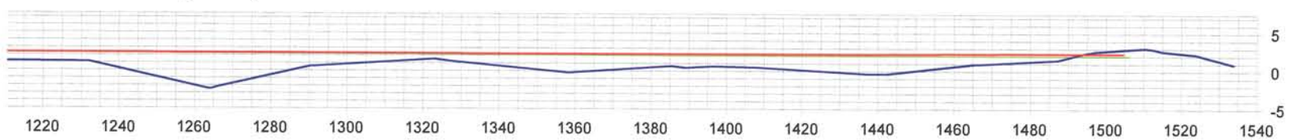

LEGEND

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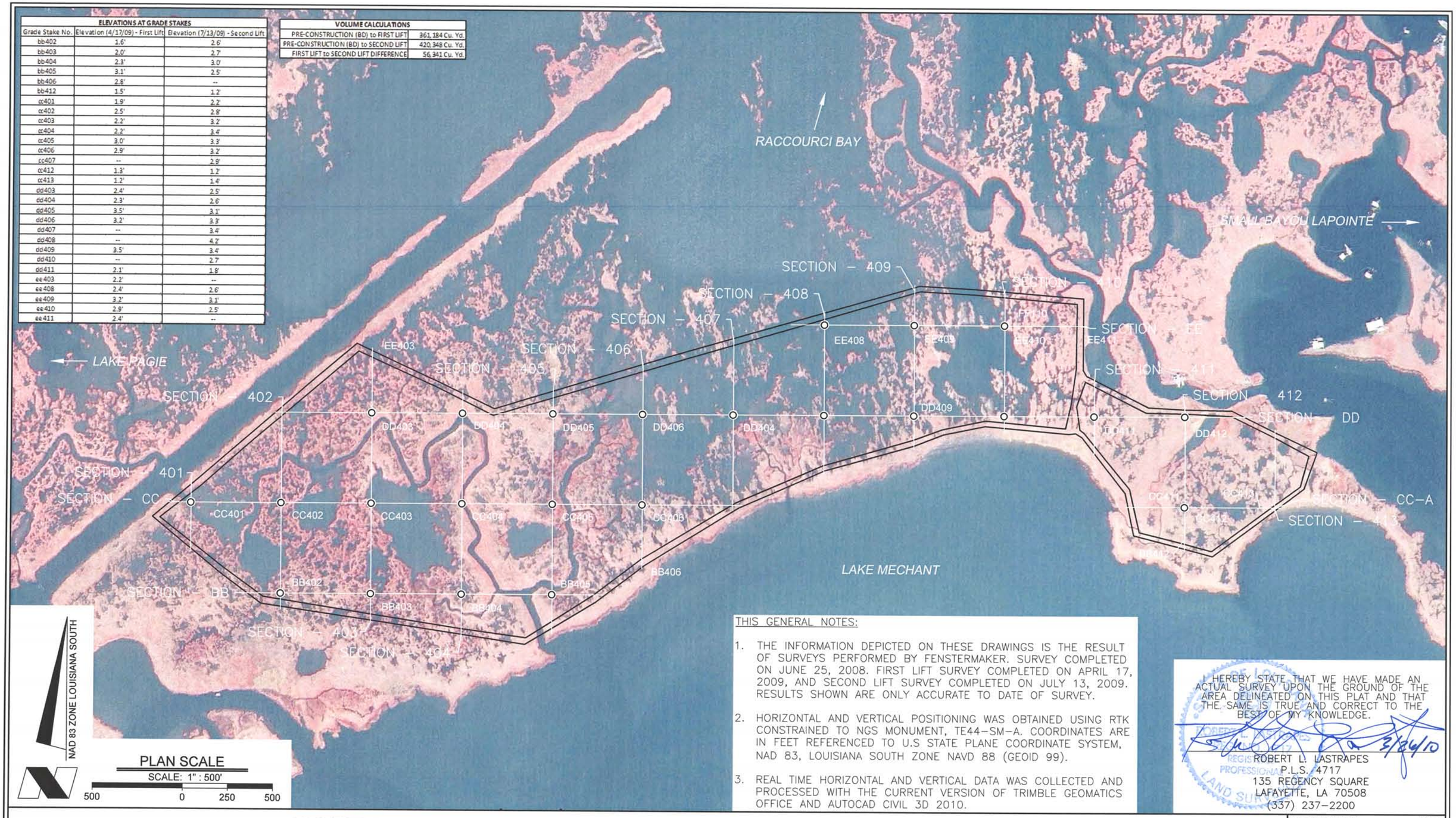
ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (4/17/09) - First Lift	Elevation (7/13/09) - Second Lift
bb402	1.6'	2.6'
bb403	2.0'	2.7'
bb404	2.3'	3.0'
bb405	3.1'	2.5'
bb406	2.8'	--
bb412	1.5'	1.2'
cc401	1.9'	2.2'
cc402	2.5'	2.8'
cc403	2.2'	3.2'
cc404	2.2'	3.4'
cc405	3.0'	3.3'
cc406	2.9'	3.2'
cc407	--	2.9'
cc412	1.3'	1.2'
cc413	1.2'	1.4'
dd403	2.4'	2.5'
dd404	2.3'	2.6'
dd405	3.5'	3.1'
dd406	3.2'	3.3'
dd407	--	3.4'
dd408	--	4.2'
dd409	3.5'	3.4'
dd410	--	2.7'
dd411	2.1'	1.8'
ee403	2.2'	--
ee408	2.4'	2.6'
ee409	3.2'	3.1'
ee410	2.9'	2.5'
ee411	2.4'	--

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	361,184 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	420,348 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	56,341 Cu. Yd.



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 500'
500 0 250 500

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. SURVEY COMPLETED ON JUNE 25, 2008. FIRST LIFT SURVEY COMPLETED ON APRIL 17, 2009, AND SECOND LIFT SURVEY COMPLETED ON JULY 13, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

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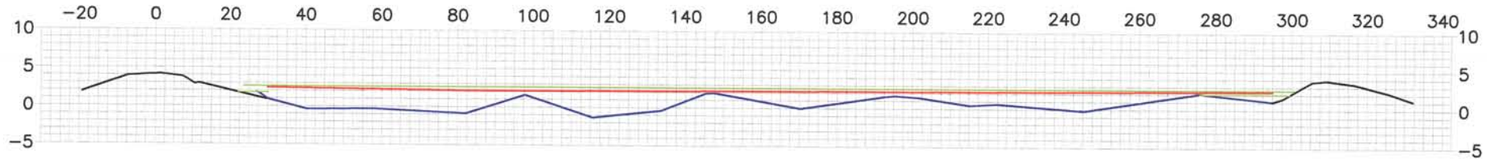
SHEET 1 OF 14	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA MC-4 031910

SECTION - 401



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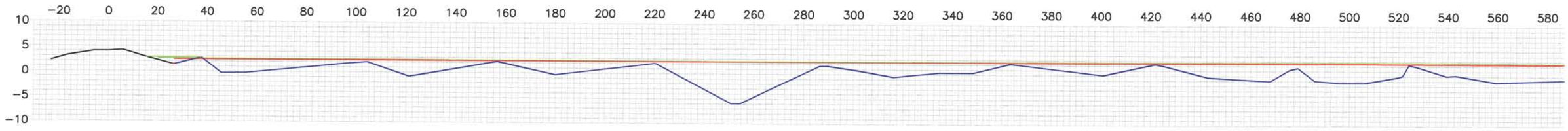

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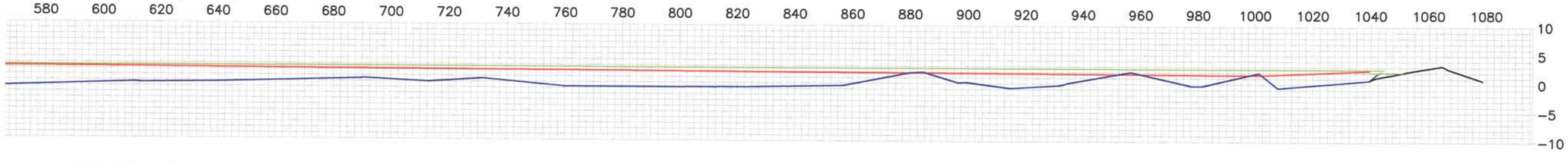

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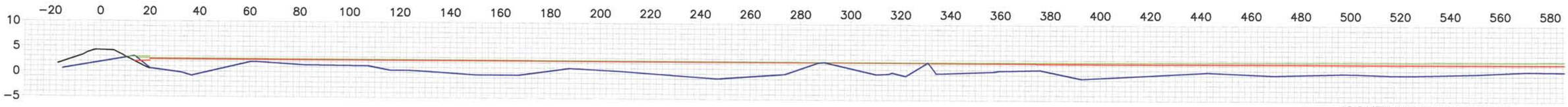

(CONTINUES ON PAGE 3)

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REGISTERED
PROFESSIONAL
LAND SURVEYOR

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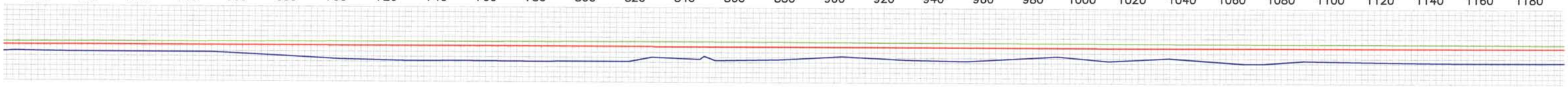

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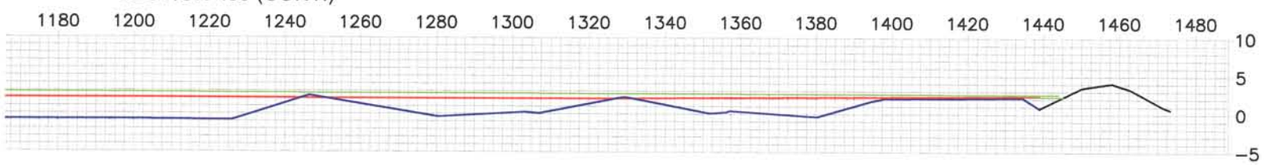

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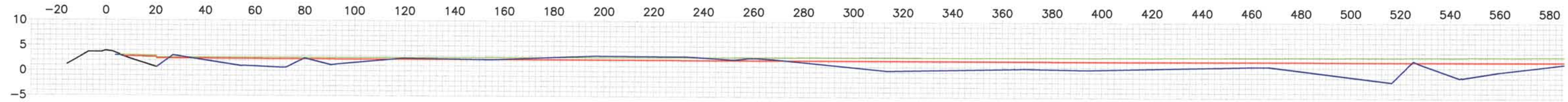

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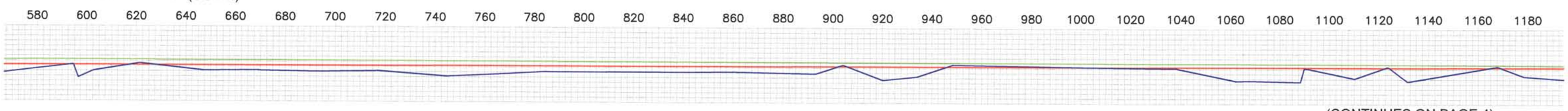

(CONTINUES ON PAGE 4)

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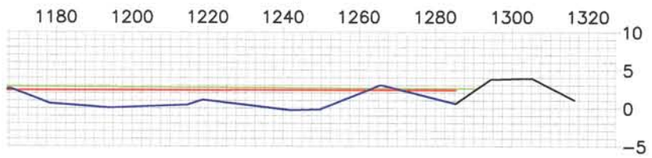
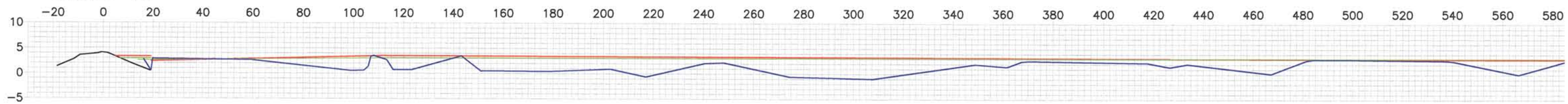
SECTION - 404 (CONT.)



SECTION - 405



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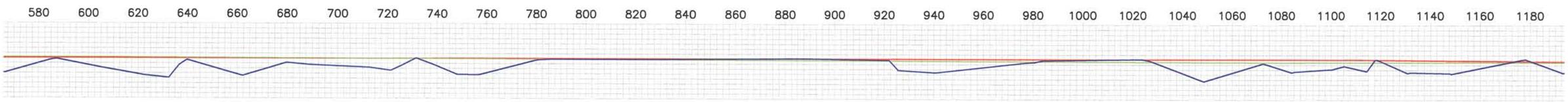

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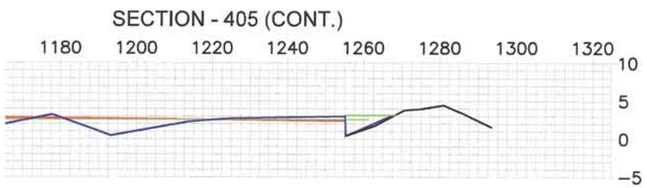

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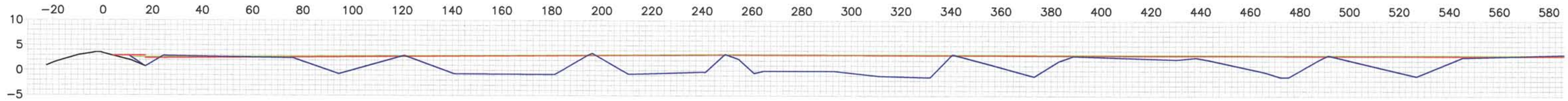
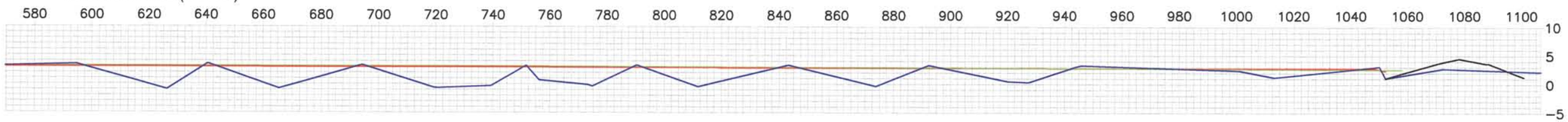
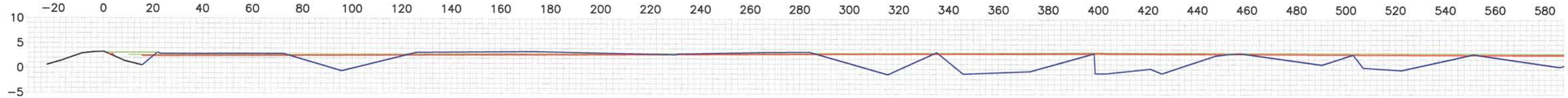
SECTION - 406



SECTION - 406 (CONT.)



SECTION - 407



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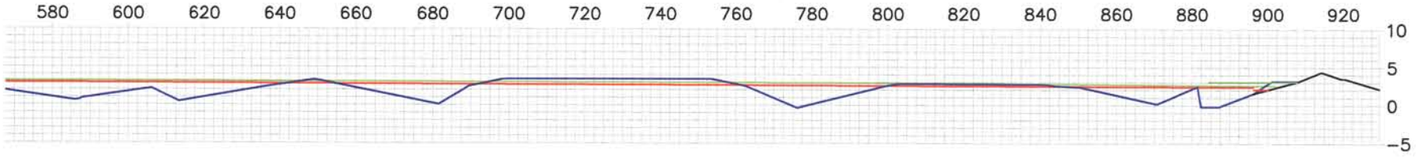

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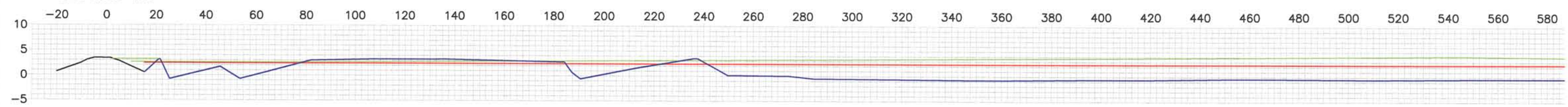
SECTION - 408



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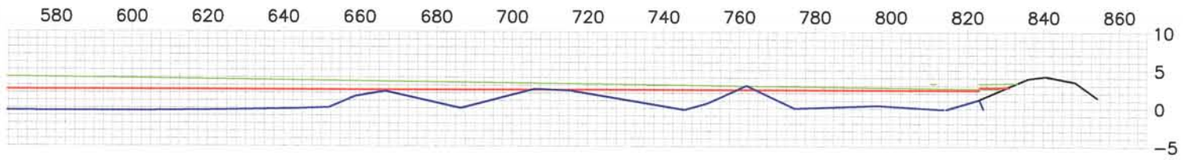

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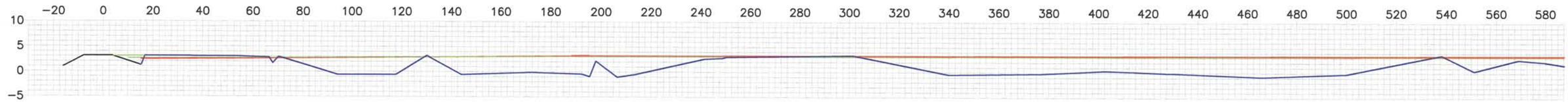

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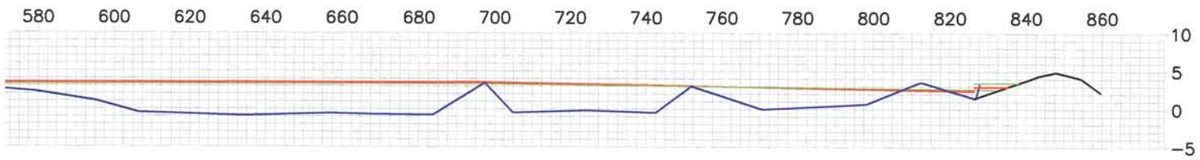


LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237−2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 4

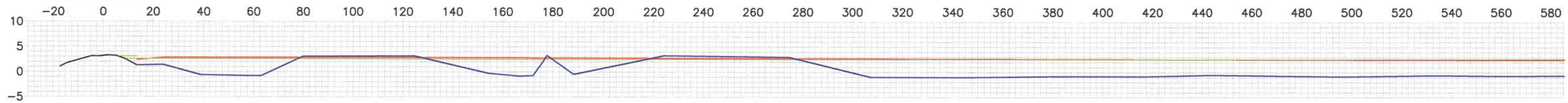
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 6 OF 14	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA MC-4 031910

SECTION - 410



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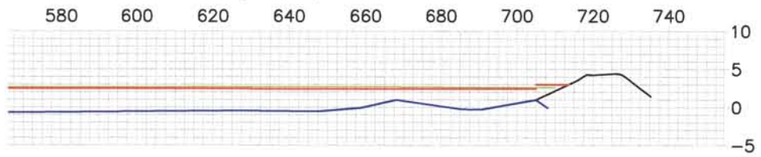

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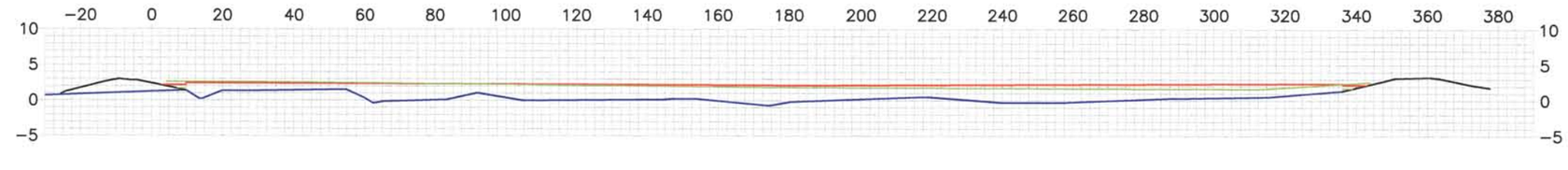

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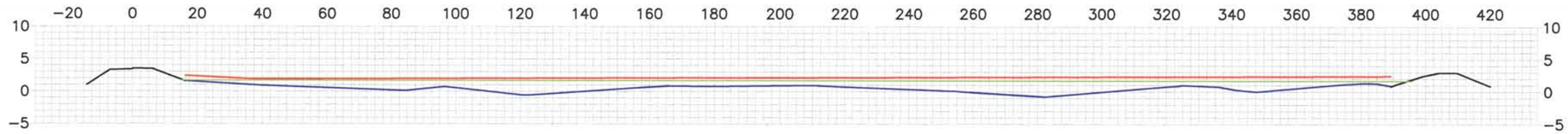

LEGEND

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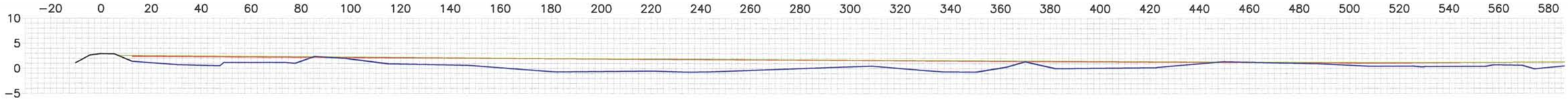
SECTION - 412



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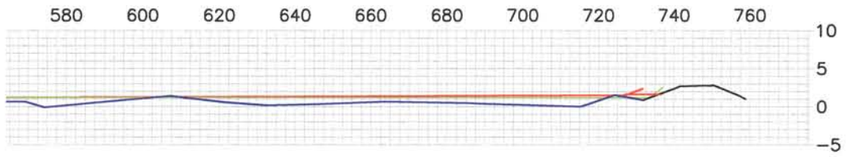

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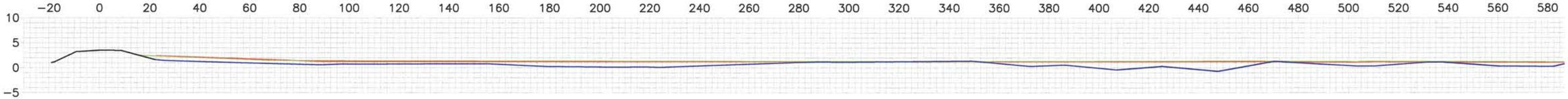

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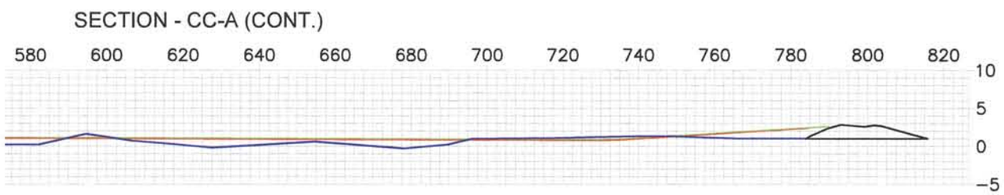

LEGEND

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STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED
PROFESSIONAL
LAND SURVEYOR

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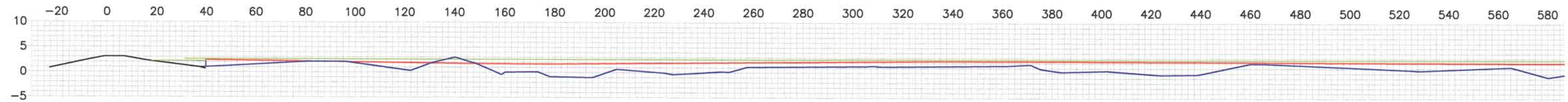
SHEET 8 OF 14	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA MC-4 031910

SECTION - BB



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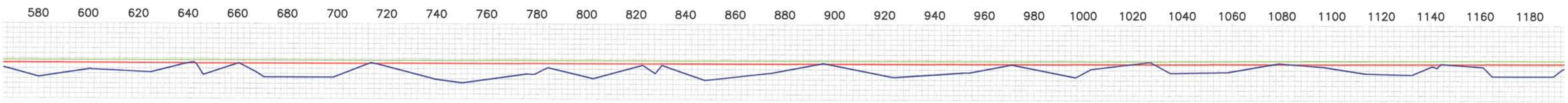

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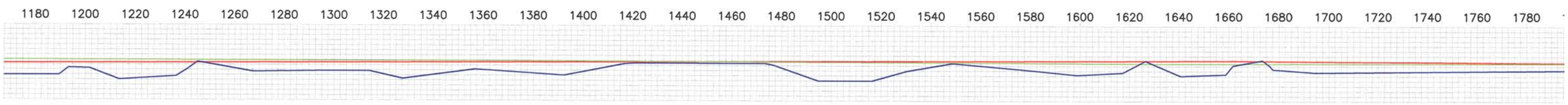

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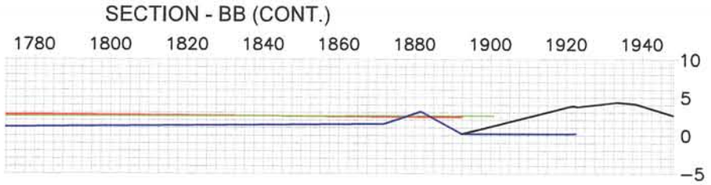

LEGEND

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SHEET 9 OF 14	
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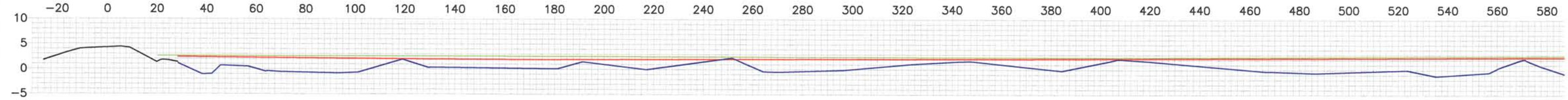
SECTION - CC



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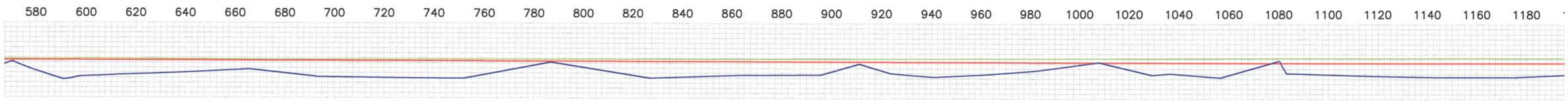

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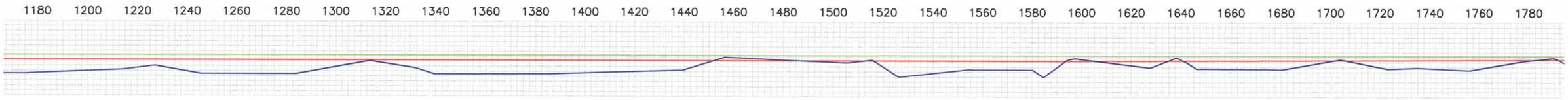

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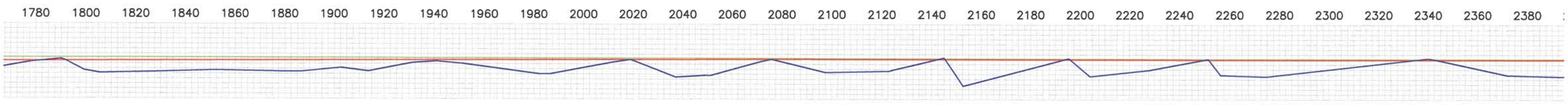

(CONTINUES ON PAGE 11)

LEGEND

- DIKE
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STATE OF LOUISIANA
ROBERT L. LASTRAPES
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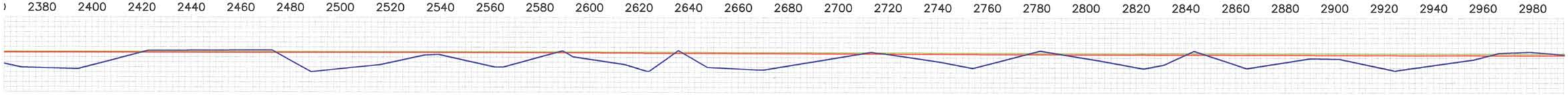
SHEET 10 OF 14	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA MC-4 031910

SECTION - CC (CONT.)



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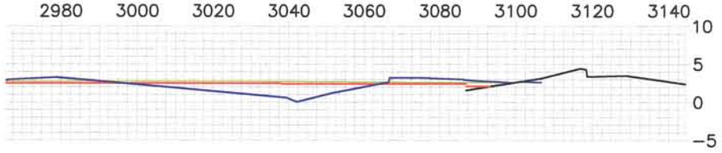

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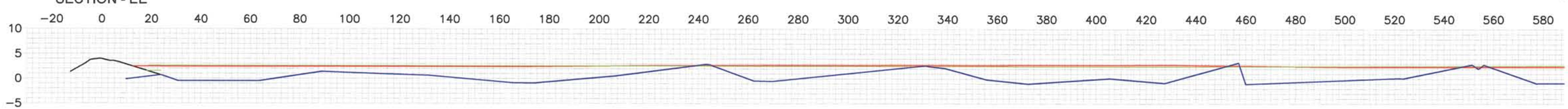

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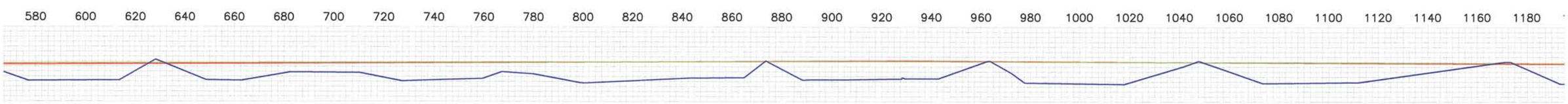

(CONTINUES ON PAGE 12)

LEGEND

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SHEET 11 OF 14	
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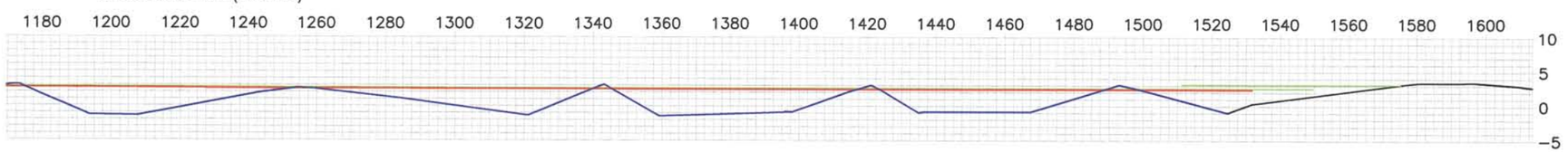
FILENAME:	FILL AREA MC-4 031910

SECTION - EE (CONT.)



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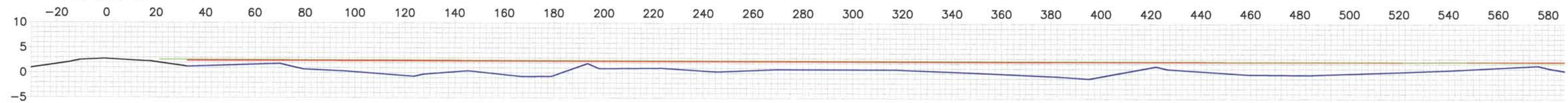

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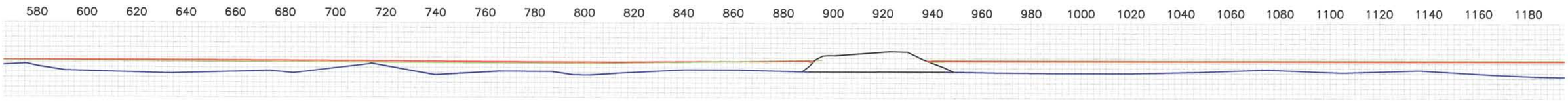

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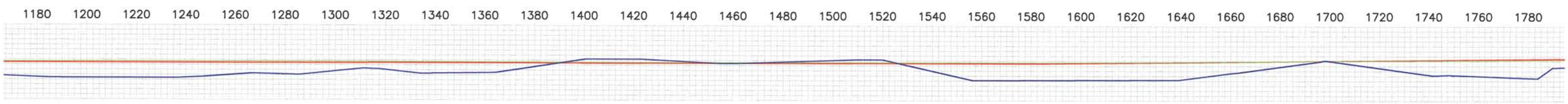

(CONTINUES ON PAGE 13)

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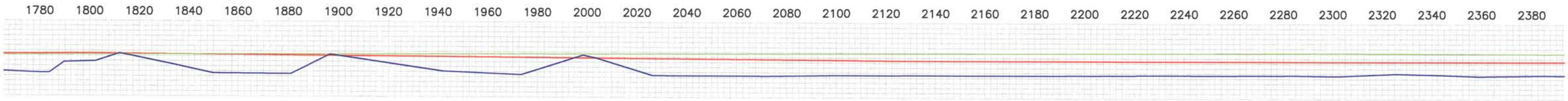
SECTION - DD (CONT.)



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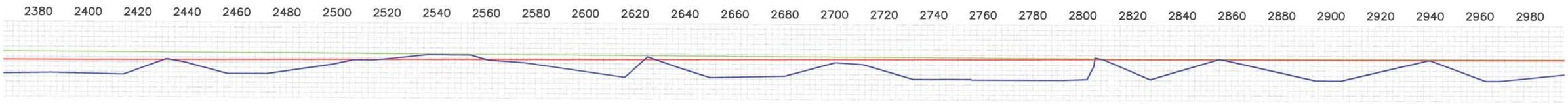

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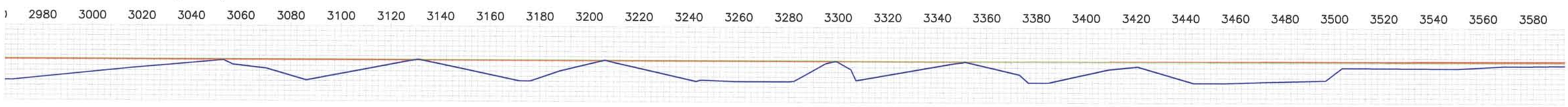

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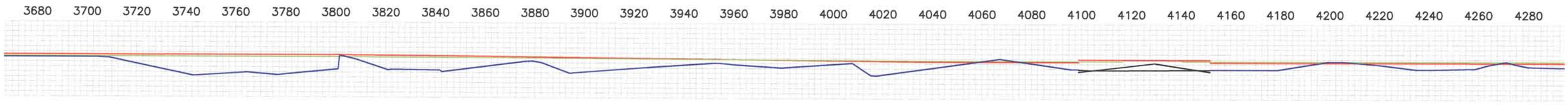

(CONTINUES ON PAGE 14)

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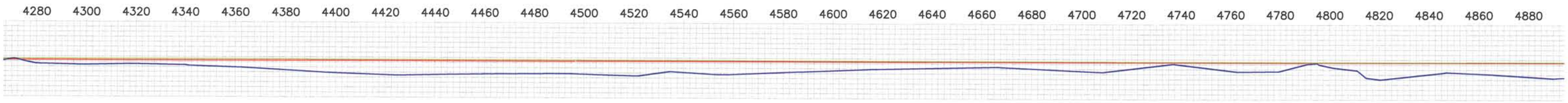
SECTION - DD (CONT.)



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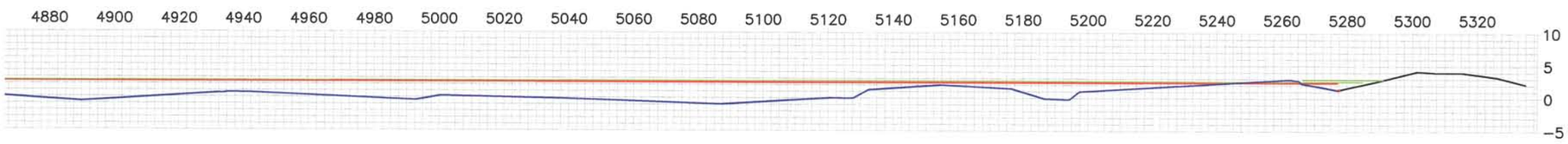

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GENERAL NOTES:

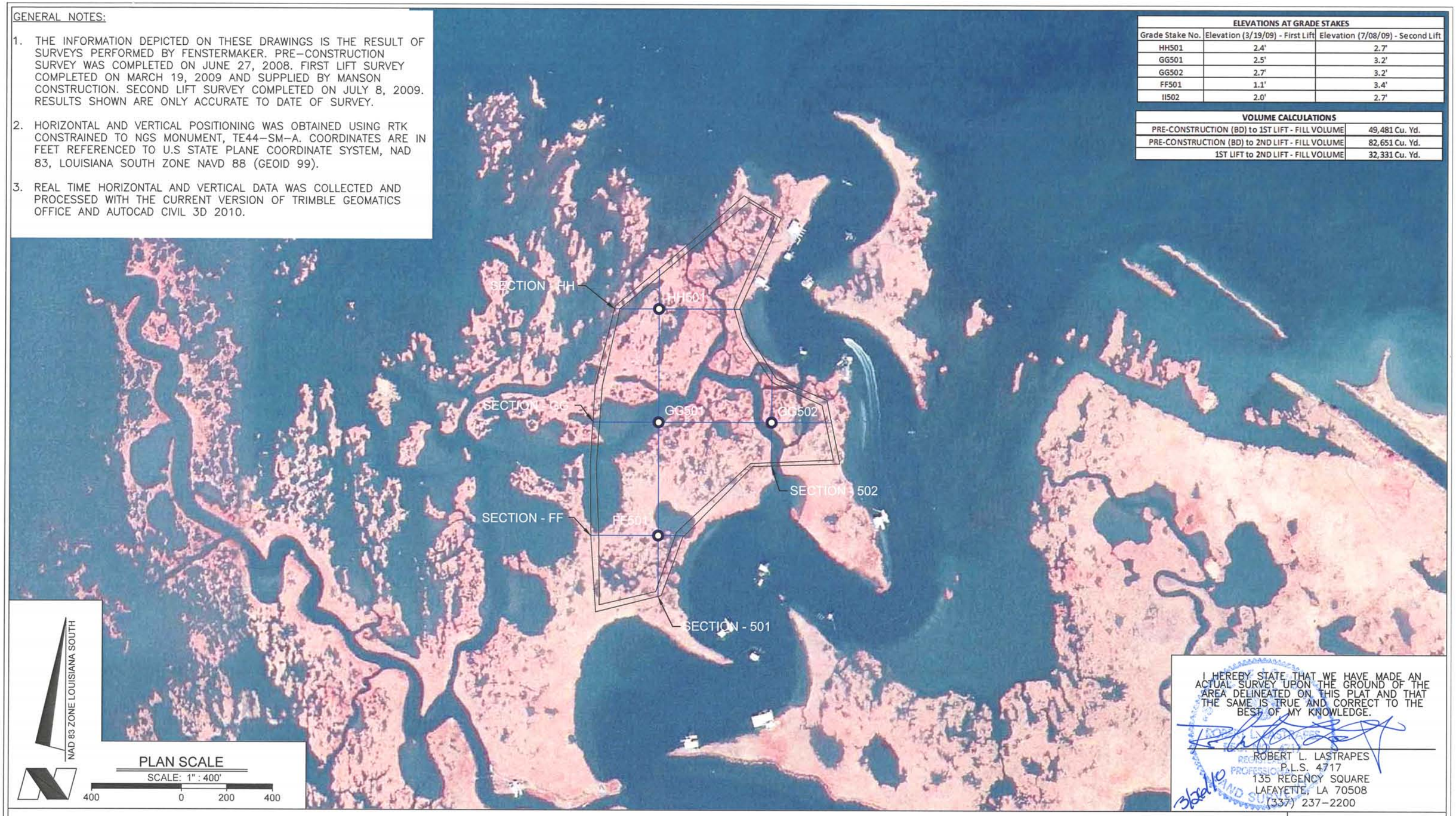
1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. PRE-CONSTRUCTION SURVEY WAS COMPLETED ON JUNE 27, 2008. FIRST LIFT SURVEY COMPLETED ON MARCH 19, 2009 AND SUPPLIED BY MANSON CONSTRUCTION. SECOND LIFT SURVEY COMPLETED ON JULY 8, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (3/19/09) - First Lift	Elevation (7/08/09) - Second Lift
HH501	2.4'	2.7'
GG501	2.5'	3.2'
GG502	2.7'	3.2'
FF501	1.1'	3.4'
II502	2.0'	2.7'

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to 1ST LIFT - FILL VOLUME	49,481 Cu. Yd.
PRE-CONSTRUCTION (BD) to 2ND LIFT - FILL VOLUME	82,651 Cu. Yd.
1ST LIFT to 2ND LIFT - FILL VOLUME	32,331 Cu. Yd.



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 400'
400 0 200 400

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

3/26/10

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5

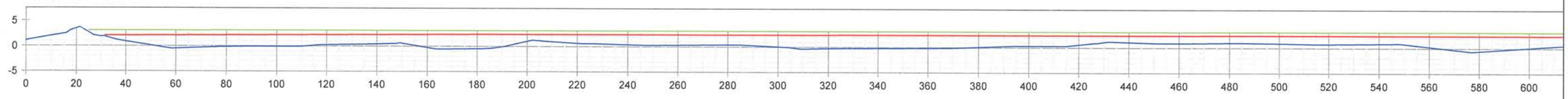
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER & ASSOCIATES, P.C.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BL/SJB
CHECKED BY:	RPE
SHEET 1 OF 3	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5 031910

SECTION - 501



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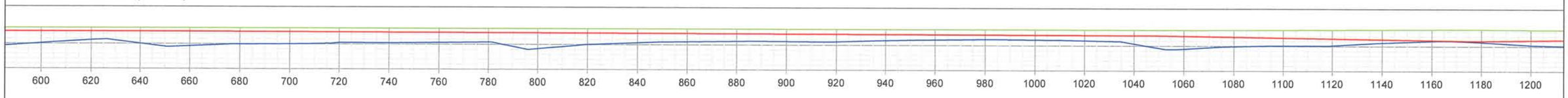

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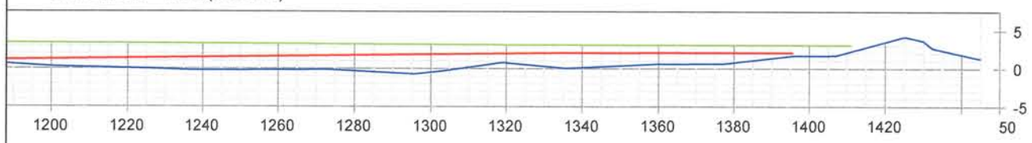

SECTION - 502

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
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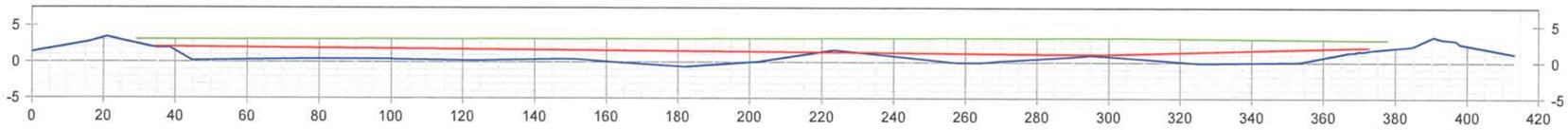
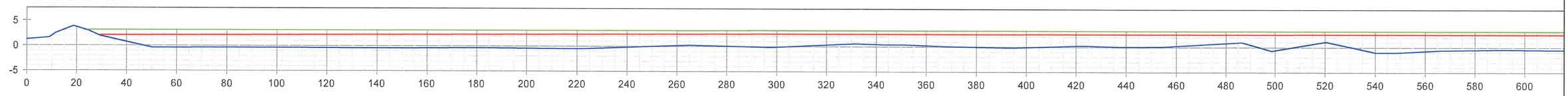
SHEET 2 OF 3	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5 031910

SECTION - FF



SECTION - GG



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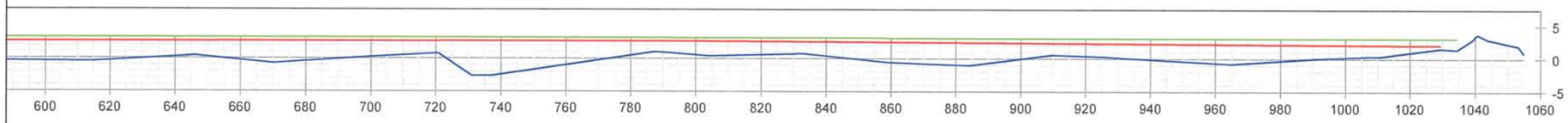
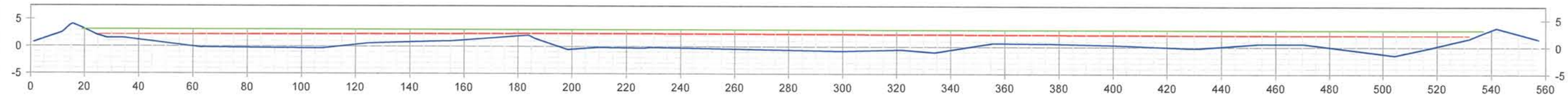


SECTION - HH



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED
PROFESSIONAL
LAND SURVEYOR

3/24/10

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

C.H. FENSTERMAKER & ASSOCIATES, INC.

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5

TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
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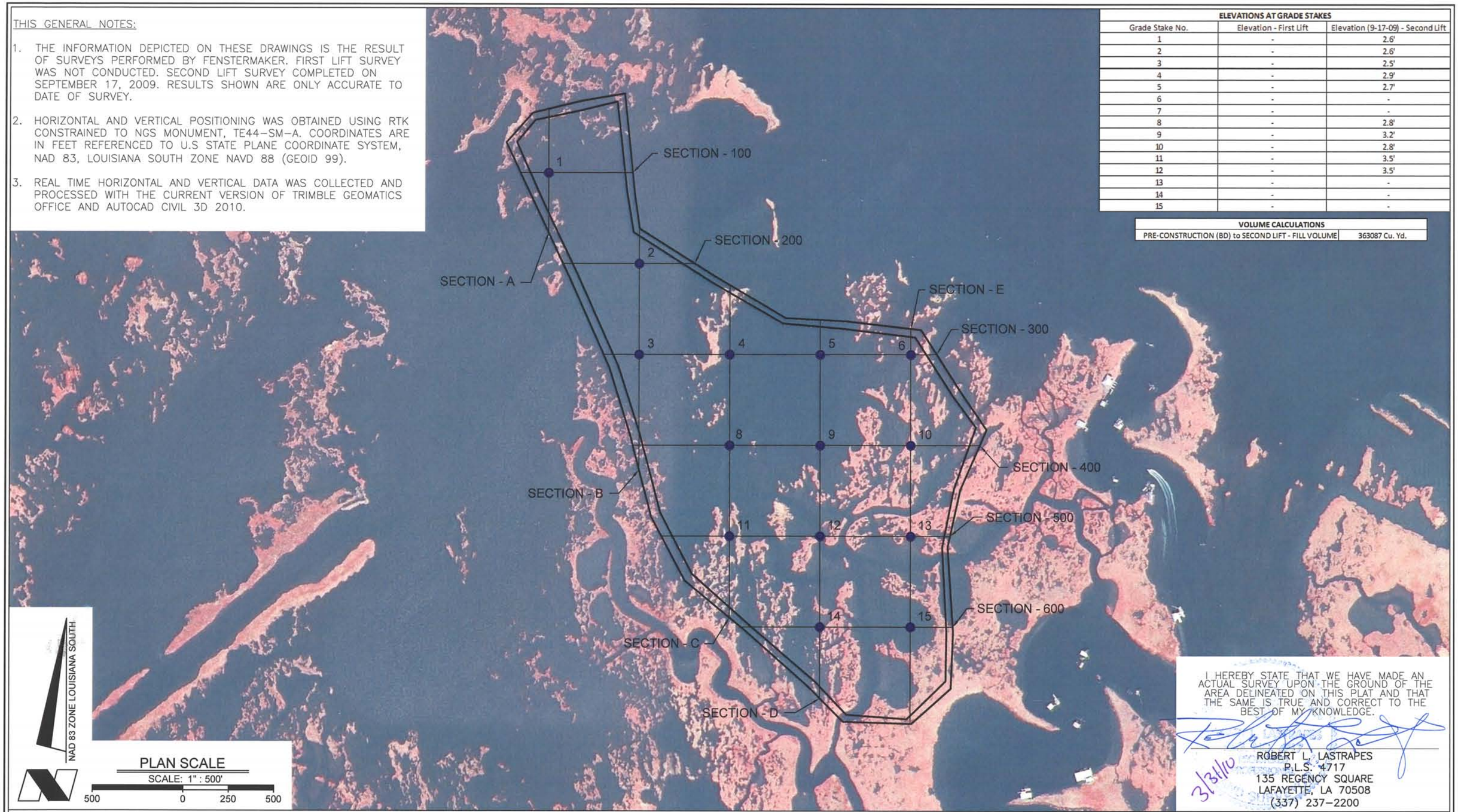
SHEET 3 OF 3	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5 031910

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. FIRST LIFT SURVEY WAS NOT CONDUCTED. SECOND LIFT SURVEY COMPLETED ON SEPTEMBER 17, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.



ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation - First Lift	Elevation (9-17-09) - Second Lift
1	-	2.6'
2	-	2.6'
3	-	2.5'
4	-	2.9'
5	-	2.7'
6	-	-
7	-	-
8	-	2.8'
9	-	3.2'
10	-	2.8'
11	-	3.5'
12	-	3.5'
13	-	-
14	-	-
15	-	-

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to SECOND LIFT - FILL VOLUME	363087 Cu. Yd.

NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 500'
500 0 250 500

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/31/10

ROBERT L. LASTRAPES
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LAFAYETTE, LA 70508
(337) 237–2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

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C.H. FENSTERMAKER & ASSOCIATES, INC.

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Houston Lafayette New Orleans
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CONTRACT NO.:	TE-44
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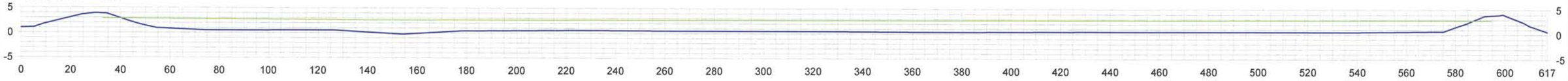
SHEET 1 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

SECTION - 100



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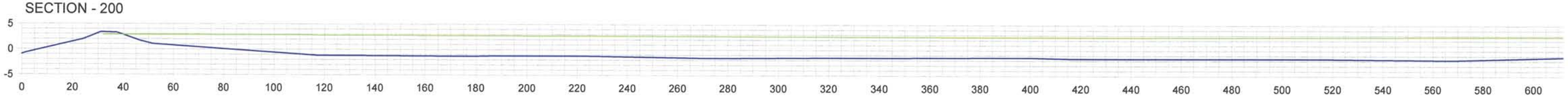

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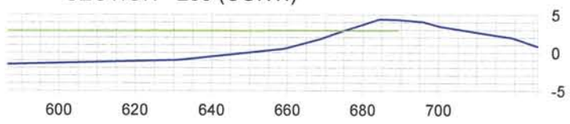
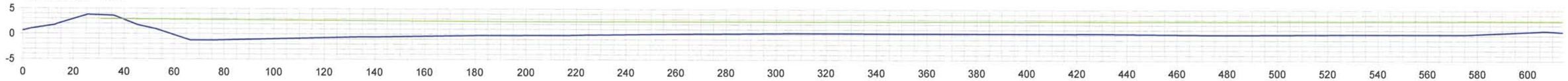


SECTION - 300



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

5/25/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

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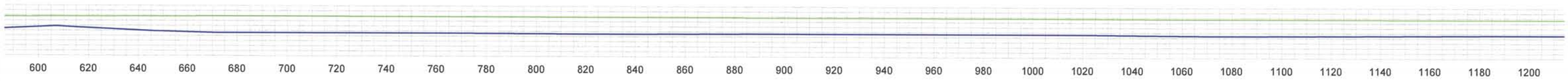
SHEET 2 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

SECTION - 300 (CONT.)



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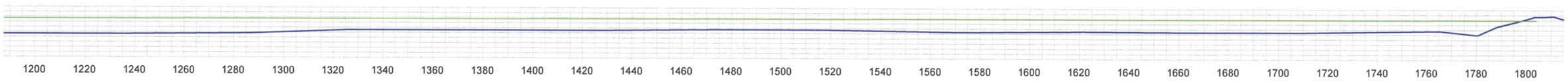

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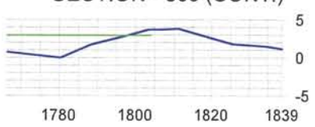
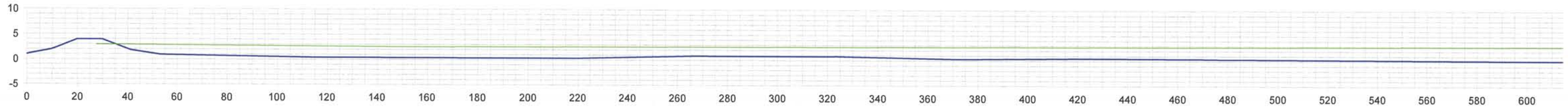


SECTION - 400



LEGEND

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3/25/10

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LAFAYETTE, LA 70508
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135 Regency Square Lafayette, LA 70508
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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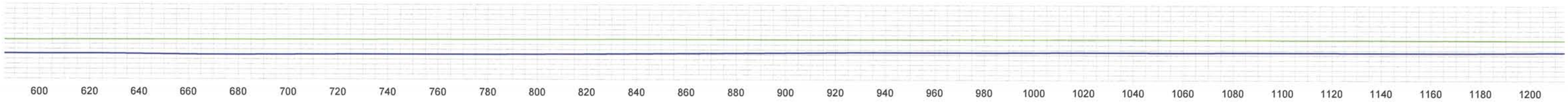
SHEET 3 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

SECTION - 400 (CONT.)



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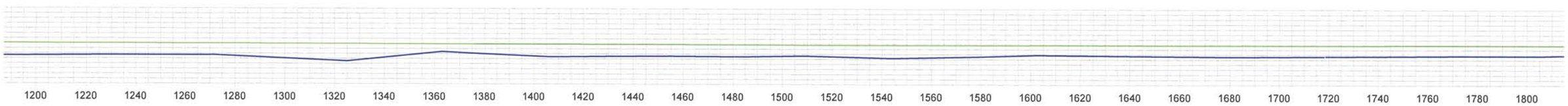

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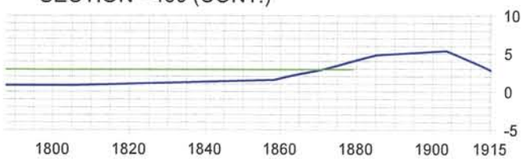

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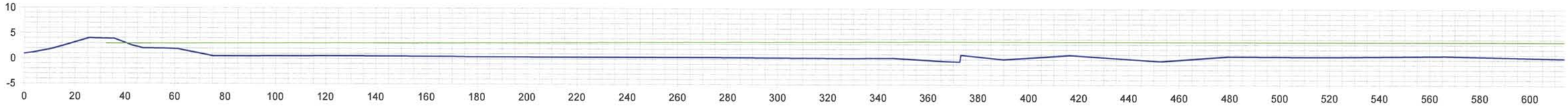

LEGEND

- DIKE
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3/25/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

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C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
DELIVERY NO.:	
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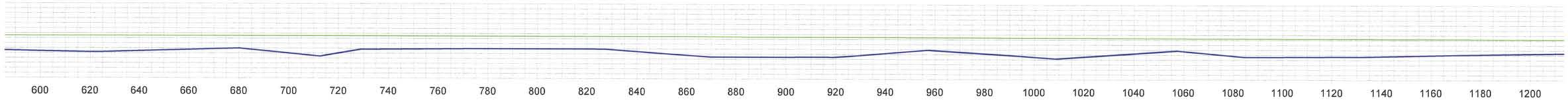
SHEET 4 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

SECTION - 500 (CONT.)



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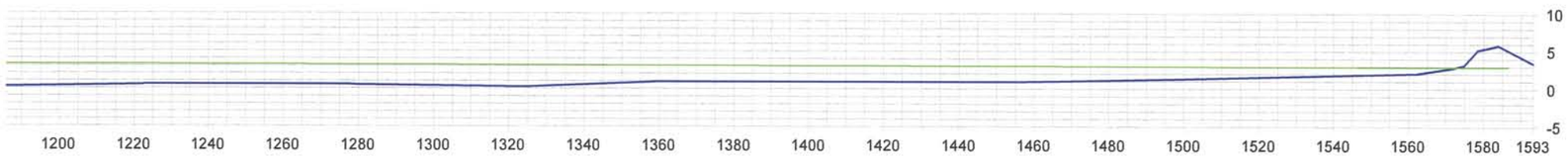

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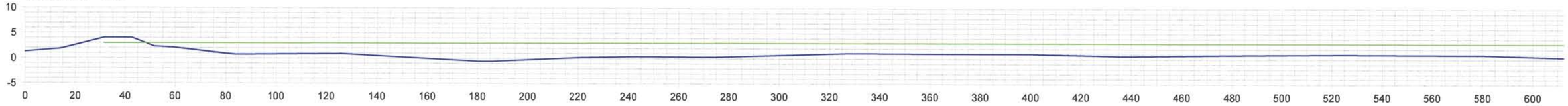

SECTION - 600 (CONT.)

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REG. NO. 4717
REGISTERED
PROFESSIONAL
LAND SURVEYOR

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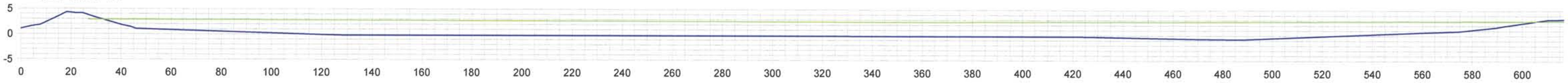
SECTION - A



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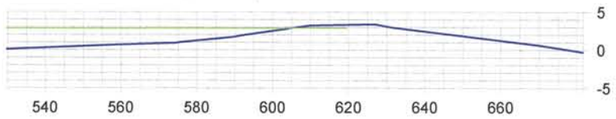
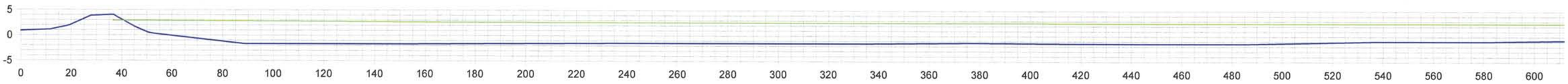


SECTION - B



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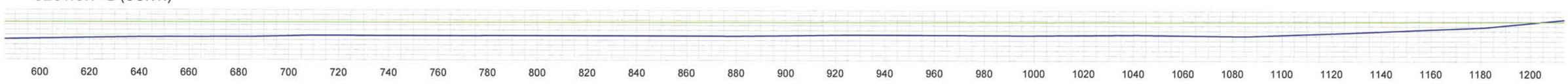

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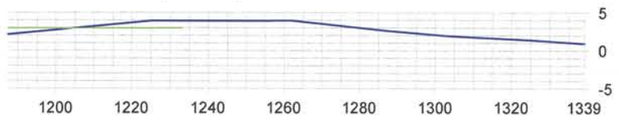

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/25/10

ROBERT L. LASTRAPES
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

TERREBONNE PARISH, LA

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CONTRACT NO.:	TE-44
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SHEET 6 OF 9	
DATE: 03/19/10 REVISED:	
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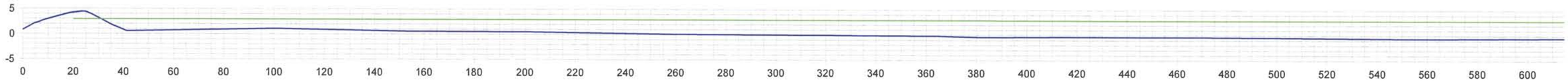
SECTION - C



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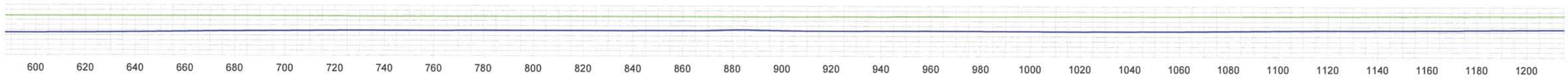

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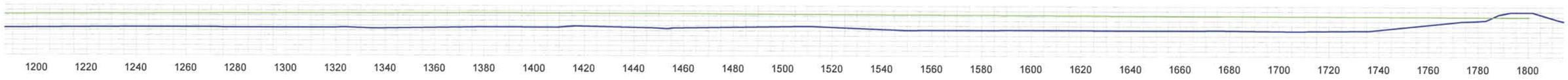

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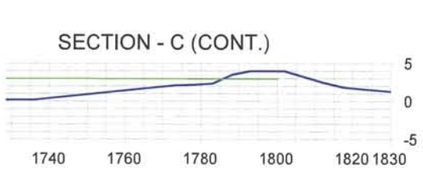


LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/25/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

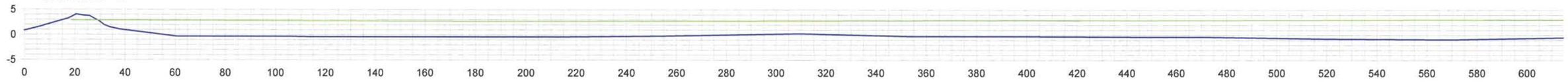
NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 5-1

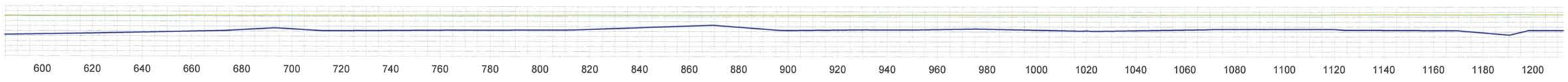
TERREBONNE PARISH, LA

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	
CHECKED BY:	
SHEET 7 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

SECTION - D



SECTION - D (CONT.)



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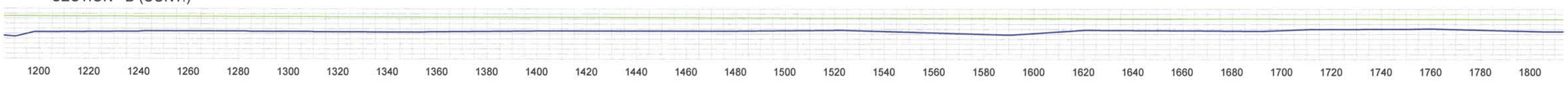

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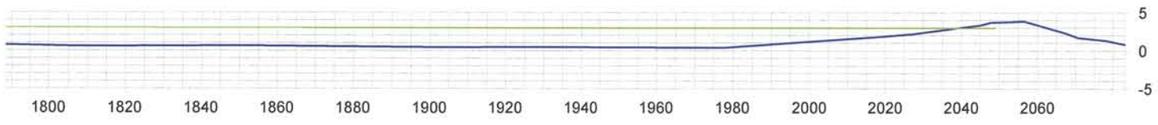

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

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FILL AREA 5-1

TERREBONNE PARISH, LA

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CHECKED BY:	
SHEET 8 OF 9	
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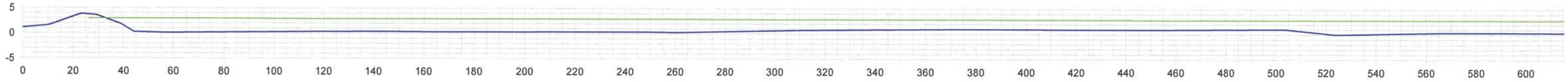
FILENAME:	FILL AREA 5-1 031910

SECTION - E



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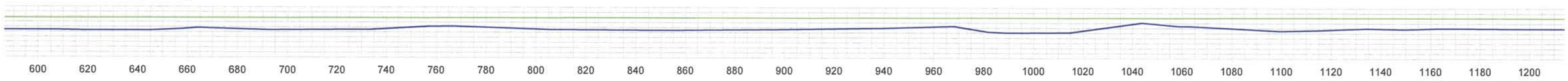

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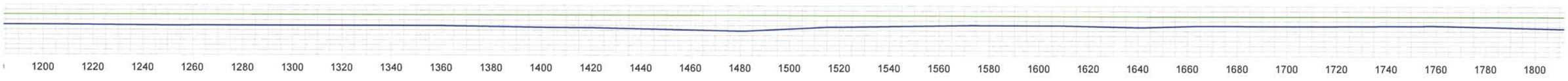

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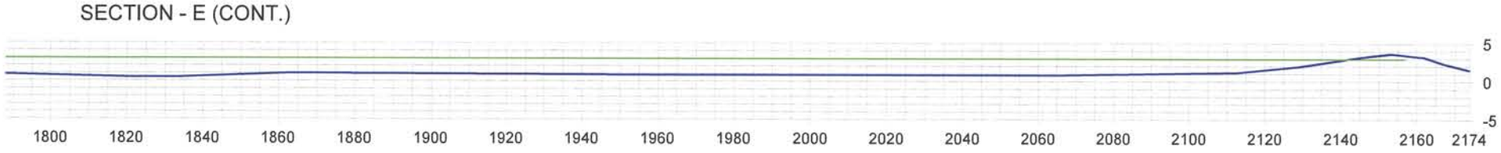

LEGEND

- DIKE
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- FIRST LIFT
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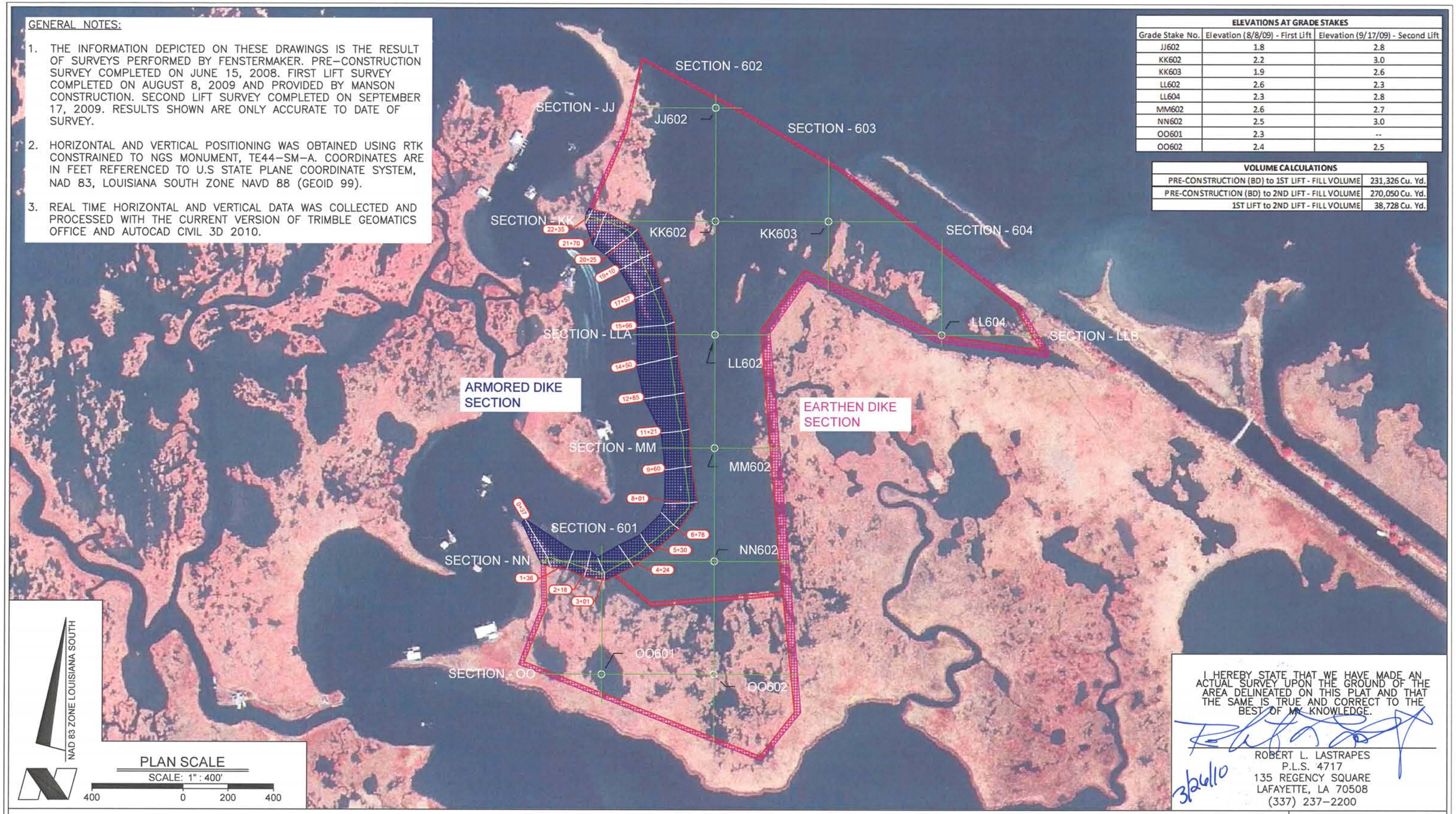
SHEET 9 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 5-1 031910

GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. PRE-CONSTRUCTION SURVEY COMPLETED ON JUNE 15, 2008. FIRST LIFT SURVEY COMPLETED ON AUGUST 8, 2009 AND PROVIDED BY MANSON CONSTRUCTION. SECOND LIFT SURVEY COMPLETED ON SEPTEMBER 17, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.

ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (8/8/09) - First Lift	Elevation (9/17/09) - Second Lift
JJ602	1.8	2.8
KK602	2.2	3.0
KK603	1.9	2.6
LL602	2.6	2.3
LL604	2.3	2.8
MM602	2.6	2.7
NN602	2.5	3.0
OO601	2.3	--
OO602	2.4	2.5

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to 1ST LIFT - FILL VOLUME	231,326 Cu. Yd.
PRE-CONSTRUCTION (BD) to 2ND LIFT - FILL VOLUME	270,050 Cu. Yd.
1ST LIFT to 2ND LIFT - FILL VOLUME	38,728 Cu. Yd.



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3/26/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 6

TERREBONNE PARISH, LA

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C.H. FENSTERMAKER & ASSOCIATES, INC.
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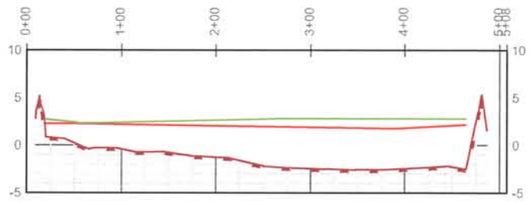
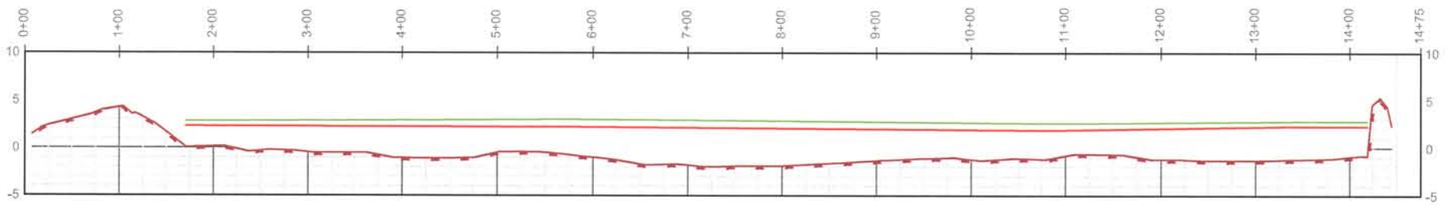
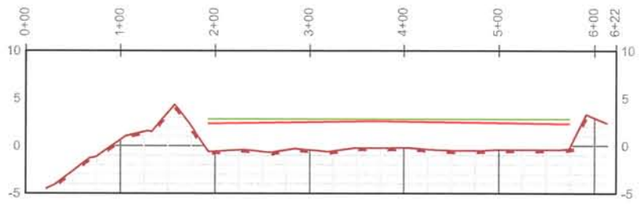
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 1 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 6 031910



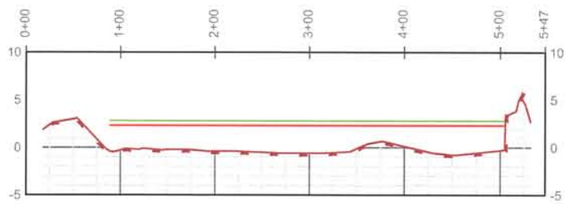
"ALIGNMENT - SECTION JJ"
VERTICAL EXAGGERATION x10



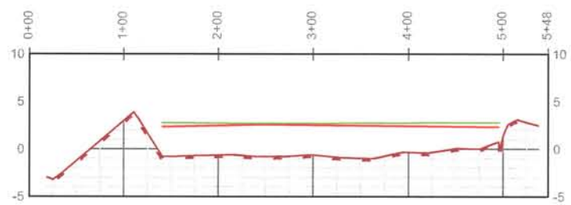
"ALIGNMENT - SECTION KK"
VERTICAL EXAGGERATION x10



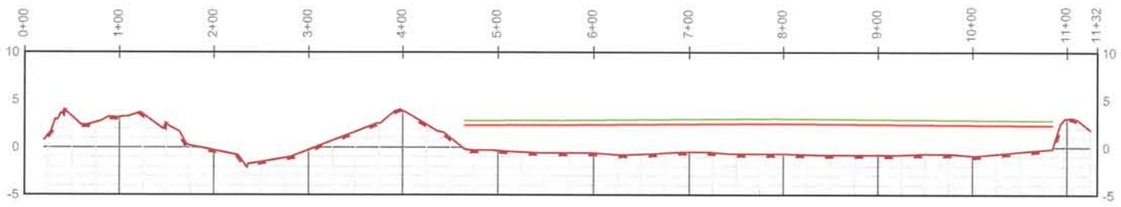
"ALIGNMENT - SECTION LLA"
VERTICAL EXAGGERATION x10



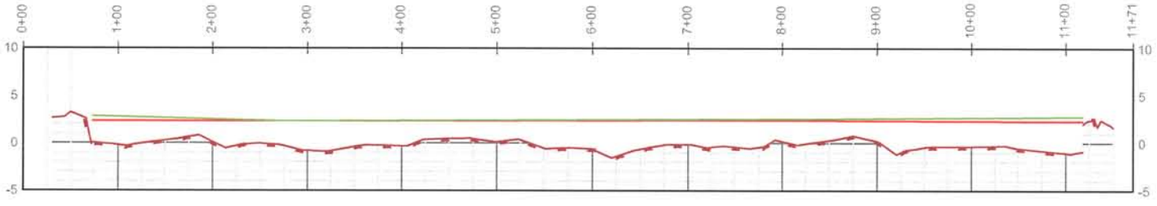
"ALIGNMENT - SECTION LLB"
VERTICAL EXAGGERATION x10



"ALIGNMENT - SECTION MM"
VERTICAL EXAGGERATION x10



"ALIGNMENT - SECTION NN"
VERTICAL EXAGGERATION x10



"ALIGNMENT - SECTION OO"
VERTICAL EXAGGERATION x10

LEGEND

DIKE/BD SURFACE

FIRST LIFT

SECOND LIFT

3/26/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 6

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
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DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 2 OF 4	
DATE: 03/19/10 REVISED:	
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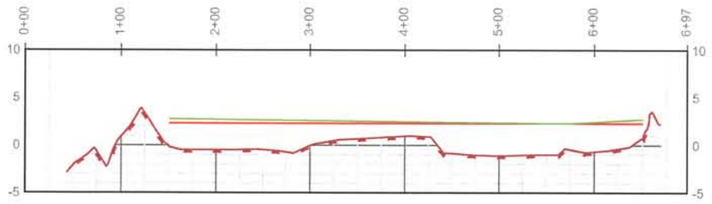
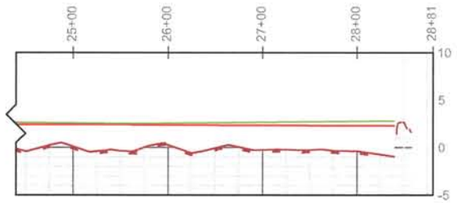
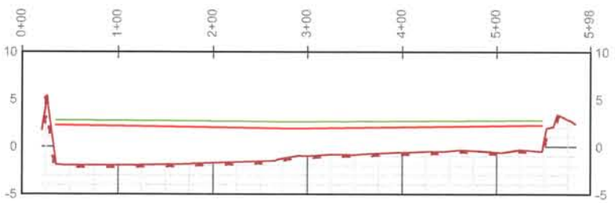


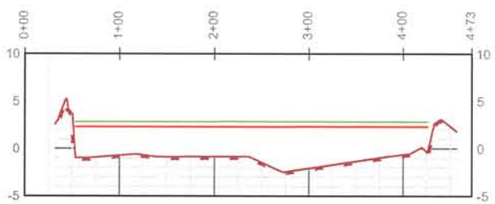
"ALIGNMENT - SECTION 601"
VERTICAL EXAGGERATION x10

"ALIGNMENT - SECTION 602"
VERTICAL EXAGGERATION x10





"ALIGNMENT - SECTION 603"
VERTICAL EXAGGERATION x10



"ALIGNMENT - SECTION 604"
VERTICAL EXAGGERATION x10

LEGEND

DIKE/BD SURFACE

FIRST LIFT

SECOND LIFT

3/29/10

STATE OF LOUISIANA
ROBERT L. LASTRAPES
REGISTERED
PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 6

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

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SHEET 3 OF 4	
DATE: 03/19/10 REVISED:	
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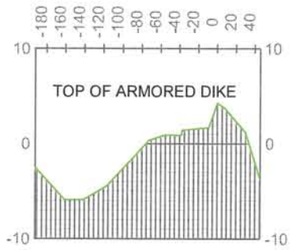
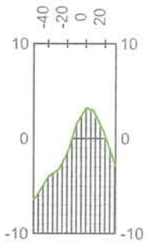
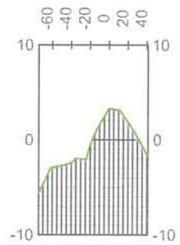


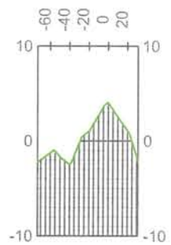
CROSS SECTION @ STA. 0+37
VERTICAL EXAGGERATION x10



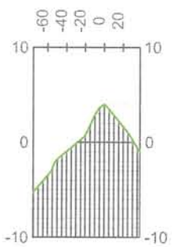
CROSS SECTION @ STA. 1+36
VERTICAL EXAGGERATION x10



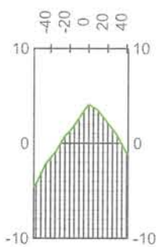
CROSS SECTION @ STA. 2+18
VERTICAL EXAGGERATION x10



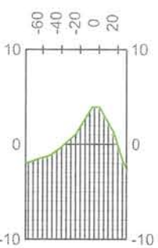
CROSS SECTION @ STA. 3+01
VERTICAL EXAGGERATION x10



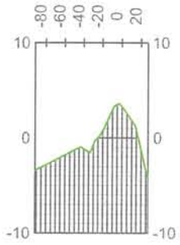
CROSS SECTION @ STA. 4+24
VERTICAL EXAGGERATION x10



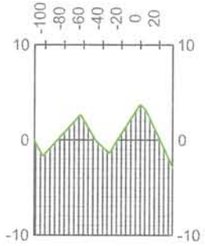
CROSS SECTION @ STA. 5+30
VERTICAL EXAGGERATION x10



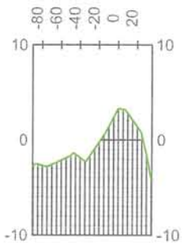
CROSS SECTION @ STA. 6+78
VERTICAL EXAGGERATION x10



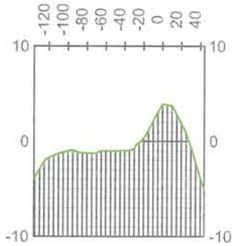
CROSS SECTION @ STA. 9+60
VERTICAL EXAGGERATION x10



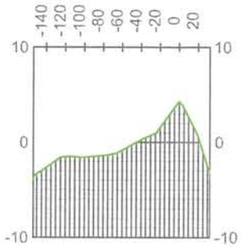
CROSS SECTION @ STA. 8+01
VERTICAL EXAGGERATION x10



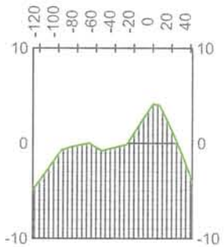
CROSS SECTION @ STA. 11+21
VERTICAL EXAGGERATION x10



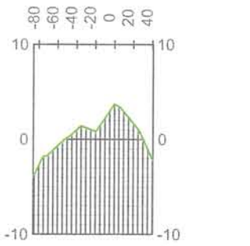
CROSS SECTION @ STA. 12+85
VERTICAL EXAGGERATION x10



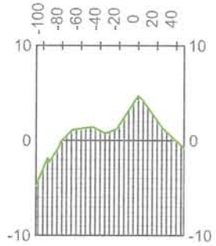
CROSS SECTION @ STA. 14+50
VERTICAL EXAGGERATION x10



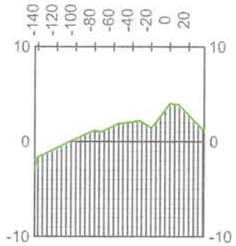
CROSS SECTION @ STA. 15+96
VERTICAL EXAGGERATION x10



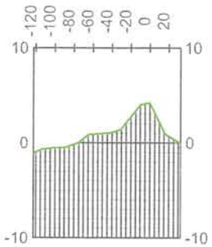
CROSS SECTION @ STA. 17+57
VERTICAL EXAGGERATION x10



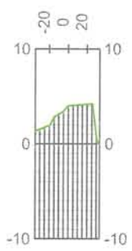
CROSS SECTION @ STA. 19+10
VERTICAL EXAGGERATION x10



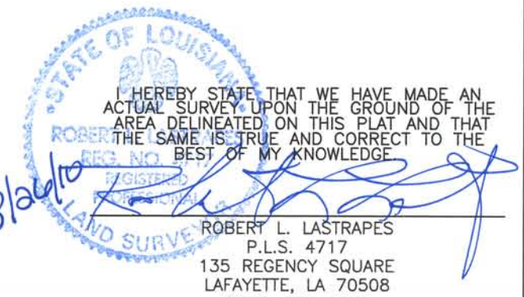
CROSS SECTION @ STA. 20+25
VERTICAL EXAGGERATION x10



CROSS SECTION @ STA. 21+70
VERTICAL EXAGGERATION x10



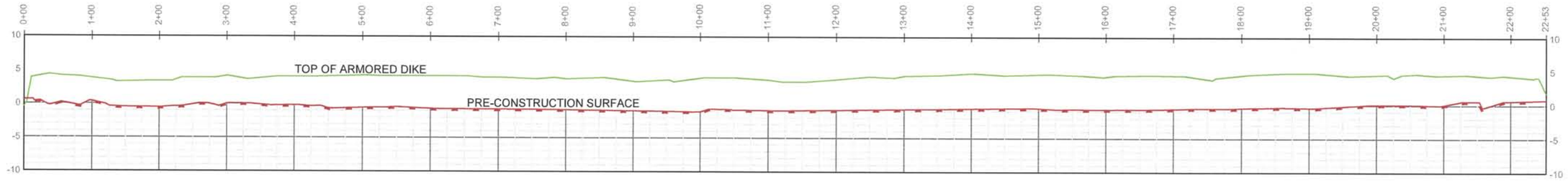
CROSS SECTION @ STA. 22+35
VERTICAL EXAGGERATION x10



I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200



SOUTH

"ALIGNMENT - CENTERLINE OF ARMORED DIKE"
VERTICAL EXAGGERATION x10

NORTH

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

FILL AREA 6 ARMORED DIKE

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

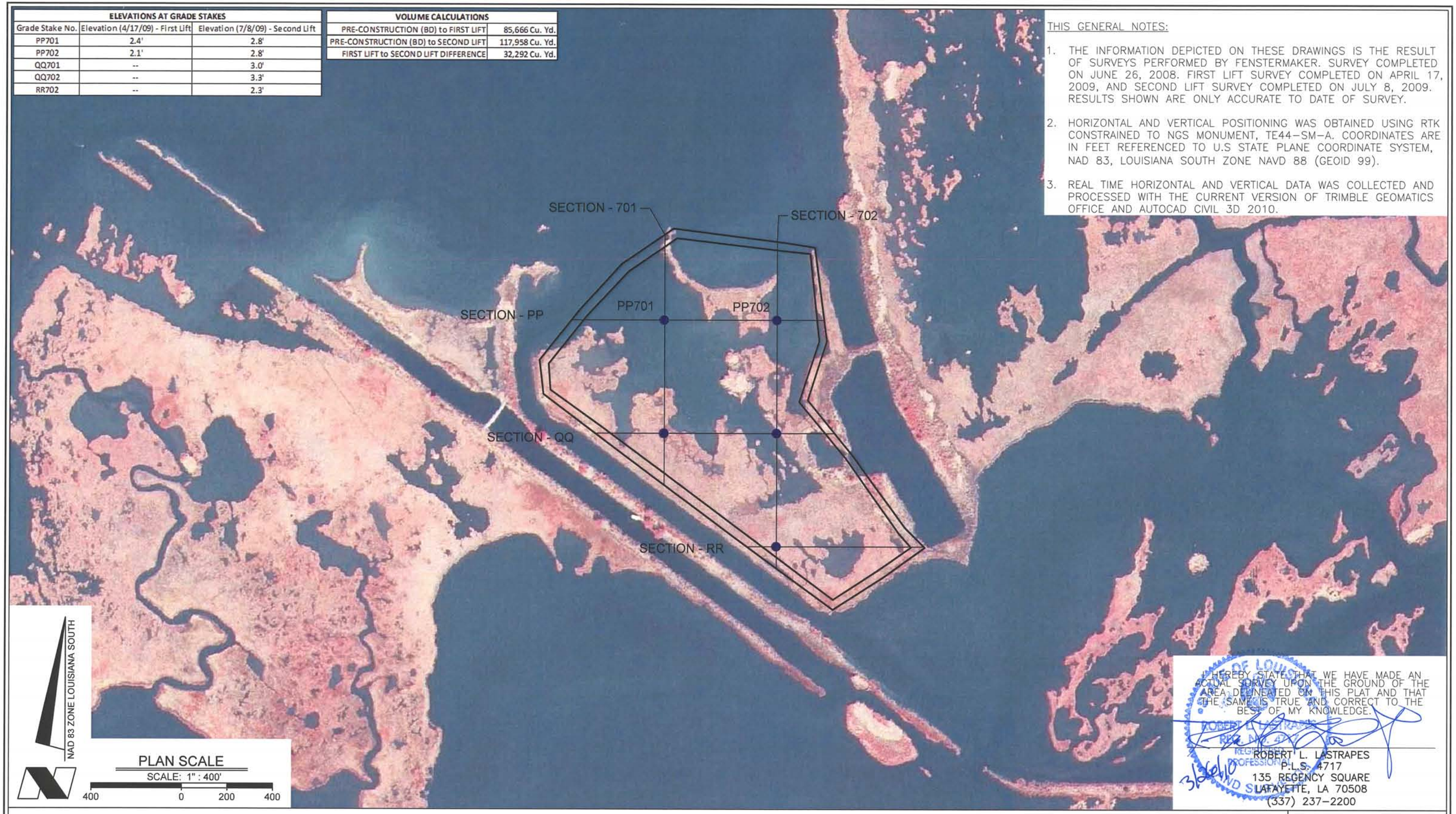
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	SJB
CHECKED BY:	RPE
SHEET 4 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 6 031910

ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (4/17/09) - First Lift	Elevation (7/8/09) - Second Lift
PP701	2.4'	2.8'
PP702	2.1'	2.8'
QQ701	--	3.0'
QQ702	--	3.3'
RR702	--	2.3'

VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	85,666 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	117,958 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	32,292 Cu. Yd.

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. SURVEY COMPLETED ON JUNE 26, 2008. FIRST LIFT SURVEY COMPLETED ON APRIL 17, 2009, AND SECOND LIFT SURVEY COMPLETED ON JULY 8, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.
2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44-SM-A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).
3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.



NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 400'
400 0 200 400

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

3/26/10

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 7

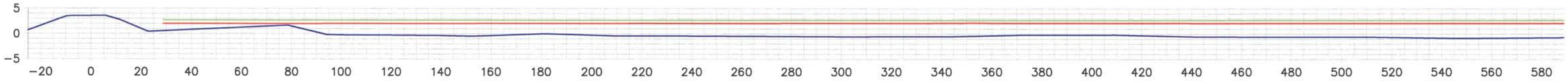
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 1 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 7 031910

SECTION - 701



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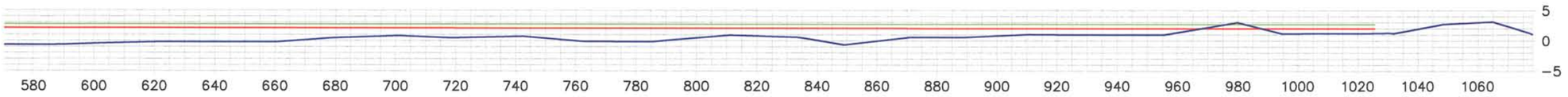
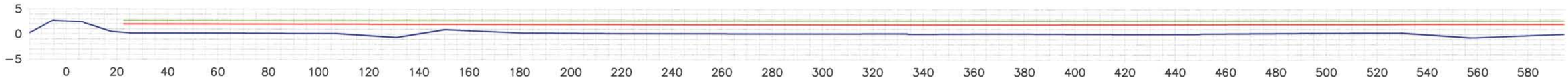


SECTION - 702



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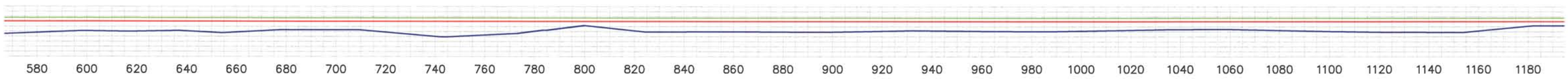

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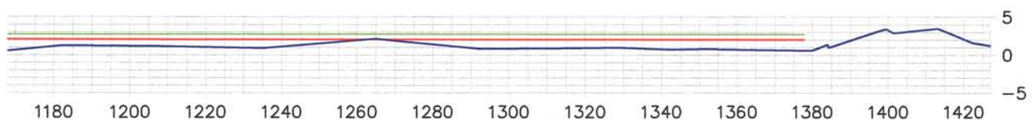


LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 7

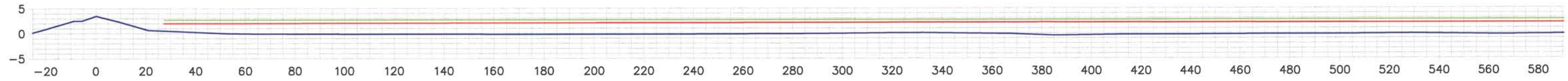
TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

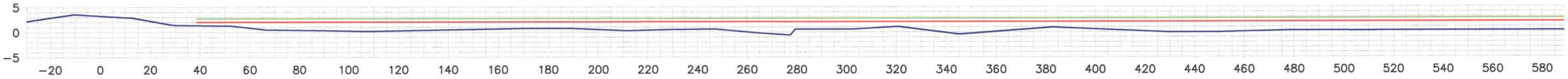
CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 2 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 7 031910

SECTION - PP



SECTION - PP (CONT.)

SECTION - QQ



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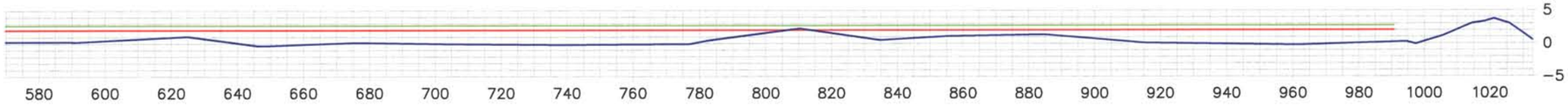

LEGEND

- DIKE
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- FIRST LIFT
- SECOND LIFT

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3/26/10

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MARSH CREATION FILL AREA 7

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SHEET 3 OF 4	
DATE: 03/19/10 REVISED:	
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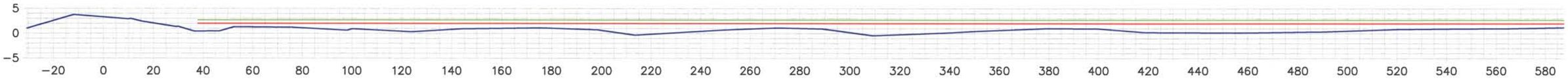
SECTION - RR



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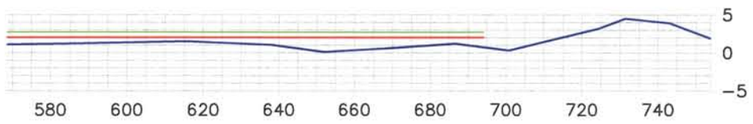

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

STATE OF LOUISIANA ROBERT L. LASTRAPES REG. NO. 4717 REGISTERED PROFESSIONAL LAND SURVEYOR

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237−2200

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 7

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

CONTRACT NO.:	TE-44
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DRAWN BY:	BTL
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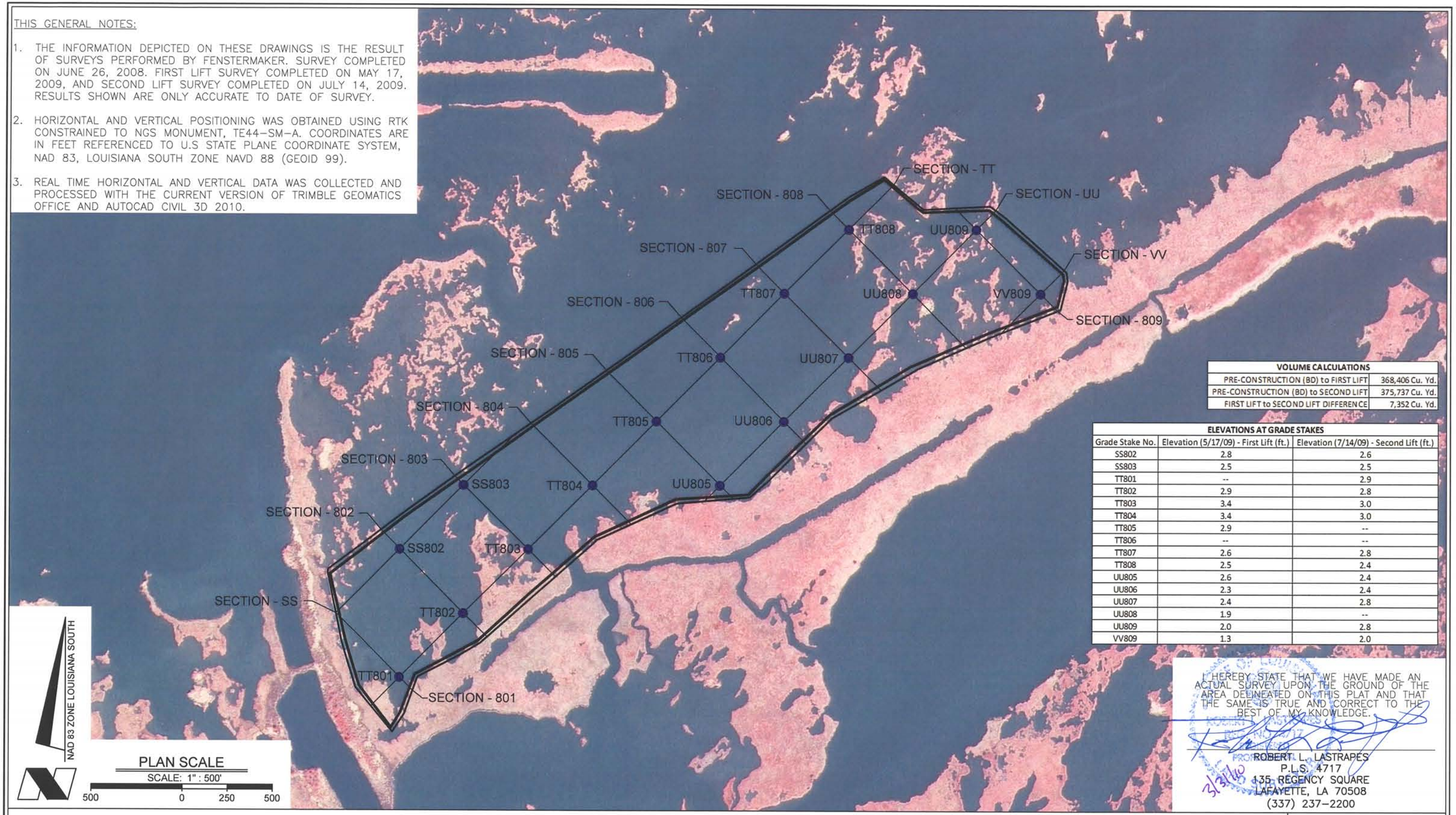
SHEET 4 OF 4	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 7 031910

THIS GENERAL NOTES:

1. THE INFORMATION DEPICTED ON THESE DRAWINGS IS THE RESULT OF SURVEYS PERFORMED BY FENSTERMAKER. SURVEY COMPLETED ON JUNE 26, 2008. FIRST LIFT SURVEY COMPLETED ON MAY 17, 2009, AND SECOND LIFT SURVEY COMPLETED ON JULY 14, 2009. RESULTS SHOWN ARE ONLY ACCURATE TO DATE OF SURVEY.

2. HORIZONTAL AND VERTICAL POSITIONING WAS OBTAINED USING RTK CONSTRAINED TO NGS MONUMENT, TE44–SM–A. COORDINATES ARE IN FEET REFERENCED TO U.S STATE PLANE COORDINATE SYSTEM, NAD 83, LOUISIANA SOUTH ZONE NAVD 88 (GEOID 99).

3. REAL TIME HORIZONTAL AND VERTICAL DATA WAS COLLECTED AND PROCESSED WITH THE CURRENT VERSION OF TRIMBLE GEOMATICS OFFICE AND AUTOCAD CIVIL 3D 2010.



VOLUME CALCULATIONS	
PRE-CONSTRUCTION (BD) to FIRST LIFT	368,406 Cu. Yd.
PRE-CONSTRUCTION (BD) to SECOND LIFT	375,737 Cu. Yd.
FIRST LIFT to SECOND LIFT DIFFERENCE	7,352 Cu. Yd.

ELEVATIONS AT GRADE STAKES		
Grade Stake No.	Elevation (5/17/09) - First Lift (ft.)	Elevation (7/14/09) - Second Lift (ft.)
SS802	2.8	2.6
SS803	2.5	2.5
TT801	--	2.9
TT802	2.9	2.8
TT803	3.4	3.0
TT804	3.4	3.0
TT805	2.9	--
TT806	--	--
TT807	2.6	2.8
TT808	2.5	2.4
UU805	2.6	2.4
UU806	2.3	2.4
UU807	2.4	2.8
UU808	1.9	--
UU809	2.0	2.8
VV809	1.3	2.0

NAD 83 ZONE LOUISIANA SOUTH

PLAN SCALE
SCALE: 1" : 500'
500 0 250 500

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/31/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237–2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

FENSTERMAKER
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
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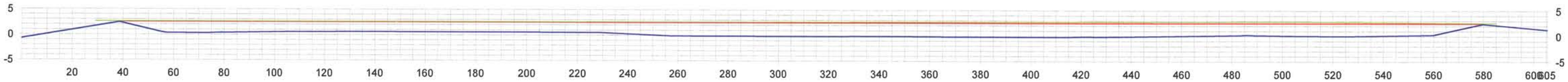
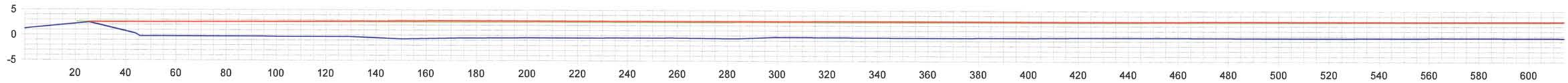
CHECKED BY:	
SHEET 1 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 8 031910

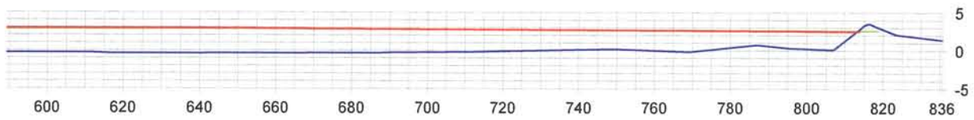
SECTION - 801



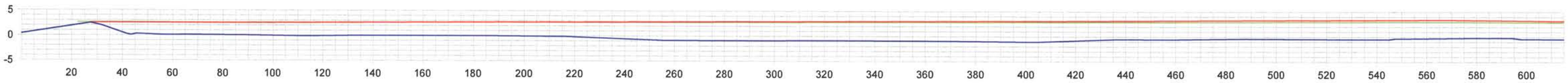
SECTION - 802



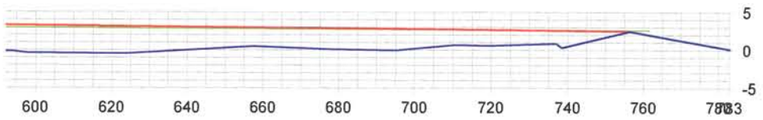
SECTION - 802 (CONT.)



SECTION - 803



SECTION - 803 (CONT.)



LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

STATE OF LOUISIANA
ROBERT L. LASTRAPES
PROFESSIONAL LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/26/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

C.H. FENSTERMAKER & ASSOCIATES INC.
Houston Lafayette New Orleans
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CONTRACT NO.:	TE-44
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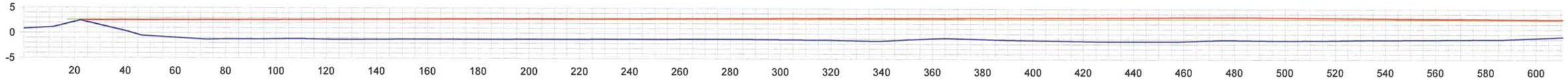
SHEET 2 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 8 031910

SECTION - 804



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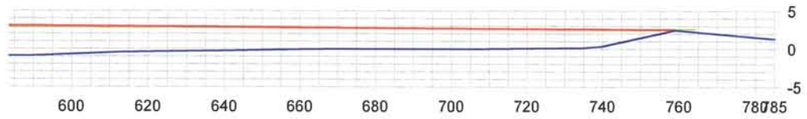

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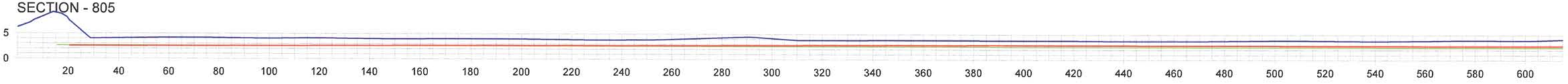

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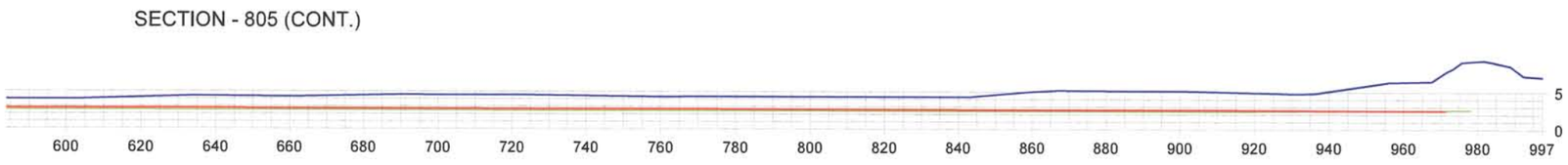

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/20/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

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SHEET 3 OF 9	
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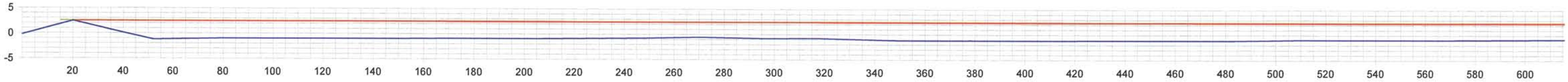
FILENAME:	FILL AREA 8 031910

SECTION - 806



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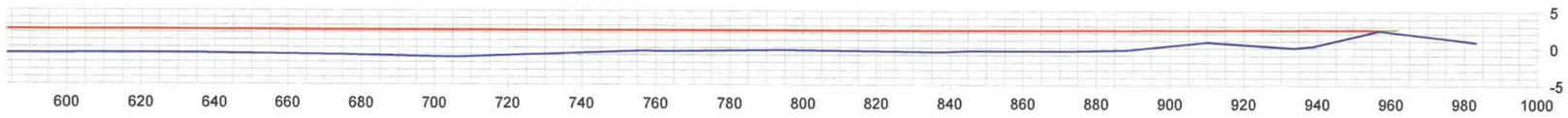

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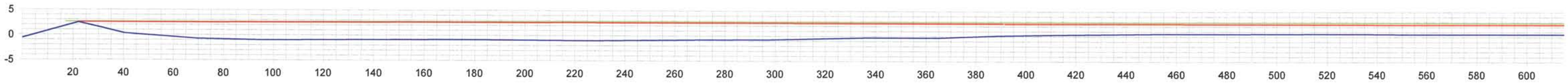

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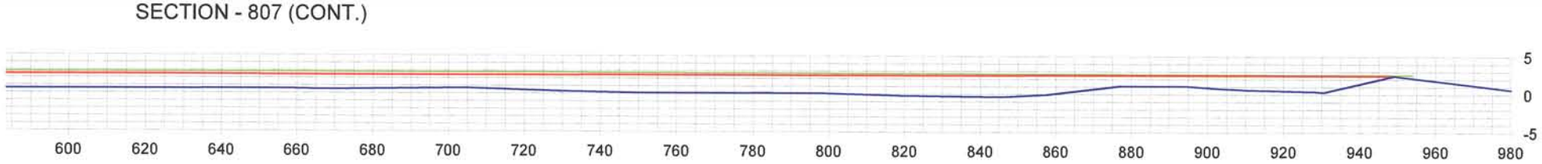

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

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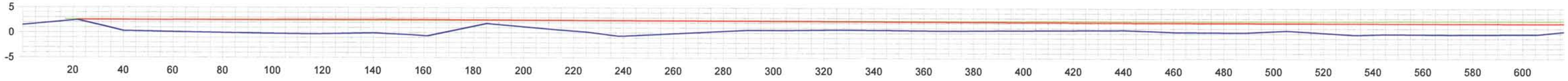
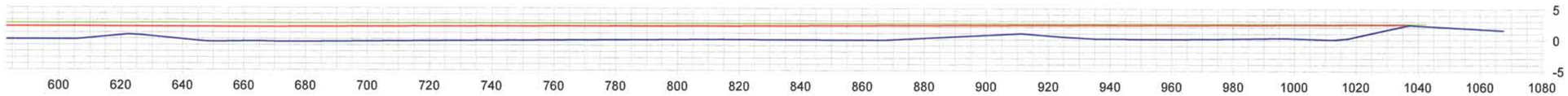
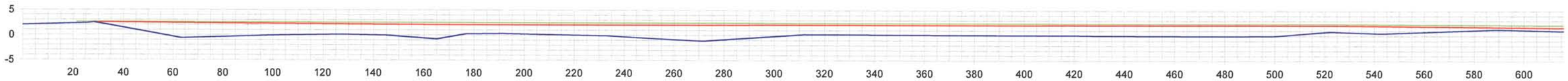
SECTION - 808



SECTION - 808 (CONT.)



SECTION - 809



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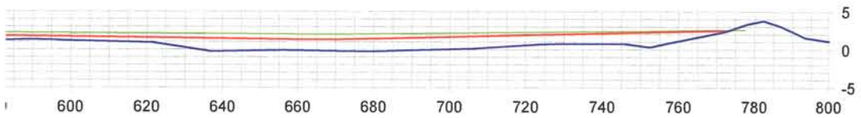

LEGEND

- DIKE
- BD SURFACE
- FIRST LIFT
- SECOND LIFT

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

TERREBONNE PARISH, LA

C.H. FENSTERMAKER & ASSOCIATES, INC.

C.H. FENSTERMAKER & ASSOCIATES, INC.
Houston Lafayette New Orleans
135 Regency Square Lafayette, LA 70508
phone 337-237-2200 fax 337-232-3299

CONTRACT NO.:	TE-44
DELIVERY NO.:	
WRP NO.:	
DRAWN BY:	BTL
CHECKED BY:	
SHEET 5 OF 9	
DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 8 031910

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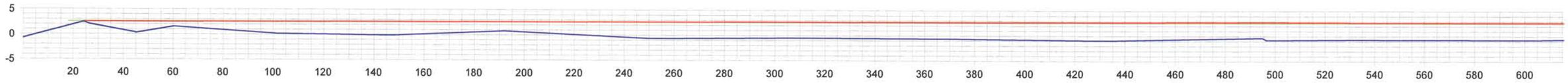

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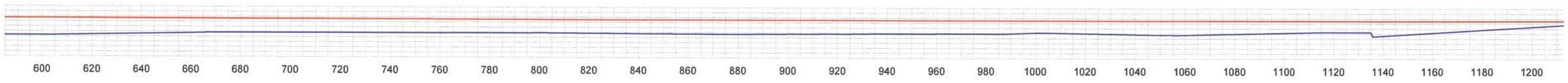

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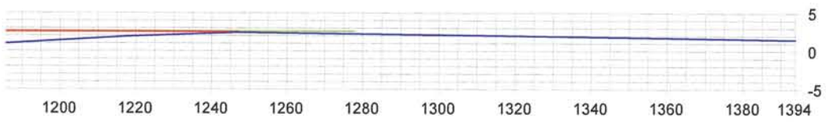

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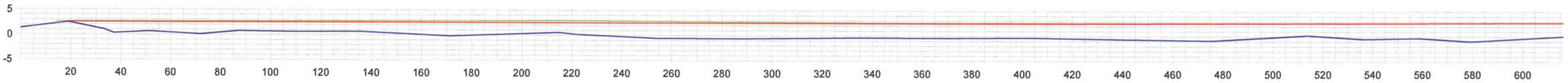

LEGEND

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3/26/10

ROBERT L. LASTRAPES
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135 REGENCY SQUARE
LAFAYETTE, LA 70508
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

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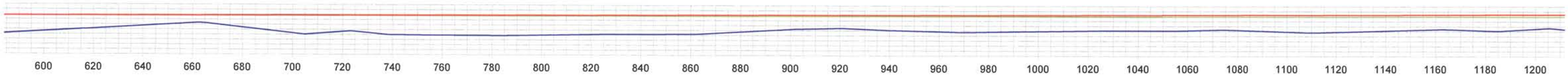

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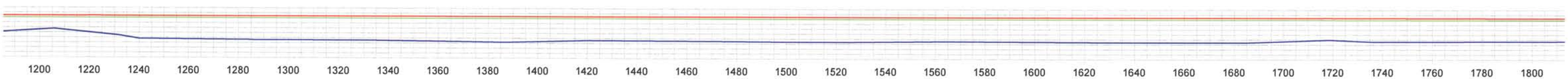

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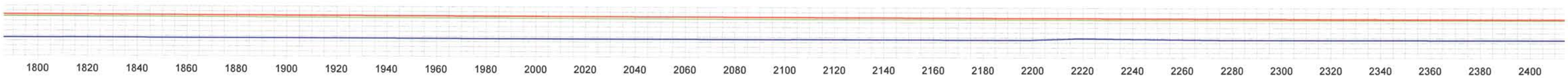

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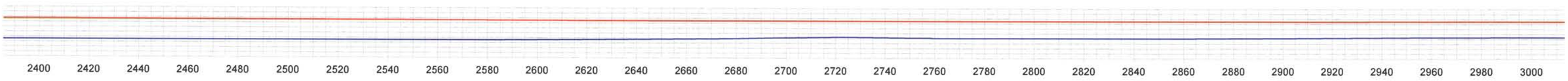

LEGEND

- DIKE
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- FIRST LIFT
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STATE OF LOUISIANA
ROBERT L. LASTRAPES
REGISTERED
PROFESSIONAL
LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/24/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
LAFAYETTE, LA 70508
(337) 237-2200

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

MARSH CREATION FILL AREA 8

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DATE: 03/19/10 REVISED:	
FILENAME:	FILL AREA 8 031910

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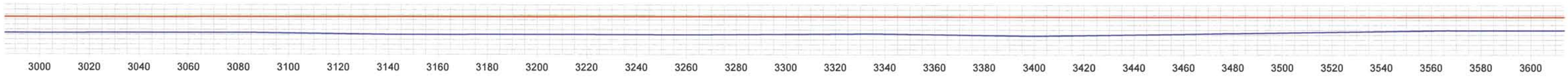

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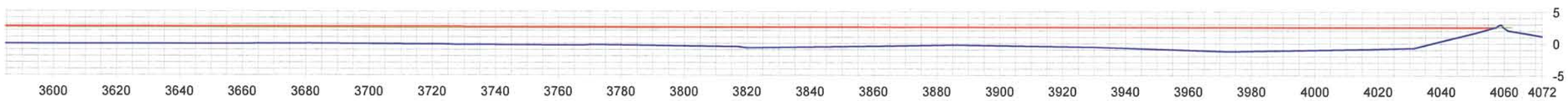

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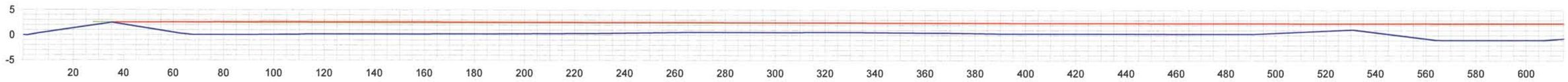

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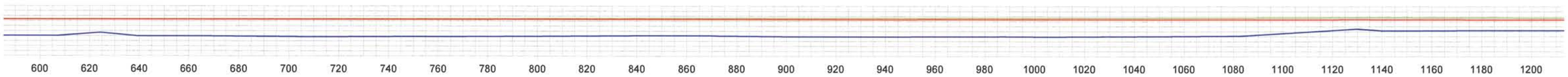

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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

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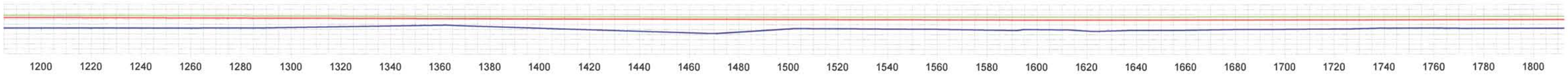

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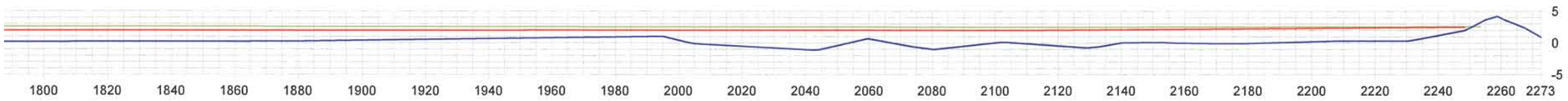

LEGEND

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"STATE OF LOUISIANA" ROBERT L. LASTRAPES REGISTERED PROFESSIONAL LAND SURVEYOR

I HEREBY STATE THAT WE HAVE MADE AN ACTUAL SURVEY UPON THE GROUND OF THE AREA DELINEATED ON THIS PLAT AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

3/22/10

ROBERT L. LASTRAPES
P.L.S. 4717
135 REGENCY SQUARE
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NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

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CONTRACT NO.:	TE-44
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SHEET 9 OF 9	
DATE: 03/19/10 REVISED:	
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ATTACHMENT V

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

PROJECT PERMITS
&
PERMIT AMEMDMENTS

DEPARTMENT OF THE ARMY PERMIT

Permittee: U. S. Fish and Wildlife Service

Permit No. **CY-20-040-0014**

Issuing Office: New Orleans District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

PROJECT DESCRIPTION: Dredge and deposit earthen material for dike construction and marsh creation, and install and maintain structures at various locations to implement the North Lake Mechant Landbridge Restoration Project (CWPPRA TE-44), in accordance with drawings attached in 21 sheets, dated August 19, 2003 and one revision, undated.

PROJECT LOCATION: In Lake Mechant and shorelines along Raccourci Bay and Lake Pagie, approximately 17.5 miles southwest of Theriot, Louisiana, in Terrebonne Parish.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **JANUARY31, 2009**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions: Page (s) 4.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

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

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

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

X Russell C. Watson — X January 9, 2004

(PERMITTEE) (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Martin S. Mayer — 14 January 2004

Martin S. Mayer, Chief Central Evaluation Section (DATE)

for Peter J. Rowan, District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) (DATE)

SPECIAL CONDITIONS: CY-20-040-0014

7. The permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

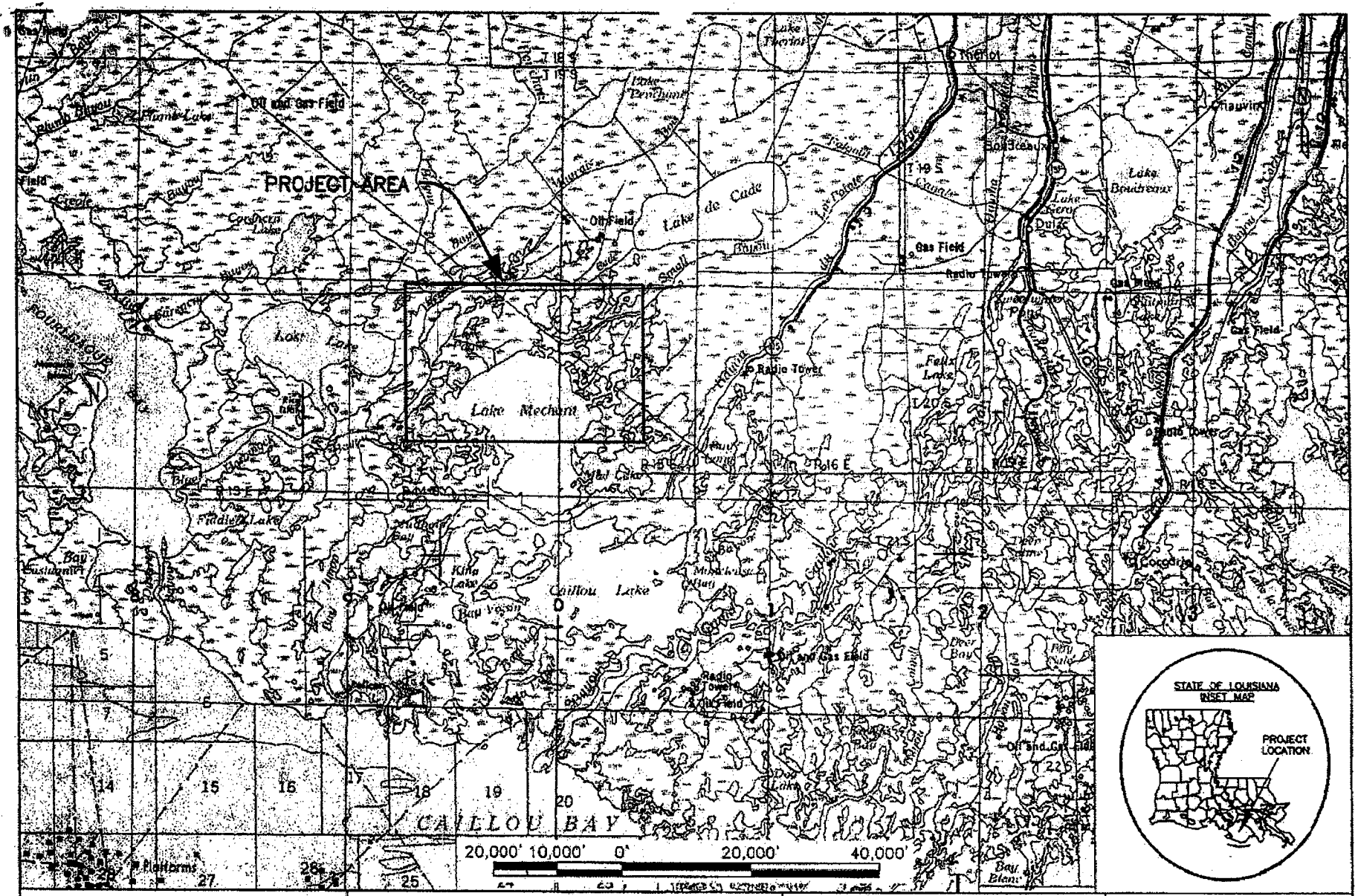
8. The permittee must install and maintain, at the permittee's expense, any safety lights, signs, and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on the facilities and structures authorized herein.

9. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

10. The permittee shall limit dredge and fill activities to areas essential to the project. If the proposed project requires any additional work not expressly permitted herein, or impacts any wetlands other than the areas indicated on the attached drawings, the permittee must apply for an amendment to this authorization prior to commencement of work.

11. Structures and fill will not be placed on state-owned water bottoms without the approval of the Louisiana Division of Administration, State Land Office. The permittee will be responsible for contacting the State Land Office to ascertain if any structures or fill will be placed on state-owned water bottoms.

12. Maintenance dredging, including dredging for material to maintain project features authorized herein, is approved for a period of ten (10) years from the date of permit issuance. Maintenance operations shall not exceed specifications shown in the permit drawings.



APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	VICINITY MAP
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E.	APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 1 OF 21

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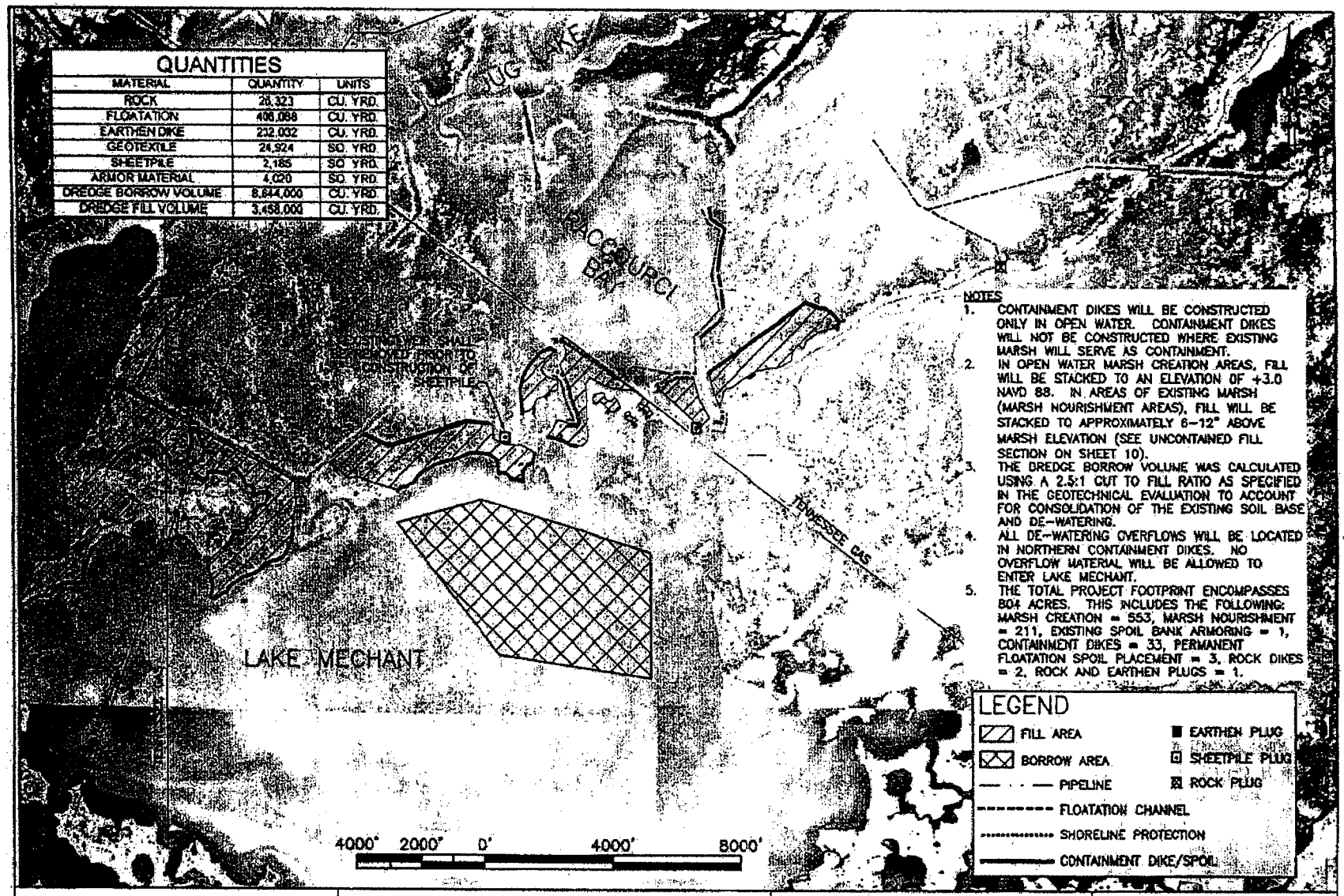
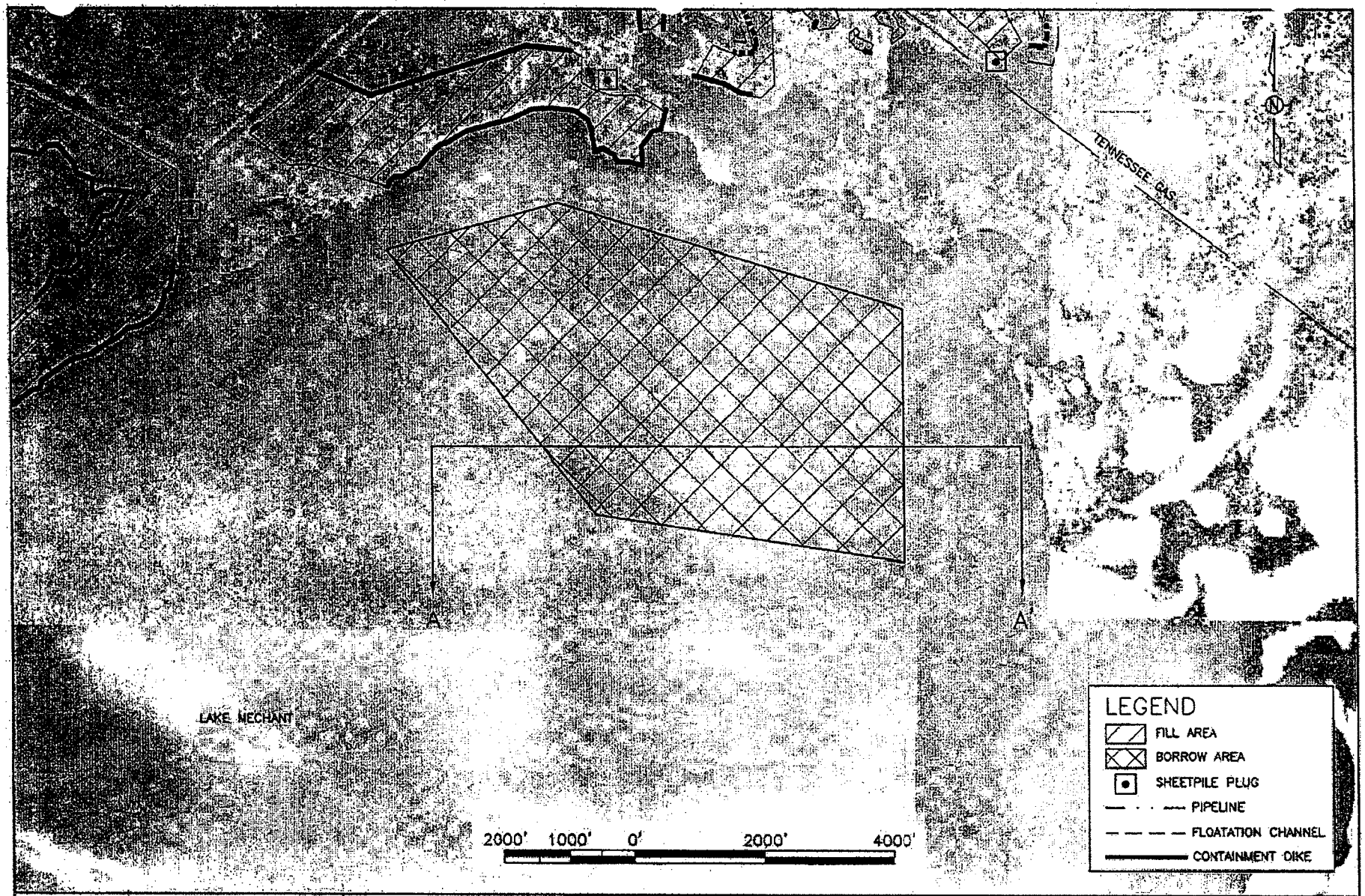


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT AREA MAP
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 2 OF 21



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		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 3 OF 21

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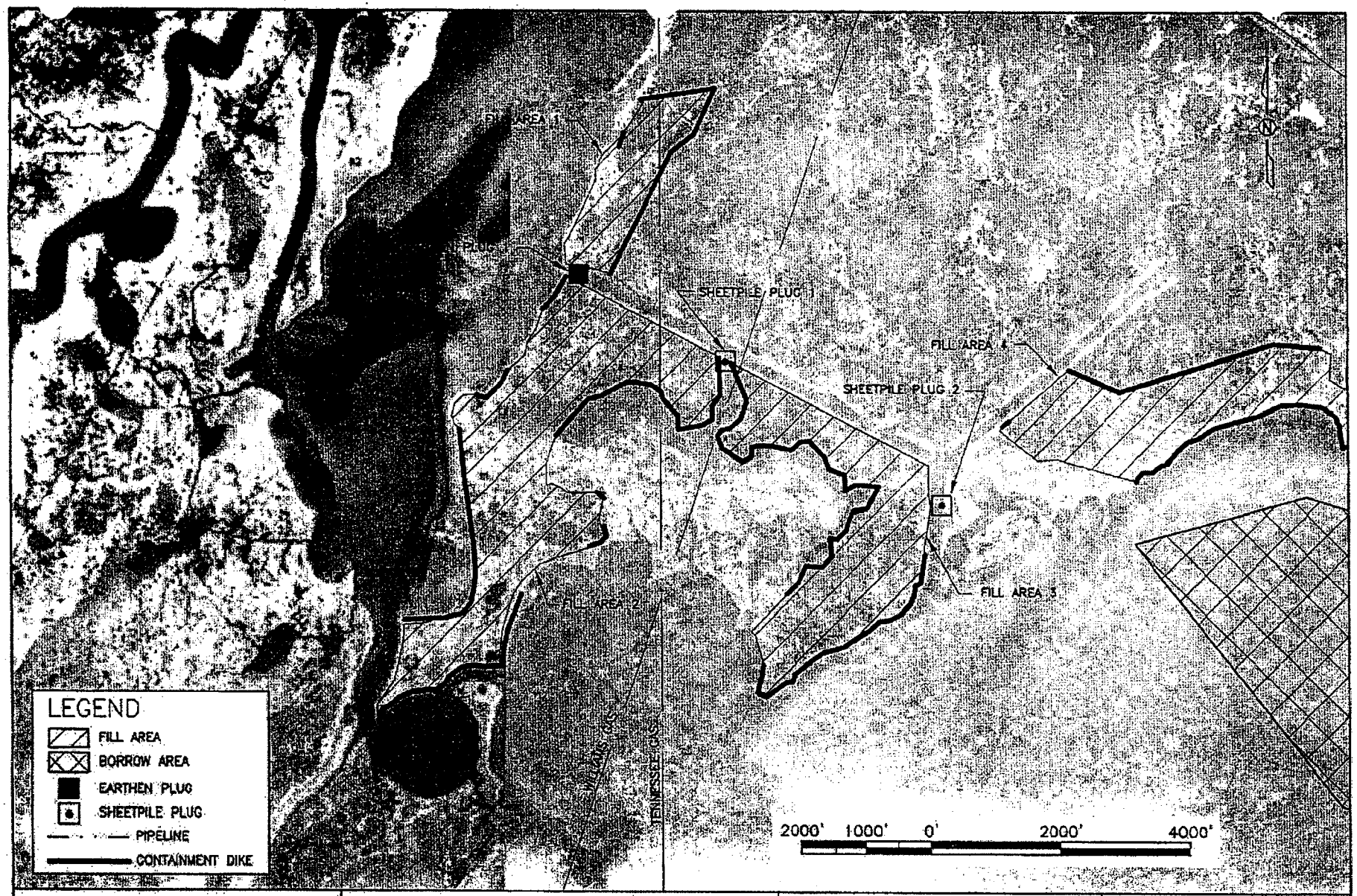

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		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 4 OF 21

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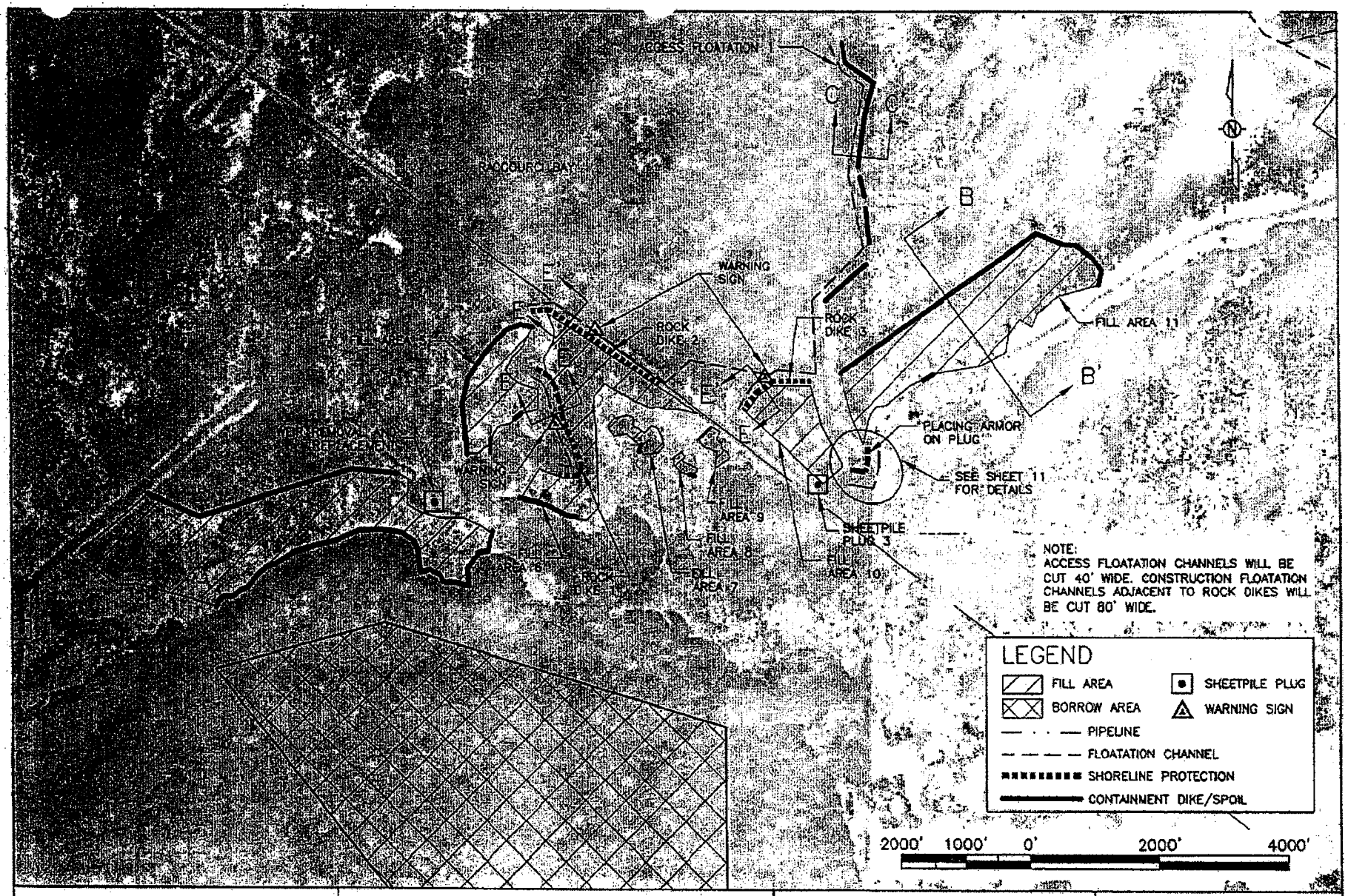

APPLICATION BY:	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
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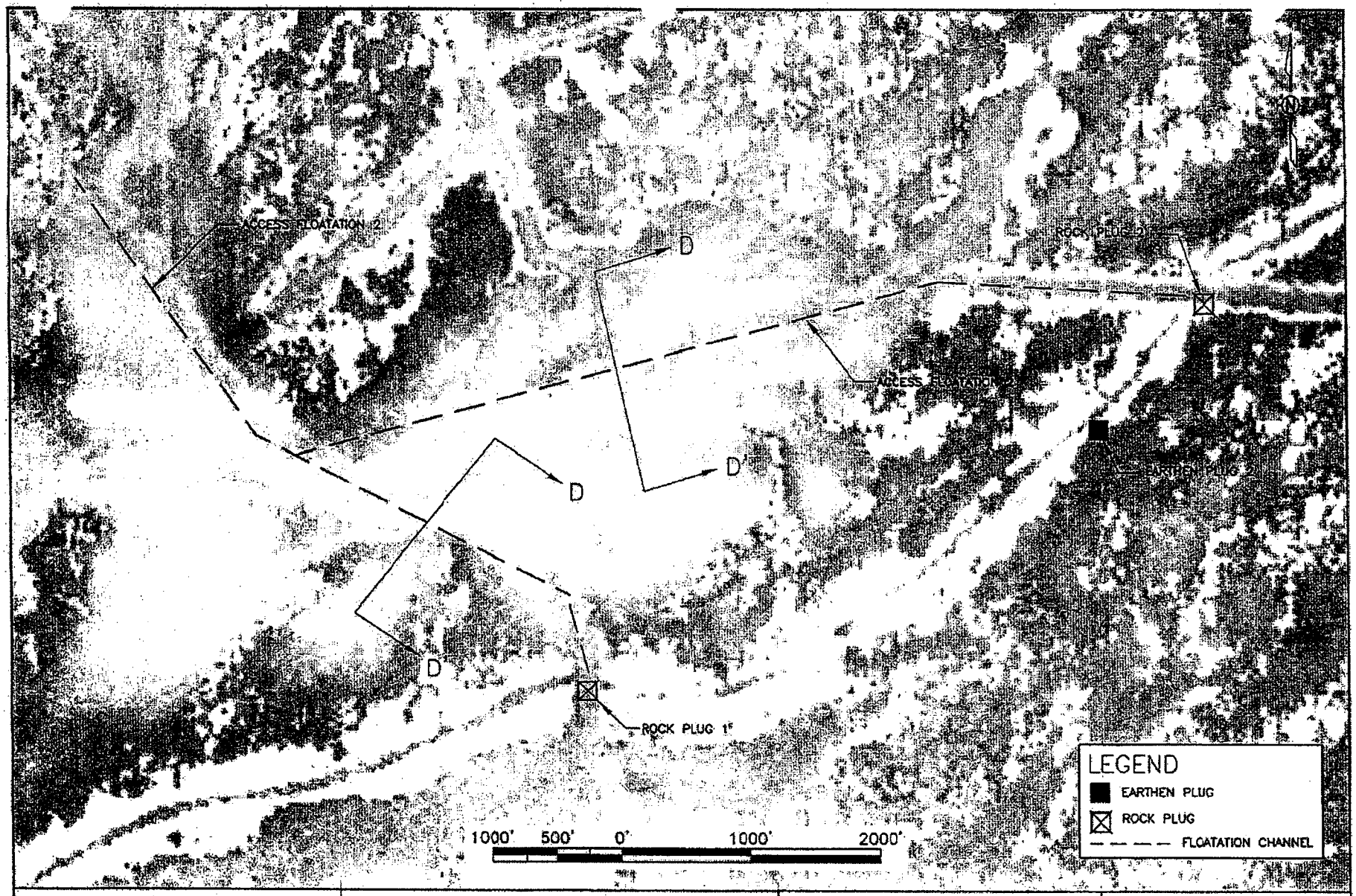

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
		STATE PROJECT NUMBER: TE-44	DATE: 6/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 6 OF 21

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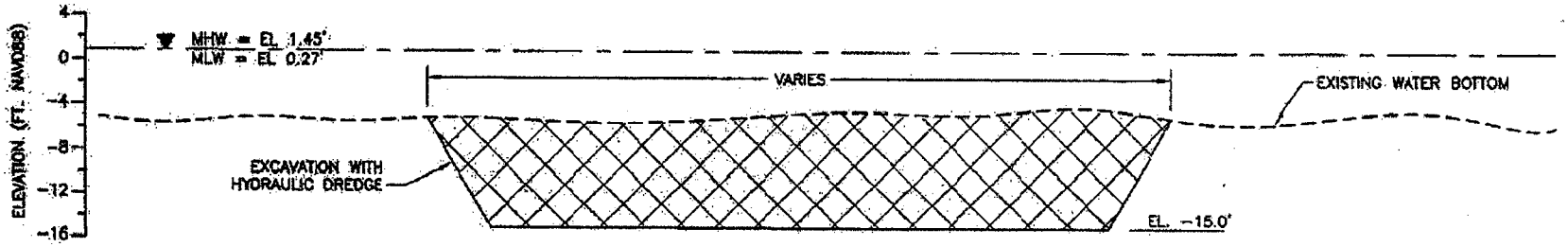
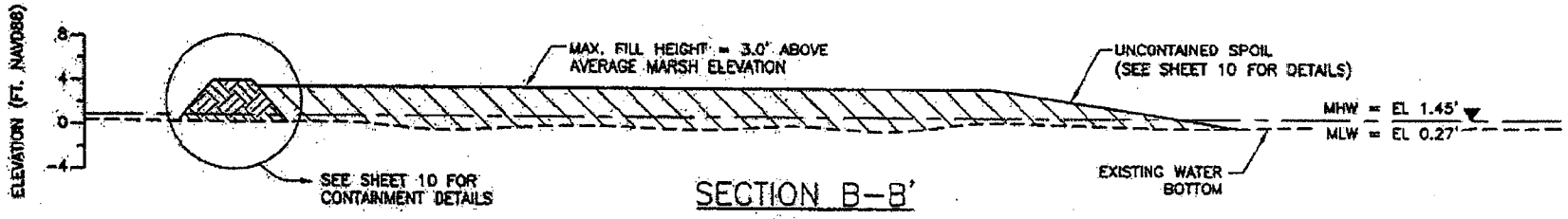


SECTION A-A'

BORROW AREA
NOT TO SCALE



SECTION B-B'

FILL AREA
NOT TO SCALE

NOTES
1. EXISTING MARSH ELEVATION RANGES FROM 0.6'-1.1'.
2. CONTAINMENT DIKES WILL BE DEGRADED IN 3 YEARS IF NEEDED.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	BORROW AND FILL AREAS SECTION VIEWS
			STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E.	APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 7 OF 21

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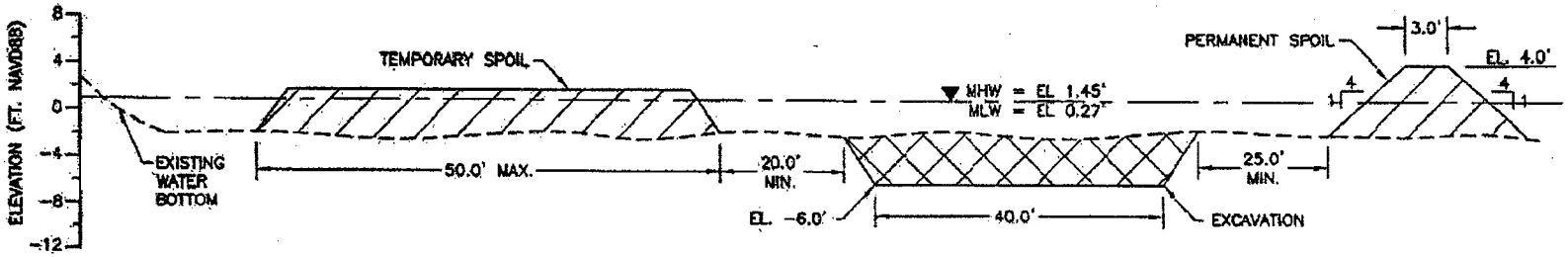
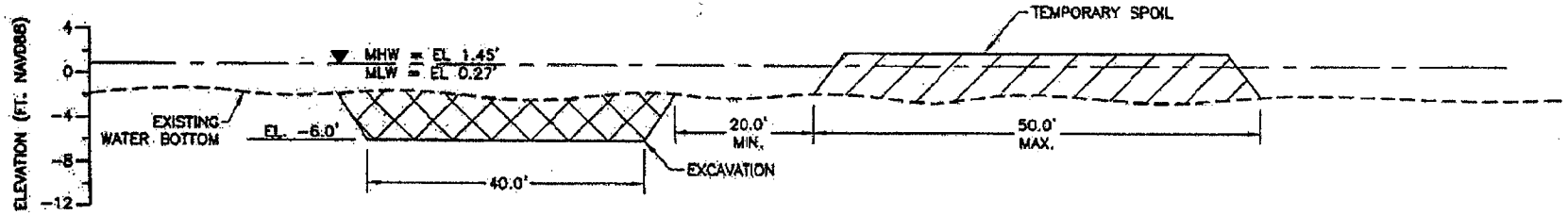


SECTION C-C'

ACCESS FLOATATION CHANNEL
NOT TO SCALE



SECTION D-D'

ACCESS FLOATATION CHANNEL
NOT TO SCALE

NOTES
1. AVERAGE MARSH ELEVATION RANGES FROM 0.6'-1.1'.
2. TEMPORARY SPOIL SHALL BE BACK-FILLED INTO CHANNEL PRIOR TO DEMOBILIZATION.
3. PERMANENT SPOIL IS BEING PLACED TO REPAIR RACCOURCI BAY SHORELINE.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ACCESS FLOATATION CHANNEL SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 8 OF 21

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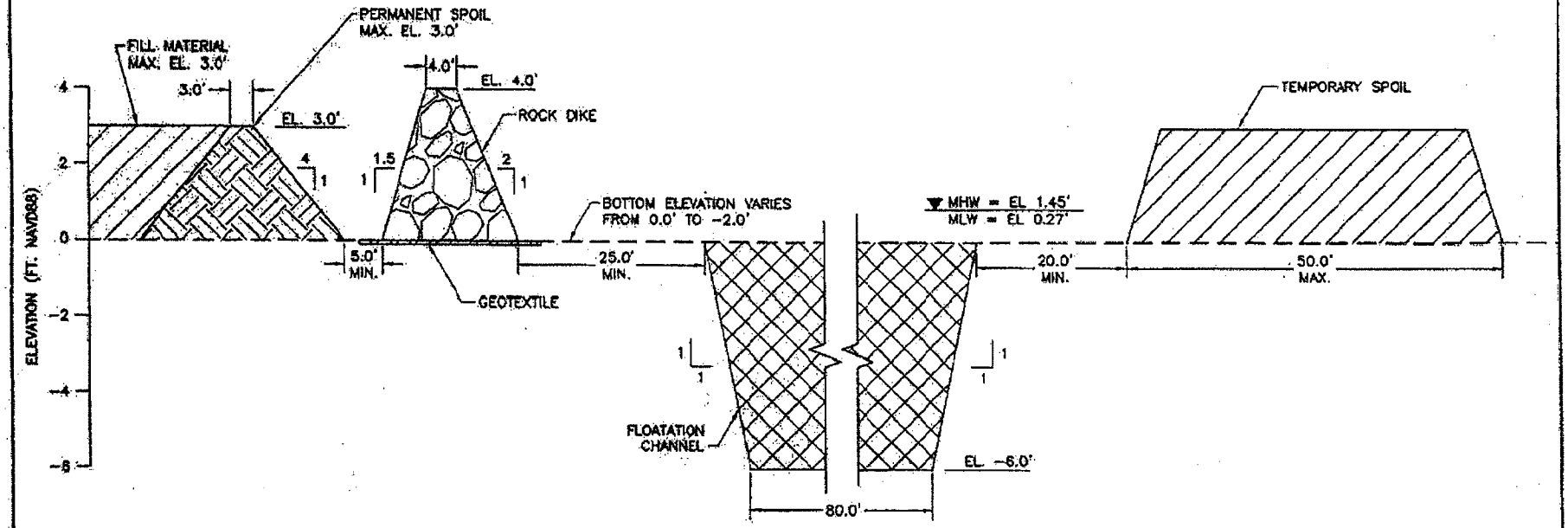

SECTION E-E'

ROCK DIKE
1" = 20' HORIZONTAL
1" = 4' VERTICAL

NOTES:
1. FLOATATION SIDE SLOPES ARE ASSUMED.
2. TEMPORARY SPOIL SHALL BE BACK-FILLED INTO FLOATATION CHANNEL PRIOR TO DEMOBILIZATION.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK DIKE SECTION
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 9 OF 21

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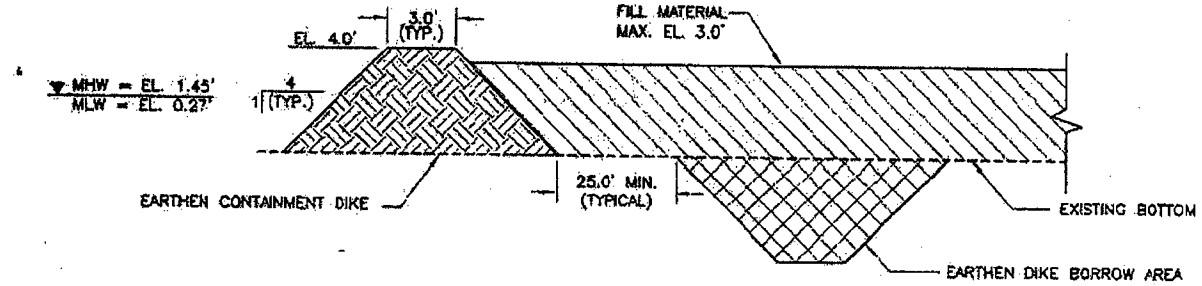
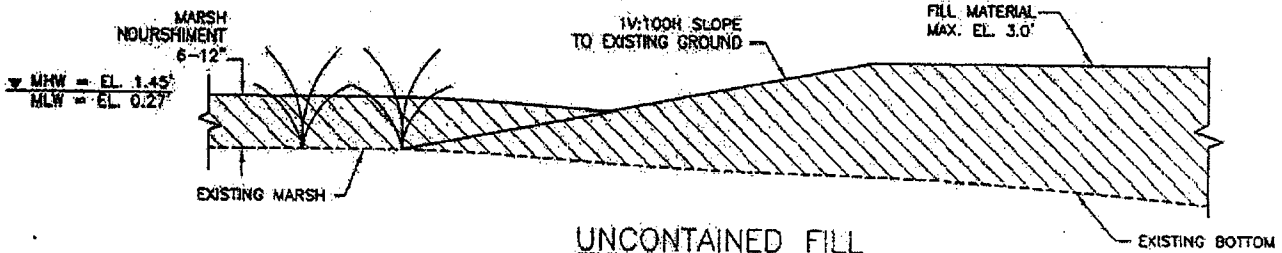


EARTHEN CONTAINMENT DIKE

NOT TO SCALE



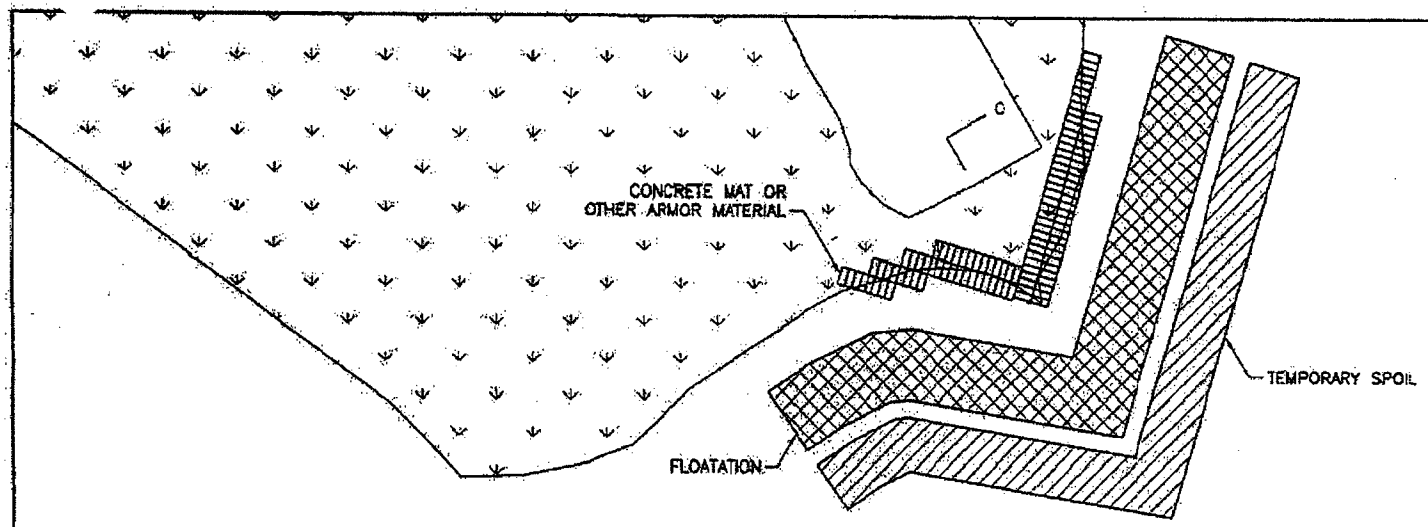
UNCONTAINED FILL

NOT TO SCALE

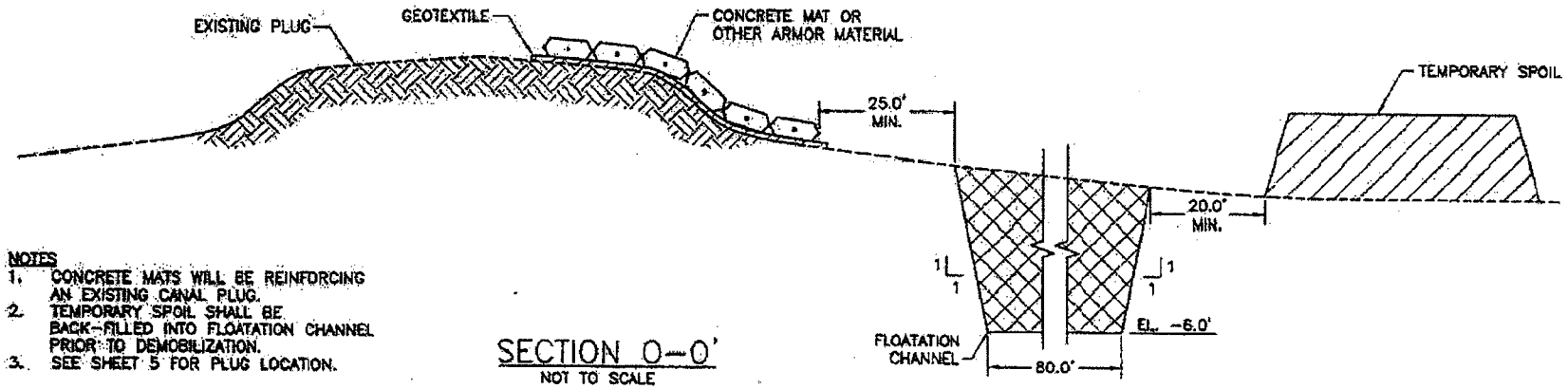
NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. AVERAGE MARSH ELEVATION RANGES FROM 0.6'-1.1'.
3. SEE SHEET 2 FOR LOCATIONS OF FILL AREAS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	CONTAINMENT SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 10 OF 21



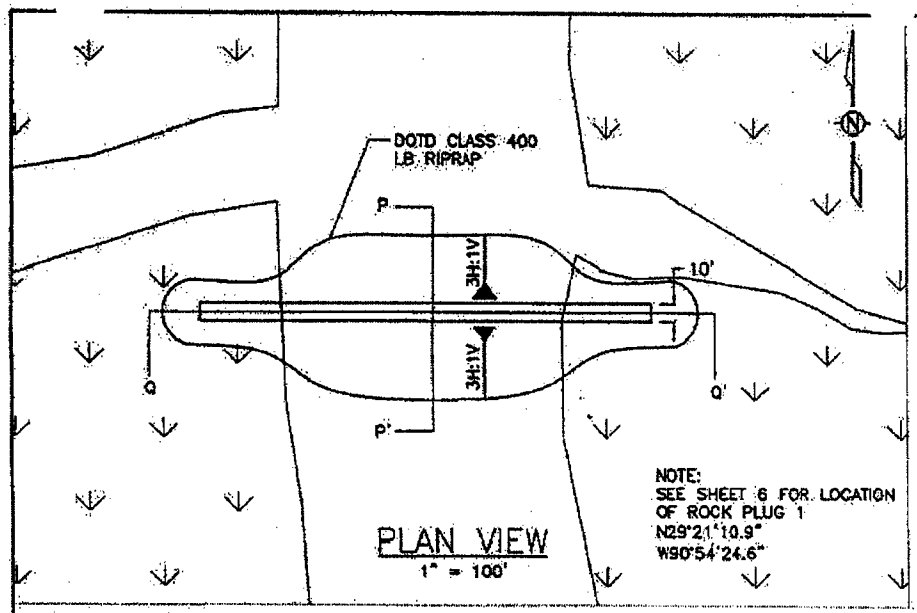
PLUG ARMOR
1" = 200'



NOTES
1. CONCRETE MATS WILL BE REINFORCING AN EXISTING CANAL PLUG.
2. TEMPORARY SPOIL SHALL BE BACK-FILLED INTO FLOATATION CHANNEL PRIOR TO DEMOBILIZATION.
3. SEE SHEET 5 FOR PLUG LOCATION.

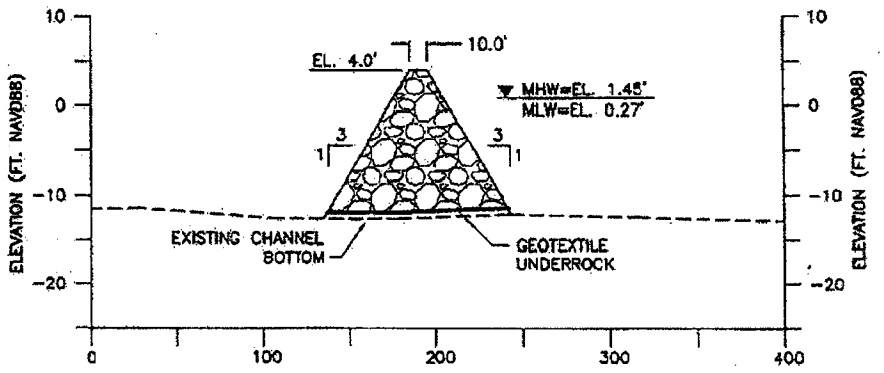
SECTION 0-0'
NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BOVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHORELINE PROTECTION
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 11 OF 21

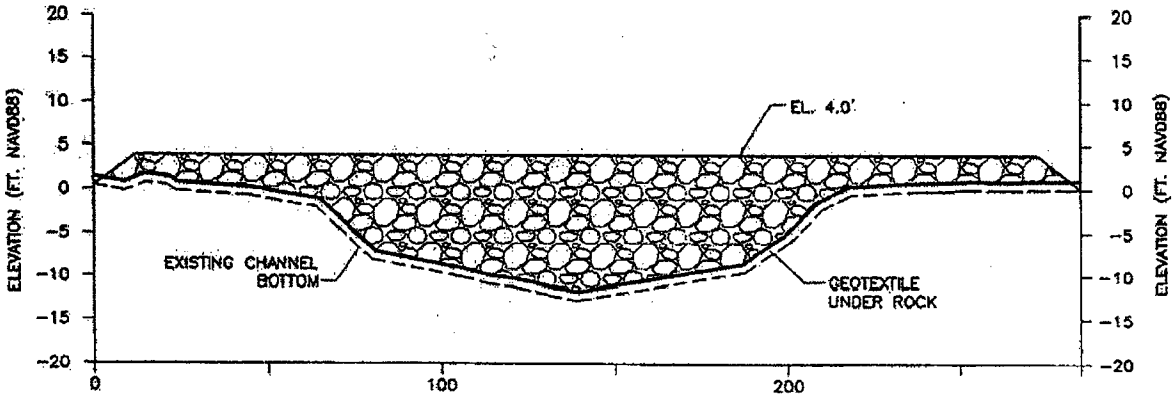


PLAN VIEW
1" = 100'

NOTE:
SEE SHEET 6 FOR LOCATION OF ROCK PLUG 1
N29°21'10.9"
W90°54'24.6"



SECTION P–P'
1" = 100' HORIZONTAL
1" = 20' VERTICAL



SECTION Q–Q'
1" = 50' HORIZONTAL
1" = 20' VERTICAL

NOTE:
ROCK VOLUME = 6,600 CU. YDS.
GEOTEXTILE AREA = 3,735 SQ. YDS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 1 DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 12 OF 21

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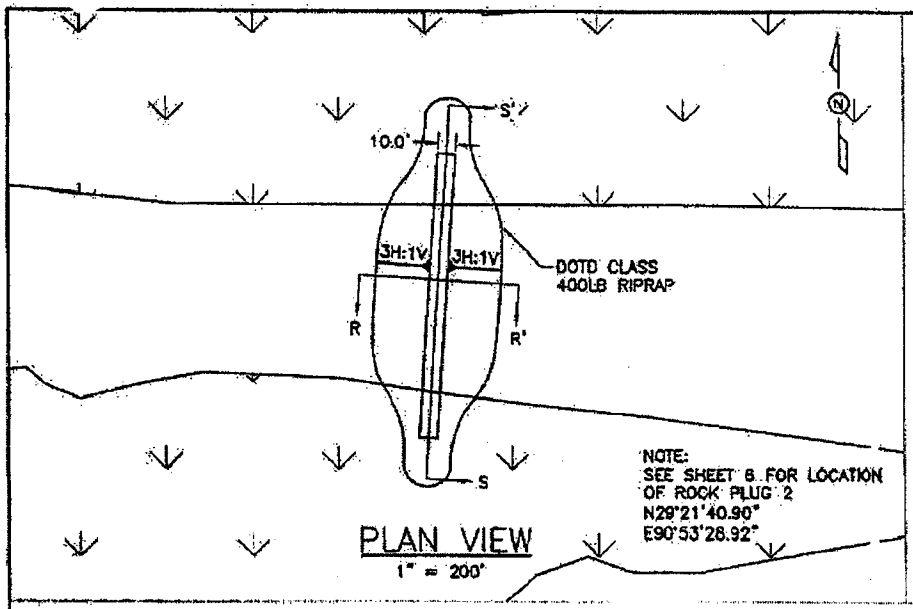
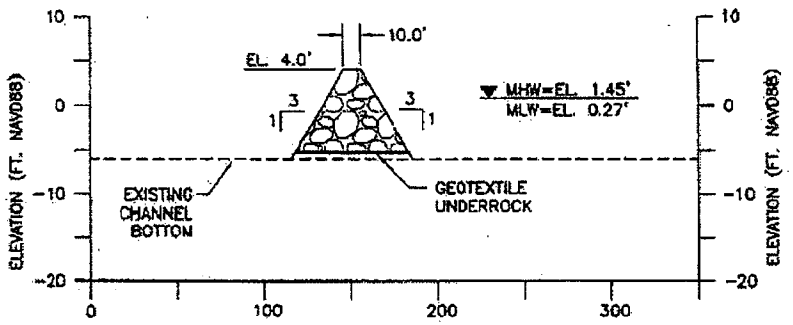
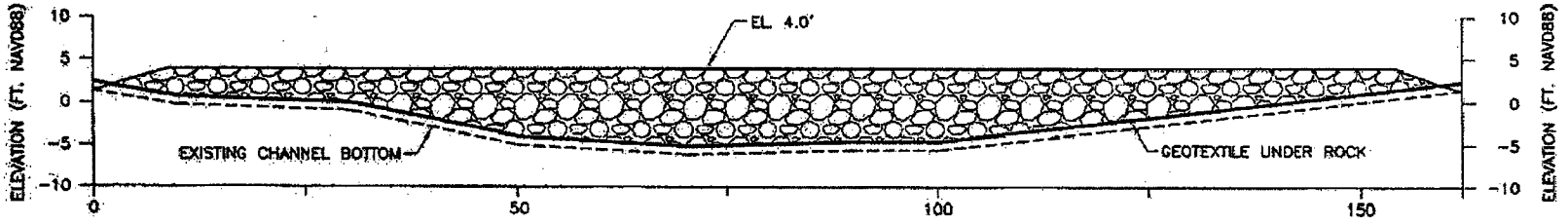


PLAN VIEW
1" = 200'



SECTION R-R'
1" = 100' HORIZONTAL
1" = 20' VERTICAL



SECTION S-S'
1" = 20'

NOTES
ROCK VOLUME = 600 CU. YDS.
GEOTEXTILE AREA = 1,550 SQ. YDS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 2 DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KHOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 13 OF 21

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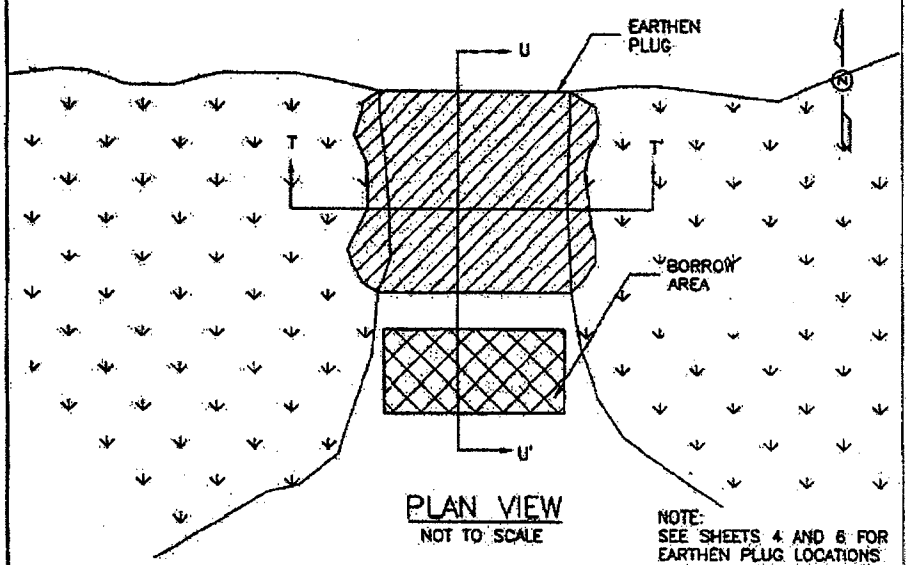
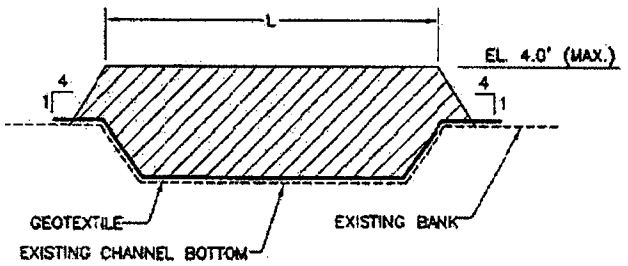
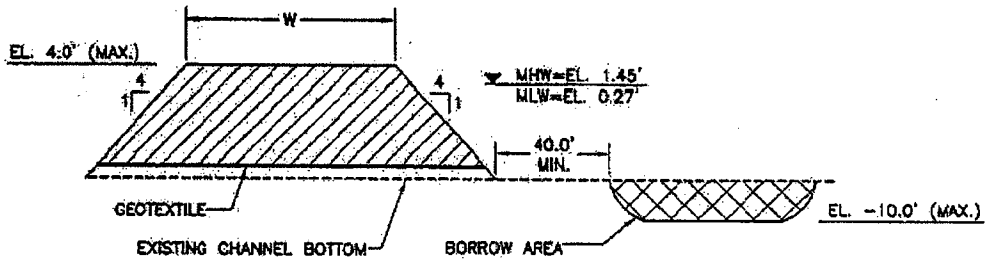


PLAN VIEW
NOT TO SCALE

NOTE:
SEE SHEETS 4 AND 6 FOR EARTHEN PLUG LOCATIONS



SECTION T–T'
NOT TO SCALE



SECTION U–U'
NOT TO SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

EARTH PLUG #	LATITUDE	LONGITUDE	BOTTOM ELEV. (FT. NAVD88)	L (ft)	W (ft)	PLUG VOLUME (CU.YD.)
1	29°20'36.3"	90°59'36.3"	-4	75	50	10,150
2	29°21'31.3"	90°53'40.0"	-3	105	60	11,600

APPLICATION BY:
U.S. FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

EARTHEN PLUG DETAILS

STATE PROJECT NUMBER: TE-44

DATE: 8/19/03

DRAWN BY: KRISTI CANTU

DESIGNED BY: T. MITCH ANDRUS, P.E.

APPROVED BY: CHRIS KNOTTS, P.E.

FEDERAL PROJECT NUMBER: NA

SHEET 14 OF 21

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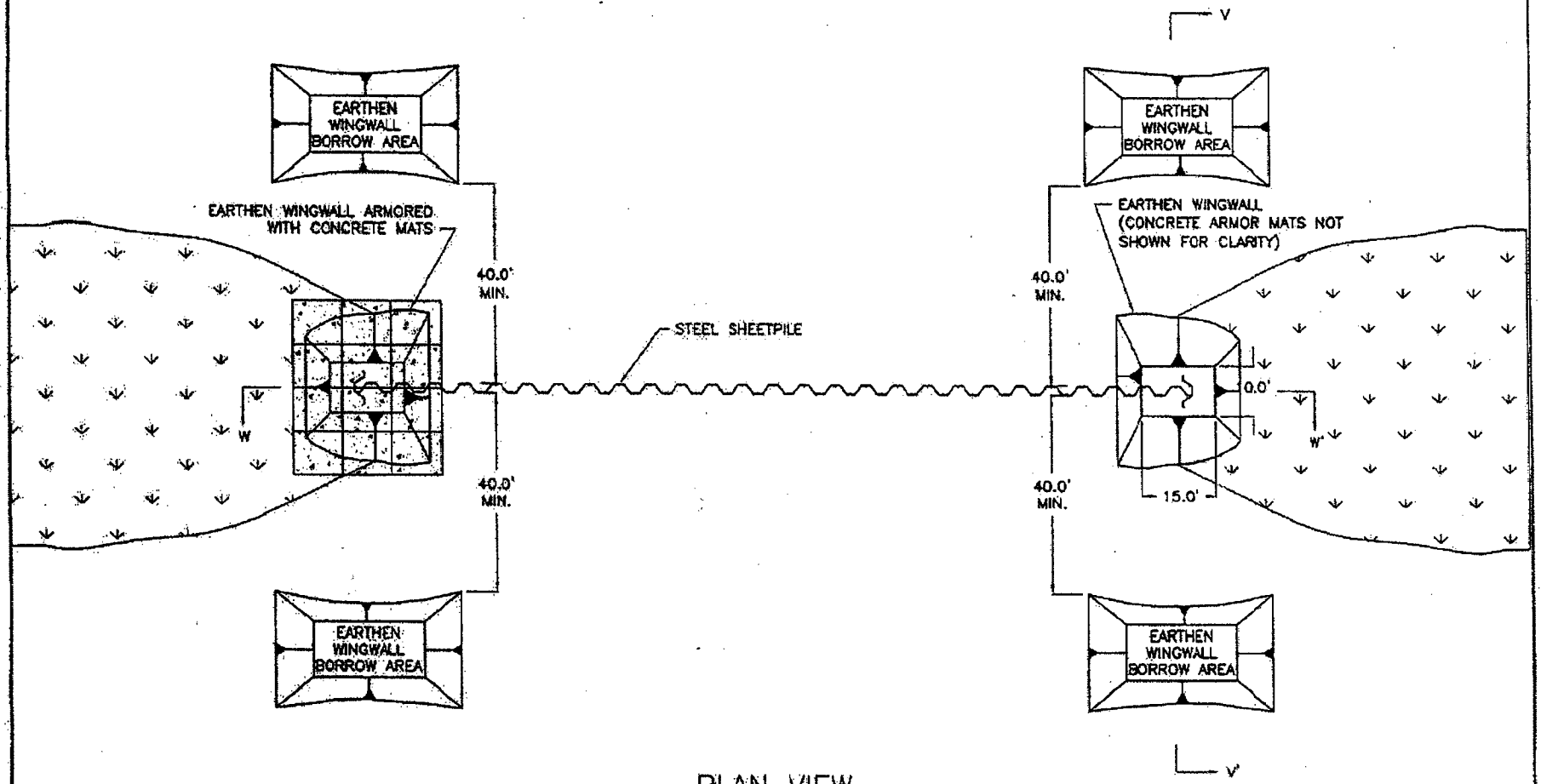

PLAN VIEW
NOT TO SCALE

NOTES
1. SEE SHEETS 4 AND 5 FOR SHEETPILE LOCATIONS.
2. SEE SHEETS 16 AND 17 FOR SECTION VIEWS

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE PLAN VIEW
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 15 OF 21

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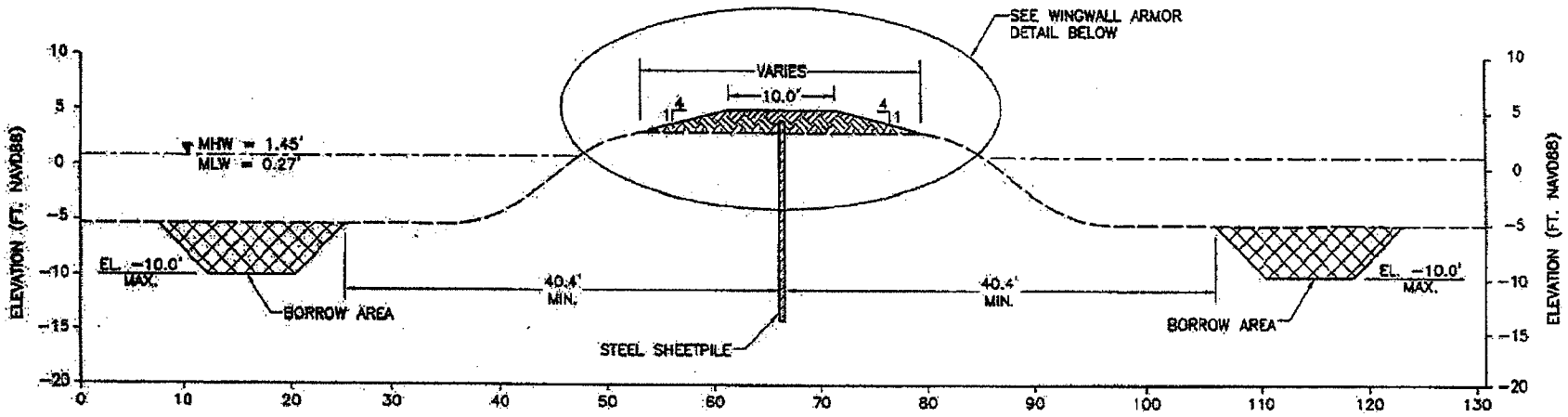
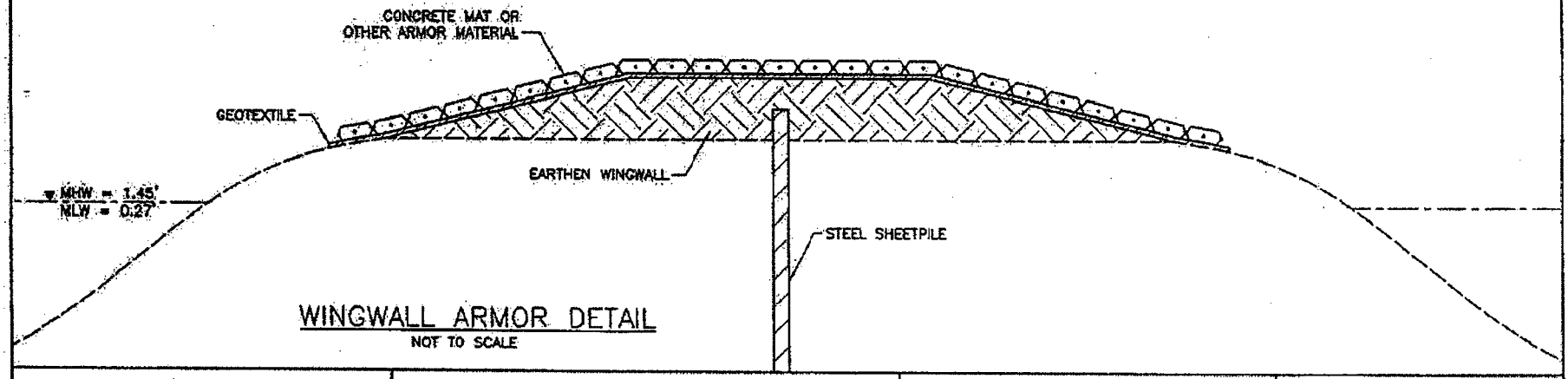


SECTION V–V'

NOT TO SCALE



WINGWALL ARMOR DETAIL

NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 18 OF 21

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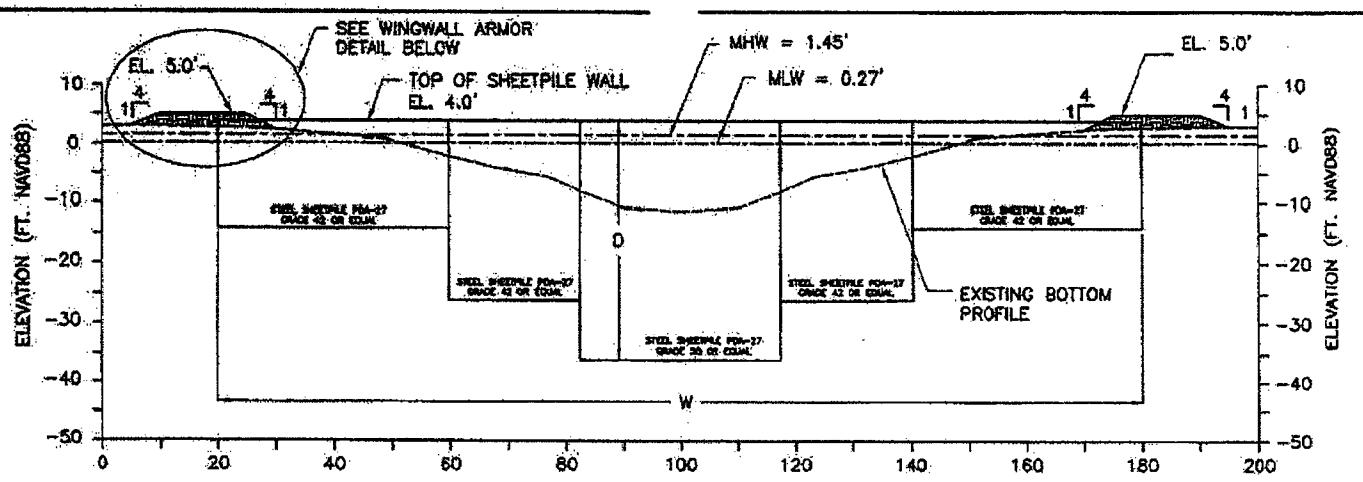
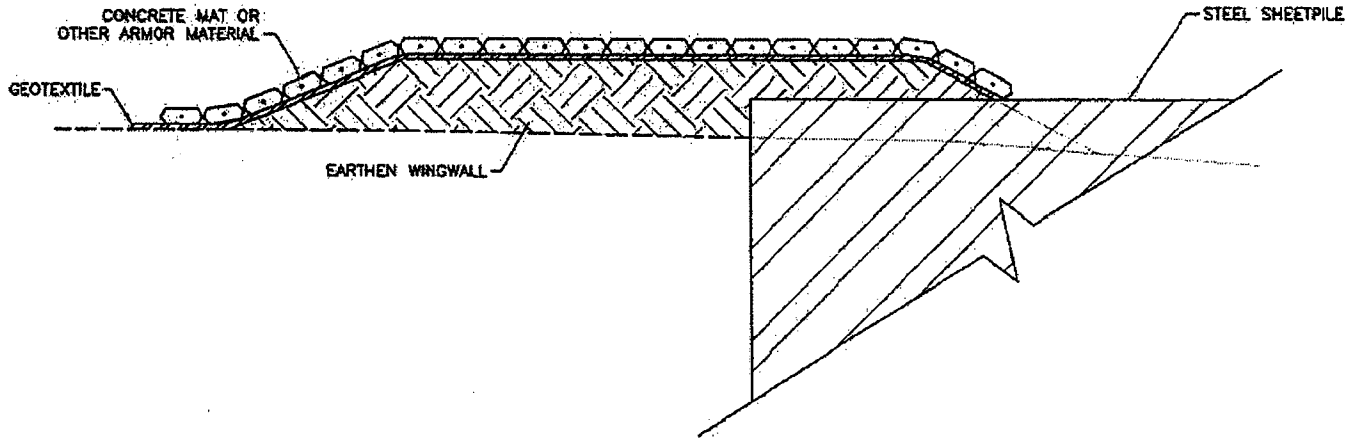


SECTION W–W'

PROFILE ON CENTERLINE
NOT TO SCALE

SHEETPILE PLUG #	LATITUDE	LONGITUDE	WIDTH–W (FEET)	MAX. DEPTH–D (NAVD88)
1	29°20'22.2"	-90°59'09.2"	205	-35.0
2	29°20'00.2"	-90°58'32.2"	260	-23.0
3	29°20'22.2"	-90°56'12.3"	100	-44.5



WINGWALL ARMOR DETAIL

NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 17 OF 21

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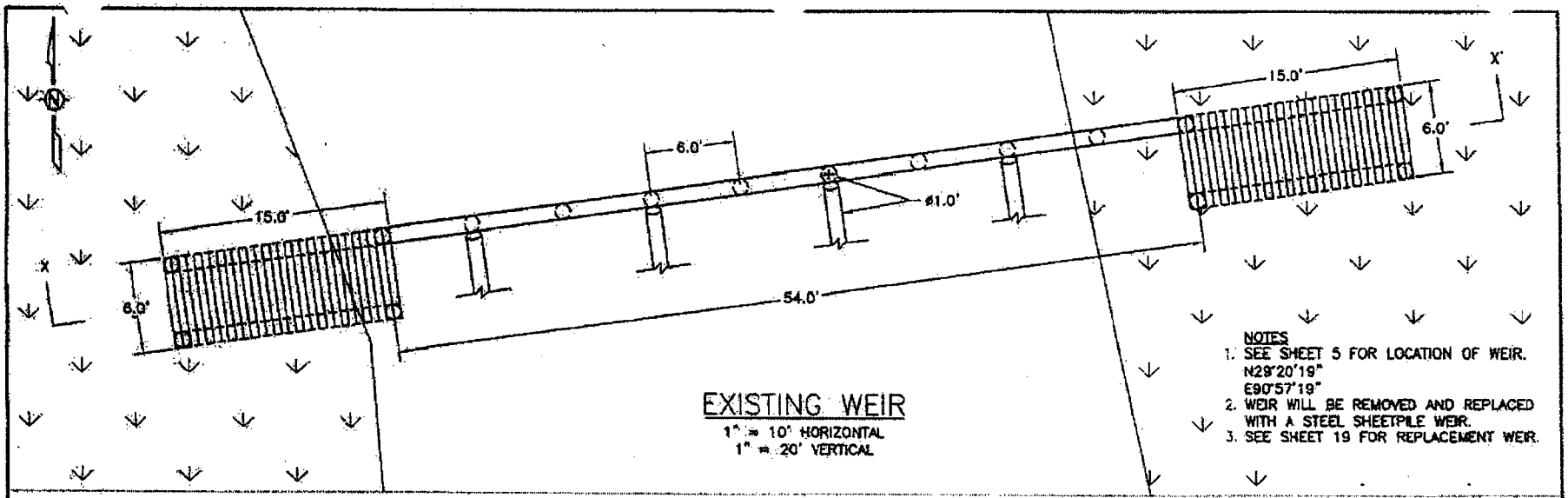
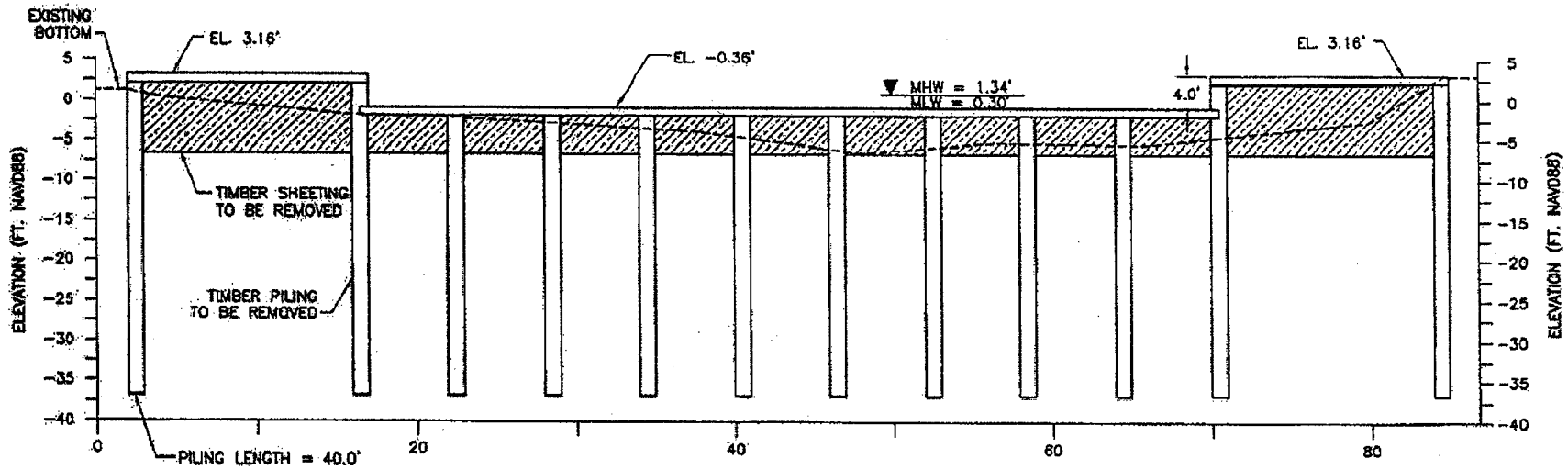


EXISTING WEIR

1" = 10' HORIZONTAL
1" = 20' VERTICAL

NOTES
1. SEE SHEET 5 FOR LOCATION OF WEIR.
   N29°20'19"
   E90°57'19"
2. WEIR WILL BE REMOVED AND REPLACED WITH A STEEL SHEETPILE WEIR.
3. SEE SHEET 19 FOR REPLACEMENT WEIR.



SECTION X-X'

1" = 10' HORIZONTAL
1" = 20' VERTICAL

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REMOVAL
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CAMILI	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 18 OF 21

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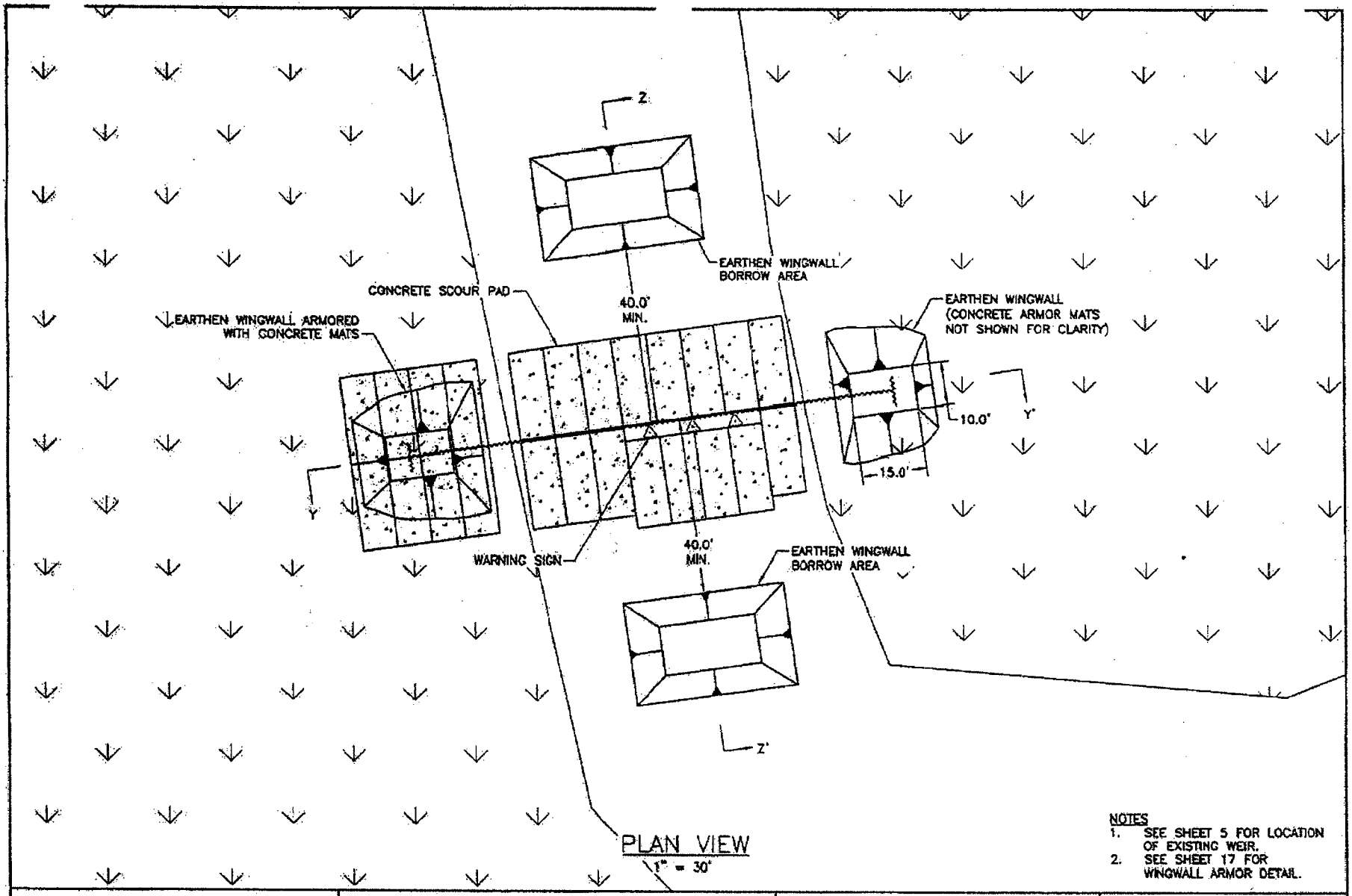

PLAN VIEW
1" = 30'

NOTES
1. SEE SHEET 5 FOR LOCATION OF EXISTING WEIR.
2. SEE SHEET 17 FOR WINGWALL ARMOR DETAIL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT PLAN VIEW
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 19 OF 21

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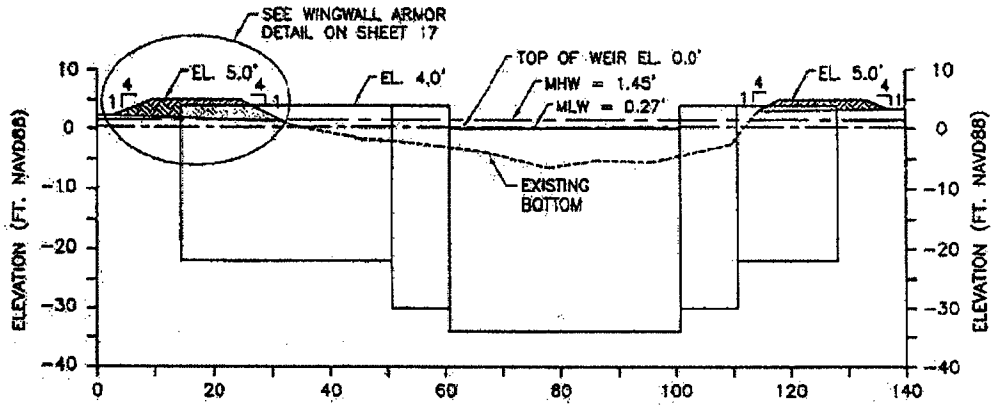
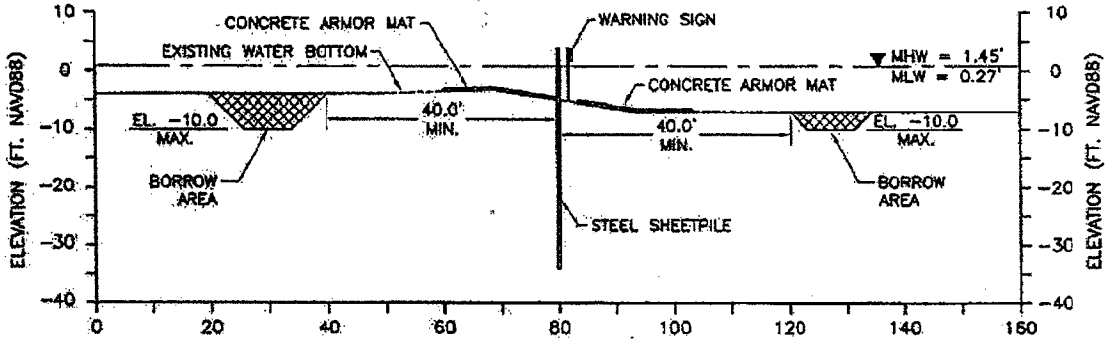


SECTION Y-Y'
1" = 30'



SECTION Z-Z'
1" = 30'

NOTE:
STEEL SHEETPILES ARE PDA-27 GRADE 42 OR EQUAL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 20 OF 21

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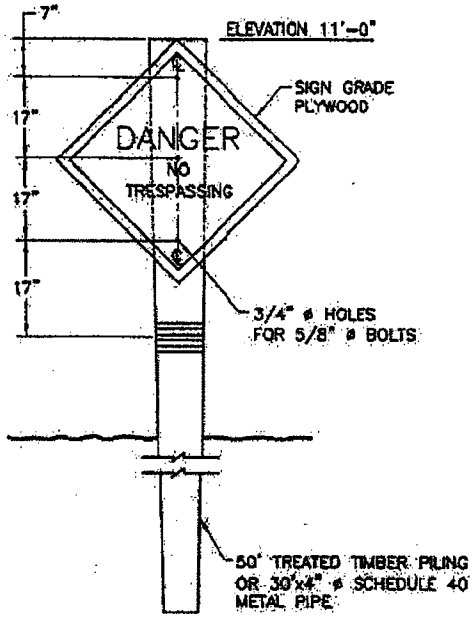

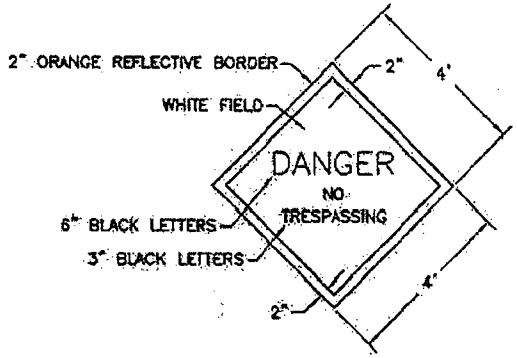

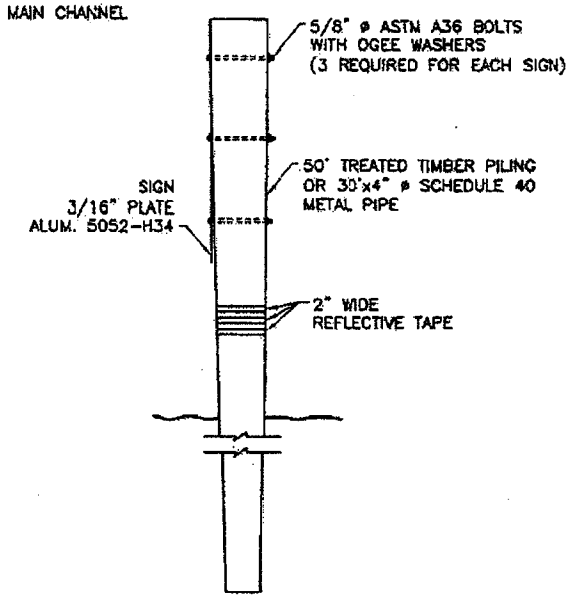

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SIGN DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 8/19/03
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 21 OF 21

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DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:
Operations Division
Central Evaluation Section

FEB 24 2005

RECEIVED
FEB 28 2005
FISH & WLDL. SERV
LAFAYETTE, LA.

SUBJECT: MVN 2004-14-CY

U. S. Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Gentlemen:

Revised drawings enclosed in twenty-one sheets, furnished with your application dated November 18, 2004, covering the re-alignment of flotation canals (open water), the deepening of borrow sites for earthen plugs, and a design change for an earthen plug, are approved and will be included in your plans for the work authorized by the Secretary of the Army in permit dated January 14, 2004, to dredge and deposit earthen material for dike construction and marsh creation, and install and maintain structures at various locations to implement the North Lake Mechant Landbridge Restoration Project (CWPPRA TE-44) located in Lake Mechant and shorelines along Raccourci Bay and Lake Pagie, in Terrebonne Parish, Louisiana. These drawings supersede drawings of your original permit.

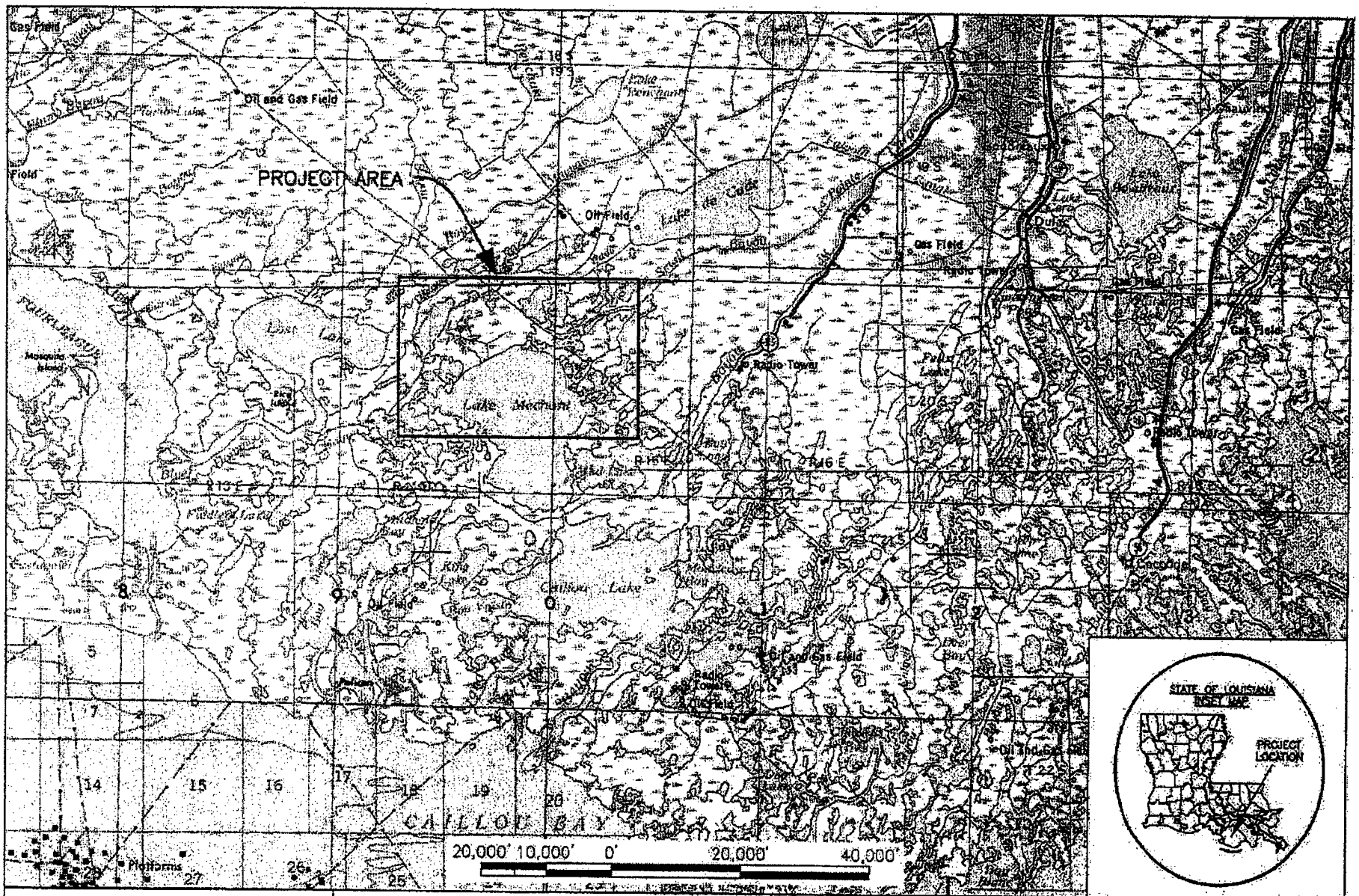
The conditions to which the work is made subject, remain in full force and effect.

A copy of the first page of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

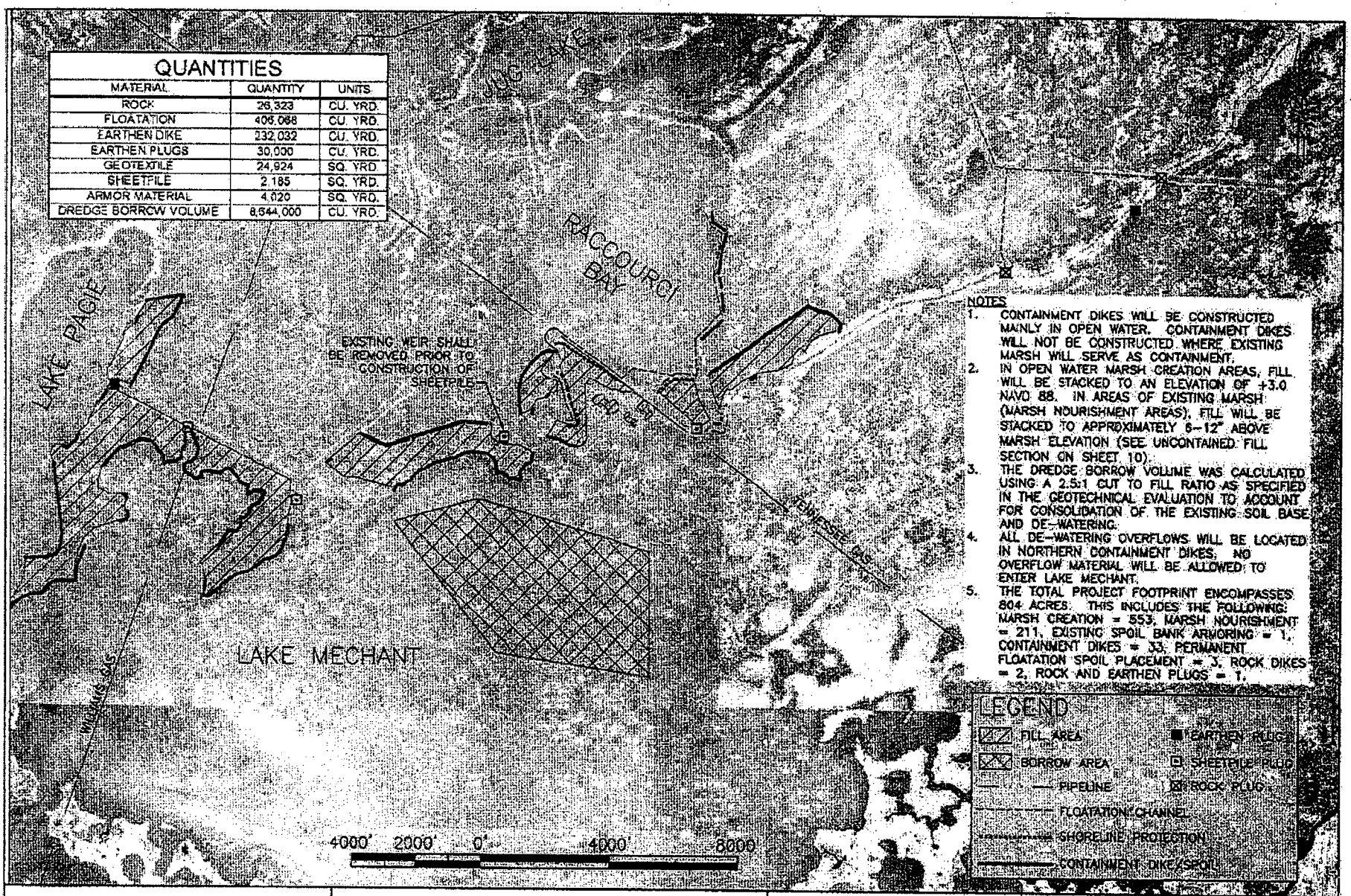
BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Ronald J. Ventola
Chief, Regulatory Branch
for
Peter J. Rowan
Colonel, U.S. Army
District Engineer

Enclosures



APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	VICINITY MAP
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 1 OF 21



APPLICATION BY:
U.S. FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

PROJECT AREA MAP

STATE PROJECT NUMBER: TE-44

DATE: 10/25/04

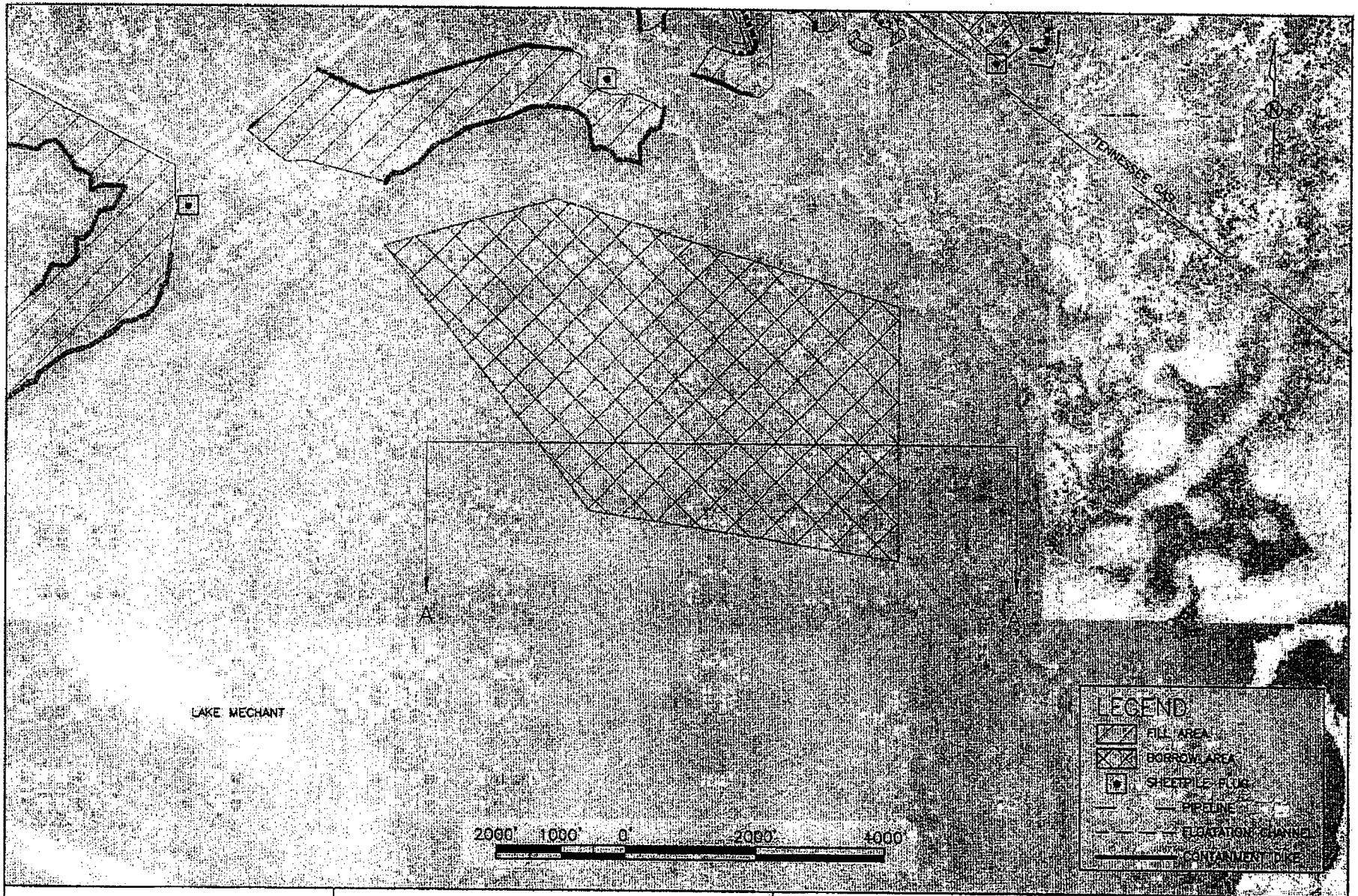
DRAWN BY: T. MITCH ANDRUS, P.E.

DESIGNED BY: T. MITCH ANDRUS, P.E.

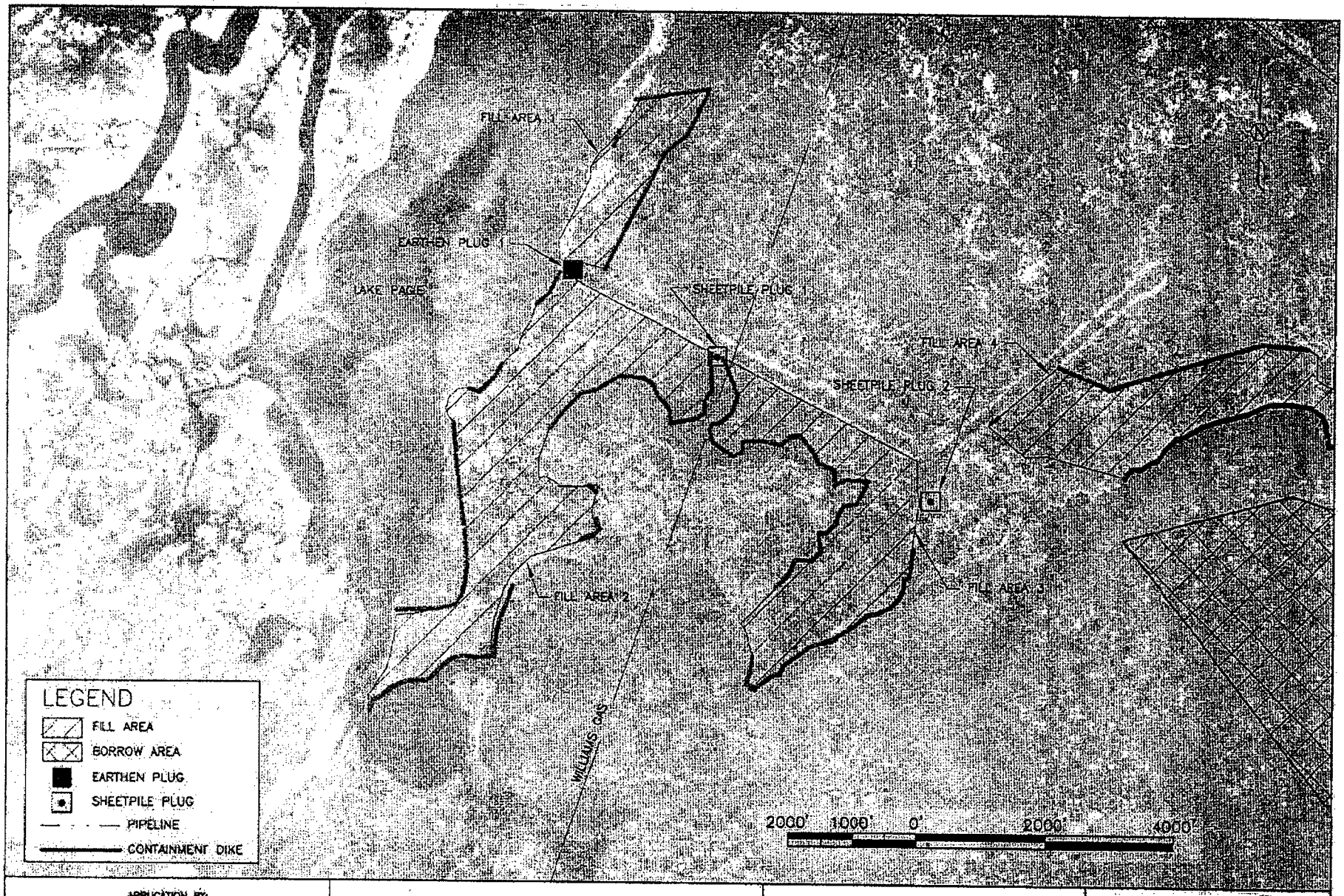
APPROVED BY: CHRIS KNOTTS, P.E.

FEDERAL PROJECT NUMBER: NA

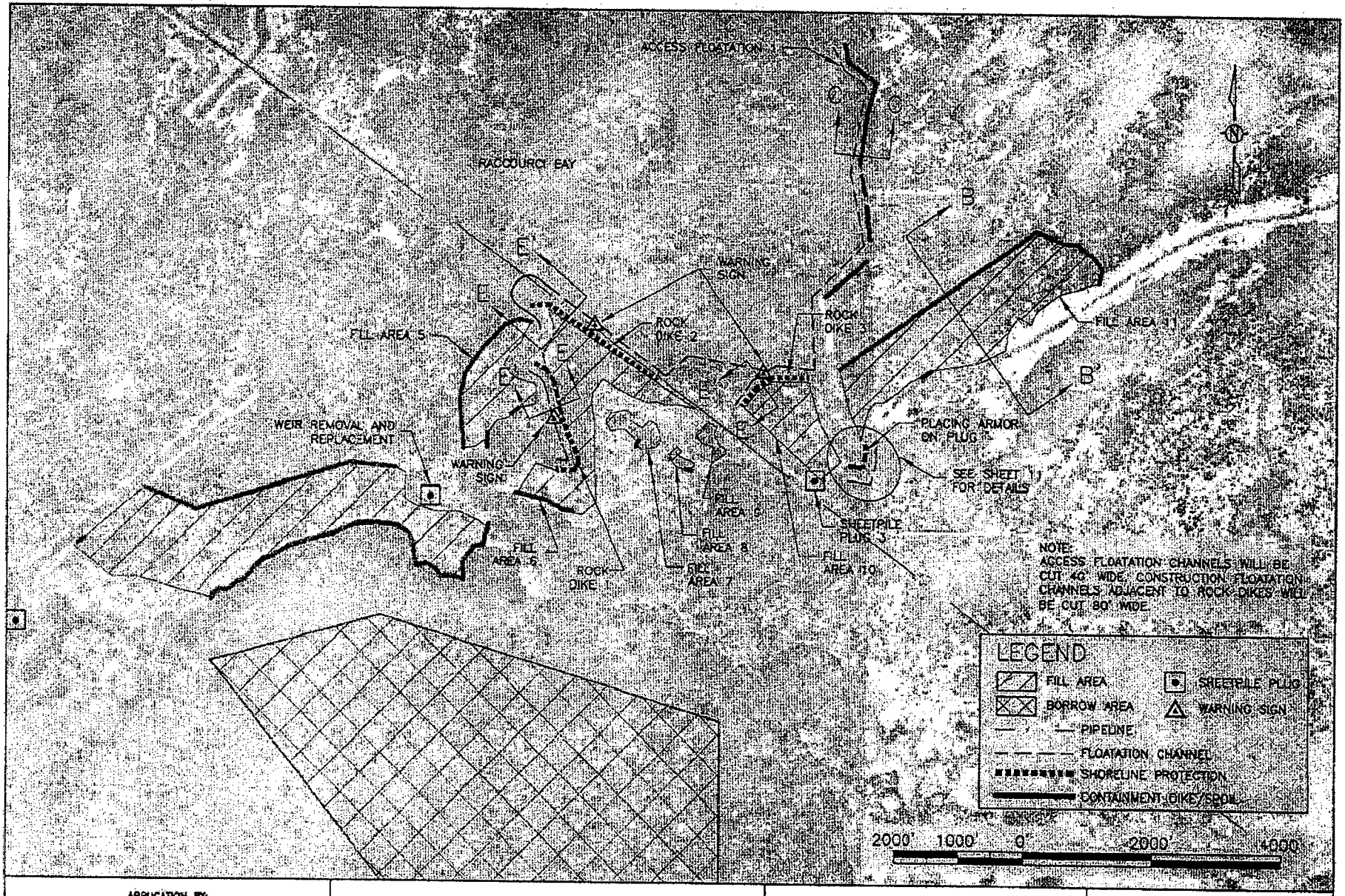
SHEET 2 OF 21



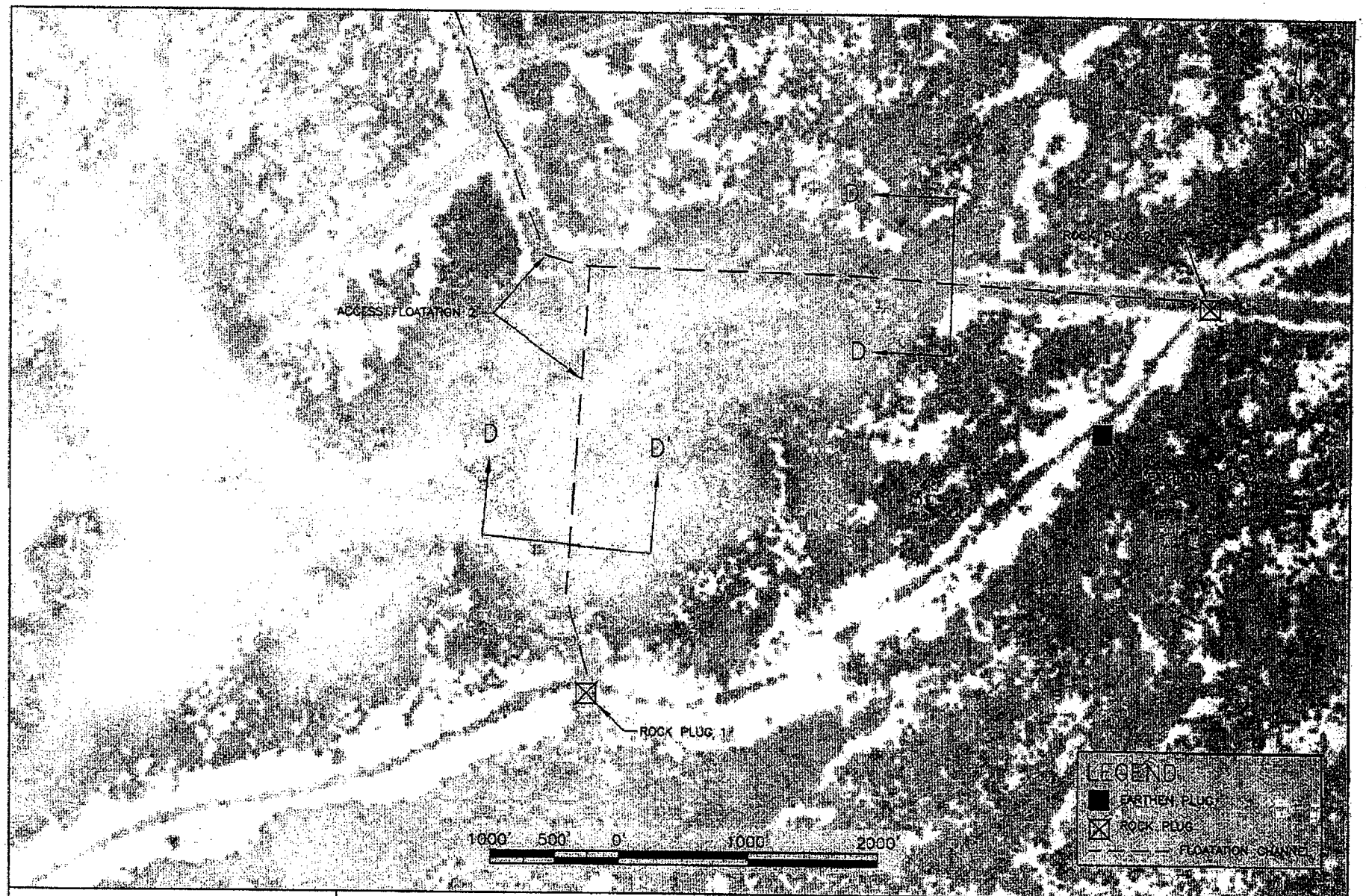
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	BORROW AREA
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 3 OF 21



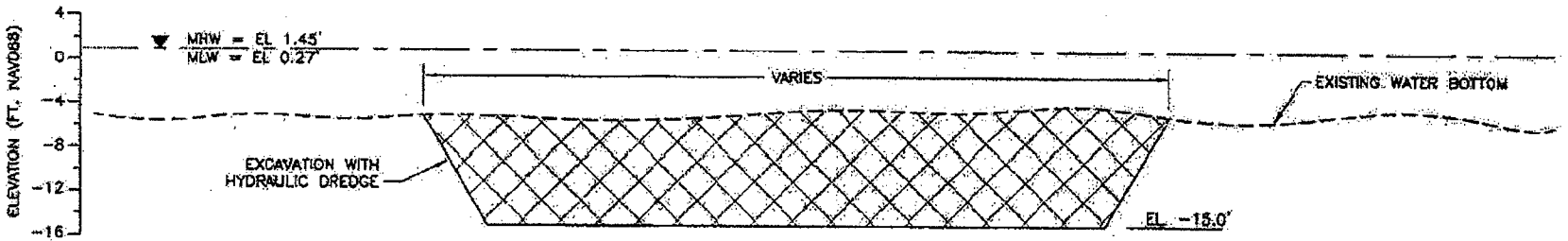
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802		NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
			STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E.	APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 4 OF 21



APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 5 OF 21

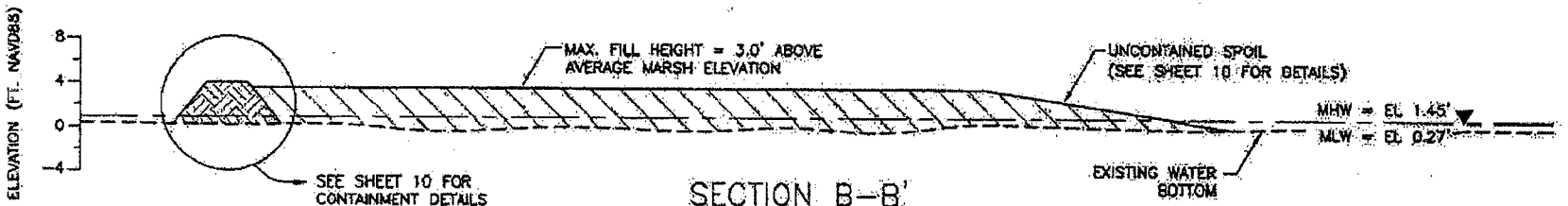


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 6 OF 21



SECTION A-A'

BORROW AREA
NOT TO SCALE

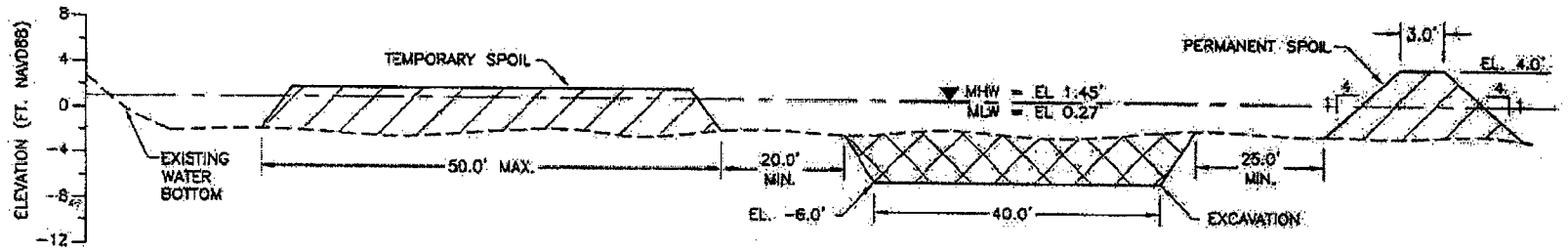


SECTION B-B'

FILL AREA
NOT TO SCALE

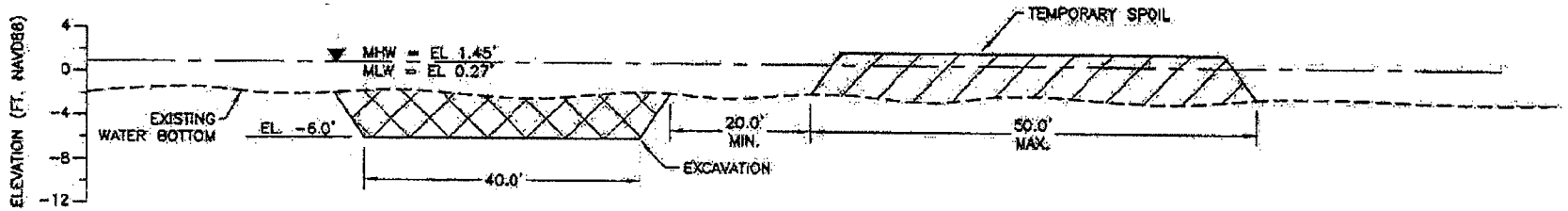
NOTES
1. EXISTING MARSH ELEVATION RANGES FROM 0.6'-1.1'.
2. CONTAINMENT DIKES WILL BE DEGRADED IN 3 YEARS IF NEEDED.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	BORROW AND FILL AREAS SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: T. MITCH ANDRUS, P.E.	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 7 OF 21



SECTION C–C'

ACCESS FLOATATION CHANNEL
NOT TO SCALE

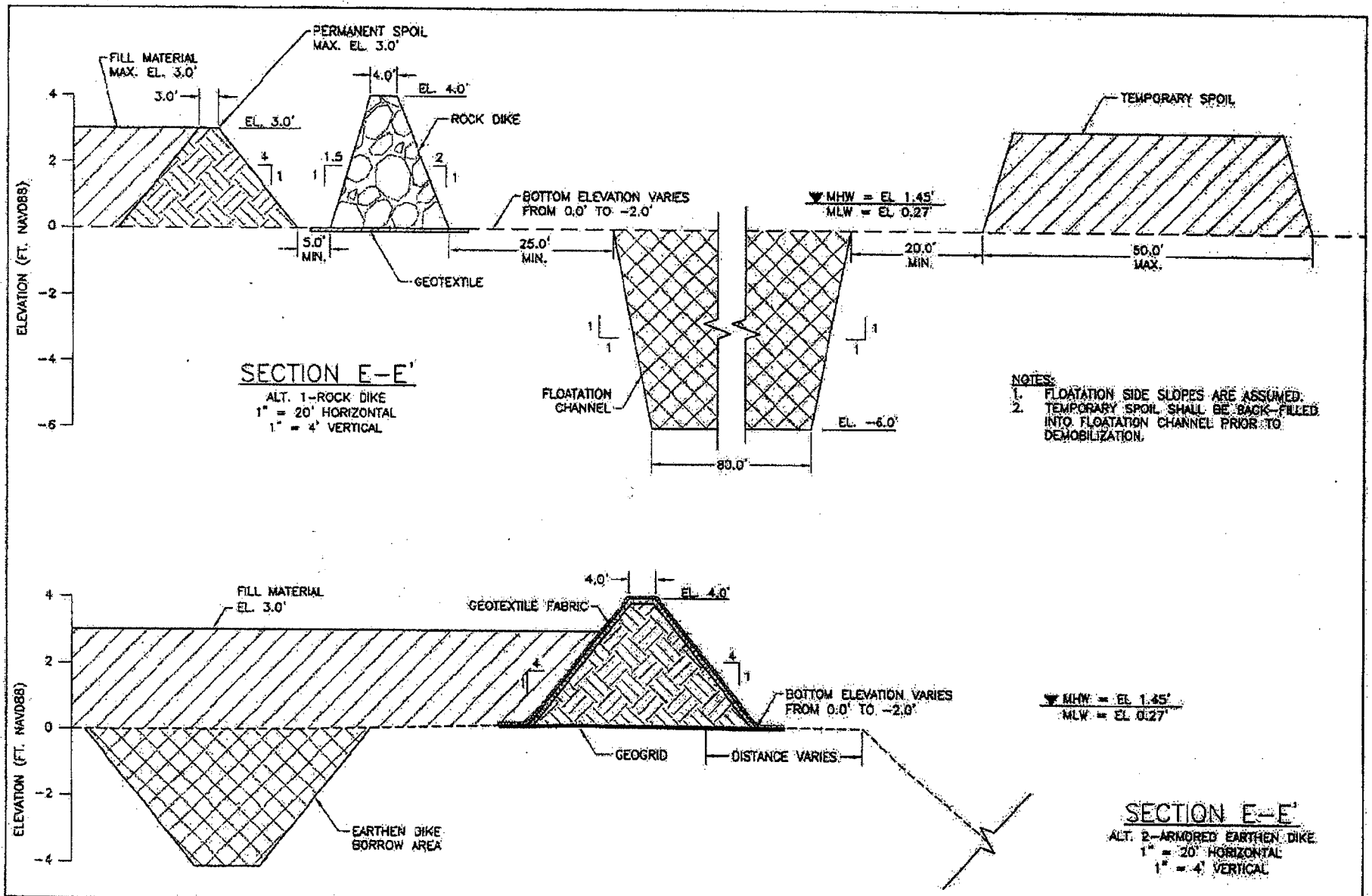


SECTION D–D'

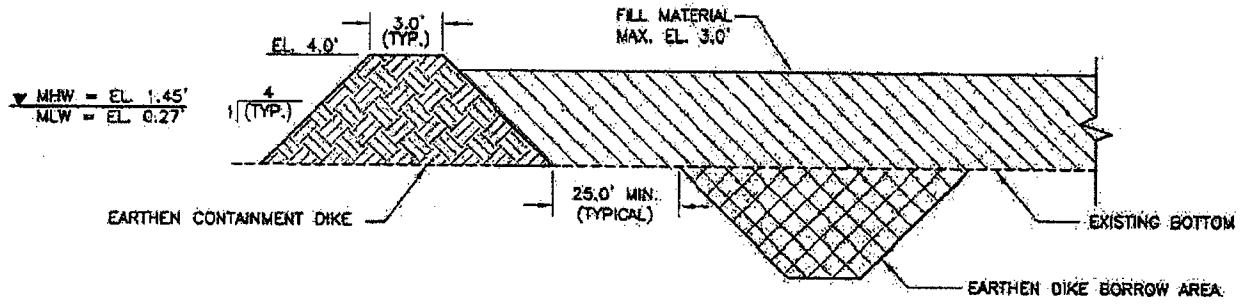
ACCESS FLOATATION CHANNEL
NOT TO SCALE

NOTES
1. AVERAGE MARSH ELEVATION RANGES FROM 0.6'–1.1'.
2. TEMPORARY SPOIL SHALL BE BACK–FILLED INTO CHANNEL PRIOR TO DEMOBILIZATION.
3. PERMANENT SPOIL IS BEING PLACED TO REPAIR RACCOURCI BAY SHORELINE.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ACCESS FLOATATION CHANNEL SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 8 OF 23

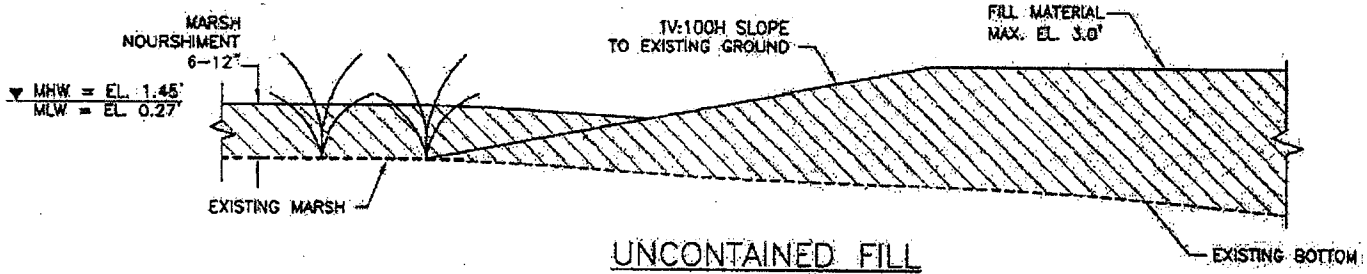


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK DIKE SECTION
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 9 OF 21



EARTHEN CONTAINMENT DIKE

NOT TO SCALE

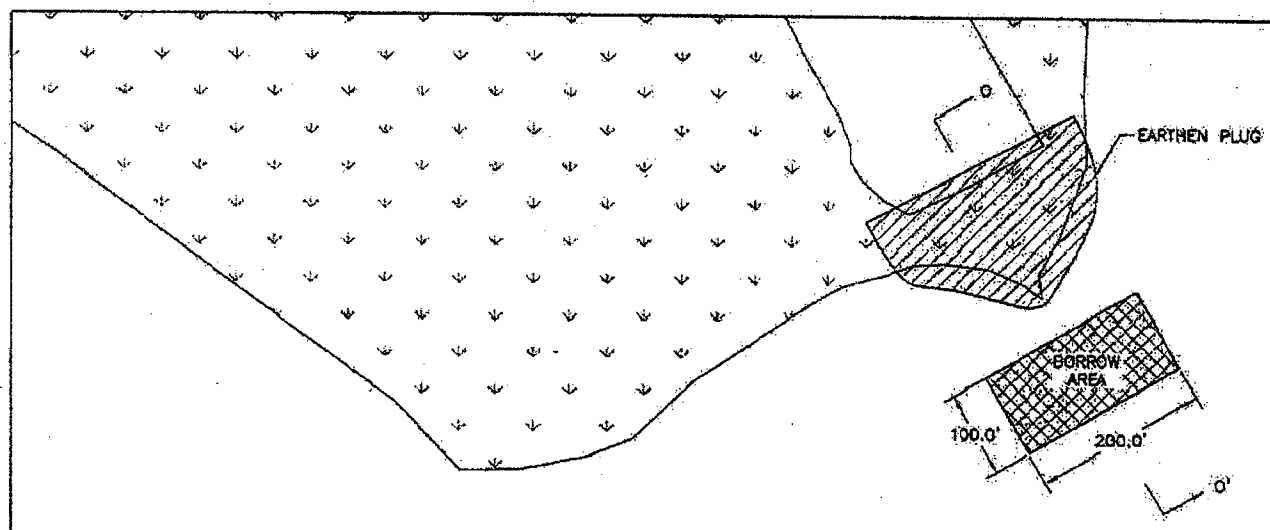


UNCONTAINED FILL

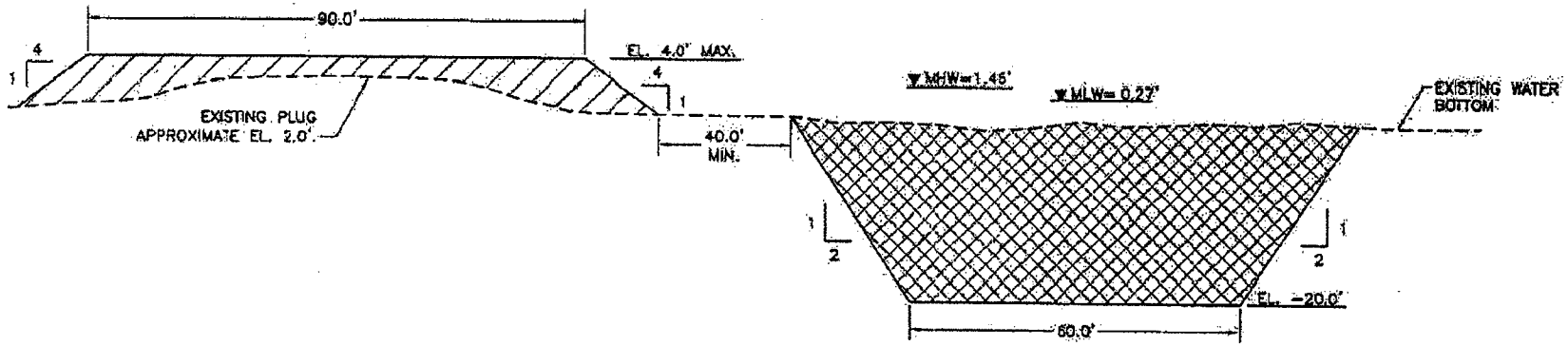
NOT TO SCALE

NOTES
1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. AVERAGE MARSH ELEVATION RANGES FROM 0.6'–1.1'.
3. SEE SHEET 2 FOR LOCATIONS OF FILL AREAS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	CONTAINMENT SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 10 OF 21

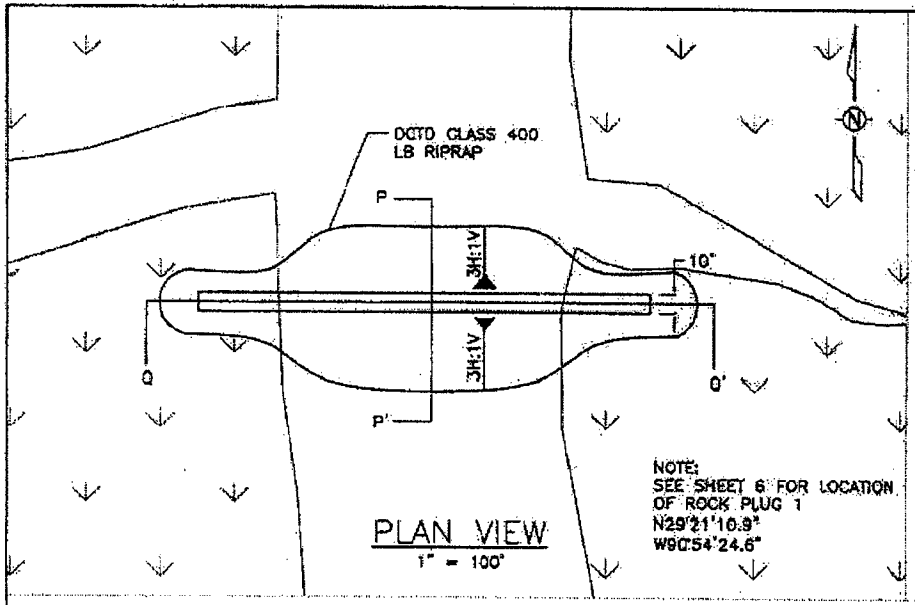


PLUG ARMOR
1" = 200'

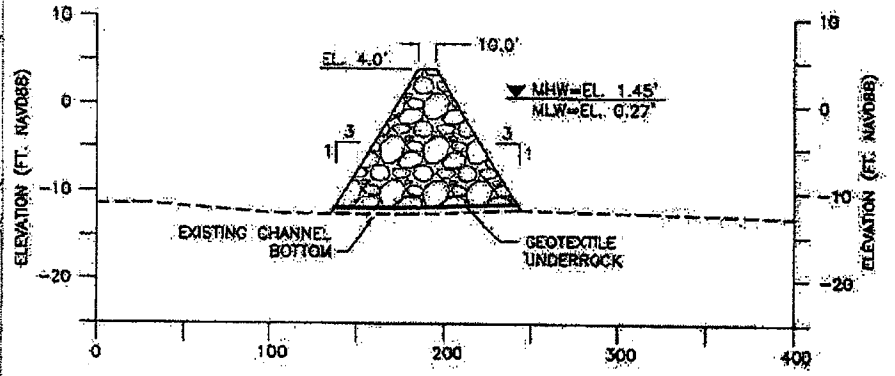


SECTION 0-0'
NOT TO SCALE

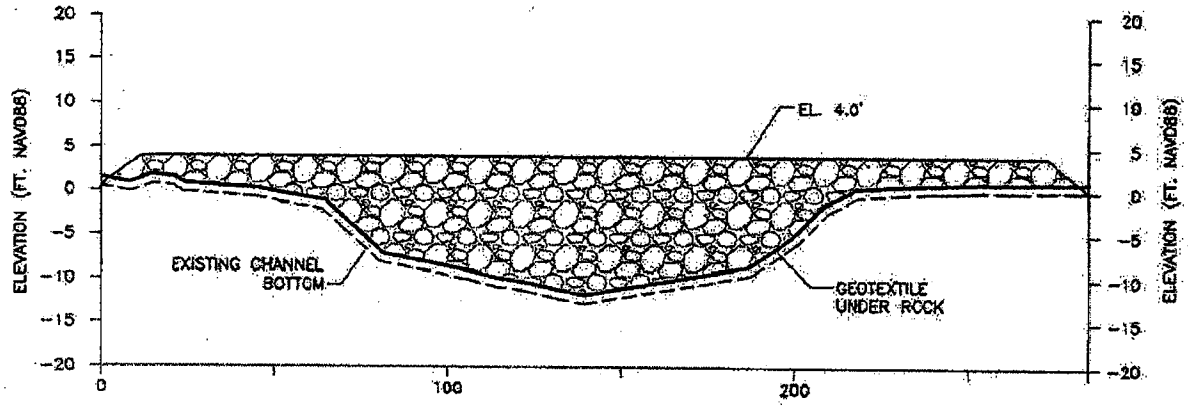
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHORELINE PROTECTION
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 11 OF 21



PLAN VIEW
1" = 100'



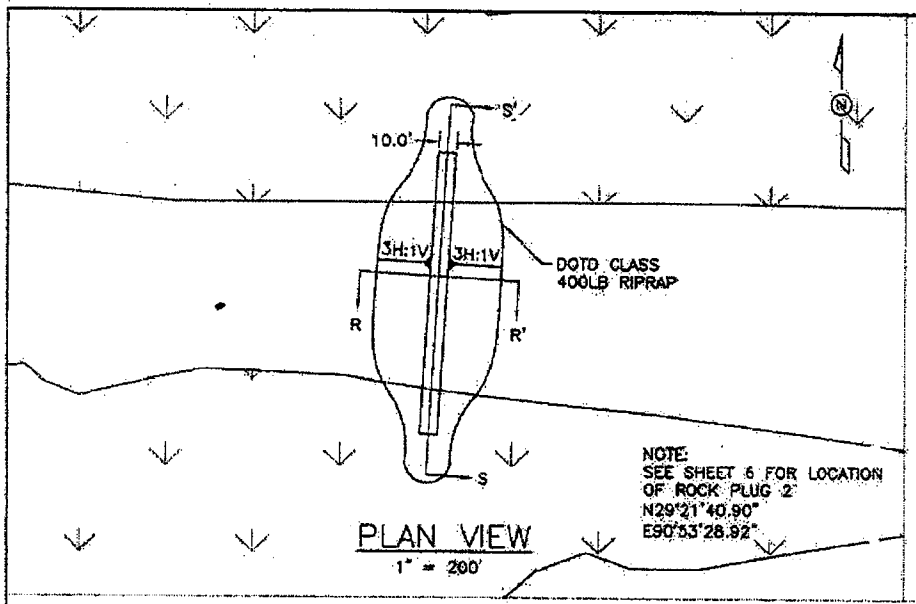
SECTION P–P'
1" = 100' HORIZONTAL
1" = 20' VERTICAL



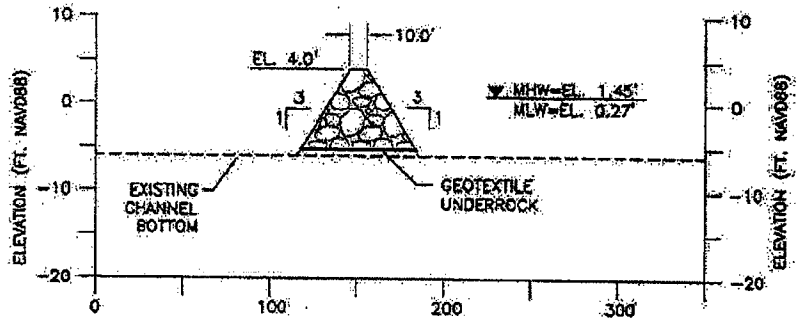
SECTION Q–Q'
1" = 50' HORIZONTAL
1" = 20' VERTICAL

NOTE:
ROCK VOLUME = 6,600 CU. YDS.
GEOTEXTILE AREA = 3,755 SQ. YDS.

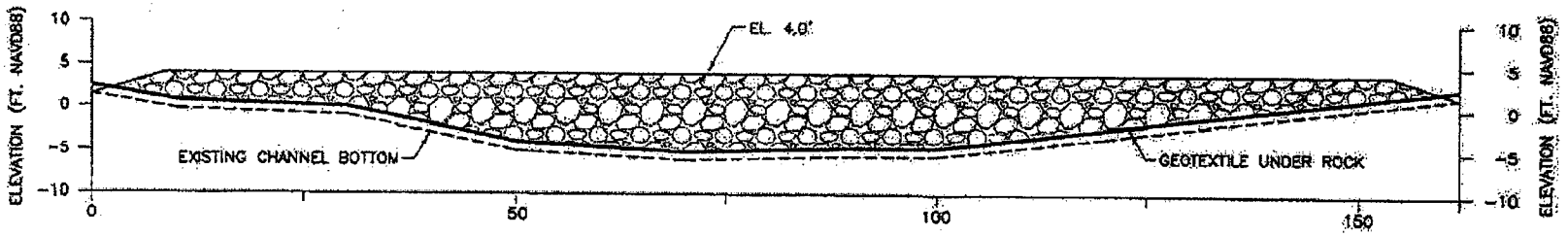
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 1 DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 12 OF 21



PLAN VIEW
1" = 200'



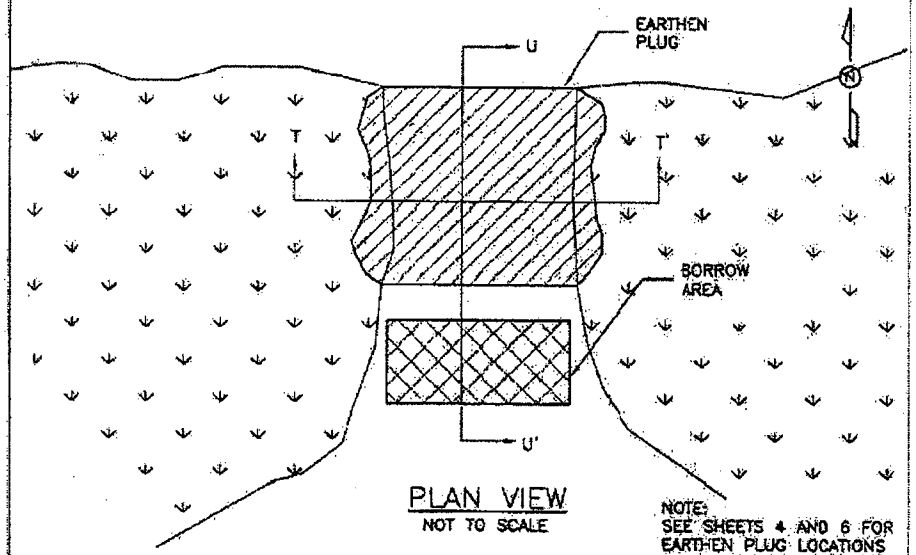
SECTION R-R'
1" = 100' HORIZONTAL
1" = 20' VERTICAL



SECTION S-S'
1" = 20'

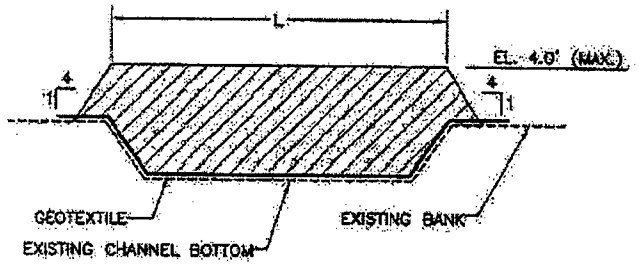
NOTES
ROCK VOLUME = 600 CU. YDS.
GEOTEXTILE AREA = 1,550 SQ. YDS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 2 DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 13 OF 21

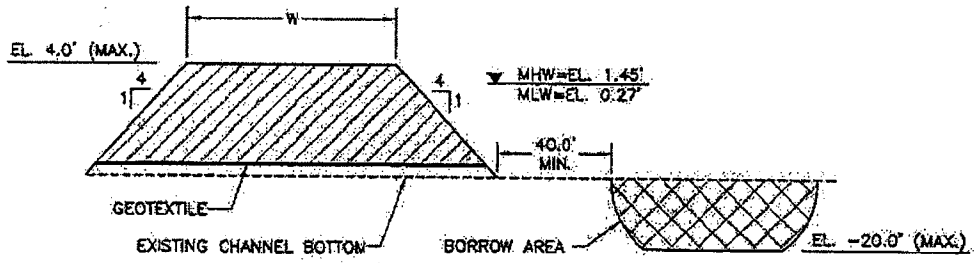


PLAN VIEW
NOT TO SCALE

NOTE:
SEE SHEETS 4 AND 6 FOR EARTHEN PLUG LOCATIONS



SECTION T–T'
NOT TO SCALE



SECTION U–U'
NOT TO SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

EARTH PLUG #	LATITUDE	LONGITUDE	BOTTOM ELEV. (FT. NAVD88)	L (ft)	W (ft)	PLUG VOLUME (CU.YD.)
1	29°20'36.3"	90°59'36.3"	-4	75	50	10,150
2	29°21'31.3"	90°53'40.0"	-3	105	60	11,600

APPLICATION BY:
U.S. FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

EARTHEN PLUG DETAILS

STATE PROJECT NUMBER: TE-44

DATE: 10/25/04

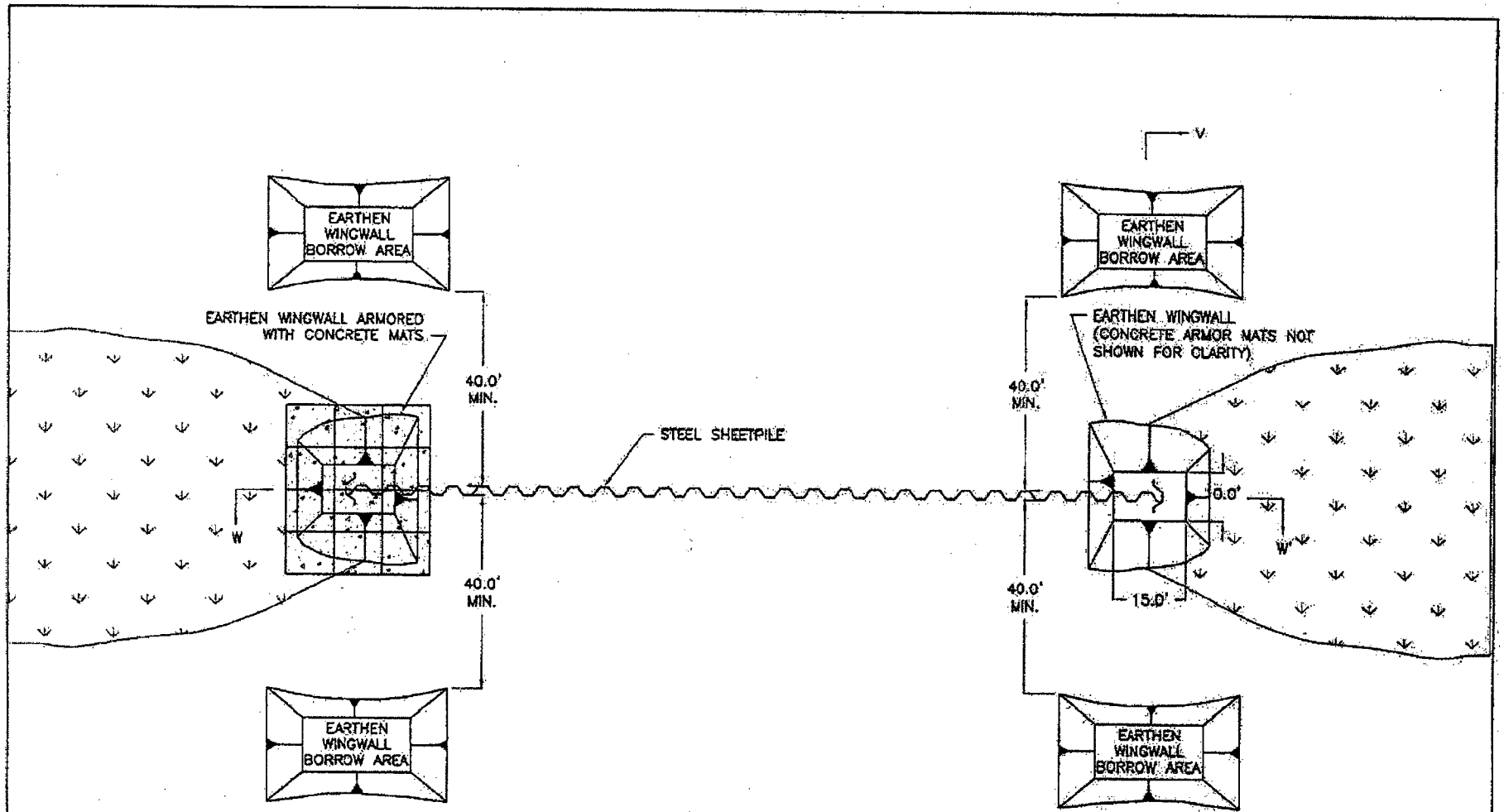
DRAWN BY: KRISTI CANTU

DESIGNED BY: T. MITCH ANDRUS, P.E.

APPROVED BY: CHRIS KNOTTS, P.E.

FEDERAL PROJECT NUMBER: NA

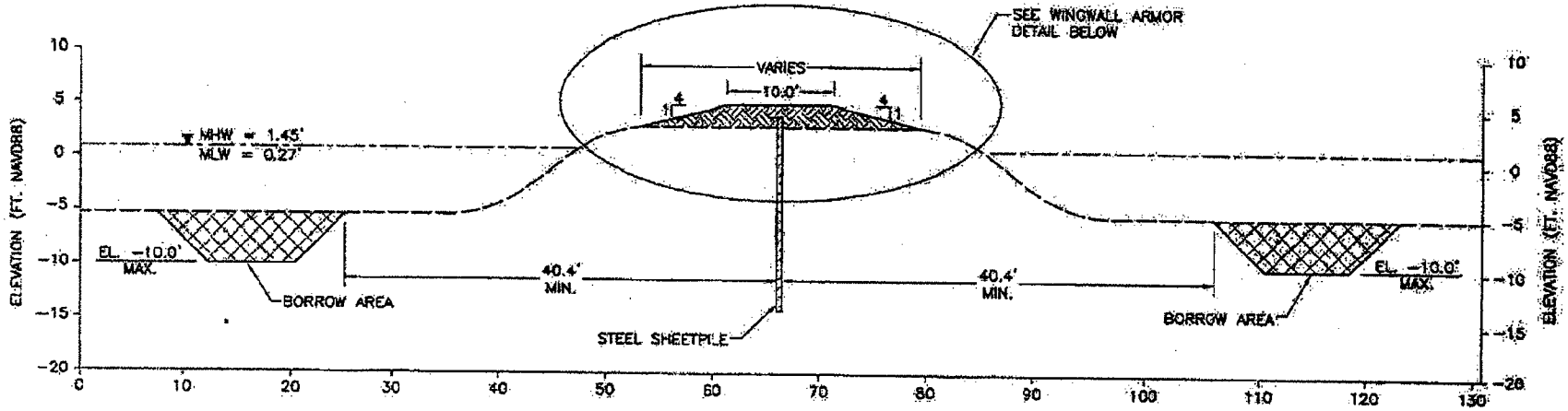
SHEET 14 OF 21



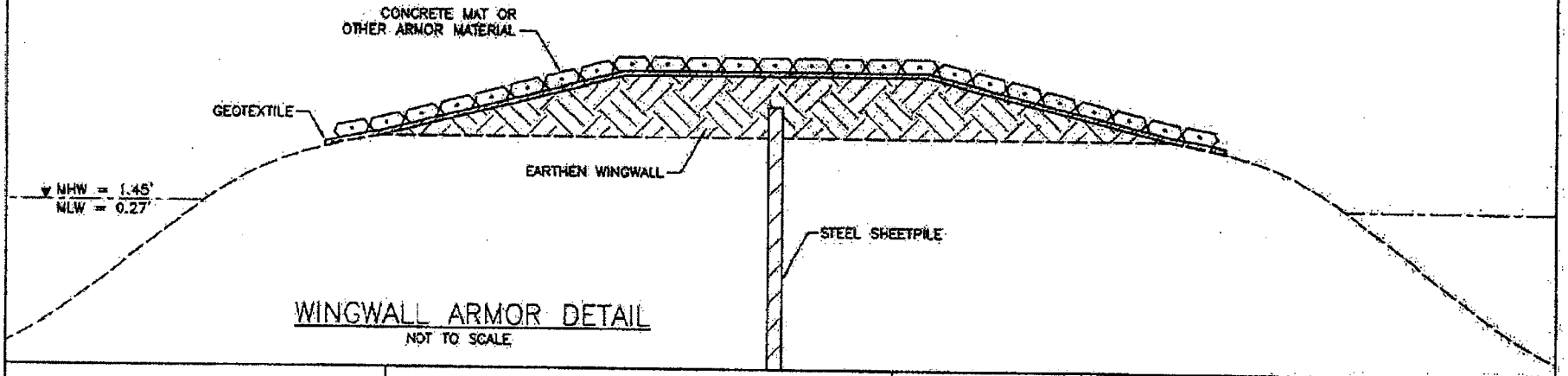
PLAN VIEW
NOT TO SCALE

NOTES
1. SEE SHEETS 4 AND 5 FOR SHEETPILE LOCATIONS.
2. SEE SHEETS 16 AND 17 FOR SECTION VIEWS

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE PLAN VIEW
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 15 OF 21

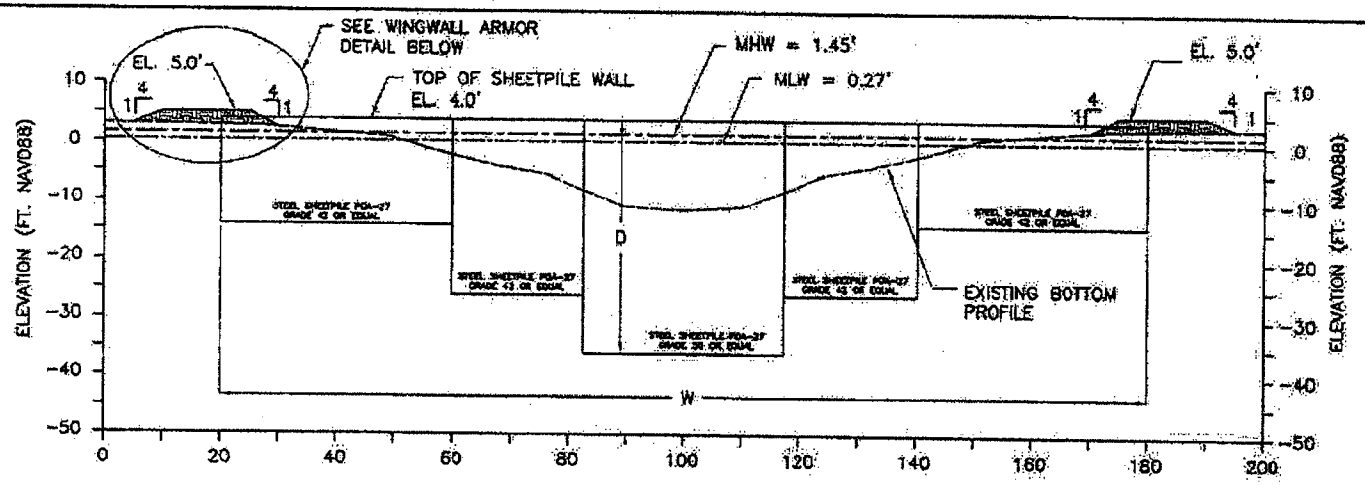


SECTION V–V'
NOT TO SCALE



WINGWALL ARMOR DETAIL
NOT TO SCALE

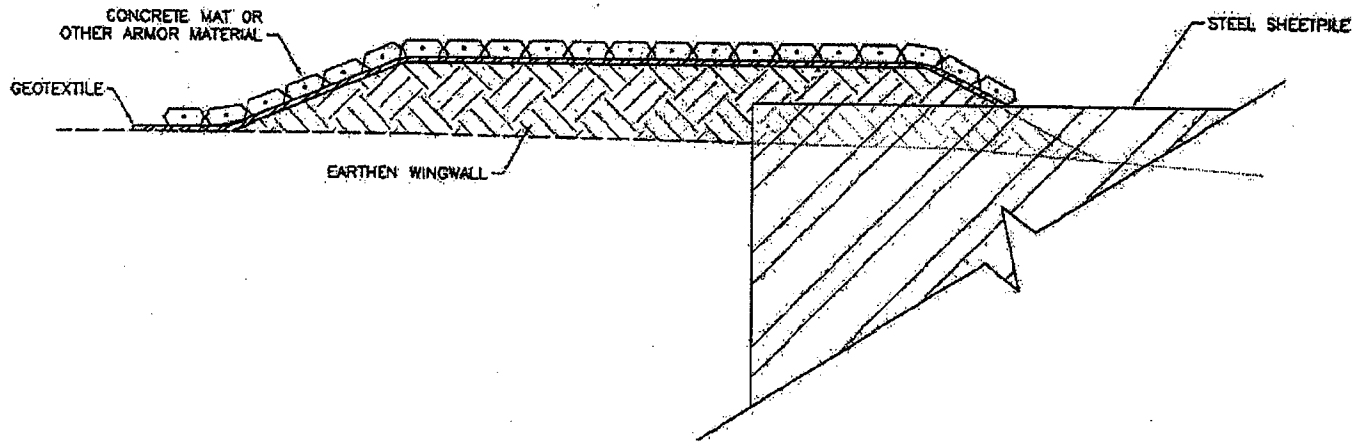
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
		STATE PROJECT NUMBER: TE-41	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 18 OF 21



SECTION W–W'

PROFILE ON CENTERLINE
NOT TO SCALE

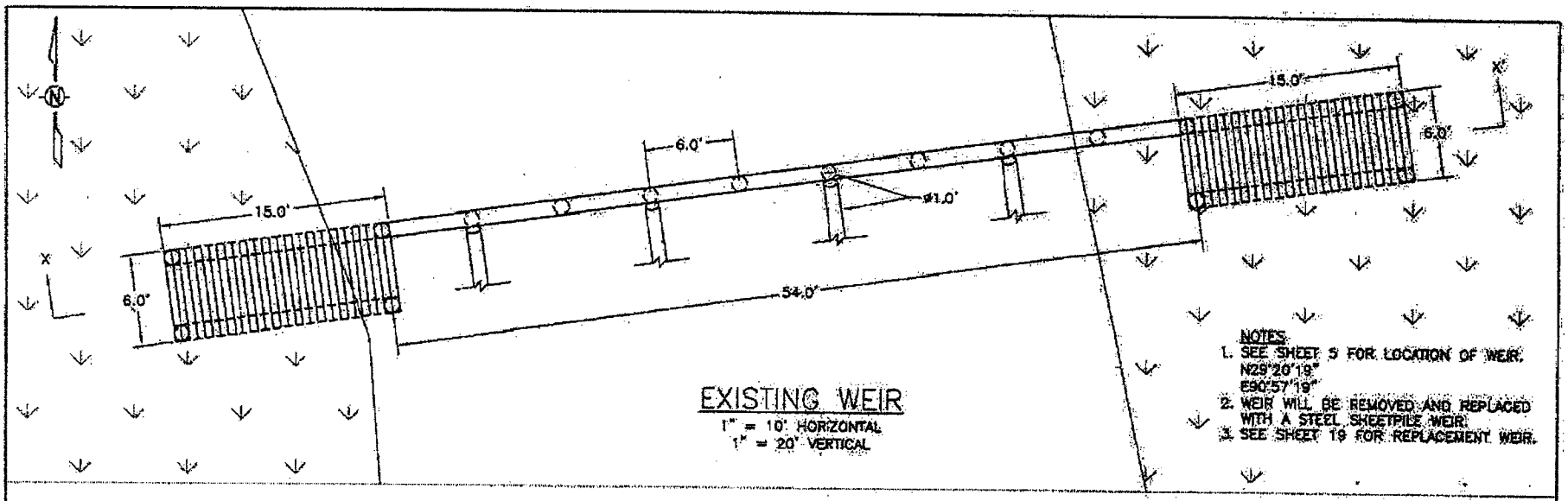
SHEETPILE PLUG #	LATITUDE	LONGITUDE	WIDTH–W (FEET)	MAX. DEPTH–D (NAVD88)
1	29°20'22.2"	-90°59'09.2"	205	-39.0
2	29°20'00.2"	-90°58'32.2"	280	-23.6
3	29°20'22.2"	-90°56'12.3"	100	-44.5



WINGWALL ARMOR DETAIL

NOT TO SCALE

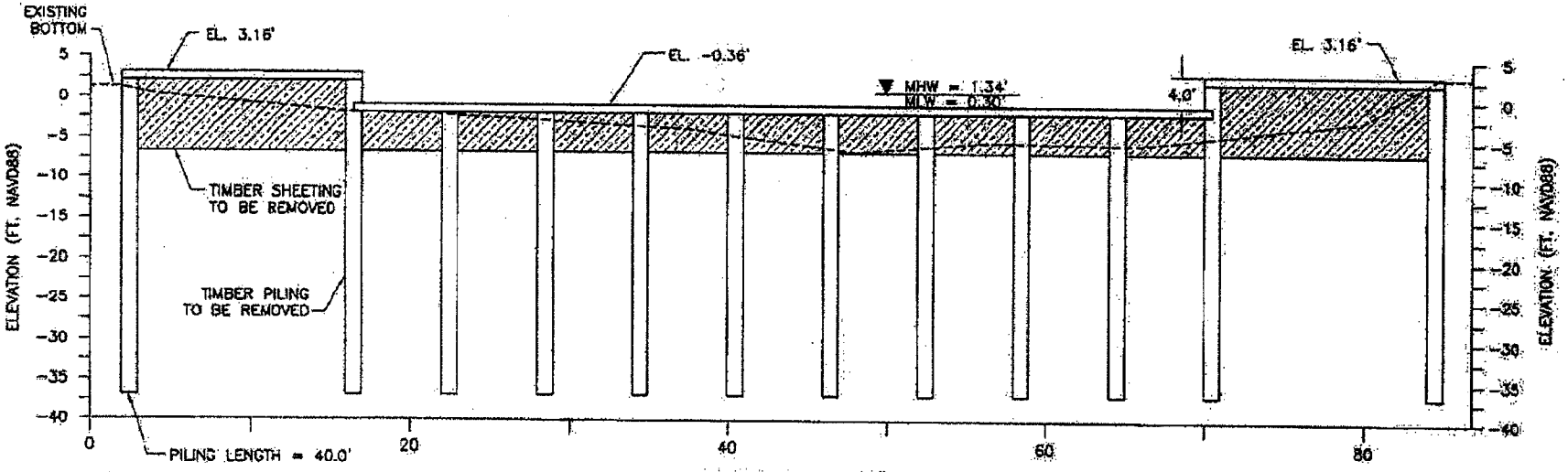
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 17 OF 21



EXISTING WEIR

1" = 10' HORIZONTAL
1" = 20' VERTICAL

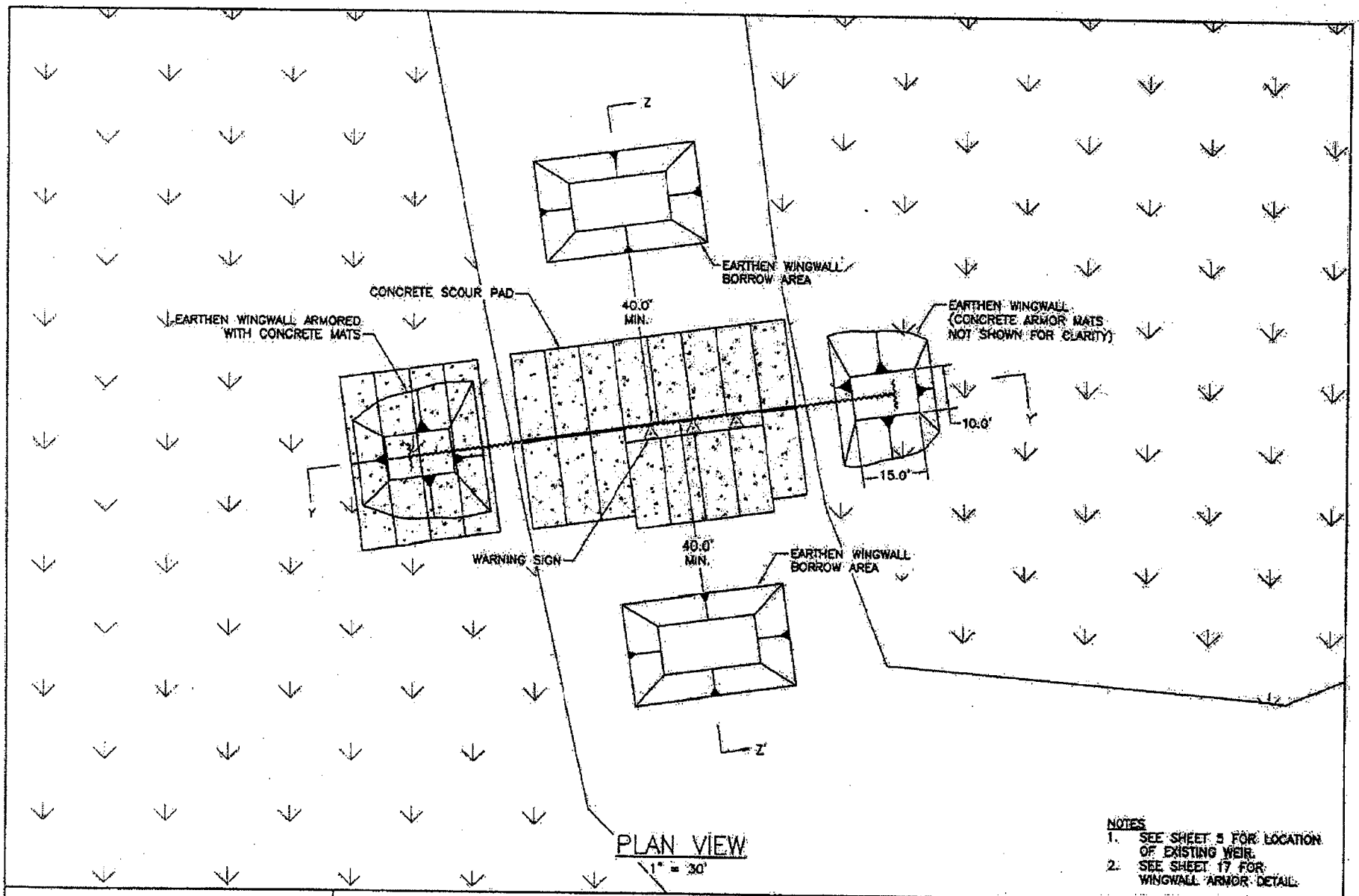
NOTES:
1. SEE SHEET 5 FOR LOCATION OF WEIR. N29°20'19" E90°57'19"
2. WEIR WILL BE REMOVED AND REPLACED WITH A STEEL SHEETPILE WEIR.
3. SEE SHEET 19 FOR REPLACEMENT WEIR.



SECTION X–X'

1" = 10' HORIZONTAL
1" = 20' VERTICAL

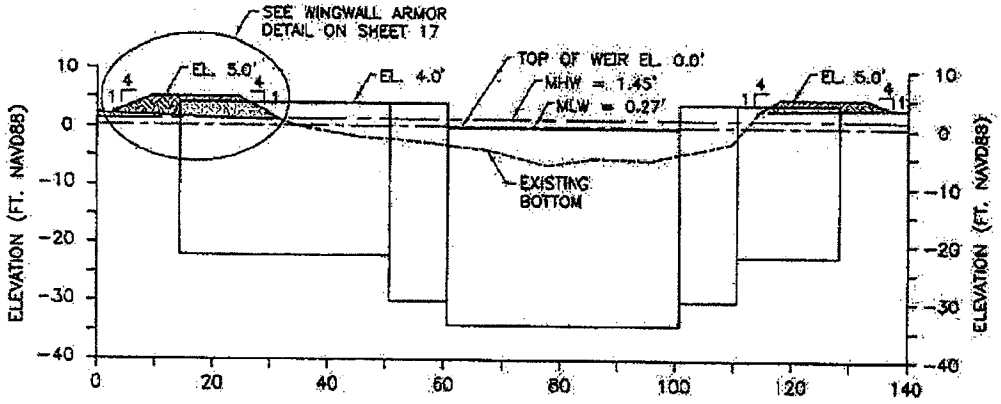
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REMOVAL
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 18 OF 21



PLAN VIEW
1" = 30'

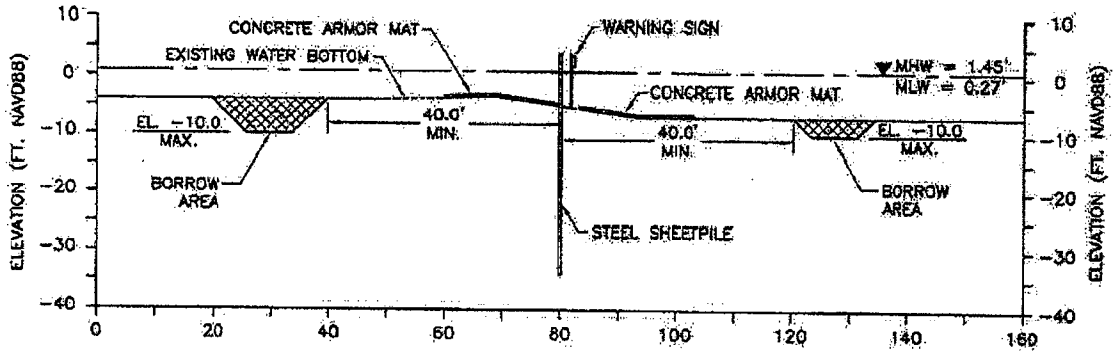
NOTES
1. SEE SHEET 5 FOR LOCATION OF EXISTING WEIR.
2. SEE SHEET 17 FOR WINGWALL ARMOR DETAIL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA. 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT PLAN VIEW
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 19 OF 21



SECTION Y–Y'

1" = 30'

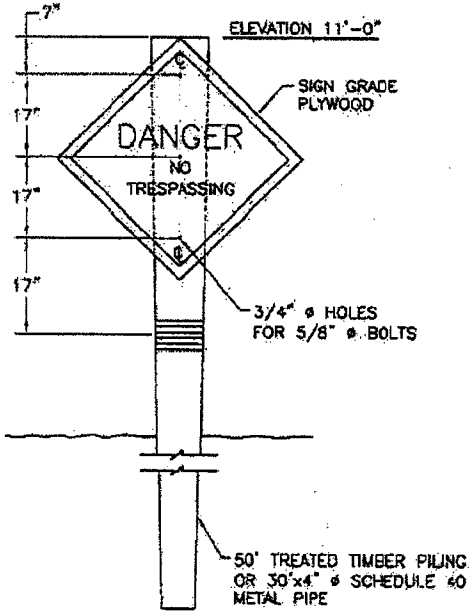


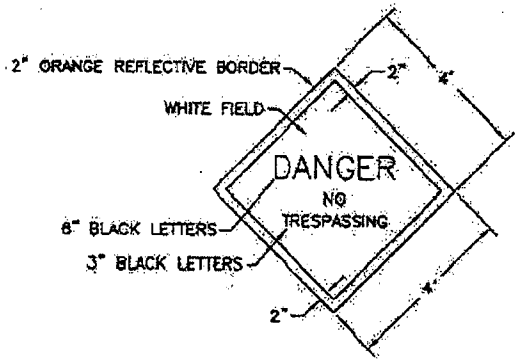
SECTION Z–Z'

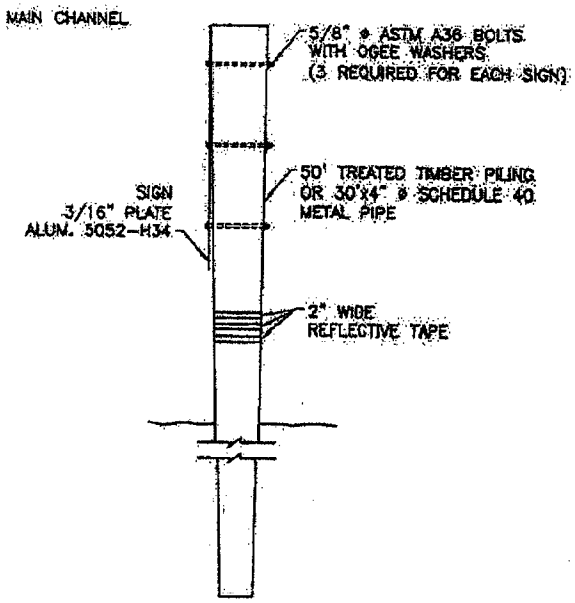
1" = 30'

NOTE:
STEEL SHEETPILES ARE PDA-27 GRADE 42 OR EQUAL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT SECTION VIEWS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI GANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 20 OF 21







APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SIGN DETAILS
		STATE PROJECT NUMBER: TE-44	DATE: 10/25/04
DRAWN BY: KRISTI CANTU	DESIGNED BY: T. MITCH ANDRUS, P.E. / APPROVED BY: CHRIS KNOTTS, P.E.	FEDERAL PROJECT NUMBER: NA	SHEET 21 OF 21

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

CMD Permit Number:	**C20040642**
COE Permit Number:	**MVN 2004-14-CY**

The following describes the revisions to the previously approved permit drawings (Decision Date 2/25/2005) for the subject project:

GENERAL

- Flotation Access Channels
  The approved permit drawings (Decision Date 2/25/2005) includes access flotation channels with a maximum depth of -6.0' NAVD 88 and a maximum bottom width of 40'. During the pre-bid conference for the project, prospective contractors stated equipment needed to access the project area and to construct the proposed features would require a wider access flotation channel than the 40' bottom width shown the project plans. A revision to the permit is requested to include a maximum bottom width of 60' with 2H:1V side slopes. The bottom elevation will remain at -6.0' NAVD 88. No additional quantity of excavated material over that included in the approved permit drawings (Sheet 2) is required. In a review of the calculations, the quantity of material shown for "Flotation" on Sheet 2 of the approved permit drawings considered an 80' bottom width although the permit drawings only indicated a 40' width. The quantity of material to be excavated has been revised to reflect the requested 60' bottom width access flotation channel.

- Earthen Containment Dikes
  Approximately 30,000 linear feet of containment dike construction is being added to the project. Although the fill areas are relatively small in size, the total volume of material to be hydraulically dredged and placed for the entire project will dictate a medium to large dredge. With a larger dredge and the associated higher flow rates at the velocities necessary for material transport, retention of solids within the placement area is critical. The addition of containment dikes will provide a more manageable construction sequence, allow the dredged material more time to settle, and limit the loss of material from the placement areas through controlled dewatering. Containment dikes will be constructed in open water and broken marsh areas to the maximum extent possible. Containment dikes will be degraded to marsh elevation upon completion and acceptance of the project fill areas.

PERMIT DRAWING MODIFICATIONS

Sheet 2

- Quantities have been revised to reflect current design as described above and below.

- Note 1 revised regarding containment dike construction.

Sheet 3

- Added "Access Flotation 3". Additional access flotation may be necessary to mobilize the dredge from Bayou Raccourci into the borrow area. Based on the design survey, dredging for an access flotation channel consistent with dimensions previously described is requested from the boundary of the borrow area approximately 700 feet north to the -6.0' NAVD 88 contour.

Sheet 4

- Relabeled pipeline from "Williams Gas" to "Texas Gas".

Sheet 5

- From the previous permit drawing set, Rock Dike 2 along the pipeline canal for Fill Area 6 and Rock Dike 3 along Fill Area 10 have been removed due to financial constraints. These fill areas will be fully contained with earthen containment dikes as previously described above.

- From the previous permit drawing set, Rock Dike 1 is being replaced with an Armored Earthen Dike consisting of an earthen containment dike with articulating concrete mats. See Sheet 9, Section E-E' of the revised permit drawings for details of this feature.

- Note modified to indicate 60' bottom with for access flotation channels.

- Section F-F' revised to show access flotation channel into Fill Area 6 for the construction of the armored earthen dike along Bayou Raccourci.

- Earthen Plug 3 – previously described as "Placing Armor on Plug". This feature consists of repair of an existing earthen plug with dredged material from an adjacent borrow area.

Sheet 6

- Warning signs added for rock plugs.

- Corrected section view labeling (Section C-C') for canal to Rock Plug 2.

Sheet 7

- Section B-B' modified to reflect additional containment dike construction for the fill areas.

Sheet 8

- Bottom width on the access flotation channels modified to 60' in lieu of 40'.

Sheet 9

- Section E-E' depicts the Armored Earthen Dike along the eastern side of Fill Area 6 and along Raccourci Bayou. The armored earthen dike has been relocated east of the electrical power line to prevent excavation which may compromise power pole stability and to facilitate the installation of the concrete mats.

- Section F-F' depicts the flotation access channel parallel to the Tennessee Gas Pipeline to provide access from Raccourci Bayou into Fill Area 6 for the concrete mat installation.

Sheet 10

- Crown width for the earthen containment dikes revised to 4' width.

Sheet 11

- "Plug Armor" section relabeled "Plug Repair".

Sheet 12 & 13

- Riprap revised to DOTD Class 250.

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL RESTORATION AND MANAGEMENT

April 9, 2008

Louisiana Department of Natural Resources
Coastal Management Division
617 North 3rd Street
Baton Rouge, LA 70804

Hand Delivered

Attn: Mr. Brian Marcks

RE: Permit Modification
North Lake Mechant Landbridge Restoration Project (TE-44)
CMD Permit No. C20040642
USACE Permit No. CY-20-04-0014

Dear Mr. Marcks:

Attached is a permit modification for the North Lake Mechant Landbridge Restoration Project (TE-44). The permit modification is being submitted to address two primary modifications to the existing approved permit: revisions to the dimensions of the access flotation channel and construction of additional earthen containment dikes. A more detailed explanation of these requested modifications is provided below.

During the pre-bid conference for this project, prospective contractors stated equipment needed to access the project area and to construct the proposed features would require a wider access flotation channel than the 40' bottom width shown the project plans and the approved permit drawings. A revision to the permit is requested to include a maximum bottom width of 60' with 2H:1V side slopes. The bottom elevation will remain as permitted (-6.0' NAVD 88). No additional quantity of excavated material over that included in the approved permit drawings (Sheet 2) is required. In a review of the volume calculations, the quantity of material shown for "Flotation" on Sheet 2 of the approved permit drawings considered an 80' bottom width although the permit drawings only indicated a 40' width. The quantity of material to be excavated for the access flotation channel has been revised to reflect the requested 60' bottom width.

Approximately 30,000 linear feet of containment dike construction is being added to the project. Although the fill areas are relatively small in size, the total volume of material to be hydraulically dredged and placed for the entire project will dictate a medium to large dredge. With a larger dredge and the associated higher flow rates at the velocities necessary to maintain material suspension during transport, retention of solids within the smaller placement areas is critical. The addition of containment dikes will provide a more manageable construction sequence, allow the dredged material more time to settle, and limit the loss of material from the placement areas through controlled dewatering. Containment dikes will be constructed in open water and broken marsh areas to the maximum extent possible. Containment dikes will be degraded to marsh elevation upon completion and acceptance of the project fill areas.

Additionally, other minor revisions to the permit drawings are requested to reflect the current design of the project. A descriptive explanation of these requested modifications to the permit drawings are attached to facilitate your review of the modifications.

Three copies of the permit application are attached. Please forward these to the appropriate permitting agencies.

If you have any questions or require additional information concerning the permit application or the associated drawings, please contact me at (225) 342-1346 or at jerry.carroll@la.gov.

Sincerely,

Jerry Carroll, P.E.
Project Engineer

Enclosures

xc: Ralph Libersat, LDNR Project Manager
Robert Dubois, USFWS Project Manager

BOBBY JINDAL
GOVERNOR

State of Louisiana

DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM
SECRETARY

May 16, 2008

Jim Rives, Administrator
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 44487
Baton Rouge, LA 70804-4487

RECEIVED
2008 MAY 16 PM 3:29
COASTAL MANAGEMENT
DIVISION

RE: *Consistency Number: C20040642 (Modification)*
Applicant: U.S. Fish & Wildlife Service
Notice Date: April 17, 2008
Location: Lake Mechant

Dear Mr. Rives:

The professional staff of the Department of Wildlife and Fisheries reviewed the public notice as referenced above. The following recommendations have been provided by the appropriate biologist(s):

Ecological Studies:
It is anticipated that the proposed Coastal Wetlands Planning, Protection and Restoration Act project will benefit wildlife resources, therefore, Ecological Studies has no objection, provided that discharge points of the dredge pipeline(s) are monitored as to not allow an overburden of spoil placement.

Marine Fisheries:

1. Applicant shall notify Steve Hein at shein@wlf.louisian.gov and Heather Finley at hfinley@wlf.louisiana.gov at least five days prior to commencement of activities authorized under this Consistency Number.

2. If LDWF biologists observe that suspended sediment related to this project is impacting nearby oyster resources, Applicant will cease all operations and install sediment curtains as directed by LDWF.

3. All heavy equipment (barges, tugs, dredge, etc.) shall remain at least 500 feet away from the LDWF cultch plant, located at the following coordinates:
   a. 29° 18' 45.10639" N, 90° 56' 54.81951" W
   b. 29° 18' 26.08969" N, 90° 56' 55.32937" W
   c. 29° 18' 25.87869" N, 90° 56' 45.09002" W
   d. 29° 18' 44.89538" N, 90° 56' 44.57963" W

The Department of Wildlife and Fisheries appreciates the opportunity to review and provide recommendations to you regarding the proposed activity. Please contact me should you need further assistance.

Sincerely,

Venise Ortego

Venise Ortego, Permits Coordinator

Office: (225) 763-3595
Email: vortego@wlf.louisiana.gov

c: Chris Davis: Biologist
Christy Lavergne, Biologist Manager

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF COASTAL RESTORATION AND MANAGEMENT

June 2, 2008

Mr. Jim Rives, Administrator
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 44487
Baton Rouge, LA 70804-4487

Re: *Consistency Number: C20040642 (Modification)*
Applicant: U.S. Fish & Wildlife Service
Notice Date: April 17, 2008
Location: Lake Mechant

Dear Mr. Rives:

The Louisiana Department of Natural Resources (LDNR) Coastal Engineering Division, acting as agent for the permit applicant, submits the responses below to the May 16, 2008 Louisiana Department of Wildlife and Fisheries (LDWF) letter providing recommendations based on their review of the referenced permit modification. The LDWF recommendations are provided in italics followed by the LDNR response.

Ecological Studies:

It is anticipated that the proposed Coastal Wetlands Planning, Protection and Restoration Act project will benefit wildlife resources, therefore, Ecological Studies has no objection, provided that discharge points of the dredge pipeline(s) are monitored as to not allow an overburden of spoil placement.

LDNR Response
Agreed. The discharge points of the dredge pipeline(s) will be monitored as recommended.

Marine Fisheries:

1. *Applicant shall notify Steve Hein at shein@wlf.louisiana.gov and Heather Finley at hfinley@wlf.louisiana.gov at least five days prior to commencement of activities authorized under this Consistency Number.*

LDNR Response
Agreed. The LDWF personnel identified above will be notified as recommended.

2. *If LDWF biologists observe that suspended sediment related to this project is impacting nearby oyster resources, Applicant will cease all operations and install sediment curtains as directed by LDWF.*

LDNR Response
An oyster resource survey and a Biological Oyster Assessment of the project area were performed for LDNR. Oyster leases within the project footprint, including a 150' direct impact buffer, have been acquired. A Water Quality Certification has been issued by the Louisiana Department of Environmental Quality. In addition to meeting water quality standards, the contract requires the Contractor to conduct his work in a manner that will not cause damaging siltation or pollution of navigable waters. The LDWF recommendation, as written, is problematic since it provides LDWF control over LDNR and its Contractor's means and methods for conformance with the project requirements. LDNR agrees to include LDWF in any discussions related to observations of excessive suspended sediment that may impact nearby oyster resources and to participate in discussions regarding proposed solutions, if necessary. LDNR, as the contracting party and contract administrator, will act as the authorized representative in communication and direction provided to the Contractor regarding claims, disputes, and other matters relating to the acceptability of the work and conformance with the contract documents and permit regulations. As mentioned above, LDNR agrees to include LDWF as a vital stakeholder for the successful completion of this project.

3. *All heavy equipment (barges, tugs, dredge, etc.) shall remain at least 500 feet away from LDWF clutch plant, located at the following coordinates:*
    a. *29° 18' 45.10639" N, 90° 56' 54.81951" W*
    b. *29° 18' 26.08969" N, 90° 56' 55.32937" W*
    c. *29° 18' 25.87869" N, 90° 56' 45.09002" W*
    d. *29° 18' 44.89538" N, 90° 56' 44.57963" W*

LDNR Response
Agreed. The area denoted above is approximately 1500 feet south of the southern boundary of the proposed borrow area. Contract documents state that access to the project area from the south through Lake Mechant will not be permitted.

If you have any questions or require additional information, please call me at (225) 342-1346.

Sincerely,

Jerry Carroll, P.E.
Project Engineer

xc: Luke Lebas, P.E., LDNR Engineer Manager
Ralph Libersat, LDNR Project Manager
Robert Dubois, U.S. Fish & Wildlife Service, Project Manager
Brian Marcks, LDNR Coastal Resources Scientist

BOBBY JINDAL
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES

ROBERT J. BARHAM
SECRETARY

June 18, 2008

Jim Rives, Administrator
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 44487
Baton Rouge, LA 70804-4487

RE: *Consistency Number: C20040642 (Modification)*
Applicant: U.S. Fish & Wildlife Service
Notice Date: April 17, 2008
Location: Lake Mechant

Dear Mr. Rives:

After meeting and discussing the above referenced project with members of your staff, LDWF agrees to modify the following recommendation included in our May 16 letter: "If LDWF biologists observe that suspended sediment related to this project is impacting nearby oyster resources, Applicant will cease all operations and install sediment curtains as directed by LDWF."

The modified recommendation should read "If LDWF biologists observe that suspended sediment related to this project is impacting nearby oyster resources, Applicant will work with LDWF biologists to implement a solution agreed on by both parties."

This modification is contingent upon LDWF being notified of bi-weekly meetings, LDWF biologists conducting sampling on the seed grounds, and the applicant providing contact information.

If you have any questions or require any additional information, please contact Christy Lavergne at 225-765-2386 or clavergne@wlf.louisiana.gov.

Sincerely,

Venise Ortego, Permits Coordinator

Office: (225) 763-3595
Email: vortego@wlf.louisiana.gov

c: Brian Marcks, LDNR Coastal Resources Scientist
Christy Lavergne, Biologist Supervisor

BOBBY JINDAL
GOVERNOR

SCOTT A. ANGELLE
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL RESTORATION AND MANAGEMENT

June 19, 2008

Mr. Jim Rives, Administrator
Louisiana Department of Natural Resources
Coastal Management Division
P.O. Box 44487
Baton Rouge, LA 70804-4487

Hand Delivered

Re: *Consistency Number: C20040642 (Modification)*
Applicant: U.S. Fish & Wildlife Service
Notice Date: April 17, 2008
Location: Lake Mechant

Dear Mr. Rives:

The Louisiana Department of Natural Resources (LDNR) Coastal Engineering Division, acting as agent for the permit applicant, agrees to the modified recommendation stated in the June 18, 2008 Louisiana Department of Wildlife and Fisheries (LDWF) letter regarding the referenced permit modification. As requested, LDNR will notify LDWF of bi-weekly progress meetings and provide LDWF with contact information for LDNR's project manager, contractor and on-site representatives.

If you have any questions or require additional information, please call me at (225) 342-1346.

Sincerely,

Jerry Carroll, P.E.
Project Engineer

xc: Luke Lebas, P.E., LDNR Engineer Manager
Ralph Libersat, LDNR Project Manager
Robert Dubois, U.S. Fish & Wildlife Service, Project Manager
Brian Marcks, LDNR Coastal Resources Scientist

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF:

Operations Division
Central Evaluation Section

JUL 24 2009

SUBJECT: Permit number MVN 2004-0014-CY

US Fish and Wildlife Service
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

Gentlemen:

Additional plans enclosed in 21 sheets, furnished with your application dated May 26, 2009, covering the construction of a 17,200 linear foot containment dike and deposition of dredged material to create/nourish approximately 468 acres of marsh, located in north Lake Mechant, east Lake Pagie, south Raccourci Bay, and Mallard Bay, in Terrebonne Parish, Louisiana, are approved and will be included for work authorized by the Secretary of the Army in permit dated January 14, 2004, revised February 24, 2005, and reissued with additional plans May 30, 2008, authorizing the North Lake Mechant Landbridge Restoration Project (CWPPRA Project No. TE-44). These drawings supersede all drawings previously issued for this permit.

The following special condition is being made a part of this authorization. All other special conditions to which the work is made subject, remain in full force and effect:

1. The permittee shall comply with the attached Louisiana Department of Wildlife and Fisheries letter dated July 1, 2009, in which their Marine Fisheries Section requests that their points of contact be notified at least five (5) days before work is to commence so that they can be present during dredge operations to monitor suspended sediment levels in the area.

A copy of the first page of this permit approval letter must be conspicuously displayed at the project site. Also, you must keep a copy of this signed letter, with attached drawings, at the project site until the work is completed.

The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to

complete and return the attached Customer Service Survey or go to the survey found on our web site at http://per2.nwp.usace.army.mil/survey.html.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

Pete J. Serio
Chief, Regulatory Branch
for
Alvin B. Lee
Colonel, US Army
District Commander

Enclosures

BOBBY JINDAL
GOVERNOR

State of Louisiana

DEPARTMENT OF WILDLIFE AND FISHERIES
OFFICE OF WILDLIFE

ROBERT J. BARHAM
SECRETARY

JIMMY L. ANTHONY
ASSISTANT SECRETARY

July 1, 2009

Mr. Pete J. Serio, Chief
Regulatory Branch
United States Army Corps of Engineers
P. O. Box 60267
New Orleans, LA 70160-0267

RE: *Application Number: MVN-2004-0014-CY (Modified)*
Applicant: U. S. Fish & Wildlife Service
Public Notice Date: June 9, 2009

Dear Mr. Serio:

The professional staff of the Louisiana Department of Wildlife and Fisheries (LDWF) has reviewed the above referenced Public Notice. Based upon this review, the following has been determined:

Ecological Studies:
It is anticipated that the proposed Coastal Wetlands Planning, Protection and Restoration Act project will benefit wildlife resources, therefore, Ecological Studies has no objection, provided that discharge points of the hydraulic dredge pipeline(s) are closely monitored as to prevent the excessive accumulation of sediments (i.e., not to exceed a height of 3.0 feet NAVD-88).

Marine Fisheries:

1. Applicant shall notify Steve Hein at shein@wlf.la.gov and Heather Finley at hfinley@wlf.la.gov at least five days prior to commencement of activities authorized under this permit.

2. If LDWF biologists observe that suspended sediment related to this project is impacting nearby oyster resources, Applicant will cease all operations and install sediment curtains as directed by LDWF.

3. All heavy equipment (barges, tugs, dredge, etc.) shall remain at least 500 feet away from the LDWF cultch plant, located at the following coordinates:

   a. 29° 18' 45.10639" N, 90° 56' 54.81951" W

b. 29° 18' 26.08969" N, 90° 56' 55.32937" W
c. 29° 18' 25.87869" N, 90° 56' 45.09002" W
d. 29° 18' 44.89538" N, 90° 56' 44.57963" W

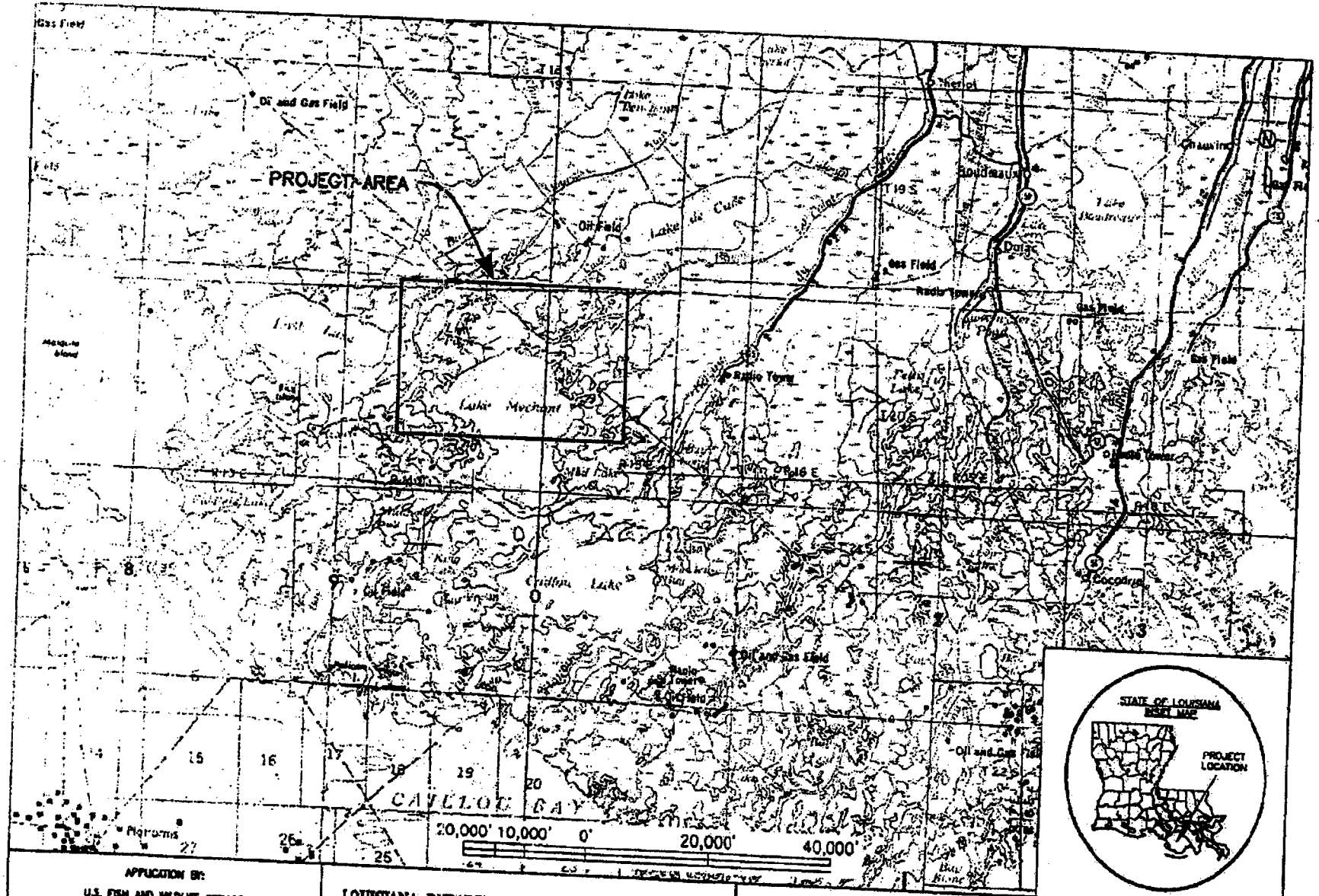
The Louisiana Department of Wildlife and Fisheries appreciates the opportunity to review and provide recommendations to you regarding this proposed activity. Please do not hesitate to contact Habitat Section biologist Chris Davis at 225-765-2642 should you need further assistance.

Sincerely,

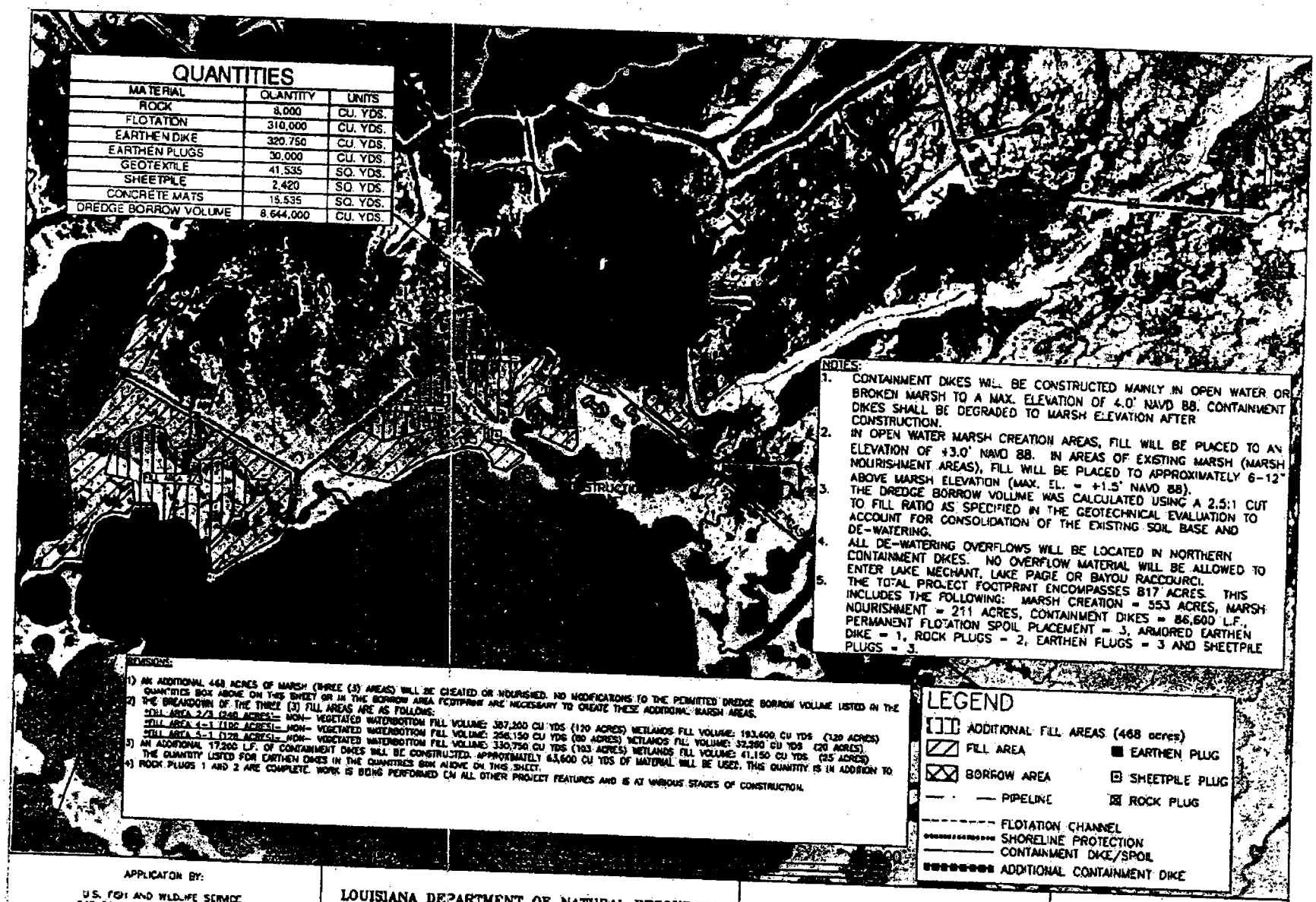
Kyle F. Balkum
Biologist Program Manager

cd/cl

c: Chris Davis, Biologist
Heather Finley, Biologist Program Manager
Christy Lavergne, Biologist Supervisor



APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	VICINITY MAP
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44 FEDERAL PROJECT NUMBER: N/A	DATE: APRIL 2006 REVISED: 05/20/08 SHEET 1 OF 21



QUANTITIES

MATERIAL	QUANTITY	UNITS
ROCK	8,000	CU. YDS.
FLOTATION	310,000	CU. YDS.
EARTHEN DIKE	320,750	CU. YDS.
EARTHEN PLUGS	30,000	CU. YDS.
GEOTEXTILE	41,535	SQ. YDS.
SHEETPILE	2,420	SQ. YDS.
CONCRETE MATS	15,535	SQ. YDS.
DREDGE BORROW VOLUME	8,644,000	CU. YDS.

NOTES:

1. CONTAINMENT DIKES WILL BE CONSTRUCTED MAINLY IN OPEN WATER OR BROKEN MARSH TO A MAX. ELEVATION OF 4.0' NAVD 88. CONTAINMENT DIKES SHALL BE DEGRADED TO MARSH ELEVATION AFTER CONSTRUCTION.
2. IN OPEN WATER MARSH CREATION AREAS, FILL WILL BE PLACED TO AN ELEVATION OF +3.0' NAVD 88. IN AREAS OF EXISTING MARSH (MARSH NOURISHMENT AREAS), FILL WILL BE PLACED TO APPROXIMATELY 6-12" ABOVE MARSH ELEVATION (MAX. EL. = +1.5' NAVD 88).
3. THE DREDGE BORROW VOLUME WAS CALCULATED USING A 2.5:1 CUT TO FILL RATIO AS SPECIFIED IN THE GEOTECHNICAL EVALUATION TO ACCOUNT FOR CONSOLIDATION OF THE EXISTING SOIL BASE AND DE-WATERING.
4. ALL DE-WATERING OVERFLOWS WILL BE LOCATED IN NORTHERN CONTAINMENT DIKES. NO OVERFLOW MATERIAL WILL BE ALLOWED TO ENTER LAKE MECHANT, LAKE PAGIE OR BAYOU RACCOURCI.
5. THE TOTAL PROJECT FOOTPRINT ENCOMPASSES 817 ACRES. THIS INCLUDES THE FOLLOWING: MARSH CREATION = 553 ACRES, MARSH NOURISHMENT = 211 ACRES, CONTAINMENT DIKES = 86,600 L.F., PERMANENT FLOTATION SPOIL PLACEMENT = 3, ARMORED EARTHEN DIKE = 1, ROCK PLUGS = 2, EARTHEN PLUGS = 3 AND SHEETPILE PLUGS = 3.

REVISIONS:

1) AN ADDITIONAL 468 ACRES OF MARSH (THREE (3) AREAS) WILL BE CREATED OR NOURISHED. NO MODIFICATIONS TO THE PERMITTED DREDGE BORROW VOLUME LISTED IN THE QUANTITIES BOX ABOVE ON THIS SHEET OR IN THE BORROW AREA FOOTPRINT ARE NECESSARY TO CREATE THESE ADDITIONAL MARSH AREAS.
2) THE BREAKDOWN OF THE THREE (3) FILL AREAS ARE AS FOLLOWS:
   - FILL AREA 2/3 (248 ACRES):- NON- VEGETATED WATERBOTTOM FILL VOLUME: 387,200 CU YDS (120 ACRES) WETLANDS FILL VOLUME: 193,600 CU YDS (120 ACRES)
   - FILL AREA 4-1 (196 ACRES):- NON- VEGETATED WATERBOTTOM FILL VOLUME: 256,150 CU YDS (80 ACRES) WETLANDS FILL VOLUME: 32,280 CU YDS (20 ACRES)
   - FILL AREA 4-1 (128 ACRES):- NON- VEGETATED WATERBOTTOM FILL VOLUME: 330,750 CU YDS (103 ACRES) WETLANDS FILL VOLUME: 41,150 CU YDS (25 ACRES)
3) AN ADDITIONAL 17,200 L.F. OF CONTAINMENT DIKES WILL BE CONSTRUCTED. APPROXIMATELY 63,600 CU YDS OF MATERIAL WILL BE USED. THIS QUANTITY IS IN ADDITION TO THE QUANTITY LISTED FOR EARTHEN DIKES IN THE QUANTITIES BOX ABOVE ON THIS SHEET.
4) ROCK PLUGS 1 AND 2 ARE COMPLETE. WORK IS BEING PERFORMED ON ALL OTHER PROJECT FEATURES AND IS AT VARIOUS STAGES OF CONSTRUCTION.

LEGEND

- ADDITIONAL FILL AREAS (468 acres)
- FILL AREA
- BORROW AREA
- PIPELINE
- FLOTATION CHANNEL
- SHORELINE PROTECTION
- CONTAINMENT DIKE/SPOIL
- ADDITIONAL CONTAINMENT DIKE
- EARTHEN PLUG
- SHEETPILE PLUG
- ROCK PLUG

APPLICATON BY:

U.S. FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

PROJECT AREA MAP

DRAWN BY: SHANE FAUST

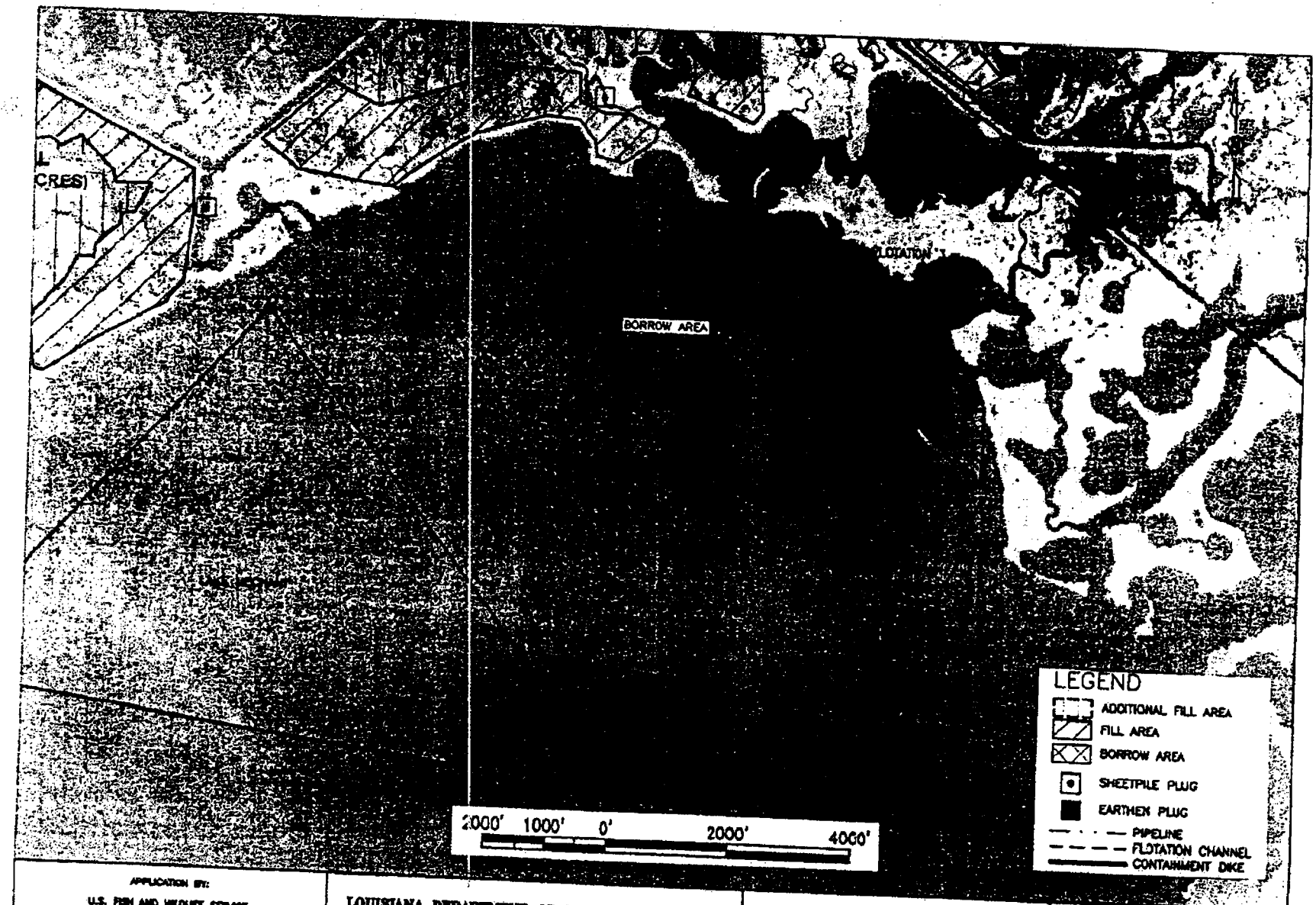
DESIGNED BY: JERRY CARROLL P.E. | APPROVED BY: LUKE LE BAS, P.E.

STATE PROJECT NUMBER: TE-44

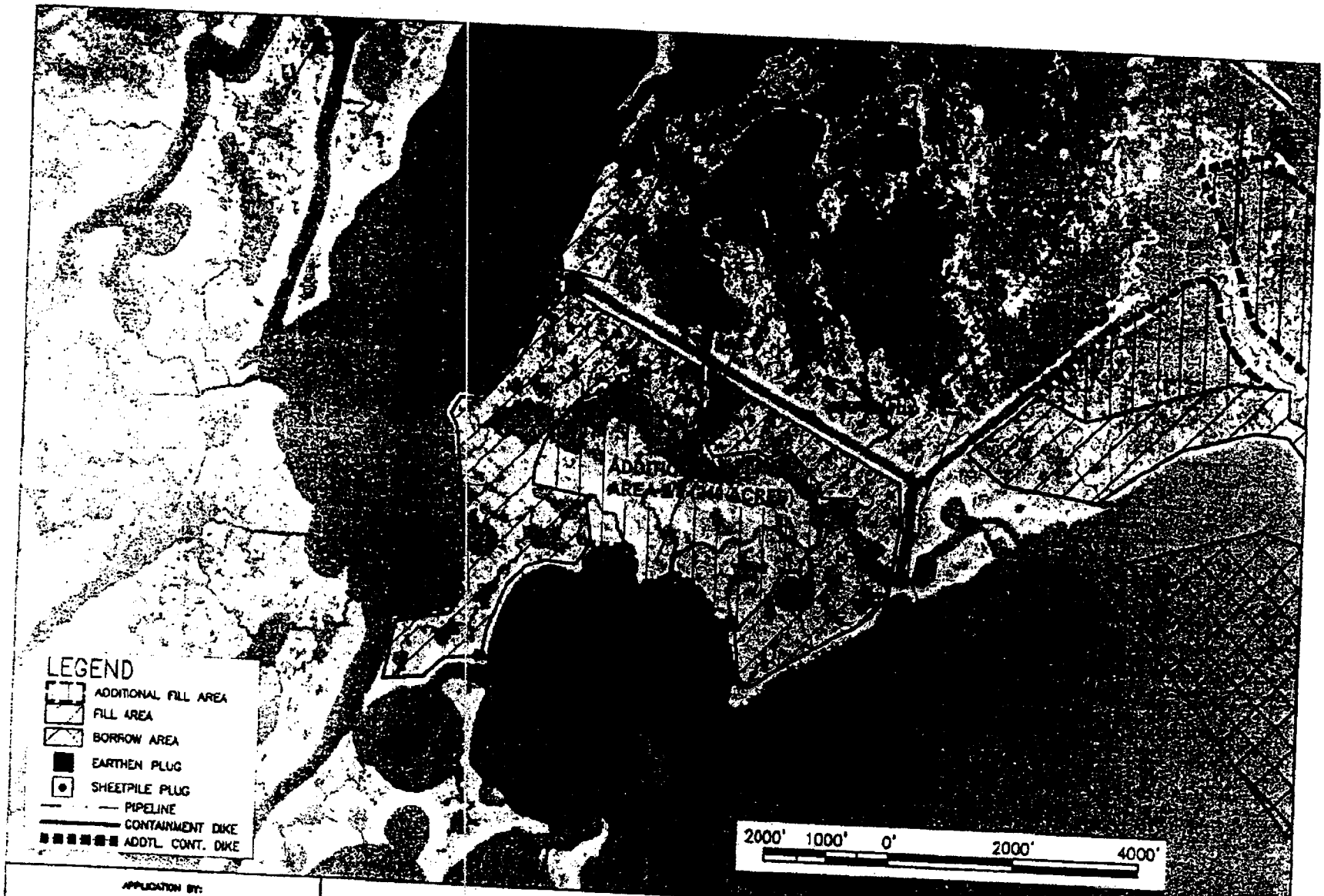
FEDERAL PROJECT NUMBER: N/A

DATE: APRIL 2008 REVISED: 6/08/2009

SHEET 7 OF 21

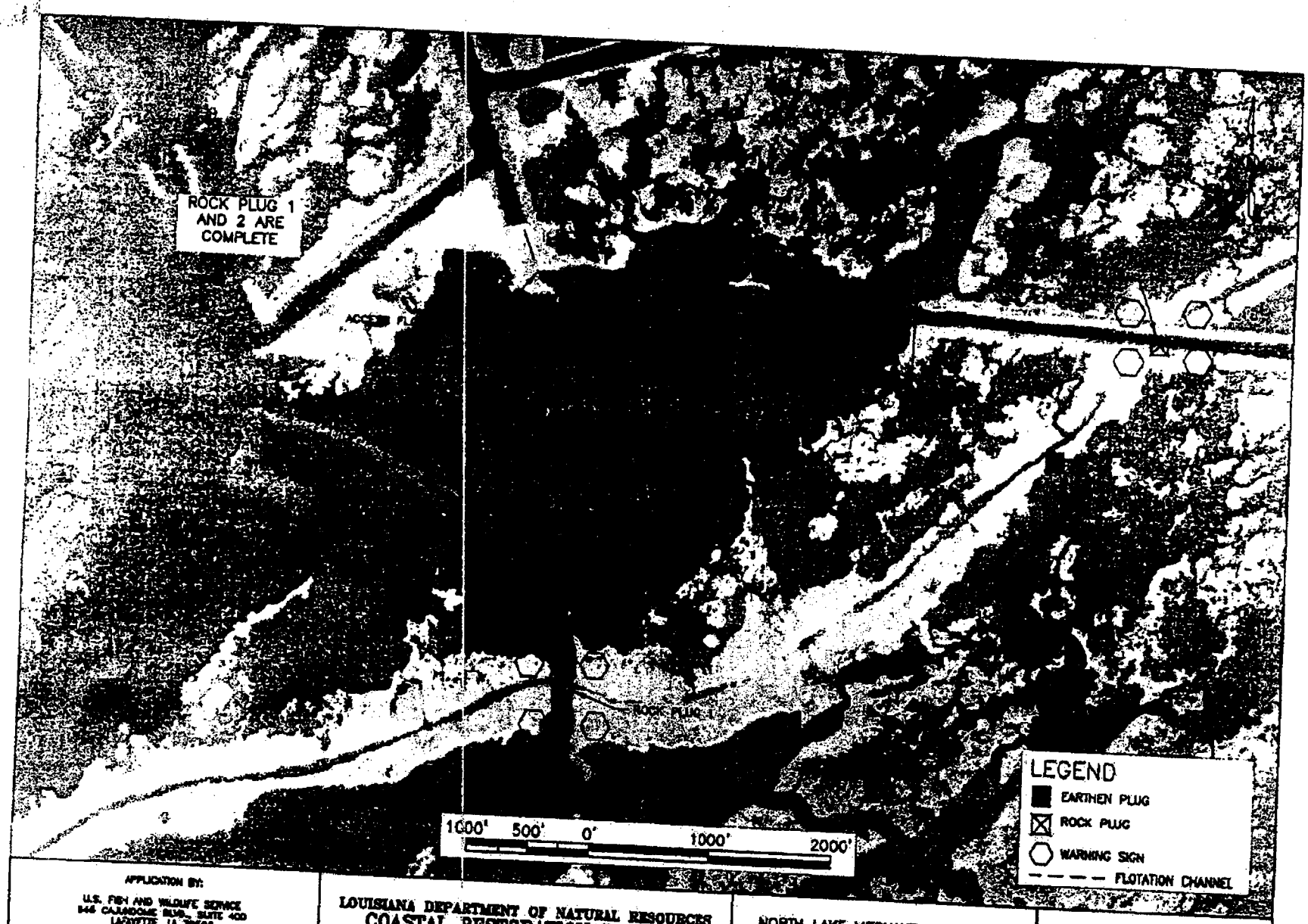


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	BORROW AREA
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/30/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 3 OF 21

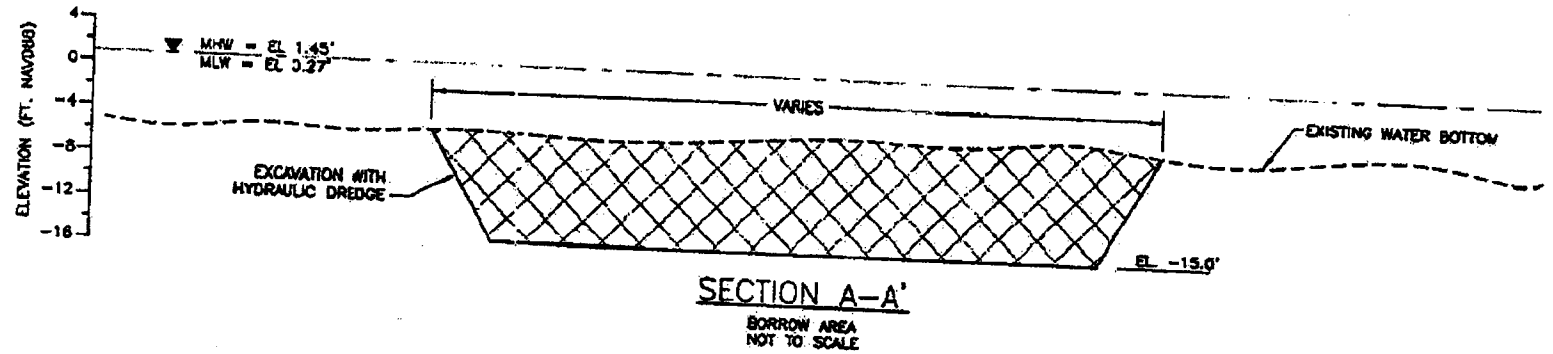


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY DARNELL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44 FEDERAL PROJECT NUMBER: N/A	DATE: APRIL 2008 REVISED: 08/20/08 SHEET 4 OF 21

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 5 OF 21

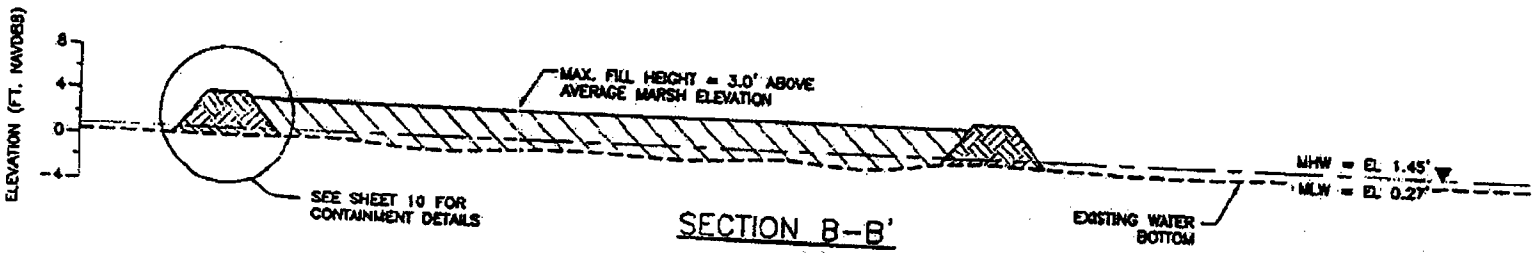


APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	PROJECT FEATURES
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 6 OF 21



SECTION A–A'

BORROW AREA
NOT TO SCALE

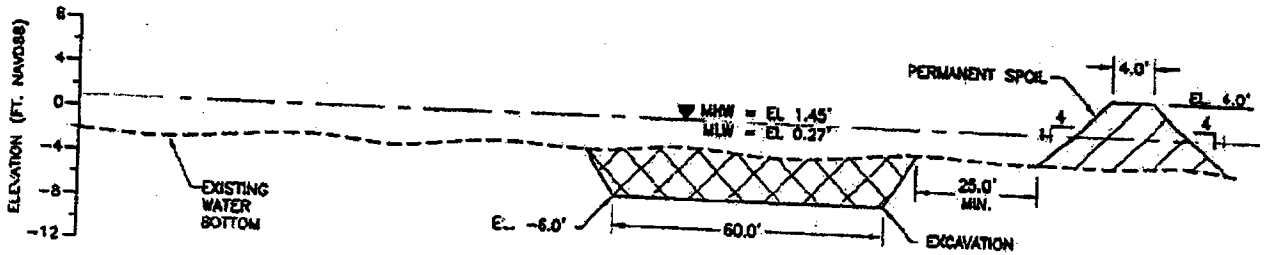


SECTION B–B'

FILL AREA
NOT TO SCALE

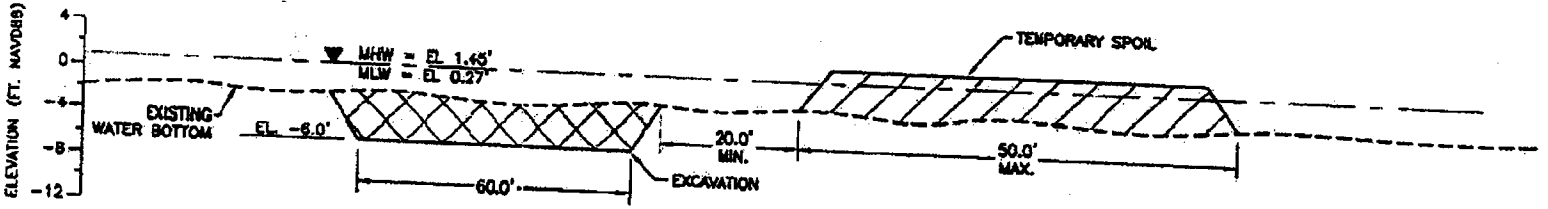
NOTES
1. EXISTING MARSH ELEVATION RANGES FROM 0.6'–1.1'.
2. CONTAINMENT DIKES WILL BE DEGRADED TO MARSH ELEVATION AFTER CONSTRUCTION.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	BORROW AND FILL AREAS SECTION VIEWS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CAMROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 7 OF 21



SECTION C–C'

ACCESS FLOTATION CHANNEL
NOT TO SCALE

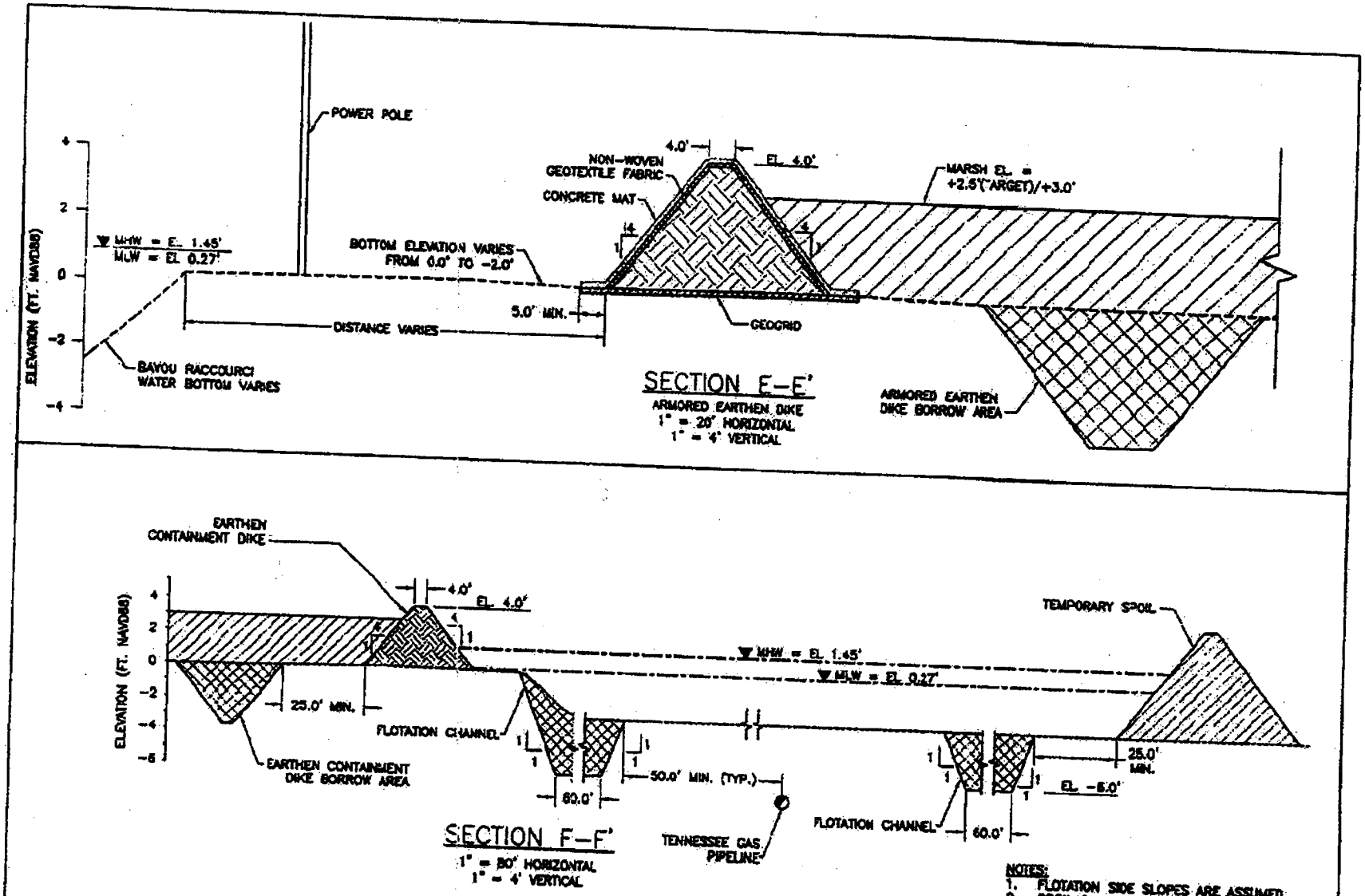


SECTION D–D'

ACCESS FLOTATION CHANNEL
NOT TO SCALE

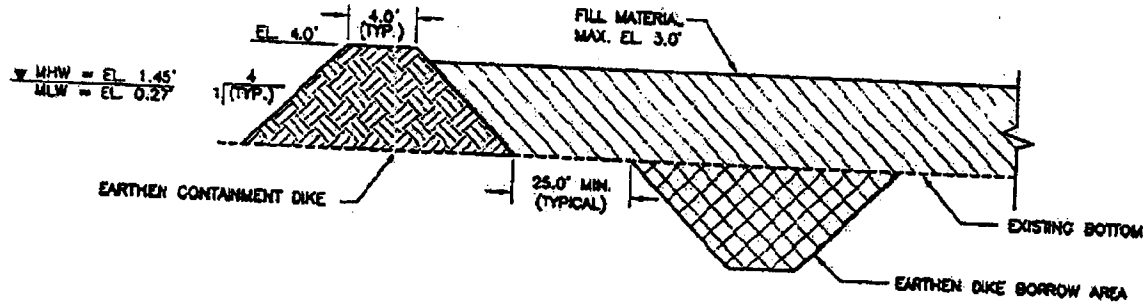
NOTES
1. AVERAGE MARSH ELEVATION RANGES FROM 0.6'–1.1'.
2. TEMPORARY SPOIL SHALL BE BACK-FILLED INTO CHANNEL PRIOR TO DEMOBILIZATION.
3. PERMANENT SPOIL IS BEING PLACED TO REPAIR RACCOURCI BAY SHORELINE AND ALONG SPOIL BANK TO ROCK PLUG 2.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ACCESS FLOTATION CHANNEL SECTION VIEWS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2009 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 6 OF 21

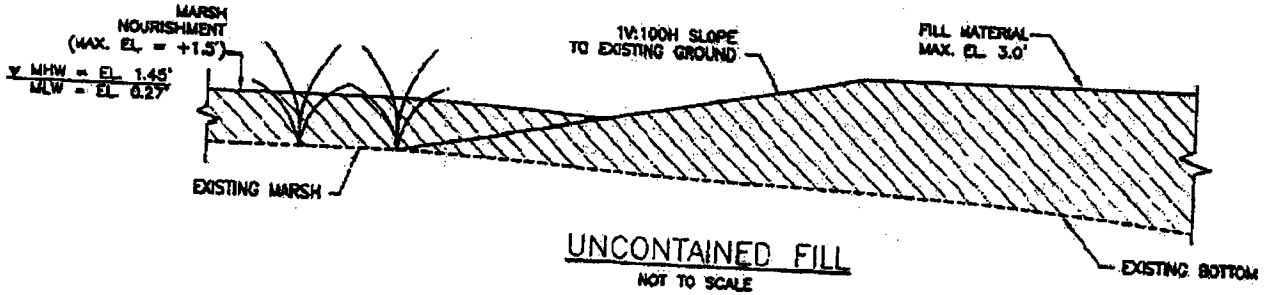


NOTES:
1. FLOTATION SIDE SLOPES ARE ASSUMED.
2. SPOIL SHALL BE PLACED ALONG THE EDGE OF THE EXISTING MARSH.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SECTION VIEW FOR ARMORED EARTHEN DIKE AND FLOTATION CHANNEL
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 9 OF 21



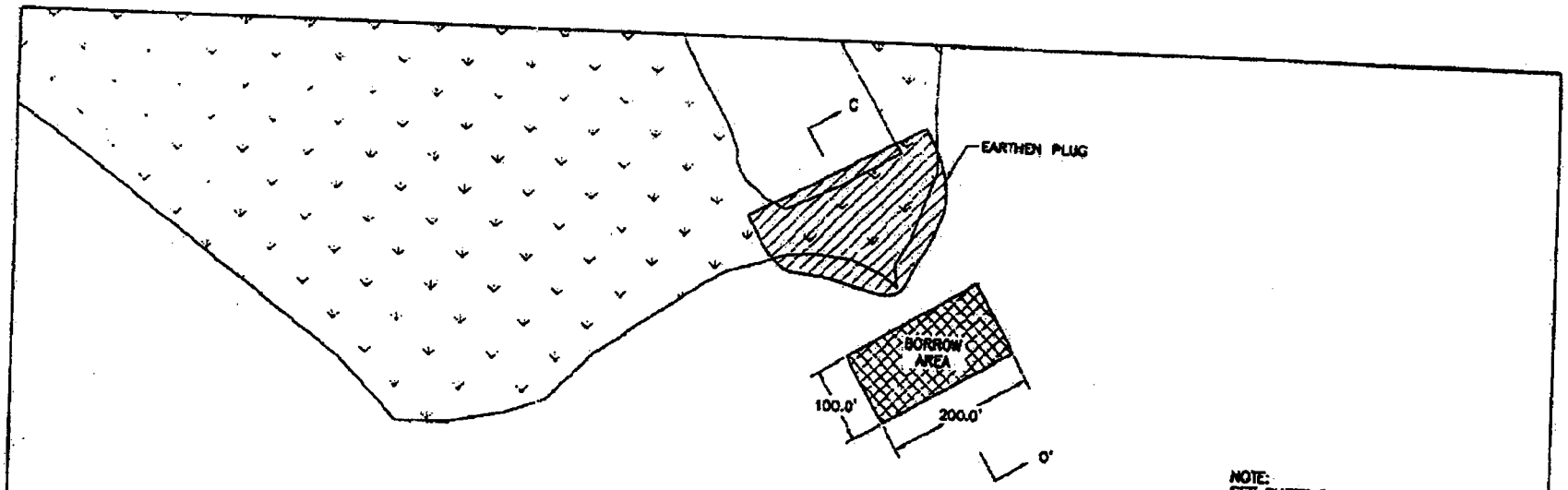
EARTHEN CONTAINMENT DIKE
NOT TO SCALE



UNCONTAINED FILL
NOT TO SCALE

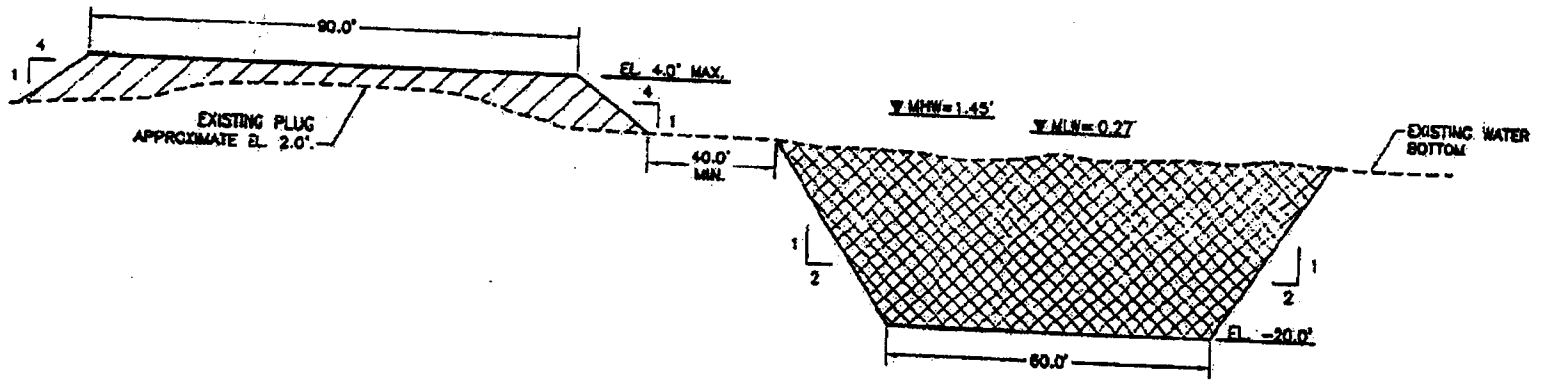
NOTES:
1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. AVERAGE MARSH ELEVATION RANGES FROM 0.6'–1.1'.
3. SEE SHEET 2 FOR LOCATIONS OF FILL AREAS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	CONTAINMENT SECTION VIEWS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 10 OF 21



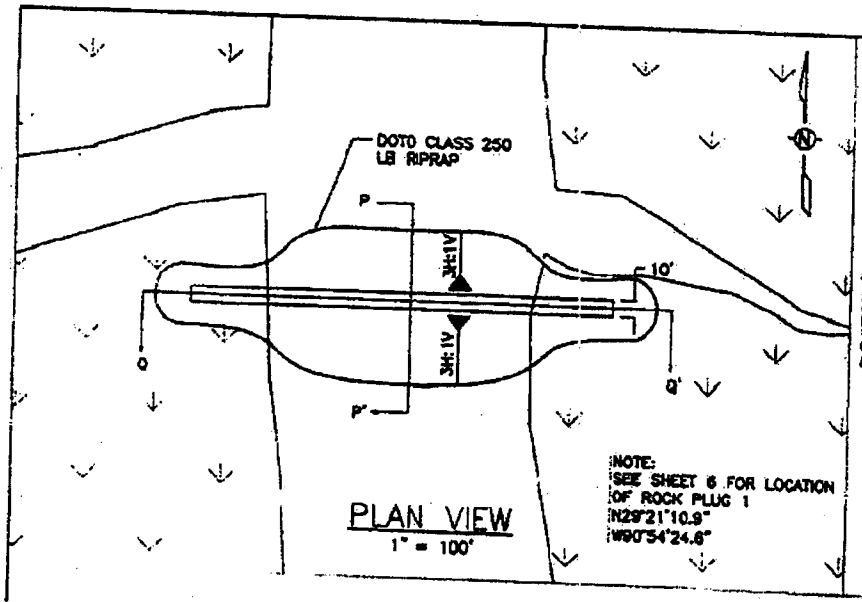
PLUG REPAIR
1" = 200'

NOTE:
SEE SHEET 5 FOR LOCATION OF EARTHEN PLUG 3
N29°20'26"
W90°56'05"

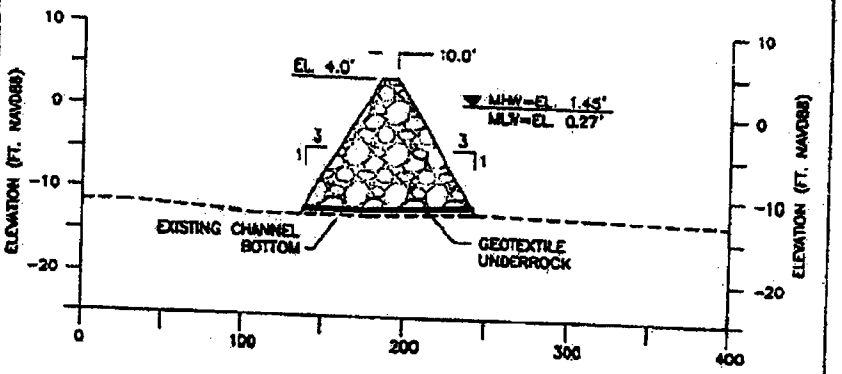


SECTION C-C'
NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	EARTHEN PLUG 3
DRAWN BY: SHANE FAUST	DESIGNED BY: JOHNY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 11 OF 21

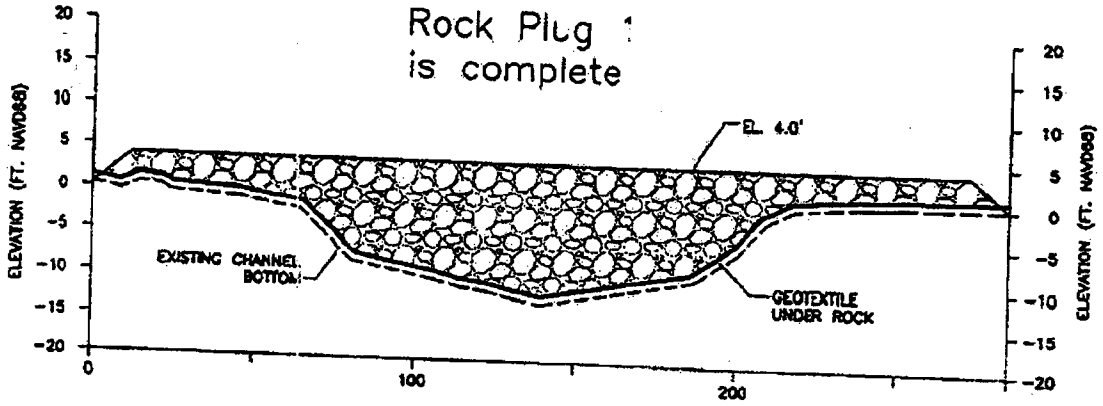


PLAN VIEW
1" = 100'



SECTION P-P'
1" = 100' HORIZONTAL
1" = 20' VERTICAL

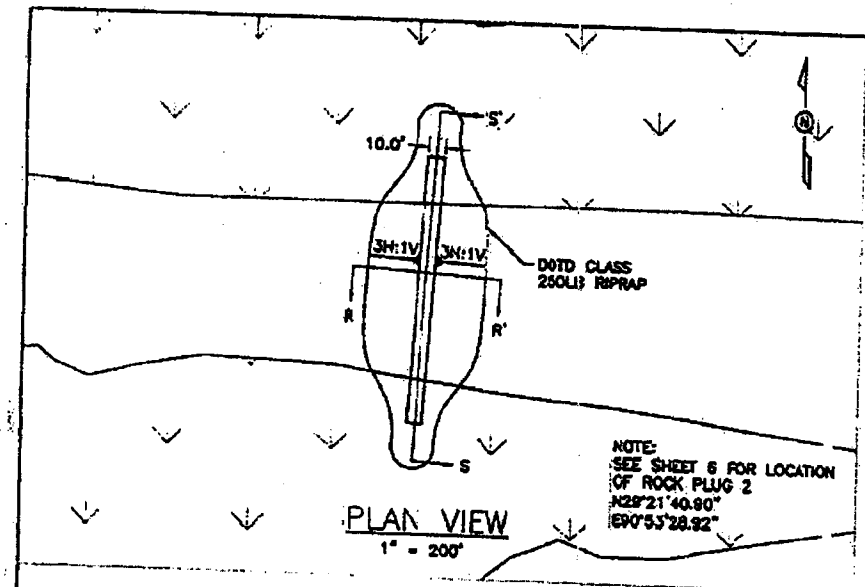
Rock Plug 1
is complete



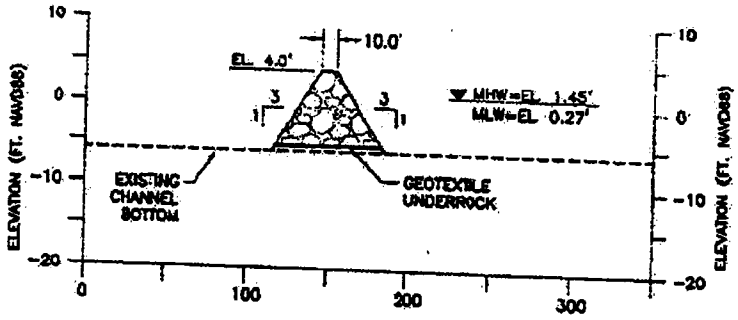
SECTION Q-Q'
1" = 50' HORIZONTAL
1" = 20' VERTICAL

NOTE:
ROCK VOLUME = 5,600 CU. YDS.
GEOTEXTILE AREA = 3,735 SQ. YDS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 1 DETAILS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44 FEDERAL PROJECT NUMBER: N/A	DATE: APRIL 2008 REVISED: 05/20/09 SHEET 12 OF 21

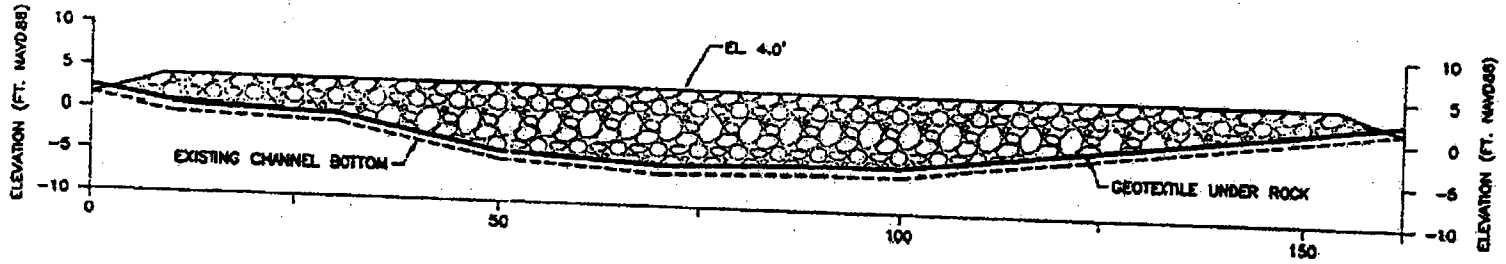


PLAN VIEW
1" = 200'



SECTION R–R'
1" = 100' HORIZONTAL
1" = 20' VERTICAL

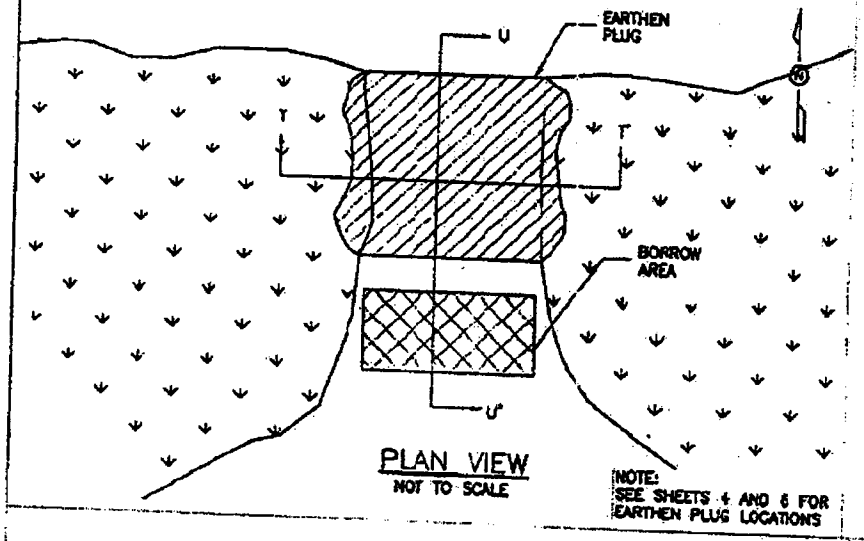
Rock Plug 2
is complete



SECTION S–S'
1" = 20'

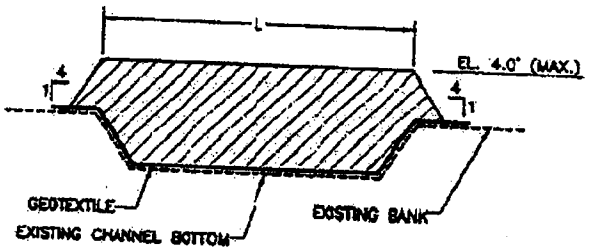
NOTES
ROCK VOLUME = 2,000 CU. YDS.
GEOTEXTILE AREA = 2,250 SQ. YDS.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	ROCK PLUG 2 DETAILS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 06/20/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 13 OF 21

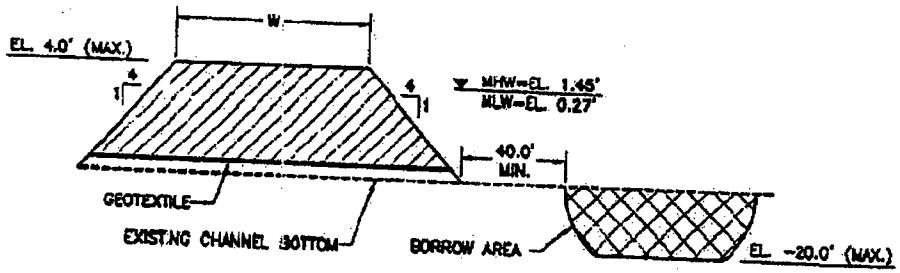


PLAN VIEW
NOT TO SCALE

NOTE:
SEE SHEETS 4 AND 6 FOR EARTHEN PLUG LOCATIONS



SECTION T–T'
NOT TO SCALE



SECTION U–U'
NOT TO SCALE

NOTE:
ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

EARTH PLUG #	LATITUDE	LONGITUDE	BOTTOM ELEV. (FT. NAVD88)	L (ft)	W (ft)	PLUG VOLUME (CU.YD.)
1	29°20'36.3"	90°59'36.3"	-4	75	50	10,150
2	29°21'31.3"	90°53'40.0"	-3	105	60	11,600

APPLICATION BY:
U.S. FISH AND WILDLIFE SERVICE
646 CAJUNDOME BLVD., SUITE 400
LAFAYETTE, LA 70506

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION DIVISION
617 NORTH 3RD STREET
BATON ROUGE, LOUISIANA 70802

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT

EARTHEN PLUG DETAILS

DRAWN BY: SHANE FAUST

DESIGNED BY: JERRY CARROLL, P.E.

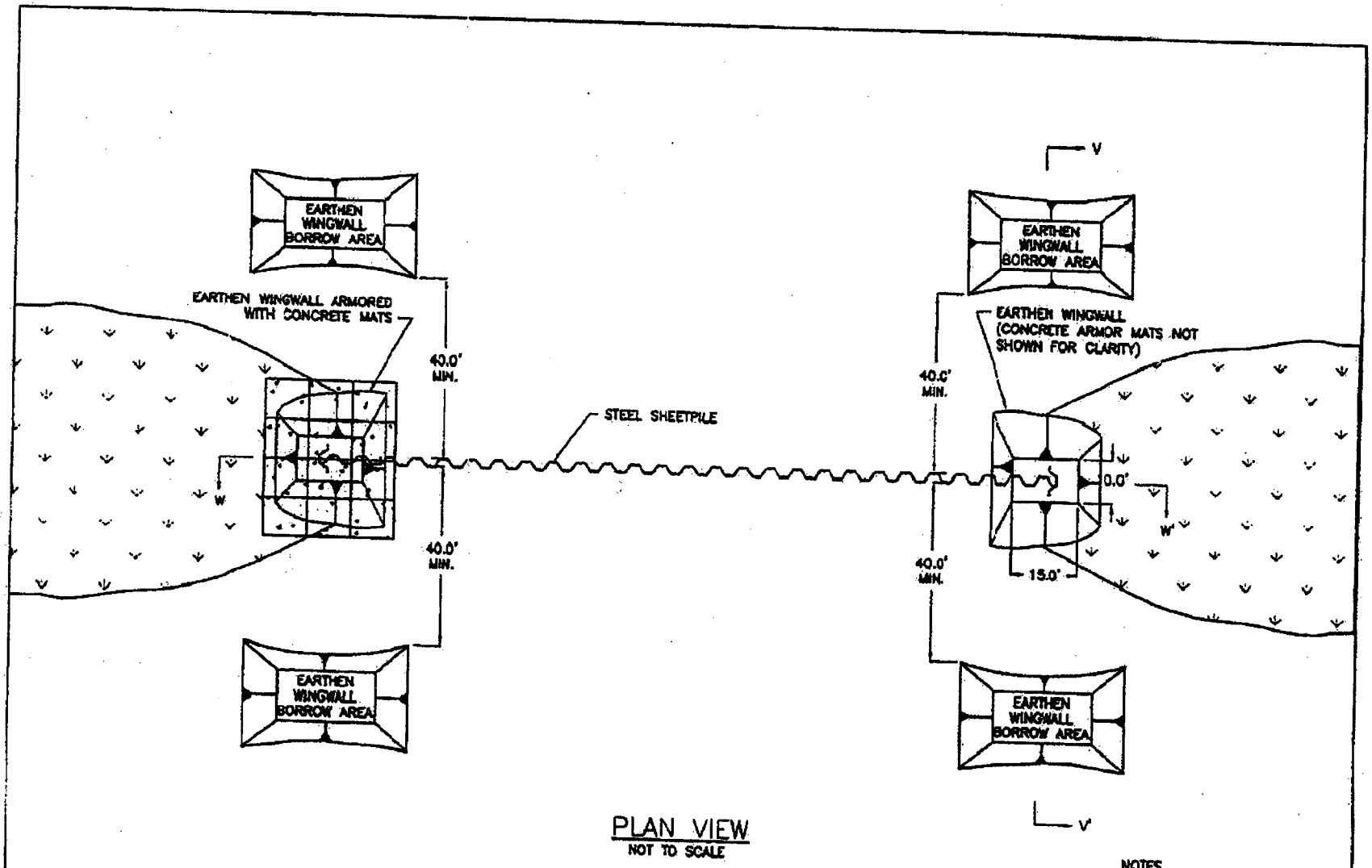
APPROVED BY: LUKE LE BAS, P.E.

STATE PROJECT NUMBER: TE-44

FEDERAL PROJECT NUMBER: N/A

DATE: APRIL 2008 REVISED: 05/20/08

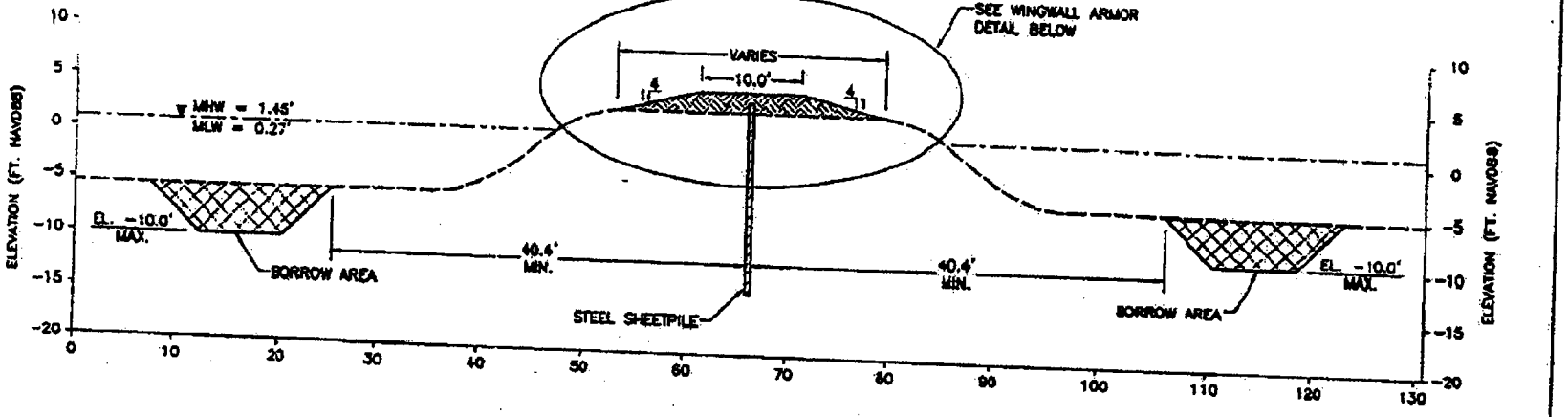
SHEET 14 OF 21



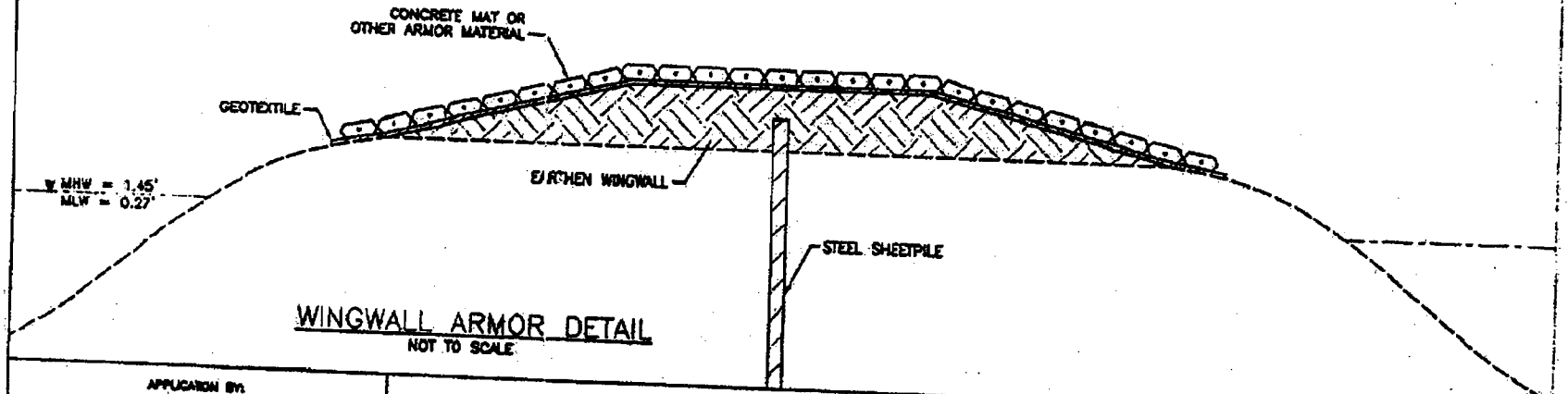
PLAN VIEW
NOT TO SCALE

NOTES
1. SEE SHEETS 4 AND 5 FOR SHEETPILE LOCATIONS.
2. SEE SHEETS 16 AND 17 FOR SECTION VIEWS

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE PLAN VIEW
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 09/26/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 15 OF 21

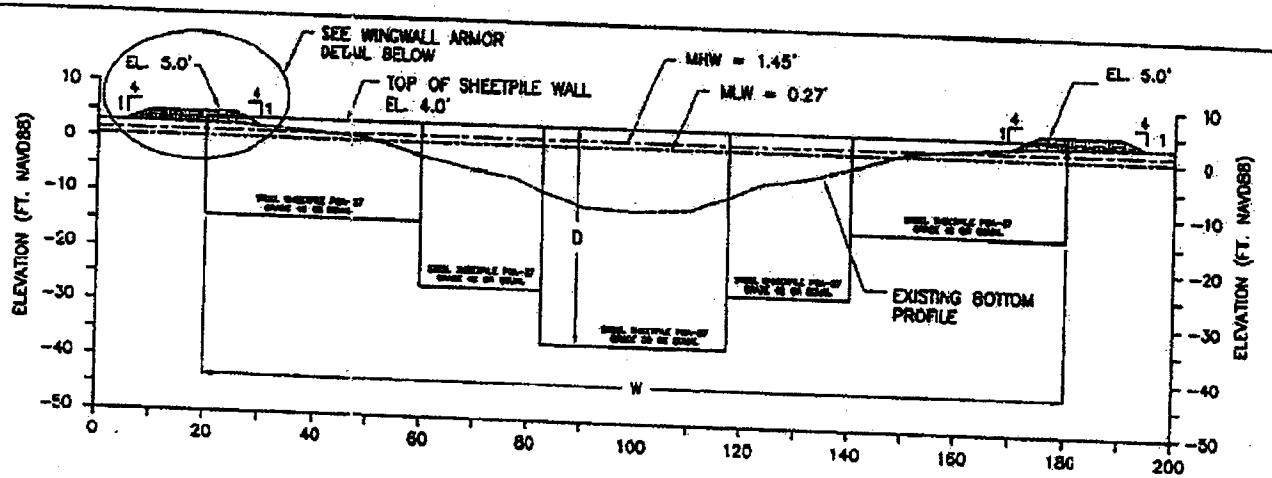


SECTION V-V'
NOT TO SCALE



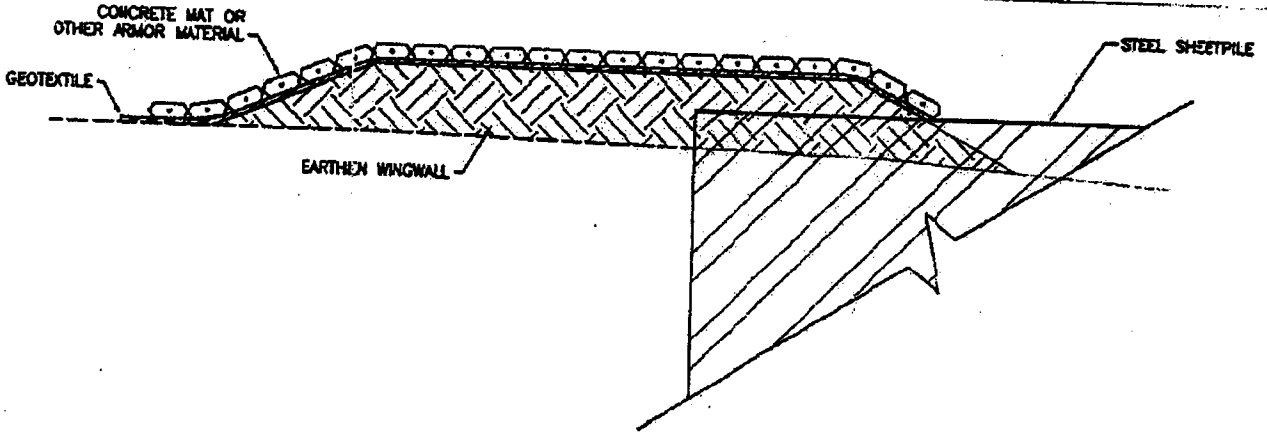
WINGWALL ARMOR DETAIL
NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CAHILL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 08/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 16 OF 21



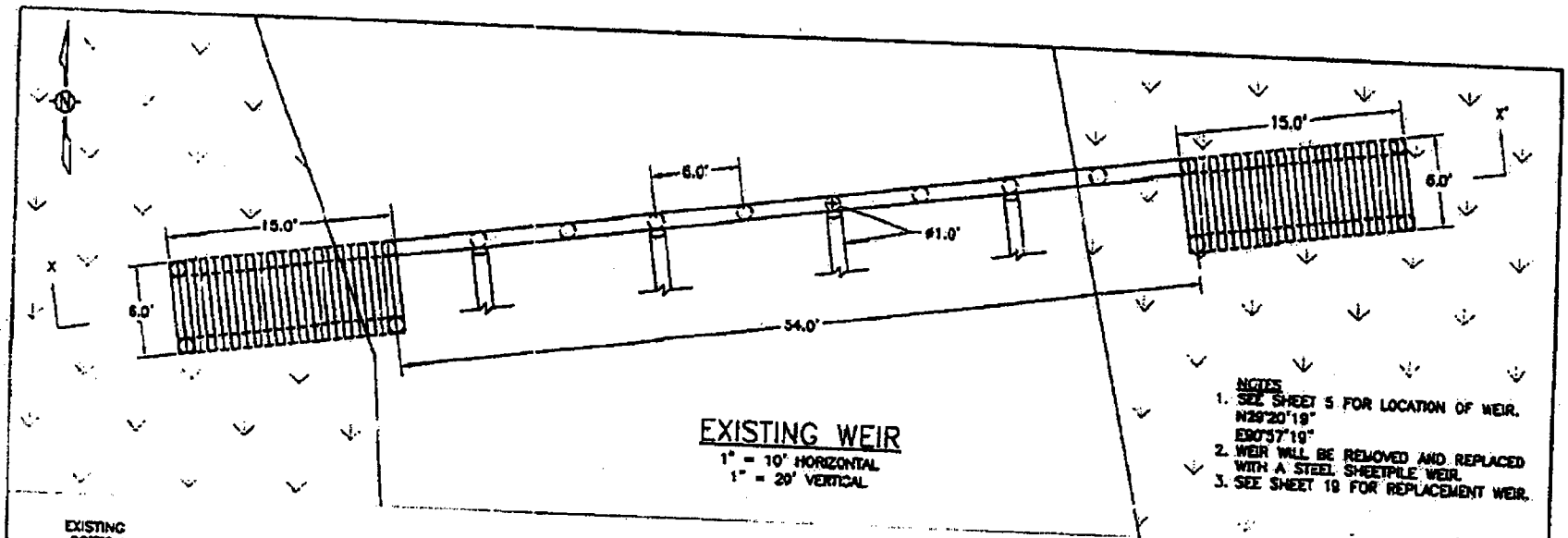
SECTION W–W'
PROFILE ON CENTERLINE
NOT TO SCALE

SHEETPILE PLUG #	LATITUDE	LONGITUDE	WIDTH–W (FEET)	MAX. DEPTH–D (NAVD88)
1	29°20'22.2"	-90°59'09.2"	205	-35.0
2	29°20'00.2"	-90°58'32.2"	280	-23.0
3	29°20'22.2"	-90°56'12.3"	100	-44.5



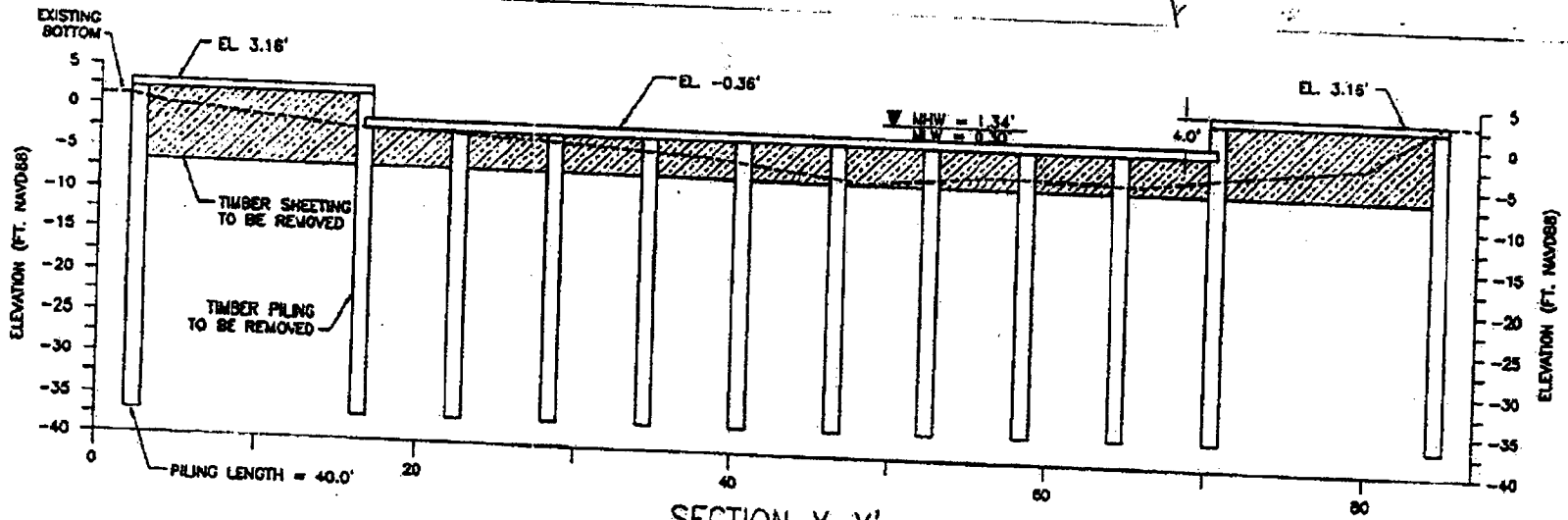
WINGWALL ARMOR DETAIL
NOT TO SCALE

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SHEETPILE SECTION
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44 / FEDERAL PROJECT NUMBER: N/A	DATE: APRIL 2008 REVISED: 05/20/09 / SHEET 17 OF 21



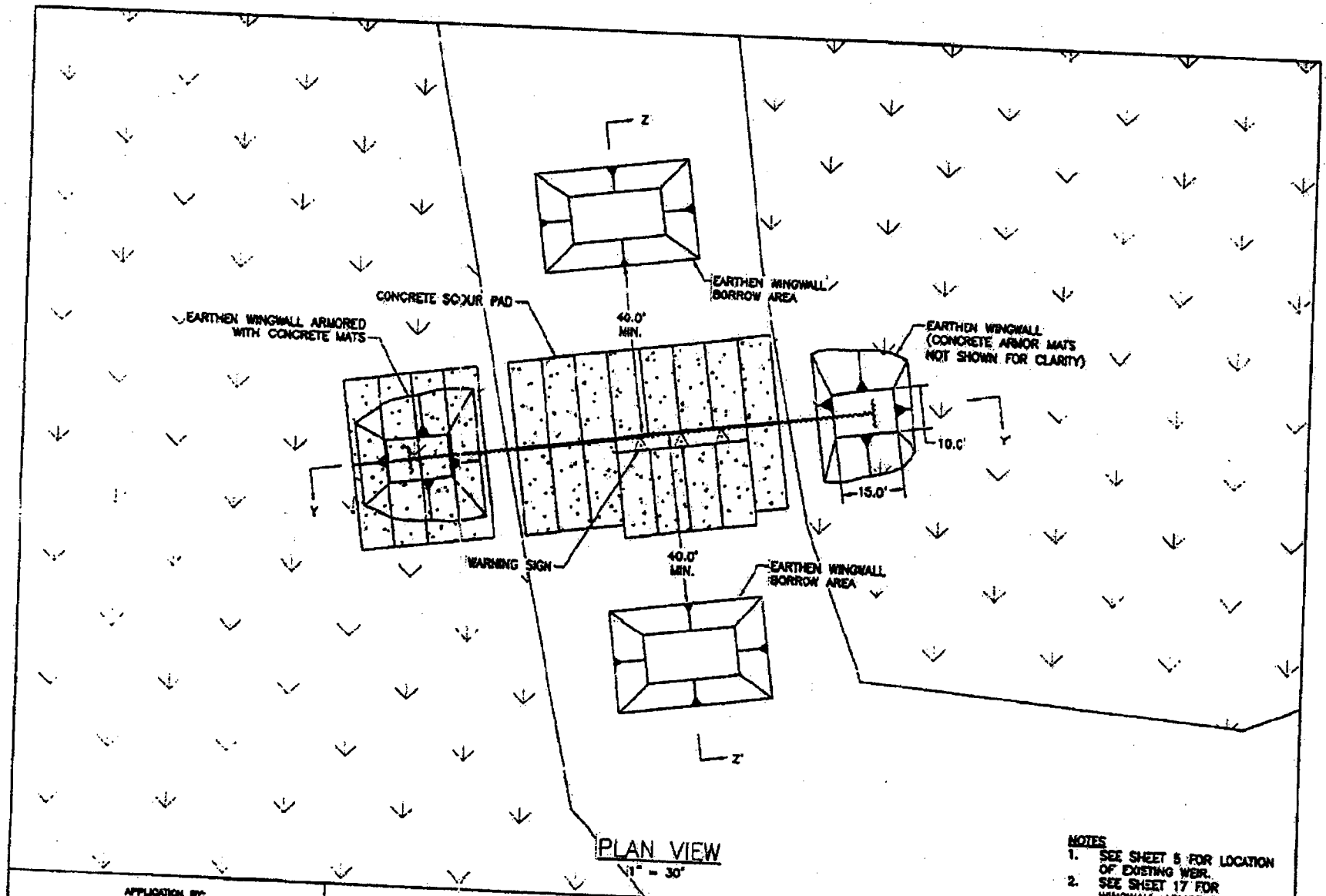
EXISTING WEIR
1" = 10' HORIZONTAL
1" = 20' VERTICAL

NOTES
1. SEE SHEET 5 FOR LOCATION OF WEIR. N29°20'19" E90°37'19"
2. WEIR WILL BE REMOVED AND REPLACED WITH A STEEL SHEETPILE WEIR.
3. SEE SHEET 19 FOR REPLACEMENT WEIR.



SECTION X-X'
1" = 10' HORIZONTAL
1" = 20' VERTICAL

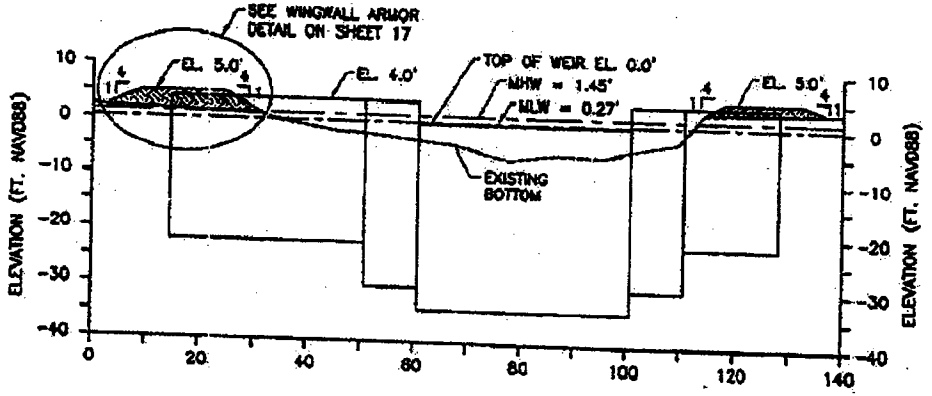
APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REMOVAL
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/28/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 18 OF 21



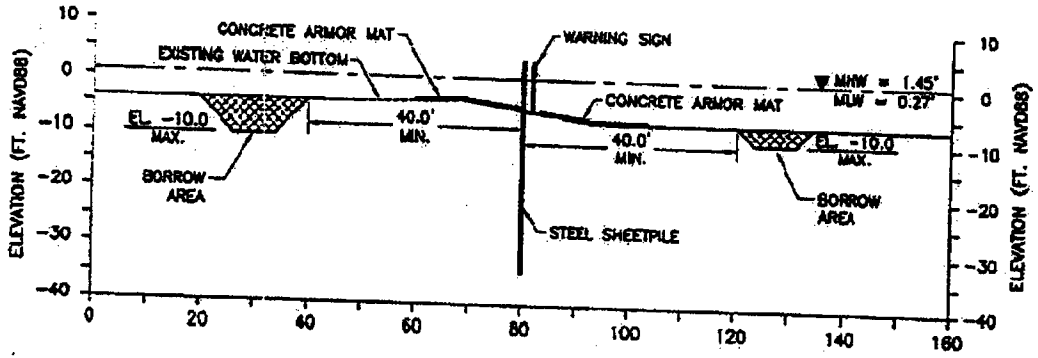
PLAN VIEW
1" = 30'

NOTES
1. SEE SHEET 5 FOR LOCATION OF EXISTING WEIR.
2. SEE SHEET 17 FOR WINGWALL ARMOR DETAIL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT PLAN VIEW
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 19 OF 21



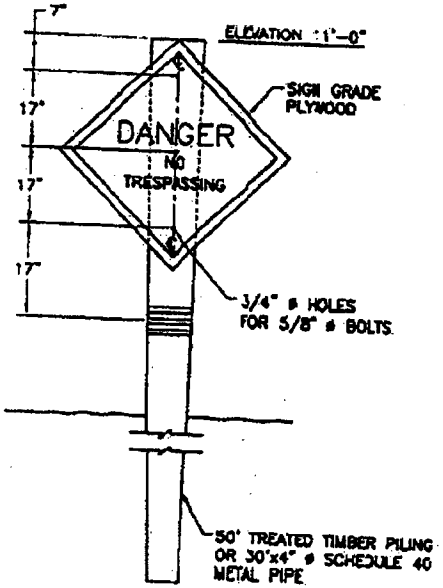
SECTION Y-Y'
1" = 30'

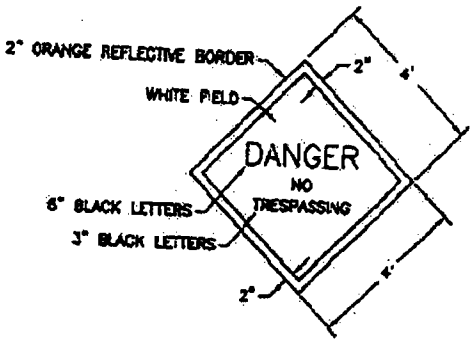


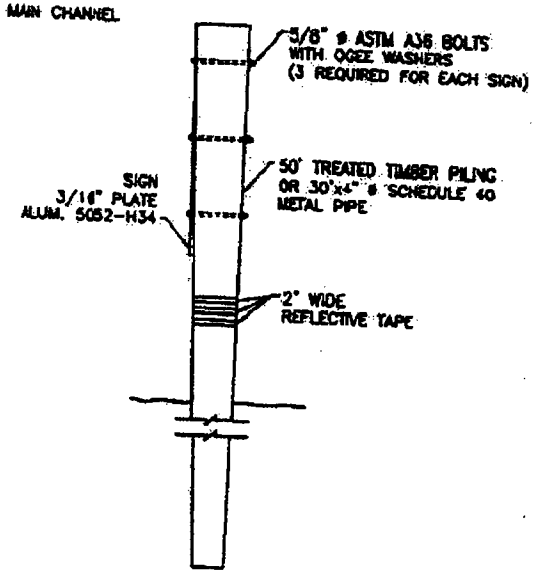
SECTION Z-Z'
1" = 30'

NOTE:
STEEL SHEETPILES ARE PDA-27 GRADE 42 OR EQUAL.

APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	WEIR REPLACEMENT SECTION VIEWS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 05/20/09
		FEDERAL PROJECT NUMBER: N/A	SHEET 20 OF 21







APPLICATION BY: U.S. FISH AND WILDLIFE SERVICE 646 CAJUNDOME BLVD., SUITE 400 LAFAYETTE, LA 70506	LOUISIANA DEPARTMENT OF NATURAL RESOURCES COASTAL RESTORATION DIVISION 617 NORTH 3RD STREET BATON ROUGE, LOUISIANA 70802	NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT	SIGN DETAILS
DRAWN BY: SHANE FAUST	DESIGNED BY: JERRY CARROLL, P.E. / APPROVED BY: LUKE LE BAS, P.E.	STATE PROJECT NUMBER: TE-44	DATE: APRIL 2008 REVISED: 06/20/08
		FEDERAL PROJECT NUMBER: N/A	SHEET 21 OF 21

ATTACHMENT VI

NORTH LAKE MECHANT LANDBRIDGE RESTORATION PROJECT (TE-44)

OPERATION, MAINTENANCE, AND REHABILITATION BUDGET

ATTACHMENT VI

OPERATION AND MAINTENANCE BUDGET

TE-44 NORTH LAKE MECHANT RESTORATION PROJECT

FEDERAL SPONSOR: U.S. Fish and Wildlife Service

PROJECT FEATURES

- 2,200 linear feet of articulated slope armoring
- Seven (7) rock and/or earthen plugs
- Steel sheet pile weir
- 901 acres marsh creation/nourishment
- Warning signs

OPERATIONAND MAINTENANCE / REHABILITATION ASSUMPTIONS
The operation, rehabilitation budget for the North Lake Mechant Restoration Project (TE-44) was based on the following assumption:

Year 2 (2012)	Plantings of newly created marsh areas.
Year 3 (2013)	Post-Construction Dike Gapping of containment
Year 10 (2019)	Recapping of rock plugs and refurbishment of steel sheet pile weirs and sign replacement (Includes sheet pile repairs, embankment tie-in repairs, sign replacement, painting and hardware replacement and other minor maintenance)

OPERATION AND MAINTENANCE CONSIDERATIONS
(Based on a 20 year project life; costs include inflation)

A.	**ANNUAL INSPECTIONS:** (1-day field trip including federal participant, boat, equipment, and report)	**$92,632**
B.	**ANNUAL COST OF OPERATIONS:** (No operations required for this project)	**$0**
C.	**PREVENTATIVE MAINTENANCE**	**$0**

D. COSTS FOR MAINTENANCE PROJECT AT YEAR 2 (2012)
(2012 Plantings Project – Inflation 1.09665)

Construction:

1. Mobilization/Demobilization ($22,000 x 1.09665)	$ 24,126	
2. Plantings (Lump Sum) ($175,456 x 1.09665)	$192,415	
Construction Total:	$216,541	
Total construction (plus inflation)		**$ 216,541**
3. LDNR Administration		**$ 4,808**
4. Engineering Consultant Design, Survey and Inspection:		**$ 42,963**
Design Services: ((Constr. Costs) x 8.29% x 1.09665)	$ 19,686	
Construction Inspection: (26 days @ $816.37/day x 1.09665)	$ 23,277	

TOTAL COST FOR MAINTENANCE AT YEAR 2 (2012)	**$264,312**

E. COSTS FOR MAINTENANCE PROJECT AT YEAR 3 (2013)
(2013 Dike Gapping Project – Inflation 1.1186)

Construction:

1. Mobilization/Demobilization ($22,000 x 1.1186)	$ 24,609	
2. Dike Gapping (Lump Sum) ($10,266 x 1.1186)	$ 11,483	
Construction Total:	$ 36,092	
Total construction (plus inflation)		**$ 36,092**
3. LDNR Administration		**$ 4,904**

4. Engineering Consultant Design, Survey and Inspection:		**$ 8,331**
Design Services: (5,000 x 1.1186)	$ 5,593	
Construction Inspection: (3 days @ $816/day x 1.1186)	$ 2,738	
TOTAL COST FOR MAINTENANCE AT YEAR 3 (2019)		**$49,327**

F. COSTS FOR MAINTENANCE PROJECT AT YEAR 10 (2019)
(2019 Maintenance Project– Inflation 1.2848)

Construction:

1. Mobilization/Demobilization: ($316,802 x 1.2848)	$ 407,059	
2. Rock Replenishment: ($15,075.5 tons @ $50/ton x 1.2848)	$ 968,532	
3. Sheet Pile Refurbishment: ($220,220 x 1.2848)	$ 282,963	
4. Sign Replacement: 3 each @ 2,200 x 1.2848)	$ 8,480	
Construction Total:	$ 1,667,034	
Total construction (plus inflation)		**$ 1,667,034**
3. LDNR Administration		**$ 5,633**
4. Engineering Consultant Design, Survey and Inspection:		**$ 175,088**
Design Services: (100,353 x 1.2848)	$ 128,934	
Construction Inspection: (44 days @ $816/day x 1.2848)	$ 46,154	
TOTAL COST FOR MAINTENANCE AT YEAR 10 (2019)		**$1,847,755**

OPERATION, MAINTENANCE AND REHABILITATION (O&M) BUDGET SUMMARY – TE-44 NORTH LAKE MECHANT RESTORATION PROJECT

Total Estimated O&M Budget:	**$2,254,028**
CWPPRA Approved O&M Budget	**$2,254,028**

Annual Inspections: {Beginning in 2011 (Year 1 after Construction) including inflation}

Annual Inspection Field Trip Rate	$3,546
Year 1 (2011)	$3,812
Year 2 (2012)	$3,889
Year 3 (2013)	$3,967
Year 4 (2014)	$4,046
Year 5 (2015)	$4,127
Year 6 (2016)	$4,209
Year 7 (2017)	$4,293
Year 8 (2018)	$4,379
Year 9 (2019)	$4,467
Year 10 (2020)	$4,556
Year 11 (2021)	$4,647
Year 12 (2022)	$4,740
Year 13 (2023)	$4,835
Year 14 (2024)	$4,932
Year 15 (2025)	$5,031
Year 16 (2026)	$5,131
Year 17 (2027)	$5,234
Year 18 (2028)	$5,338
Year 19 (2029)	$5,445
Year 20 (2030)	$5,554

Annual Inspections	**$92,632**