



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

Regional Planning and
Environmental Division South
Environmental Compliance Branch

October 17, 2016

PUBLIC NOTICE
REQUEST FOR PERMISSION TO ALTER A U.S. ARMY CORPS OF ENGINEERS
PROJECT PURSUANT TO 33 U.S.C. SECTION 408

PUBLIC NOTICE/FILE NUMBER: 16-107, Yuhuang Chemical Inc. proposes to construct a ship dock with breasting and mooring dolphins, a new barge loading dock, a new marine offloading facility, and a new water intake, along with associated roads, ramps, walkways, pipelines, electrical service, and other features. All of the construction would occur on the right descending (west) bank of the Mississippi River in the vicinity of levee station number 945+00 near the community of St. James, in St. James Parish, Louisiana.

Interested parties are hereby notified that a request for permission to alter a U.S. Army Corps of Engineers (USACE) project pursuant to Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 408) has been received and will be evaluated by the New Orleans District. Written comments, including any objections to the proposed alteration, stating reasons therefor, are being solicited from anyone having an interest in the requested alteration. Comments must be mailed or emailed by or before the last day of the comment period and must reference the file number of this public notice. Comments will become part of the record and will be considered in the decision on the request. See below for contact information and address. The proposed action could alter the following federal projects: Mississippi River Levees, Mississippi River Channel Stabilization, and Mississippi River Deep Draft Navigation Channel.

COMMENT PERIOD EXPIRES: November 1, 2016

REQUESTED ALTERATION: Yuhuang Chemical Inc. proposes to construct a new ship dock with breasting and mooring dolphins, a new barge loading dock, a new marine offloading facility, and a new water intake, along with associated access roads, overhead road and levee crossings, ramps, walkways, pipelines, electrical service, and other features. The ship dock would be used to transfer methanol. Portions of the proposed action are located outside of USACE project areas. Activities located outside the USACE project area will not necessarily be evaluated in the environmental assessment for this proposed action.

The attached figures provide the location and details of the proposed project.

REQUESTER: Yuhuang Chemical Inc., 10777 Westheimer, Suite 800, Houston, TX 77042

PERMISSION AUTHORITY: The authority to grant permission for temporary or permanent use, occupation or alteration of any USACE civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 USC 408 ("Section 408"). Section 408 authorizes the Secretary of the Army to grant permission for the alteration or occupation or use of a USACE project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project.

ADDITIONAL INFORMATION: Yuhuang Chemical Inc. has submitted an application for a Rivers and Harbors Act Section 10/404 permit to the USACE Regulatory Branch for the proposed action. That evaluation (MVN-2014-00940-CG) will be a separate process from the evaluation of the request for permission to alter a USACE project. This Public Notice solicits comments only on the proposed alteration of the USACE projects.

LOCATION OF PROPOSED ACTION: Along the right descending bank of the Mississippi River in the vicinity of levee station number 945+00 in St. James Parish, Louisiana near Latitude: 29°59'32"N, Longitude: 90°50'02" as shown on the attached drawings. It would be located in the vicinity of Mississippi River mile 157.5.

WRITTEN COMMENTS MAY BE MAILED TO:

Department of the Army
Corps of Engineers, New Orleans District
ATTN: Howard Ladner (CEMVN-PDC)
7400 Leake Ave.
New Orleans, Louisiana 70118

WRITTEN COMMENTS MAY BE EMAILED TO: howard.w.ladner@usace.army.mil

ALL comments must contain the full name and address of the individual commenting and must be received by the USACE by the expiration of the public notice period.

EVALUATION: This request will be reviewed pursuant to Section 408 and USACE Engineering Circular (EC) 1165-2-216, which provides policy and procedural guidance for processing requests to alter USACE civil works projects.

The decision whether to grant permission for the requested alteration will be based on several factors. The benefits that reasonably may be expected to accrue from the proposal will be balanced against its reasonably foreseeable detriments. Review of the requests for modification will be reviewed by a USACE technical review team

considering the following factors:

- 1) Potential to Impair the Usefulness of the Project. Proposed alterations will be reviewed to determine whether the alteration would limit the ability of the USACE project to function as authorized, or would compromise or change any authorized project conditions, purposes or outputs. If USACE determines that the usefulness of the authorized project would be impaired, the request will be denied.
- 2) Potential to be Injurious to the Public Interest. Proposed alterations will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. Factors that may be relevant to the public interest depend upon the type of USACE project being altered and may include, but are not limited to, such things as conservation, economic development, historic properties, cultural resources, environmental impacts, water supply, water quality, flood hazards, floodplains, residual risk, induced damages, navigation, shore erosion or accretion, and recreation. This evaluation will consider information received from the interested parties, including tribes, agencies, and the public. The decision whether to approve an alteration will be determined by the consideration of whether benefits are commensurate with risks. If the potential detriments are found to outweigh the potential benefits, then it may be determined that the proposed alteration is injurious to the public interest.
- 3) Environmental Compliance. A decision on a Section 408 request is a Federal action and is subject to the National Environmental Policy Act (NEPA) and other environmental compliance requirements. USACE is preparing an Environmental Assessment to evaluate the potential impacts of the proposed alteration on important resources. Comments received on this public notice will be used in the evaluation. The EA will not be published for public comment as this notice fulfills NEPA requirements for public participation. Any comments regarding the proposed alteration should be submitted during the current public comment period.

While ensuring environmental compliance is the responsibility of USACE, the requester is responsible for providing all information that USACE identifies as necessary. Environmental compliance factors that will be considered in this evaluation include but are not limited to the following:

- a. A preliminary review of the proposed action under Section 7 of the Endangered Species Act indicated the proposed action would not likely adversely affect listed species or designated critical habitat. The requester has agreed to design the water intake structure to comply with requirements found in the Pallid Sturgeon Recovery Plan. Pallid sturgeon are an endangered species occurring in the Mississippi River.
- b. The requester will be required to provide proof of compliance with Section 401 of the Clean Water Act from the Department of Environmental Quality

- c. Compliance with Clean Water Act, Section 404(b)(1) guidelines, as well as Section 10 of the Rivers and Harbors Act will be evaluated through a separate USACE permit review process. EC 1165-2-216 specifies that the Section 408 request must be evaluated independent of the above referenced USACE permit evaluations.
- d. The requester received concurrence (P20150795) from the Office of Coastal Management that the project is consistent with the Coastal Zone Management Act to the maximum extent practicable on January 27, 2016.
- e. In accordance with Section 106 of the National Historic Preservation Act (NHPA), the USACE is required to take into account the effects of any permitted action to historic properties, which includes both archaeological resources on the surface or below ground, as well as historic buildings and structures that are listed in or are eligible for listing in the National Register of Historic Places. The USACE will also consult with Indian Tribes in accordance with Section 101(d)(6)(B) of the NHPA, the USACE Tribal Consultation Policy, and Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments."

All factors that may be relevant to the proposal will be considered, including the potential cumulative effects associated with the proposed project. The review will consider the potential impact to the usefulness of the Federal project and whether the proposed alteration would be injurious to the public interest. Policy and legal compliance will also be considered.

USACE is soliciting comments from interested parties to evaluate the potential impacts of the proposed alteration. Comments will be considered to assess impacts on the public interest factors listed above, as well as endangered species, historic properties, water quality, and general environmental effects. Comments will be used for environmental compliance coordination as required by NEPA.

COORDINATION: This public notice will be coordinated with the relevant State, Federal and Tribal entities as appropriate.

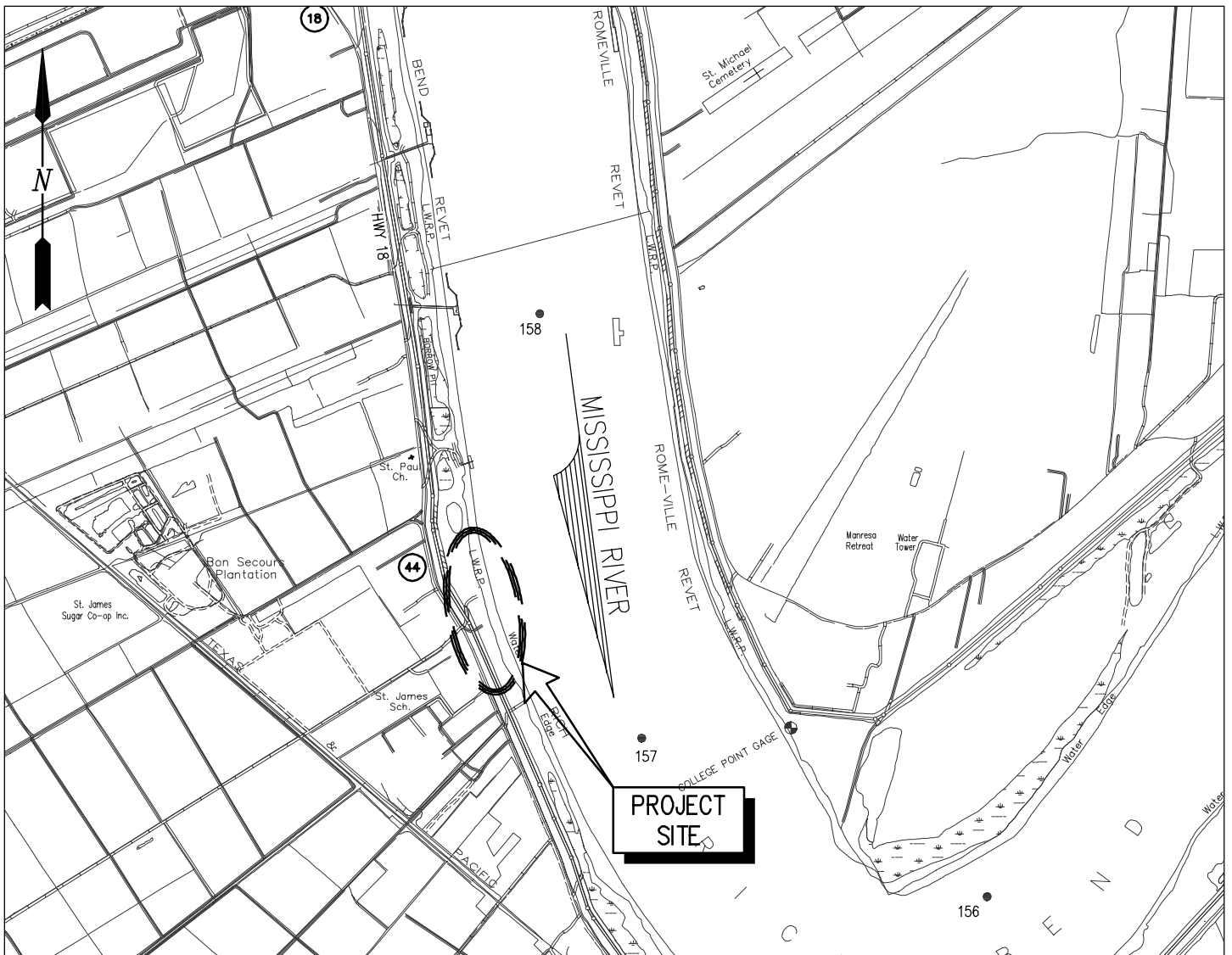
Issuance of this notice does not imply Corps of Engineers endorsement of the project as described.

If you have any questions, please contact Howard Ladner, by telephone at 504-862-2021 or via email at howard.w.ladner@usace.army.mil.

FOR THE DISTRICT COMMANDER:

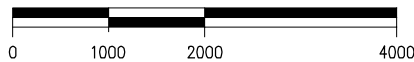
Enclosures

Sandra E. Stiles
Acting Chief, Environmental Planning Branch



VICINITY MAP

GRAPHIC SCALE IN FEET



GENERAL NOTES

1. AS-BUILT DRAWINGS AND/OR PLANS SHALL HAVE WRITTEN ON THEM THE DATE OF COMPLETION OF SAID ACTIVITIES AND SHALL BE SUBMITTED TO THE LOUISIANA DEPARTMENT OF NATURAL RESOURCES, OFFICE OF COASTAL MANAGEMENT, P. O. BOX 44487, BATON ROUGE, LA 70804-4487 WITHIN 30 DAYS FOLLOWING PROJECT COMPLETION.
2. ALL STRUCTURES, FACILITIES, WELL AND PIPELINES/FLOWLINES OCCURRING IN OPEN WATER AREAS OR IN OILFIELD CANALS OR SLIPS SHALL BE REMOVED WITHIN 120 DAYS OF ABANDONMENT OF THE FACILITIES FOR THE HEREIN PERMITTED USE UNLESS PRIOR WRITTEN APPROVAL TO LEAVE SUCH STRUCTURES IN PLACE IS RECEIVED FROM THE COASTAL MANAGEMENT DIVISION. THIS CONDITION DOES NOT PRECLUDE THE NECESSITY FOR REVISING THE CURRENT PERMIT OR OBTAINING A SEPARATE COASTAL USE PERMIT, SHOULD ONE BE REQUIRED.
3. STRUCTURES MUST ALSO BE MARKED/LIGHTED IN ACCORDANCE WITH U. S. COAST GUARD REGULATIONS.
4. IN ORDER TO ENSURE THE SAFETY OF ALL PARTIES, THE PERMITTEE SHALL CONTACT THE LOUISIANA ONE CALL SYSTEM (1-800-272-3020) A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION (DIGGING, DREDGING, JETTING, ETC.) OR DEMOLITION ACTIVITY
5. ALL ELEVATIONS REFER TO NGVD 29 UNLESS NOTED OTHERWISE.

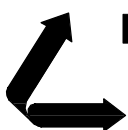


VICINITY

AREA MAP

9906-P1

ST. JAMES PARISH
LATITUDE: 29° 59' 32.67" N
LONGITUDE: 90° 50' 02.12" W



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

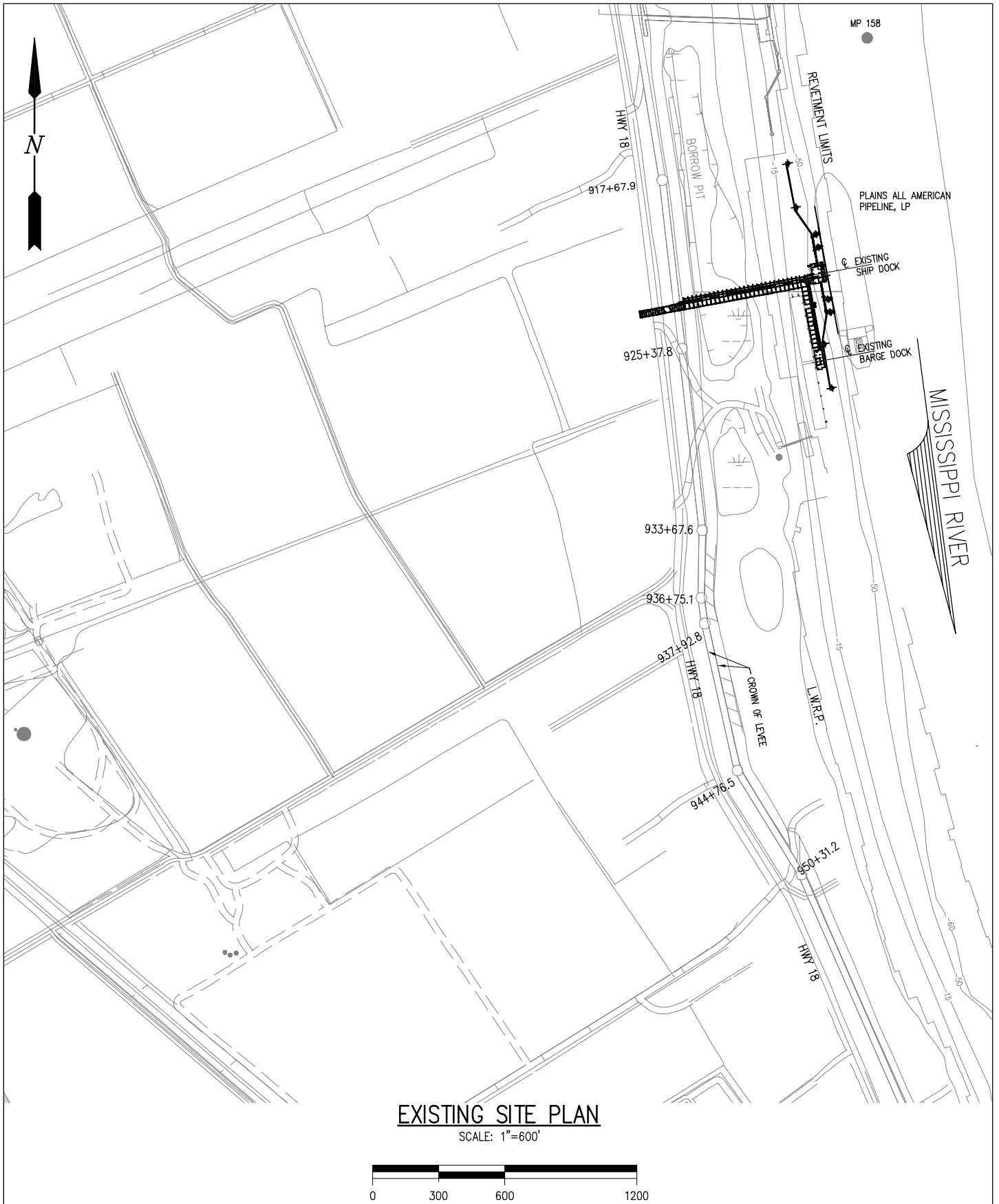
LOUISIANA

PROPOSED NEW MARINE FACILITY

VICINITY MAP, AREA MAP AND GENERAL NOTES

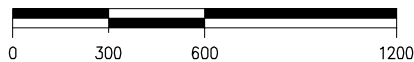
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

1 OF 26

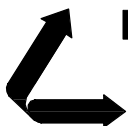


EXISTING SITE PLAN

SCALE: 1"=600'



9906-P2



LANIER & ASSOCIATES
CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

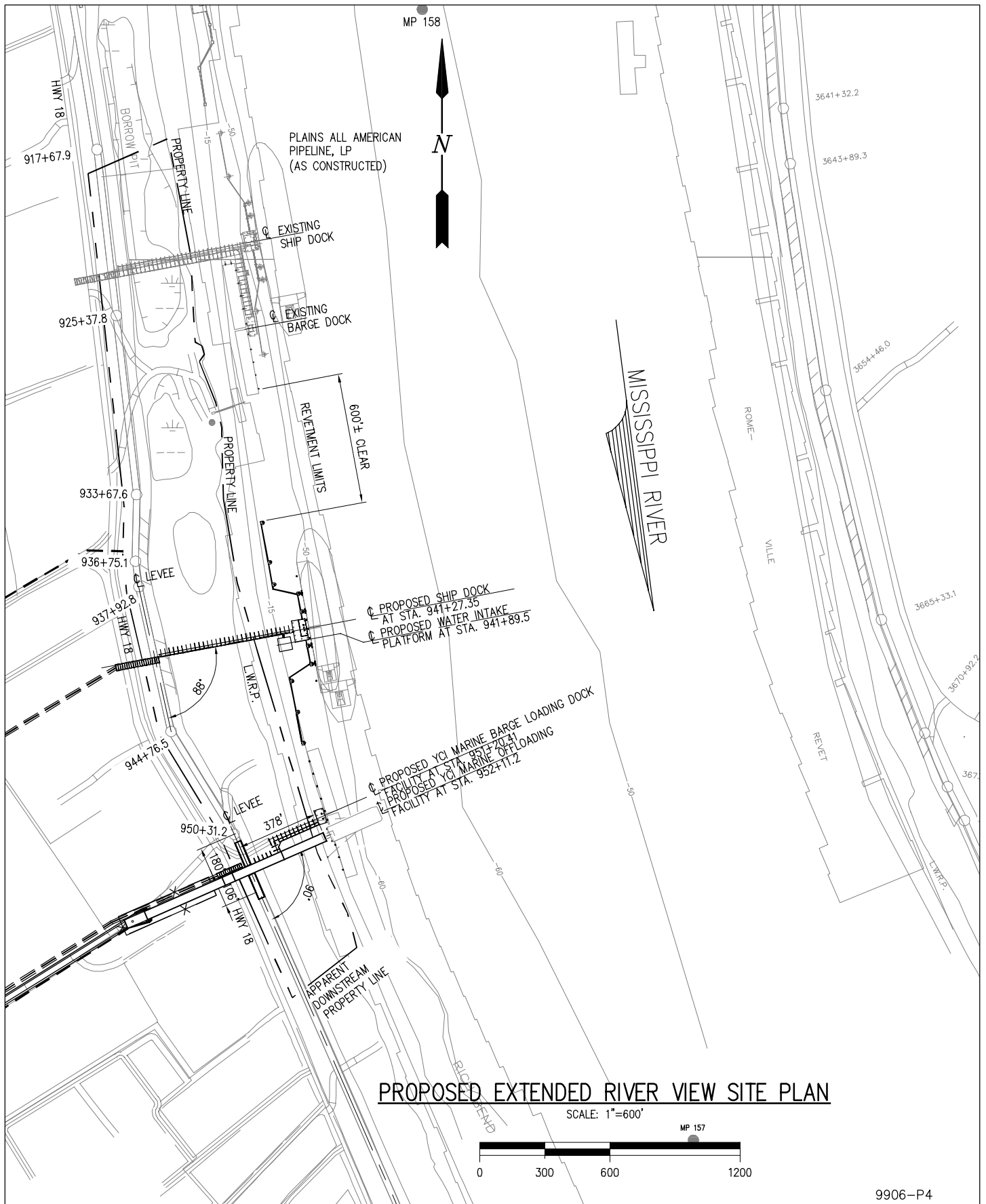
LOUISIANA

PROPOSED NEW MARINE FACILITY

EXISTING SITE PLAN

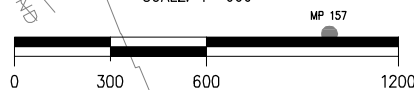
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

2 OF 26

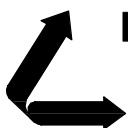


PROPOSED EXTENDED RIVER VIEW SITE PLAN

SCALE: 1"=600'



9906-P4



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

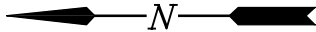
LOUISIANA

PROPOSED NEW MARINE FACILITY

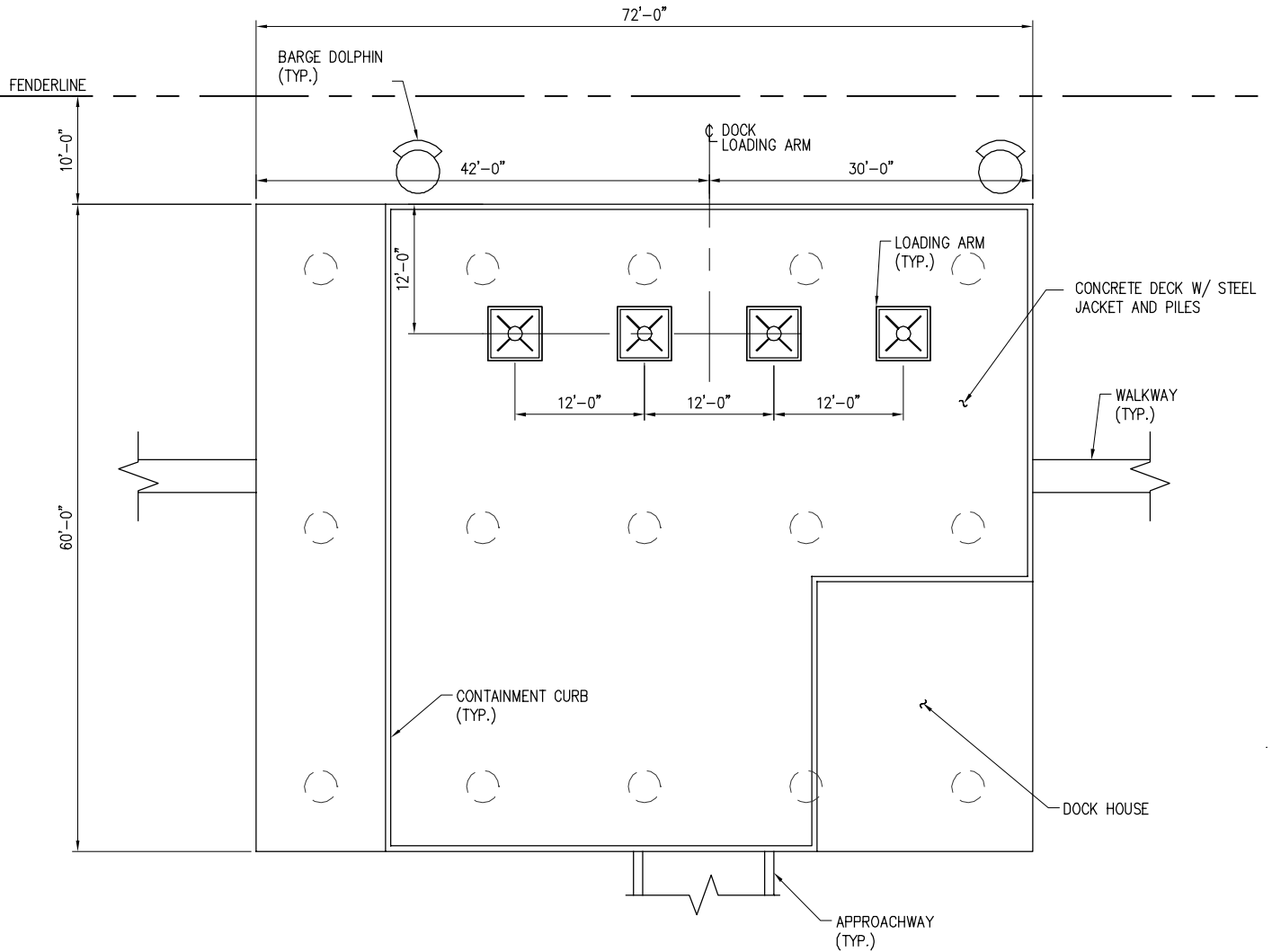
PROPOSED EXTENDED RIVER VIEW SITE PLAN

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK J.E.J.
CONTRACT 9906
SHEET No.

4 OF **26**



MISSISSIPPI RIVER

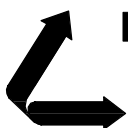


SHIP DOCK ENLARGED PLATFORM PLAN

SCALE: 1/16"=1'-0"



9906-P6



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

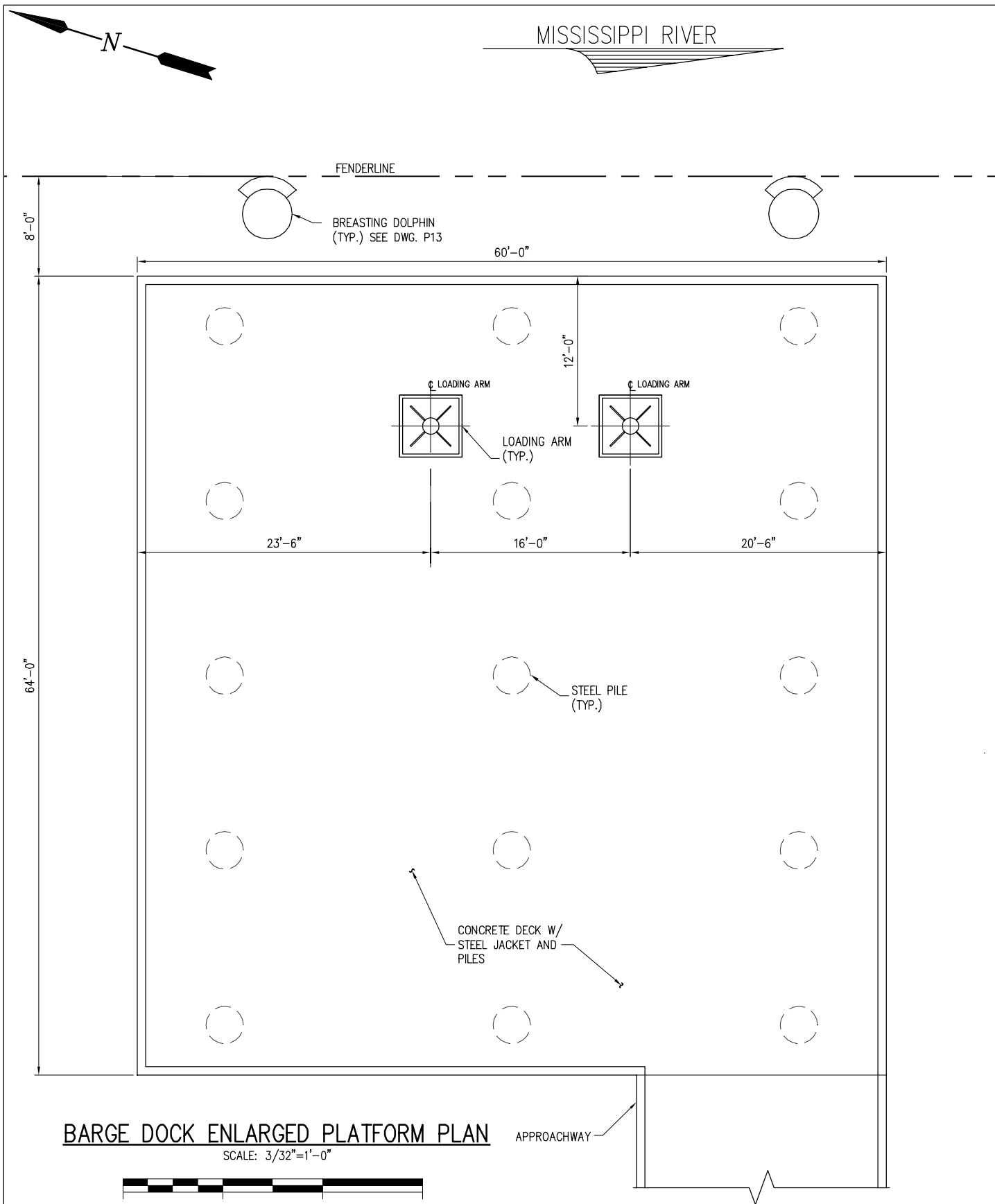
LOUISIANA

PROPOSED NEW MARINE FACILITY

SHIP DOCK ENLARGED PLATFORM PLAN

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

6 OF **26**



9906-P7



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

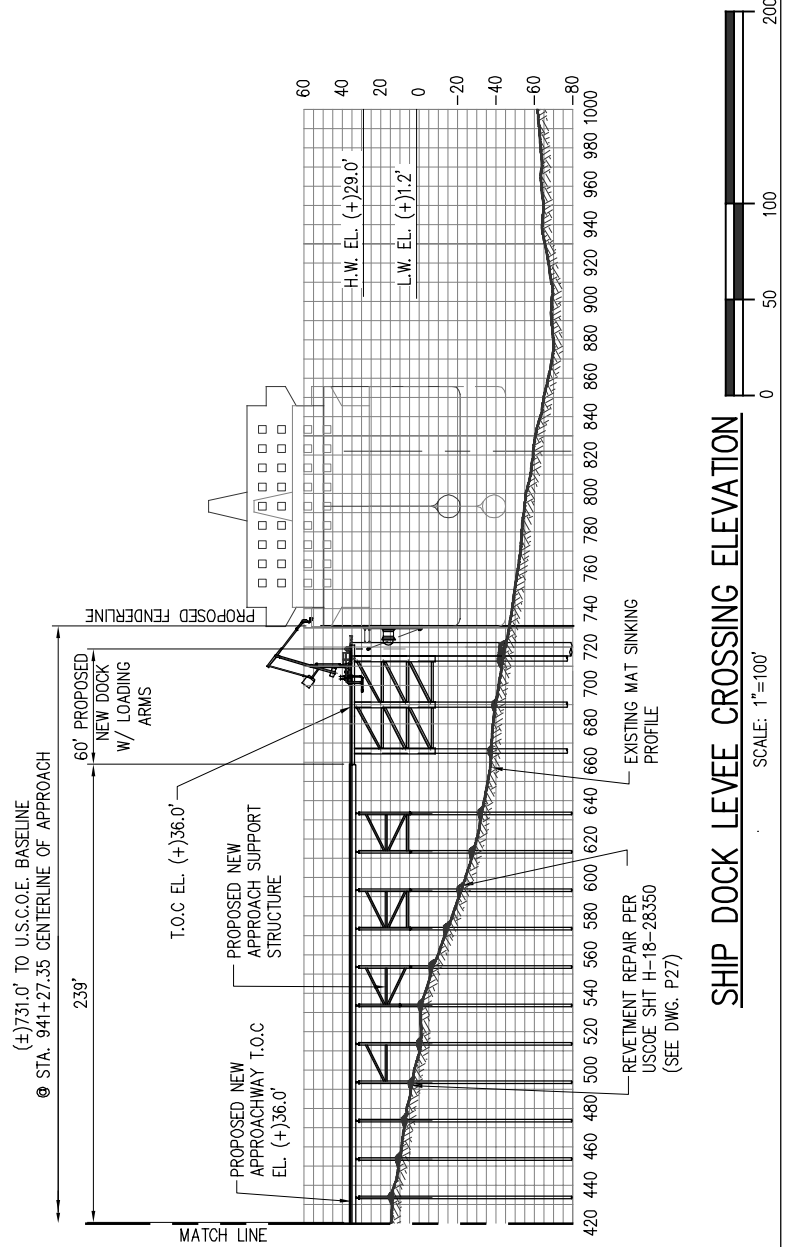
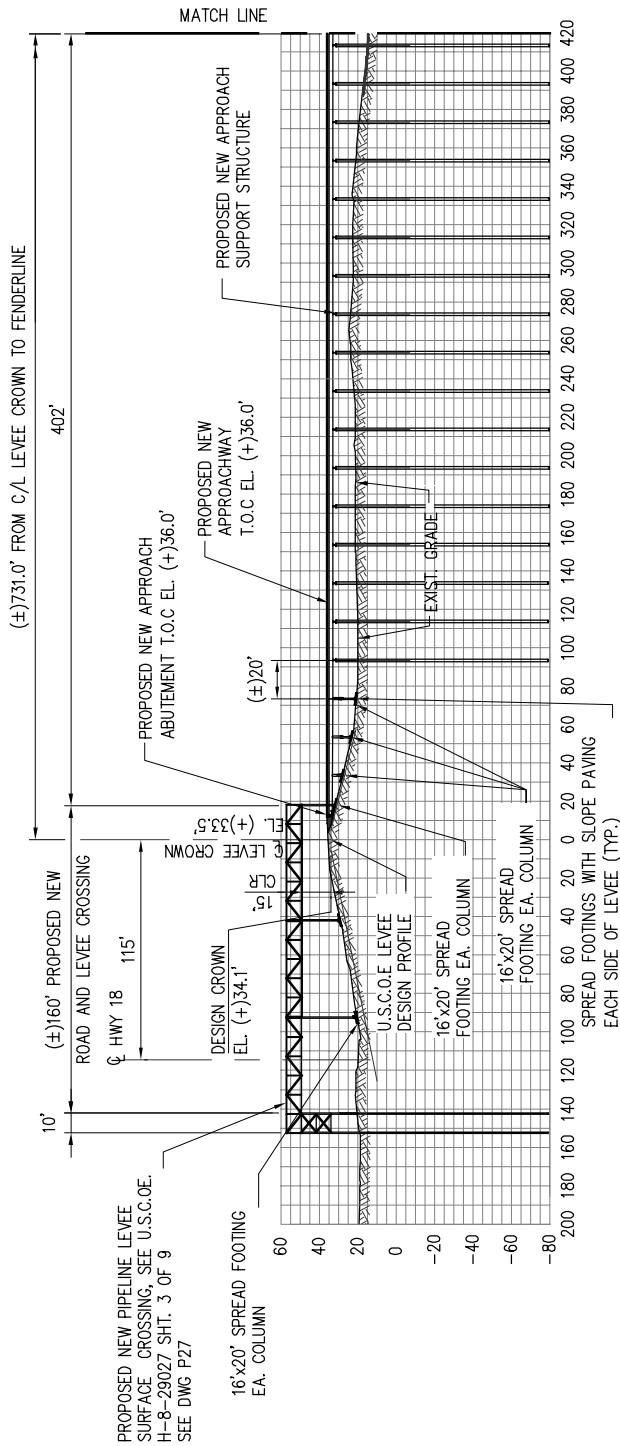
LOUISIANA

PROPOSED NEW MARINE FACILITY

BARGE DOCK ENLARGED PLATFORM PLAN

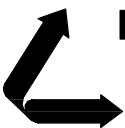
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

7 OF **26**



SHIP DOCK LEVEE CROSSING ELEVATION

9906-P8



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA • BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

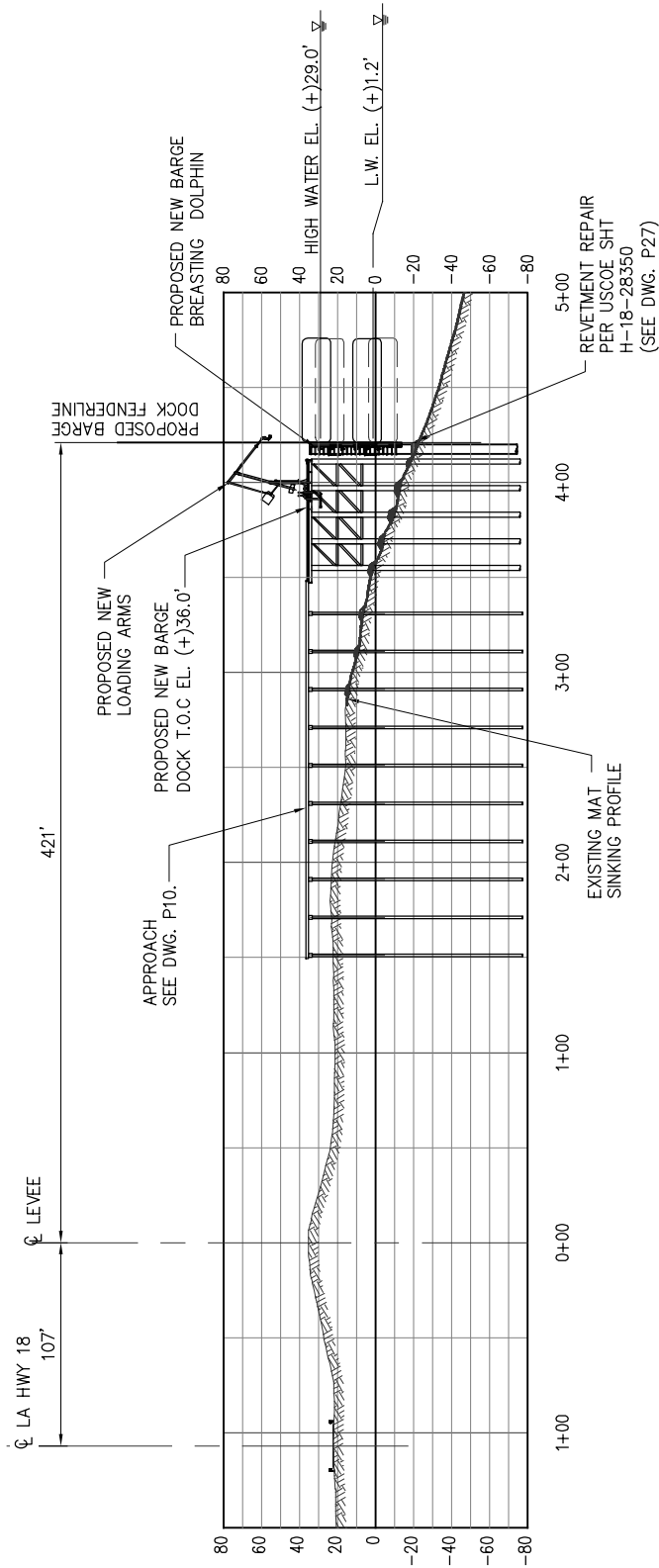
LOUISIANA

PROPOSED NEW MARINE FACILITY

SHIP DOCK LEVEE CROSSING ELEVATION

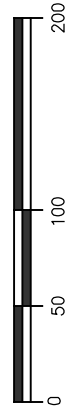
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK J.E.J.
CONTRACT 9906
SHEET No.

8 OF 26

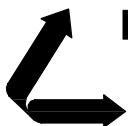


TYPICAL BARGE DOCK ELEVATION

SCALE: 1"=100'



9906-P9



LANIER & ASSOCIATES
CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

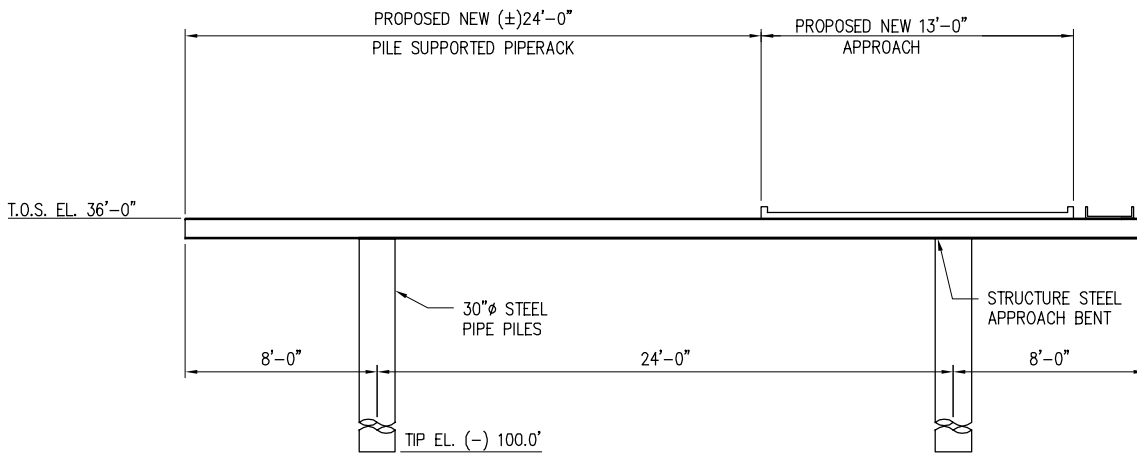
LOUISIANA

PROPOSED NEW MARINE FACILITY

TYPICAL BARGE DOCK ELEVATION

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

9 OF 26

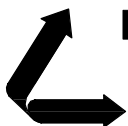


TYPICAL SHIP DOCK AND BARGE DOCK APPROACH

SCALE: 1/8"=1'-0"



9906-P10



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

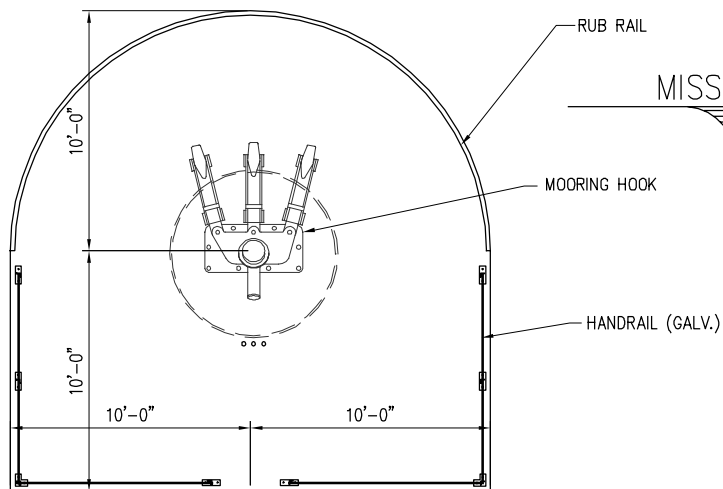
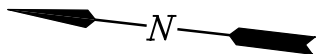
LOUISIANA

PROPOSED NEW MARINE FACILITY

TYPICAL SHIP AND BARGE DOCK APPROACHES

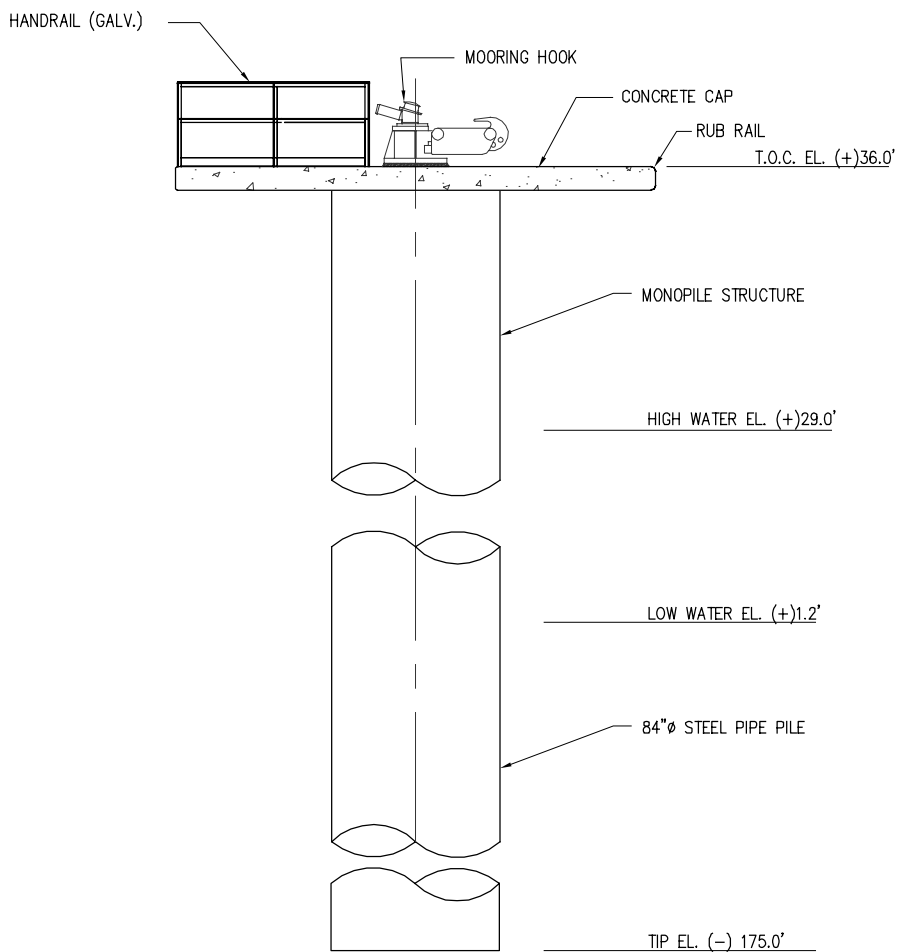
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

10 OF 26



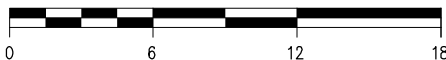
MOORING DOLPHIN PLAN

SCALE: 1/8"=1'-0"

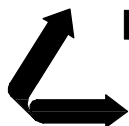


MOORING DOLPHIN ELEVATION

SCALE: 1/8"=1'-0"



9906-P11



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

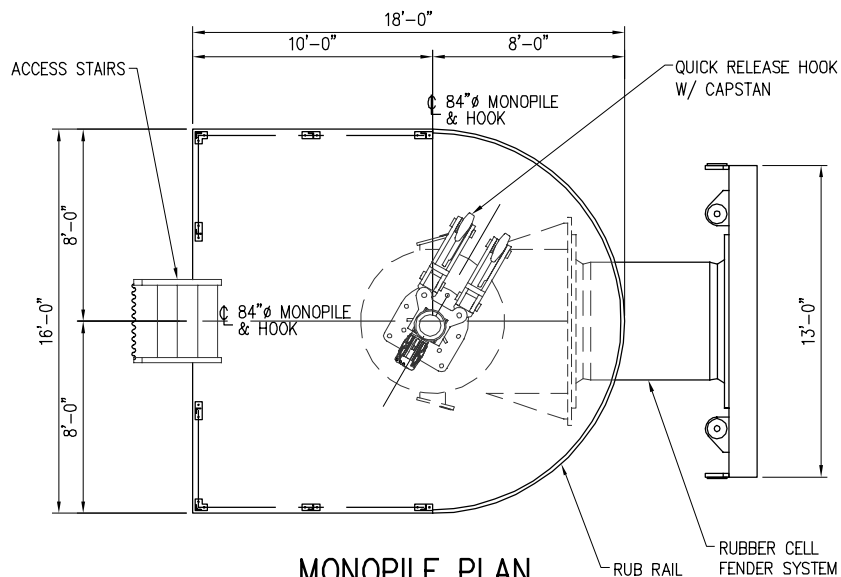
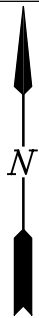
LOUISIANA

PROPOSED NEW MARINE FACILITY

MOORING DOLPHIN PLAN AND ELEVATION

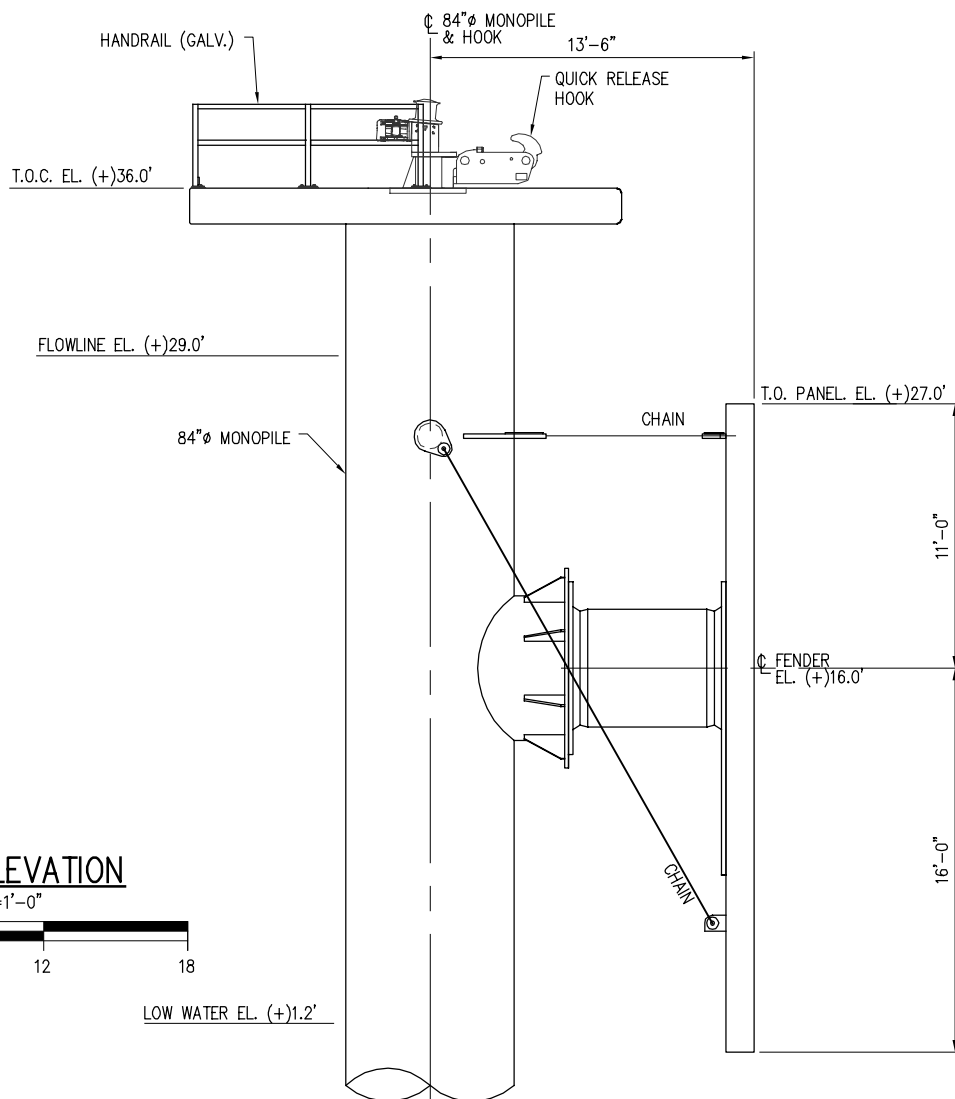
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

11 OF 26



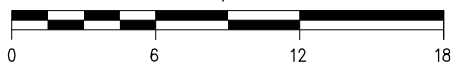
MONOPILE PLAN

SCALE: 1/8"=1'-0"



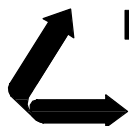
MONOPILE ELEVATION

SCALE: 1/8"=1'-0"



LOW WATER EL. (+)1.2'

9906-P12



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

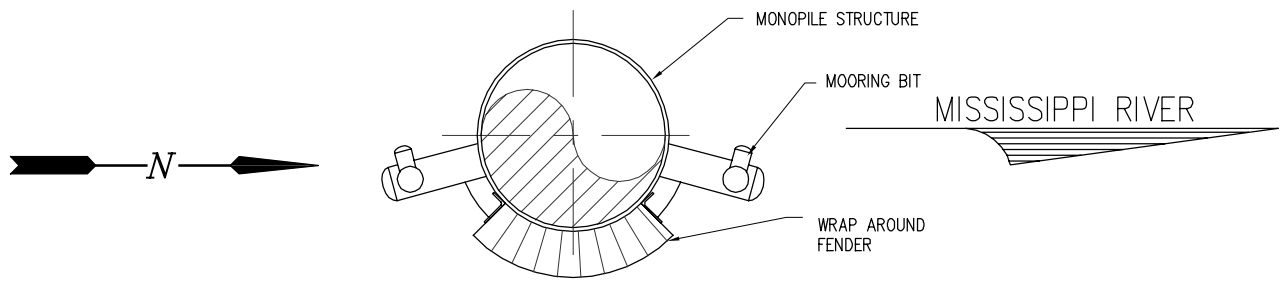
LOUISIANA

PROPOSED NEW MARINE FACILITY

BREASTING DOLPHIN PLAN AND ELEVATION

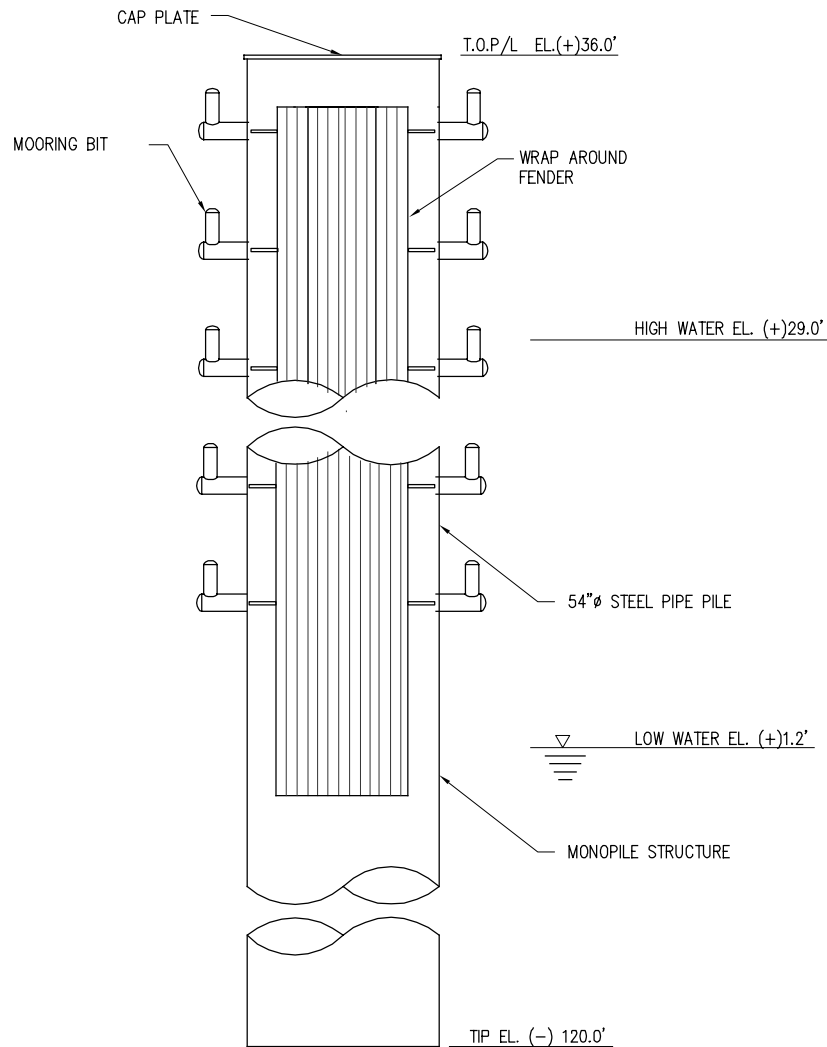
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

12 OF 26



BARGE DOLPHIN PLAN

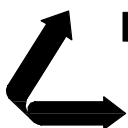
SCALE: 1/8"=1'-0"



BARGE DOLPHIN ELEVATION

SCALE: 1/8"=1'-0"

9906-P13



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

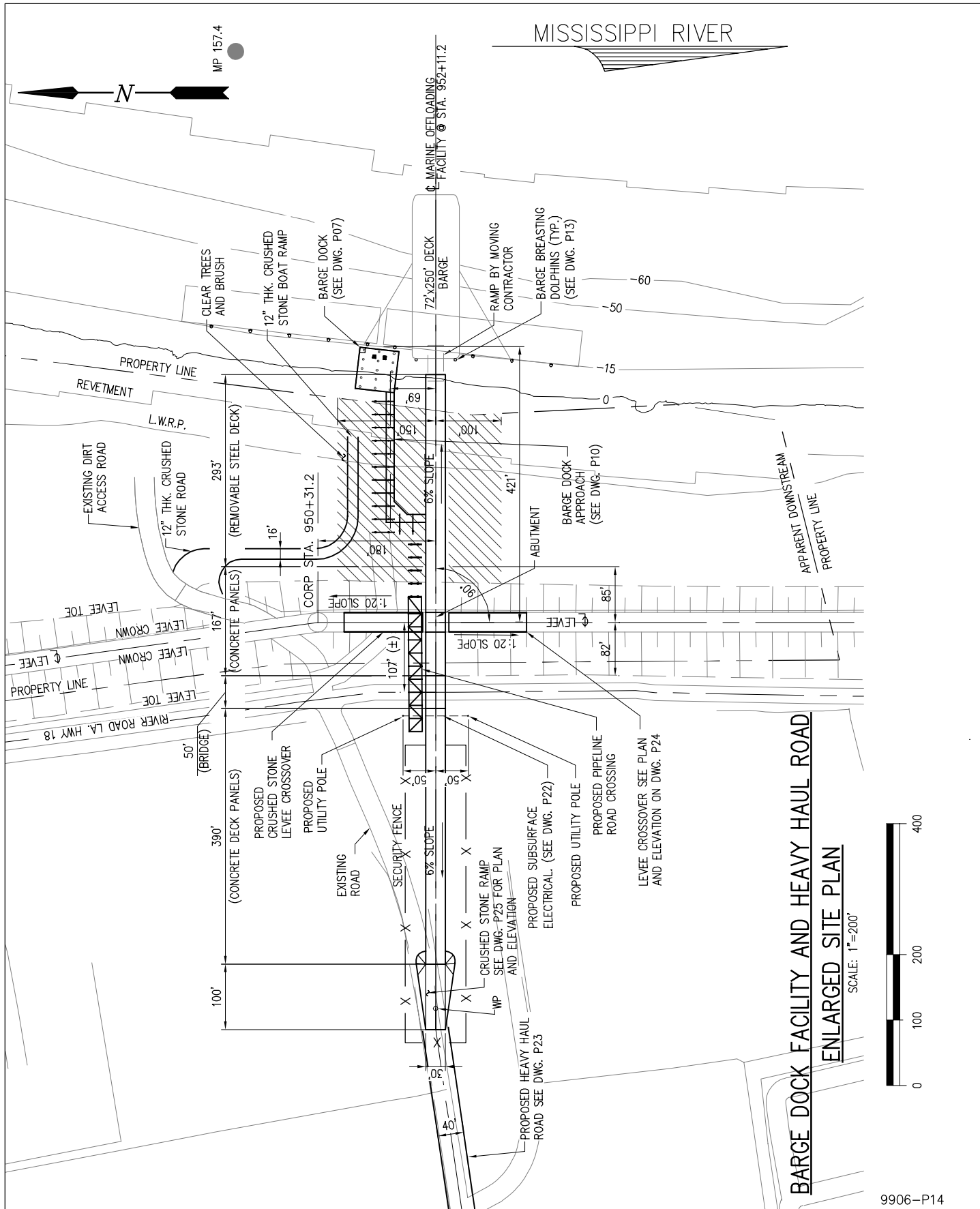
LOUISIANA

PROPOSED NEW MARINE FACILITY

BARGE DOLPHIN PLAN AND ELEVATION

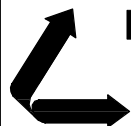
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK J.E.J.
CONTRACT 9906
SHEET No.

13 OF **26**



BARGE DOCK FACILITY AND HEAVY HAUL ROAD
ENLARGED SITE PLAN

SCALE: 1"=200'



LANIER & ASSOCIATES

CONSULTING ENGINEERS
 INCORPORATED

NEW ORLEANS, LA • BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

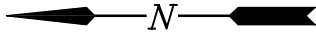
LOUISIANA

PROPOSED NEW MARINE FACILITY

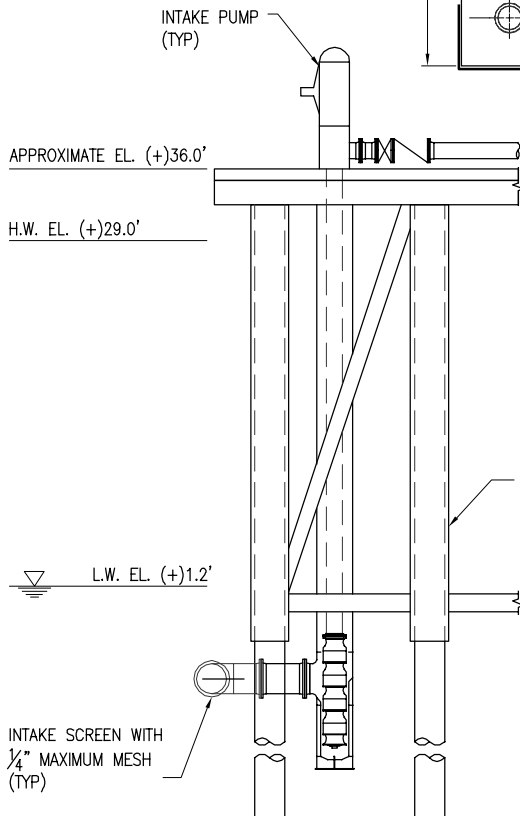
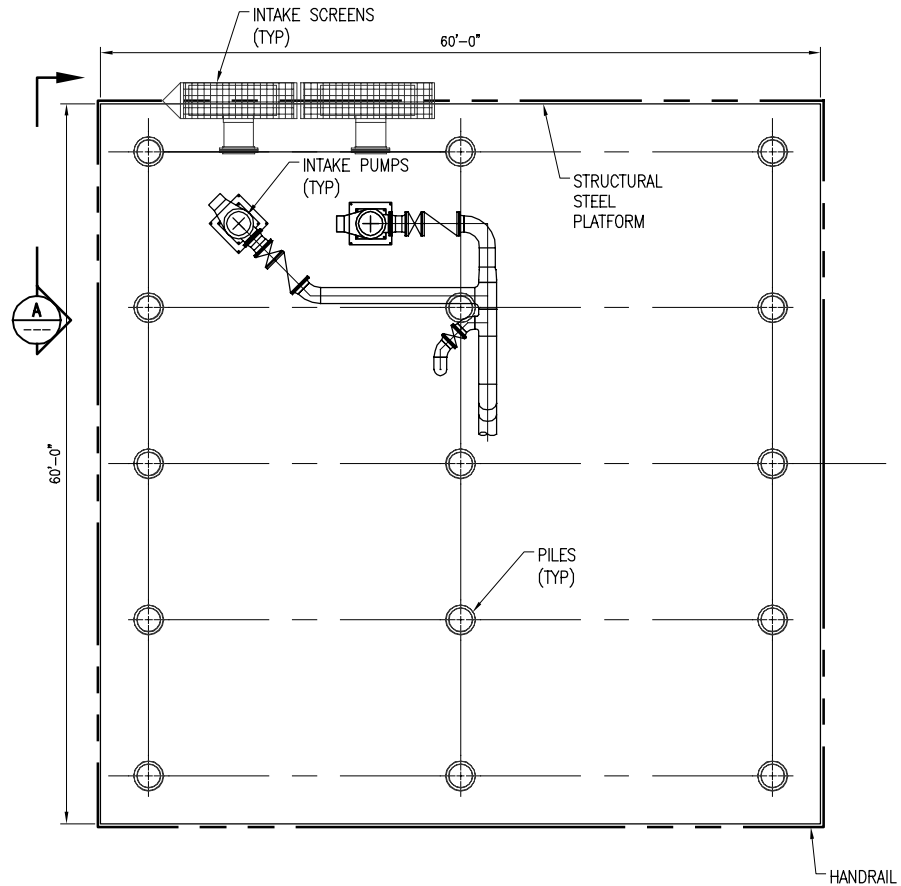
ENLARGED SITE PLAN

DATE 08/15
 DESIGN CLO
 DRAWN MEW
 CHECK JEJ
 CONTRACT 9906
 SHEET No.

14 OF 26



MISSISSIPPI RIVER



INTAKE PUMP PLATFORM PLAN

SCALE: 1/16" = 1'-0"

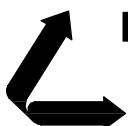


SECTION

SCALE: 1/16" = 1'-0"



9906-P15



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

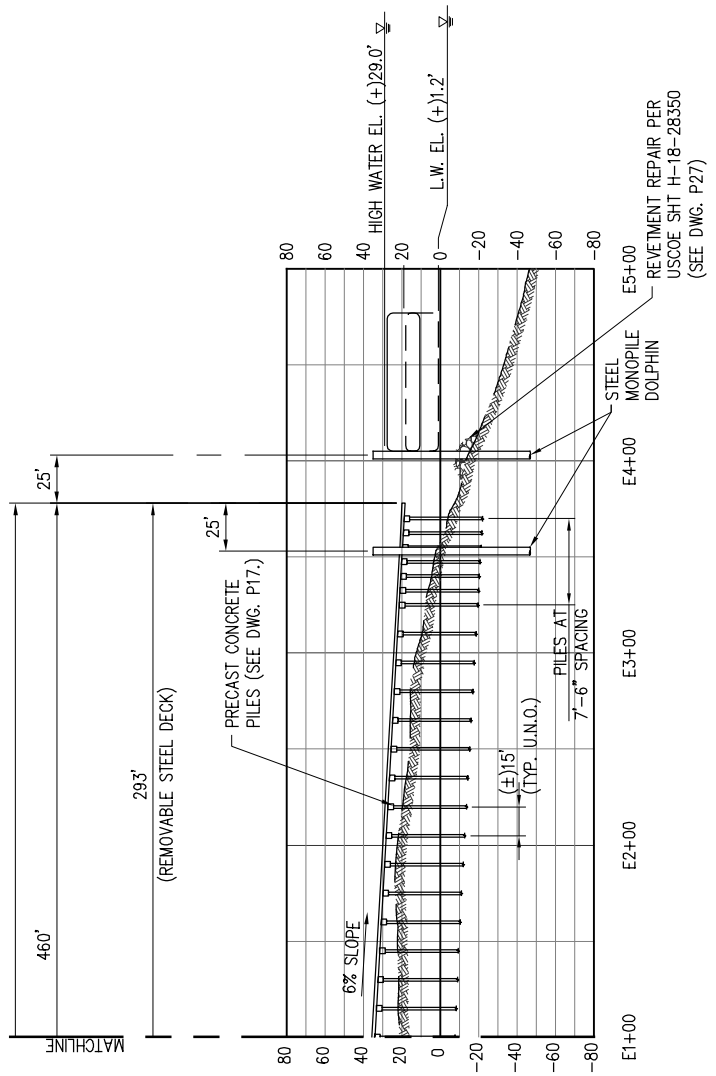
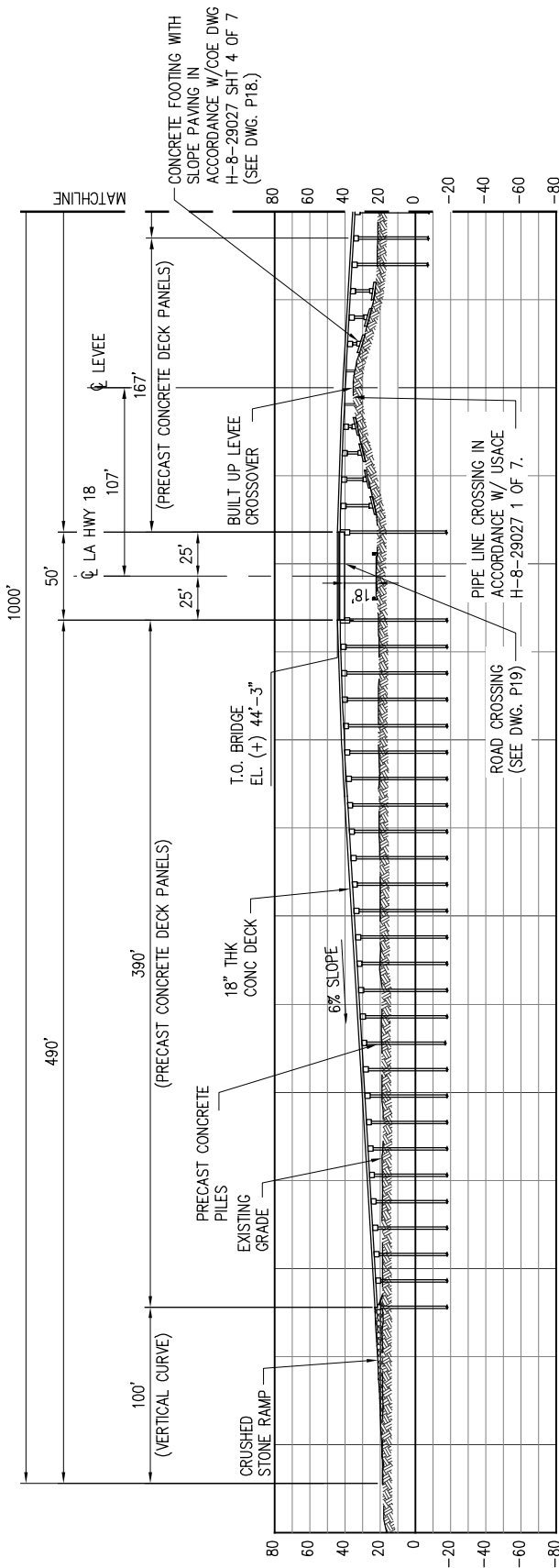
LOUISIANA

PROPOSED NEW MARINE FACILITY

INTAKE PUMP PLATFORM PLAN

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK J.E.J.
CONTRACT 9906
SHEET No.

15 OF **26**

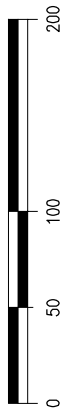


NOTES:

1. DECK PANELS WILL BE REMOVABLE BELOW HIGH WATER. PANELS WILL BE REMOVED TO PREVENT SUBMERSION IN THE RIVER AS REQUIRED DUE TO THE RIVER STAGE.

MARINE OFFLOADING FACILITY

SCALE: 1"=100'



9906-P16



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

LOUISIANA

PROPOSED NEW MARINE FACILITY

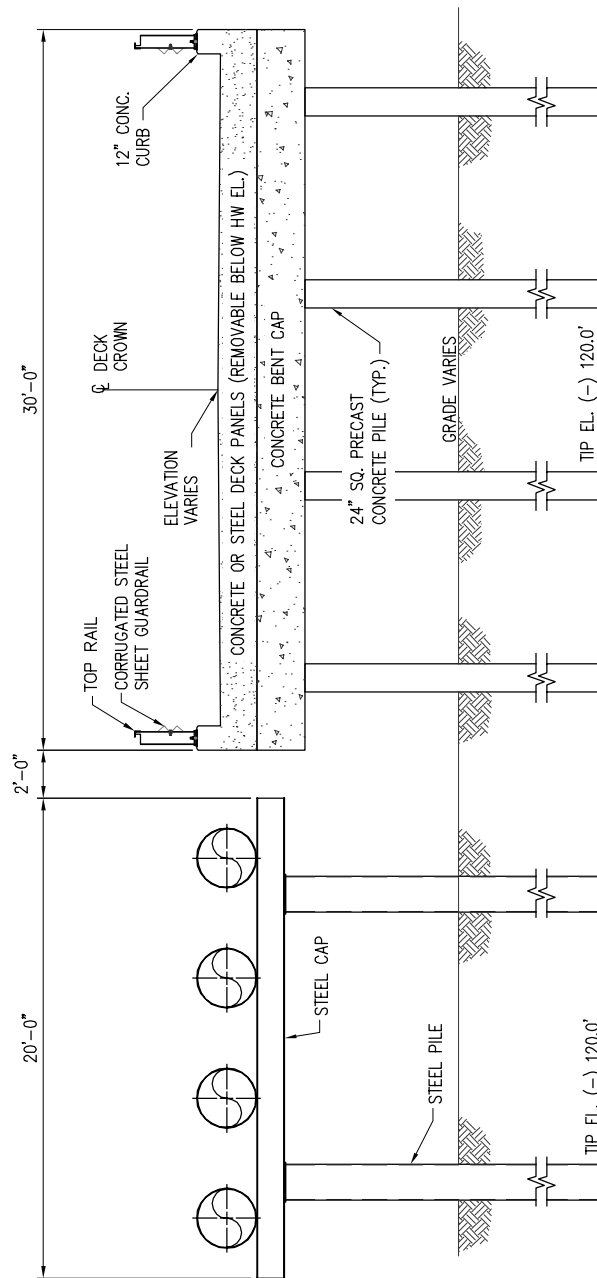
MARINE OFFLOADING FACILITY

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK J.E.J.
CONTRACT 9906
SHEET No.

16 OF 26

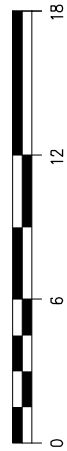
NOTE:

STEEL PIPE SUPPORT OCCURS FROM 10' OFFSHORE OF TOE OF LEVEE TO TYPICAL BARGE DOCK APPROACH SECTION.

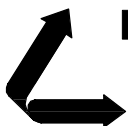


TYPICAL PILE BENT SECTION

SCALE: 1/8"=1'-0"



9906-P17



LANIER & ASSOCIATES
CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

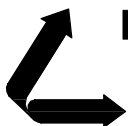
LOUISIANA

PROPOSED NEW MARINE FACILITY

TYPICAL PILE BENT SECTION

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

17 OF **26**



LANIER & ASSOCIATES
CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

LOUISIANA

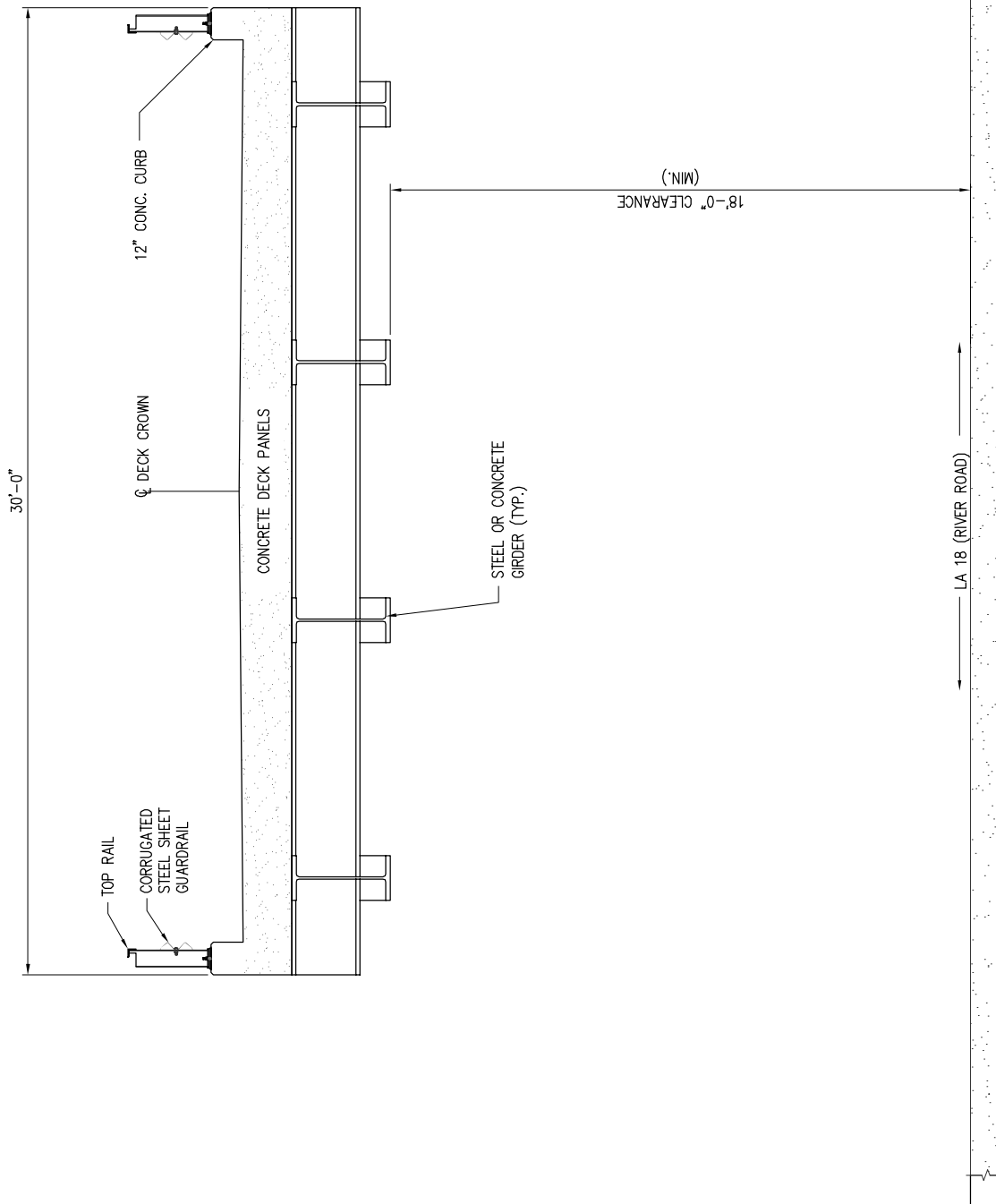
PROPOSED NEW MARINE FACILITY

TYPICAL SPREAD FOOTING BENT SECTION

9906-P18

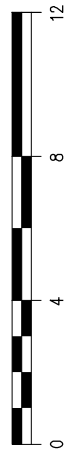
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

18 OF 26

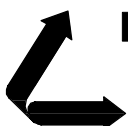


TYPICAL ROAD CROSSING SECTION

SCALE: 3/16" = 1'-0"



9906-P19



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA • BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

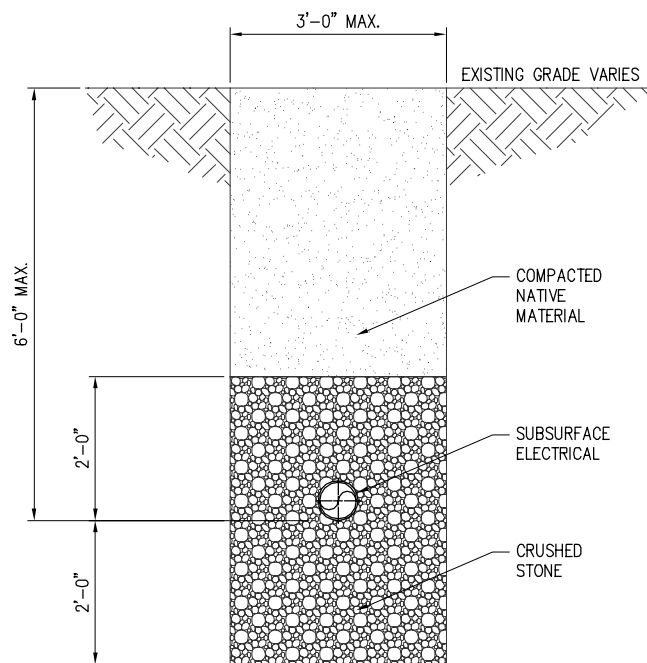
LOUISIANA

PROPOSED NEW MARINE FACILITY

TYPICAL ROAD CROSSING SECTION

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

19 OF **26**

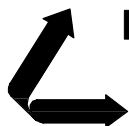


TYPICAL ELECTRICAL SUBSURFACE SECTION

SCALE: 3/8"=1'-0"



9906-P20



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

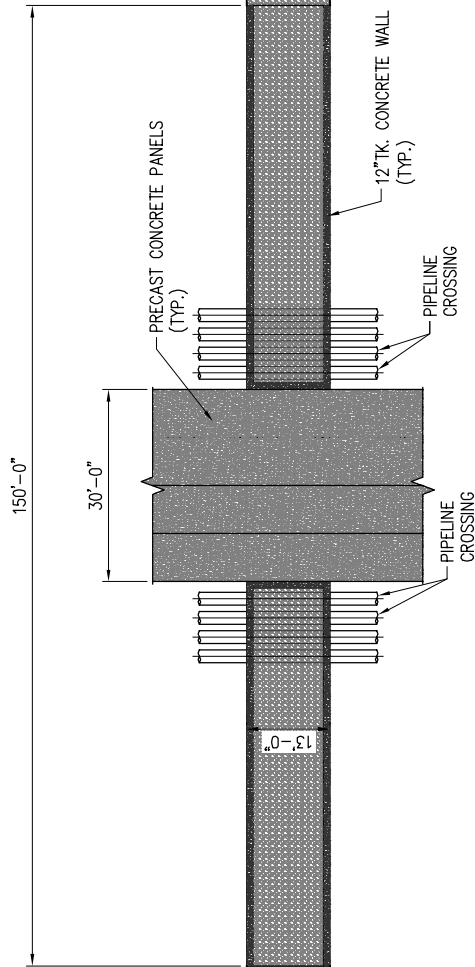
LOUISIANA

PROPOSED NEW MARINE FACILITY

TYPICAL PIPE PILE BENT SECTION

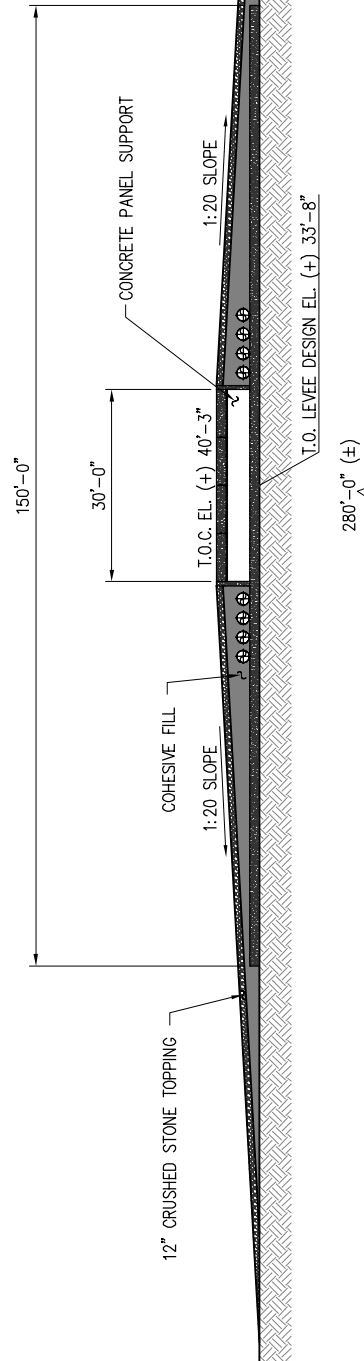
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

20 OF **26**



MARINE OFFLOADING LEVEE CROSSOVER PLAN

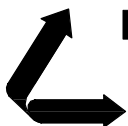
SCALE: 1"=30'



MARINE OFFLOADING LEVEE CROSSOVER ELEVATION

SCALE: 1"=30'

9906-P22



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

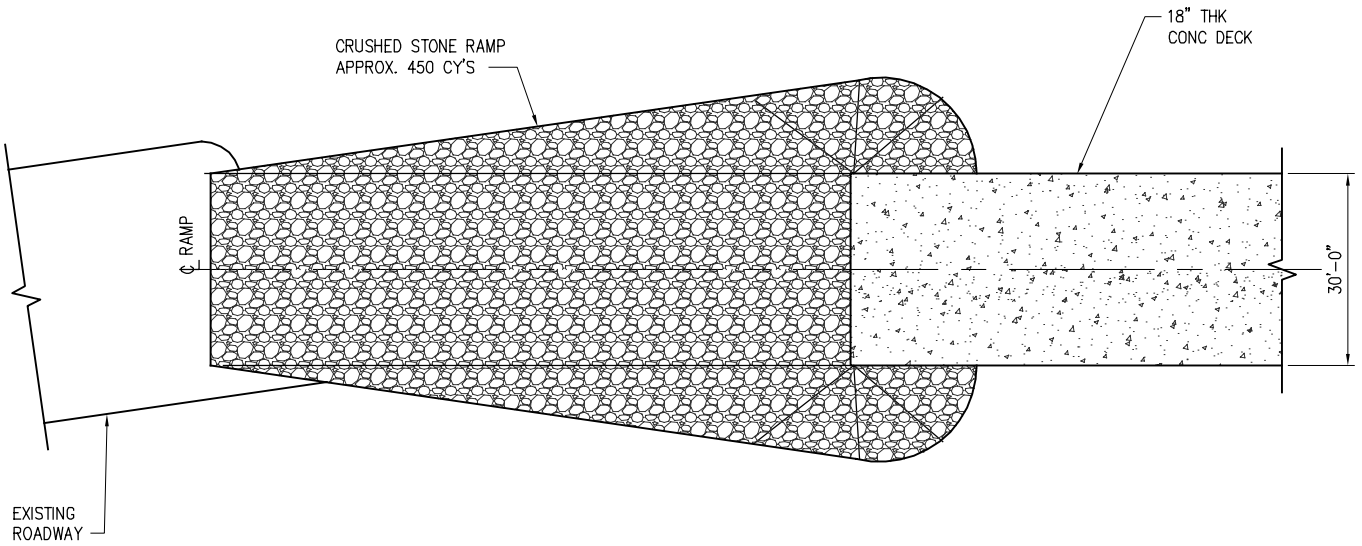
YUHUANG CHEMICAL INC.

LOUISIANA

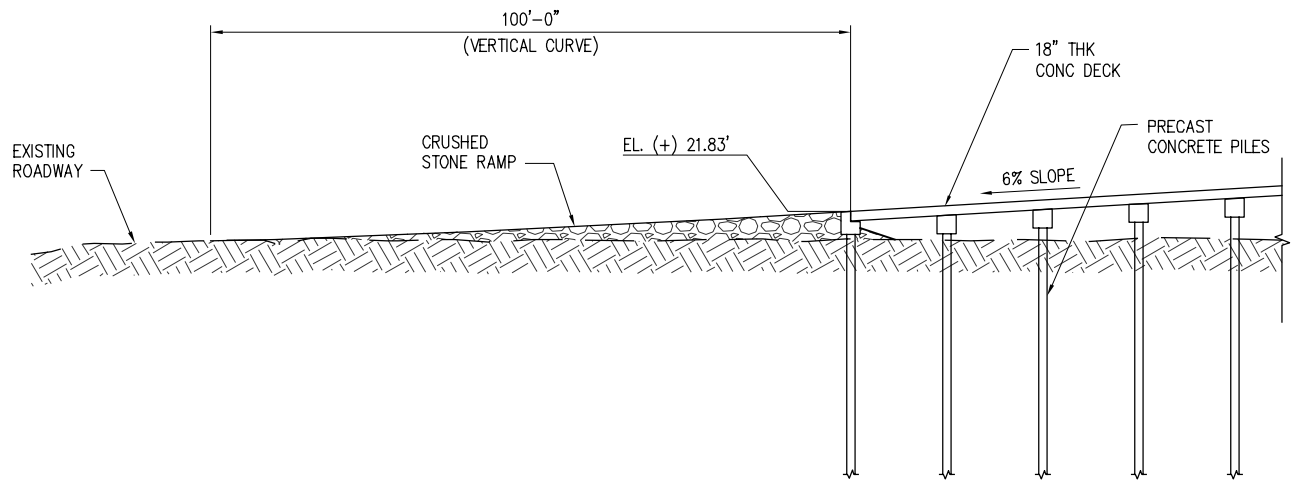
**PROPOSED NEW MARINE FACILITY
MARINE OFFLOADING
LEVEE CROSSOVER PLAN AND ELEVATION**

DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

22 OF **26**



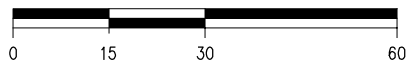
PLAN



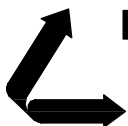
ELEVATION

MARINE HEAVY HAUL RAMP

SCALE: 1"=30'



9906-P23



LANIER & ASSOCIATES

CONSULTING ENGINEERS
INCORPORATED

NEW ORLEANS, LA · BEAUMONT, TX

ST. JAMES

YUHUANG CHEMICAL INC.

LOUISIANA

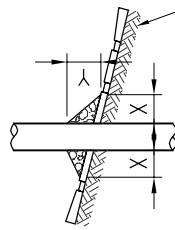
PROPOSED NEW MARINE FACILITY

MARINE HEAVY HAUL RAMP

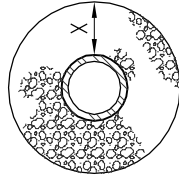
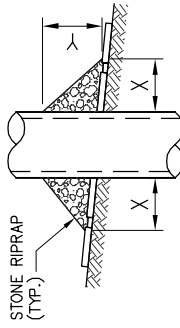
DATE 08/15
DESIGN CLO
DRAWN MEW
CHECK JEJ
CONTRACT 9906
SHEET No.

23 OF **26**

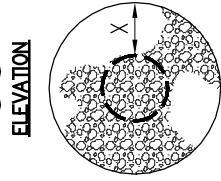
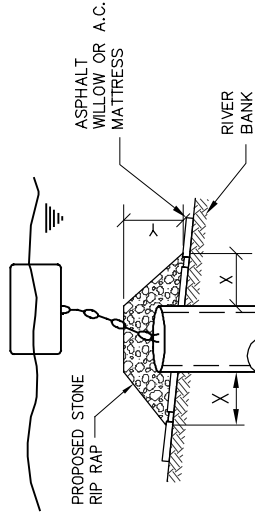
PILE



CAISSON

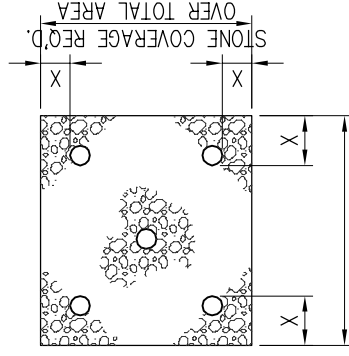
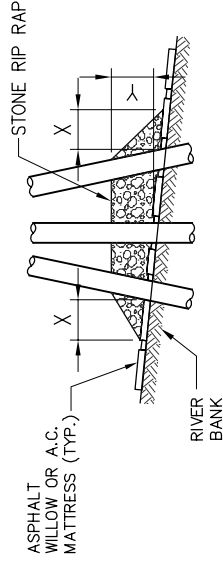


SPUD PILE WITH BUOY AND ANCHOR CHAIN



PLAN

PILE CLUSTER



STONE COVERAGE REQ'D.
OVER TOTAL AREA

NOTES:

1. SIZE OF RIPRAP TO VARY BETWEEN 6 POUNDS AND 25 POUNDS WITH 40% TO 60% OF THE STONE WITHIN THE RANGE OF 25 POUNDS TO 75 POUNDS.
2. WHEN PENETRATING UPPER BANK PAVING IN A REVETMENT AREA WITH PILES, CAISSONS AND/OR PILE CLUSTERS, A 10 INCH THICKNESS OF RIPRAP STONE SHALL BE PLACED OVER ALL AREAS WHERE BANK PAVING IS DISTURBED BY DRIVING OPERATIONS.
3. WHEN USING ANCHOR CHAIN AND BUOY SYSTEM ANCHOR CHAIN MUST BE ATTACHED AT TOP OF PILE TO MINIMIZE REVETMENT DAMAGE.

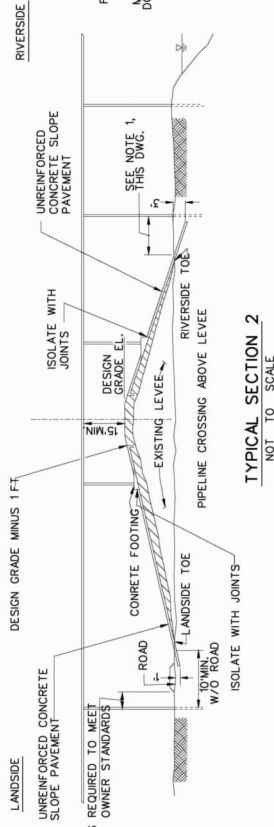
DEPTH OF WATER IN FEET AT POINT OF PENETRATION AT TIME OF STONE PLACEMENT	DIMENSIONS IN FEET FOR PROTECTION AREA REQUIRED							
	PILE	CAISSON	SPUD PILE W/ ANCHOR CHAIN & BUOY	PILE CLUSTER	PILE CLUSTER	PILE CLUSTER	PILE CLUSTER	PILE CLUSTER
1 TO 10	3	1 1/2	5	2	3	1	3	1
11 TO 40	5	2	8	3	7	3	6	2
41 TO 60	8	3	12	4	12	4	10	3

LANIER & ASSOCIATES
CONSULTING ENGINEERS, INC.
NEW ORLEANS, LOUISIANA
CORP. NO. 9906 CDE NO. 9906-P26 L & A, INC. NO. 74 OF 76

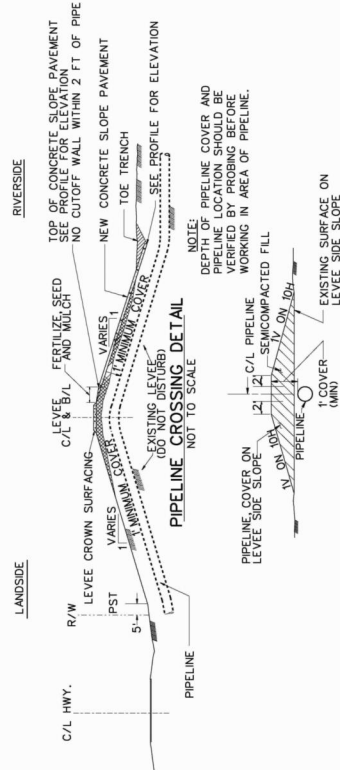
DEC. 1987 FILE NO. H-18-28350

REPAIR PROCEDURES REQUIRED
WHEN PENETRATING REVETMENTS
WITH PILES, CAISSONS AND/OR
PILE CLUSTERS

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



TYPICAL SECTION 2
NOT TO SCALE



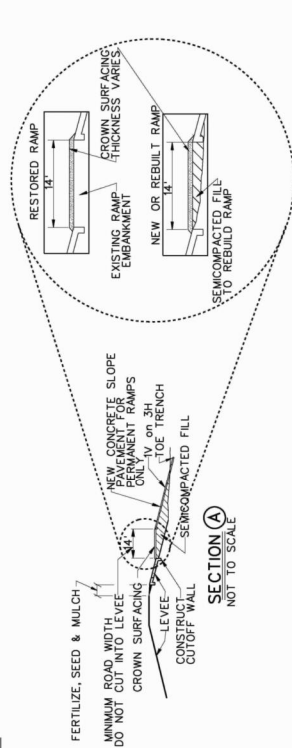
SECTION 1
NOT TO SCALE

EMBANKMENT REQUIREMENTS

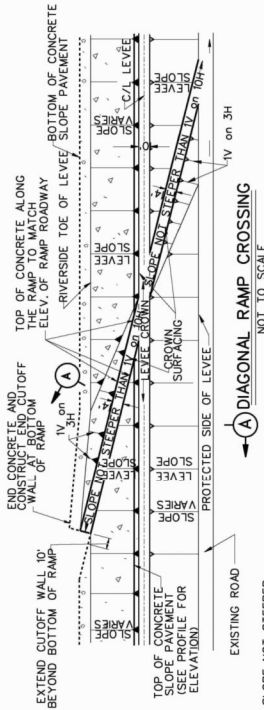
COMPACTED FILL: (CLEVE ACCESS ROADS AND FOOTINGS) THE FIRST TWO LAYERS OF COMPACTED FILL SHALL BE EACH 18 IN. THICK. THE FIRST OR BOTTOM LAYER AND THE LAST TWO LAYERS SHALL BE NOT MORE THAN 6 INCHES IN THICKNESS AND ALL LAYERS BETWEEN THE FIRST AND THE LAST TWO LAYERS NOT MORE THAN 12 INCHES IN THICKNESS PRIOR TO COMPACTON. THE FIRST AND EACH SUCCESSIVE LAYER OF COMPACTED FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698. THE SECOND AND THIRD LAYERS SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY. 3 PERCENT OF OPTIMUM MOISTURE CONTENTS OF PLUS 5 TO THE STANDARD PROCTOR DENSITY TEST ASTM D 698 SHALL BE DETERMINED FROM THE STANDARD PROCTOR TEST. ASTM D 698

UNCOMPACTED FILL: (BERMS AND BACKFILL)
THE MATERIAL FOR UNCOMPACTED FILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS NOT EXCEEDING 3 FEET IN THICKNESS. THE LAYERS SHALL BE UNIFORMLY SPREAD, DISTRIBUTED, AND OTHERWISE MANIPULATED DURING PLACEMENT TO SUCH AN EXTENT THAT INDIVIDUAL LOADS OF MATERIAL DEPOSITED ON THE FILL WILL NOT REMAIN INTACT AND LARGE, OPEN VOIDS IN THE FILL WILL BE ELIMINATED.

- NOTES:
1. MIN. DISTANCE (OD) AS OTHERWISE REQUIRED BETWEEN THE LEVEE TOE AND THE PIPELINE SUPPORT IS REQUIRED TO AVOID PENETRATION OF CONCRETE SLOPE PAVEMENT.
2. CONCRETE SLOPE PAVEMENT IS REQUIRED WHEN SPREAD FOOTINGS REST ON LEVEE SLOPE.
3. ABSOLUTE SLOPE PAVING WILL BE REQUIRED WHEN NECESSARY FOR EROSION CONTROL.
4. SMOOTH TRANSITIONS SHALL BE CONSTRUCTED BETWEEN THE LEVEE ENLARGEMENT AND THE EXISTING LEVEE.
5. ALL FRESH SILLS SHALL BE SOODED OR FERTILIZED AND SEEDED AND SHALL BE MAINTAINED UNTIL A HEALTHY GROWTH IS OBTAINED.
6. THE CROWN OF THE ENLARGED LEVEE AND THE LEVEE ACCESS RAMPS SHALL BE CONSTRUCTED TO THE TOP OF THE EXISTING LEVEE AND THE TOP OF THE EXISTING CROWN AND RAMPS AND 9" FOR NEW CONSTRUCTION (FOR THE FULL WIDTH (10.0M) AND LENGTH OF THE ENLARGED LEVEE OR RAMP. THE CRUSHED STONE SURFACING SHALL MEET THE REQUIREMENTS OF L380 SECTION 1003.04 (6), 2000 EDITION.
7. FILL MATERIAL USED IN CONSTRUCTION OF THE LEVEE ENLARGEMENT, RAMPS, PIPE COVER AND BACKFILL OF EXISTING SHALL BE IMPERVIOUS EARTH FILL.
8. A PIPELINE MARKER SHALL BE PLACED AND MAINTAINED AT EACH LEVEE TOE IN LINE WITH THE EXISTING LEVEE. THE MARKER SHALL BE OF THE FOLLOWING MINIMUM SIZE, NUMBER, LINE, COLOR AND ADDRESS FOR THE CONTACTING OWNER.



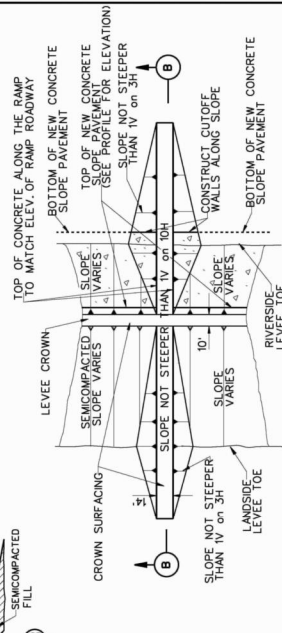
SECTION A
NOT TO SCALE



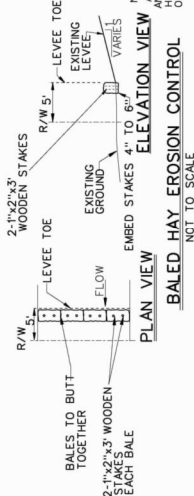
A DIAGONAL RAMP CROSSING
NOT TO SCALE



SECTION (B)
NOT TO SCALE



PERPENDICULAR RAMP CROSSING
NOT TO SCALE



BALED HAY EROSION CONTROL
NOT TO SCALE

NOTE:
AFTER REMOVAL OF HAYBALES, FERTILIZE, SEED
AND MULCH THE AREA OCCUPIED BY THE
HAYBALES AND AREAS DISTURBED AS A RESULT
OF REMOVING THE HAYBALES.

[illegible]

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS		CORPS OF ENGINEERS		NEW ORLEANS, LOUISIANA	
DESIGNED BY:	CHECKED BY:	SCALE:	PLOT DATE:	DESIGN FILE NAME:	2002700a.jpg
DRAWN BY: NINTO	2004	NOV 2005	NOV 2005	SUBMITTED BY:	WALTER D. BLAIR
LOCATION NO.		DWM29X		DESIGN NUMBER	

LEVEES AND FLOODWALLS
CROSSINGS
RIVER LEVEES
AND RED RIVER LEVEES

LANIER & ASSOCIATES
CONSULTING ENGINEERS, INC.
NEW ORLEANS, LOUISIANA

LANIER & ASSOCIATES
CONSULTING ENGINEERS, INC.
NEW ORLEANS, LOUISIANA

