



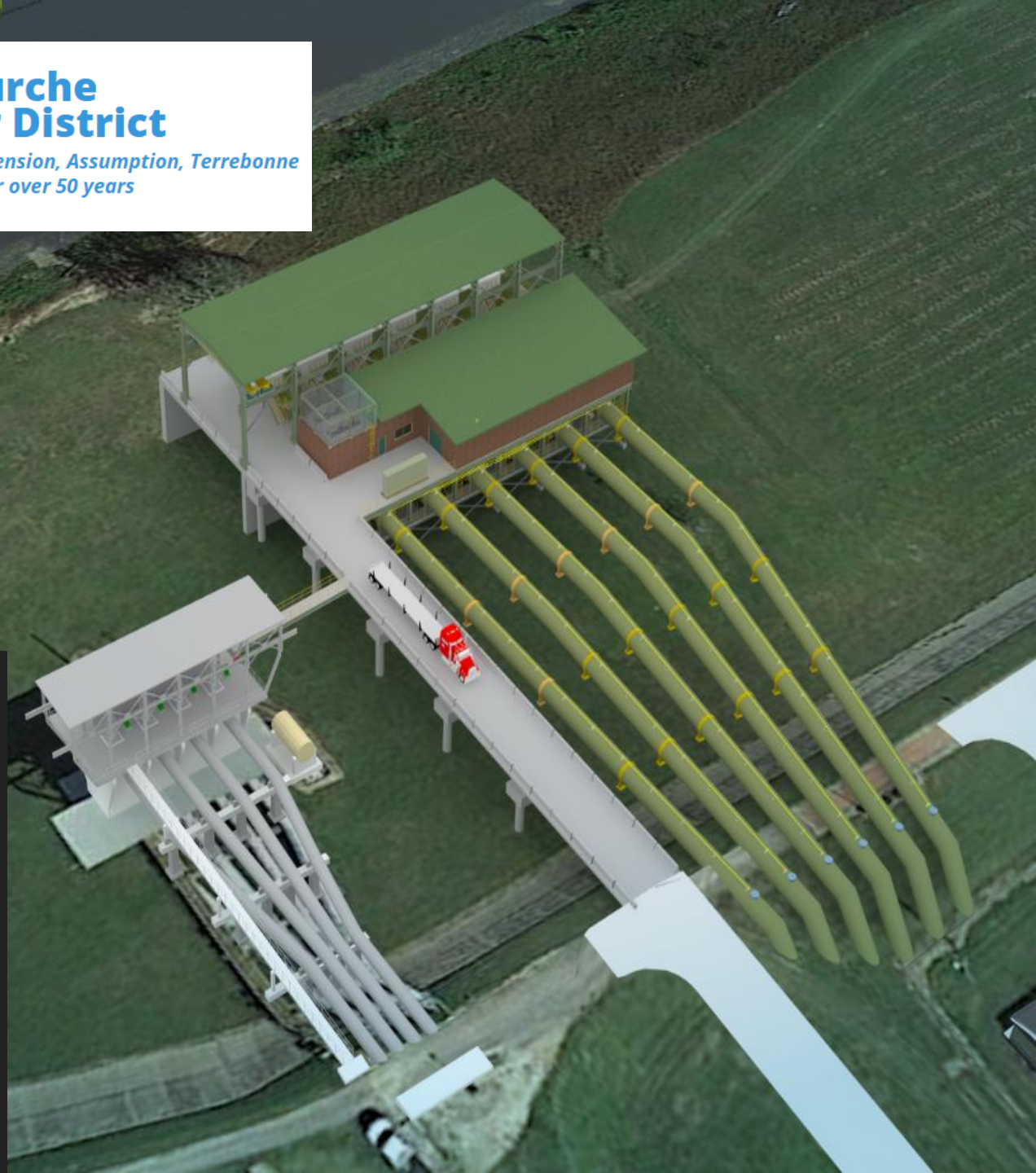
## Bayou Lafourche Fresh Water District

*Serving the citizens of Ascension, Assumption, Terrebonne  
and Lafourche parishes for over 50 years*



### Bayou Lafourche Fresh Water District

Mississippi River Water Re-  
Introduction Into Bayou  
Lafourche, Pumping  
Capacity Improvement  
Project





# Safety Moment



## Design Team:



Baird

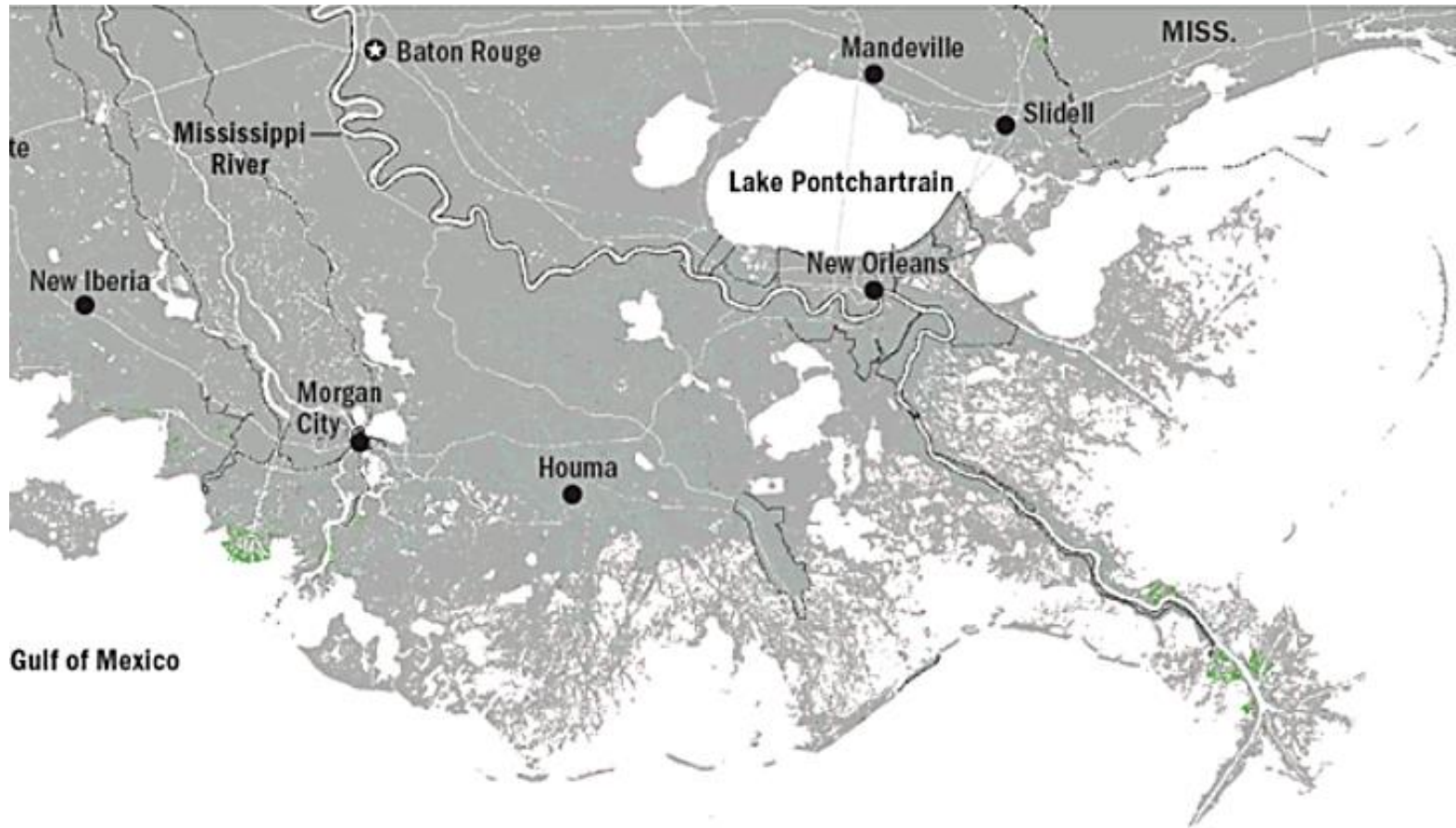


# Scope

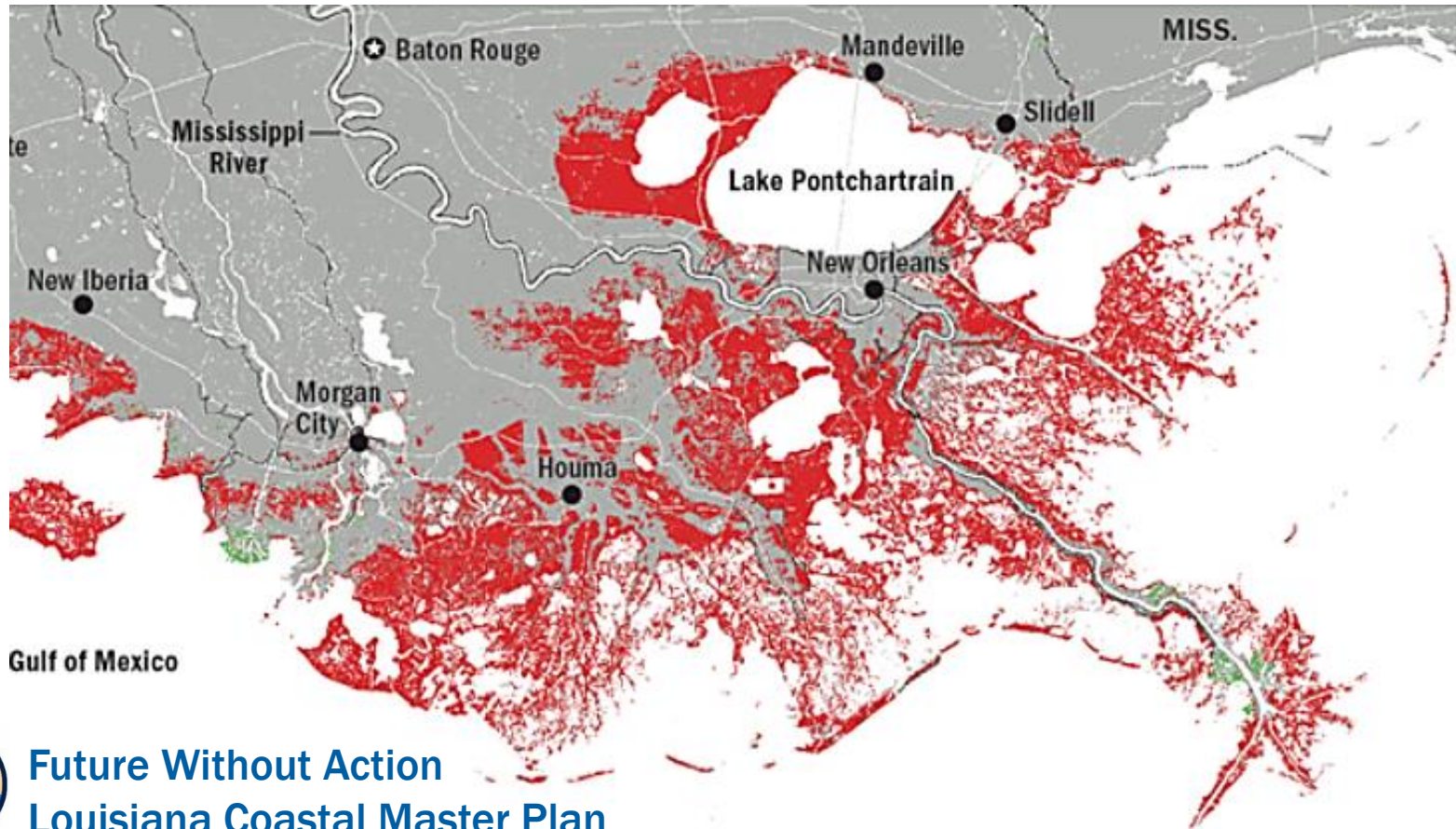
- To provide additional pumping capacity to increase the supply of fresh water into Bayou Lafourche to benefit coastal marshes and push back salt intrusion in the bayou's historical flow area and to secure the water supply need of the communities now and into the future along the Bayou Lafourche Corridor.



## Southeast Louisiana Today

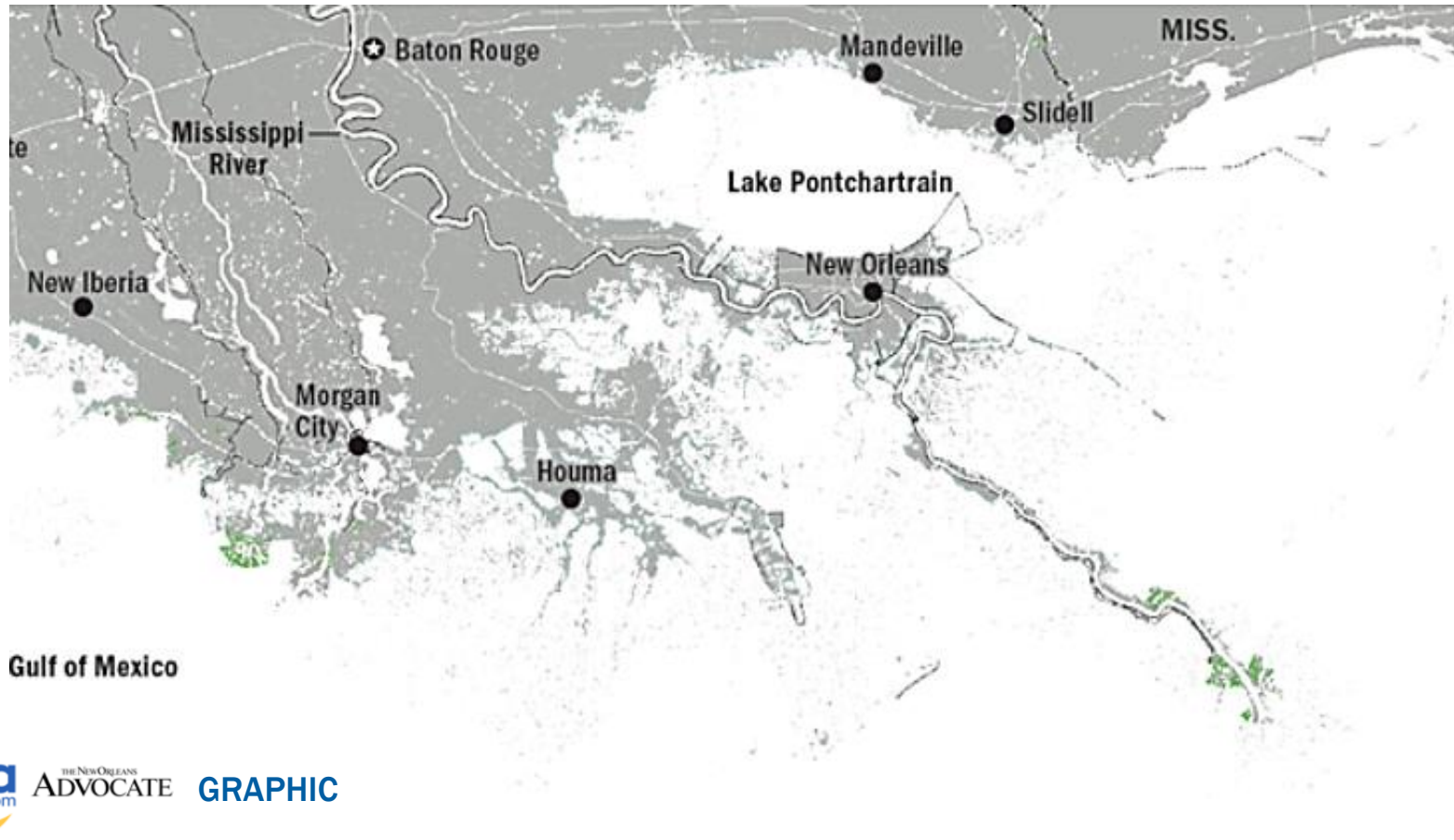


## Southeast Louisiana 2067 – RED: Land That Could Be Lost



Future Without Action  
Louisiana Coastal Master Plan

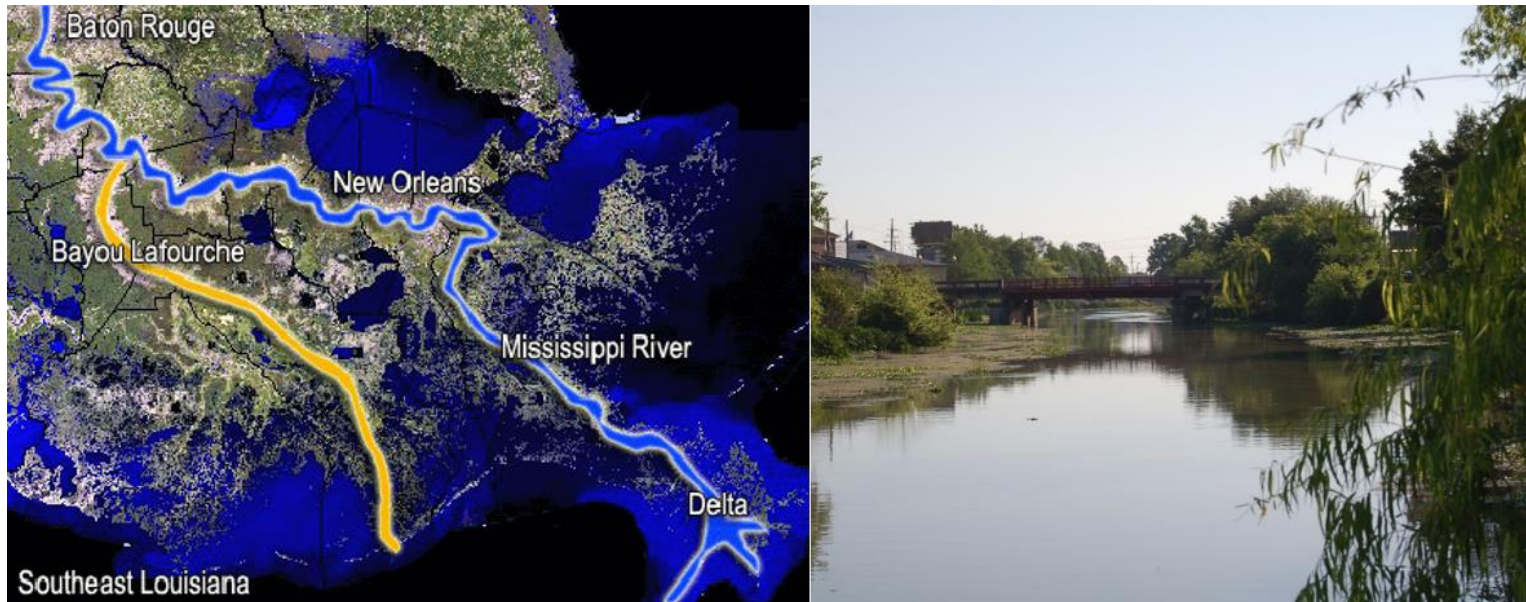
## Southeast Louisiana 2067 – Showing That Land Gone





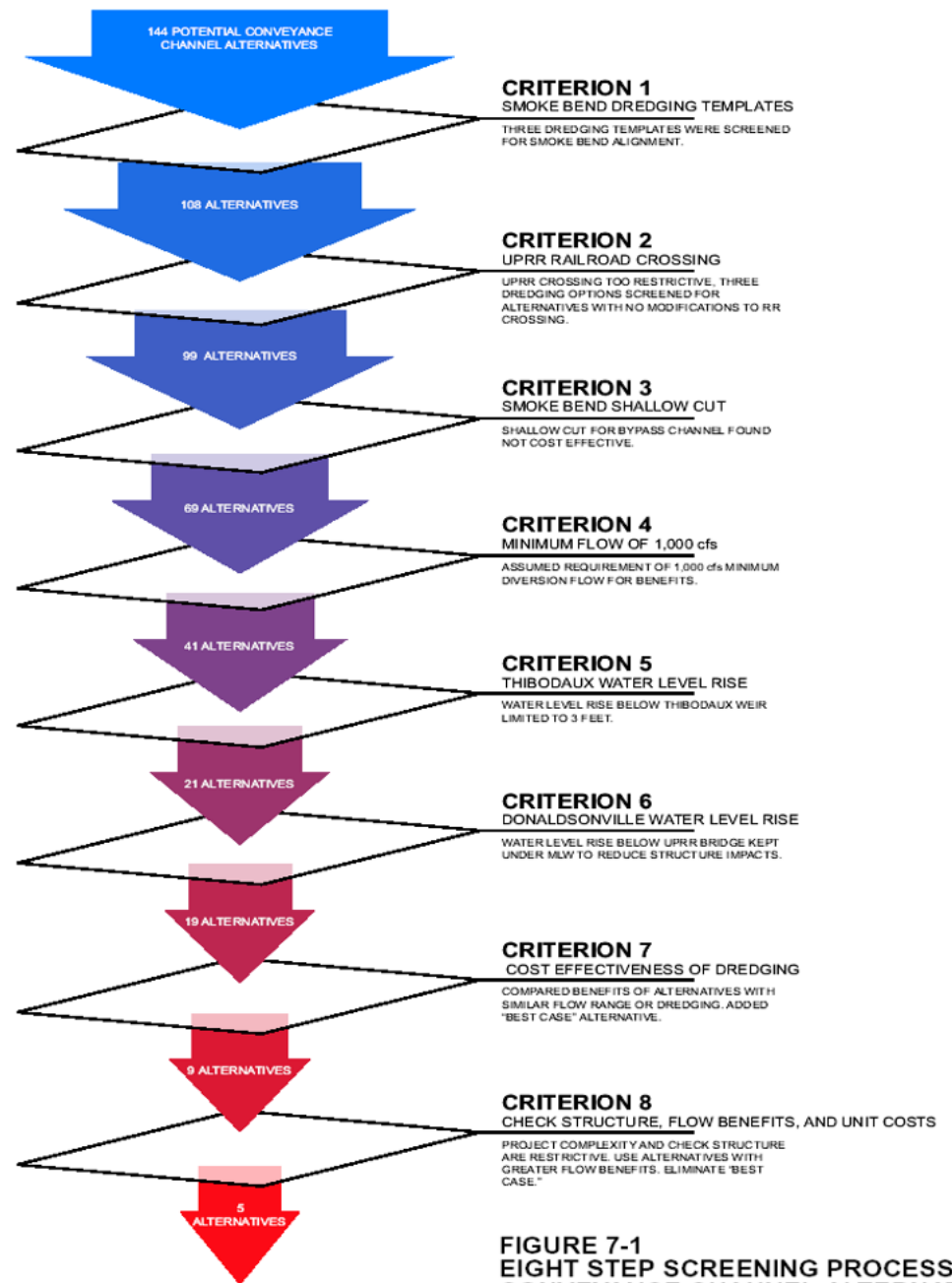
# Benefits

- Provides Fresh Water for purification Facilities for over 300,000 Residents in 4 Parishes (Ascension, Assumption, Lafourche, and Terrebonne)
- To provide source water for Port Fourchon which plays a critical role in supplying 20% of the United States oil supply
- Provides Fresh Water Enriching 120,000 Acres of Coastal Marsh in Lower Lafourche and Terrebonne.
- Provides Safe Recreational Opportunities for Local Residents





# Project Development and Screening Criterion



**FIGURE 7-1**  
**EIGHT STEP SCREENING PROCESS**  
**CONVEYANCE CHANNEL ALTERNATIVES**  
MISSISSIPPI RIVER WATER  
REINTRODUCTION INTO BAYOU LAFOURCHE  
10 PERCENT DESIGN REPORT

Final Phase 2 Design Report

## Mississippi River Water Reintroduction Into Bayou Lafourche



Prepared for



March 2006

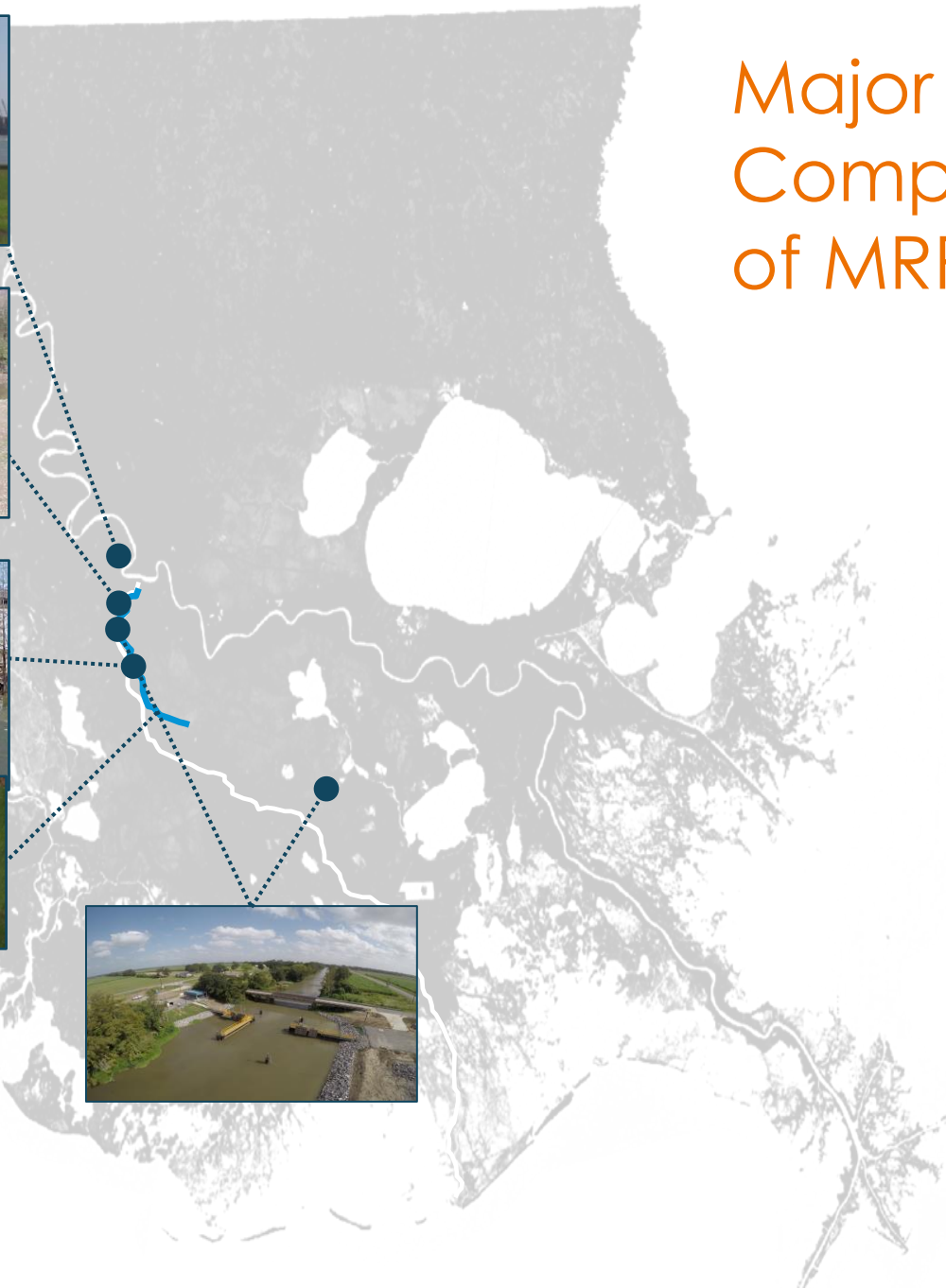
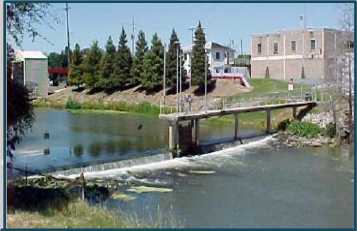
Prepared by



**CH2MHILL**

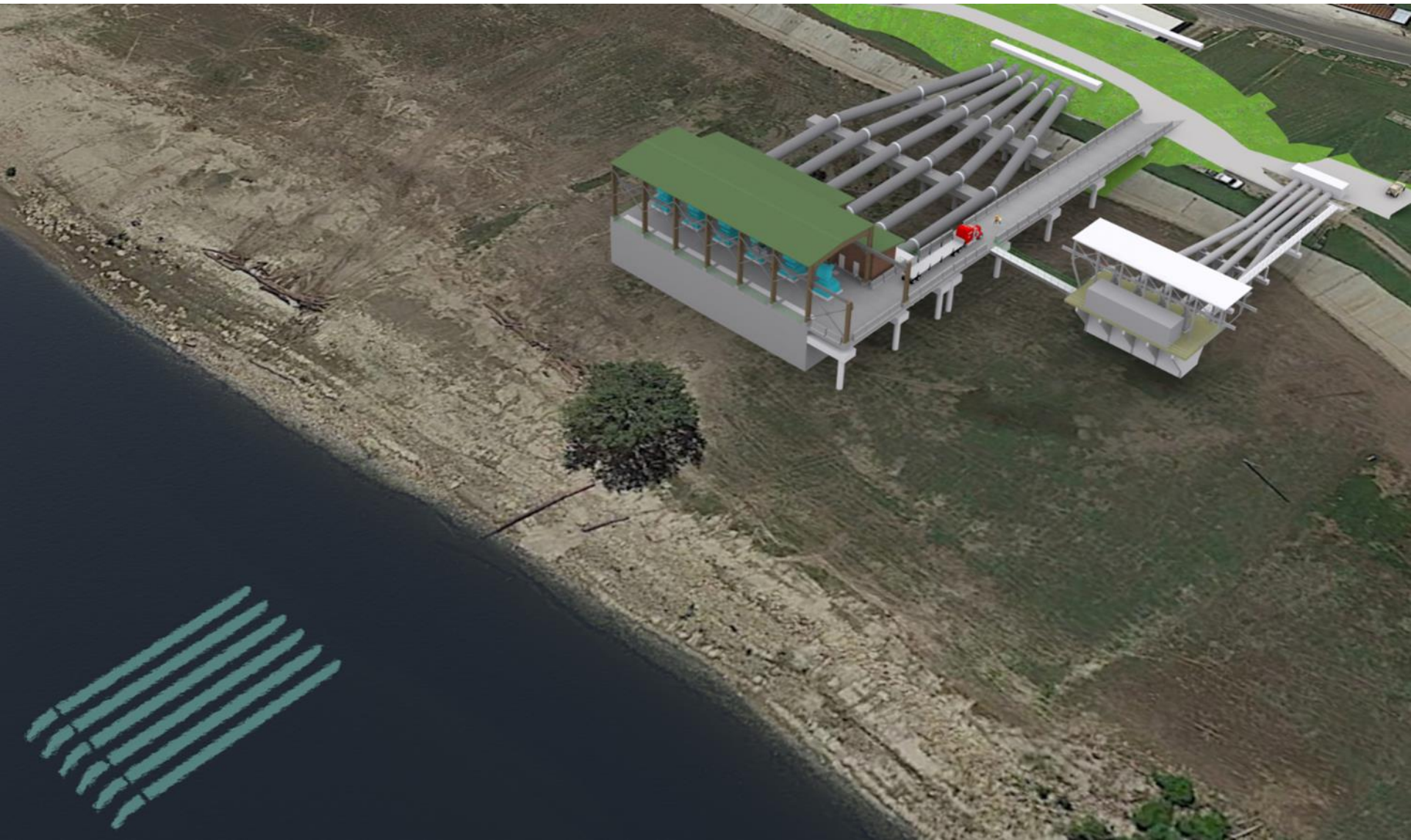
In association with:  
T. Baker Smith, Inc.  
FTN Associates, Ltd.  
Eustis Engineering Company, Inc.  
Jaymac Consultants  
C-K Associates, Inc.

# Major Components of MRRBL





# Pump Capacity Improvements Project





# Location: Donaldsonville, Louisiana



# Design Challenges

- River Elevation Differential (Peak vs. Low Flow)
- Station Hydraulics
- Temporary Restraining Structure on Batture
- Levee Stability
- Construction Sequencing
- Sedimentation from River
- Discharge Flows in Bayou Lafourche
- Access



# Early Pump Station Concept







## Project Features

- 24/7/365 Operation
- 1,000 CFS Capacity, with Future Expansion to 1,500 CFS
- Four (4), 250 CFS Pumps, with the Option to Add Two (2) Additional Pumps.
- Six (6) 84" Intake Pipes with Trash Screens
- Six (6) 72" Discharge Pipes





## Additional Features

- 60 Ton Overhead Bridge Crane
- Enclosed Electrical and SCADA Room
- Remote Operation
- Safe Room
- Standby Generators
- Improvements to Bayou Lafourche



# Project Limits/Disturbed Areas




PROJECT VICINITY

DONALDSONVILLE

SCALE IN FEET

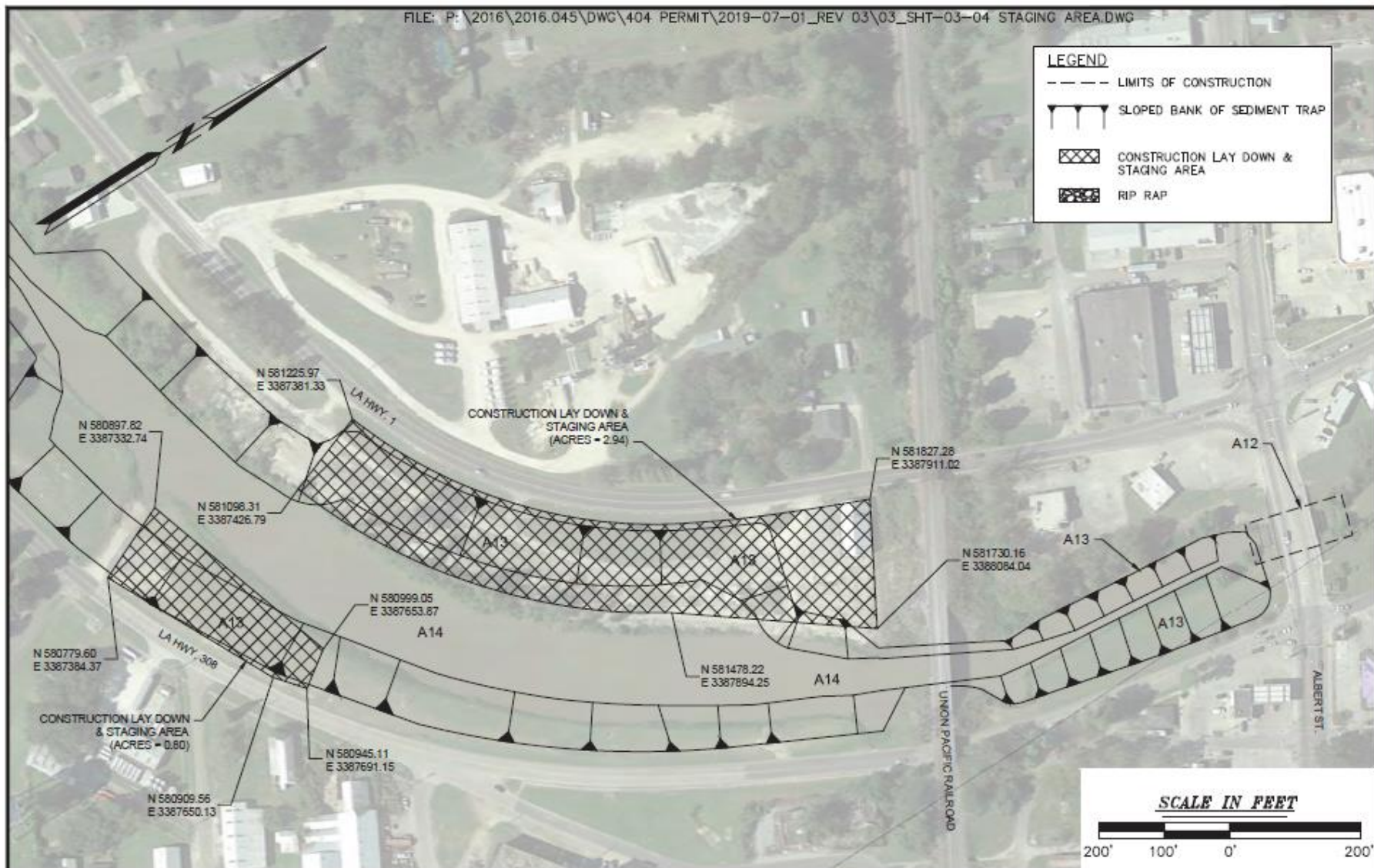


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VICINITY MAP			 <b>DELTA COAST CONSULTANTS, LLC</b> 4924 HWY 311 - HOUMA, LA 70360 PHONE: 985-655-3100      www.deltacoastllc.com	SCALE NOTED
NO.	REVISION	DATE		DATE
1	REVISED PER COMMENTS	1/30/19	MISSISSIPPI RIVER WATER RE-INTRODUCTION INTO BAYOU LAFOURCHE, PUMPING CAPACITY IMPROVEMENT PROJECT APPLICANT: BAYOU LAFOURCHE FRESH WATER DISTRICT	08/01/2018
2	REVISED PER COMMENTS	6/3/19		PROJECT
3	ADDED SEGMENT PIPELINE DRAWINGS	7/1/19		2016.045
			DESIGNED BY DRAWN BY A.E.J. CHECKED BY	SHEET NO.
				1 OF 75
DONALDSONVILLE, LOUISIANA			ASCENSION PARISH	







NO.	REVISION	DATE	STAGING AREA			SCALE SHOWN	
1	REVISED PER COMMENTS	2/6/19	MISSISSIPPI RIVER WATER RE-INTRODUCTION INTO BAYOU LAFOURCHE, PUMPING CAPACITY IMPROVEMENT PROJECT APPLICANT: BAYOU LAFOURCHE FRESH WATER DISTRICT			DATE	08/01/2018
2	REVISED PER COMMENTS	6/3/19				PROJECT	2016.045
3	ADDED SEDIMENT PIPELINE DRAWINGS	7/1/19				SHEET NO.	4 OF 75
			DONALDSONVILLE, LOUISIANA	ASCENSION PARISH	PHONE: 985-655-3100	DESIGNED BY	DRAWN BY
					www.deltacoastllc.com		EMV
						CHECKED BY	



**DELTA COAST**  
CONSULTANTS, LLC

4924 HWY 311 - HOUMA, LA 70360

PHONE: 985-655-3100

www.deltacoastllc.com

DESIGNED BY

DRAWN BY

CHECKED BY

SCALE  
SHOWN

DATE

08/01/2018

PROJECT

2016.045

SHEET NO.

4 OF 75



## Excavation/Fill Quantities

Area	Location	Area (ft2)	Excavation(CY)	Backfill (CY)	Structures/ Nature of Work	Impacts (Acres)
A1	Miss. River Intake Pipes-Reach 2	7,456	0	revetment repaired according to USACE drawing file # H-18-45204 with 3' thick 18" riprap	6 - 84" steel intake pipes(53 lft). 12 steel pipe supports -24" diameter to Elev -70'	0.17 acres Other Waters Impacts - Temporary/Will be Restored to Pre-existing Conditions
A2	Miss. River Batture Intake Pipes-Reach 2	13,770	6,000	Filter stone 567, #57 stone 4,316, 3' thick 18" riprap 1,530	6 - 84" steel intake pipes buried underground(145 lft). 160 LNFT temporary sheetpile cofferdam at contractor's option. 12 steel pipe supports -24" diameter to Elev -70'	0.31 acres Other Waters Impacts - Temporary/Will be Restored to Pre-existing Conditions
A3	Miss. River Batture Intake Pipes-Reach 1	15,588	17,000	Bentonite, Sand, Aquablock 13,500; Clay 6,800; Aggregate 3,101	6-84" intake pipes(145 lft) with 500 lft sheetpile cofferdam/retaining wall driven to elev -40' and H-pile to -75' to be cut off 5 foot below grade.	0.36 acres Wetlands Impacts Temporary/Will be Restored to Pre-existing Conditions
A4	Miss. River Batture Pump Station-wet well	10,108	26,800	Aggregate 240; Concrete 12,550	59.5'x145' concrete pump station wet well to elev -24' with 120 - 24" diameter vertical piles to elev -94.25	0.23 acres Wetlands Impacts - Permanent
A5	Pump Station Auxiliary Structure	5,750	0	0	21 concrete piles -24" diameter to elev -9 with 41'x82' structure sitting on top of piles	0.13 acres Wetlands Impacts - Permanent

### EXCAVATION SUMMARY TABLE

MISSISSIPPI RIVER WATER RE-INTRODUCTION INTO BAYOU LAFOURCHE, PUMPING CAPACITY IMPROVEMENT PROJECT  
APPLICANT: BAYOU LAFOURCHE FRESH WATER DISTRICT

DONALDSONVILLE, LOUISIANA

ASCENSION PARISH



**DELTA COAST**  
CONSULTANTS, LLC

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DATE  
08/01/2018


PROJECT  
2016.045

SHEET NO.  
5 OF 75

Area	Location	Area (ft2)	Excavation(CY)	Backfill (CY)	Structures/ Nature of Work	Impacts (Acres)
A6	Vehicle Bridge	4,775	0	0	215'Lx22'W elevated bridge with 15 supports-36" steel pipe piles with concrete piers, columns, and caps	0.11 acres Wetlands Impacts Temporary/Will be Restored to Pre-existing Conditions
A7	Pipe Bridge in wetlands	13,035	0	0	Elevated discharge pipes(100 lft) supported by 18 total piles with concrete caps- 36" steel pipe piles.	0.30 acres Wetlands Impacts Temporary/Will be Restored to Pre-existing Conditions
A8	Discharge Pipes not in wetlands-over levee and protected side	45,885	47,600	aggregate 2,408, sand 12,908, asphalt 45	6- 72" discharge pipes buried underground-790 lft, elevated pipe bridge over levee -170 lft	No impacts
A9	Outfall Structure	15,584	4,300	Aggregate/Riprap 1,600; Concrete 1,050	57'x57' concrete structure to slow water velocity coming out of discharge pipes into Bayou Lafourche	0.05 Acres Wetlands Impacts -Permanent
A10	Construction Access in Miss. River Batture	61,420	0	0	Crane access to construct pump station	1.41 Acres wetland impacts Temporary/Will be Restored to Pre-existing Conditions
A11	Intake pipes-Riprap	44,431	0	18" riprap 5000	install riprap on top of existing revetment	1.02 acres other water impacts Temporary/Will be Restored to Pre-existing Conditions

NO.	REVISION	DATE	EXCAVATION SUMMARY TABLE		<div><div><b>DELTA COAST</b> CONSULTANTS, LLC</div><div>4924 HWY 311 - HOUMA, LA 70360</div><div>PHONE: 985-655-3100      <a href="http://www.deltacoastllc.com">www.deltacoastllc.com</a></div></div>			SCALE SHOWN
1	REVISED PER COMMENTS	2/6/19	MISSISSIPPI RIVER WATER RE-INTRODUCTION INTO BAYOU LAFOURCHE, PUMPING CAPACITY IMPROVEMENT PROJECT APPLICANT: BAYOU LAFOURCHE FRESH WATER DISTRICT					DATE
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3	ADDED SEDIMENT PIPELINE DRAWINGS	7/1/19						PROJECT
								2016.045
			DONALDSONVILLE, LOUISIANA		DESIGNED BY	DRAWN BY	CHECKED BY	SHEET NO.
			ASCENSION PARISH			TAA		6 OF 75

Area	Location	Area (ft2)	Excavation(CY)	Backfill (CY)	Structures/ Nature of Work	Impacts (Acres)
A12	Marchand Bridge Sheet Piles	110	3623	Select Soil 150	Dredging of sheet pile and bridge area. 123 Inft of Sheet piles installed at Marchand Bridge to prevent erosion - HZ/AZ Combination Piles driven to tip elevation of -58	0.15 Acres Wetland Impacts-Permanent
A13	Sedimentation Basin Above +4	611,014	112,882	N/A	Mechanical Dredging	0.49 Acres Wetlands Impacts-Permanent
A14	Sedimentation Basin Below +4	611,014	310,451	N/A	Hydraulic Dredging	5.41 acres Other Waters Impacts
A15	Heavy Equipment Access Road for Construction	21,700	0	0	access for excavators, dozers, cranes, etc	0.5 acres wetland impacts Temporary/Will be Restored to Pre-existing Conditions

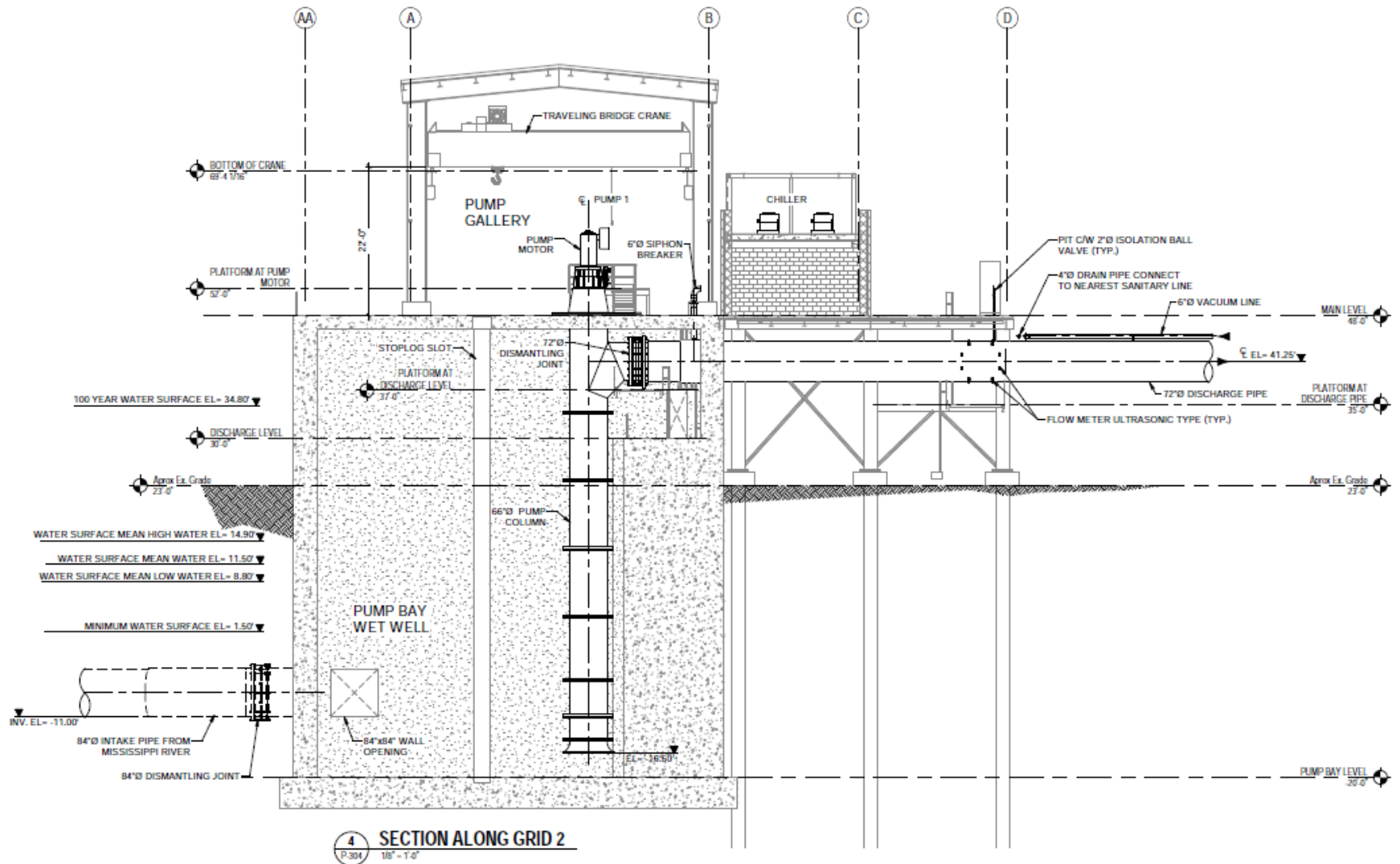
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												2016.045
			DONALDSONVILLE, LOUISIANA			ASCENSION PARISH			SHEET NO. 7 OF 75			



# Bayou Lafourche Fresh Water Pump Station

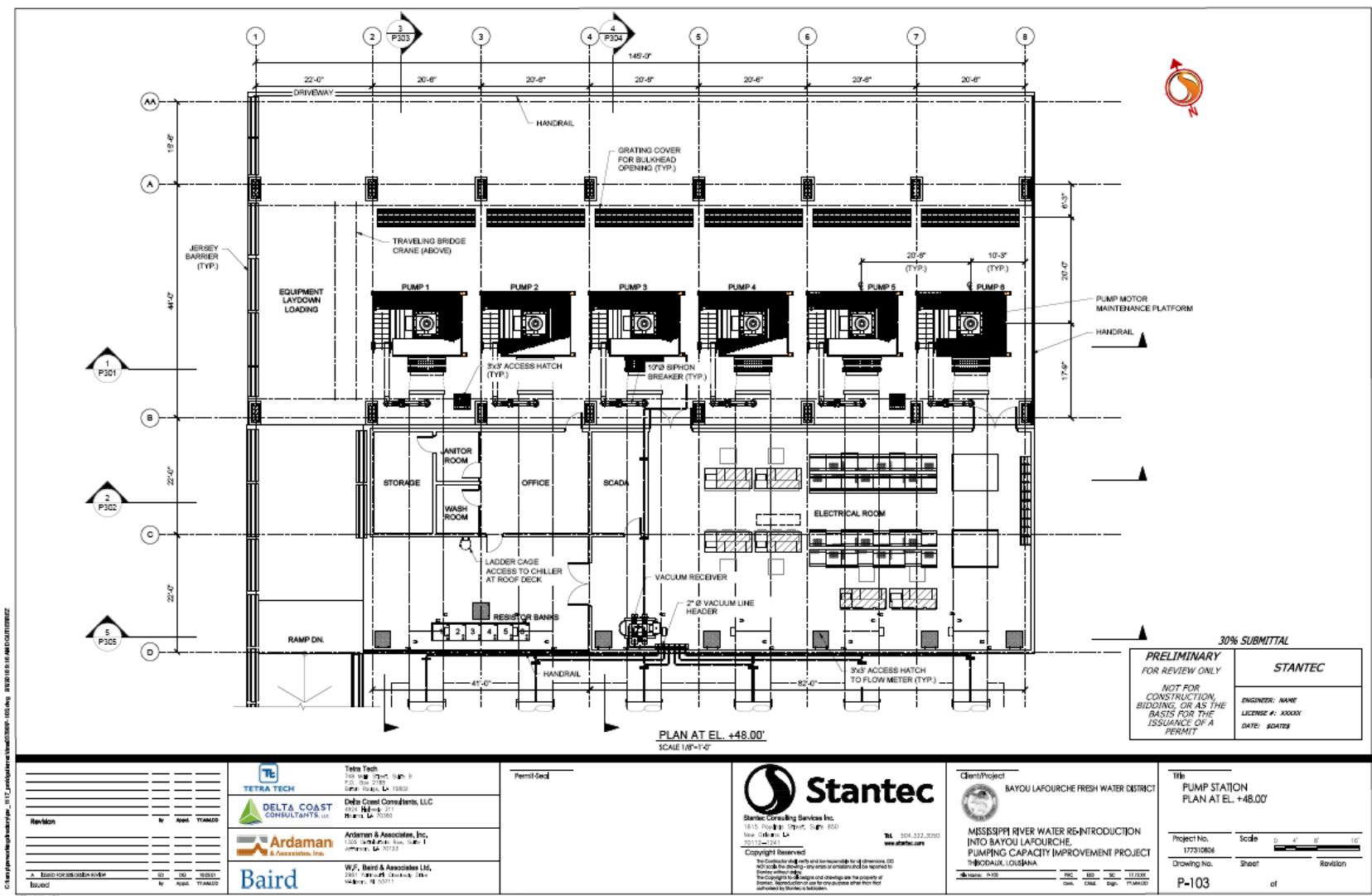


# Pump Station: Section

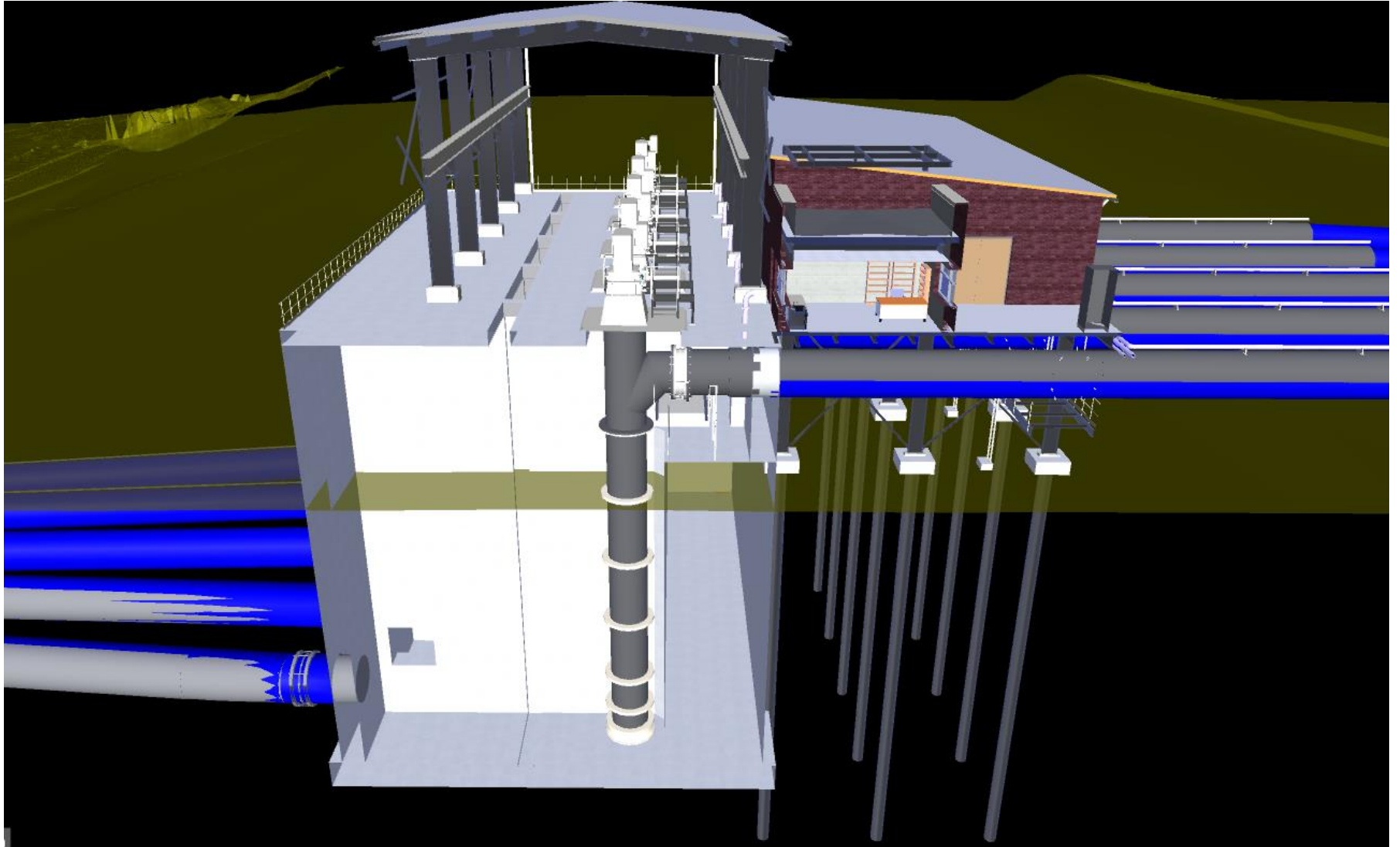




# Pump Station: Floor Plan



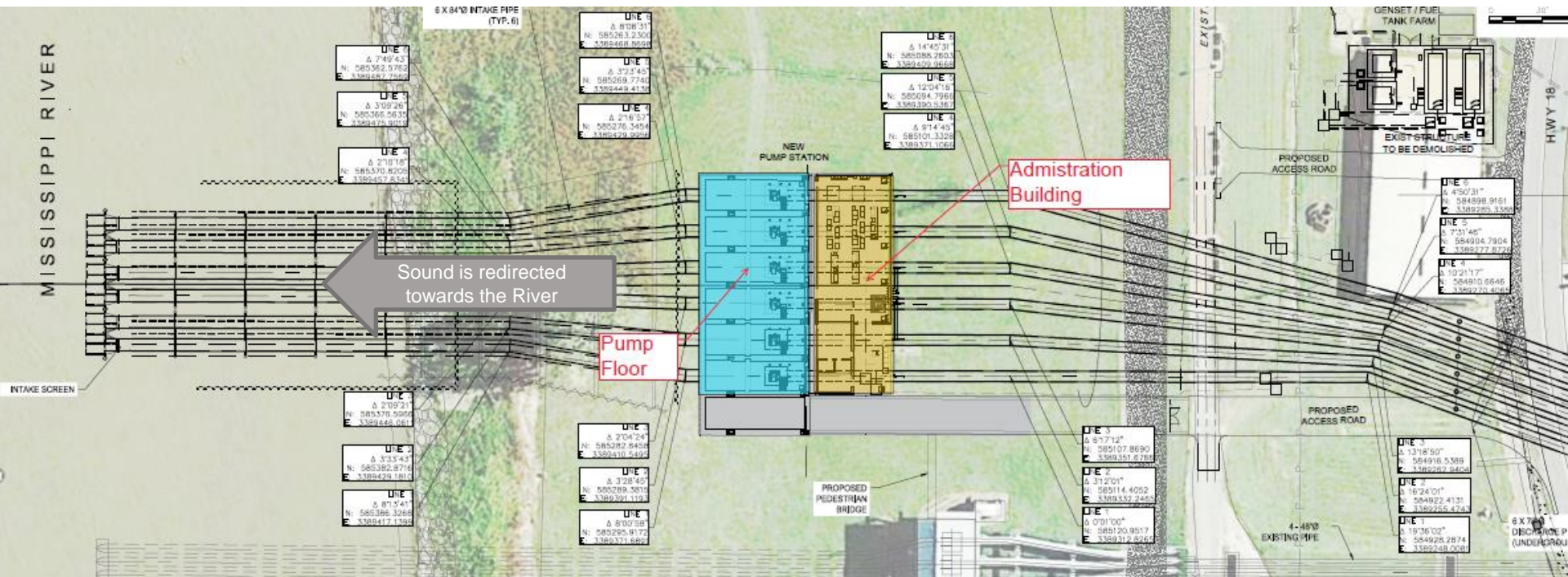
# Pump Station: BIM





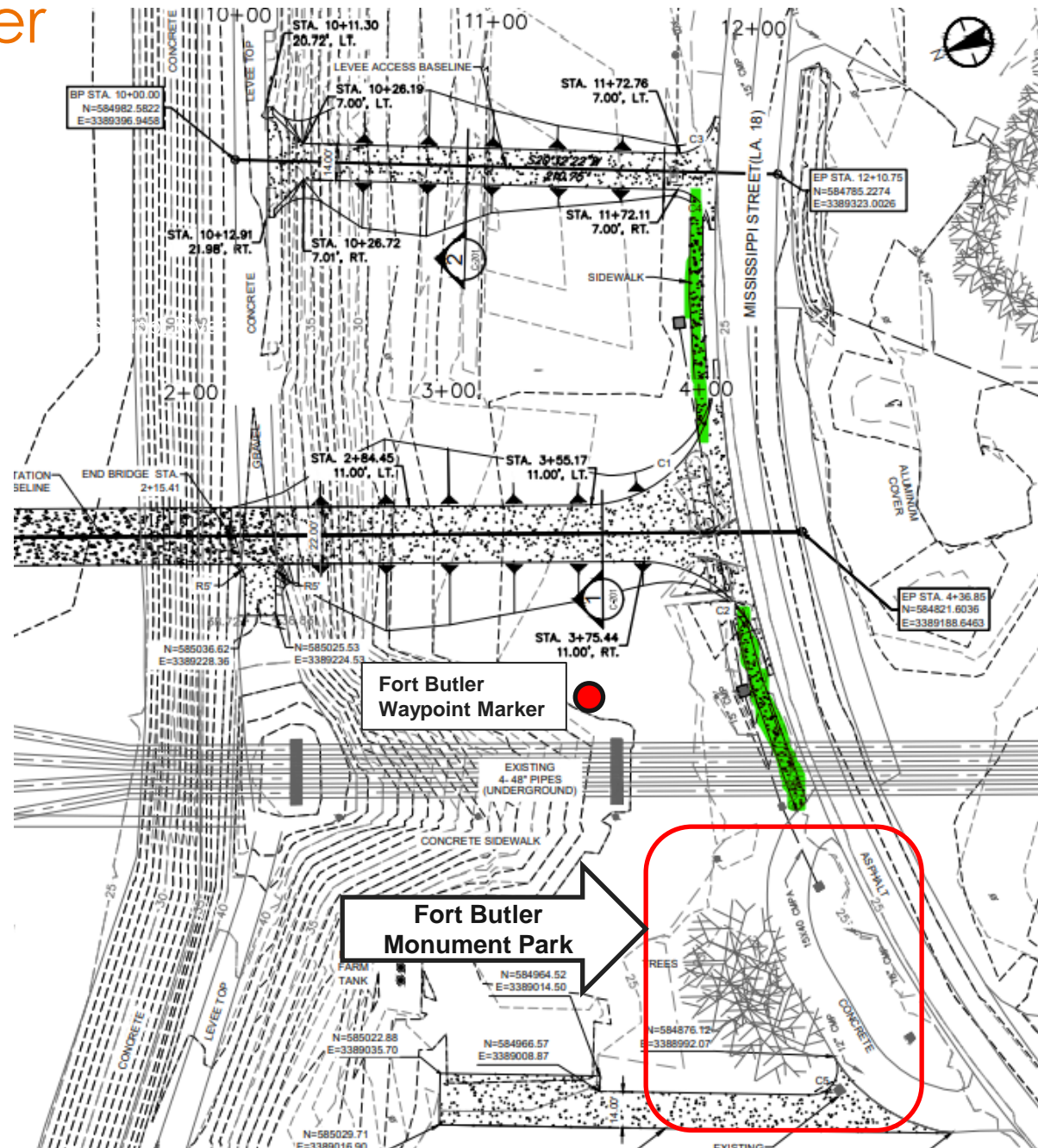
# Noise Pollution Concerns

- 800 HP, 400 rpm, 4160 Vac motor noise level is about 79 dB, 3 feet from motor.
- With all four pumps running, the noise level on the pump floor would be about 95 dB.
- Noise level 40 feet from the pump station would be about 75 dB.
- Noise level 80 feet from the pump station would be about 65 dB.  
(Equivalent to a passenger car)



# Access to Fort Butler Monument Park

- Paved Sidewalks will connect access ramp to on the east side of the sidewalk to the concrete drive on the west that passes next to the Fort Butler monument.
- Existing wayfinder marker to not be affected but can be relocated to Fort Butler Monument Park at the request of the Historical Society





Questions?