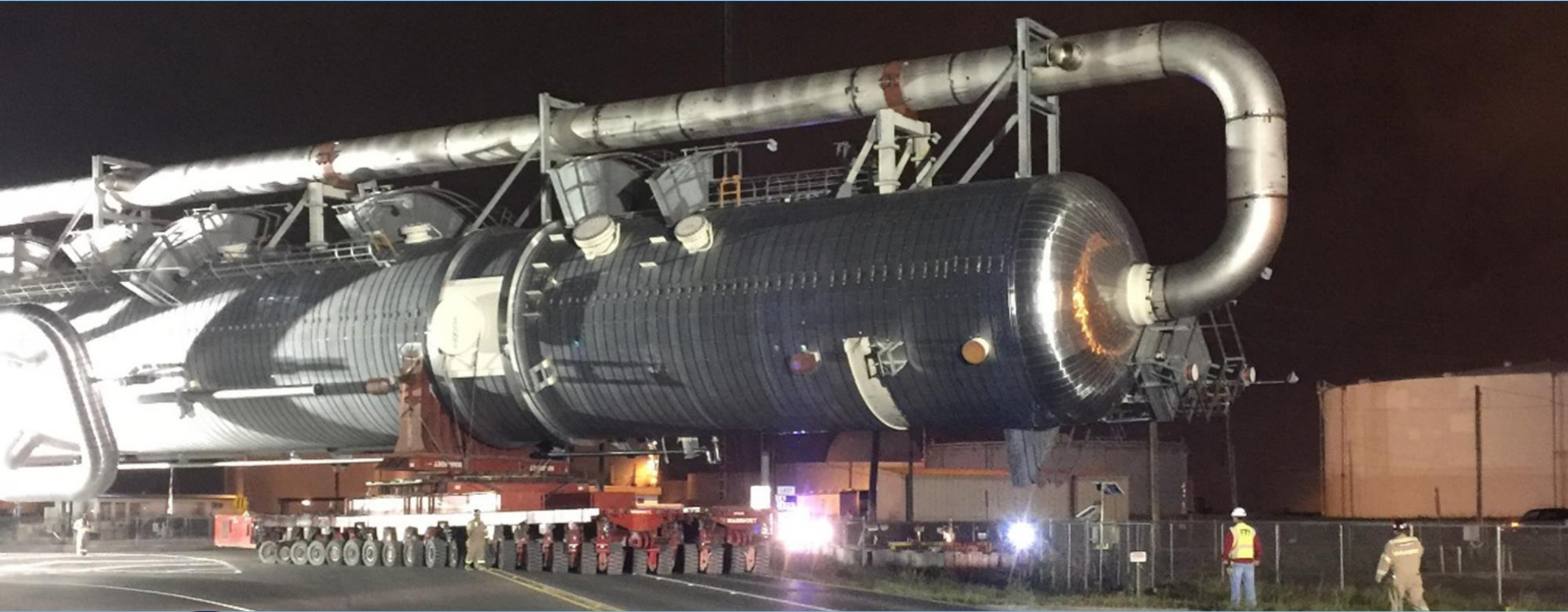


SASOL HEAVY HAUL ROAD PROJECT



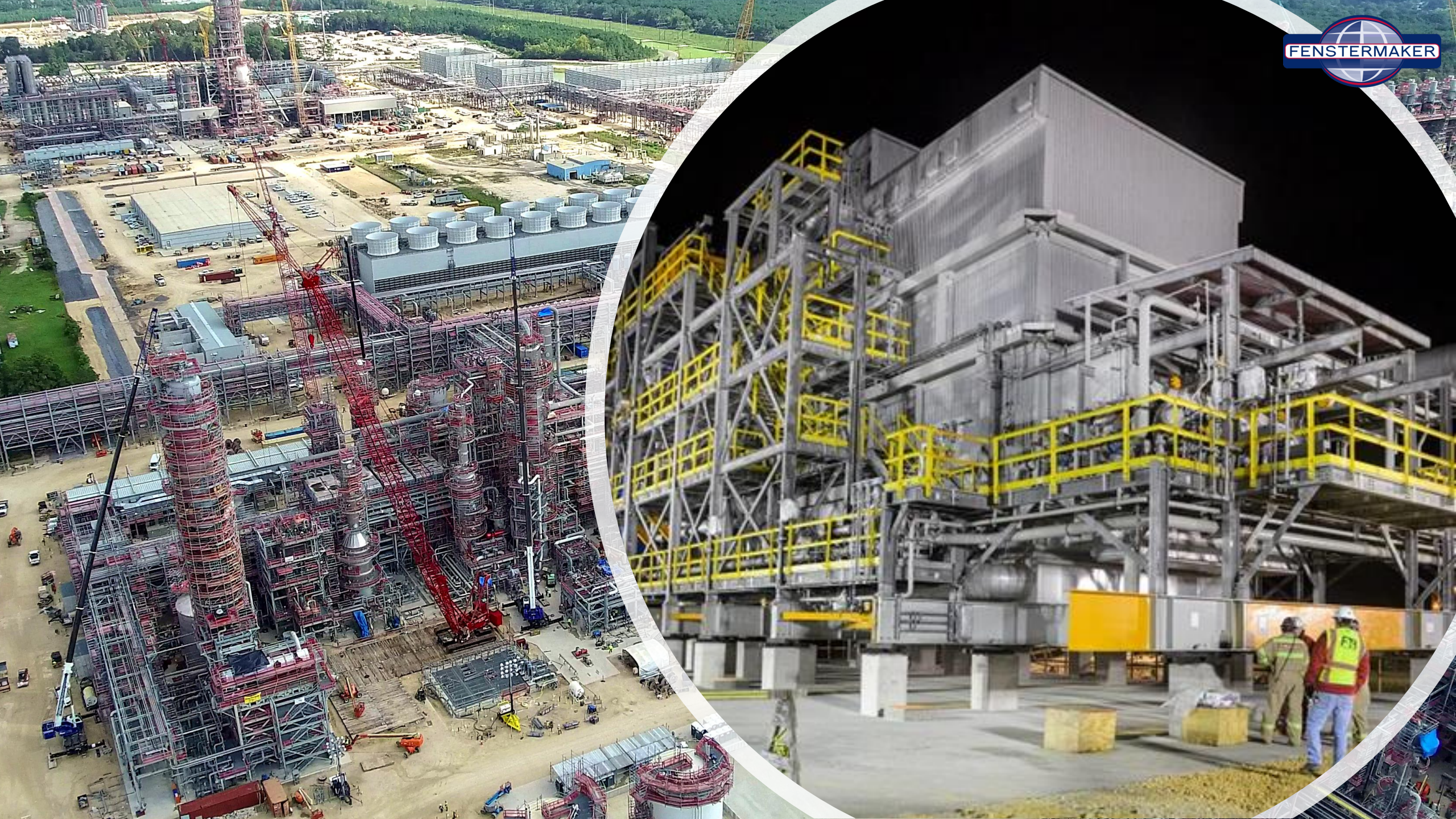
Experience · Innovation ·

FUNCTIONALITY BY DESIGN

"Today is a great day for Westlake, Calcasieu Parish and our entire state. Today's announcement is not only one of the most exciting announcements in the history of Southwest Louisiana, but one of the most significant economic development wins our state – and our nation – has ever recorded. Sasol is one of many energy companies that is expanding in Louisiana because of our world class energy infrastructure, strong business climate, and incomparable workforce.

"Never before in our nation's history has there been a greater call for energy independence, but that independence will only result from a meaningful application of innovative and practical solutions for new sources of energy. This project is a giant step forward to help our country become more energy independent and less reliant on foreign sources of energy."

Louisiana Governor Bobby Jindal - 2012



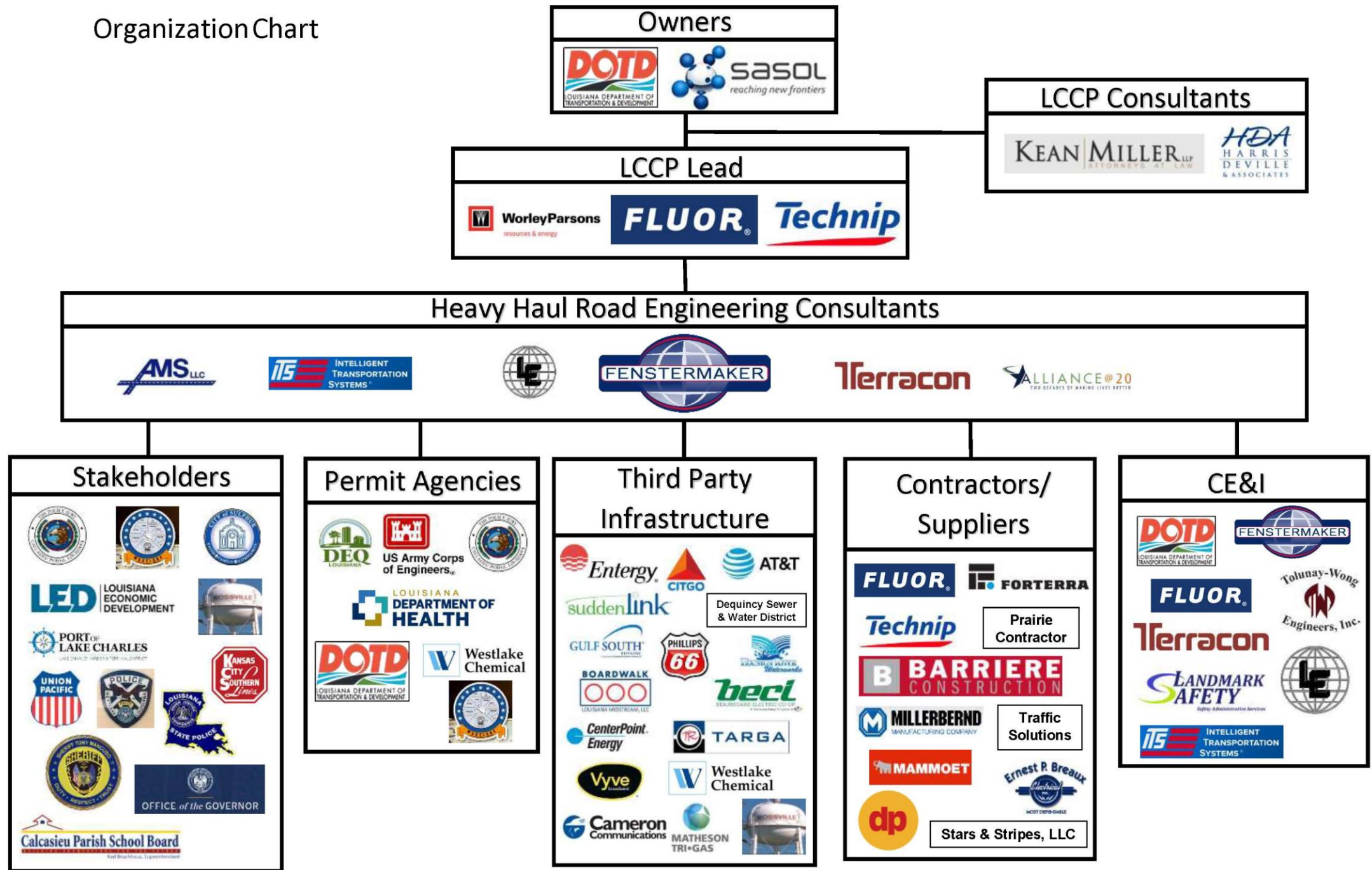
HEAVY HAUL ROUTE



THE LAYOUT



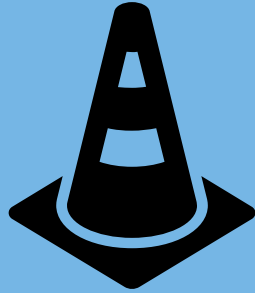
Organization Chart



PERMITS

1

Maintenance
Permit



4 Project Permits

7 Traffic Signal
Permits



10 Utility
Permits

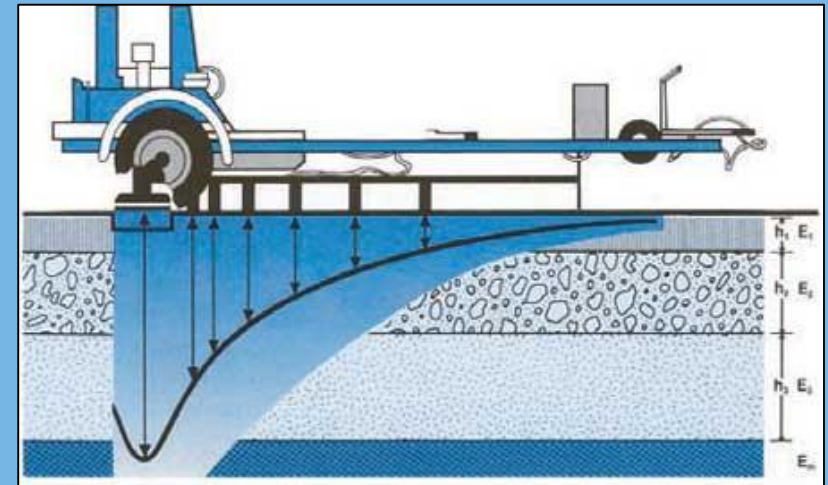


13 Access
Connection Permits

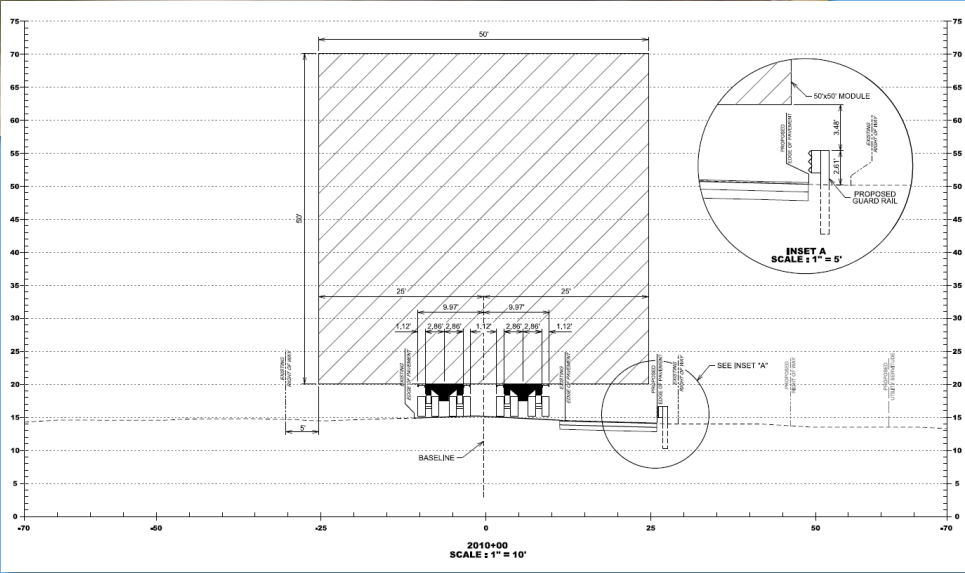
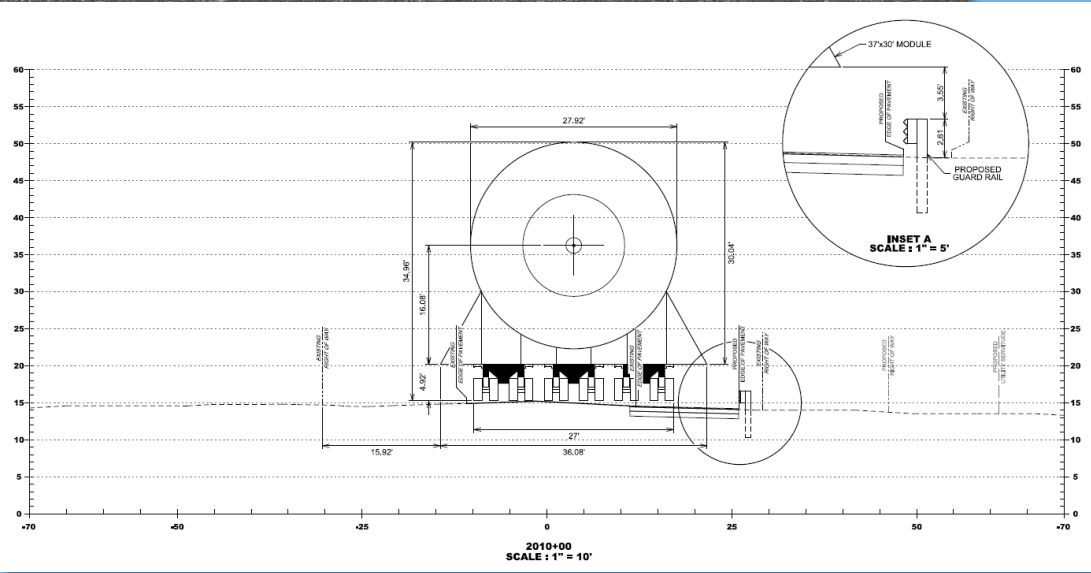


FWD PAVEMENT ANALYSIS

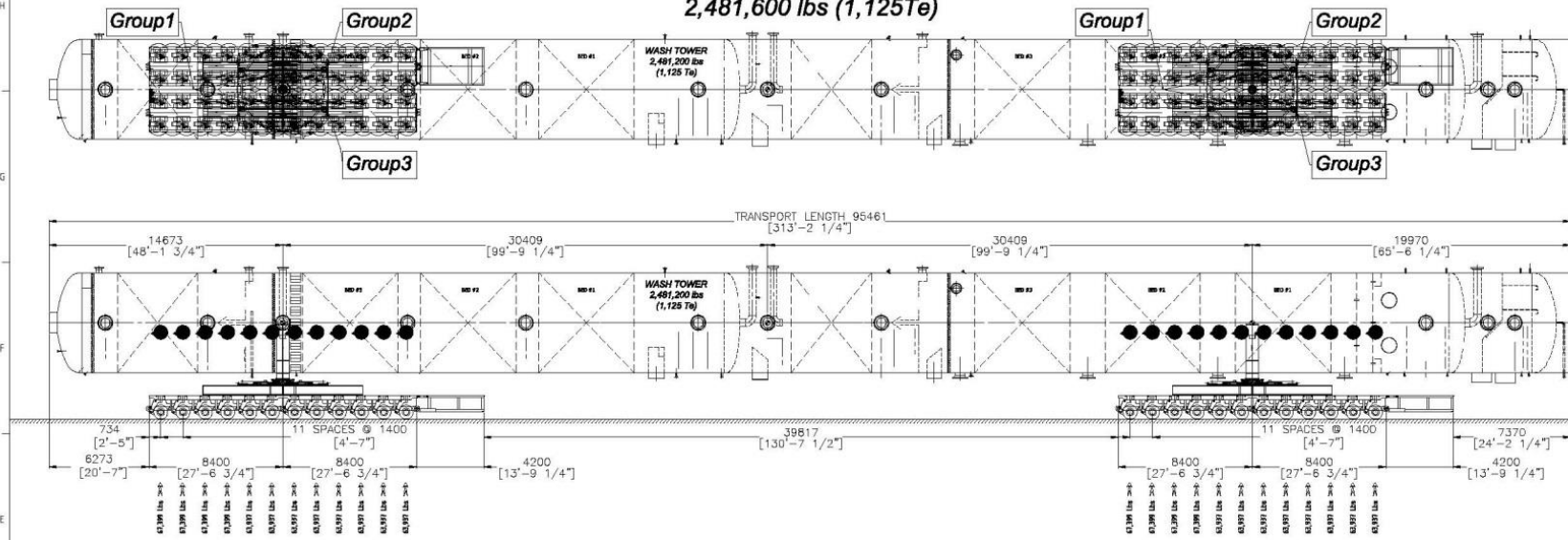
- Falling Weight Deflectometer
- Evaluates the physical properties of the pavement
- Estimates pavement structural capacity



MODULE DESIGN SPECIFICATIONS



WASH TOWER 2,481,600 lbs (1,125Te)

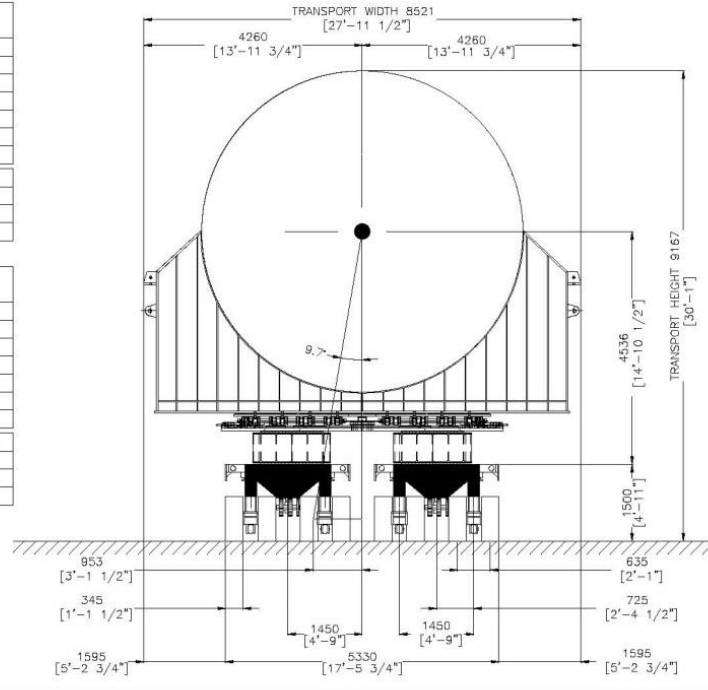
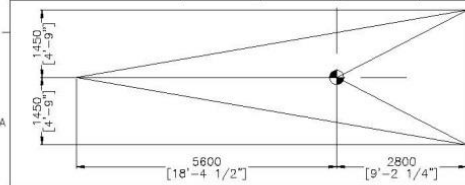


METRIC TABLE

Scheuerle SPMT2004 24 Lines	Group1	Group2	Group3	Total	
Amount Axle/Lines	8	8	8	24	nos.
Mass Item	202.0	202.0	202.0	605.9	ton
Mass Trailer	42.6	33.4	28.7	102.7	ton
TOTAL	244.6	235.4	228.7	708.6	ton
Load per Axle	15.3	14.7	14.3	14.8	ton
Load per Wheel	7.6	7.4	7.1	7.4	ton
Ground bearing pressure	9.0	8.6	8.4	8.7	ton/m²
Lateral Load	21.5	20.7	20.1	20.8	t/m
Weight Breakdown Items	Weight [t]	X [m]	Y [m]	Z [m]	
Wash Tower	605.9	8.400	0.000	4.536	
Total	605.9	8.400	0.000	4.536	

IMPERIAL TABLE

Scheuerle SPMT2004 24 Lines	Group1	Group2	Group3	Total	
Amount Axle/Lines	8	8	8	24	nos.
Mass Item	445.3	445.3	445.3	1335.8	kips
Mass Trailer	93.9	73.6	58.9	226.4	kips
TOTAL	539.2	518.9	504.1	1562.2	kips
Load per Axle	33.7	32.4	31.5	32.5	kips
Load per Wheel	16.8	16.2	15.8	16.3	kips
Ground bearing pressure	1840.6	1771.2	1720.8	1777.5	psf
Lateral Load	1203.6	1158.2	1125.3	1162.3	p/inch
Weight Breakdown Items	Weight [kips]	X [ft]	Y [ft]	Z [ft]	
Wash Tower	1335.8	27.559	0.000	14.882	
Total	1335.8	27.559	0.000	14.882	

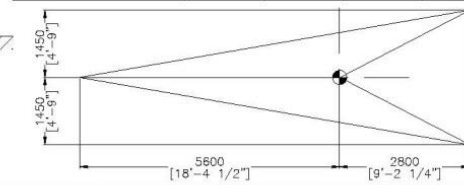


METRIC TABLE

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GENERAL NOTES

- THE TRAILER CONFIGURATION ON THIS DRAWING CAN BE ASSEMBLED FROM A COMBINATION OF 4, 5, OR 6 LINE MODULES WHICH ARE INTERCHANGEABLE IN QUANTITY AND LOCATION, PROVIDING THAT THE TOTAL NUMBER OF LINES LISTED IS ACHIEVED.
 - THE TRAILER CONFIGURATION IS CHECKED AND APPROVED FOR SHOWN LOADINGS.
 - THE CLIENT IS RESPONSIBLE FOR THE PREPARATION OF THE TRANSPORT AREA TO ENSURE THAT IT IS CAPABLE OF ACCOMMODATING THE LOADS GENERATED BY THE TRAILERS DURING ALL TRANSPORT / LOADING / UNLOADING OPERATIONS. GROUND TO BE SUITABLE COMPACTED & LEVELED FOR SAFE & CONVENIENT TRANSPORT OPERATION. TRANSPORT ROAD TO BE AT LEAST 33' WIDE FOR STRAIGHT LINE TRANSPORTS.
 - THE CLIENT IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE LOAD TO BE TRANSPORTED. SADDLE LOCATIONS AND DIMENSIONS ASSUMED AND FOR PICTORIAL PURPOSES ONLY.
 - SECURE CARGO ONTO THE TRAILER USING LASHING MATERIAL TO PREVENT SLIDING AND/OR TIPPING OFF THE LOAD.
 - ALL CHAINS GRADE 70, 1/2" 11,300 lbs. CAPACITY (SINGLE) AND TIGHTENED WITH BINDERS (NOT SHOWN) 13,000 lbs. CAPACITY.
 - 3/4" PLYWOOD OR ANTI SLIP MATERIAL TO BE USED BETWEEN ALL STEEL CONTACT AREAS TO PROMOTE FRICTION.
- THE WORK TO BE PERFORMED UNDER THIS BID WILL BE PREPARED FOR THE BENEFIT AND USE OF THE PARTY TO THIS CONTRACT. ANY REPRESENTATIONS, OPINIONS AND OBSERVATIONS CONTAINED WITHIN THE STUDY ARE BASED ON KNOWN FACTS AND OBSERVATIONS AT THE TIME THE STUDY IS PREPARED. PLEASE BE AWARE THAT ANY PERSON OR ENTITY RELYING UPON THE STUDY MUST PERFORM ITS OWN DUE DILIGENCE AND INDEPENDENT STUDY TO DETERMINE THE ACTUAL FACTS AND CONDITIONS PRESENT AT THE TIME ANY TRANSPORTATION/LIFT IS PERFORMED. THIS STUDY IS BASED ON THE ENGINEERING CONCEPTS PREPARED BY MAMMOET AND BASED ON INFORMATION AND STATE OF THE ART THAT MAMMOET HAS AVAILABLE. A THIRD PARTY SHOULD NOT RELY UPON THIS STUDY BUT, PERFORM ITS OWN INDEPENDENT OPINIONS BASED ON THE CONDITIONS AND EQUIPMENT AVAILABLE AT THE TIME THE ACTUAL WORK IS TO BE PERFORMED. THE STUDY BECOMES THE PROPERTY OF THE CLIENT WHICH AGREES TO ENSURE THAT ANY PERSON OR ENTITY PROVIDED THE STUDY IS AWARE OF THIS DISCLAIMER AND WILL PERFORM ANY INDEPENDENT ANALYSIS OF THE STUDY TO BE USED ON THE PROJECT PRIOR TO ACTUALLY PERFORMING THE WORK TAKING INTO ACCOUNT THE CONDITIONS AND EQUIPMENT TO BE USED IN SUCH PROJECT.

MATERIALS LIST

POS	QTY	DESCRIPTION	MATERIAL / CAPACITY	DIMENSIONS	WEIGHT (each)
01	4	HEB 800 (10 METER MAT)	P030LSP-336024	32' 11-3/16" x 4' 11-9/16" x 1' 11-5/16"	23,488
02	2	TURNTABLE 710 T6	P030TT-710T	18' 8" x 18' x 1' 2-3/16"	48,293
TOTAL:					190,518

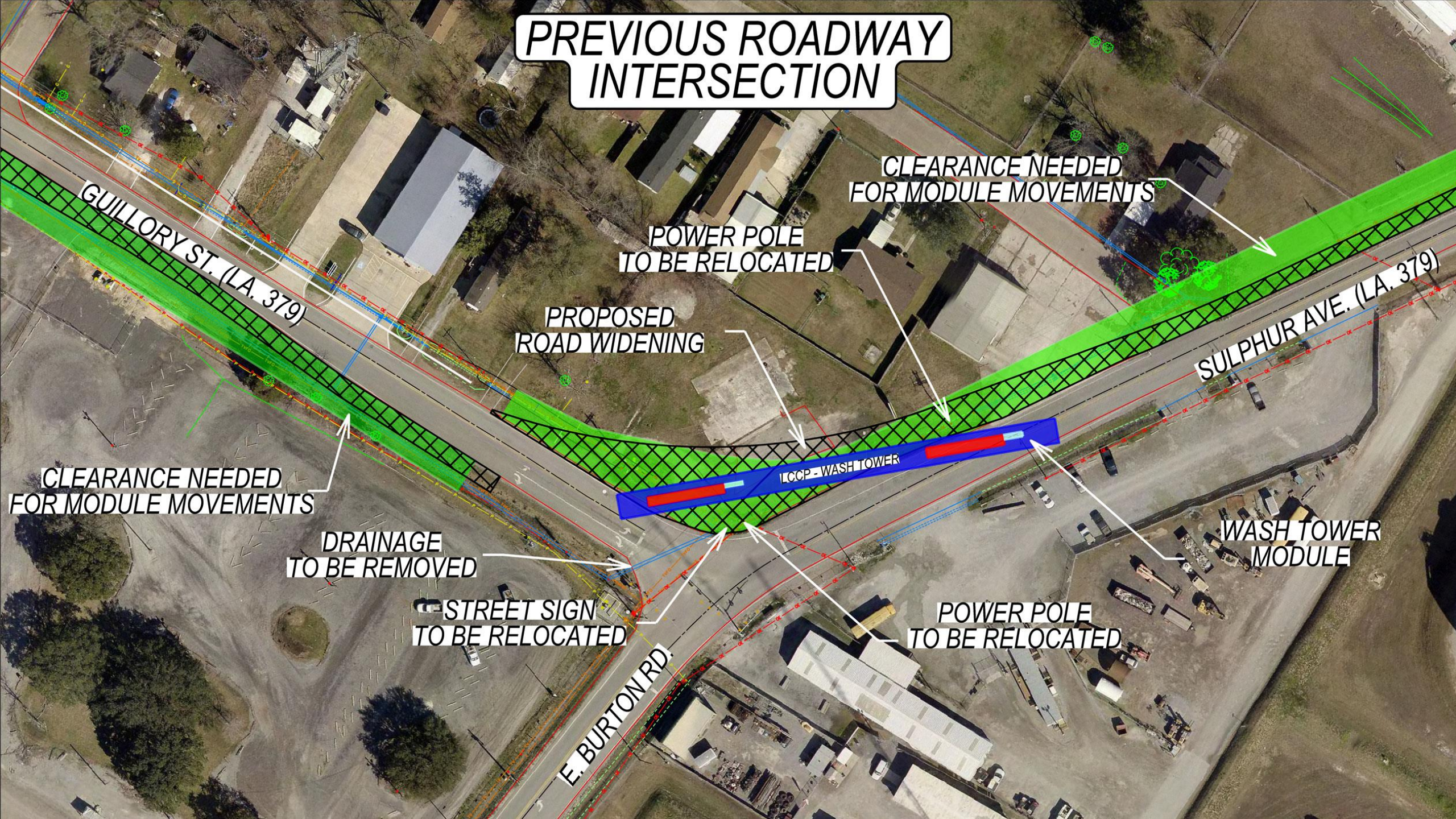
PRELIMINARY

00 Preliminary 21/10/13 LFW MKO
 REV. DESCRIPTION: DATE: DRAWN: CHECKED:
 Without authorized signature this document is uncontrolled, not binding and for indicative purposes only.
 CLIENT: PROJECT: TITLE:
Fluor Enterprises, Inc.
Sasol Cracker Unit Westlake
Transport of Wash Tower



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 SCALE: NTS SIZE: D DRAWING NUMBER
 SAP No: 7000108650 PROJECT No: 1512093 - P033 - DOC: PART: SHT. 1/1 - REV.

PREVIOUS ROADWAY INTERSECTION



CLEARANCE NEEDED
FOR MODULE MOVEMENTS

POWER POLE
TO BE RELOCATED

PROPOSED
ROAD WIDENING

SULPHUR AVE. (LA. 379)

CLEARANCE NEEDED
FOR MODULE MOVEMENTS

DRAINAGE
TO BE REMOVED

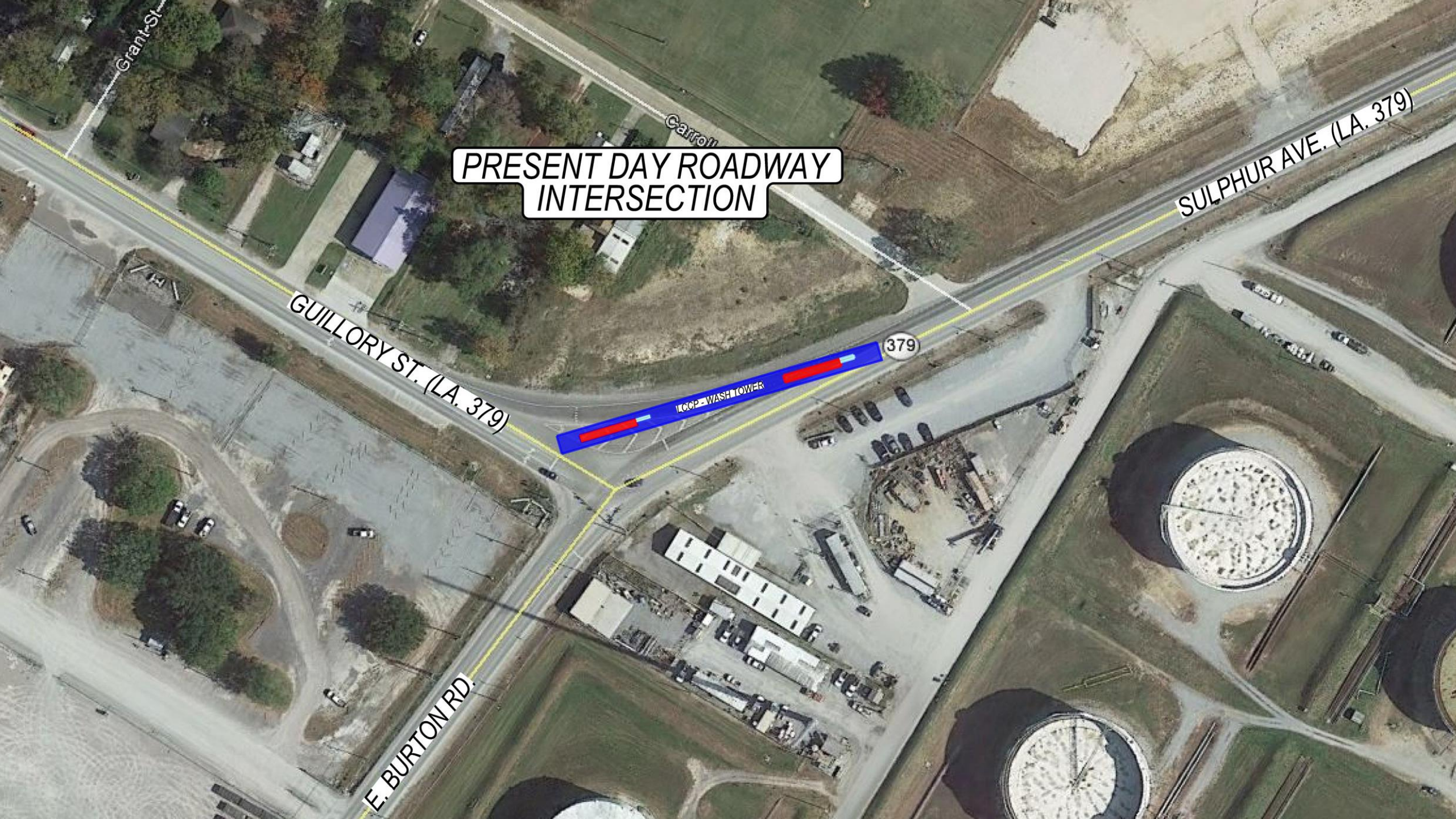
STREET SIGN
TO BE RELOCATED

E. BURTON RD.

LOOP WASH TOWER

POWER POLE
TO BE RELOCATED

WASH TOWER
MODULE



PRESENT DAY ROADWAY
INTERSECTION

GUILLORY ST. (LA. 379)

SULPHUR AVE. (LA. 379)

E. BURTON RD.

LOOP WASH TOWER

379

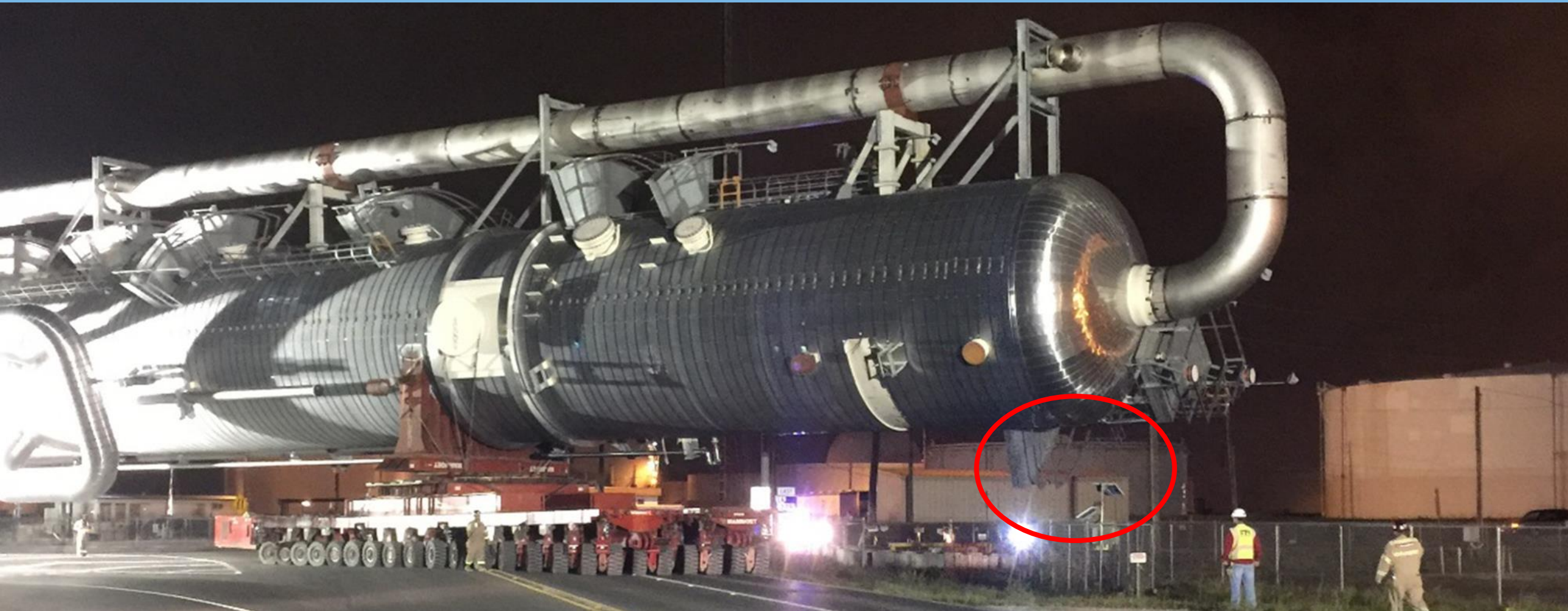
ROTATING MAST ARMS

- Louisiana's **first** traffic signal with hinged mast arms supports
- Two mast arms, one 45' long and another 55' long
- Must rotate easily
- Sasol was required to have back up signals
- Replace with standard signal after



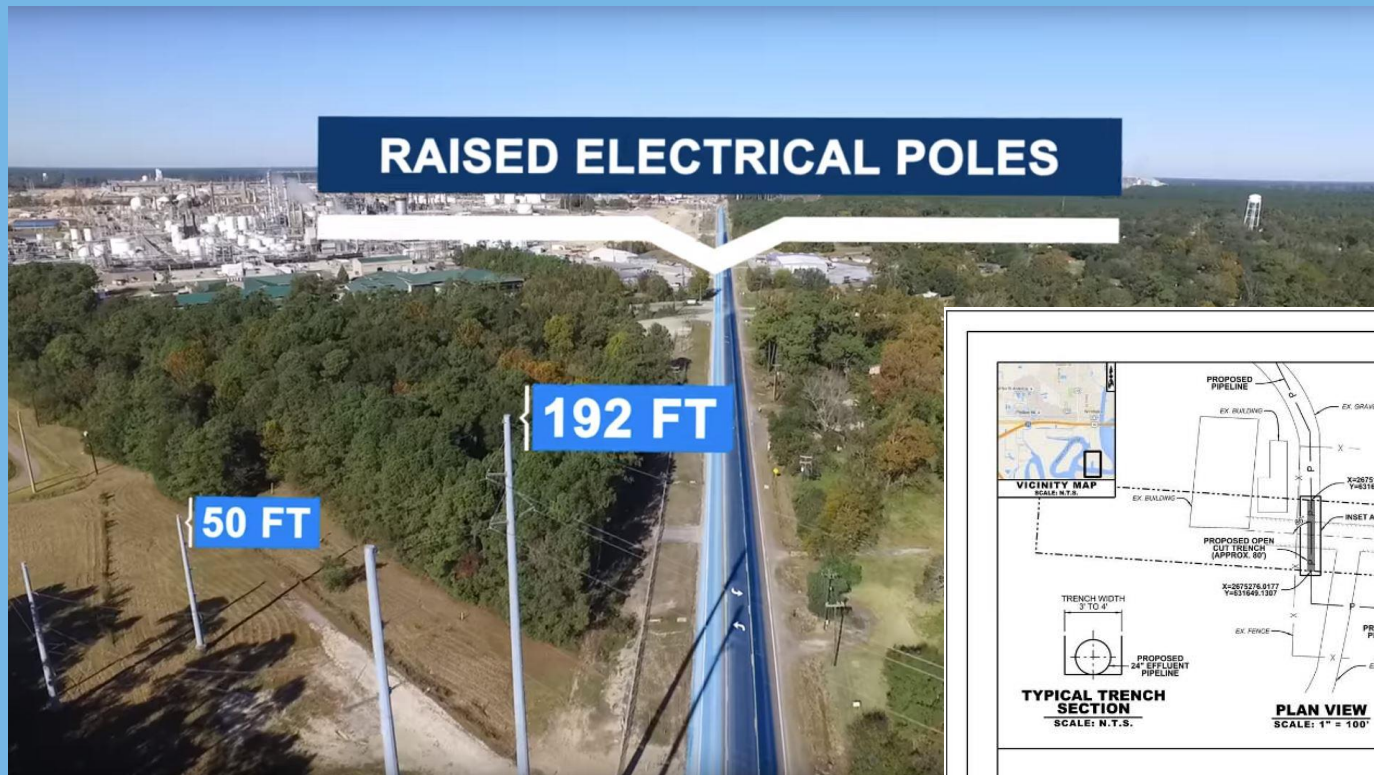


THINGS HAPPEN



UTILITY RELOCATION

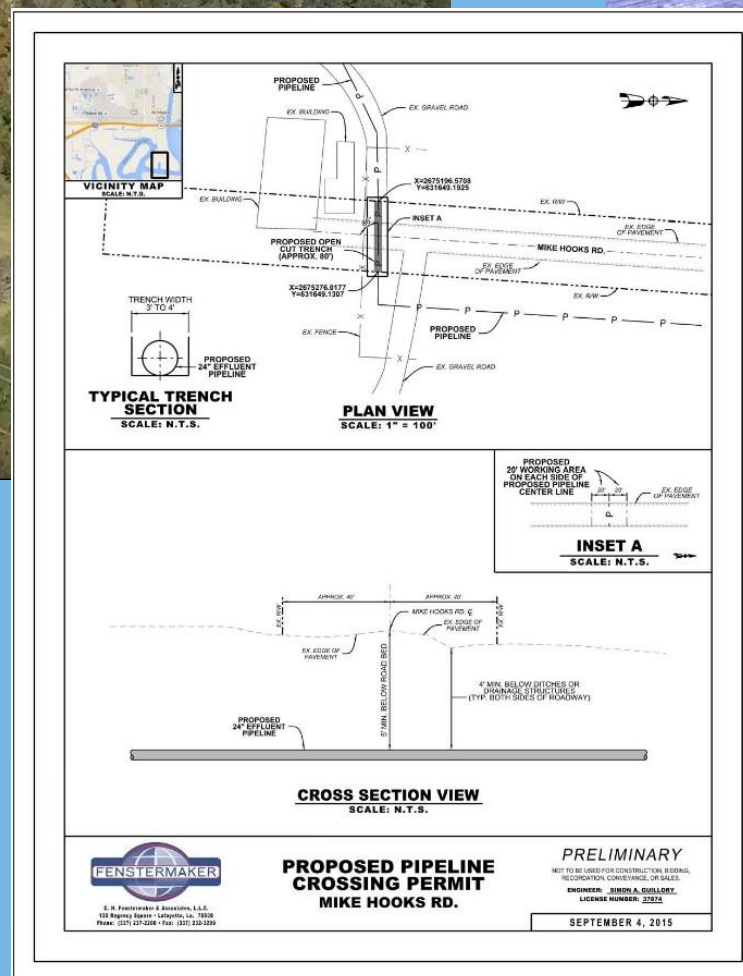


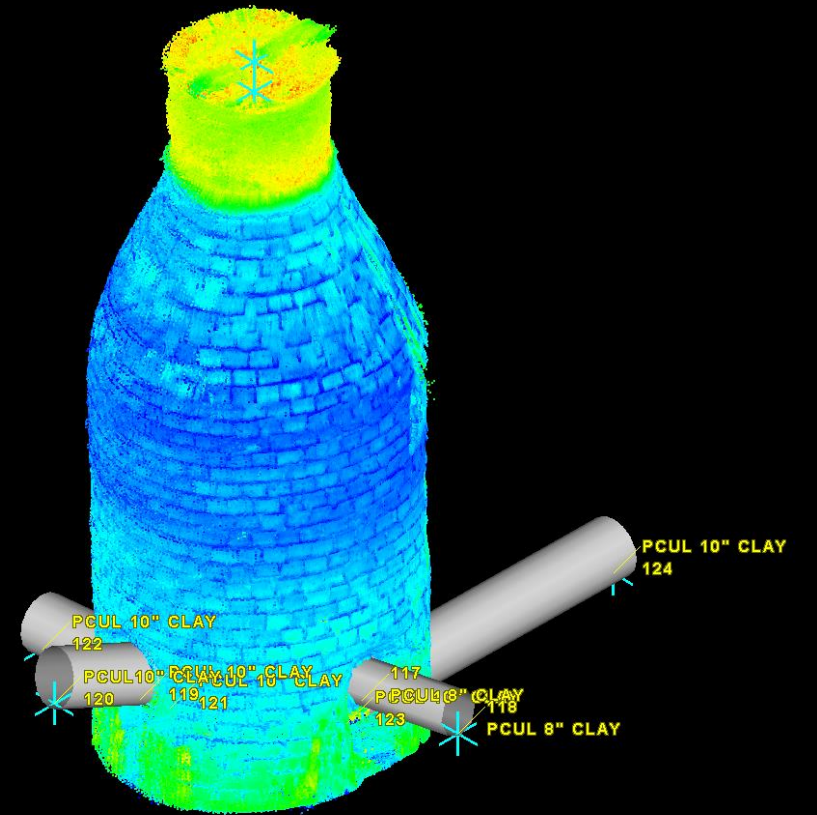
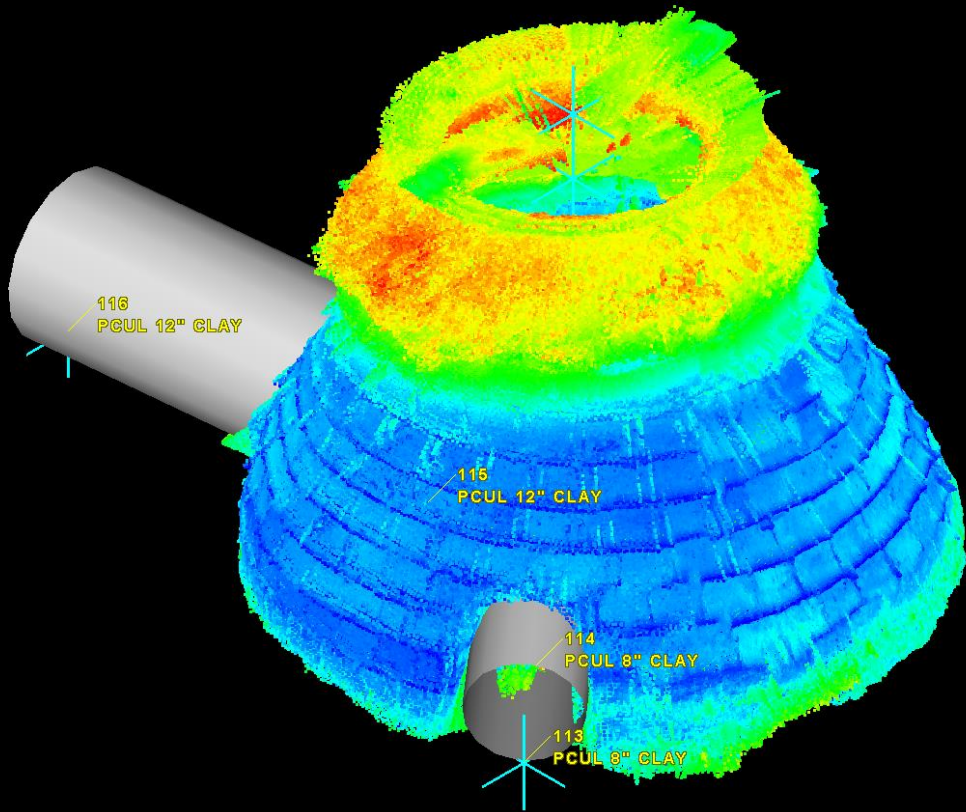


RAISED ELECTRICAL POLES

192 FT

50 FT





LASER SCANNING



SAFETY



LAKE CHARLES CHEMICAL PROJECT
Safety Bulletin No. 193



CONSTRUCTION





Subsurface
Drainage
Installation

Over 100
Submittals
Reviewed



Concrete
Pavement
Preparation



Subgrade
Treatment
Preparation

Nearly 200
Requests for
Information

THE HEAD



INNOVATIVE SOLUTIONS



DOTD 2059

- La DOTD Materials and Testing Section
- Procedure to ensure proper Quality Assurance documentation
- Typical on construction projects completed *by* DOTD



DOTD-2059-13
Rev. 9/13

STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SUMMARY OF TEST RESULTS

State Project Number	Federal Project Number
----------------------	------------------------

Project Name

Route Number	Parish
--------------	--------

Transmitted herewith are copies of documents used to determine the quality of all materials for the above project, including the project sampling plans, the MATT System generated 2059 report, and the Independent Assurance Certification (if required).

All material used on the project were in conformity with the requirements of the contract as indicated by acceptance test results and other documentation. Exceptions to this, if any, are indicated below and explained on the referenced reports.

<input type="checkbox"/> Disposition of failing test report attached	<input type="checkbox"/> No failing tests
<input type="checkbox"/> Error and omission report attached, or typed below	<input type="checkbox"/> Not applicable

Certified Correct, Project Engineer	Date
Verified & Approved, District Laboratory Engineer	Date
Approved, Area Engineer	Date

TRAFFIC IMPACT ANALYSIS & ADAPTIVE TRAFFIC MANAGEMENT



TRAFFIC IMPACT ANALYSIS

- Began by compiling data to support a TIA
- Consisted of two Ramp-Up phases, Peak Construction phase, and Operations and Maintenance
- Final TIA was not accepted until June 2015
- Conditional Project Permits were issued in order to maintain progress



ADAPTIVE TRAFFIC MANAGEMENT SYSTEM

“In partnership with Sasol, that’s making a huge investment here in Louisiana, they came to the table not only interested in working with us to build a Heavy Haul Route, but to do something *innovative* in the system...and that is our State’s *first* adaptive traffic signal. That’s going to provide tremendous benefit for the travelling public.”

“The system adjusts the traffic signal timings based on actual traffic demand and helps reduce the amount of congestion. It enhances safety, reduces delays and shortens travel times for drivers, and it’s something DOTD would like to see implemented in many other areas across the state.”

- Dr. Shawn Wilson, Louisiana DOTD Secretary



ADAPTIVE TRAFFIC MANAGEMENT SYSTEM



Communications

- Originally designed to have fiber optic communications installed
- DOTD agreed to allow a cellular communications system

Vehicle Detection

- Magnetometers (PODS) were recommended for the Adaptive System
- First corridor-wide application of magnetometers by Trafficware



HEAVY HAUL ROUTE HIGHLIGHTS



2017 ABC Excellence Award



2018 DOTD Transportation
Excellence Award

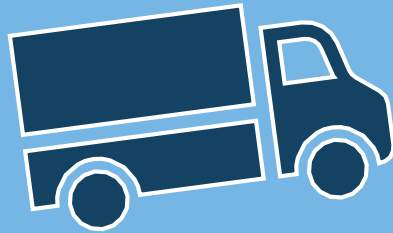
**SAFETY IS
EVERYONE'S
BUSINESS**



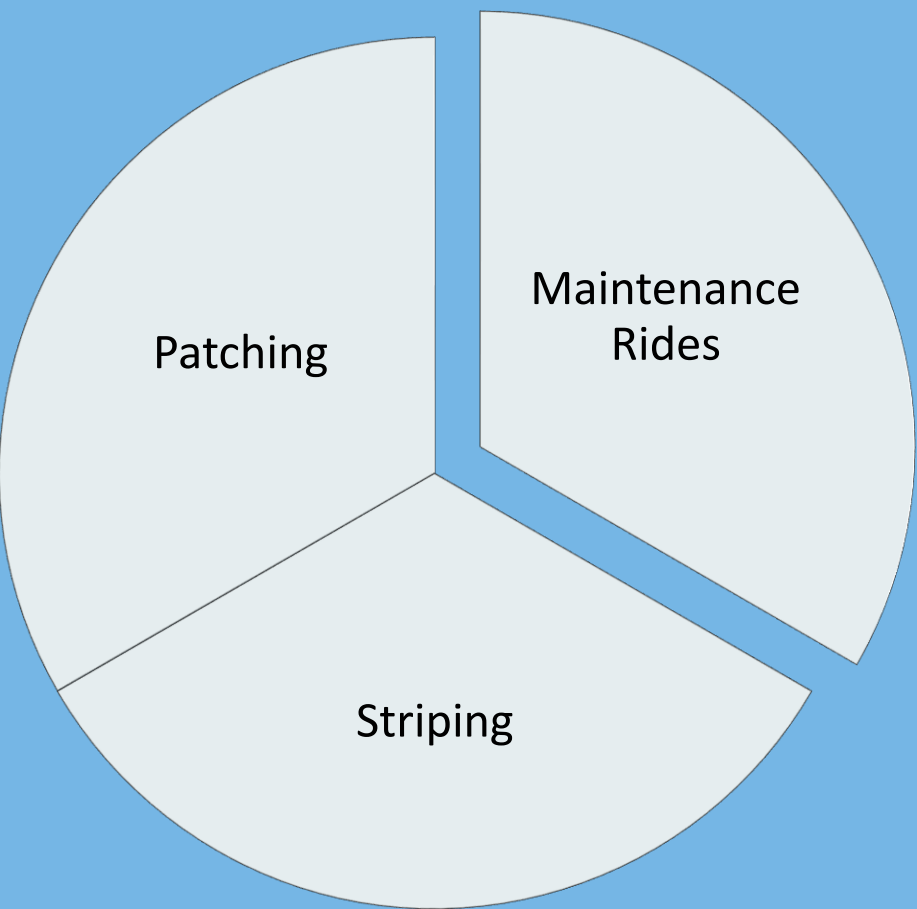
Zero Lost Time Incidents

HEAVY HAUL TODAY

- 13 Temporary Access Connection Permits
- 11 Permanent Access Connection Permits
- Currently Permitting Permanent Driveways



HEAVY HAUL ROUTE TODAY





**ETHYLENE OXIDE
WASH TOWER**

JUST IN CASE YOU MISSED IT....



Anna

Jeanne



QUESTIONS

