Access and Logistics for Marine Construction in the Coastal Zone

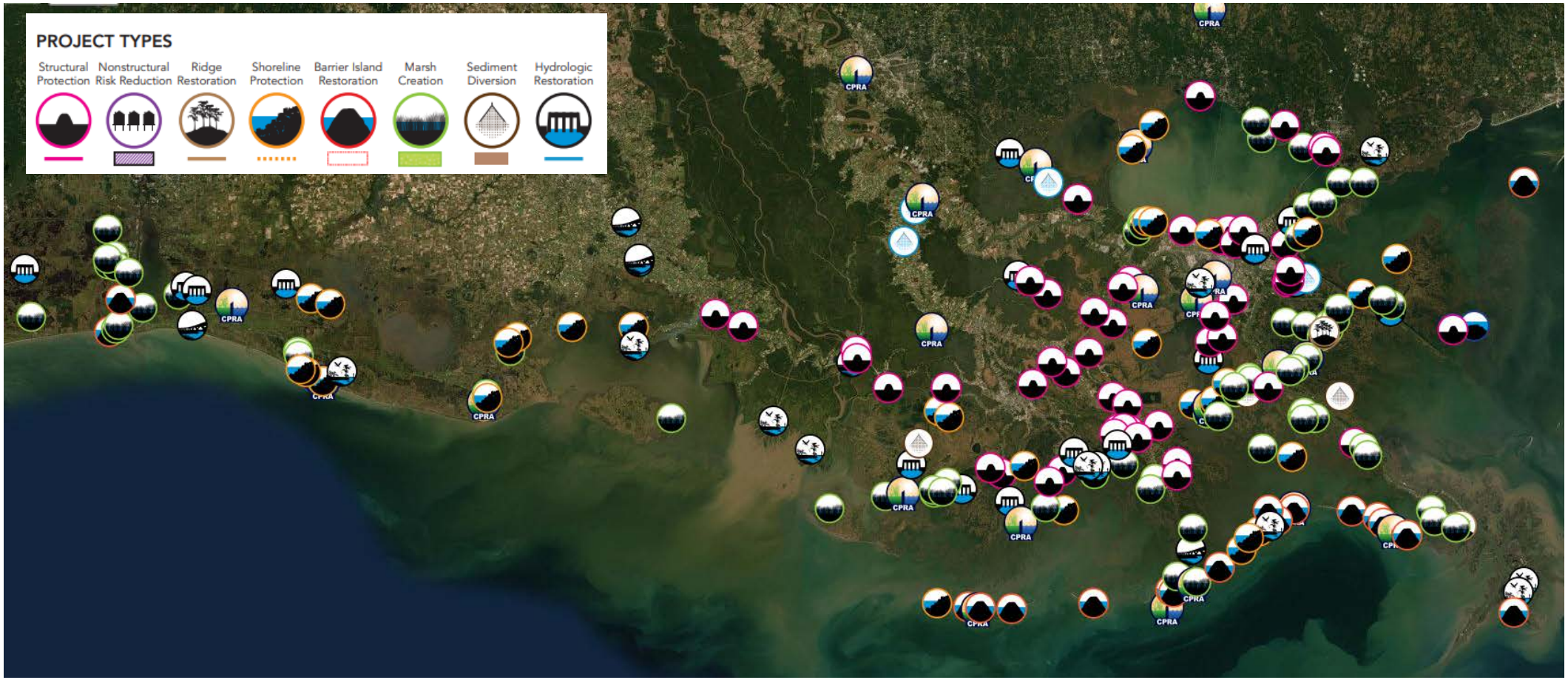
JOANNE TRIBOU, E.I.

Presentation Outline

- Introduction and Background
- Equipment Access Corridors
- Permitting
- Cultural Resources
- Oil and Gas Infrastructure
- Landowner Agreements
- Oyster Resources

Introduction and Background

Types of Projects in Coastal Louisiana



Types of Projects in Coastal Louisiana

Marsh Creation

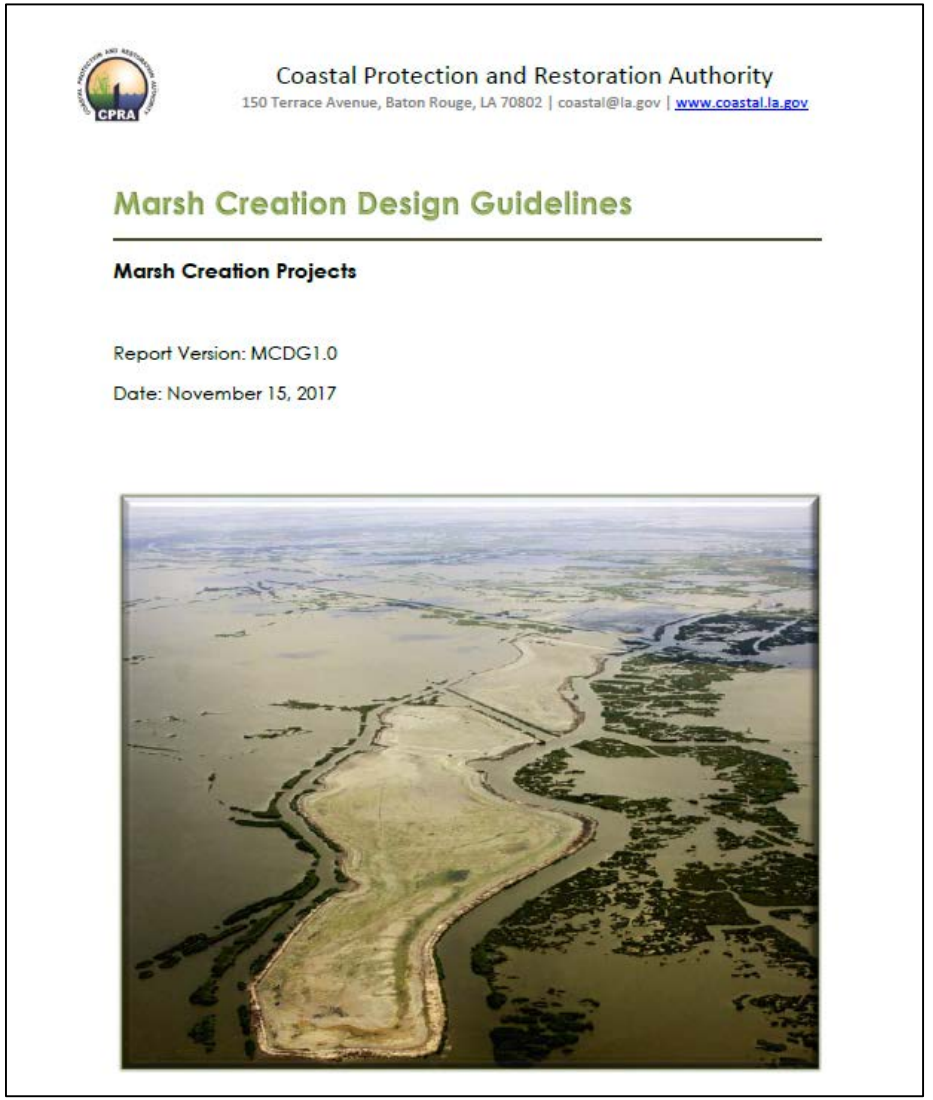
Dredges material from borrow source to marsh creation area

Marsh Creation Design Guidelines

Aids in the engineering and design of marsh creation projects.

Includes guidance on some of the logistical concerns we run into:

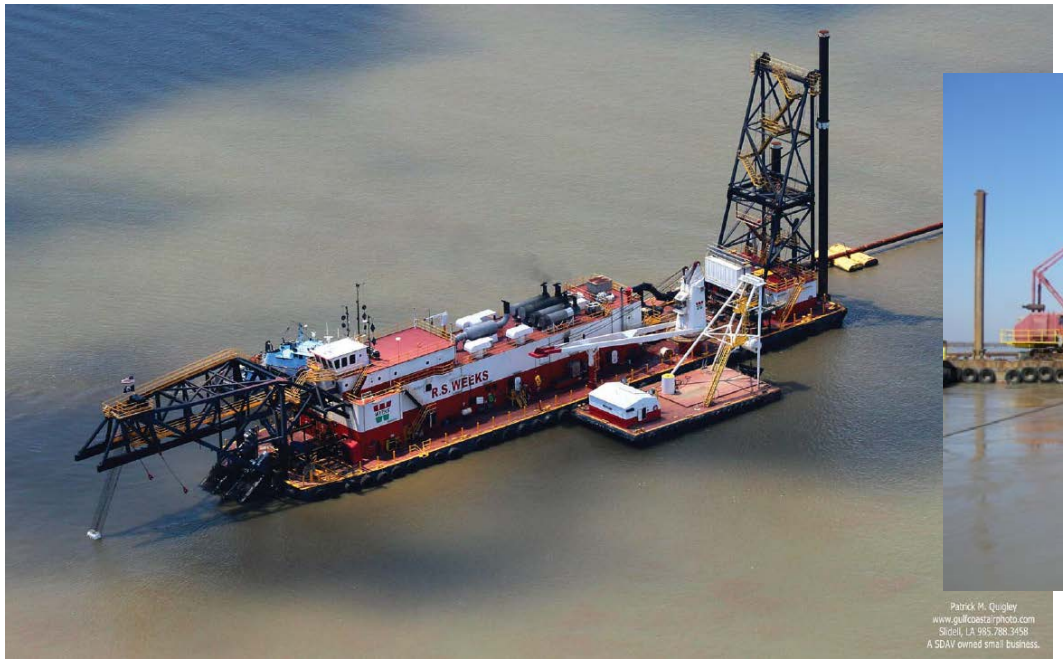
- Delineating equipment access routes
- Cultural resources
- Oil and gas infrastructure
- Land rights
- Oyster resources



Marine Construction Equipment

Hydraulic Dredge

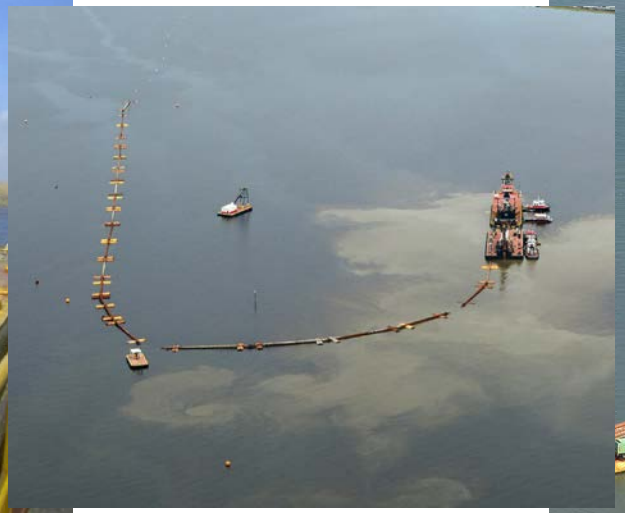
Excavates and moves material from borrow source to fill area via dredge pipe

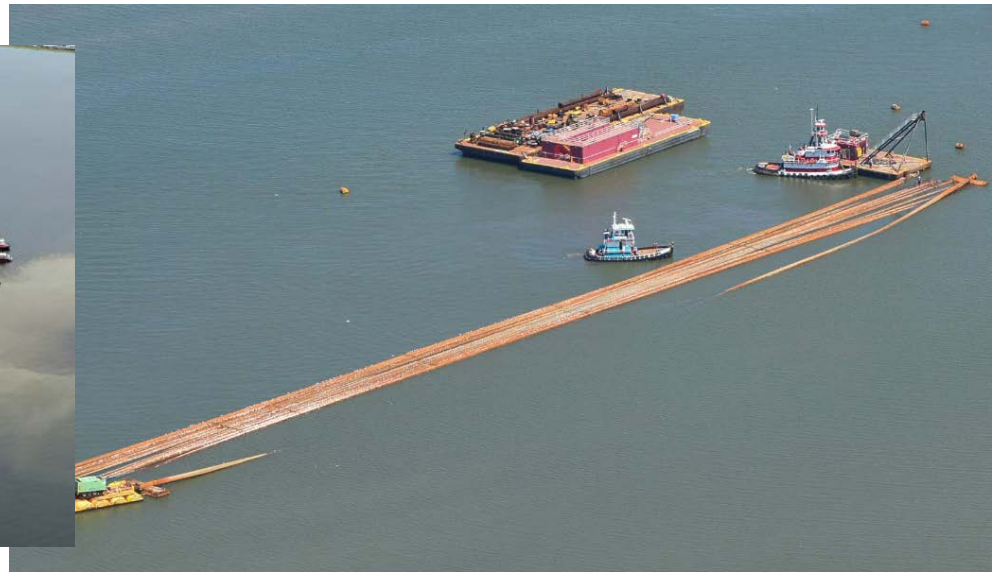


Marine Construction Equipment

Dredge Pipe

Placed along dredge pipeline corridor from borrow area to marsh creation area

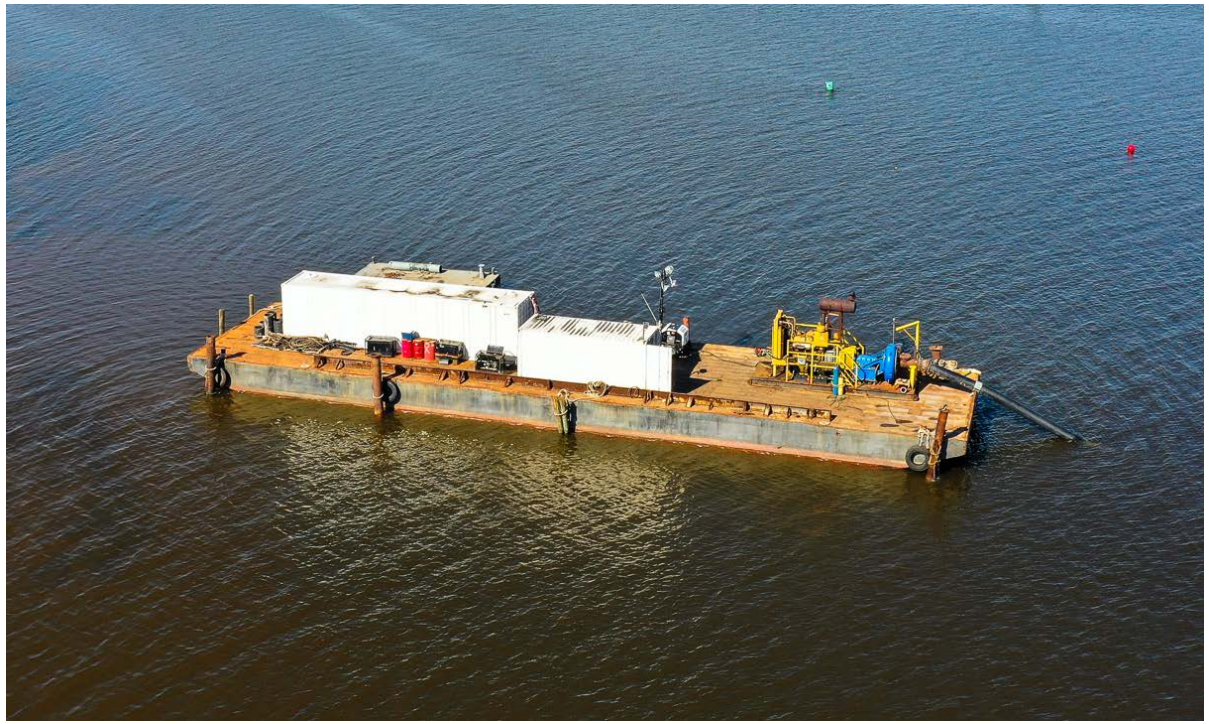




Marine Construction Equipment

Booster Pump

Helps facilitate pumping to fill area



Marine Construction Equipment

Mechanical Dredges – Marsh Buggy

Tracked marine equipment that excavates places adjacent to borrow source.

Marine Construction Equipment

Mechanical Dredges – Clamshell/Bucket Dredge

Equipment mounted on barge that excavates places adjacent to borrow source.

Marine Construction Equipment

Misc. Materials and Equipment


Rock


Rock, Crane


Dozers


ACMs, Crane

Potential Impacts

Louisiana's Working Coast

- Water bottoms
- Cultural resources
- Oil and gas infrastructure
- Landowners
- Oyster Resources

Equipment Access Corridors

Equipment access is a vital logistical component of all coastal projects.

EQUIPMENT ACCESS CORRIDORS

We want to present the contractor with a constructible project which includes feasible access.

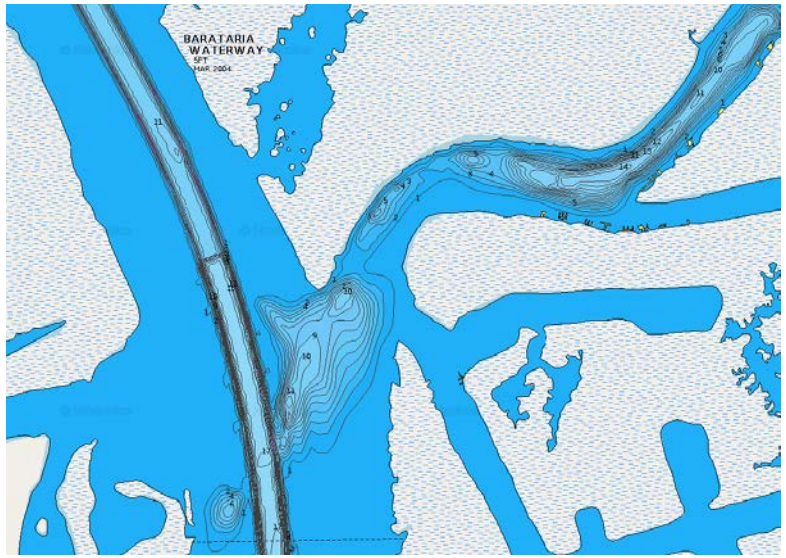
Contractor may propose alternate equipment access corridor(s), but potential impacts and proper coordination and agreements explained throughout this presentation become the responsibility of the contractor.

EQUIPMENT ACCESS CORRIDORS

Identifying Navigable Waterways

Identify potential routes through rivers, lakes, bayous, creeks to the project site using

- Maps/satellite imagery (Google Earth/ArcGIS)
- Nautical charts – give estimated depths in some waterways

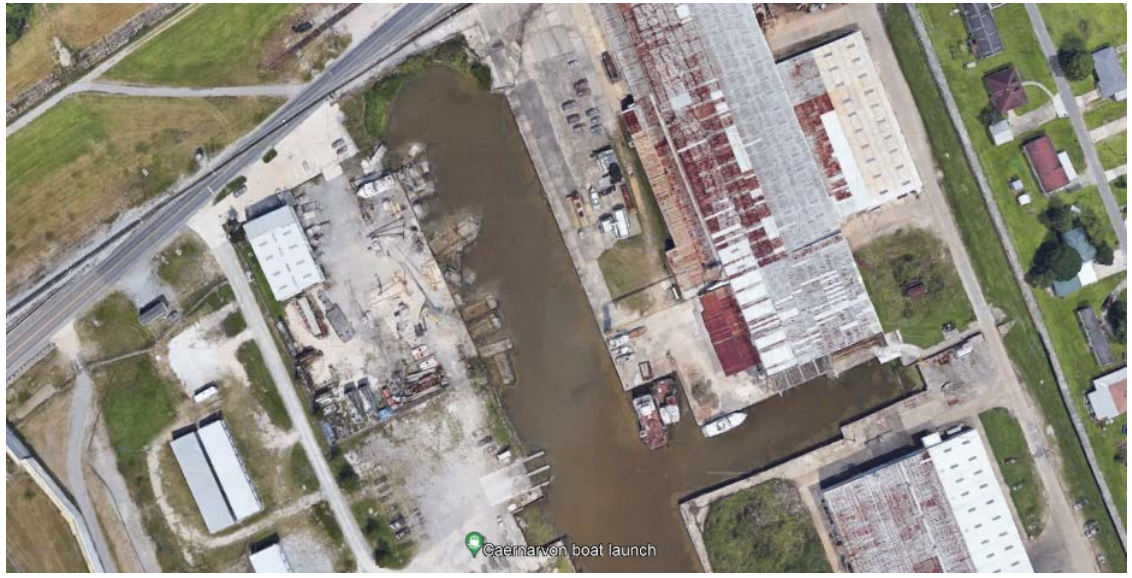


Identifying Navigable Waterways

Some smaller equipment may launch from a boat launch

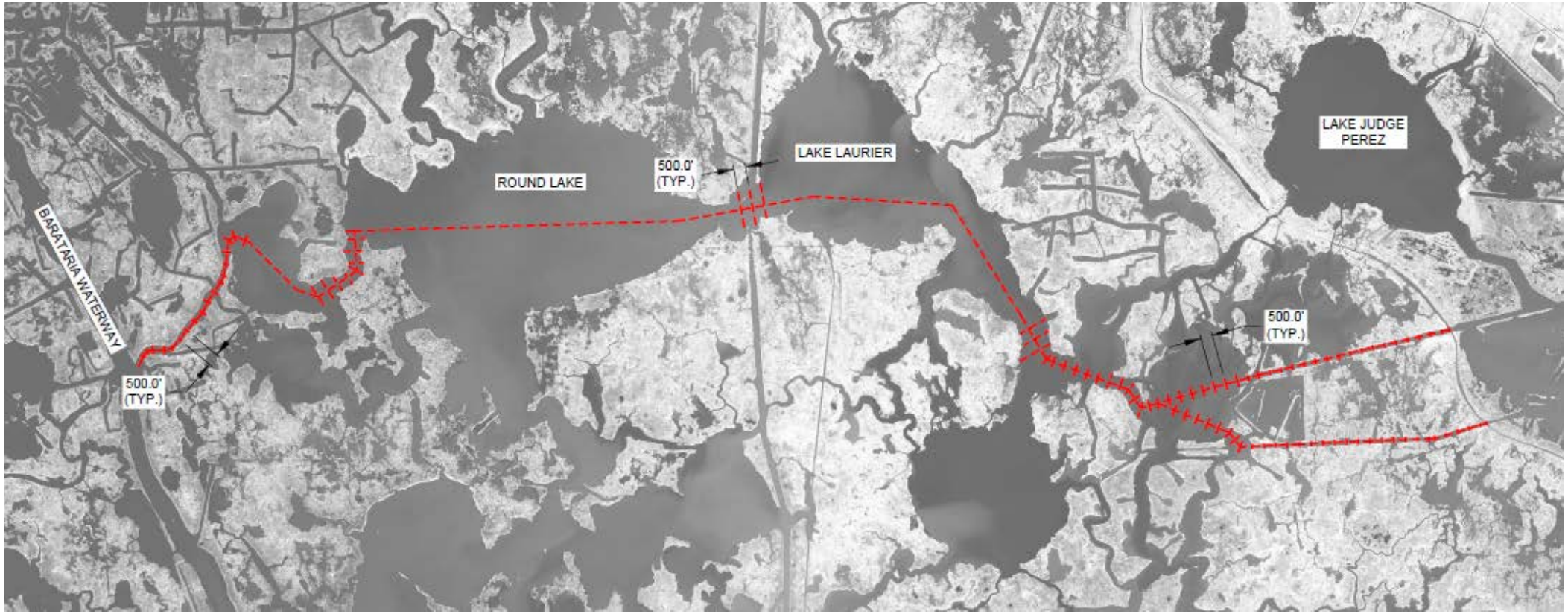
Most equipment will need to come through a major waterway to the equipment access corridor

- Calcasieu Ship Channel, Gulf Intracoastal Waterway, Houma Navigation Channel, etc.



EQUIPMENT ACCESS CORRIDORS

Bathymetric/Topographic Surveys



Required Water Depth

Depends on the type/size of equipment.

- General, smaller equipment (marsh buggies, clamshells, cranes, small hydraulic dredges and booster pumps) → Less than 3 to 6 feet
- Heavy, major equipment (large hydraulic dredges and booster pumps, rock barges) → 6 to 8 feet

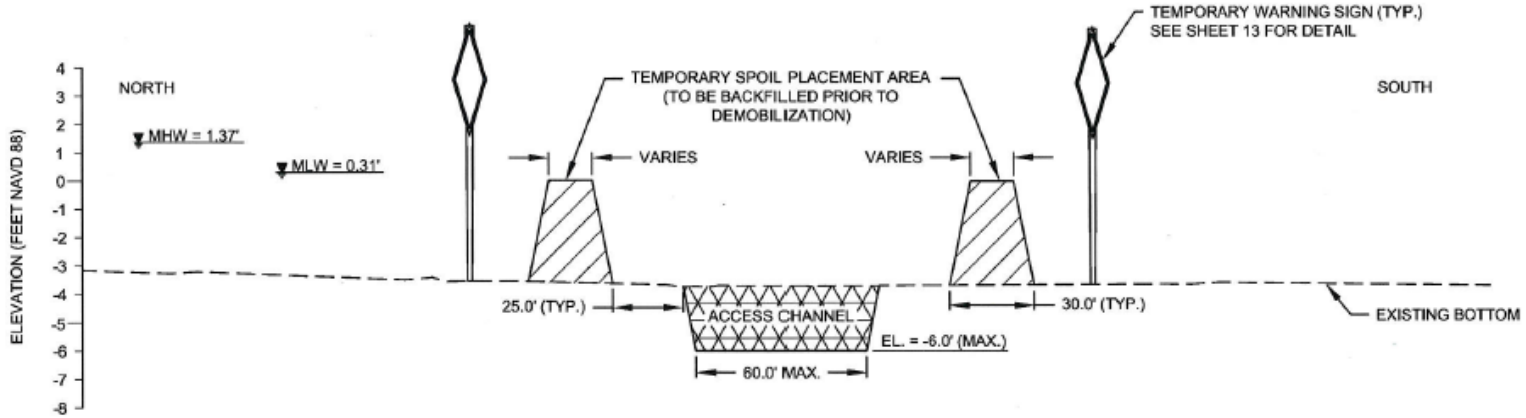
We use past project experience and coordination with contractors to help determine what type of equipment may be used for a project.

Access Dredging

Access dredging may be necessary if a navigable route cannot be found.

The following must also be considered if equipment access dredging proposed:

- Cost of work
- Spoil placement
- Permitting
- Cultural resources



Cost of Access Dredging

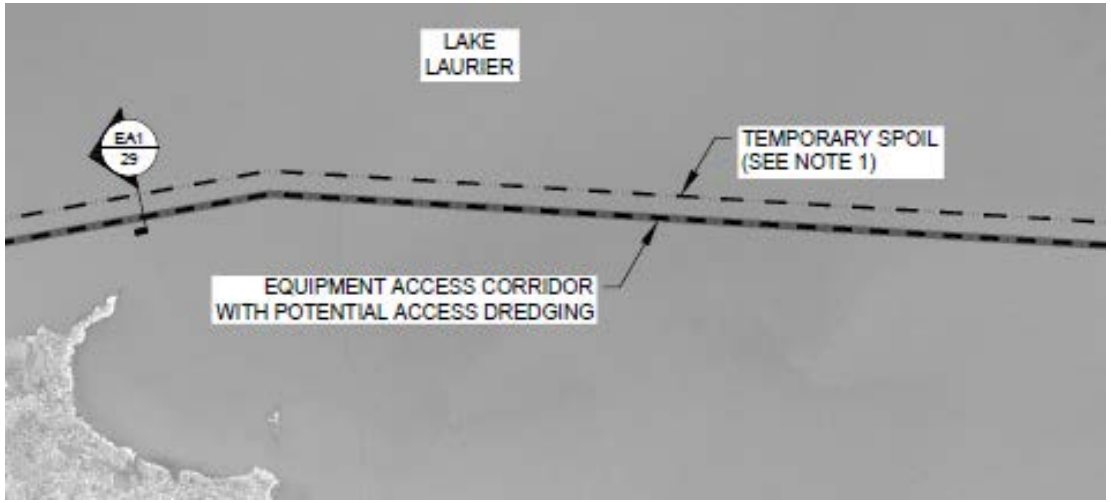
Equipment access dredging typically has its own (lump sum) bid item.

Cost of this work must be included in Engineer's Estimate of Probable Cost.

Use past project bid data to estimate cost.

Spoil Placement

- Spoil placement either temporary or permanent
- Gapping of spoil placement typically included
- Must install warning signs as required by the USCG



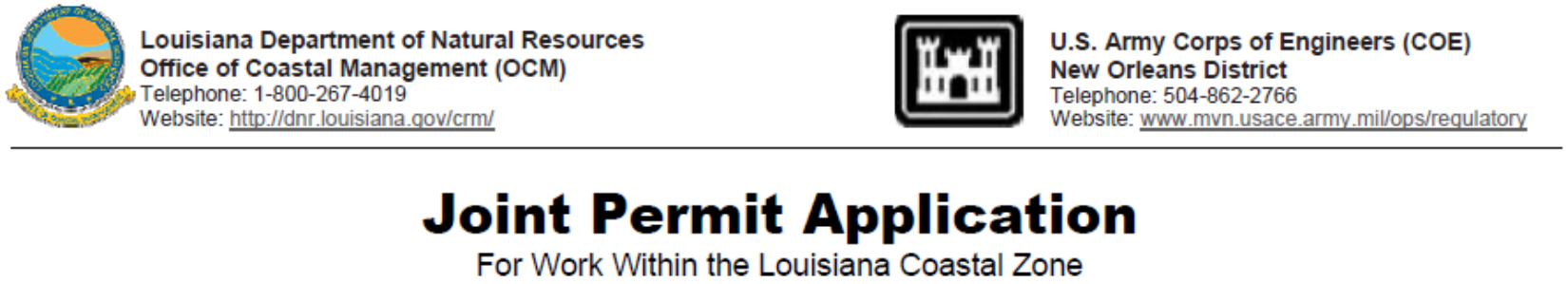
Permitting

Permitting

Permitting is required for all project features, including access dredging.

Information required for the permit includes:

- Drawings of proposed features
- Cut and fill volumes
- Maximum acres impacted



Cultural Resources

Cultural Resources

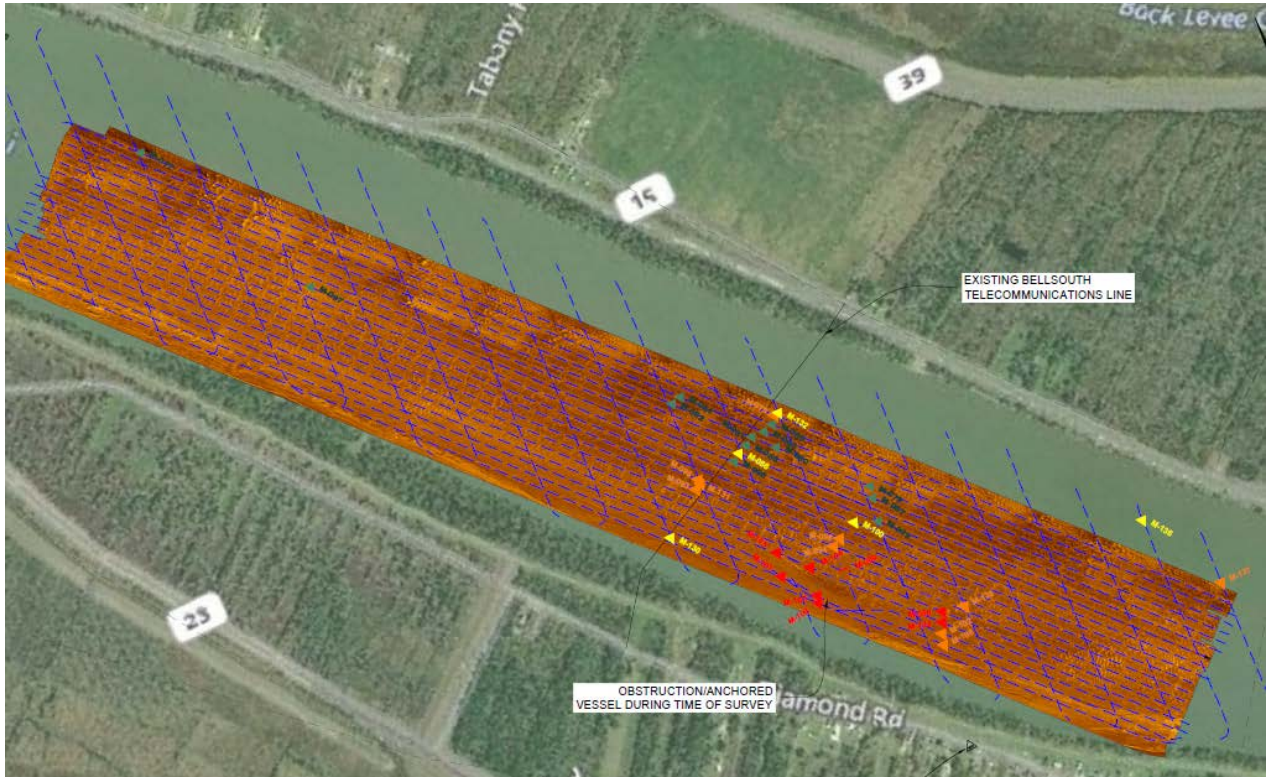
A cultural resources investigation determines if there are any items of prehistoric, historical, archeological, or cultural value within a proposed excavation area.

Cultural resources investigations are done on borrow areas, equipment access dredging templates, and marsh areas

Cultural Resources

Investigation process includes:

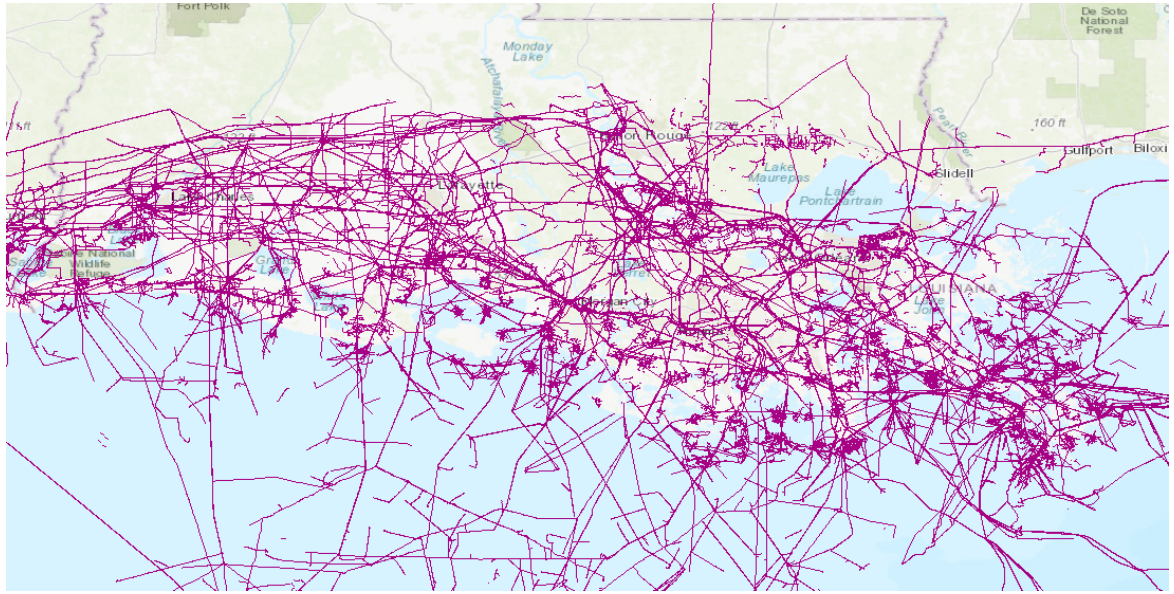
- Geophysical survey (side scan sonar and sub-bottom profile) or shovel tests
- Cultural resources report
- Coordination with a Registered Professional Archeologist (RPA) and the State Historic Preservation Offices (SHPO)



Geophysical Survey

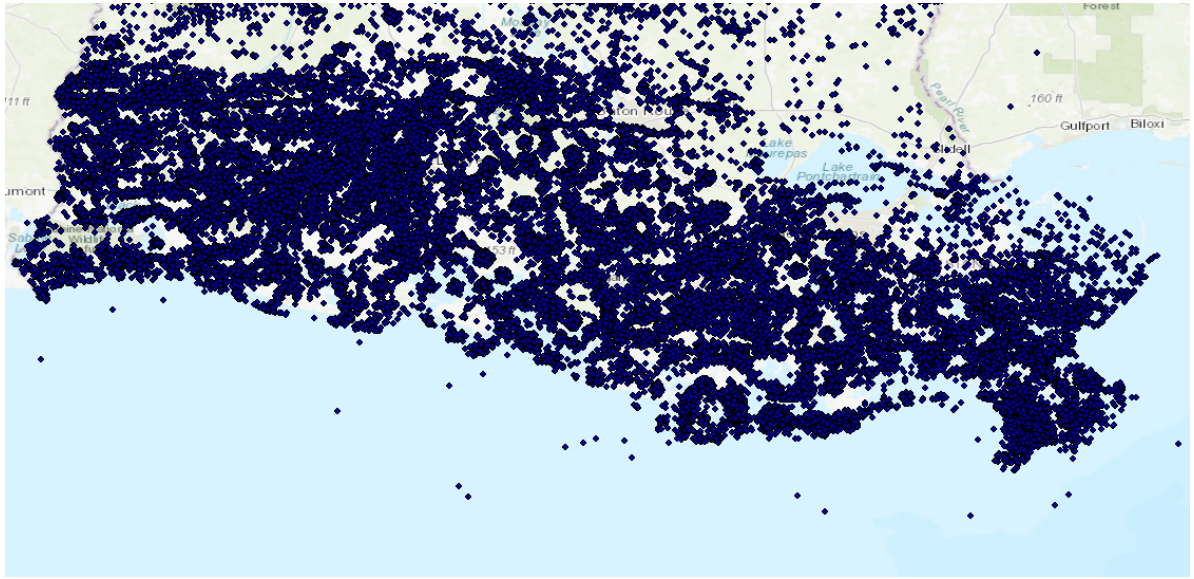
Oil and Gas Infrastructure

Oil and Gas Industry in Louisiana



Pipelines and Flowlines (Active, Inactive, Proposed from NPMS Database)

Wells (Active, Inactive, Exploration; from SONRIS Database)



Oil and Gas Industry in Louisiana

If there are pipelines within the project area, including the equipment access corridor, proper identification and coordination with pipeline operators is important to ensure safety during construction.

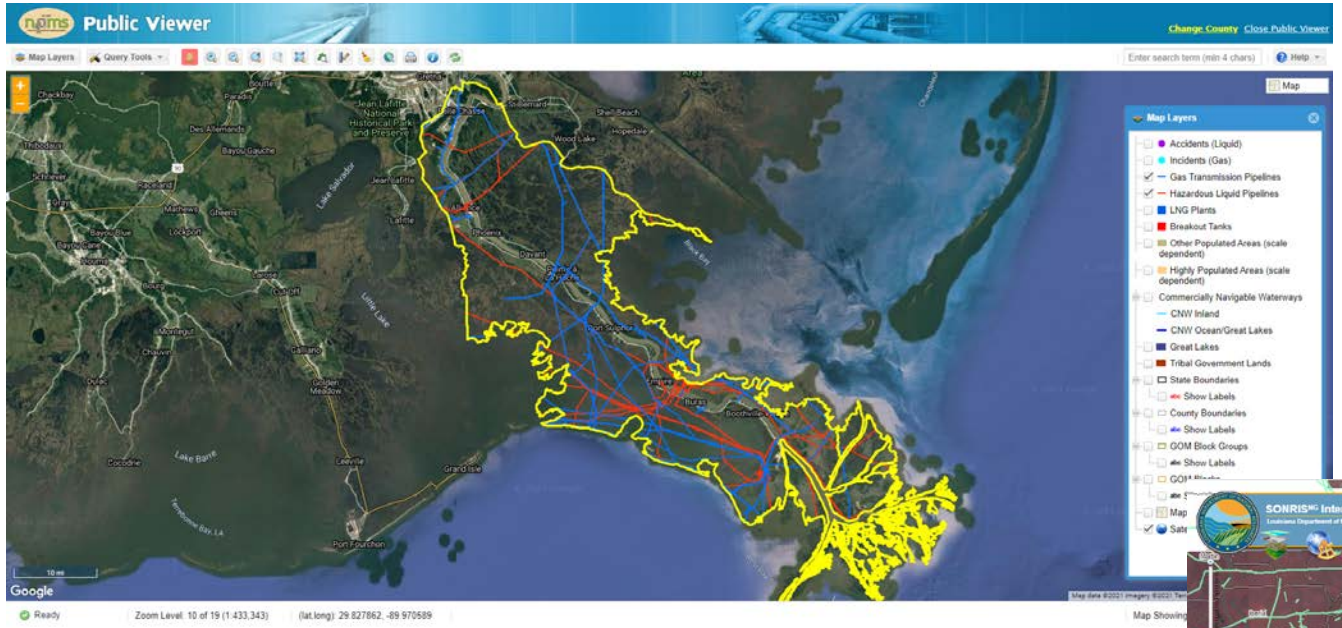
Information Needed

- Exact location (coordinates)
- Depth of cover
- Pipeline operator
- Status
- Product/contents
- Size (diameter)

How do we get this information?

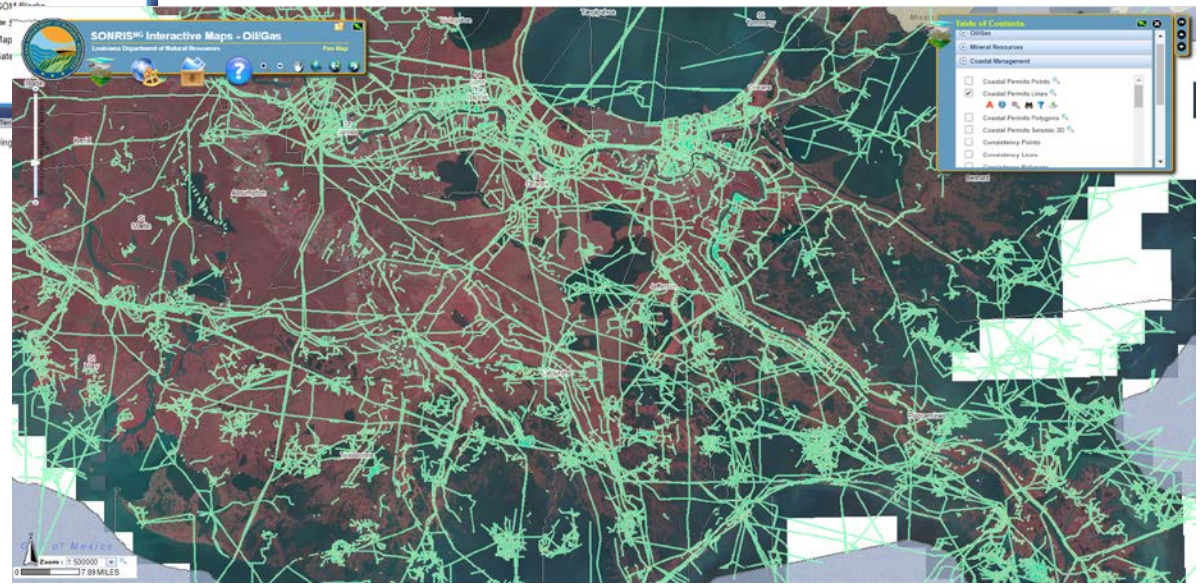
- Pipeline databases
- Existing surveys
- Parish Clerk of Court records
- Magnetometer surveys

Pipeline Databases



National Pipeline Mapping System (NPMS)

Strategic Online Natural Resources Information System (SONRIS)



Pipeline Databases

Office of Coastal Management
Permit Tracking System

CUPNO- P20130945 Electronic Files
NAME- MESA GULF COAST, LLC

Impacts

Base Info | Geo Info | Dates & Fees | COE & DEQ | Revisions | Applicant & Agent

CUP NUM:	P20130945	CONCERN:	STATE
COE NUM:	MVN 2013-1940 EBB	EXEMPT:	NOT EXEMPT
RECEIVED:	06/27/2013	MISC:	NOT APPLICABLE
ACKNOWLEDGE:	07/12/2013	MAJOR/MINOR:	MINOR
OCM ANALYST:	ONTARIO JAMES	H2O BLOCK:	EROSION CONTROL/RIPRAP
WELL NAME:	VUB: LLDSB	CUBIC YARD:	937
WELL NUM:	34	DEVELOPMENT:	NO DEVELOPMENT
STATUS:	Authorization Granted - Special Conditions	FIELD INV. REQUESTED:	YES
PIPELINE:	JETTED AND BURIED AND/OR SUBMERGED	FI AREA:	2
RIG:	NOT PRESENT	FOLLOWUP:	YES
DREDGE:	GENERAL DREDGE AND/OR FILL (eg. Flowlines)	XREF NUM:	P20100362
REVISION NUM:	1	PUBLIC NOTICE:	NO PUBL NOTICE

PRE-DETERMINATIONS:	CMD GP - 6	REVISED:	NO
		AMENDED:	NO
FINAL DETERMINATIONS:	CMD GP - 6	MODIFIED:	NO
		EXTENDED:	NO

DESCRIPTION TYPE:	PIPELINE / FLOWLINE
DESCRIPTION:	Proposed installation of 1-3" flowline (±1093'), 1-3" gas lift line (±678') and 1-3" flowline (±678') for producing VUB; LLDSB No. 34 Well. Approximately 927 cubic yards of material will be excavated to install the lines. Approximately 8 cubic yards of rock required for bankline stabilization. Approximately 2 cubic yards of sand bag material required at pipeline crossings. No equipment will be used on marsh areas.
COMMENTS:	

ON-HOLD	OFF-HOLD	PARISH
07/26/2013	07/26/2013	PLAQUEMINES

SONRIS

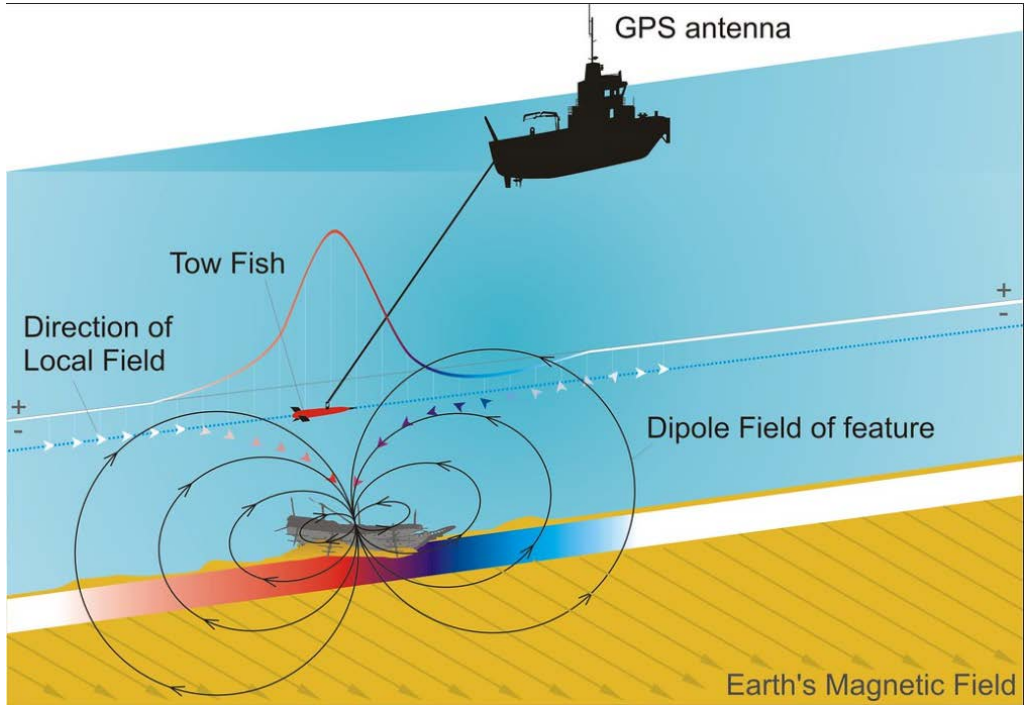
Identify - Total 1 record(s) found

31728

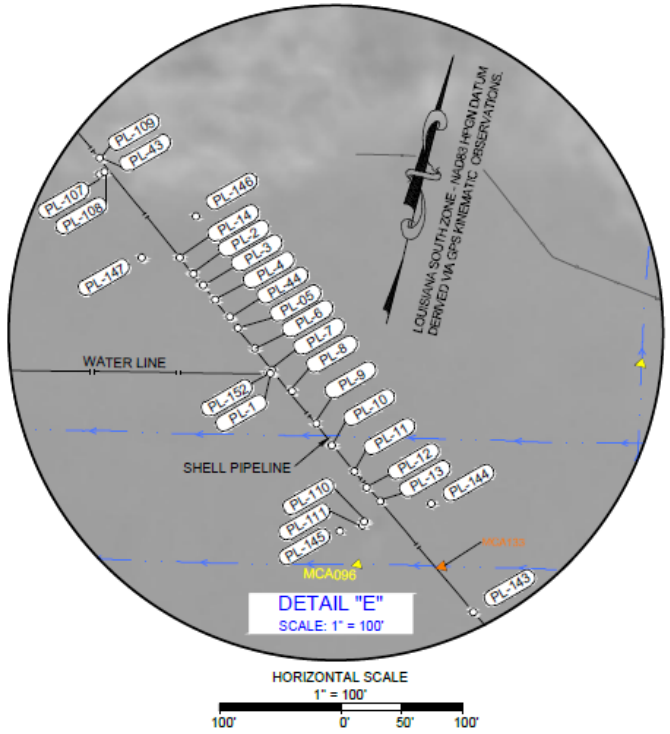
Attribute	Value
Category: PIPELINE ATTRIBUTES	
OPERATOR ID	31728
OPERATOR NAME	GULF SOUTH PIPELINE COMPA...
SYSTEM NAME	293
SUBSYSTEM NAME	LAKE HERMITAGE FLD.LAT.
PIPELINE ID	293-4
MILES	8.18
COMMODITY CATEGORY	Natural Gas
COMMODITY DESCRIPTION	
INTERSTATE DESIGNATION	Y
PIPELINE STATUS CODE	Active (filled)
REVISION DATE	03/09/2021
FRP SEQUENCE NUMBER	
INSPECTION AUTHORITY	PHMSA
Category: GENERAL CONTACT	
FIRST NAME	Brent
LAST NAME	Dhuet
TITLE	Sr. DOT Compliance Specialist
ENTITY	
PHONE	(985) 804-2524
EMAIL	Brent.Dhuet@bwpipelines.com
ADDRESS	351 Technology Lane
CITY	Gray
STATE	LA
ZIP	70359

NPMS

Magnetometer Survey



Marine magnetometer measures magnetic field strength

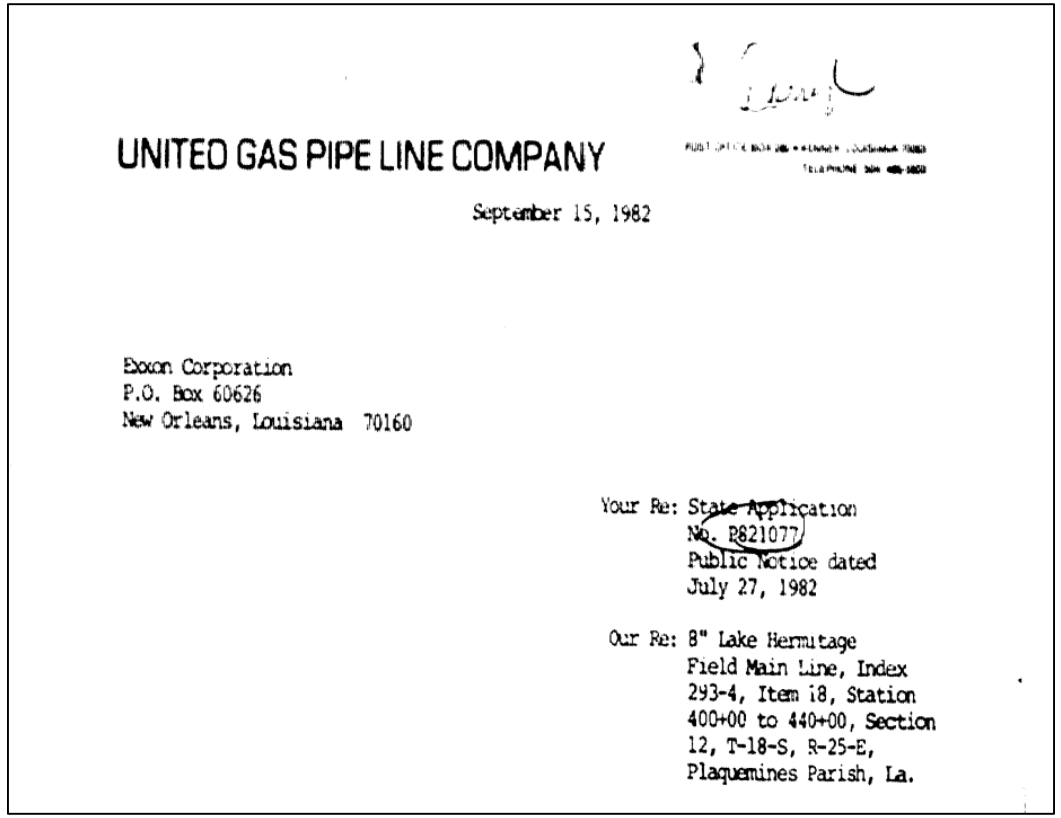


COVER (FT)	WATER DEPTH (FT.)
8.7	4.7
10.8	2.5
11.0	2.8
10.9	3.2
9.7	3.9
9.4	4.3
9.1	4.7
9.1	4.9
9.5	4.1
9.7	3.7
10.1	3.2
10.4	2.9
10.9	2.6
10.8	2.3
8.6	--
11.1	4.2
7.4	--

Suspected pipelines probed to determine **coordinates** and **depth of cover**

Issues with Pipeline Identification

- Database contains pipelines not found in magnetometer survey
- Pipeline picked up in magnetometer survey but not in any database
- Operator no longer exists or responsible party cannot be determined



UNITED GAS PIPE LINE COMPANY

September 15, 1982

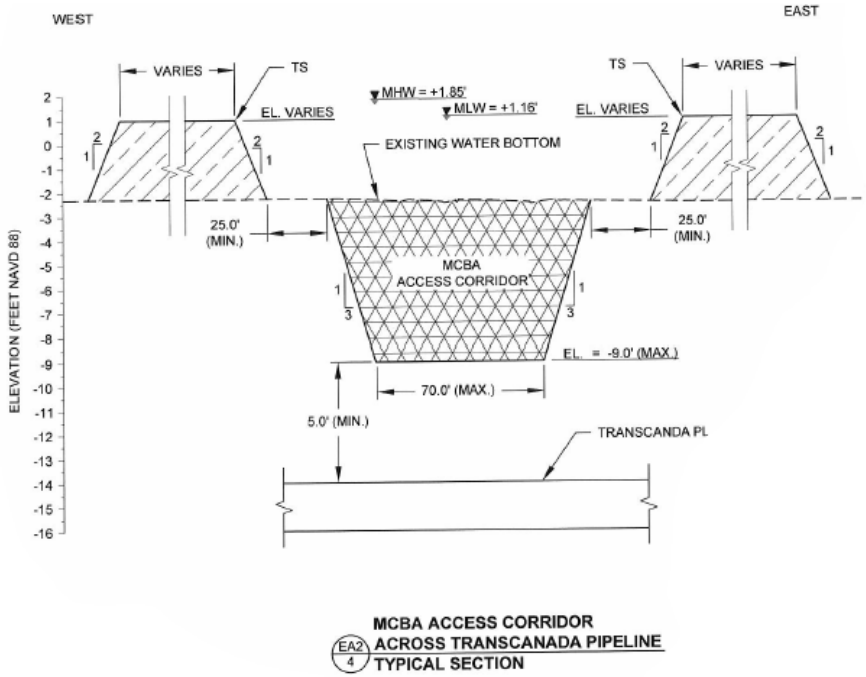
Exxon Corporation
P.O. Box 60626
New Orleans, Louisiana 70160

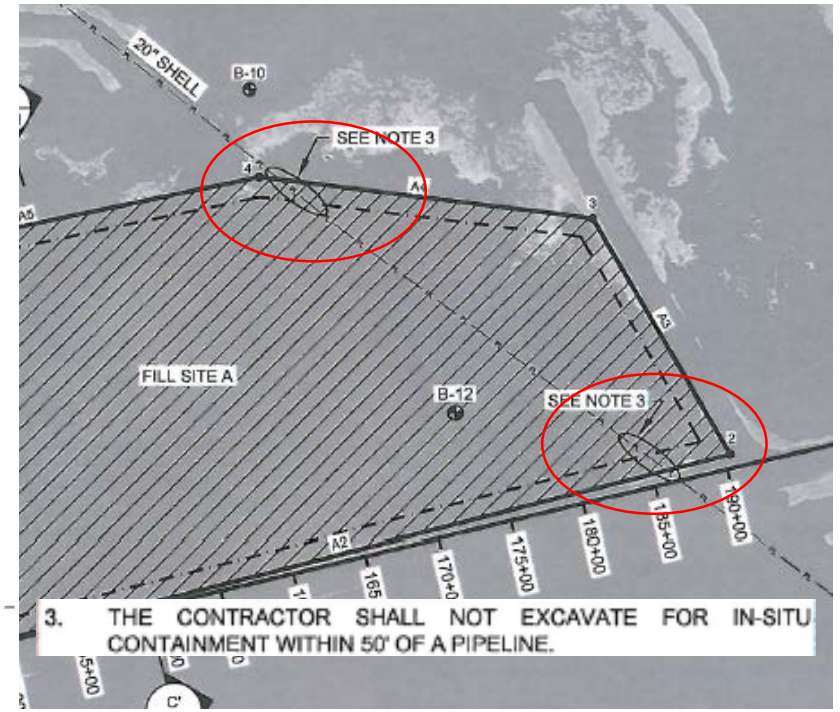
Your Re: State Application
No. P821077
Public Notice dated
July 27, 1982

Our Re: 8" Lake Hermitage
Field Main Line, Index
293-4, Item 18, Station
400+00 to 440+00, Section
12, T-18-S, R-25-E,
Plaquemines Parish, La.

Coordination with Pipeline Operators

- Buffer zones for dredging activities
- Operator monitoring during construction
- Pipeline lowering





Coordination with Pipeline Operators

Access routes may need to be eliminated or altered if access dredging buffer zones or pipeline lowering is not feasible.

Abandoned Pipeline Removal

Pipeline Operator Agreements

- Notice of Construction sent to pipeline operators by CPRA
- Contractor to notify operators prior to commencement of construction activities
- Contractor to get agreements with pipeline operators if required

State of Louisiana

JOHN BEL EDWARDS
GOVERNOR

NOTICE OF CONSTRUCTION

Additional Safety Precautions

- Pre-Construction Survey
- Louisiana 811 (One Call)

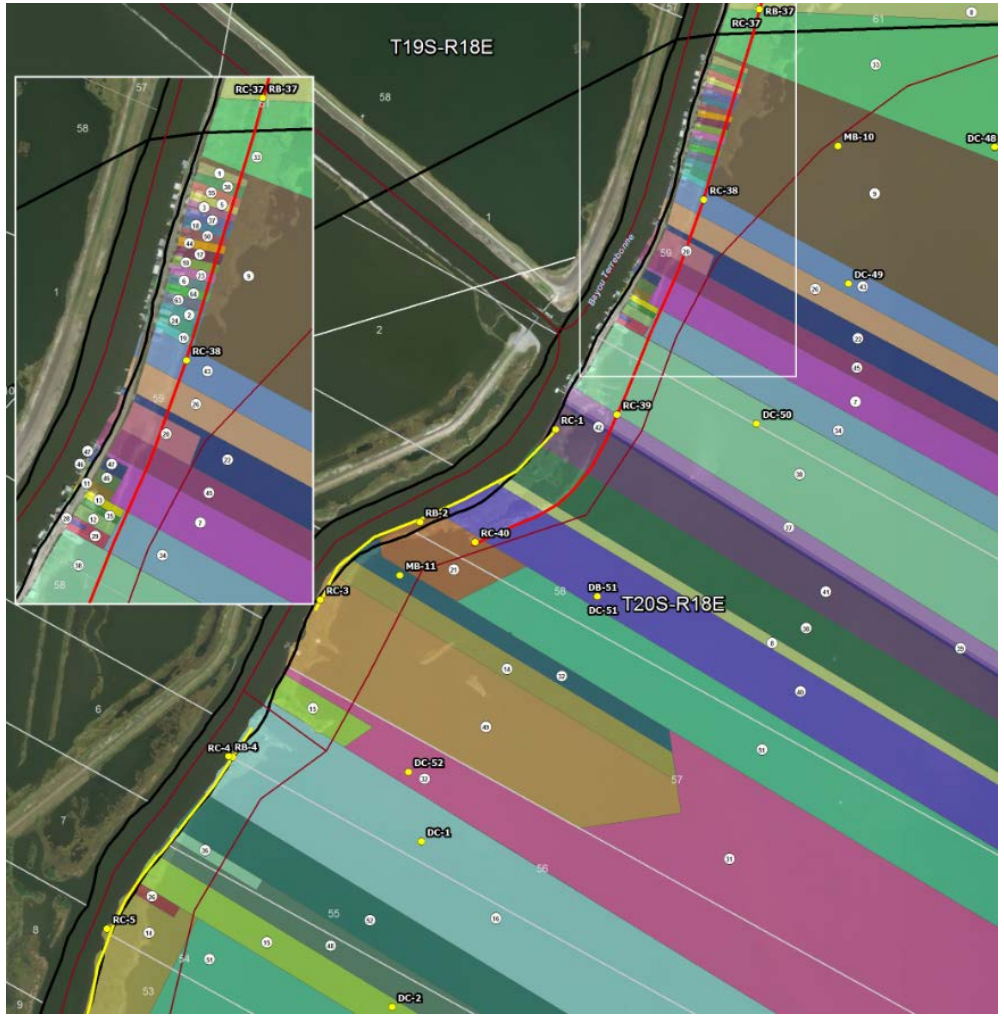
Louisiana 811®
LAONECALL.COM

Landowner Agreements

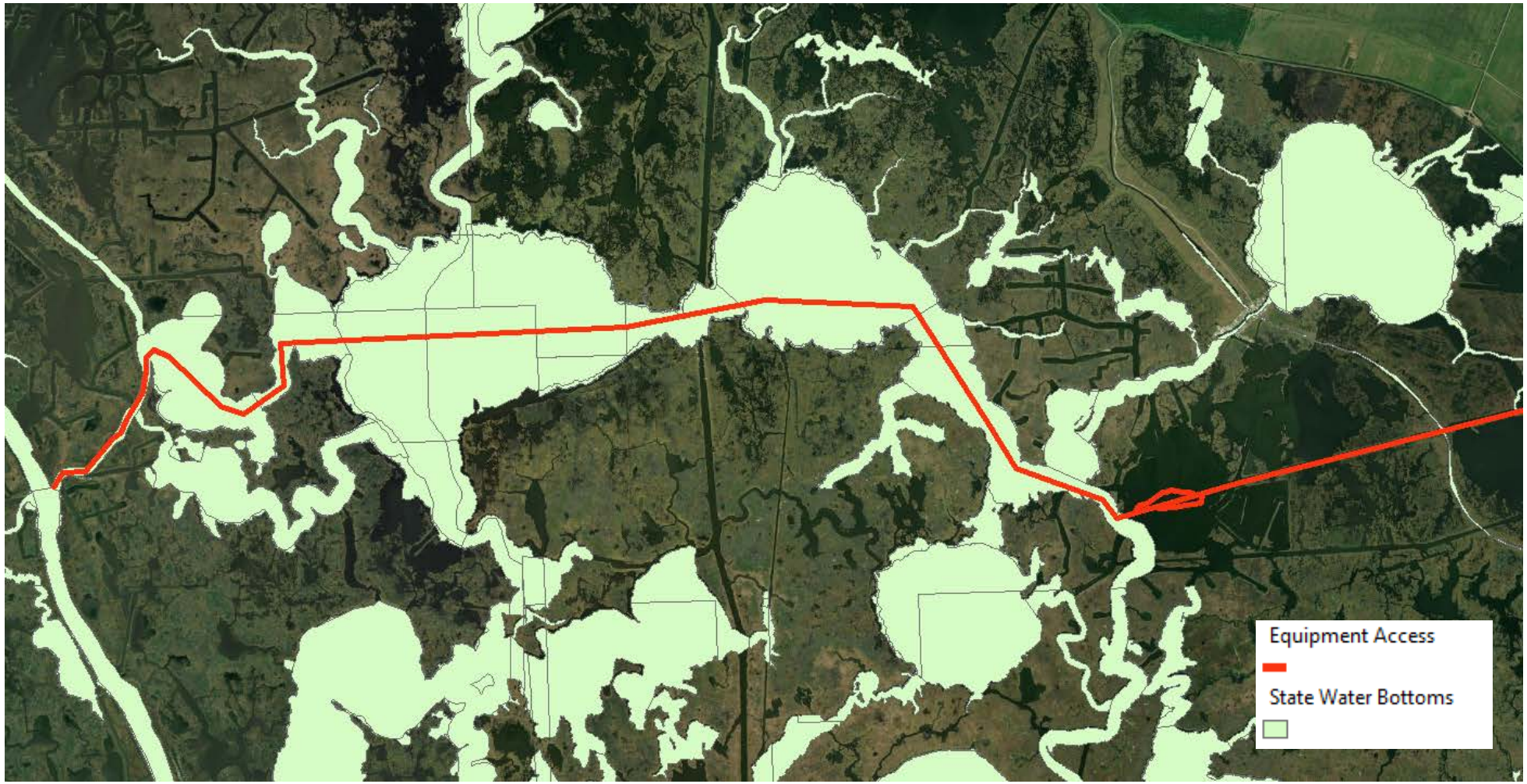
Private Lands

LA Coastal Zone is home to thousands of community residents

Proper coordination with landowners is required



Identifying State Water Bottoms for Access



State Water Bottoms vs. Private in Access Routes

Due to liability, agreements are necessary for all privately owned access routes, including those commonly used by the public.

Agreements are even necessary for state water bottoms (Grant of Particular Use)

Landowner Agreement Process

1. Determine surface ownership in project area

2. Determine impact to surface owners

   - Helps determine which type of agreement to be used

3. Secure agreements with surface owners

   - State lands/water bottoms → Grant of Particular Use

   - Private landowners → Servitude (major activities) or right of passage (flotation access)

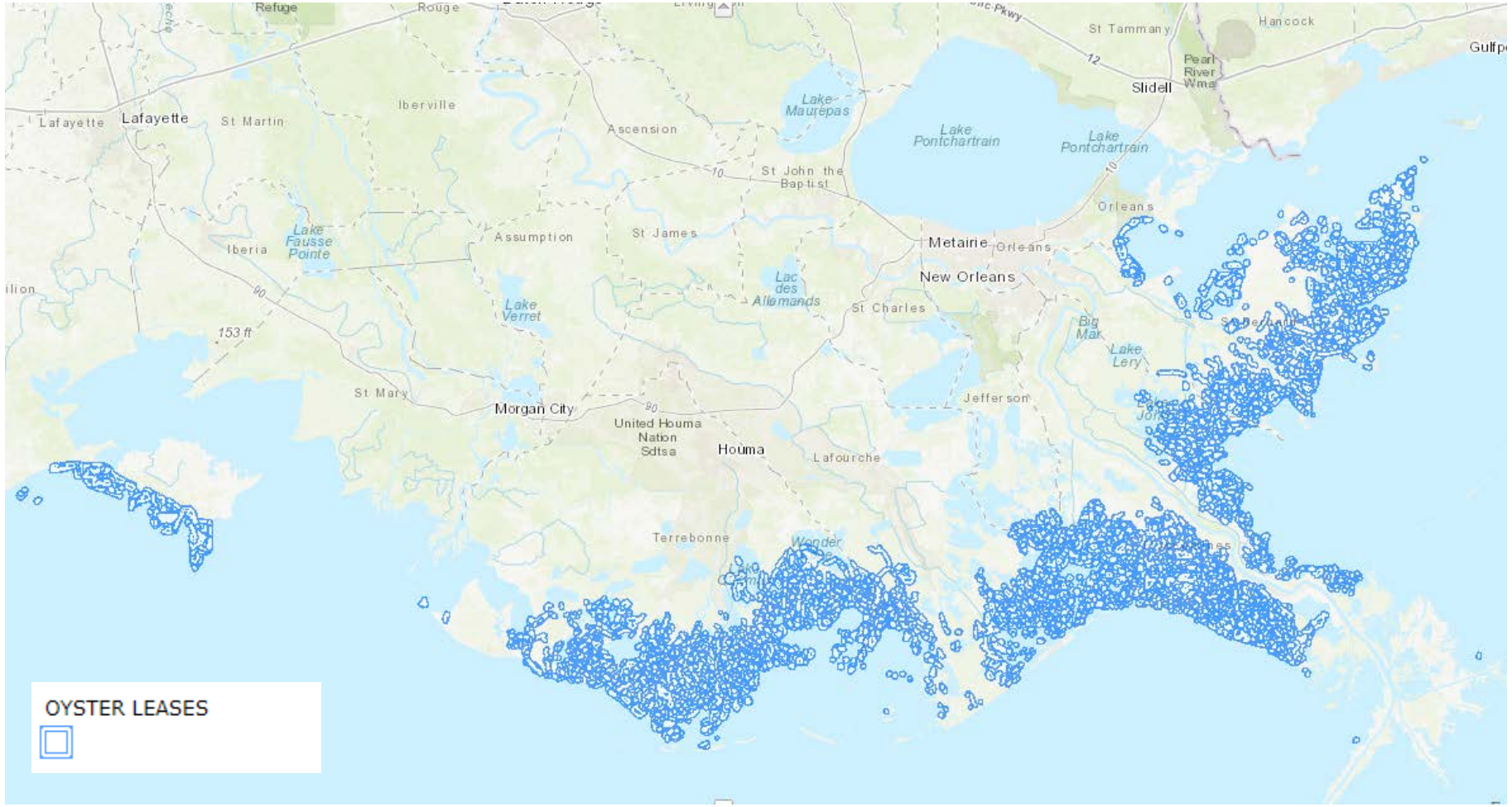
Landowner Agreement Issues

Some landowners may not agree to allow project features. This may include equipment access even if no access dredging is proposed.

Project features and access routes may have to be eliminated or altered to avoid these landowners.

Oyster Resources

Oyster Leases



Oyster Leases

Potential equipment access route eliminated due to excessive amount of oyster leases

Oyster Lease Acquisition and Compensation Program (OLACP)

Louisiana Revised Statutes 56:432.1

CPRA shall acquire and compensate the oyster leaseholder for any activities such as “dredging, direct placement of dredged materials, or other work of activities necessary for the construction or maintenance of a project for integrated coastal protection.”

OLACP Process

1. Identify any oyster lease within 1500 feet of project area and 500 feet of equipment access corridors
2. Biological oyster assessment by certified oyster biologist performed on those leases
3. Oyster lease appraised
4. Oyster leases within 150 feet of direct impact acquired and extinguished; leaseholder compensated

Oyster Seed Grounds

Final Design

Final Design

Final project features should be cleared of all logistical concerns presented throughout this presentation.

- Permitting
- Potential for equipment access dredging
- Cultural resources
- Oil and gas infrastructure
- Land rights
- Oyster resources

Potential impacts to various stakeholders should be reduced.

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