WORK PLAN
24" SSS Pipeline Section Removal in Ship Channel
Permit 14794

BACKGROUND AND SCOPE SUMMARY: The Calhoun Port Authority's Matagorda Ship Channel Improvement Project, requires that a section of the Seahawk Shoreline System, LLC (Genesis Energy, LP) 24" pipeline X1-1000, that crosses the existing ship channel be removed before the new channel dredging project begins. The 24" natural gas service pipeline was installed in 1983 and crosses under the existing Matagorda Bay Ship Channel, at the entrance to Matagorda Bay in the Gulf of Mexico. At the channel crossing location, the pipeline was buried a minimum of 16.5 feet below the mudline, and throughout the remainder of the Safety Fairway, it was buried a minimum of 10 feet below mudline. The 24" pipeline was flushed and filled with seawater in 2016 and is currently out of service. Based on the proposed channel improvement project information, approximately 1,300 feet of the 24" pipe will be uncovered, cut and removed, from one side of the proposed channel to the other.

EQUIPMENT REQUIRED: The equipment that will be required for this scope consists of the following:

- Anchored construction barge with anchor handling tug (see Figure 1). Spread consists of 8-pt mooring system, two cranes; one equipped with hydraulic shears for pipe cutting and one equipped with clamshell for dredging and grapple for pipe recovery, a jet sled for additional pipeline uncovering and a dive spread to assist cutting and plugging of pipeline ends.
- Min. two hopper barges with associated handling tug(s) for transporting spoils from clamshell operations at work site to inshore Matagorda Bay, ACOE-approved placement area. Exact size, quantity and type of barge is subject availability.
- Material (spoils) handling spread for inshore Matagorda Bay placement area, that will include a clamshell crane and/or excavator and suction pumps to remove all spoils from the hopper barges. Exact size, quantity and types of equipment are subject to availability.

WORK SCHEDULE WITHIN SHIP CHANNEL: Work time within the channel shall be coordinated with all appropriate channel authorities, including the ACOE, USGC, the Matagorda Bay Pilots Association and the Calhoun Port Authority. Pending final Calhoun Port Authority and USGC approval, the construction barge shall work for 14 continuous hours each day, then cease all operations, move out of the channel to allow 10 hours per day of daylight access to channel ship traffic, (8:00 a.m. to 6:00 p.m.). The vessel will be moved outside the boundary of the Sea Buoys during the Pilot established traffic hours. Based on this work schedule, the project overall duration will be approximately 4 weeks, not including any weather delays or other downtime. Additionally, the port authority may allow flexibility to continue work during the day if the vessel schedule permits.

METHODOLOGY: The anchored construction barge will be mobilized to the work site and the 8-pt anchor pattern shall be set up on one side of the channel (see Figure 2 for

anchor detail), per attached anchor plot. There are two planned anchor patterns, one for each side of the channel. Anchors are placed such that when vessels need to pass through the channel, only two anchors must be recovered and moved, to maximize continuous working time. After the initial setup on location with survey positioning, divers utilizing jetting and soil removal pumps will uncover the pipe at the starting point, make the initial cuts, remove, and recover the initial short cut section, approx. 20-ft. Divers will insert a plug into the remaining end of the pipe. Survey shall be utilized to confirm and record the plugged pipe end. The anchors will then be recovered, and the barge will be re-located to the opposite side of the channel, using survey positioning to setup on the second location. Divers will then repeat the uncovering, cutting and recovering of the short cut section and plug the opposite end of the pipe, recording the plugged end using survey positioning.

After the initial cutting/plugging, the pipeline uncovering methodology will be by a combination of clamshell dredging (see Figure 3 and 4), performed at the bow of the barge, and water jet sledding, performed at the stern of the barge, along the length of the pipeline in the amount necessary to expose the pipe and allow safe access for hydraulic cutting shear and the connection of recovery lifting cables by divers. The clamshell is planned to excavate the bulk of the soil cover spoil down to approximately 12+ft in the channel (min. 16.5ft of existing cover) and 6ft outside of the channel (min. 10ft of existing cover), in order to maintain a safe distance above the pipeline. The clam-shelled spoils will then be recovered to a hopper barge or similar to be transported off-site to Placement Area 7 (PA-7) as approved and directed by the ACOE, approximately 5.14 miles northwest from the Matagorda Peninsula, along the ship channel (see Figure 6). The water jet sled then passes over the top of the pipeline to further uncover the pipe by means of high-pressure water jet and air lift mechanism which emulsifies the remaining soil bottom cover and disperses the sediment through the water column. The high currents known in the area are conducive to spreading the finely dispersed soils after jetting/emulsification. High-definition sonar survey imaging on-board the construction barge will monitor the area to ensure no build-up in the channel bottom will occur. After the pipeline has been sufficiently uncovered, the cutting and removal will commence (see Figure 5). Pipe cutting is planned with a hydraulic cutting shear, which will be performed by the stern crane. It is estimated that pipe recovery will be in manageable 40 to 50 foot sections. After cutting, the pipe section will be lifted with the pipe grapple on the bow crane and placed on the barge and secured. This method shall be repeated moving across the channel in a single direction until approximately 1,300 feet of pipeline is removed.

All recovered pipe shall be transported to an onshore yard for coating removal, approved disposal, and the recycling of the pipe for scrap metal.

Completion Report and As-Built drawing shall be submitted in accordance with the Army COE permit.

C-Dive – Construction / Lay Barge Speedy

Length- 260 ft
Width – 72 ft
Mooring – 8 point

Figure 1

Barge Anchoring – General
Support Tug Vessel for Anchor Management

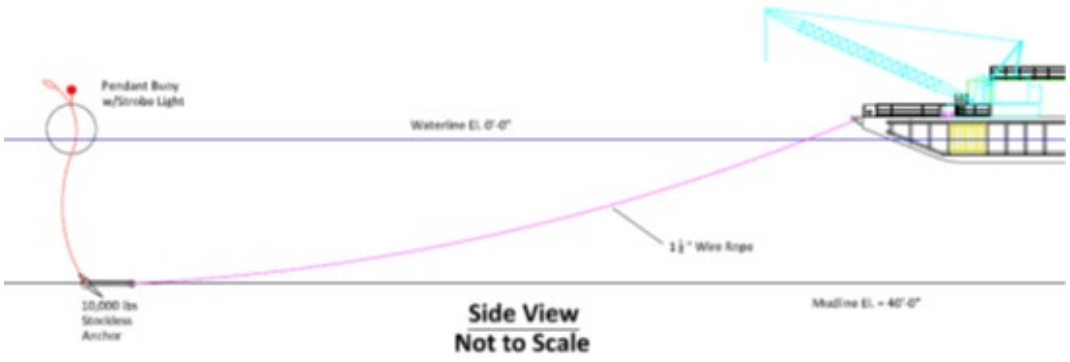


Figure 2

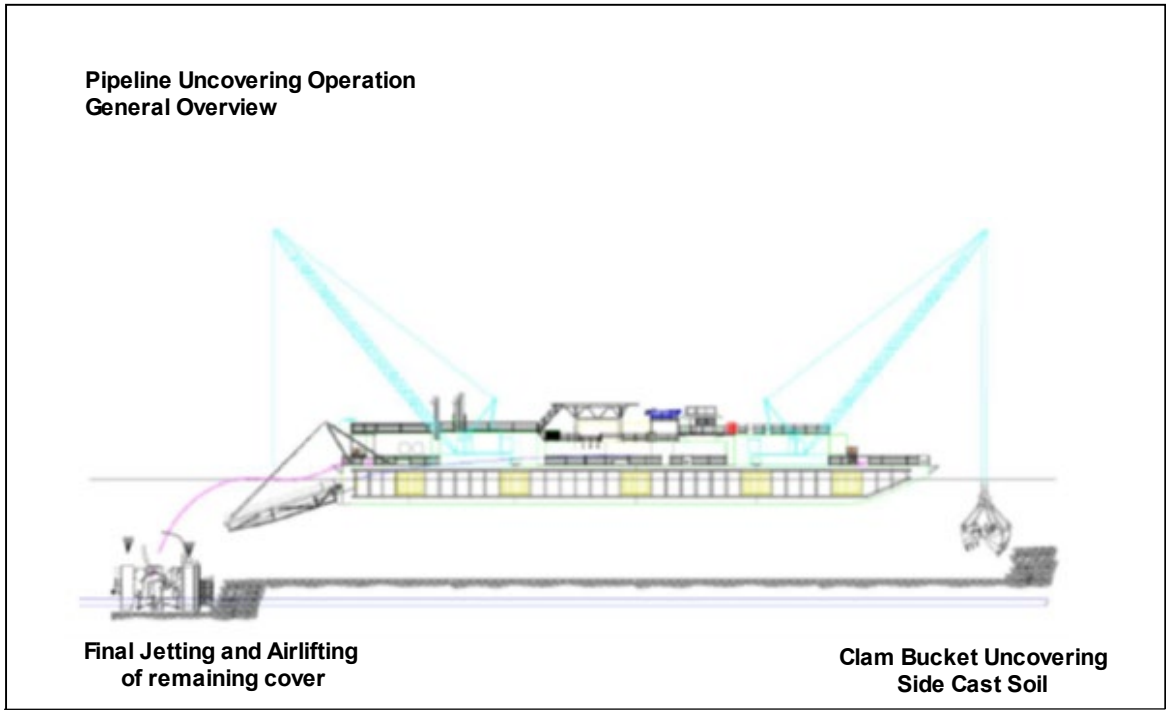


Figure 3

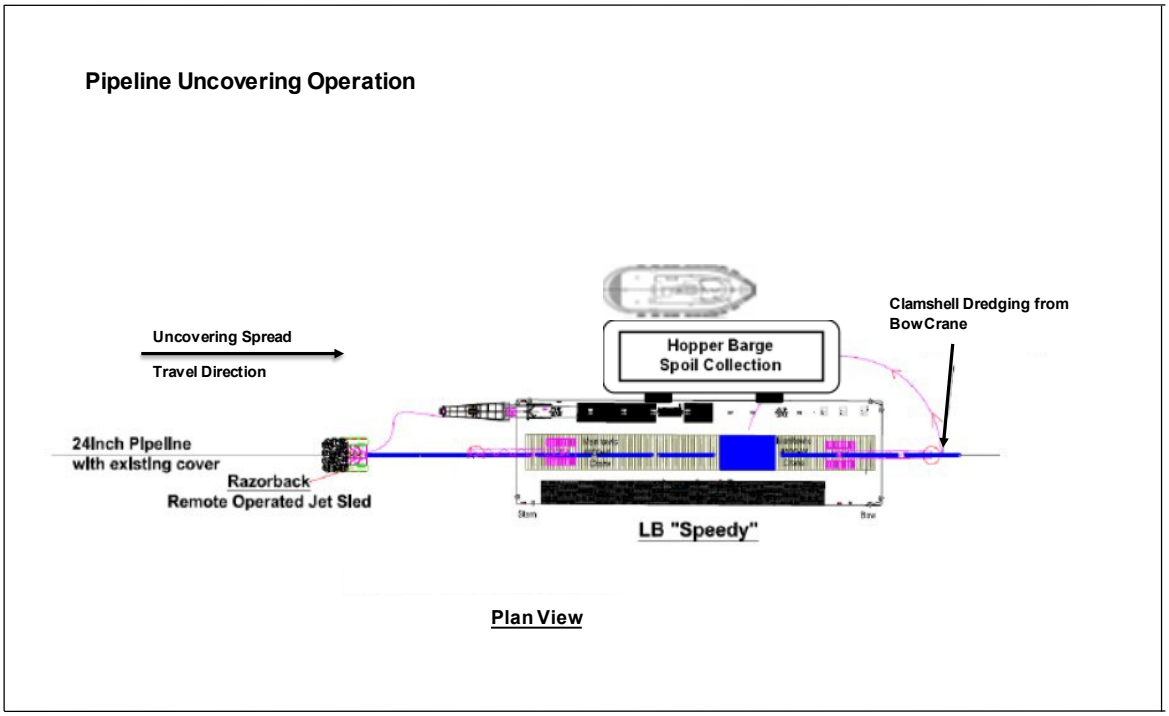


Figure 4

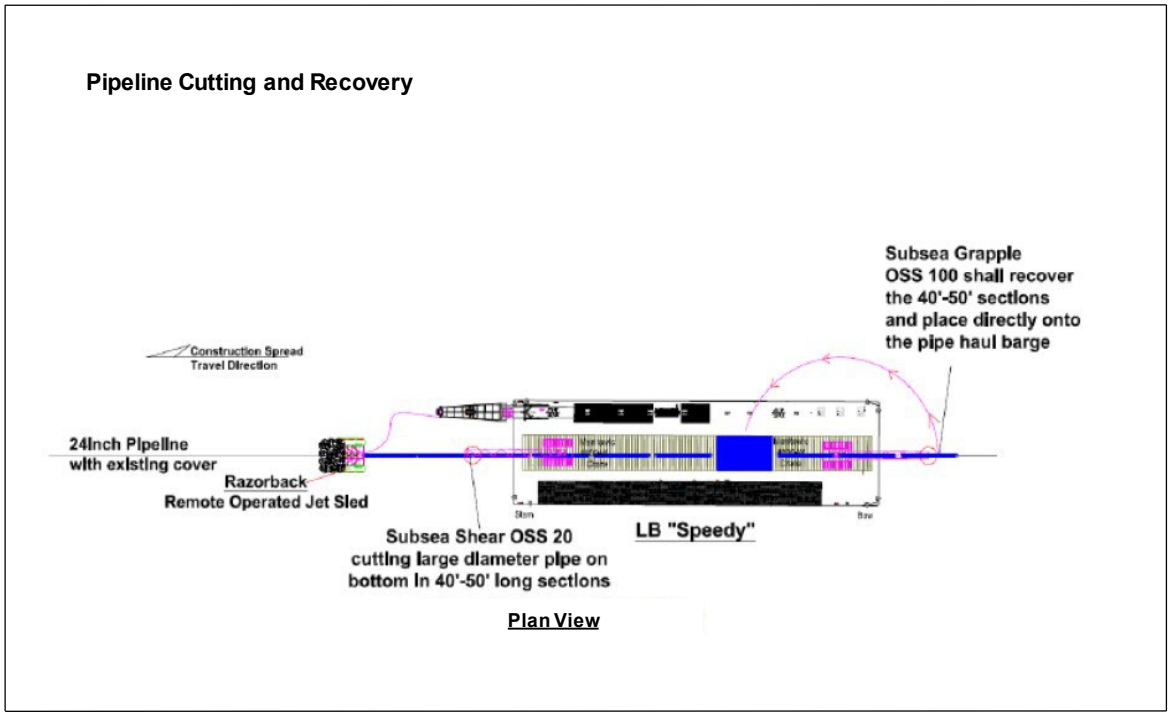


Figure 5

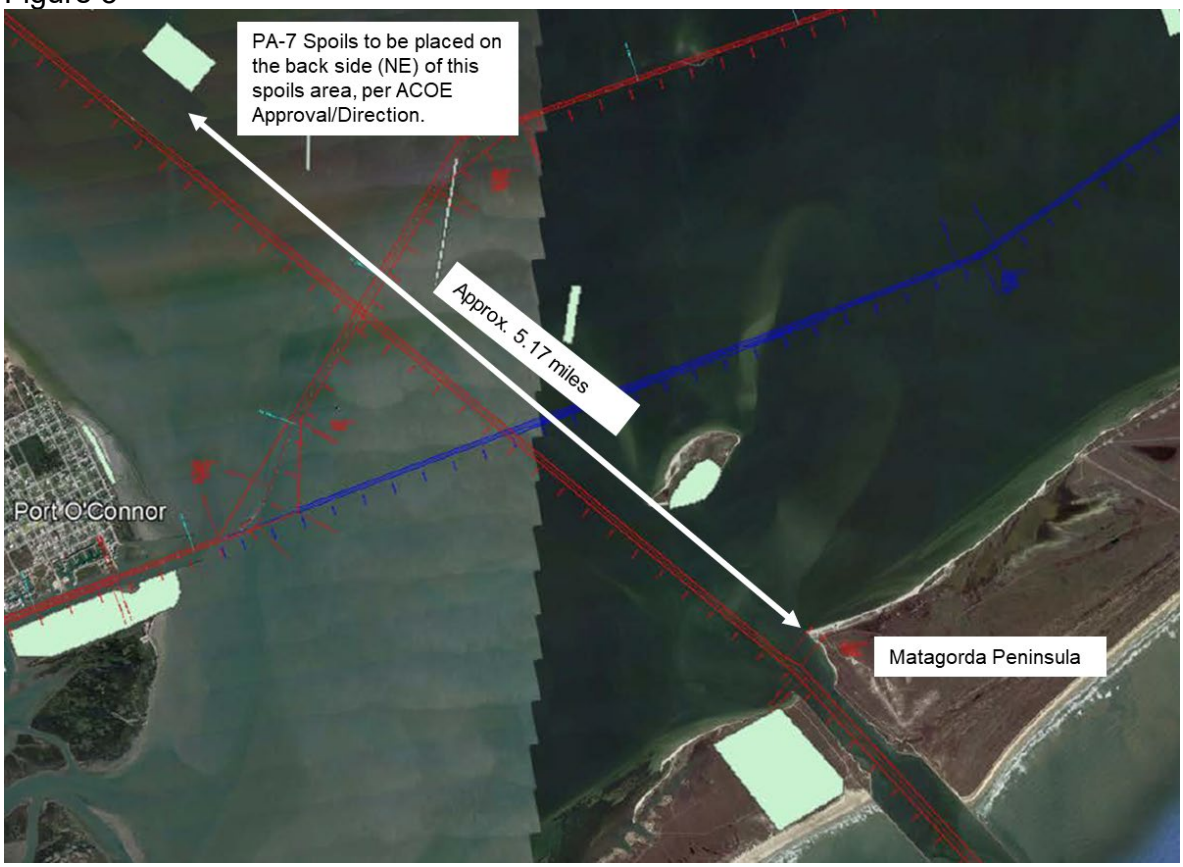


Figure 6

MARKER BUOY
MARKER BUOY
MARKER BUOY
MARKER BUOY
MARKER BUOY

MI 625
MI 624
MI 624
MI 623
MI 523
MI 522

FAIRWAY
FAIRWAY

APPROXIMATE CHANNEL
APPROXIMATE CHANNEL

GENESIS 24" GAS P253368 (TO BE REMAIN IN PLACE)
GENESIS 24" GAS P253368 (TO BE REMAIN IN PLACE)

CHANNEL SAFETY ZONE NORTHEAST EXTENTS
X= 2,871,114.32'
Y= 213,548.65'
Lat. 28° 23' 34.399"N
Long. 96° 17' 25.913"W

CHANNEL SAFETY ZONE NORTHWEST EXTENTS
X= 2,870,687.75'
Y= 213,142.56'
Lat. 28° 23' 30.477"N
Long. 96° 17' 30.793"W

PROPOSED EAST END OF REMOVAL
X= 2,872,418.38'
Y= 212,753.48'
Lat. 28° 23' 26.229"N
Long. 96° 17' 11.522"W

WEST CHANNEL LIMIT
X= 2,871,859.58'
Y= 212,168.79'
Lat. 28° 23' 20.569"N
Long. 96° 17' 17.929"W

CHANNEL SAFETY ZONE SOUTHEAST EXTENTS
X= 2,873,191.34'
Y= 211,451.87'
Lat. 28° 23' 13.167"N
Long. 96° 17' 03.209"W

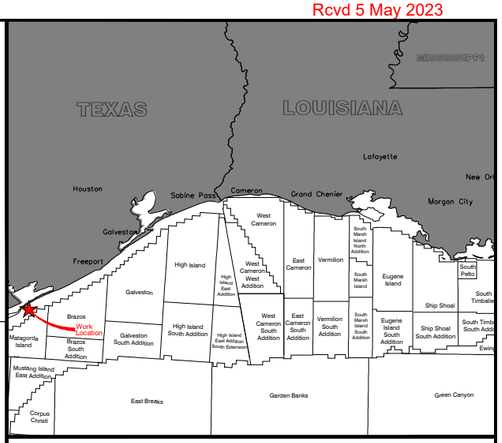
EAST CHANNEL LIMIT
X= 2,872,077.37'
Y= 212,375.20'
Lat. 28° 23' 22.562"N
Long. 96° 17' 15.438"W

CHANNEL SAFETY ZONE SOUTHWEST EXTENTS
X= 2,872,772.55'
Y= 211,037.91'
Lat. 28° 23' 09.165"N
Long. 96° 17' 08.004"W

PROPOSED WEST END OF REMOVAL
X= 2,871,507.15'
Y= 211,827.15'
Lat. 28° 23' 17.268"N
Long. 96° 17' 21.962"W

P1
P2
P3
P4
S1
S2
S3
S4

2500'
3000'
3000'
2500'
42°
850'
1155'
1155'
850'



LEGEND:

- Proposed 24" gas pipeline (P253368) to be removed.
- Proposed 24" gas pipeline (P253368) to remain in-place.
- Boundary block lines.
- Boundary safety fairway.
- Boundary channel extents (approximate).
- Points of interest.
- Maximum anchoring radius.
- Marker Buoy locations.
- Elevation contour lines per USACE dated 05/16/2022.
- 125' radius ring.

SCALE: 1" = 1000'

1000' 500' 0' 1000'

genesisenergy

PROPOSED ANCHOR PLOT

24" GAS (P253368) PARTIAL PIPELINE REMOVAL
MI 523 "WEST" CUT POINT LOCATION
TO MI 523 "EAST" CUT POINT LOCATION
MATAGORDA ISLAND AREA BLOCK 523
CALHOUN COUNTY, TX - GULF OF MEXICO
BARGE HEADING - 042°

Prepared For:	C-Dive, LLC	Drafted By:	C.C.B
Office Location:	Houma, LA	Checked By:	C.C.B
Drawing Name:	MI523_P253368_PARTIAL PL REM_ANCHOR-1	Geodetic Datum:	NAD 27
Revision No.:	9	Projection:	Texas South Central
Date:	September 16, 2022	Grid Units:	US Survey Feet

ANCHOR COORDINATES		
ANCHOR	"X"	"Y"
S1	2875475'	214028'
S2	2875161'	213249'
P1	2873668'	215800'
P2	2872713'	215485'
S3	2872854'	211972'
P3	2871684'	213169'
S4	2871858'	211784'
P4	2871505'	212127'

NOTES:

1. This plat depicts proposed anchor deployment locations and vessel heading at the work site. Final anchor locations and vessel heading may be revised in the field after wind direction, wave height or other varying anchoring factors are determined.
2. This plat was prepared for planning purposes only and may not depict restricted anchoring areas that are deemed biologically sensitive or other locations possibly containing archaeological resources.
3. Data and coordinates contained within this map were compiled from federal, state, and third party information and should not be used for navigational, engineering, or any other purpose requiring exacting measurement of distance or direction. In no event will T. Baker Smith, LLC or associated subcontractors be held liable for any losses or damages that might occur from the use of this map. T. Baker Smith, LLC explicitly disclaims any representations and warranties as to the accuracy or completeness of this map.

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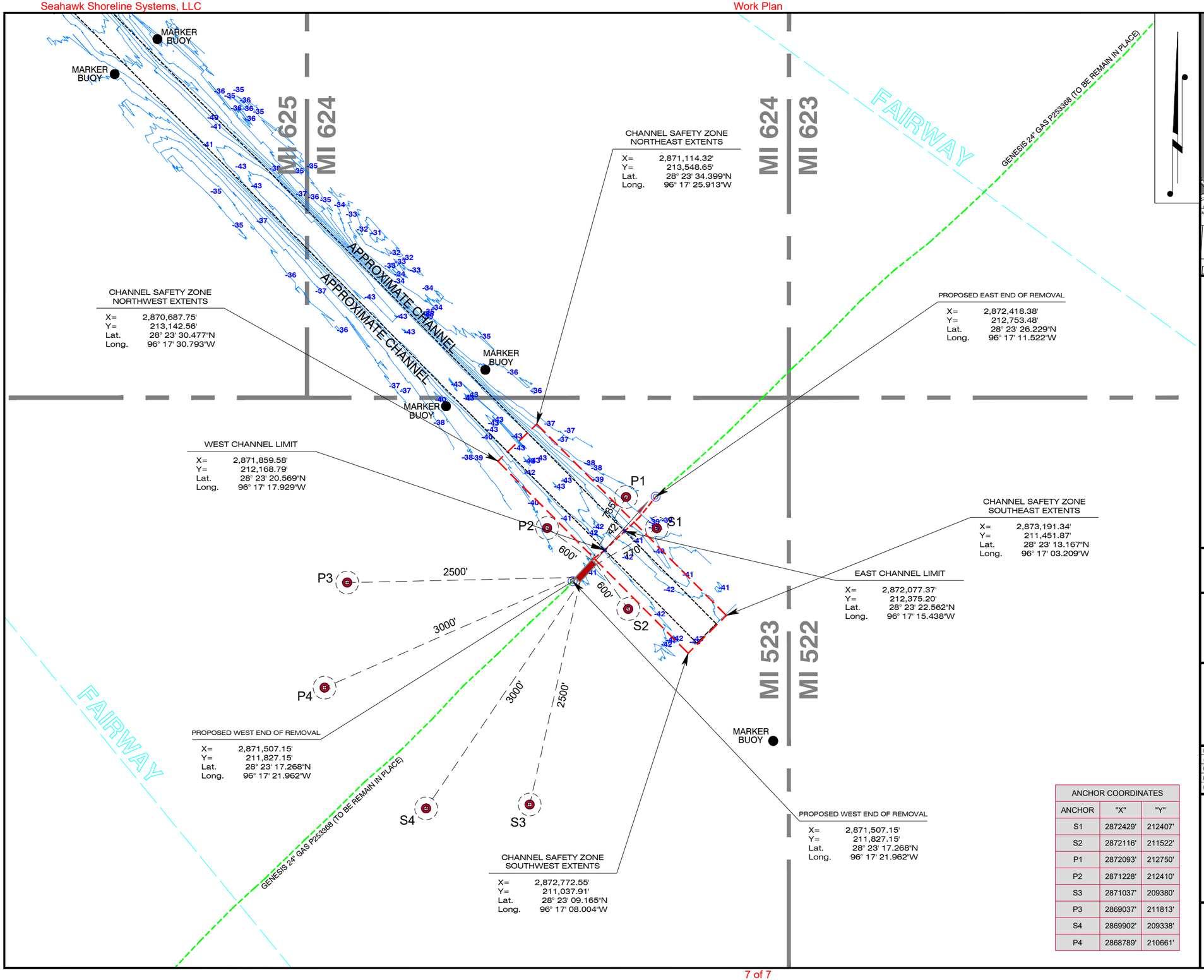

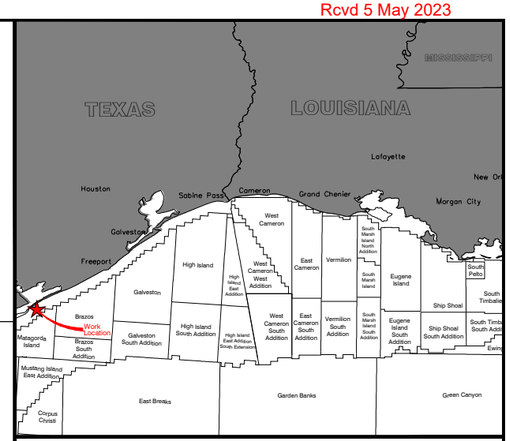

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Revision No.:	9	Projection:	Texas South Central
Date:	September 16, 2022	Grid Units:	US Survey Feet

ANCHOR COORDINATES		
ANCHOR	"X"	"Y"
S1	2872429'	212407'
S2	2872116'	211522'
P1	2872093'	212750'
P2	2871228'	212410'
S3	2871037'	209380'
P3	2869037'	211813'
S4	2869902'	209338'
P4	2868789'	210661'

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