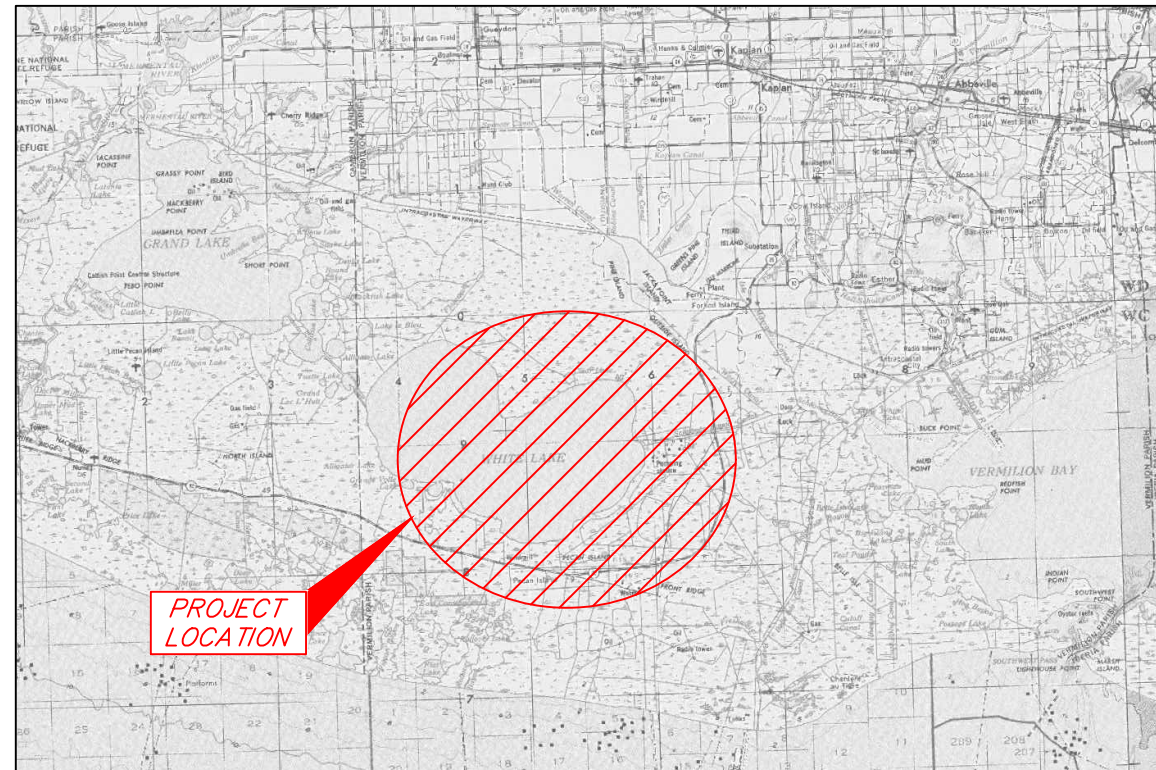


STATE OF LOUISIANA (CPRA)

**SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)**

TOPOGRAPHIC, BATHYMETRIC, AND MAGNETOMETER SURVEY

VERMILION PARISH, LA



VICINITY MAP (N.T.S.)

INDEX TO SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE PAGE
2	OVERALL PLAN VIEW
3	DEMO AREA 1 - PLAN VIEW
4-9	DEMO AREA 1 - SURVEY TRANSECT PROFILE VIEWS
10	DEMO AREA 1 - MAGNETOMETER SURVEY PLAN VIEW
11	DEMO AREA 2 & BREACH AREA - PLAN VIEW
12-18	DEMO AREA 2 & BREACH AREA - SURVEY TRANSECT PROFILE VIEWS
19	DEMO AREA 2 & BREACH AREA - MAGNETOMETER SURVEY PLAN VIEW
20	SCHOONER BAYOU-PLAN VIEW
21	SCHOONER BAYOU - SURVEY TRANSECT PROFILE VIEWS
22	SCHOONER BAYOU BRIDGE - PLAN/PROFILE VIEW



THIS MAP REPRESENTS AN ACTUAL FIELD
SURVEY MADE UNDER DIRECT
SUPERVISION OF THE UNDERSIGNED

Keith J. Roberts

KEITH J. ROBERTS, PLS # 4780
HYDROTERRA TECHNOLOGIES, LLC
LAND SURVEYING FIRM NO. 614
202 JACOBS RUN
SCOTT, LOUISIANA 70583
(337) 706-8219

REVISED BY:	DATE:
TPF	05/14/2018
PLAN SCALE SCALE: NTS	
NTS NTS NTS NTS	
DATE: 03/28/2018	JOB# 2181005



STATE OF LOUISIANA (CPRA)
*SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)*
TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
TITLE PAGE
VERMILION PARISH, LA

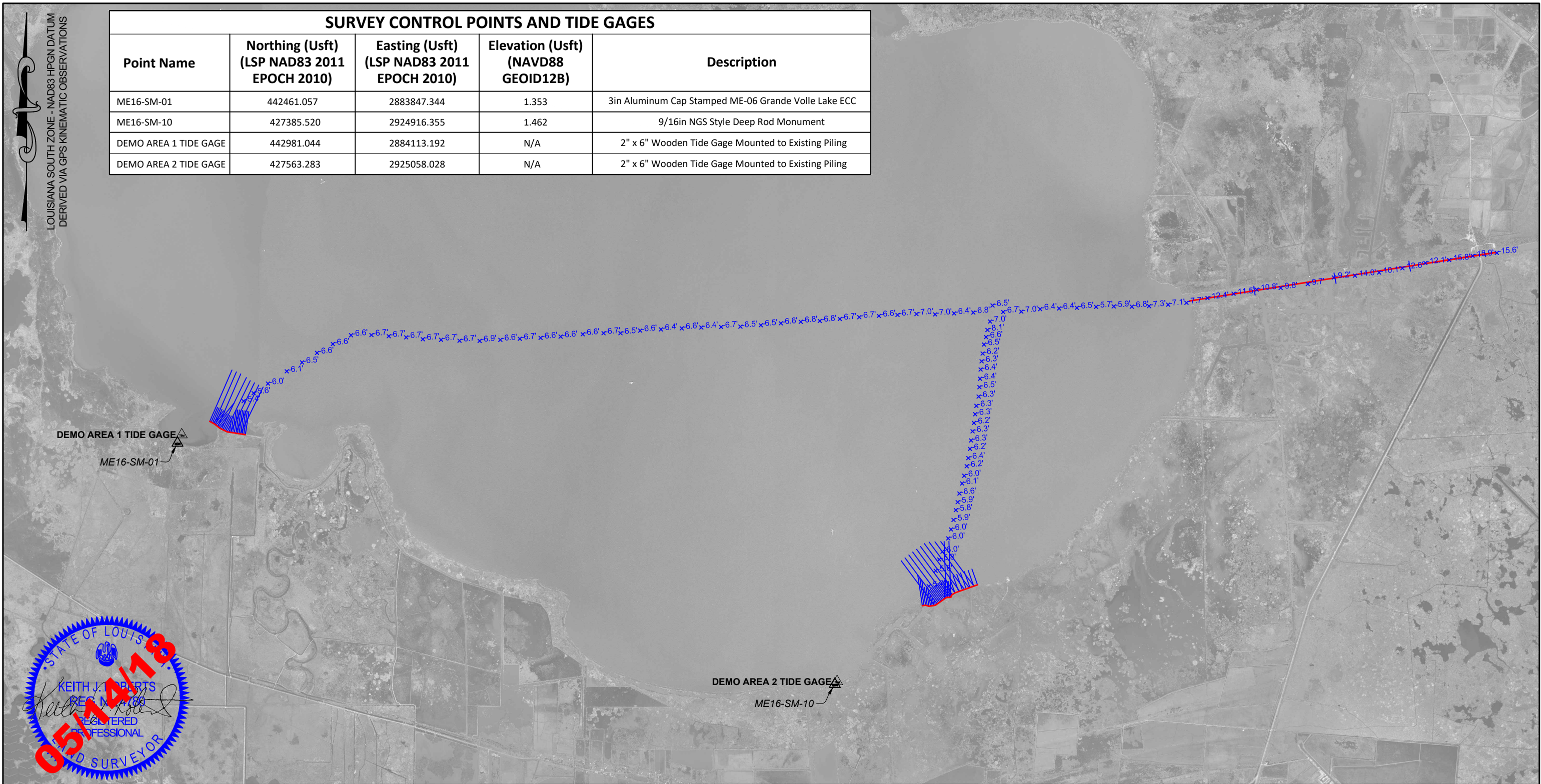
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

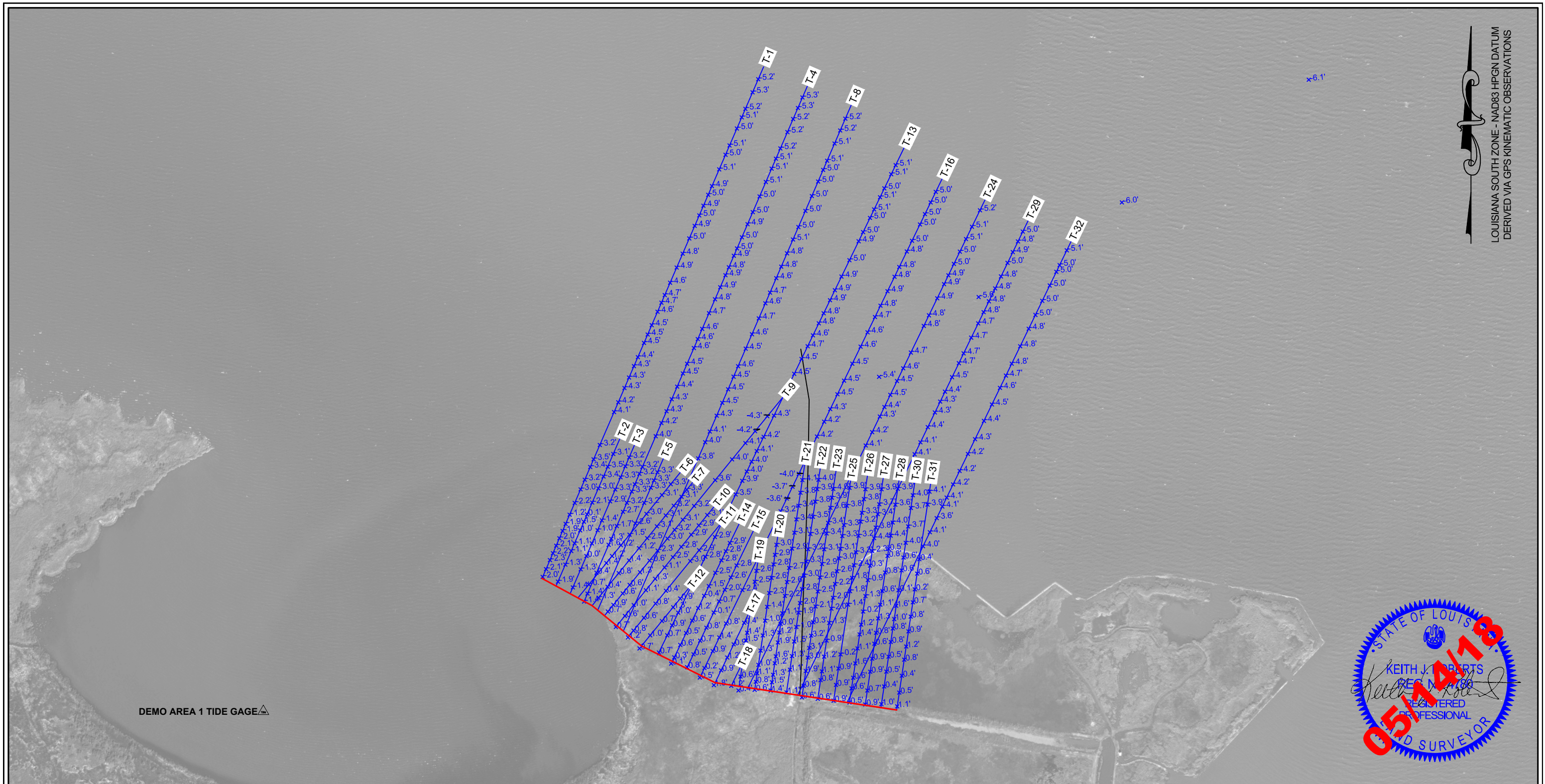
SHEET: 1 OF 22

LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS

SURVEY CONTROL POINTS AND TIDE GAGES				
Point Name	Northing (Usft) (LSP NAD83 2011 EPOCH 2010)	Easting (Usft) (LSP NAD83 2011 EPOCH 2010)	Elevation (Usft) (NAVD88 GEOID12B)	Description
ME16-SM-01	442461.057	2883847.344	1.353	3in Aluminum Cap Stamped ME-06 Grande Volle Lake ECC
ME16-SM-10	427385.520	2924916.355	1.462	9/16in NGS Style Deep Rod Monument
DEMO AREA 1 TIDE GAGE	442981.044	2884113.192	N/A	2" x 6" Wooden Tide Gage Mounted to Existing Piling
DEMO AREA 2 TIDE GAGE	427563.283	2925058.028	N/A	2" x 6" Wooden Tide Gage Mounted to Existing Piling



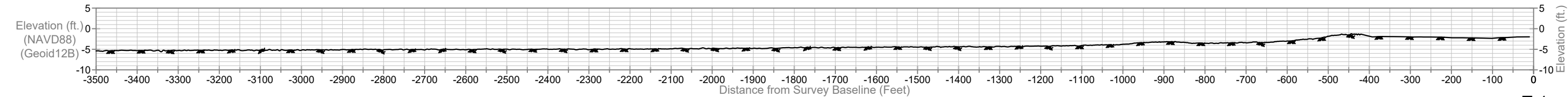
NOTES: 1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10 & ME16-SM-01). 2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12B) AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10 & ME16-SM-01). 3. HYDROGRAPHIC SURVEY DATA ACQUISITION PERFORMED WITH AN ODOM MKIII 200kHz TRANSDUCER INTEGRATED WITH RTK. 4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY. 5. BATHYMETRIC SURVEY DATA ACQUISITION WAS PERFORMED BY HYDROTERRA TECHNOLOGIES, LLC ON FEBRUARY 26, 2018 AND MARCH 1, 2018. 6. TOP OF WATER ELEVATION AT THE TIME OF SURVEY ON FEBRUARY 26, 2018 WAS 0.68 FEET, AND ON MARCH 1, 2018 WAS 1.13 FEET. 7. VESSEL AND TRANSDUCER DRAFT WAS ACCOUNTED FOR WITH DAILY PRE-SURVEY MEASUREMENTS AND CHECKS, THEREFORE THE MEASUREMENTS SHOWN ARE ACTUAL WATER DEPTHS WITH NO FURTHER CALCULATIONS REQUIRED.	PROJECT ALIGNMENTS SURVEY CROSS-SECTIONS -4.0' ELEVATIONS IN FEET (NAVD88 GEOID12B)	REVISED BY:		DATE:		 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY OVERALL PLAN VIEW VERMILION PARISH, LA						
		TPF		05/14/2018									
		HORIZONTAL SCALE 1" = 6,000' 6,000' 0' 3,000' 6,000'						PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583					
		DATE: 03/28/2018		JOB# 2181005		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg				SHEET: 2 OF 22			



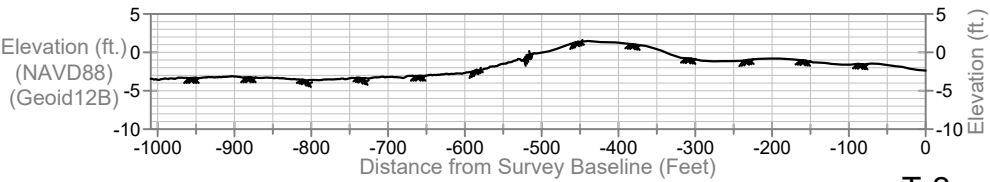
DEMO AREA 1 TIDE GAGE



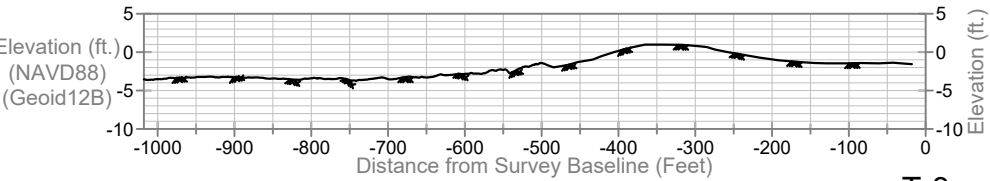
NOTES: 1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM PROJECT CONTROL (ME16-SM-01) VIA GPS KINEMATIC OBSERVATIONS. 2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12B) AS DERIVED FROM PROJECT CONTROL (ME16-SM-01). 3. HYDROGRAPHIC SURVEY DATA ACQUISITION PERFORMED WITH AN ODOM MKIII 200kHz TRANSDUCER INTEGRATED WITH RTK. 4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY. 5. BATHYMETRIC SURVEY DATA ACQUISITION WAS PERFORMED BY HYDROTERRA TECHNOLOGIES, LLC ON FEBRUARY 23 & 27, 2018. 6. TOP OF WATER ELEVATION AT THE TIME OF SURVEY ON FEBRUARY 23, 2018 WAS 0.65 FEET, AND ON FEBRUARY 27, 2018 WAS 0.90 FEET. 7. VESSEL AND TRANSDUCER DRAFT WAS ACCOUNTED FOR WITH DAILY PRE-SURVEY MEASUREMENTS AND CHECKS, THEREFORE THE MEASUREMENTS SHOWN ARE ACTUAL WATER DEPTHS WITH NO FURTHER CALCULATIONS REQUIRED.	LEGEND DEMONSTRATION AREA 1 ALIGNMENT SURVEY CROSS-SECTIONS -4.0' ELEVATIONS IN FEET (NAVD88 GEOID12B) EXISTING PIPELINE	REVISED BY:	DATE:	  PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 1 – PLAN VIEW VERMILION PARISH, LA
		TPF	05/14/2018		
		HORIZONTAL SCALE 1" = 600' 600' 0' 300' 600'			
		DATE: 03/28/2018	JOB# 2181005	FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg	SHEET: 3 OF 22



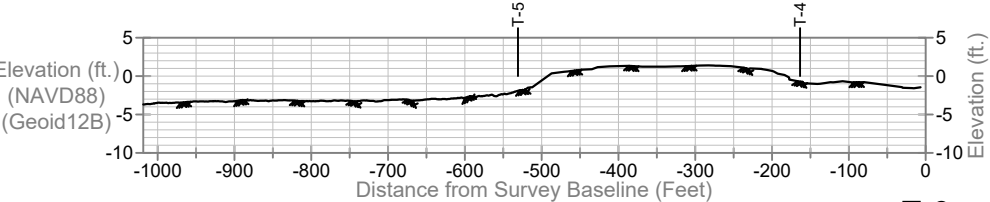
T-1



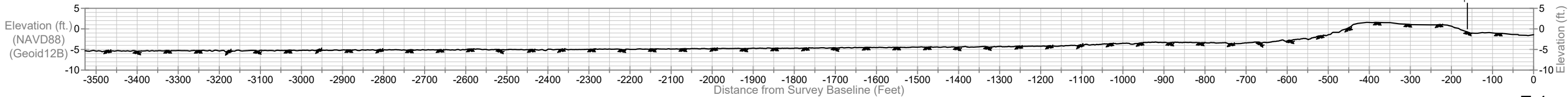
T-2



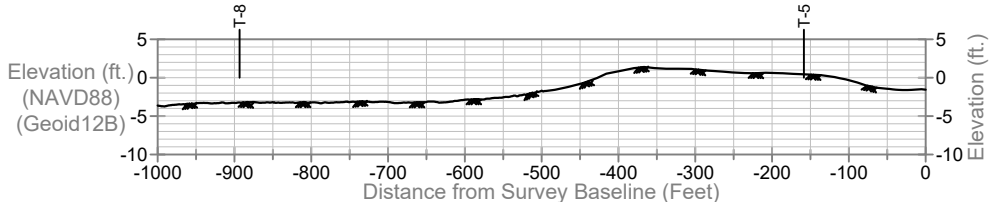
T-3



T-6



T-4

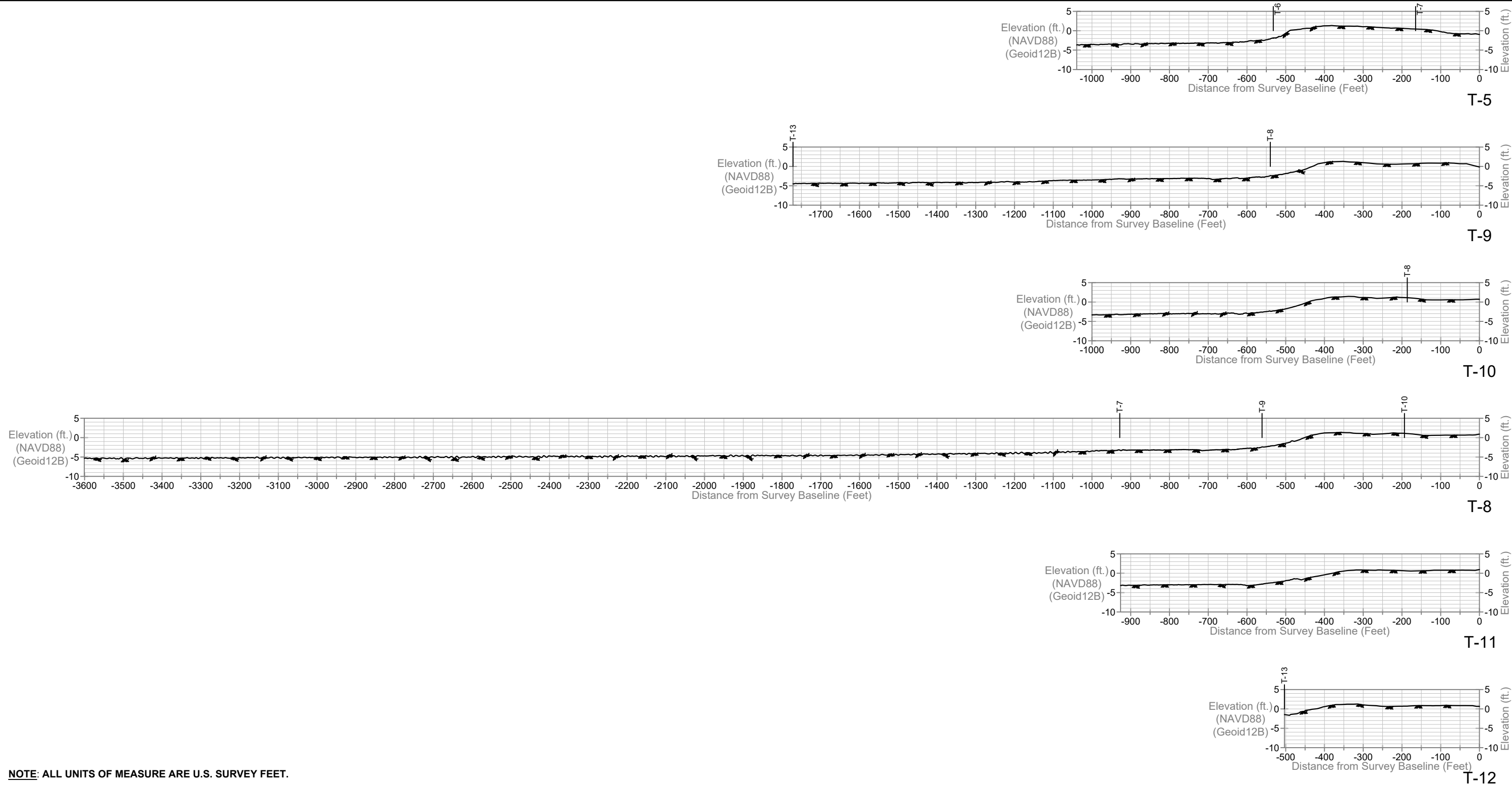


T-7

NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.

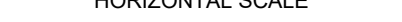
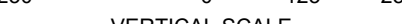


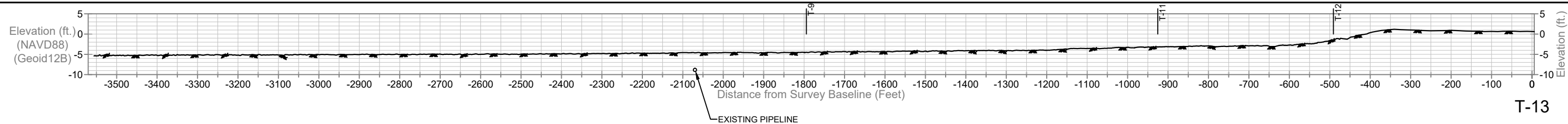
LEGEND		REVISED BY:		DATE:		 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS  COSTAL PROTECTION AND RESTORATION AUTHORITY CPRA		STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA	
NATURAL GROUND		TPF		05/14/2018					
HORIZONTAL SCALE 250' 0' 125' 250' VERTICAL SCALE 25' 0' 12.5' 25' <td colspan="2">HORIZONTAL SCALE</td> <td colspan="2">05/14/2018</td> <td colspan="2" rowspan="3">PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583</td>		HORIZONTAL SCALE		05/14/2018		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583			
		TPF							
DATE: 03/28/2018		JOB# 2181005		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg		SHEET: 4 OF 22			



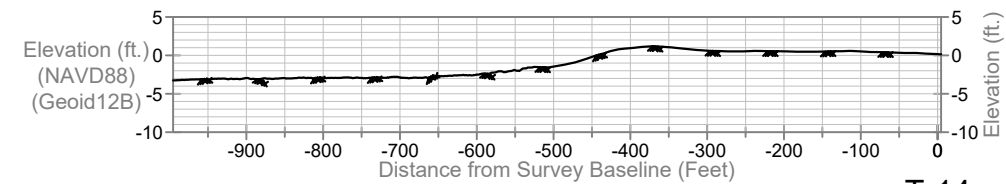
NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



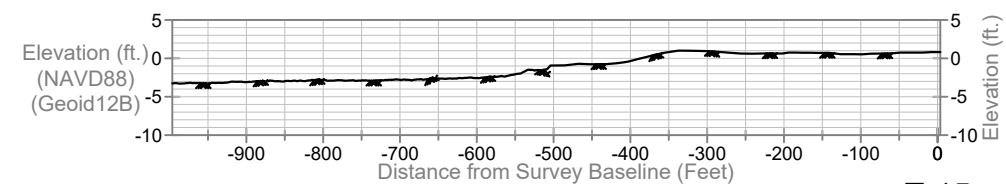
LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA
 NATURAL GROUND	TPF	05/14/2018			
	HORIZONTAL SCALE				
					
	VERTICAL SCALE				
					
	DATE: 03/28/2018	JOB# 2181005	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
	FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg				SHEET: 5 OF 22



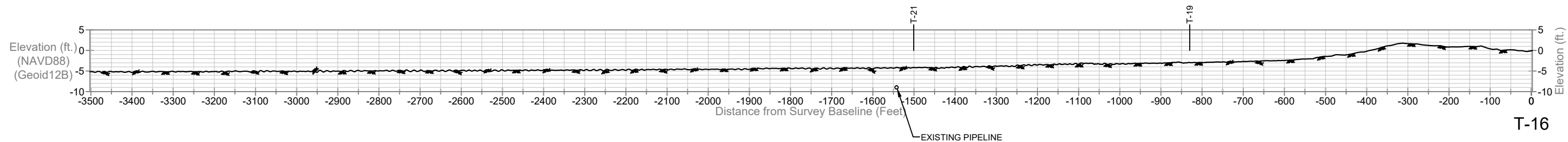
T-13



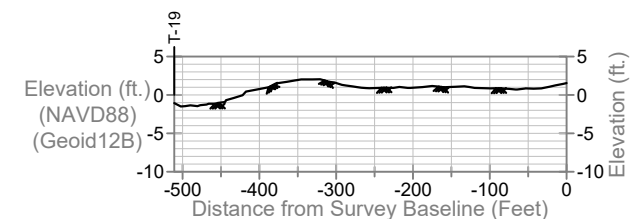
T-14



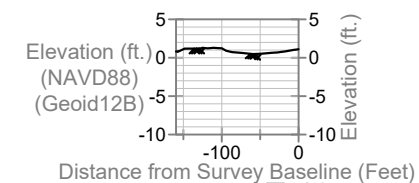
T-15



T-16



T-17

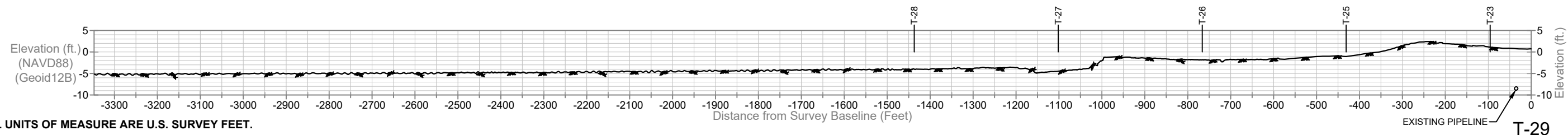
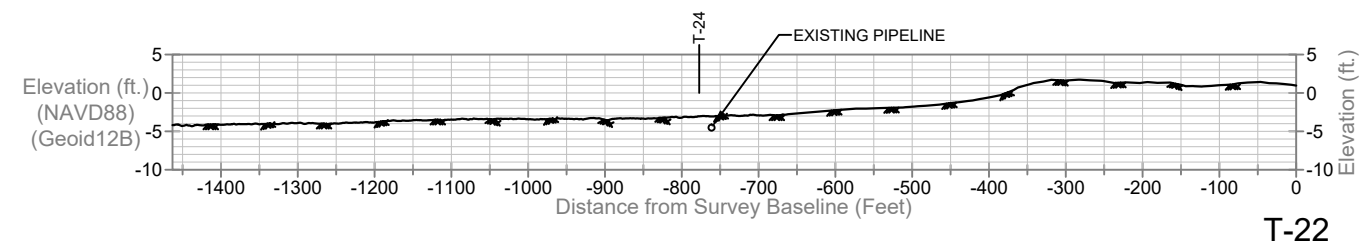
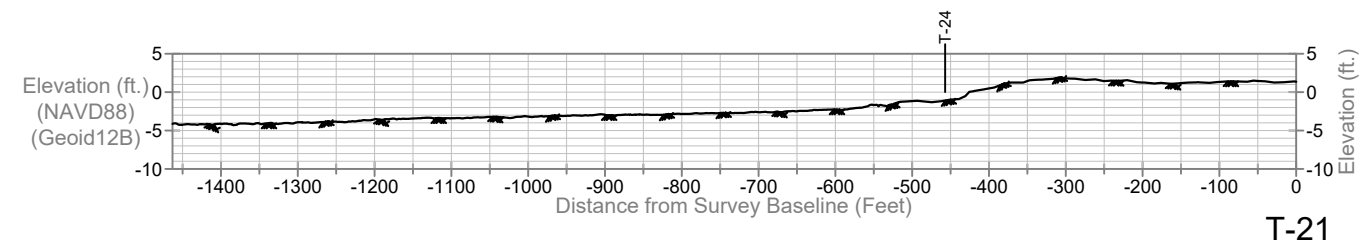
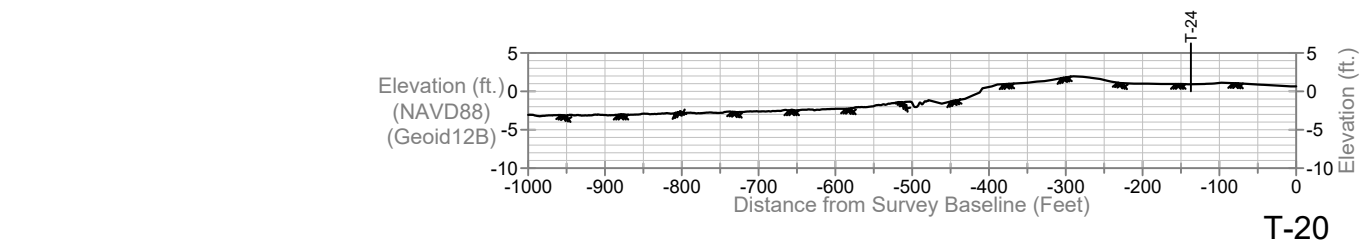
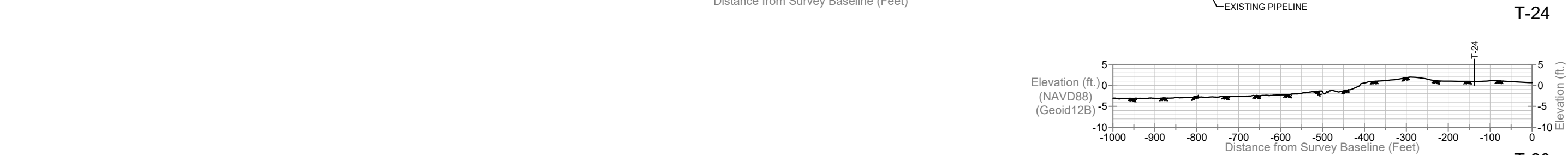
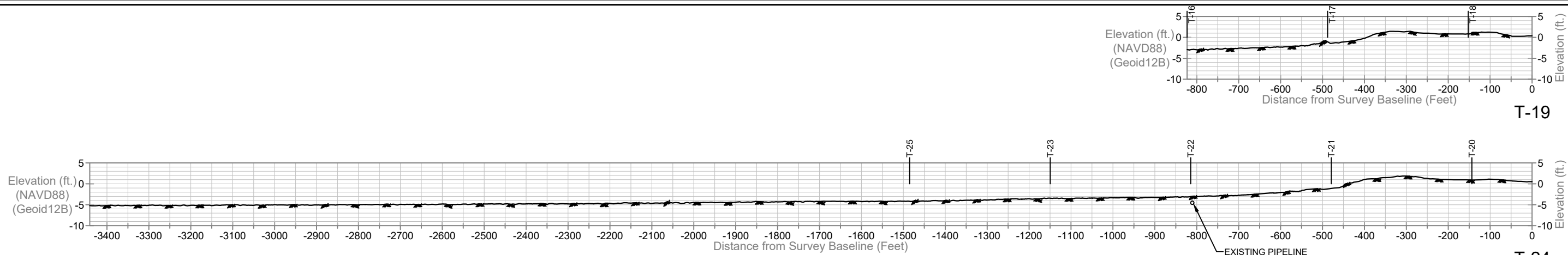


T-18

NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA
 NATURAL GROUND	TPF	05/14/2018			
	HORIZONTAL SCALE			PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	SHEET: 6 OF 22
					
	VERTICAL SCALE				
				FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg	
	DATE: 03/28/2018		JOB# 2181005		



NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND	
	NATURAL GROUND

REVISED BY:	DATE:
TPF	05/14/2018
HORIZONTAL SCALE	
250' 0' 125' 250'	
VERTICAL SCALE	
25' 0' 12.5' 25'	
DATE: 03/28/2018	JOB# 2181005

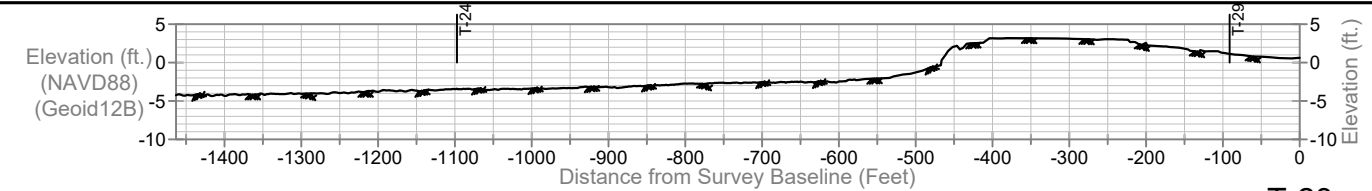

HYDROTERRA
 TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



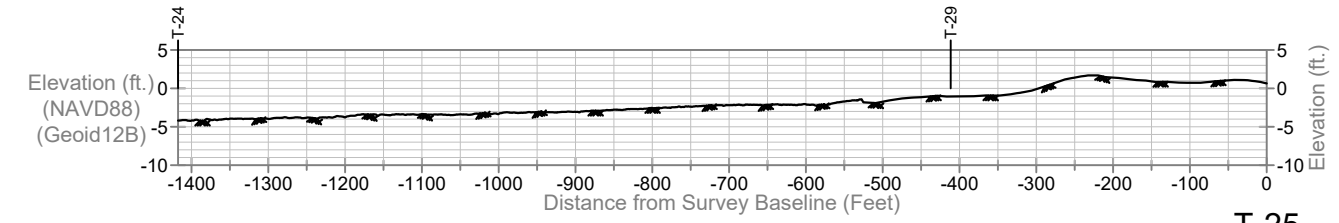
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583
 FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)
 SHORELINE PROTECTION, PRESERVATION, AND
 RESTORATION PANEL DEMONSTRATION (LA-0280)
 TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
 DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS
 VERMILION PARISH, LA

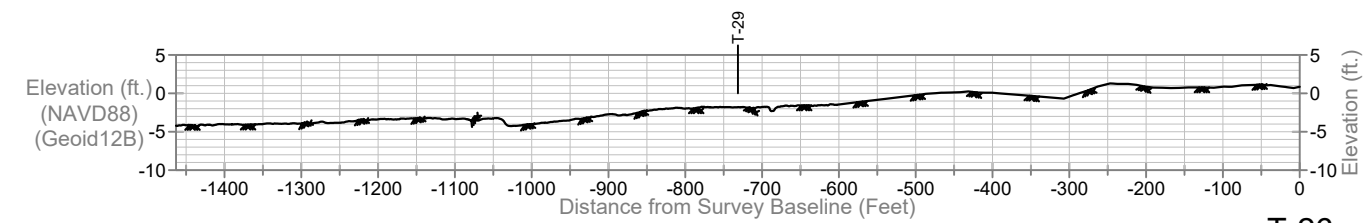
SHEET: 7 OF 22



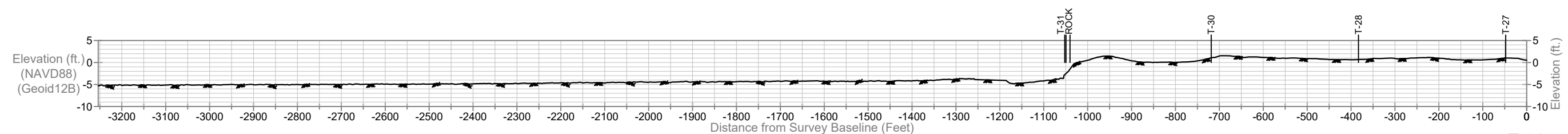
T-23



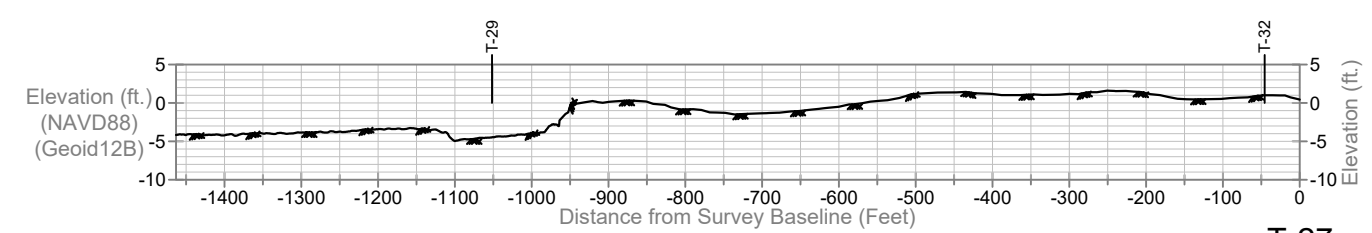
T-25



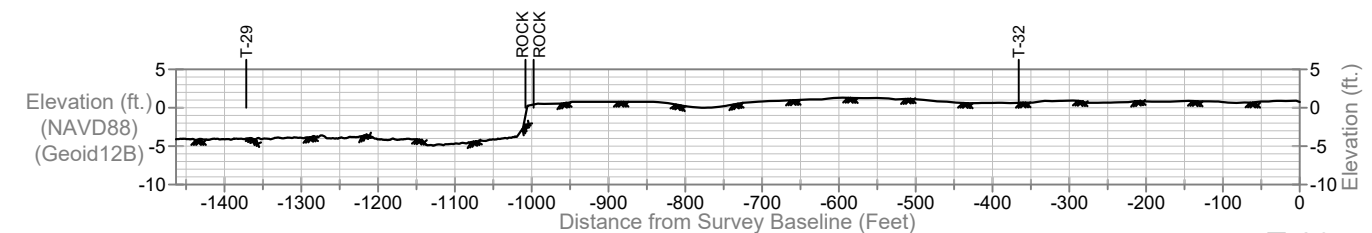
T-26



T-32



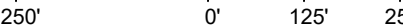
T-27

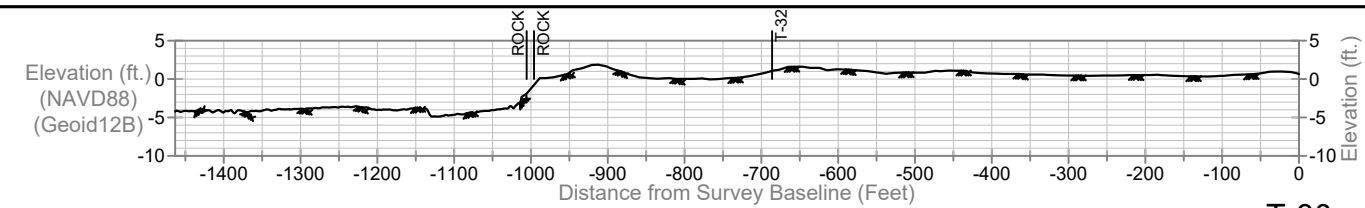


T-28

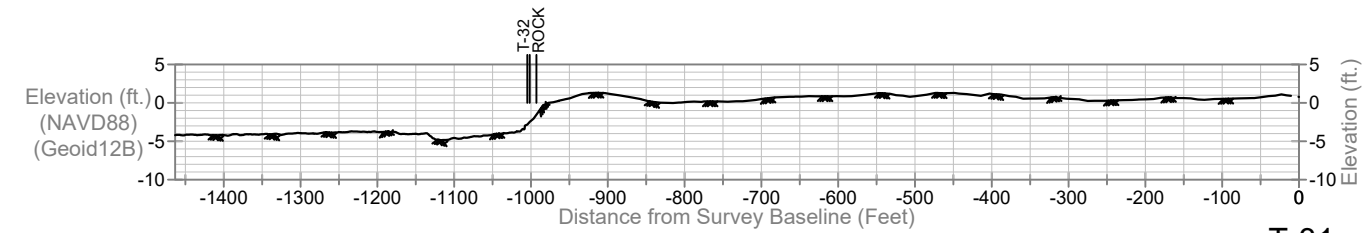
NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND		REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS	STATE OF LOUISIANA (CPRA) <i>SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280)</i> <i>TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY</i> DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA	
 NATURAL GROUND	TPF	05/14/2018				
	HORIZONTAL SCALE		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583			
						
	VERTICAL SCALE		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg			
						
DATE: 03/28/2018		JOB# 2181005		SHEET: 8 OF 22		



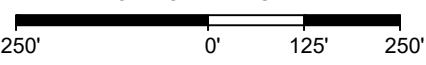
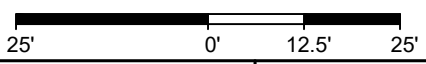
T-30



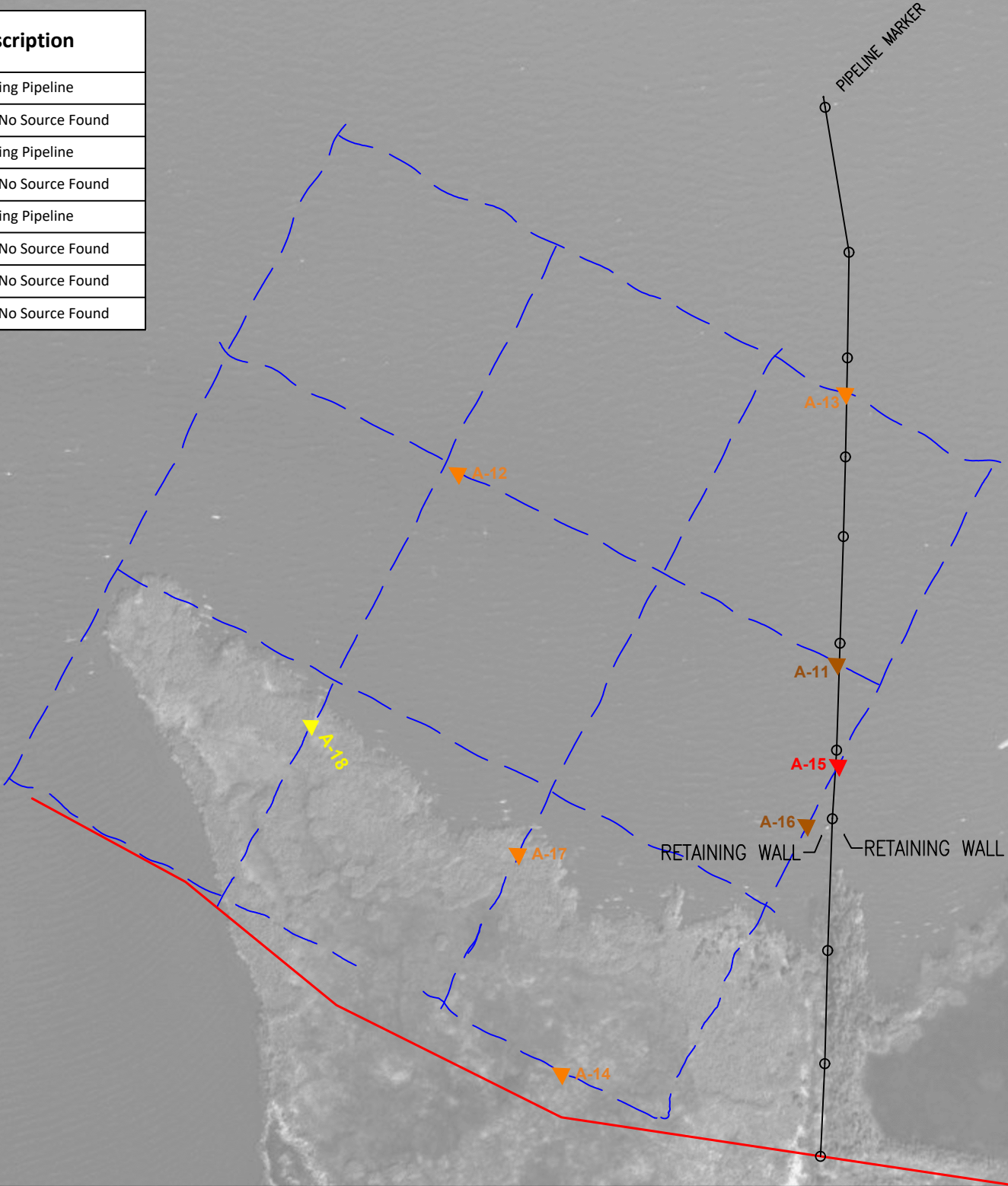
T-31

NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND		REVISED BY:	DATE:	 	
 NATURAL GROUND		TPF	05/14/2018		
		HORIZONTAL SCALE  VERTICAL SCALE 		STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 1 – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA	
		DATE: 03/28/2018	JOB# 2181005	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583 FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg	
					SHEET: 9 OF 22

Name	X	Y	Signature Width	Signature Amplitude	Signature Type	Description
A-11	444093	2887515	298.14	772.73	Monopolar	Existing Pipeline
A-12	444484	2886738	165.55	122.06	Multiple Component	Anomaly/No Source Found
A-13	444648	2887533	403.00	336.6	Dipolar	Existing Pipeline
A-14	443252	2886950	92.27	149.46	Dipolar	Anomaly/No Source Found
A-15	443884	2887517	261.85	1808.74	Monopolar	Existing Pipeline
A-16	443762	2887453	373.19	775.51	Monopolar	Anomaly/No Source Found
A-17	443703	2886861	68.86	167.96	Dipolar	Anomaly/No Source Found
A-18	443966	2886435	131.64	74.25	Multiple Component	Anomaly/No Source Found



LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS



MAG LEGEND	
	1-50 GAMMAS
	51-100 GAMMAS
	101-500 GAMMAS
	501-1000 GAMMAS
	> 1001 GAMMAS

LEGEND	
	DEMONSTRATION AREA 1 ALIGNMENT
	MAGNETOMETER SURVEY LINES
	MAGNETOMETER ANOMALY
	EXISTING PIPELINE

REVISED BY:	DATE:
TPF	05/14/2018
HORIZONTAL SCALE	
DATE: 03/28/2018	JOB# 2181005

LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

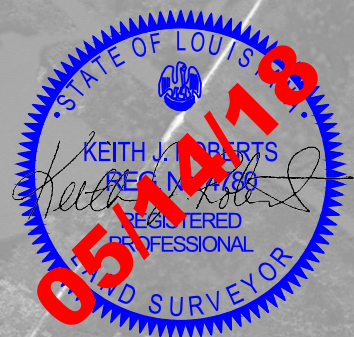
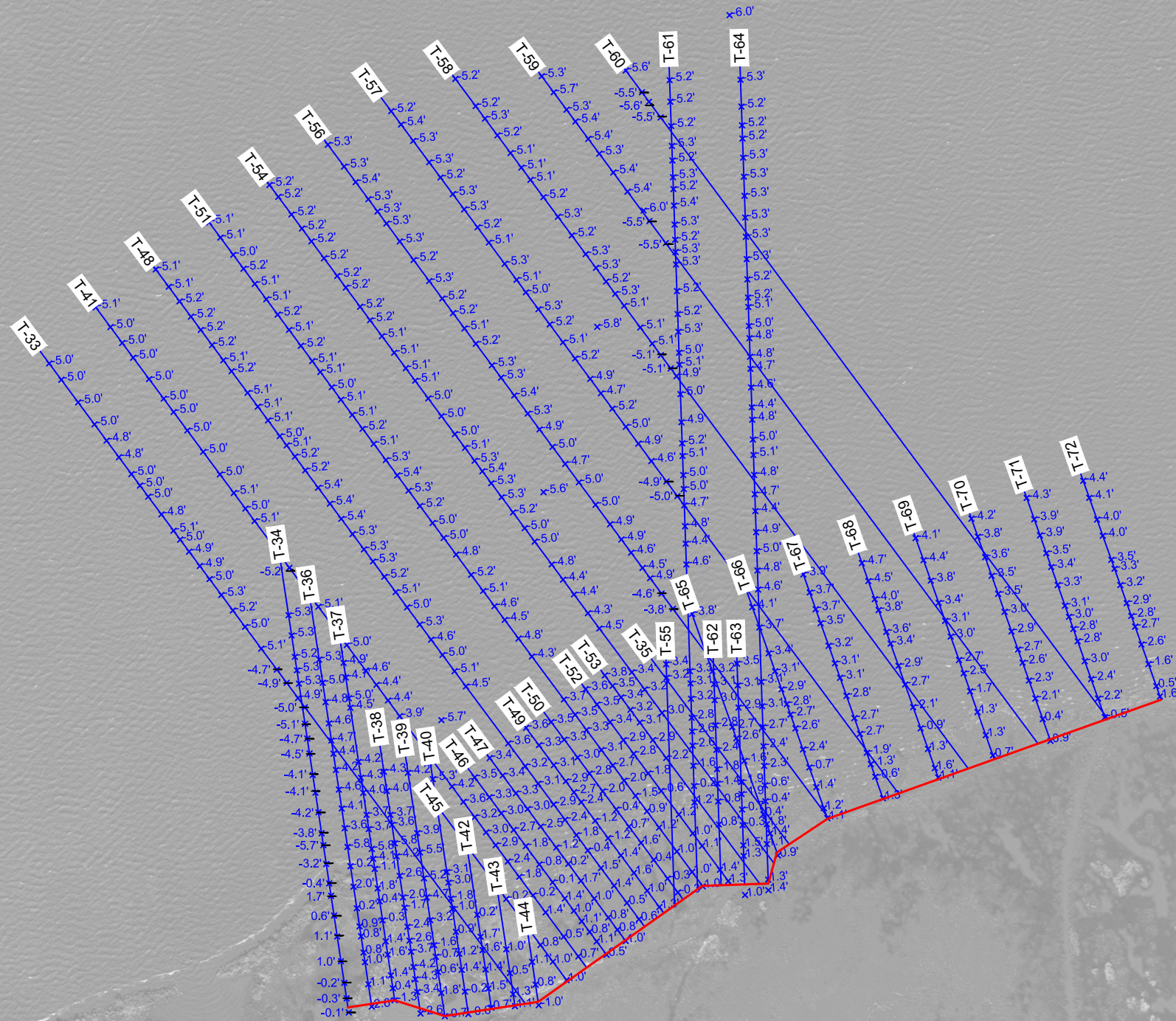
COASTAL PROTECTION AND RESTORATION AUTHORITY

PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)
TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
DEMO AREA 1 – MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA

SHEET: 10 OF 22



NOTES:

1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM PROJECT CONTROL (ME16-SM-10) VIA GPS KINEMATIC OBSERVATIONS.
2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12B) AS DERIVED FROM PROJECT CONTROL (ME16-SM-10).
3. HYDROGRAPHIC SURVEY DATA ACQUISITION PERFORMED WITH AN ODOM MKIII 200kHz TRANSDUCER INTEGRATED WITH RTK.
4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
5. BATHYMETRIC SURVEY DATA ACQUISITION WAS PERFORMED BY HYDROTERRA TECHNOLOGIES, LLC ON FEBRUARY 22, 27, & 28, 2018.
6. TOP OF WATER ELEVATION AT THE TIME OF SURVEY ON FEBRUARY 22, 2018 WAS 0.56 FEET, ON FEBRUARY 27, 2018 WAS 0.90 FEET, AND ON FEBRUARY 28, 2018 WAS 0.98 FEET.
7. VESSEL AND TRANSDUCER DRAFT WAS ACCOUNTED FOR WITH DAILY PRE-SURVEY MEASUREMENTS AND CHECKS, THEREFORE THE MEASUREMENTS SHOWN ARE ACTUAL WATER DEPTHS WITH NO FURTHER CALCULATIONS REQUIRED.

LEGEND

- DEMONSTRATION AREA 2 & BREACH AREA ALIGNMENT
- SURVEY CROSS-SECTIONS
- 4.0' ELEVATIONS IN FEET (NAVD88 GEOID12B)

REVISED BY:

TPF

DATE:

05/14/2018

HORIZONTAL SCALE

1" = 600'

600' 0' 300' 600'

DATE: 03/28/2018

JOB# 2181005



HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)

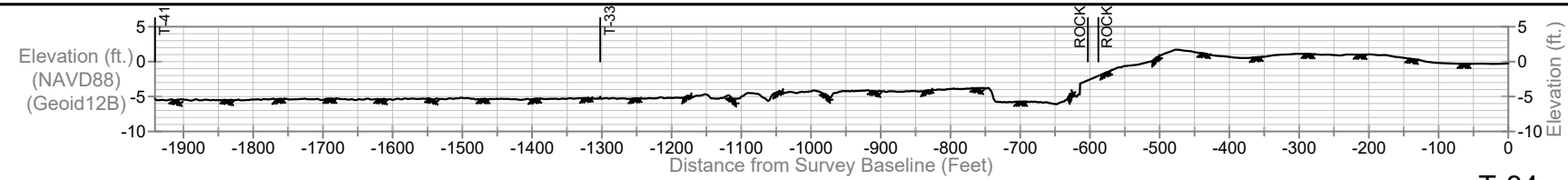
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)

TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY

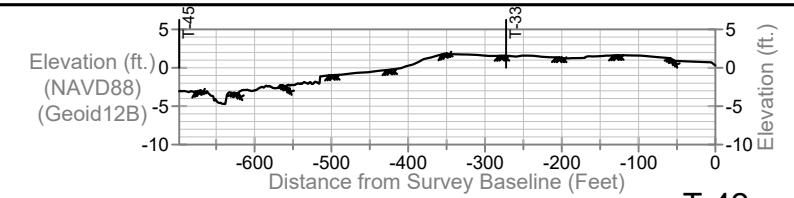
DEMO AREA 2 & BREACH AREA - PLAN VIEW

VERMILION PARISH, LA

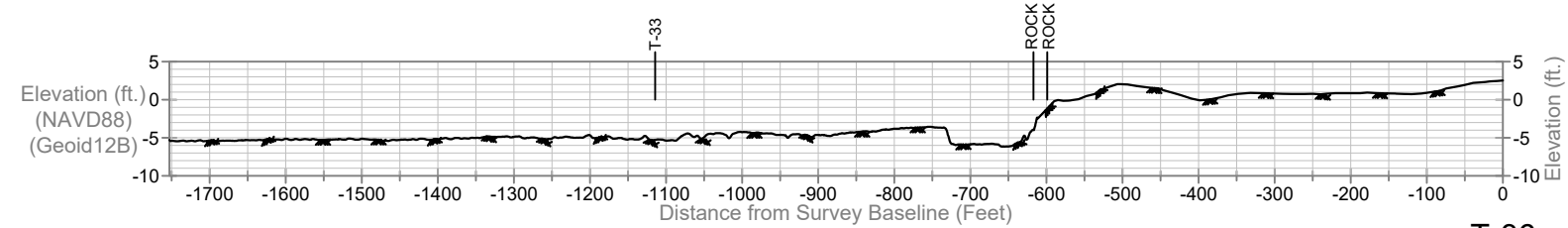
SHEET: 6 OF 22



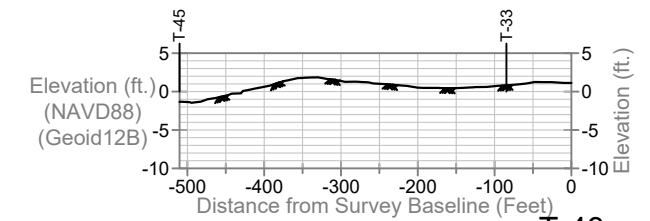
T-34



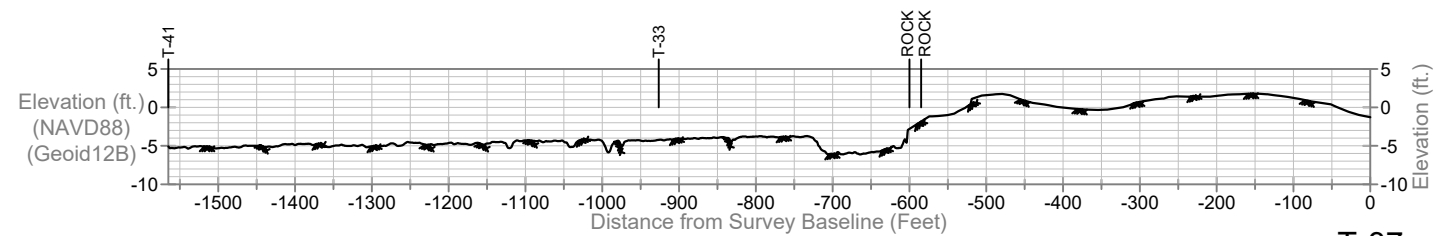
T-42



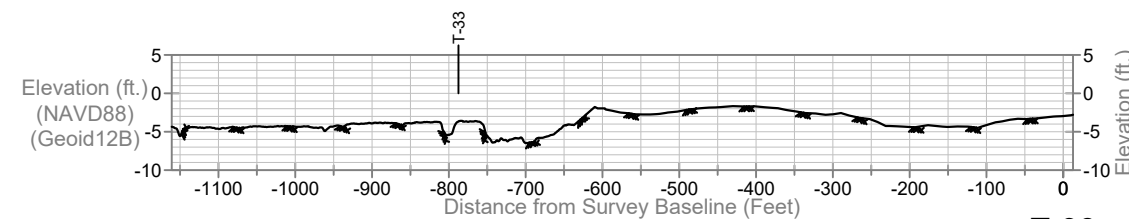
T-36



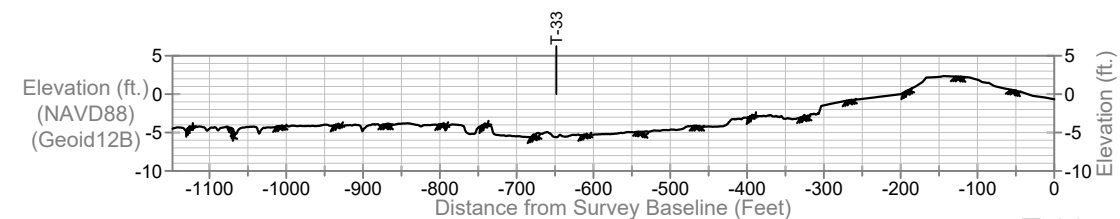
T-43



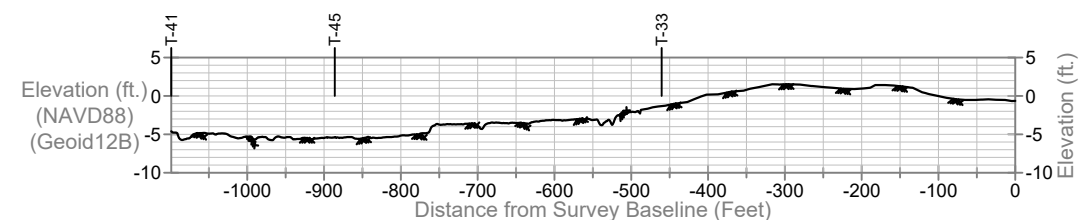
T-37



T-38



T-39



T-40

NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND

— NATURAL GROUND

REVISED BY:

DATE:

TPF

05/14/2018

HORIZONTAL SCALE

250' 0' 125' 250'

VERTICAL SCALE

25' 0' 12.5' 25'

DATE: 03/28/2018

JOB# 2181005



HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)

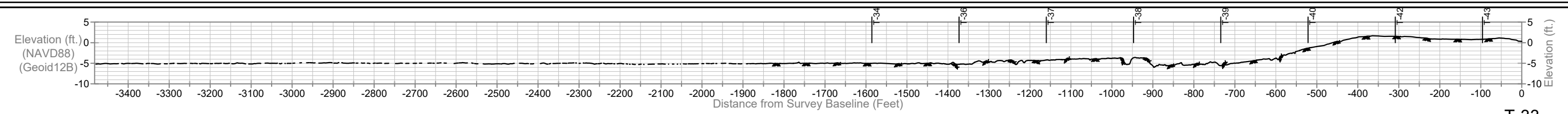
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)

TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY

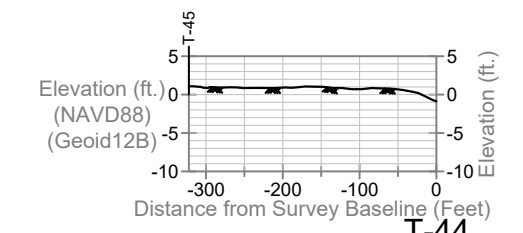
DEMO AREA 2 & BREACH AREA - SURVEY TRANSECT PROFILE VIEWS

VERMILION PARISH, LA

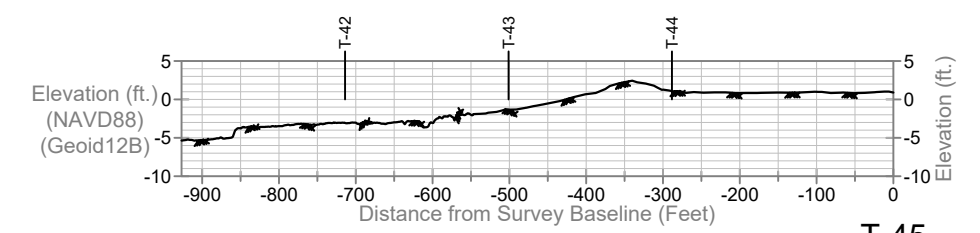
SHEET: 12 OF 22



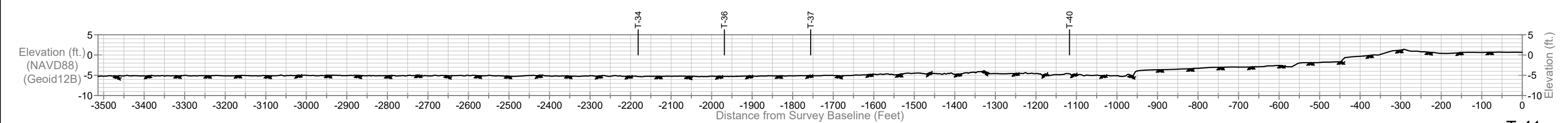
T-33



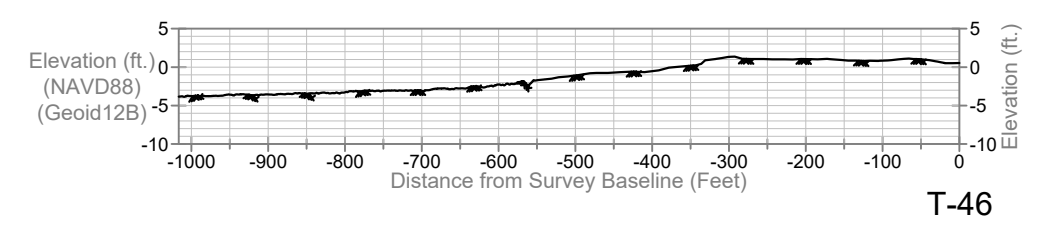
T-44



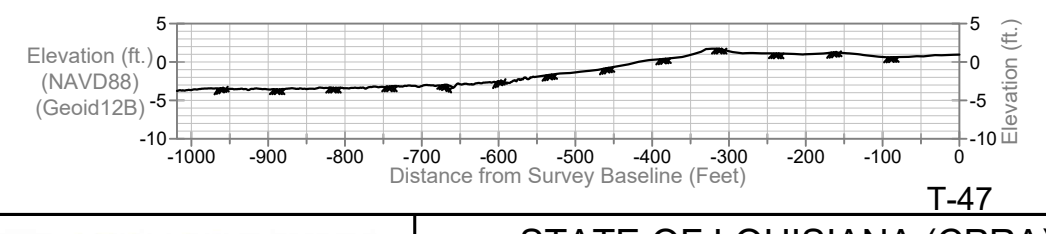
T-45



T-41



T-46

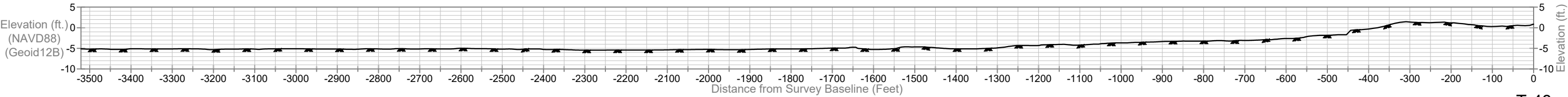


T-47

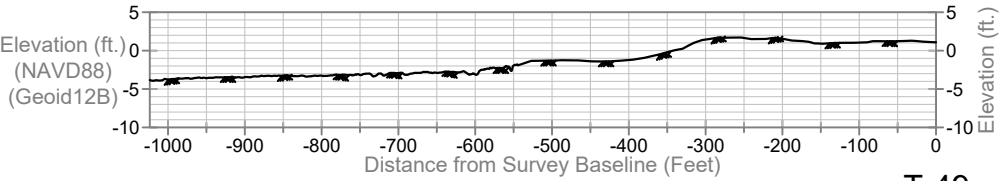
NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



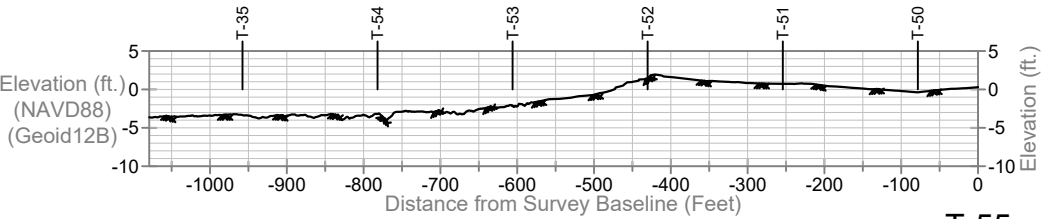
LEGEND  NATURAL GROUND	REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA
	TPF	05/14/2018		
	HORIZONTAL SCALE			
	250'0'125'250'			
	VERTICAL SCALE			
25'0'12.5'25'				
DATE: 03/28/2018	JOB# 2181005	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg			SHEET: 13 OF 22	



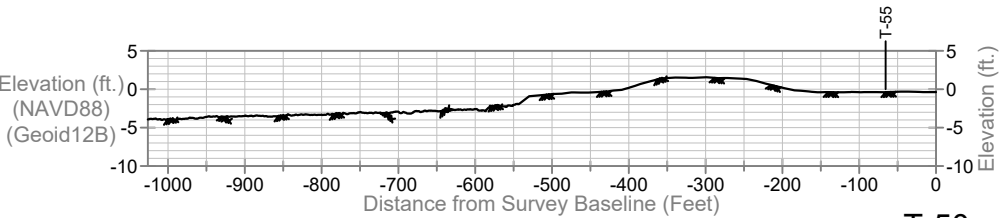
T-48



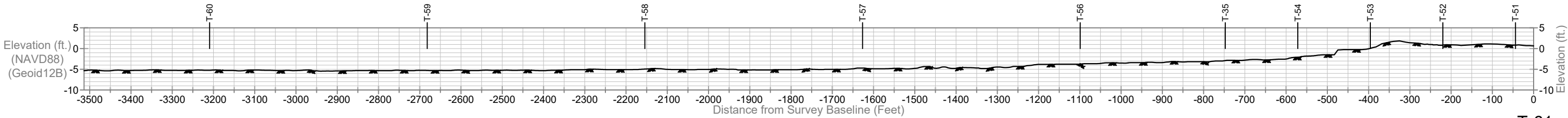
T-49



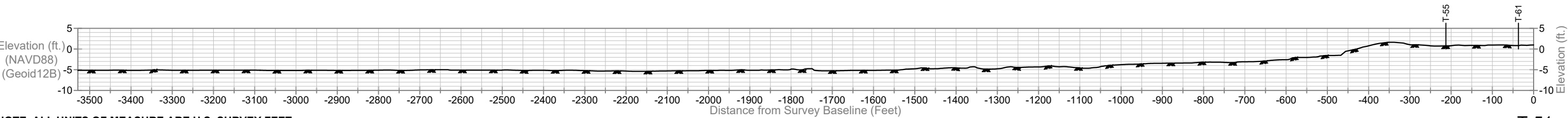
T-55



T-50



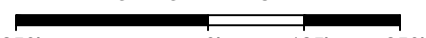
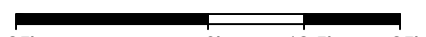
T-61

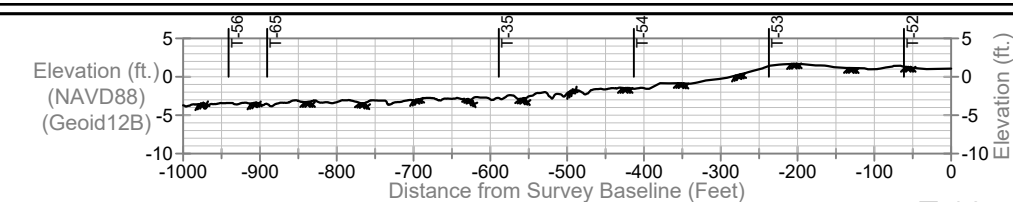


T-51

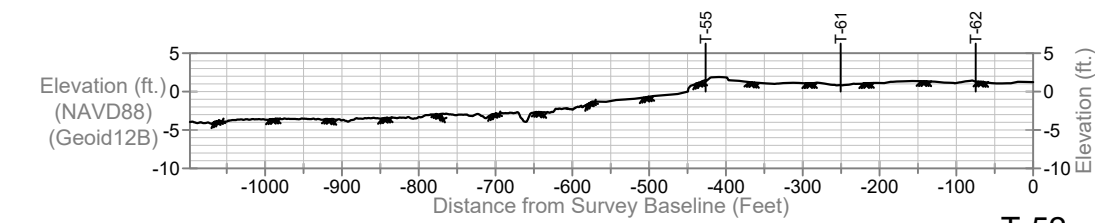
NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



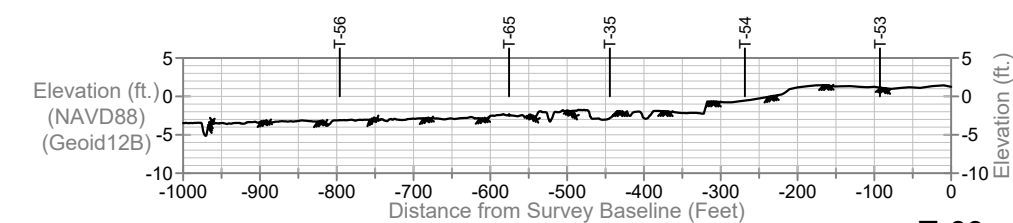
LEGEND		REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS		STATE OF LOUISIANA (CPRA) <i>SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY</i> DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA
 NATURAL GROUND		TPF	05/14/2018			
		HORIZONTAL SCALE		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
						
		VERTICAL SCALE				
				FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg		
		DATE: 03/28/2018	JOB# 2181005	SHEET: 14 OF 22		



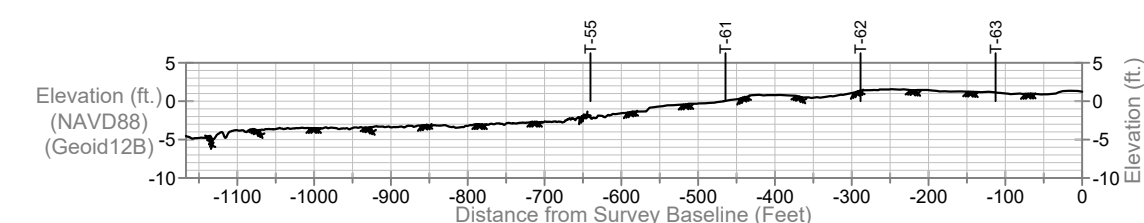
T-62



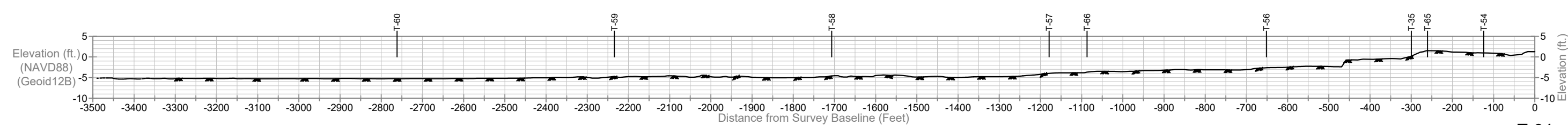
T-52



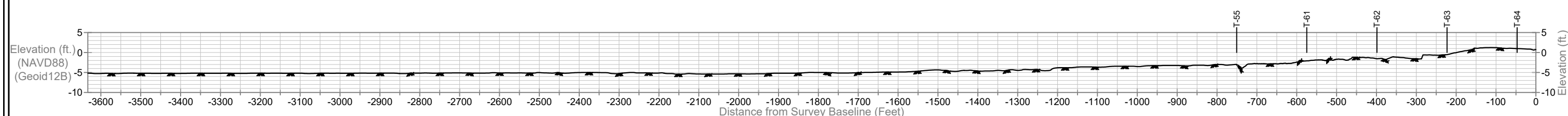
T-63



T-53



T-64



T-54

NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND	
	NATURAL GROUND

REVISED BY:	DATE:
TPF	05/14/2018
HORIZONTAL SCALE	
VERTICAL SCALE	
DATE: 03/28/2018	JOB# 2181005

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

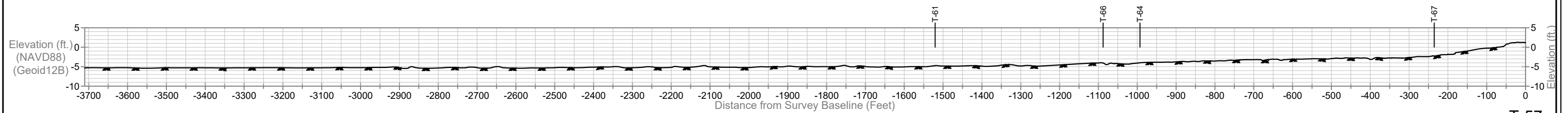
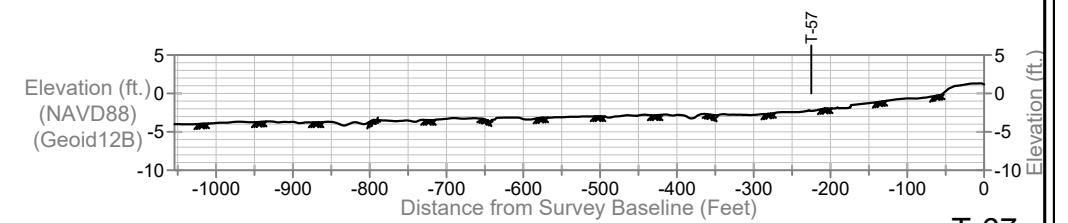
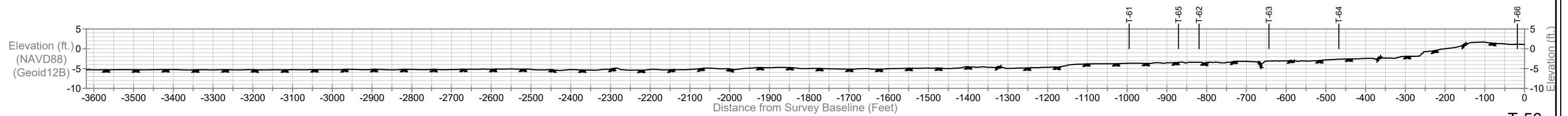
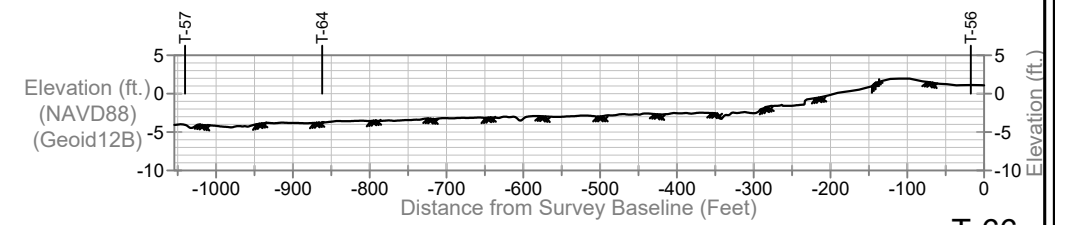
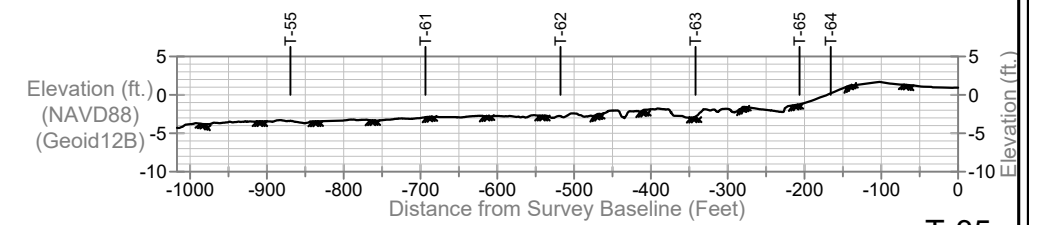
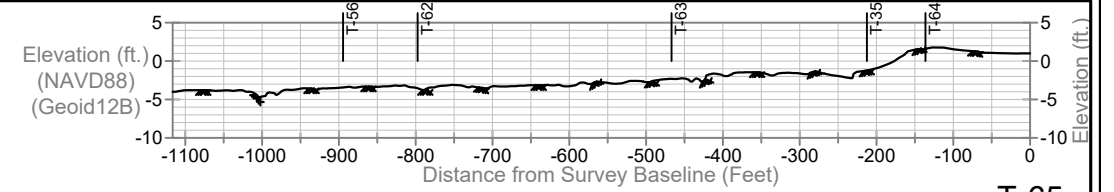
COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

STATE OF LOUISIANA (CPRA)
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)
TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS
VERMILION PARISH, LA

PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg

SHEET: 15 OF 22



NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND

 NATURAL GROUND

REVISÉD BY:

DATE:

TPF

05/14/2018

HORIZONTAL SCALE

A horizontal number line with tick marks at 250', 0', 125', and 250'.

VERTICAL SCALE

A horizontal number line with tick marks at 25', 0', 12.5', and 25'.

DATE: 03/28/2018

JOB# 2181005



HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)

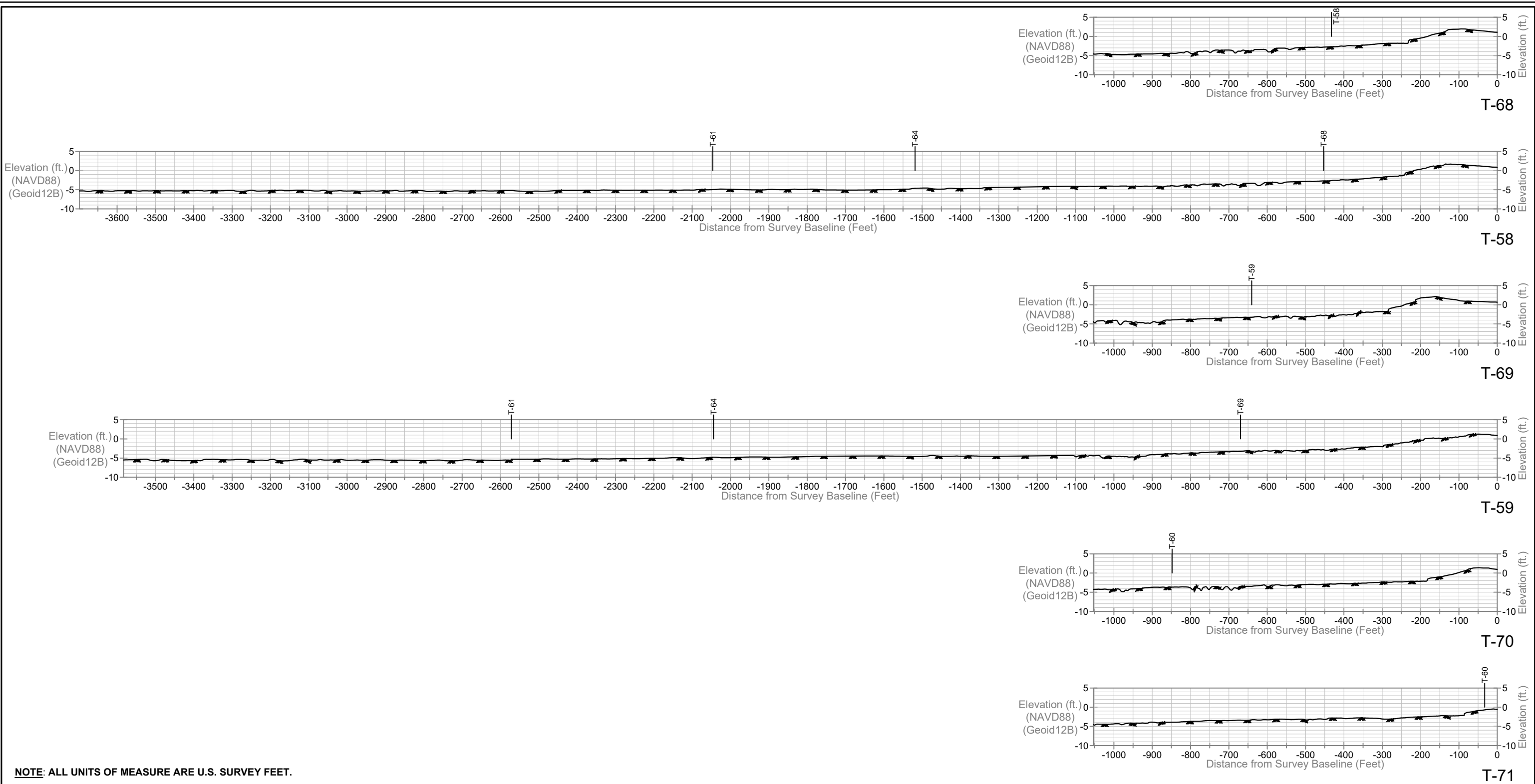
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)

TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY

DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS

VERMILION PARISH, LA

SHEET: 16 OF 22



NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA
 NATURAL GROUND	TPF	05/14/2018			
HORIZONTAL SCALE 250' 0' 125' 250' VERTICAL SCALE 25' 0' 12.5' 25'		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583			
		DATE: 03/28/2018		JOB# 2181005	
		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg			SHEET: 17 OF 22



NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND

 NATURAL GROUND

REVISÉD BY:

DATE:

05/14/2018

HORIZONTAL SCALE

VERTICAL SCALE

DATE: 03/28/2018

JOB# 2181005



STATE OF LOUISIANA (CPRA)
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)
TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
DEMO AREA 2 & BREACH AREA – SURVEY TRANSECT PROFILE VIEWS
VERMILION PARISH, LA

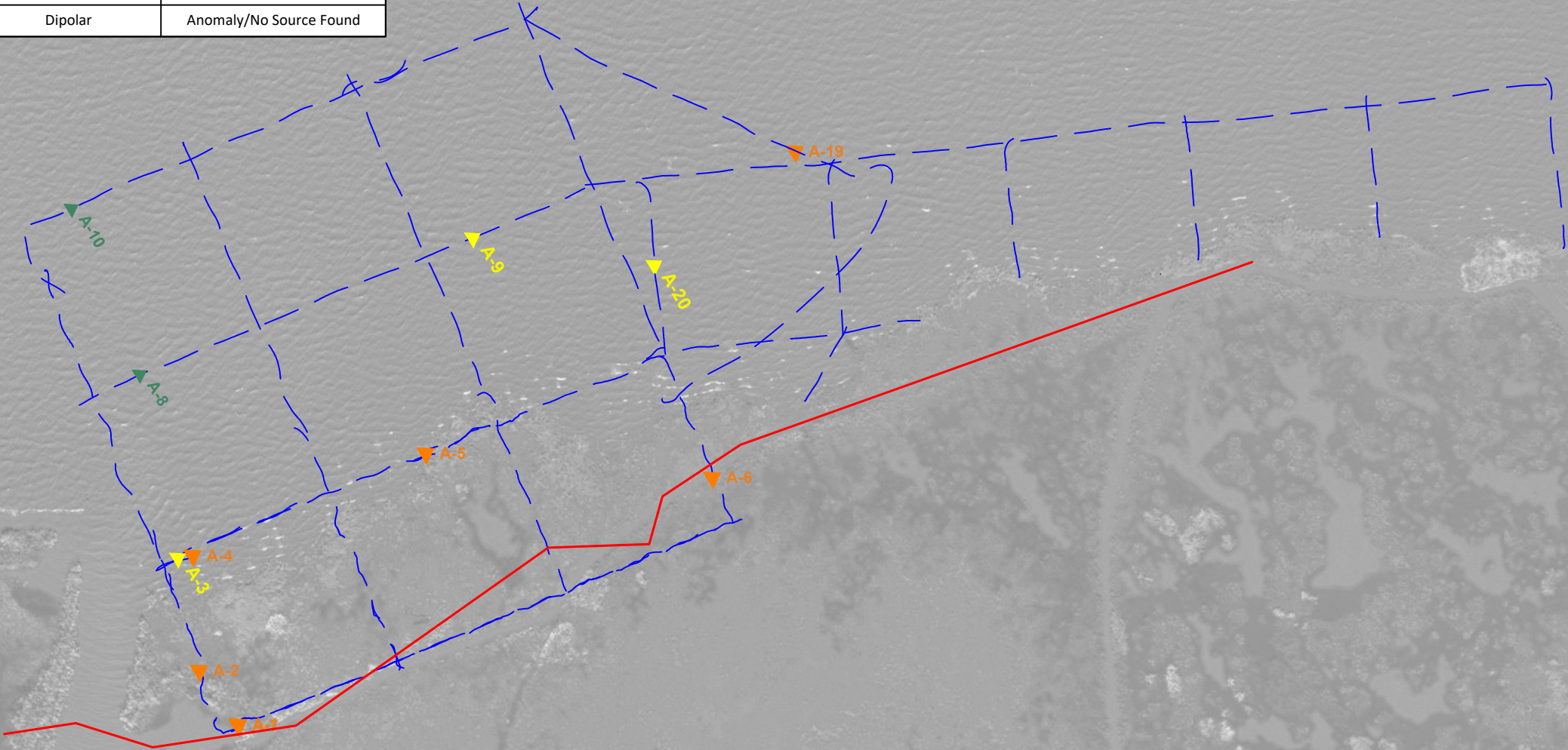
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

SHEET: 18 OF 22

Name	X	Y	Signature Width	Signature Amplitude	Signature Type	Description
A-1	432328	2931038	167.49	221	Monopolar	Anomaly/No Source Found
A-2	432476	2930929	124.12	163.81	Dipolar	Anomaly/No Source Found
A-3	432786	2930868	240.32	76.9	Dipolar	Anomaly/No Source Found
A-4	432794	2930911	222.68	114.95	Monopolar	Anomaly/No Source Found
A-5	433076	2931554	186.09	120.83	Monopolar	Anomaly/No Source Found
A-6	433009	2932345	159.71	172.84	Dipolar	Anomaly/No Source Found
A-7	432325	2931036	153.85	254.68	Monopolar	Anomaly/No Source Found
A-8	433292	2930762	117.3	40.1	Dipolar	Anomaly/No Source Found
A-9	433670	2931682	236.75	93.01	Dipolar	Anomaly/No Source Found
A-10	433750	2930574	306.44	5.79	Dipolar	Anomaly/No Source Found
A-19	433910	2932573	190.91	138.66	Monopolar	Anomaly/No Source Found
A-20	433594	2932183	88.86	88.24	Dipolar	Anomaly/No Source Found

LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS



MAG LEGEND	
	1-50 GAMMAS
	51-100 GAMMAS
	101-500 GAMMAS
	501-1000 GAMMAS
	> 1001 GAMMAS

LEGEND	
	DEMONSTRATION AREA 2 & BREACH AREA ALIGNMENT
	MAGNETOMETER SURVEY LINES
	MAGNETOMETER ANOMALY

REVISED BY:	DATE:
TPF	05/14/2018
HORIZONTAL SCALE	
DATE: 03/28/2018	JOB# 2181005

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: CPRA - Shoreline Panel Demo (LA-0280).dwg

STATE OF LOUISIANA (CPRA)
SHORELINE PROTECTION, PRESERVATION, AND
RESTORATION PANEL DEMONSTRATION (LA-0280)
TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY
DEMO AREA 2 & BREACH AREA - MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA

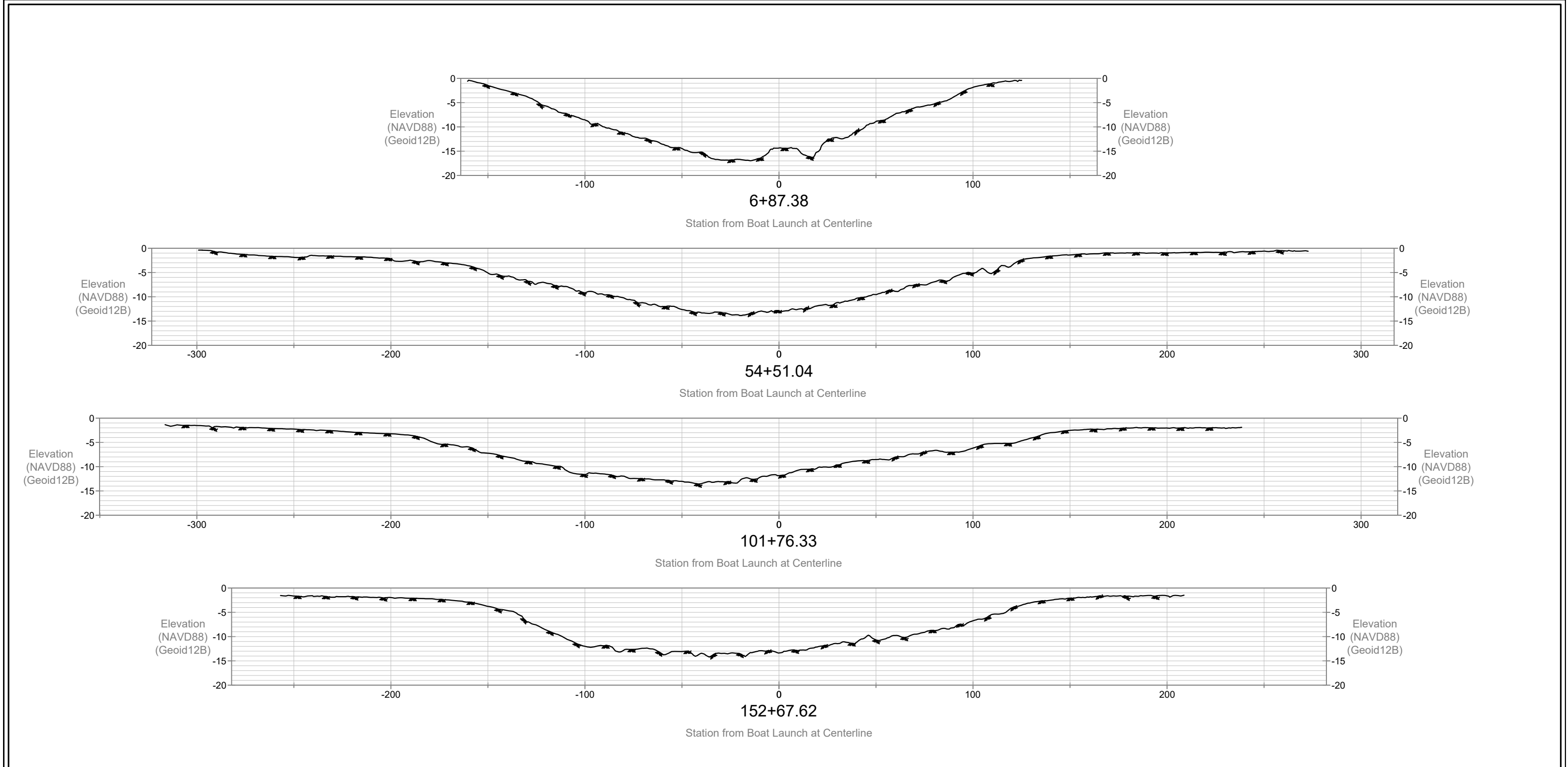
SHEET: 19 OF 22



LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS



NOTES: 1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10 & ME16-SM-01). 2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12B) AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10 & ME16-SM-01). 3. HYDROGRAPHIC SURVEY DATA ACQUISITION PERFORMED WITH AN ODOM MKIII 200kHz TRANSDUCER INTEGRATED WITH RTK. 4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY. 5. BATHYMETRIC SURVEY DATA ACQUISITION WAS PERFORMED BY HYDROTERRA TECHNOLOGIES, LLC ON FEBRUARY 26, 2018. 6. TOP OF WATER ELEVATION AT THE TIME OF SURVEY ON FEBRUARY 26, 2018 WAS 0.68 FEET. 7. VESSEL AND TRANSDUCER DRAFT WAS ACCOUNTED FOR WITH DAILY PRE-SURVEY MEASUREMENTS AND CHECKS, THEREFORE THE MEASUREMENTS SHOWN ARE ACTUAL WATER DEPTHS WITH NO FURTHER CALCULATIONS REQUIRED.	LEGEND SCHOONER BAYOU ALIGNMENT SURVEY CROSS-SECTIONS -4.0' ELEVATIONS IN FEET (NAVD88 GEOID12B) HORIZONTAL SCALE 1" = 1,500' 1,500' 0' 750' 1,500' REVISED BY: TPF DATE: 05/14/2018   STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY SCHOONER BAYOU – PLAN VIEW VERMILION PARISH, LA PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583 FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg SHEET: 20 OF 22
---	---

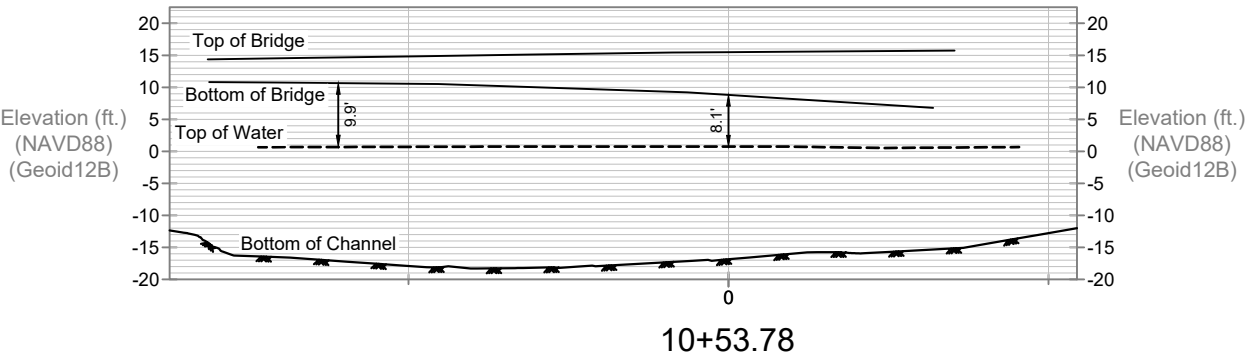
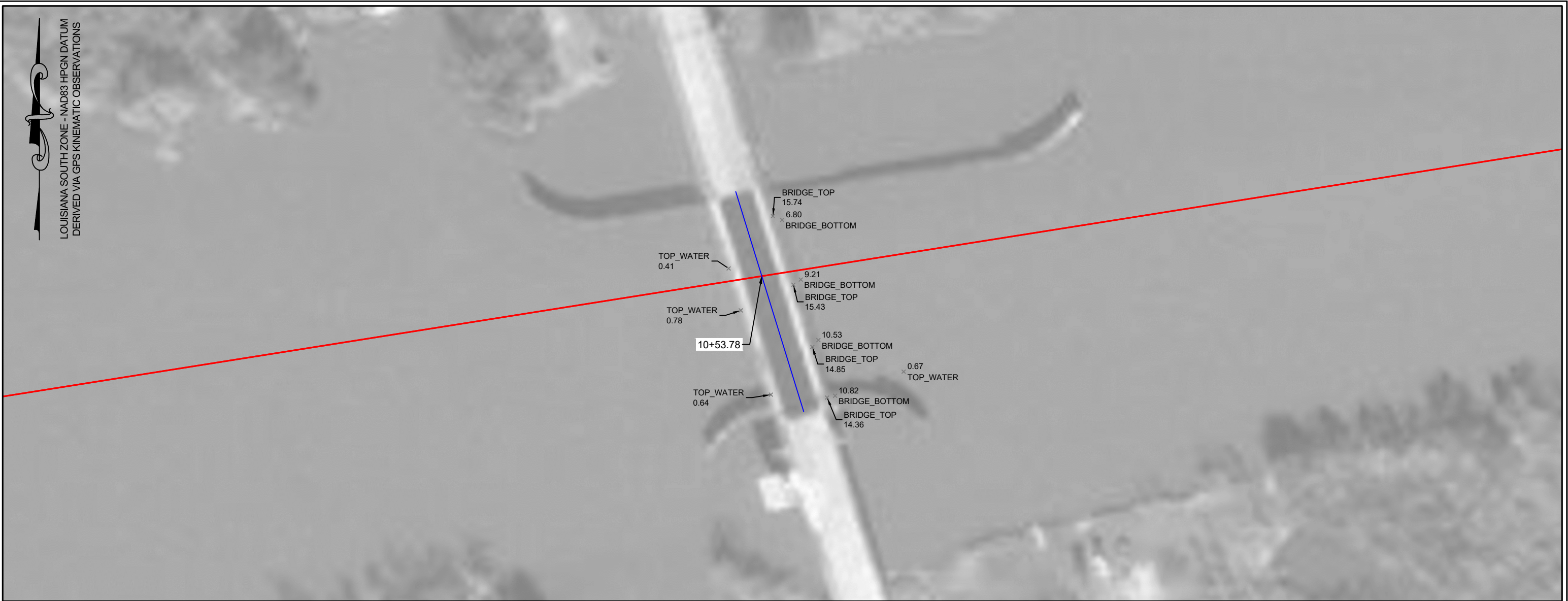


NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.



LEGEND		REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS 	STATE OF LOUISIANA (CPRA) <i>SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280)</i> <i>TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY</i> SCHOONER BAYOU – SURVEY TRANSECT PROFILE VIEWS VERMILION PARISH, LA	
— NATURAL GROUND		TPF	05/14/2018			
		HORIZONTAL SCALE				
		250' 0' 125' 250'				
		VERTICAL SCALE				
		25' 0' 12.5' 25'				
		DATE: 03/28/2018	JOB# 2181005	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg			SHEET: 21 OF 22	

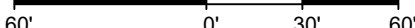
LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS



NOTE: ALL UNITS OF MEASURE ARE U.S. SURVEY FEET.

NOTES:

1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10).
2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12B) AS DERIVED FROM VRS GPS KINEMATIC OBSERVATIONS, AND VERIFIED TO PROJECT CONTROL (ME16-SM-10).
3. HYDROGRAPHIC SURVEY DATA ACQUISITION PERFORMED WITH AN ODOM MKIII 200kHz TRANSDUCER INTEGRATED WITH RTK.
4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.
5. BATHYMETRIC SURVEY DATA ACQUISITION WAS PERFORMED BY HYDROTERRA TECHNOLOGIES, LLC ON FEBRUARY 26, 2018.
6. TOP OF WATER ELEVATION AT THE TIME OF SURVEY ON FEBRUARY 26, 2018 WAS 0.68 FEET.
7. VESSEL AND TRANSDUCER DRAFT WAS ACCOUNTED FOR WITH DAILY PRE-SURVEY MEASUREMENTS AND CHECKS, THEREFORE THE MEASUREMENTS SHOWN ARE ACTUAL WATER DEPTHS WITH NO FURTHER CALCULATIONS REQUIRED.

LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) SHORELINE PROTECTION, PRESERVATION, AND RESTORATION PANEL DEMONSTRATION (LA-0280) TOPOGRAPHIC, BATHYMETRIC, & MAGNETOMETER SURVEY SCHOONER BAYOU BRIDGE – PLAN/PROFILE VIEW VERMILION PARISH, LA	
	SCHOONER BAYOU ALIGNMENT	TPF	05/14/2018			
	SCHOONER BAYOU BRIDGE TRANSECT					
HORIZONTAL SCALE 1" = 60' 						
DATE: 03/28/2018		JOB# 2181005		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
		FILE: CPRA – Shoreline Panel Demo (LA-0280).dwg			SHEET: 22 OF 22	