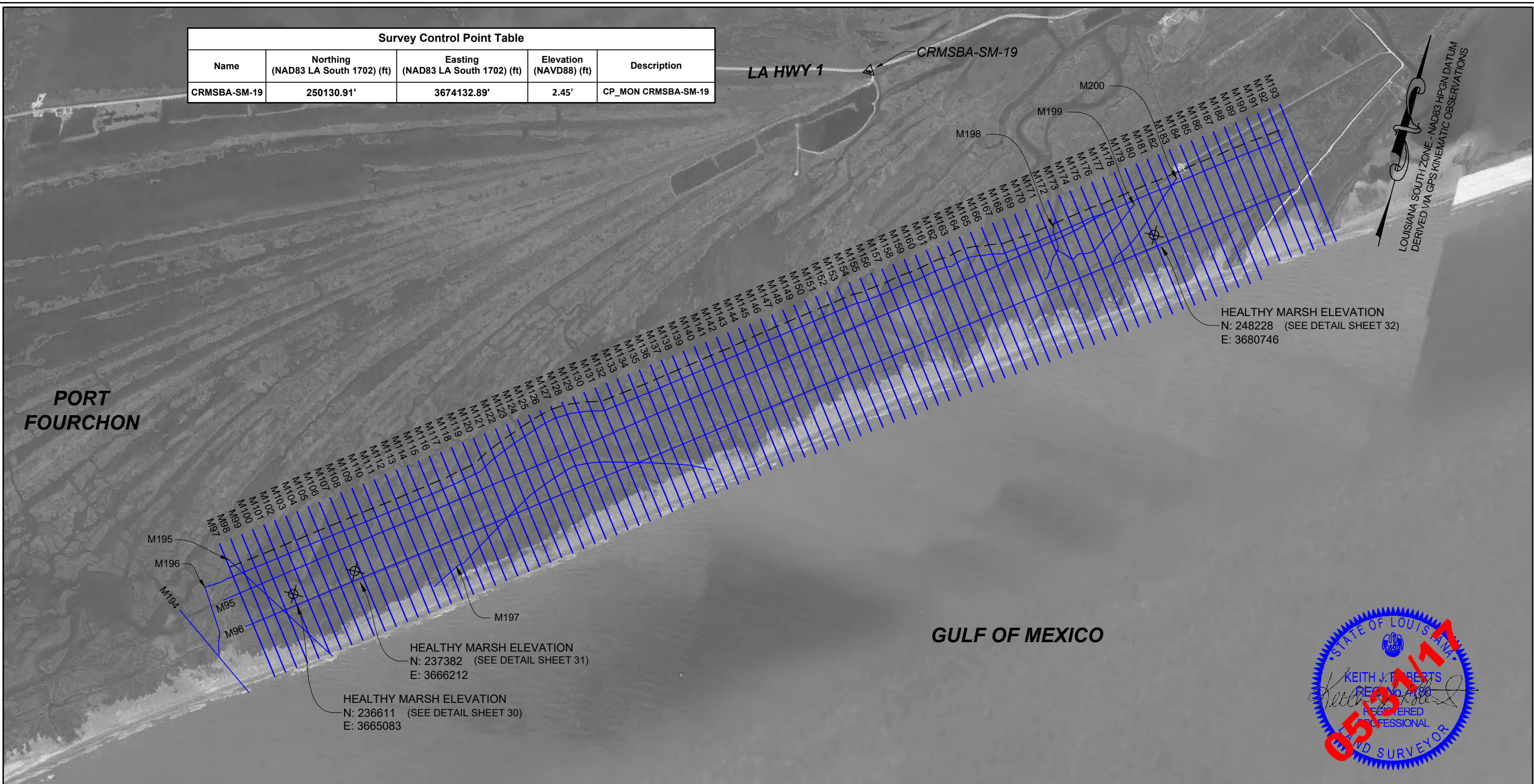
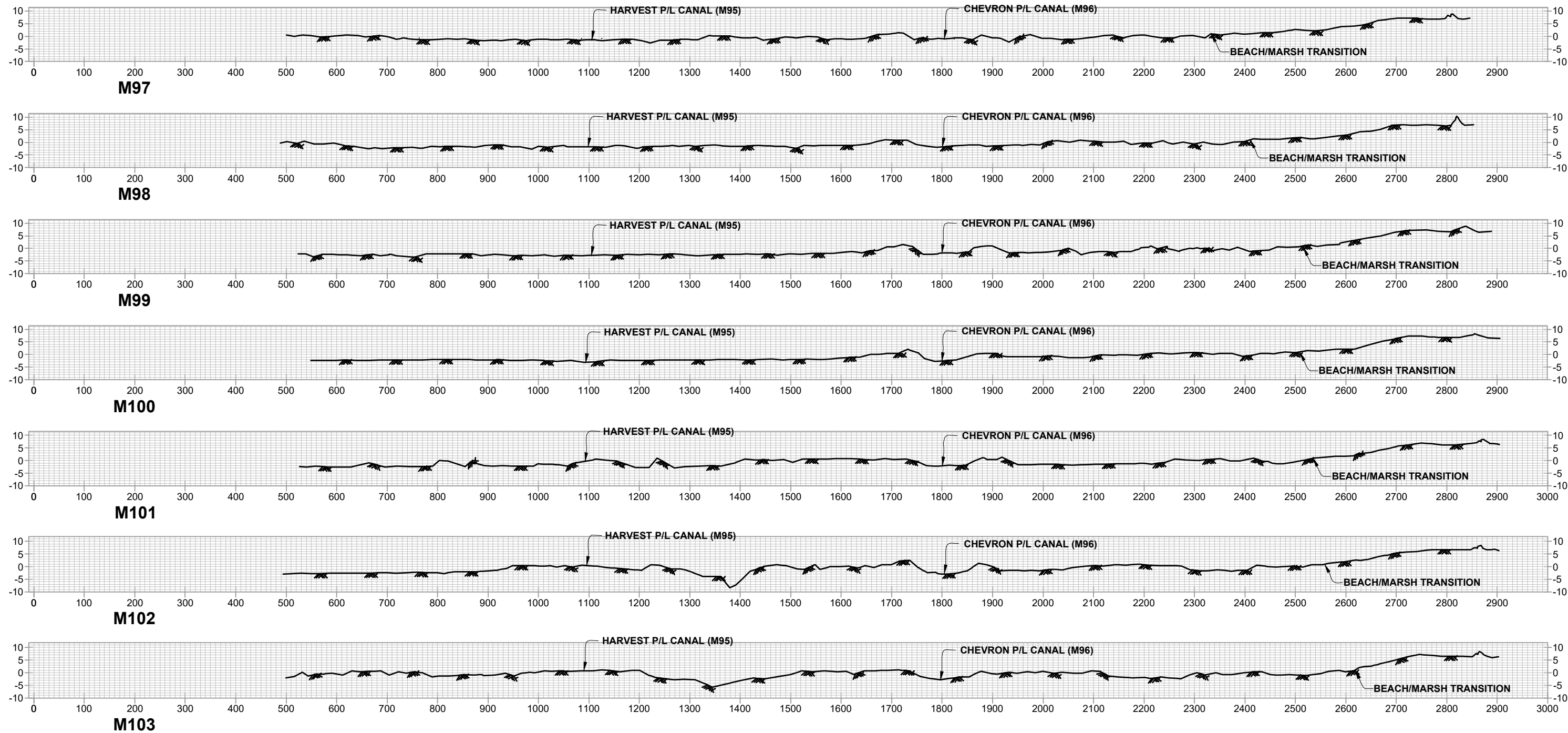
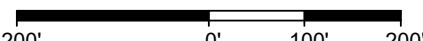
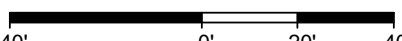


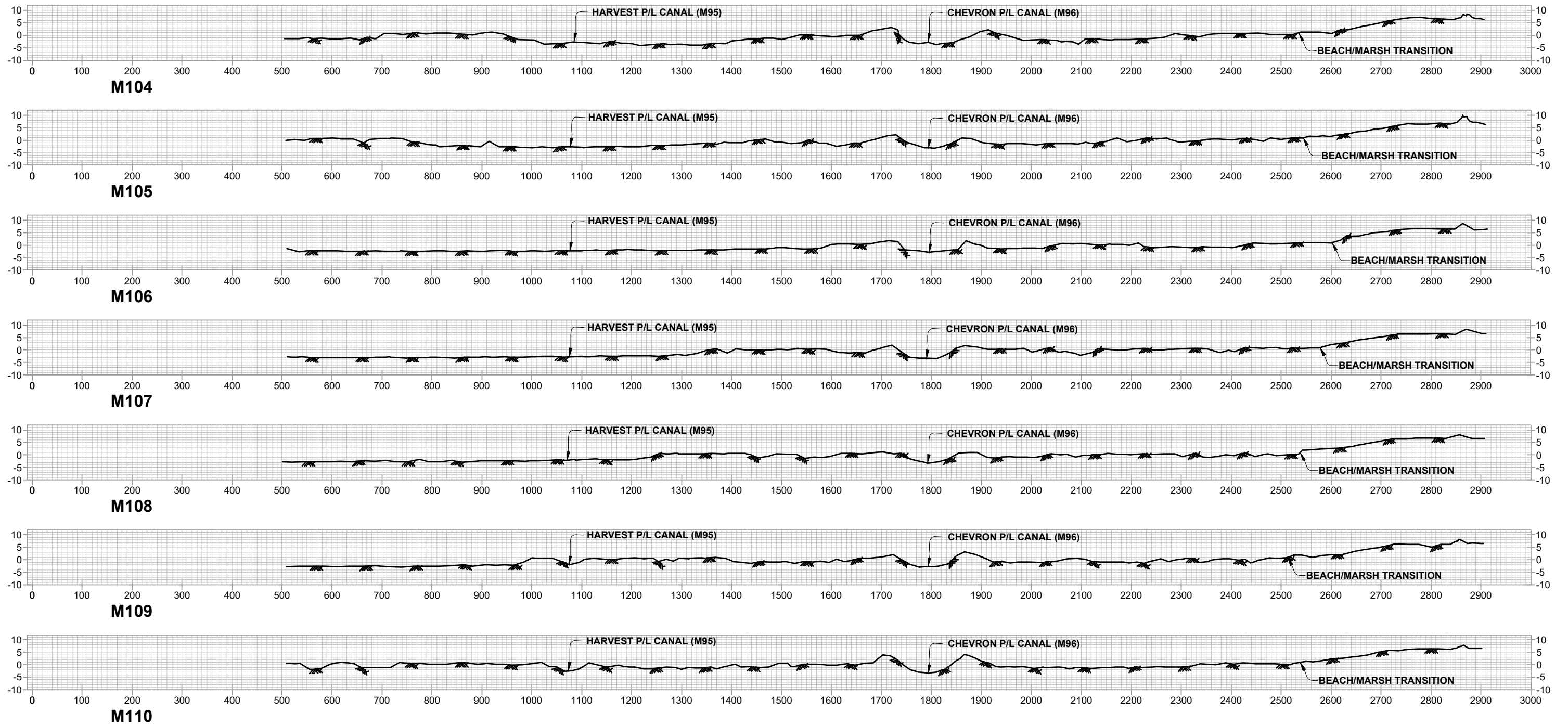
Survey Control Point Table				
Name	Northing (NAD83 LA South 1702) (ft)	Easting (NAD83 LA South 1702) (ft)	Elevation (NAVD88) (ft)	Description
CRMSBA-SM-19	250130.91'	3674132.89'	2.45'	CP_MON CRMSBA-SM-19

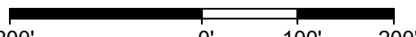
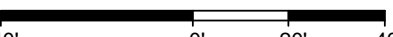


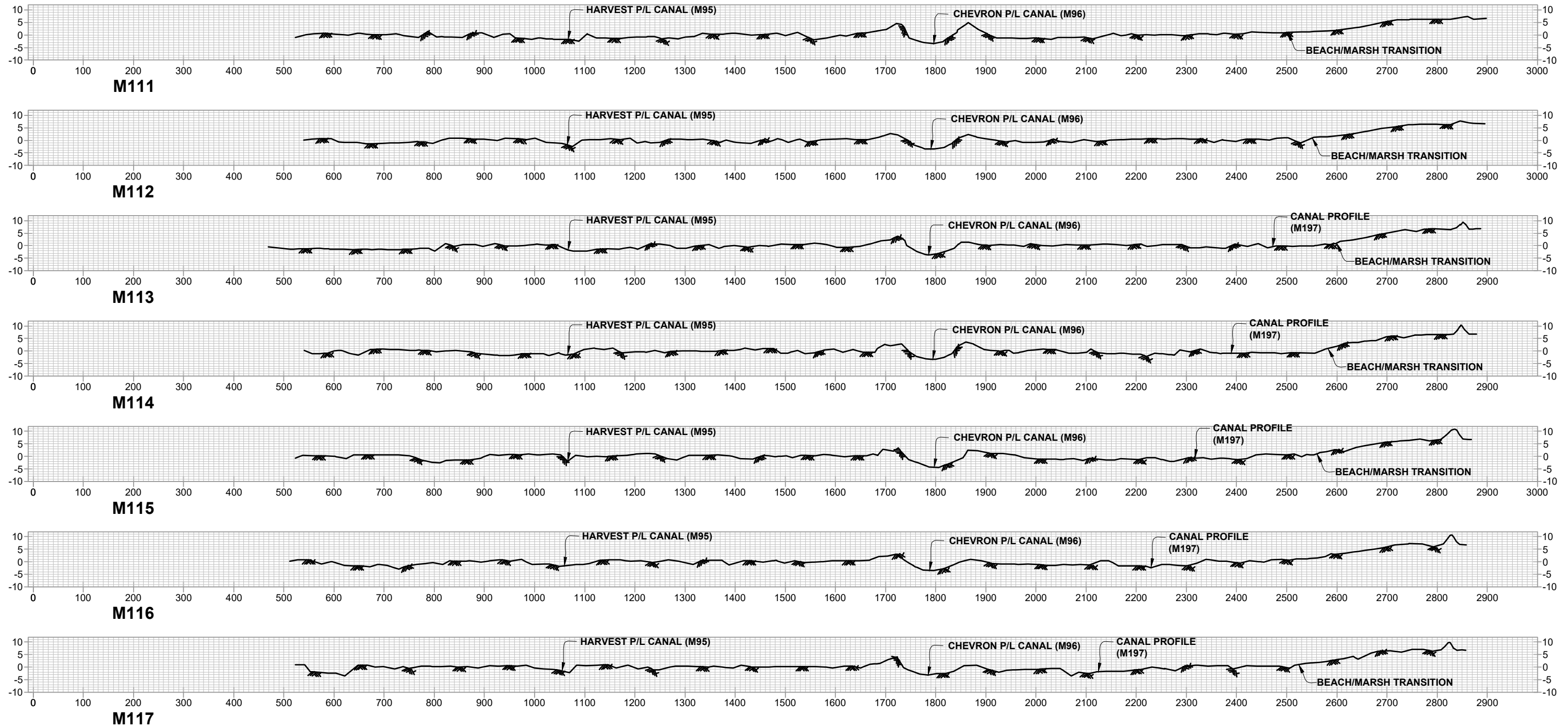
NOTES 1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM PROJECT CONTROL (CRMSBA-SM-19) VIA GPS KINEMATIC OBSERVATIONS. 2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12A) AS DERIVED FROM PROJECT CONTROL (CRMSBA-SM-19). 3. SURVEY DATA ACQUISITION PERFORMED WITH RTK. 4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY. 5. SURVEY DATA ACQUISITION WAS PERFORMED FEBRUARY 7 - APRIL 24, 2017.	LEGEND MARSH CREATION SURVEY TRANSECT MARSH CREATION SURVEY LIMITS PROJECT CONTROL	REVISED BY:	DATE:	HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS COASTAL PROTECTION AND RESTORATION CPRA	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) TOPOGRAPHIC/BATHYMETRIC SURVEY SURVEY TRANSECT PLAN VIEW LAFOURCHE AND JEFFERSON PARISH, LA		
		HORIZONTAL SCALE 1" = 2,000' 2,000' 0' 1,000' 2,000'					
		DATE: 05/09/2017		JOB# 2171003		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
						FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	

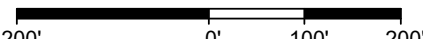
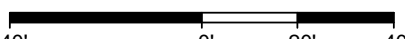


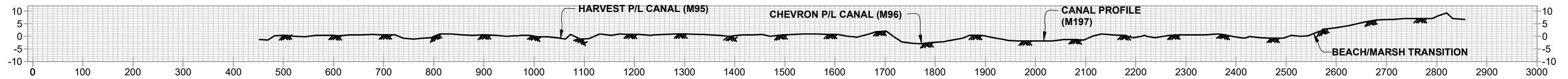
LEGEND		REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS	 COASTAL PROTECTION AND RESTORATION AUTHORITY CPRA	STATE OF LOUISIANA (CPRA)	
 2017 MARSH CREATION SURVEY			CAMINADA HEADLANDS BACK BARRIER				
			MARSH CREATION INCREMENT II PROJECT (BA-193)				
			TOPOGRAPHIC/BATHYMETRIC SURVEY				
	HORIZONTAL SCALE				SURVEY TRANSECT PROFILE VIEWS		
					LAFOURCHE AND JEFFERSON PARISH, LA		
	VERTICAL SCALE						
							
	DATE: 05/09/2017	JOB# 2171003	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583				
			FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg			SHEET: 3 OF 33	



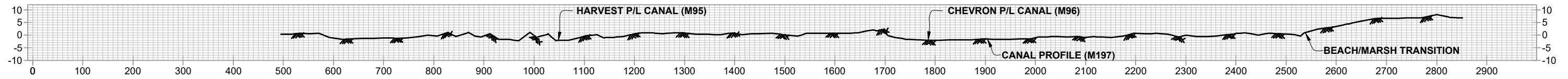
LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY						
	HORIZONTAL SCALE 					
	VERTICAL SCALE 			PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
DATE: 05/09/2017		JOB# 2171003		FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg		
				SHEET: 4 OF 33		



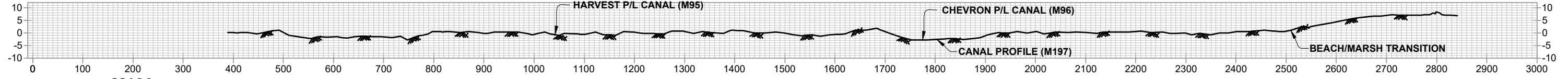
LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY						
		HORIZONTAL SCALE 		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
		VERTICAL SCALE 				
DATE: 05/09/2017		JOB# 2171003				FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg
				SHEET: 5 OF 33		



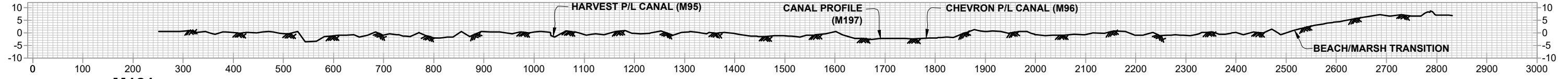
M118



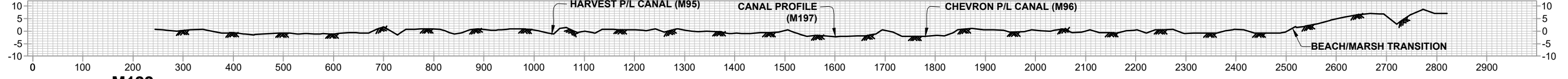
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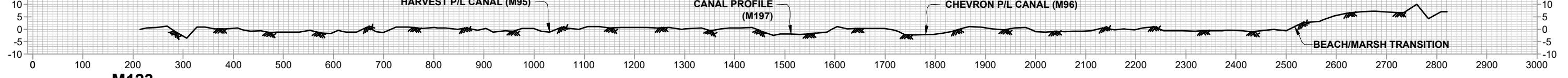
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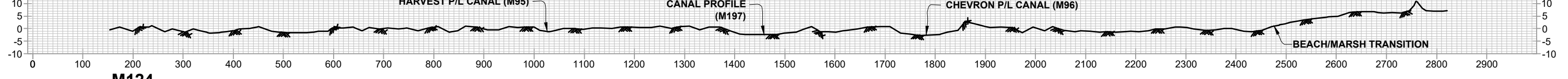
M121



M122



M123



M124

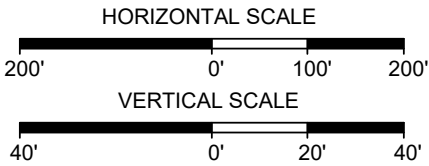


LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:



DATE: 05/09/2017

JOB# 2171003

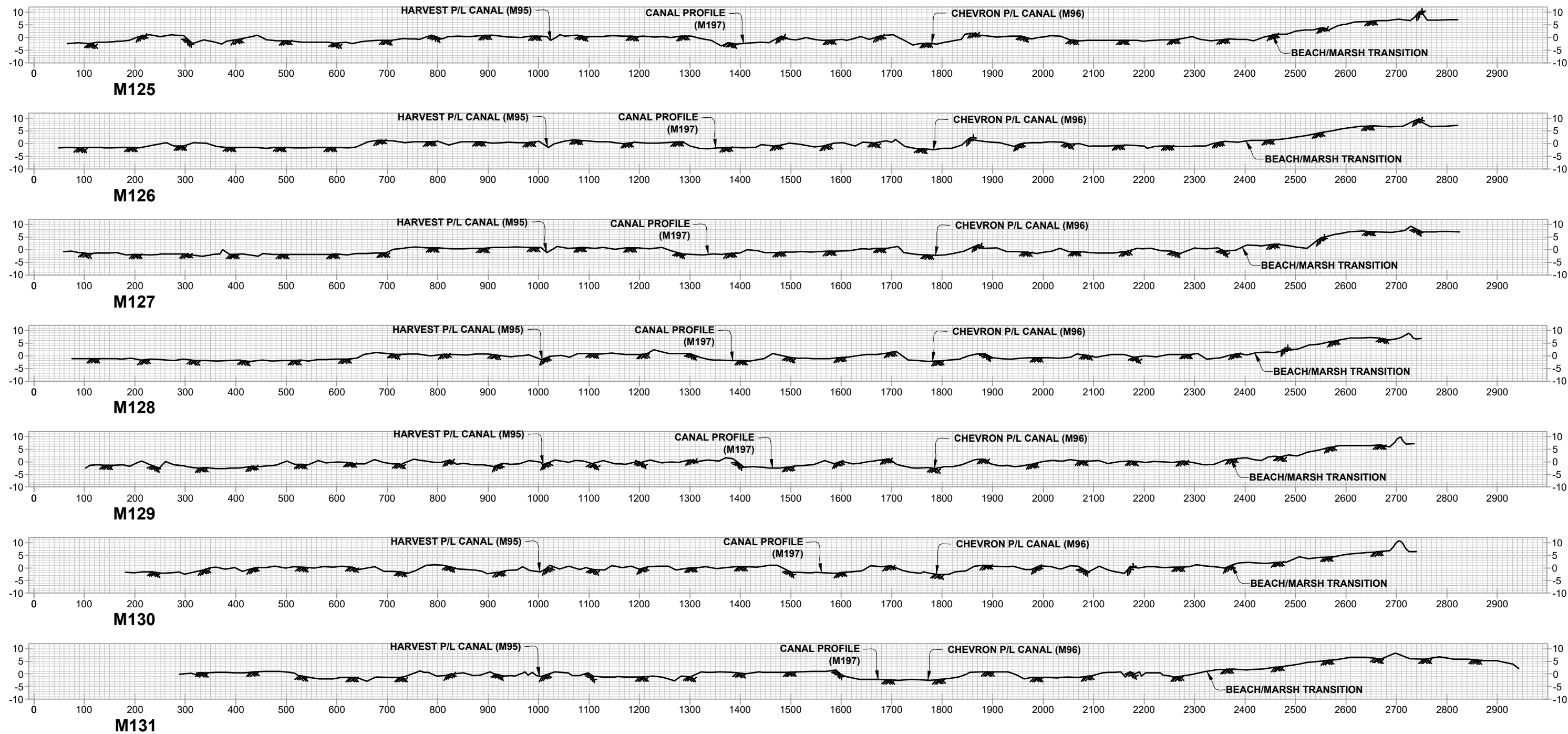


PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 6 OF 33



LEGEND	
	2017 MARSH CREATION SURVEY

REVISED BY:	DATE:
HORIZONTAL SCALE	
VERTICAL SCALE	
DATE: 05/09/2017	JOB# 2171003

LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

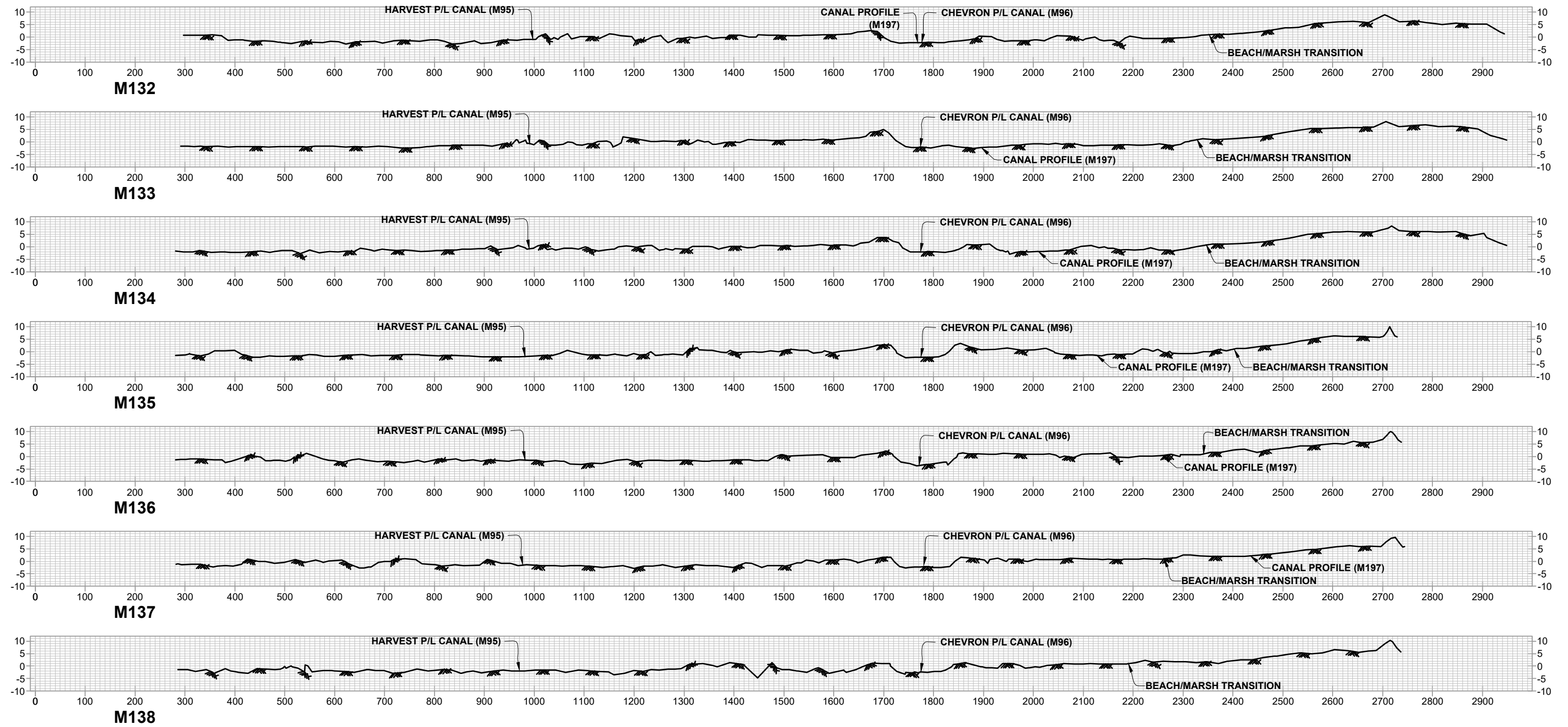
COASTAL PROTECTION AND RESTORATION AUTHORITY

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

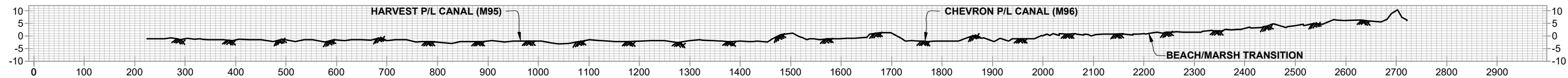
FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

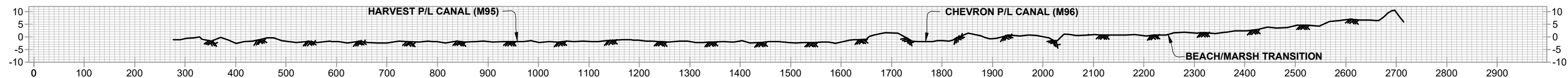
SHEET: 7 OF 33



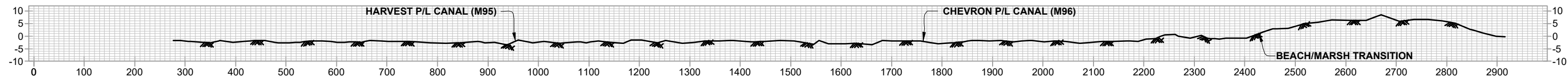
LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY						
	HORIZONTAL SCALE 200' 0' 100' 200' VERTICAL SCALE 40' 0' 20' 40'					
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583				
DATE: 05/09/2017		JOB# 2171003		FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg		SHEET: 8 OF 33



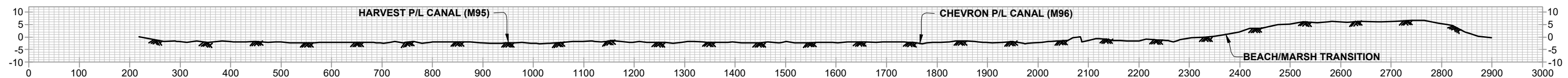
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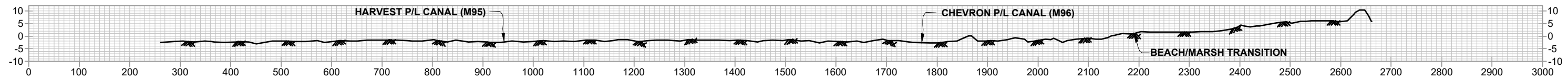
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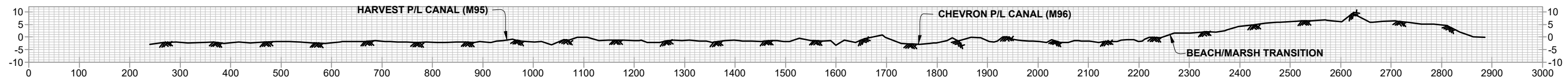
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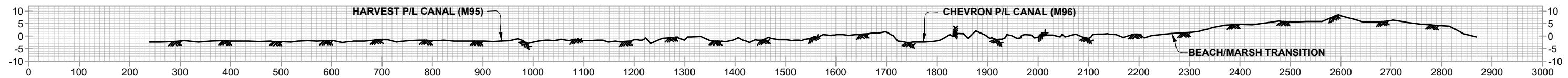
M142



M143



M144



M145



LEGEND

 2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'



STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

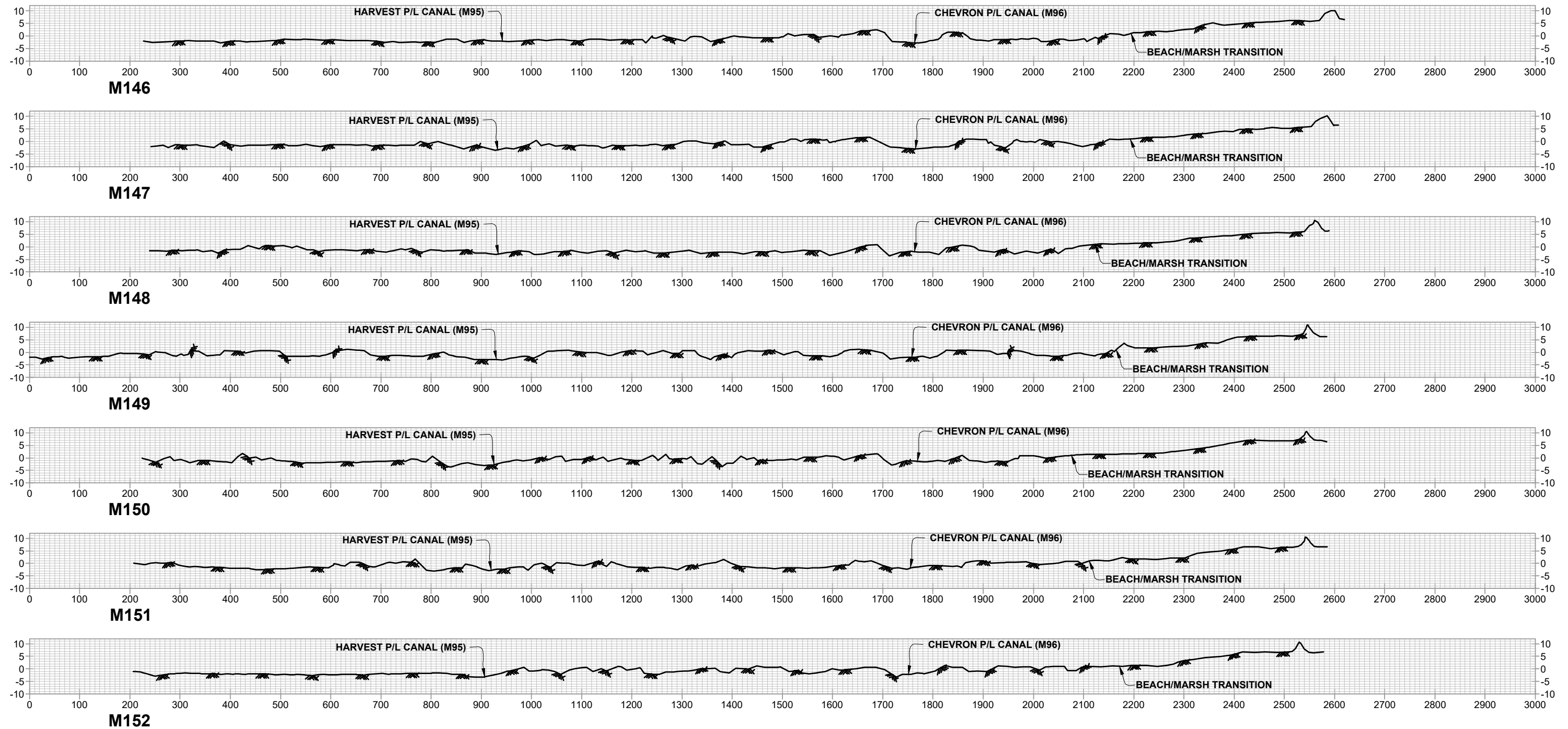
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

DATE: 05/09/2017

JOB# 2171003

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 9 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'

DATE: 05/09/2017

JOB# 2171003

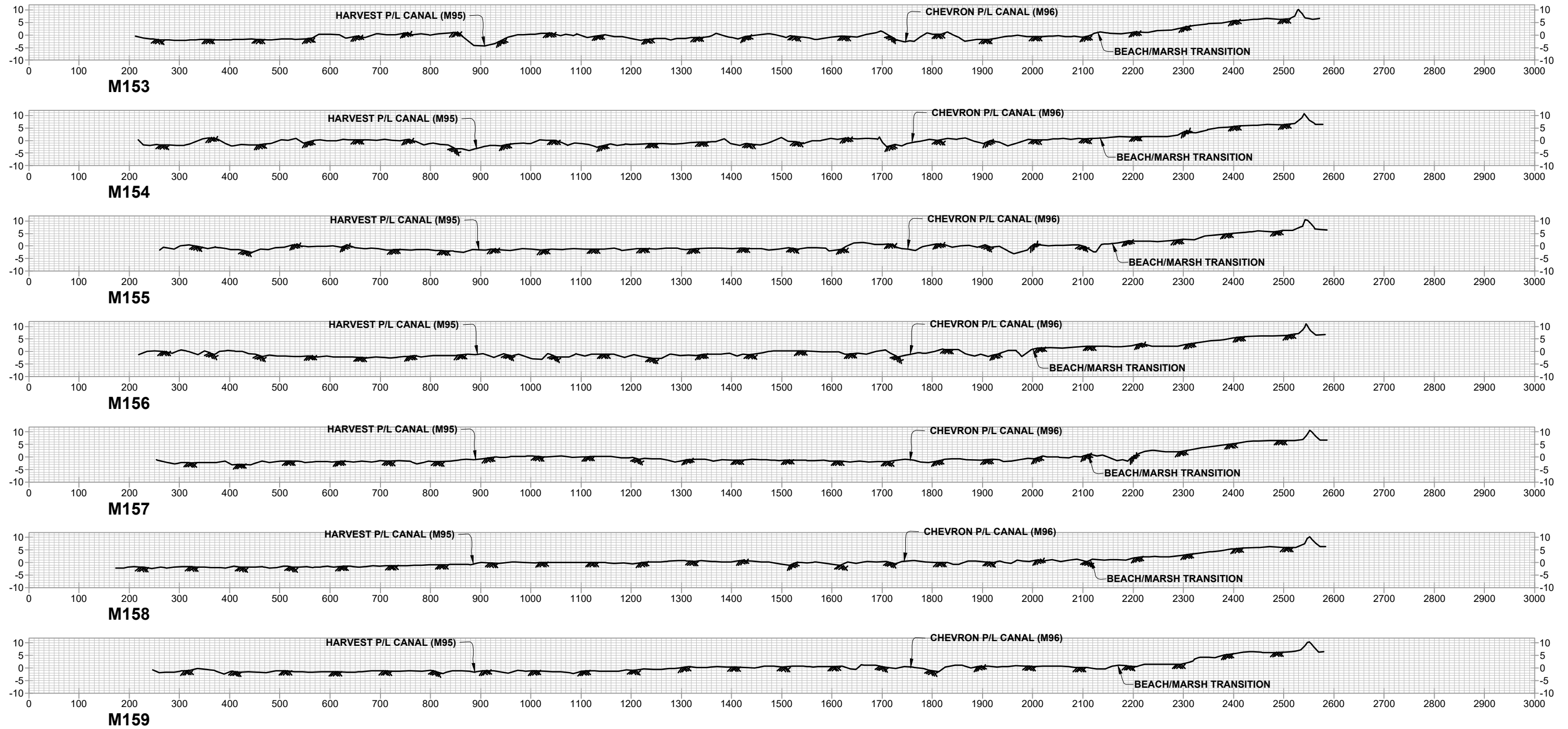


PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 10 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'

DATE: 05/09/2017

JOB# 2171003

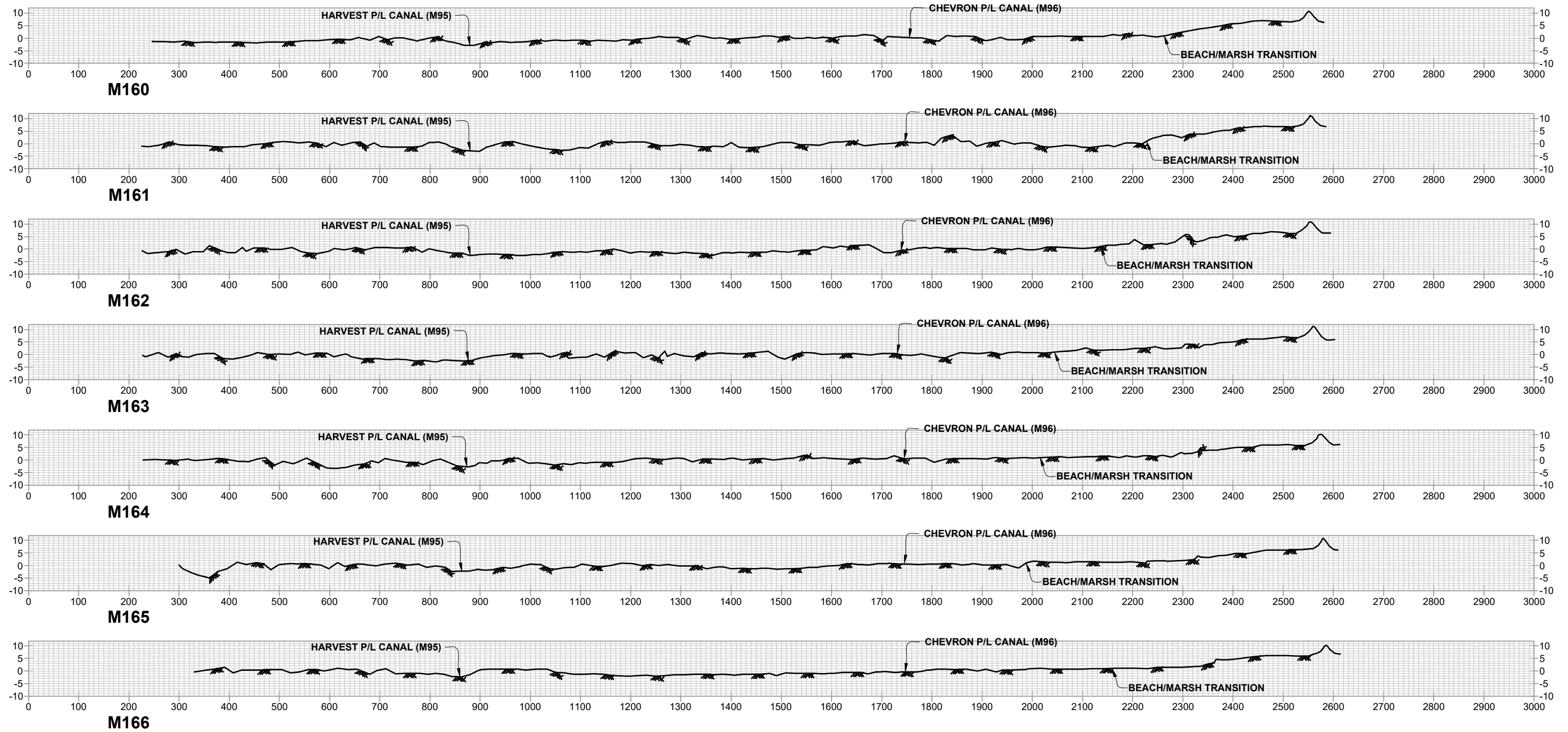


STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

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

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 11 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'



STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

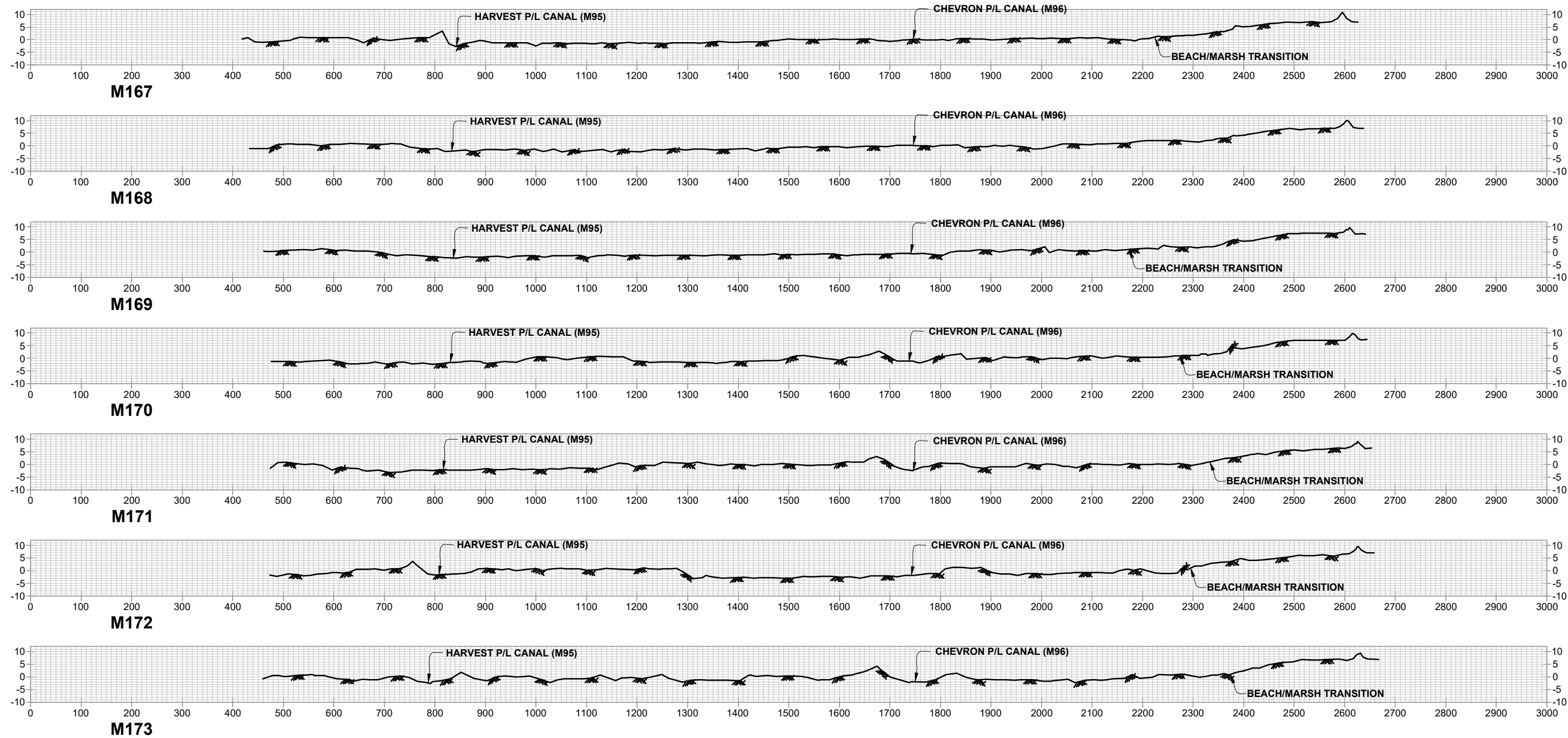
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

DATE: 05/09/2017

JOB# 2171003

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 12 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'



STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

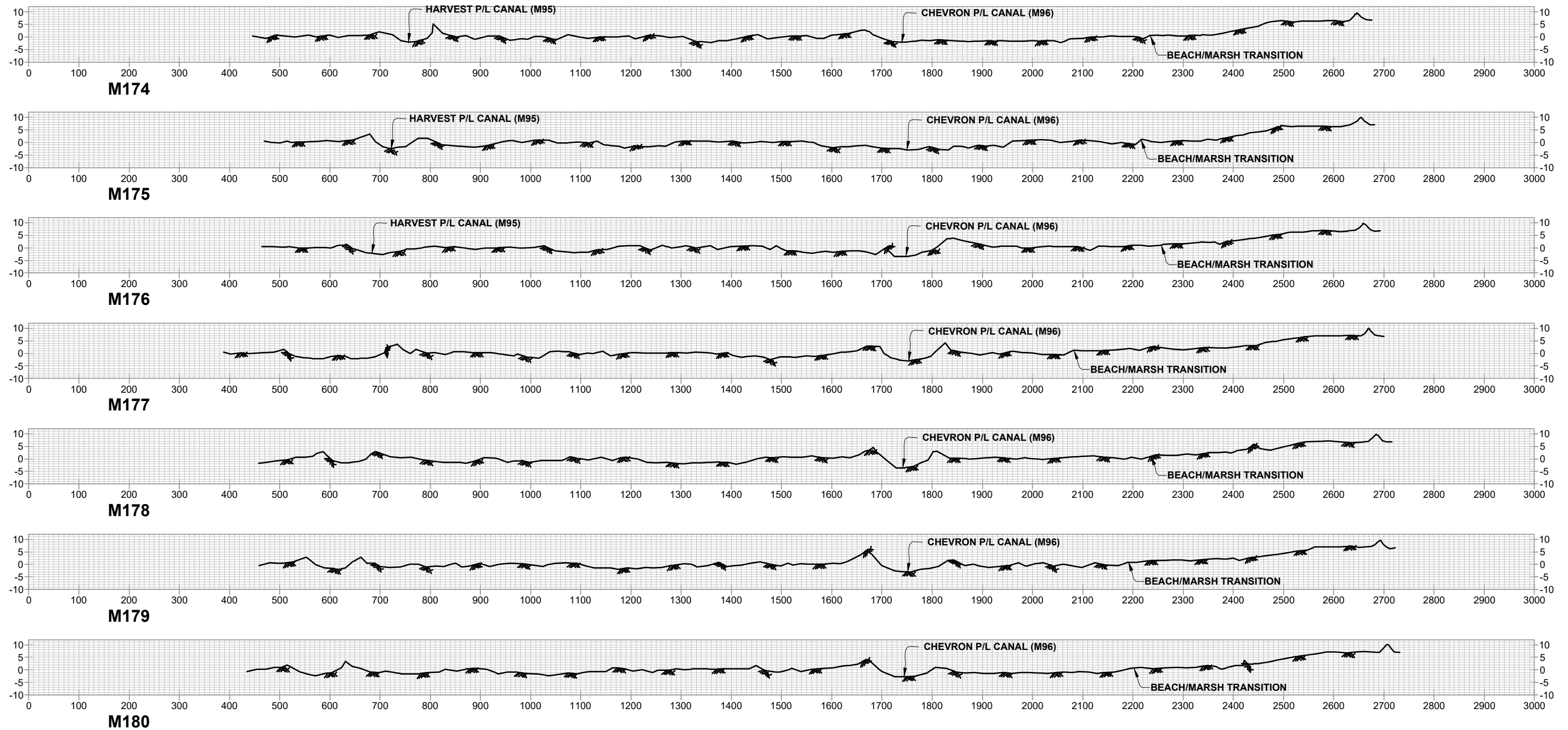
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

DATE: 05/09/2017

JOB# 2171003

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 13 OF 33



LEGEND

2017 MARSH CREATION SURVEY

HORIZONTAL SCALE
200' 0' 100' 200'

VERTICAL SCALE
40' 0' 20' 40'

REVISED BY:

DATE:

DATE: 05/09/2017

JOB# 2171003

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

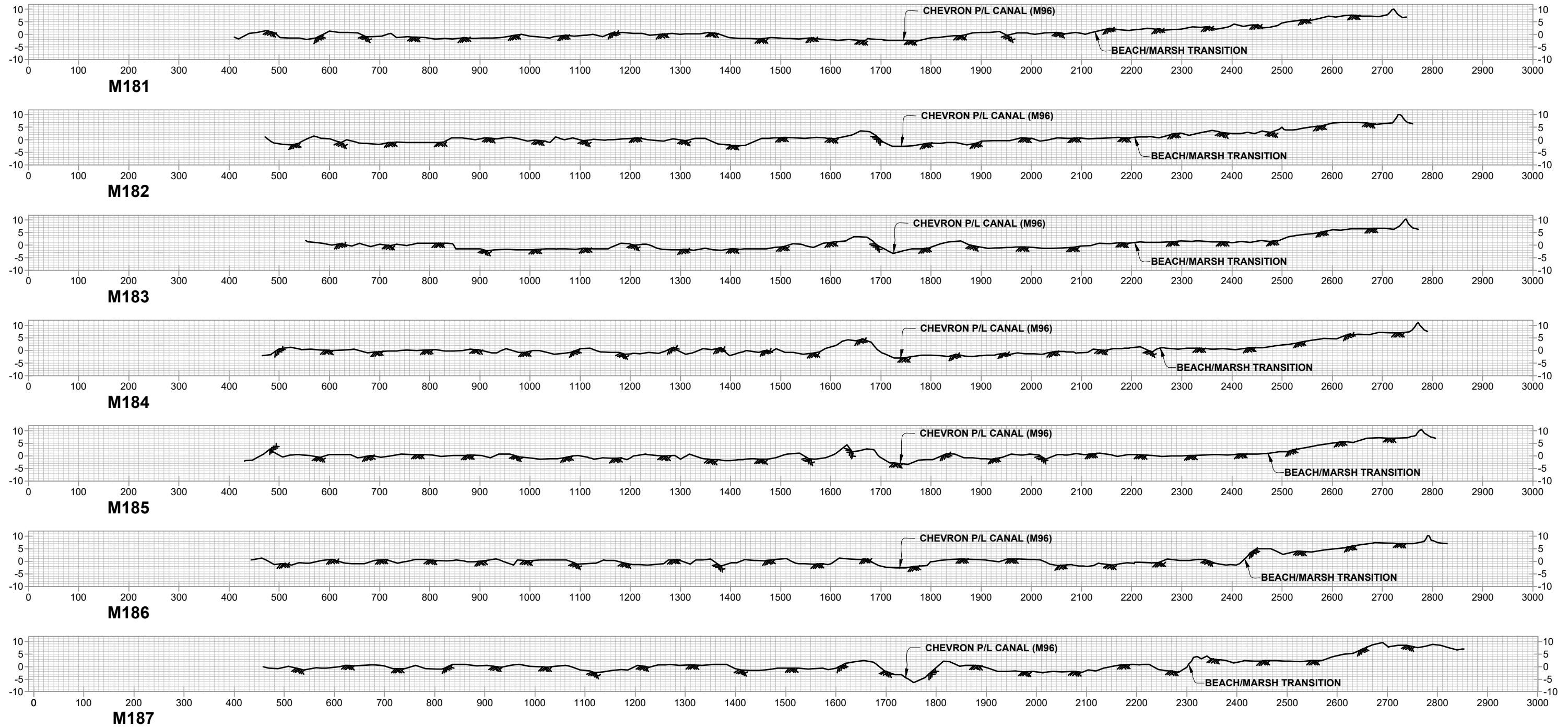
CPRA

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

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 14 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'

DATE: 05/09/2017

JOB# 2171003

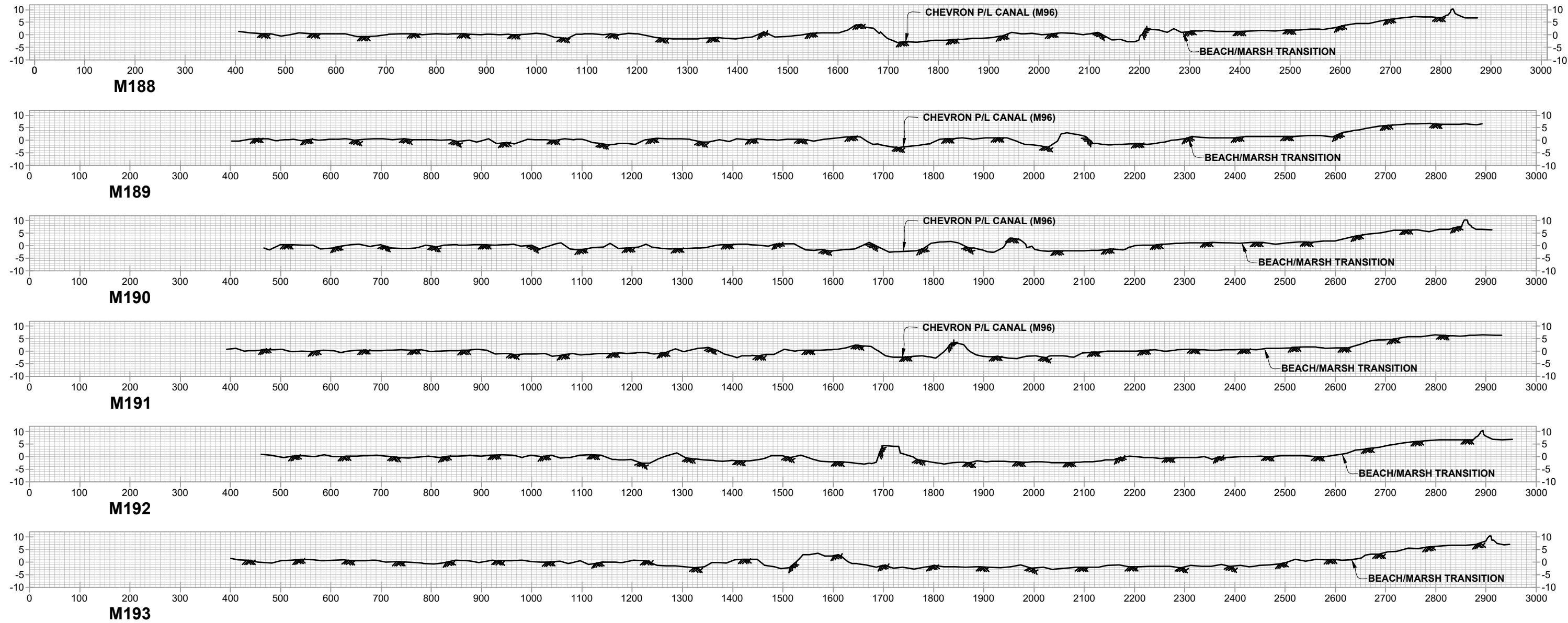


PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 15 OF 33



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:

HORIZONTAL SCALE

200' 0' 100' 200'

VERTICAL SCALE

40' 0' 20' 40'

DATE: 05/09/2017

JOB# 2171003

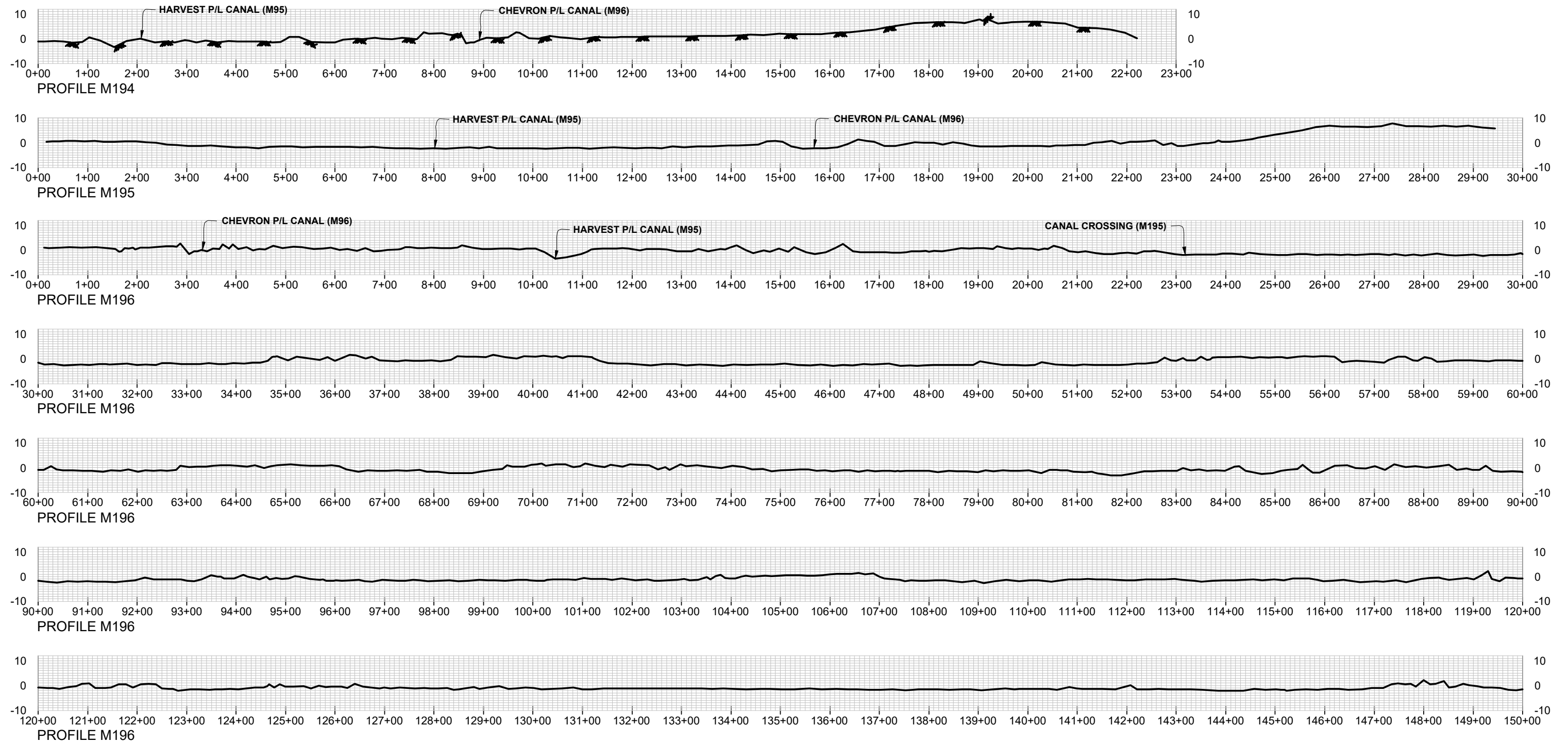


STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

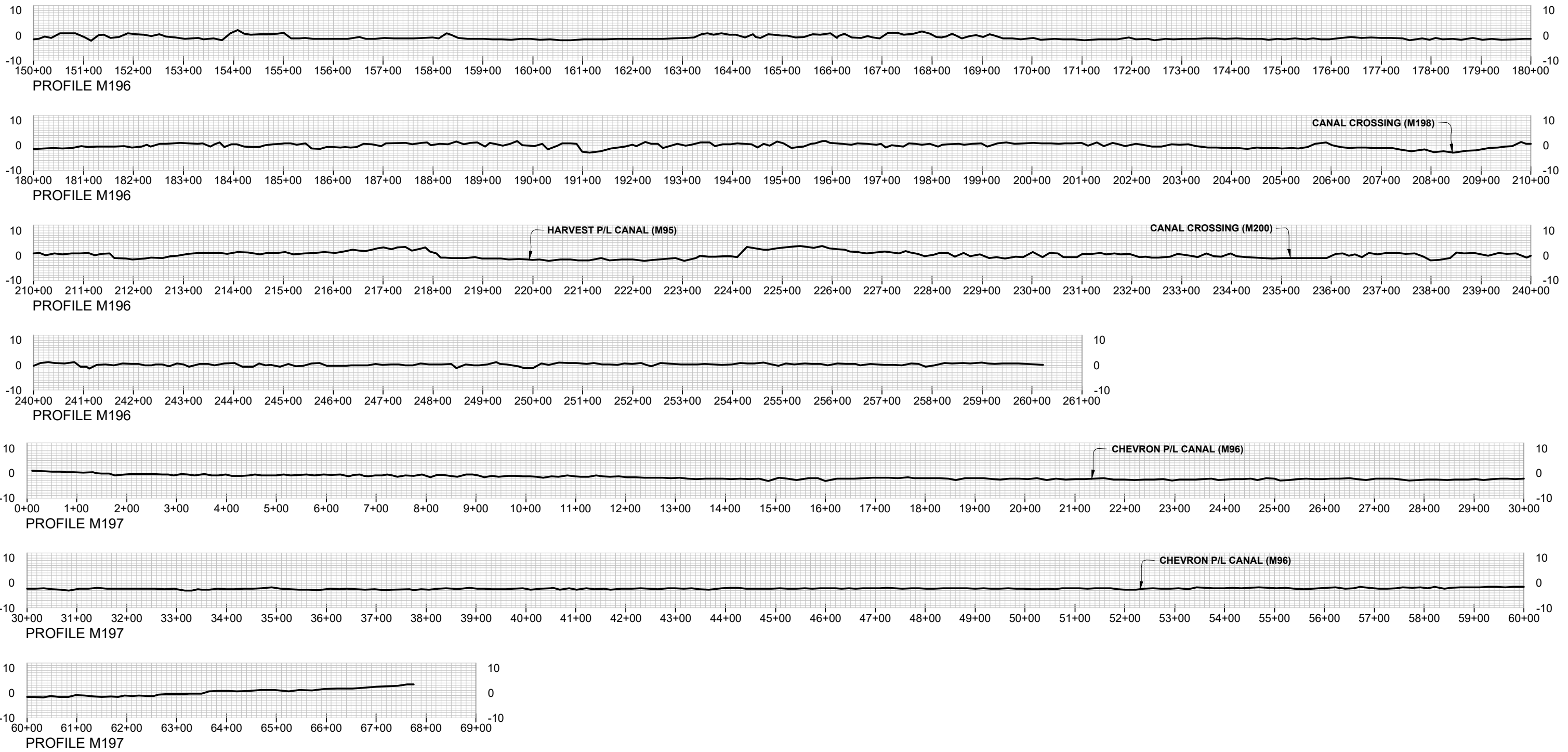
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

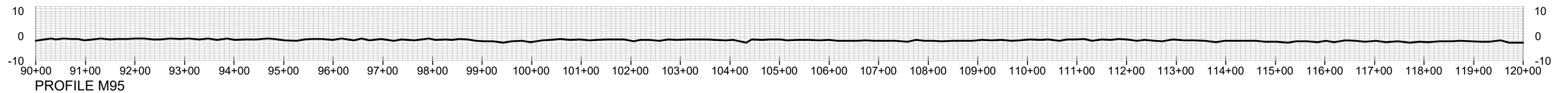
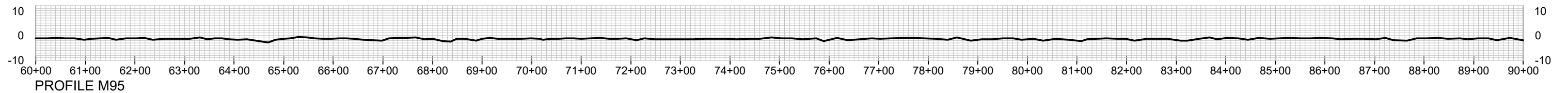
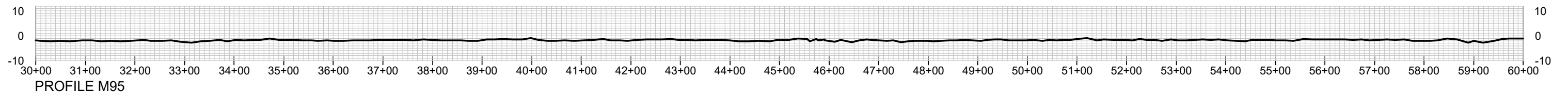
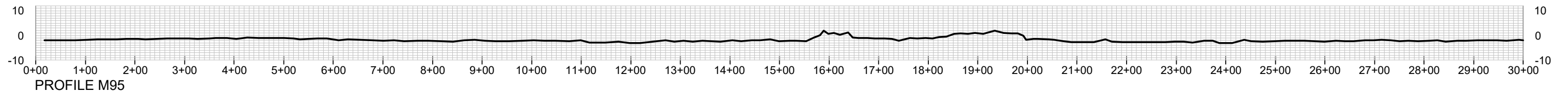
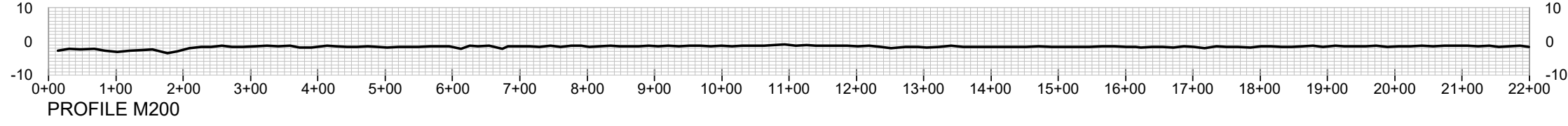
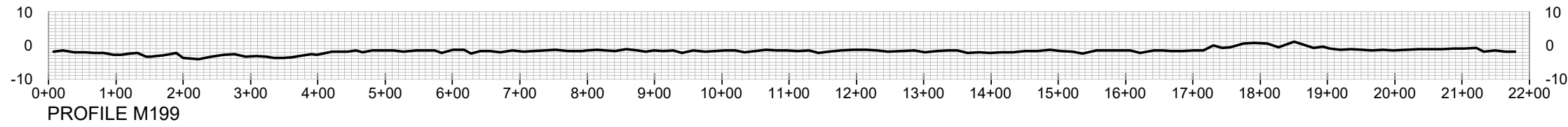
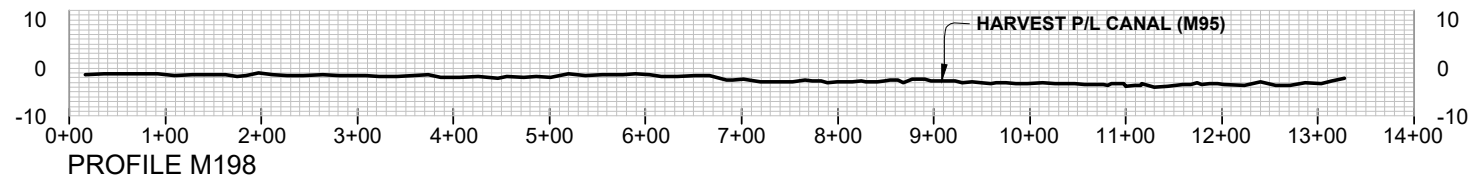
SHEET: 16 OF 33



LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY						
	HORIZONTAL SCALE 200' 0' 100' 200' VERTICAL SCALE 40' 0' 20' 40'					
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583				
DATE: 05/09/2017		JOB# 2171003		FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg		SHEET: 17 OF 33



LEGEND		REVISED BY:		DATE:		 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS 		STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA			
 2017 MARSH CREATION SURVEY											



LEGEND

2017 MARSH CREATION SURVEY

REVISED BY:

DATE:



STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA

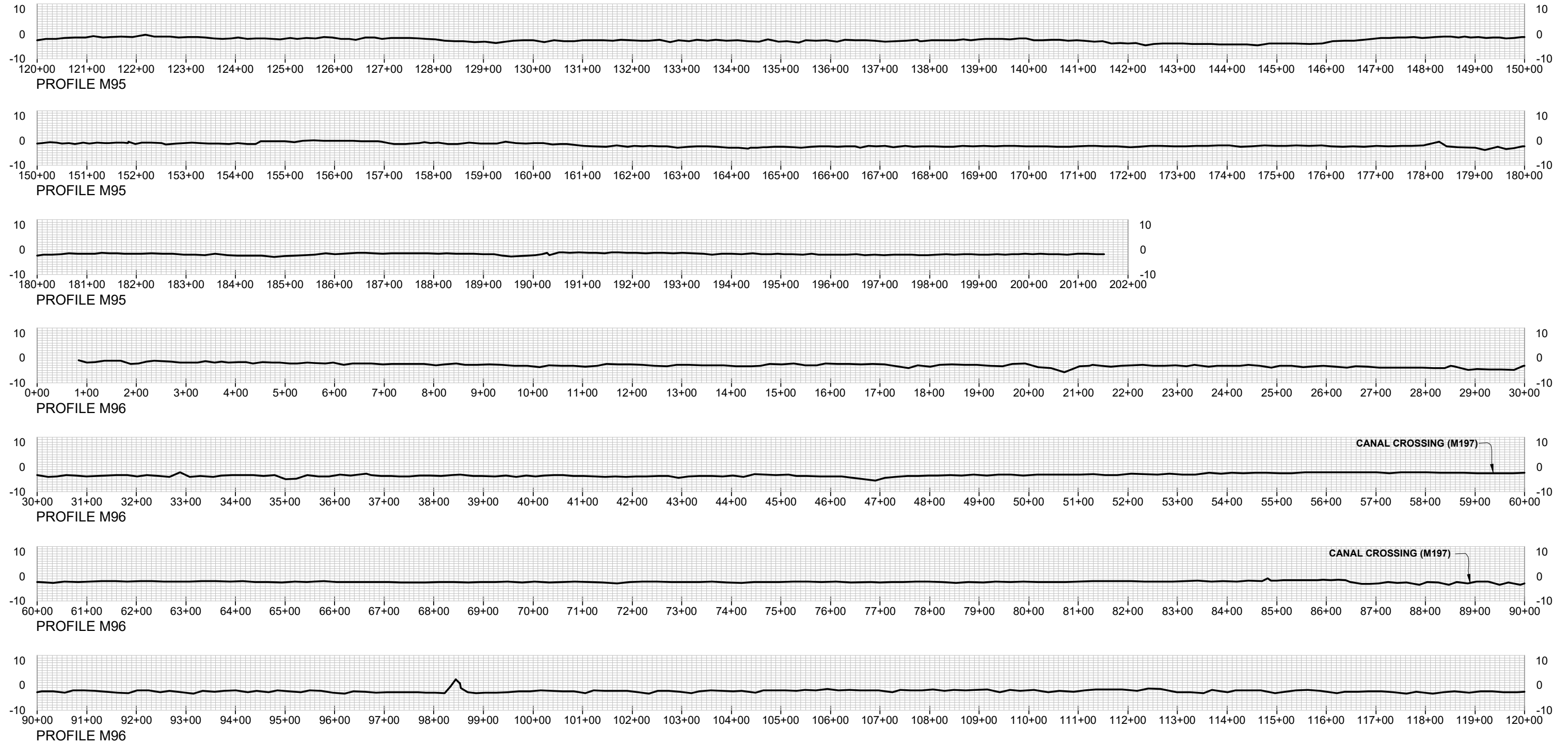
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

DATE: 05/09/2017

JOB# 2171003

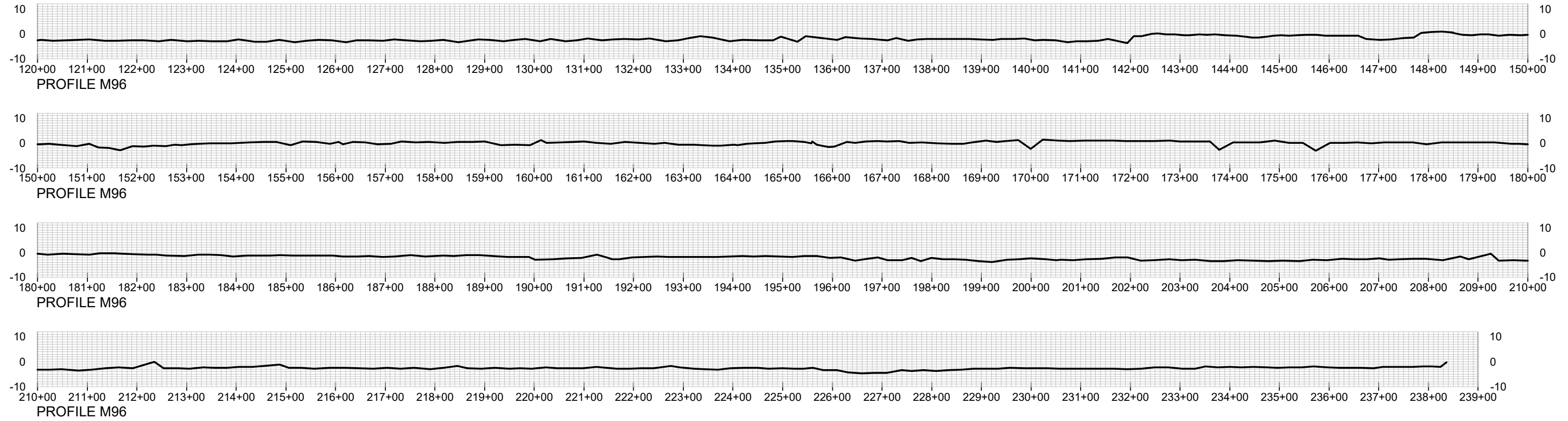
FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 19 OF 33

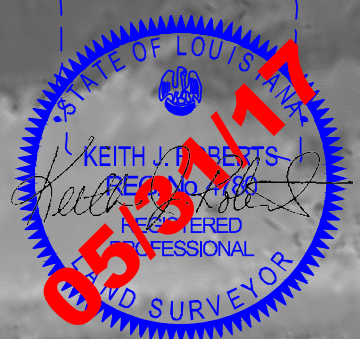
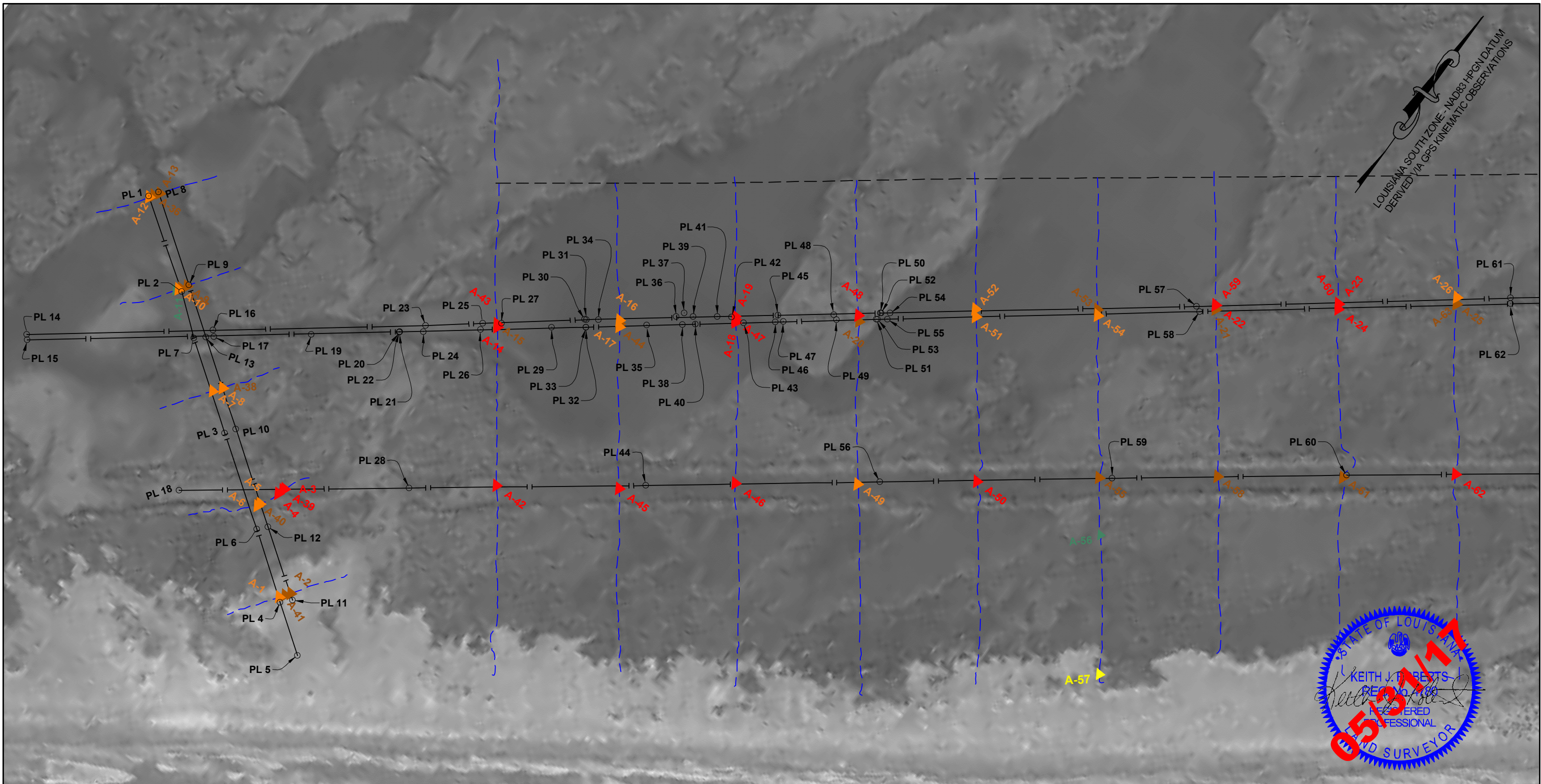


LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY					PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
	HORIZONTAL SCALE 200' 0' 100' 200' VERTICAL SCALE 40' 0' 20' 40'					
DATE: 05/09/2017	JOB# 2171003	SHEET: 20 OF 33				

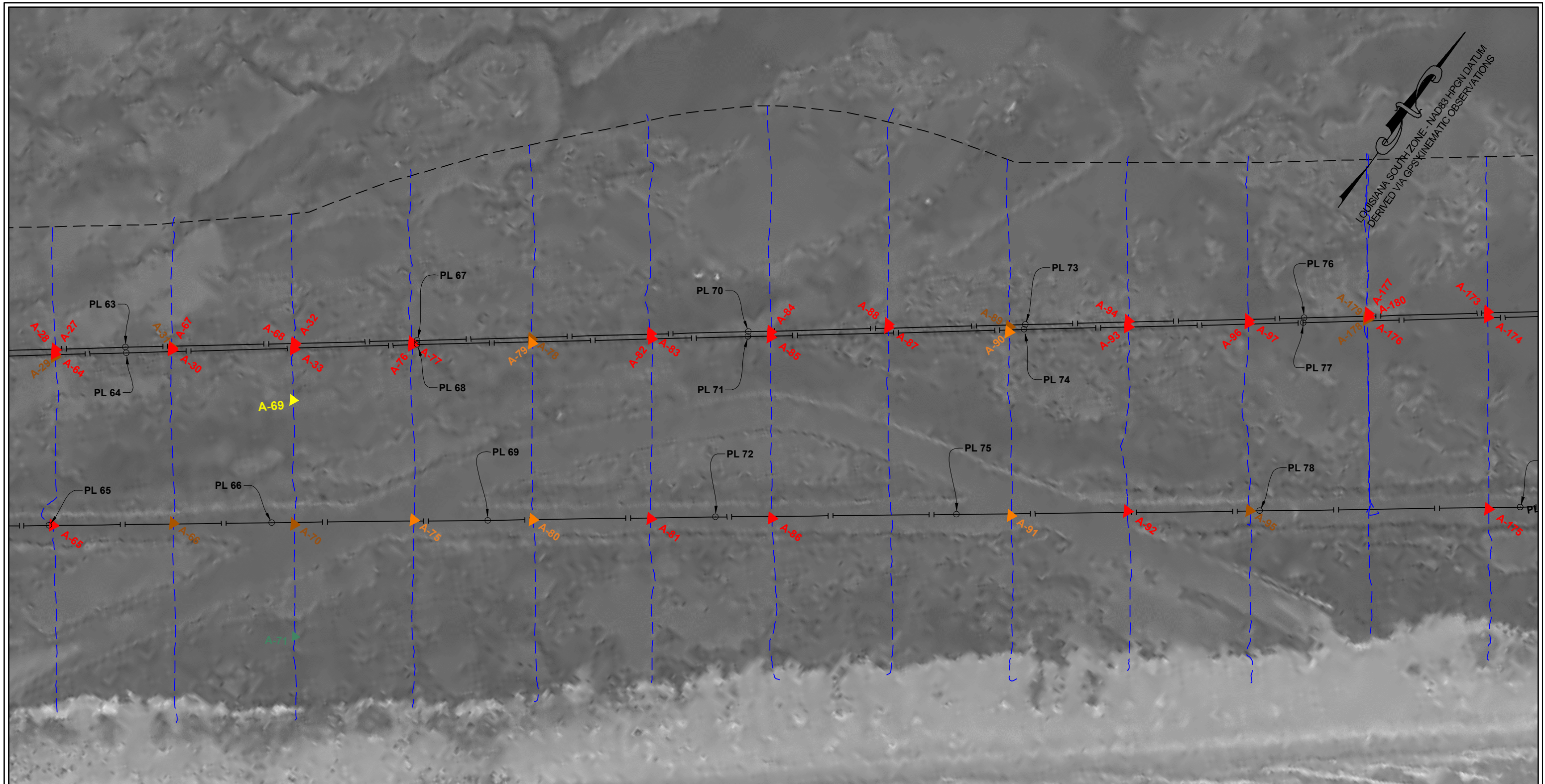
STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
SURVEY TRANSECT PROFILE VIEWS
LAFOURCHE AND JEFFERSON PARISH, LA



LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> SURVEY TRANSECT PROFILE VIEWS LAFOURCHE AND JEFFERSON PARISH, LA	
 2017 MARSH CREATION SURVEY						
	HORIZONTAL SCALE 200' 0' 100' 200' VERTICAL SCALE 40' 0' 20' 40'					
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583				
DATE: 05/09/2017		JOB# 2171003		FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg		SHEET: 21 OF 33



NOTES: 1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM PROJECT CONTROL (CRMSBA-SM-19) VIA GPS KINEMATIC OBSERVATIONS. 2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12A) AS DERIVED FROM PROJECT CONTROL (CRMSBA-SM-19). 3. SURVEY DATA ACQUISITION PERFORMED WITH RTK. 4. MAGNETOMETER SURVEY DATA ACQUISITION PERFORMED USING GEOMETRICS G-882 MAGNETOMETER INTEGRATED WITH RTK. 5. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY. 6. MAGNETOMETER SURVEY DATA ACQUISITION WAS PERFORMED MARCH 21 - 27, 2017.	MAG LEGEND 1-50 GAMMAS 51-100 GAMMAS 101-500 GAMMAS 501-1000 GAMMAS > 1001 GAMMAS	LEGEND - EXISTING PIPELINE - MAGNETOMETER SURVEY TRACK LINES - PIPELINE PROBING AREA (SEE TABLE ON SHEET 29) - MAGNETOMETER ANOMALY (SEE TABLES SHEETS 27 - 29)	REVISED BY: DATE: HORIZONTAL SCALE 1" = 400' 400' 0' 200' 400' DATE: 05/09/2017 JOB# 2171003	HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS CPRA PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) TOPOGRAPHIC/BATHYMETRIC SURVEY MAGNETOMETER/PIPELINE LOCATION PLAN VIEW LAFOURCHE AND JEFFERSON PARISH, LA FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg SHEET: 22 OF 33
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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	
	EXISTING PIPELINE
	MAGNETOMETER SURVEY TRACK LINES
	PIPELINE PROBING AREA (SEE TABLE ON SHEET 29)
	MAGNETOMETER ANOMALY (SEE TABLES SHEETS 27 - 29)

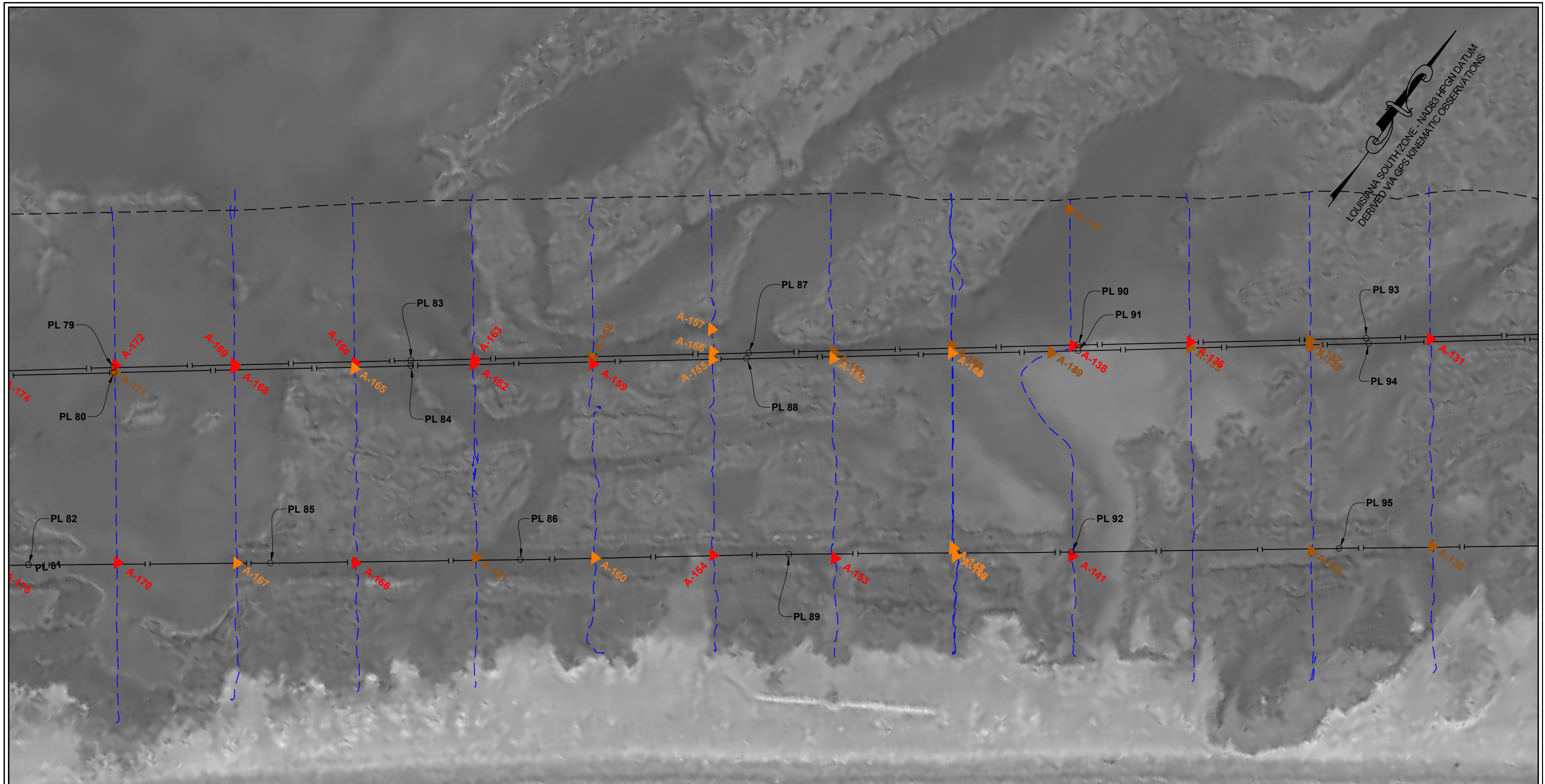
REVISED BY:	DATE:
HORIZONTAL SCALE 1" = 400'	
DATE: 05/09/2017	JOB# 2171003

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION
ACT
CPRA

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

STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) TOPOGRAPHIC/BATHYMETRIC SURVEY MAGNETOMETER/PIPELINE LOCATION PLAN VIEW LAFOURCHE AND JEFFERSON PARISH, LA	
FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 23 OF 33



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

LEGEND	
	EXISTING PIPELINE
	MAGNETOMETER SURVEY TRACK LINES
	PIPELINE PROBING AREA (SEE TABLE ON SHEET 29)
	MAGNETOMETER ANOMALY (SEE TABLES SHEETS 27 - 29)

REVISED BY:	DATE:
HORIZONTAL SCALE 1" = 400' 400' 0' 200' 400'	
DATE: 05/09/2017	JOB# 2171003

LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

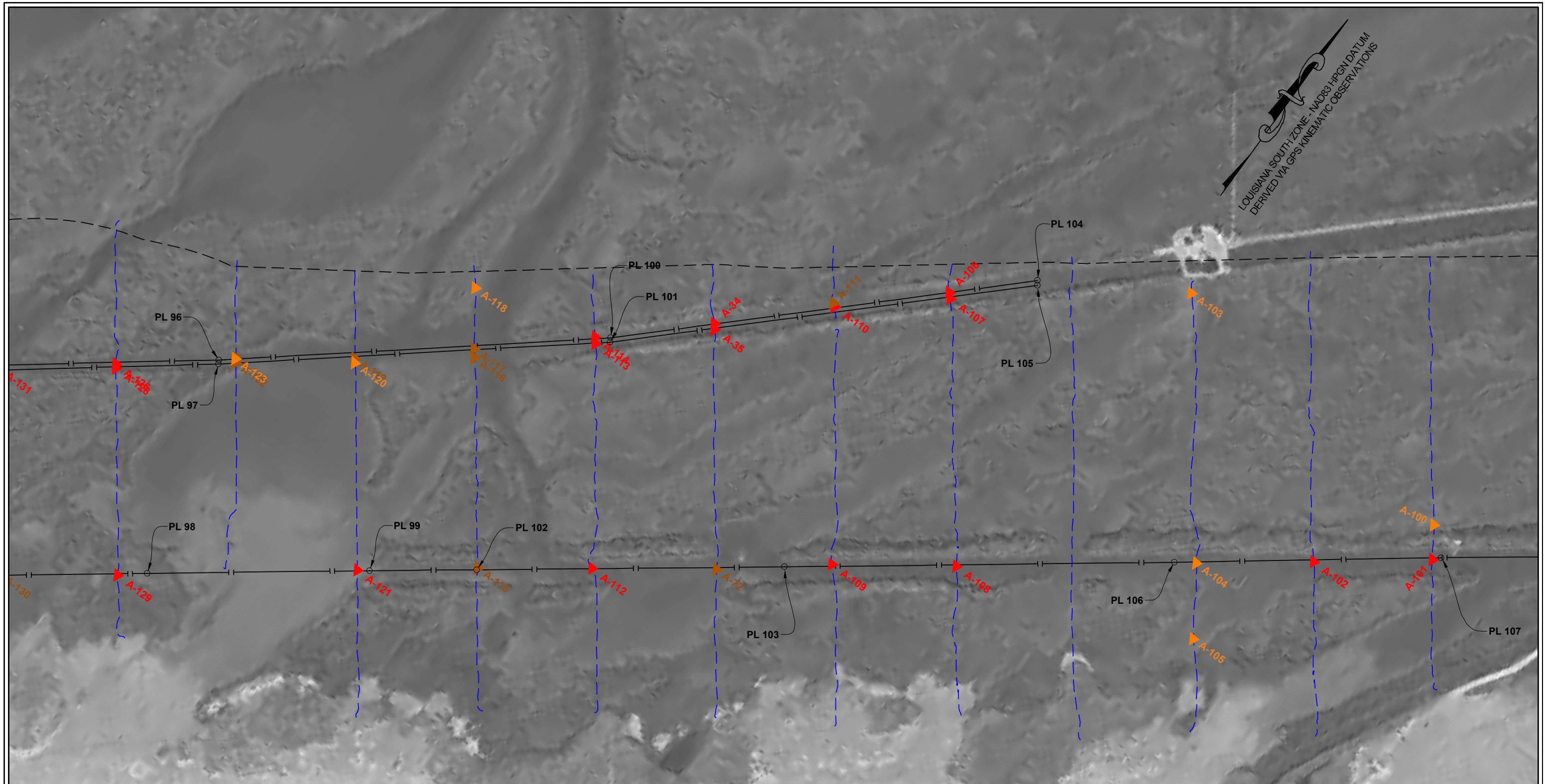
COASTAL PROTECTION AND RESTORATION AUTHORITY

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

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
MAGNETOMETER/PIPELINE LOCATION PLAN VIEW
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 24 OF 33



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



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

LEGEND	
	EXISTING PIPELINE
	MAGNETOMETER SURVEY TRACK LINES
	PIPELINE PROBING AREA (SEE TABLE ON SHEET 29)
	MAGNETOMETER ANOMALY (SEE TABLES SHEETS 27 - 29)

REVISED BY:	DATE:
HORIZONTAL SCALE 1" = 400'	
DATE: 05/09/2017	JOB# 2171003

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

CPRA

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STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) TOPOGRAPHIC/BATHYMETRIC SURVEY MAGNETOMETER/PIPELINE LOCATION PLAN VIEW LAFOURCHE AND JEFFERSON PARISH, LA	
FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 25 OF 33



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

LEGEND	
	EXISTING PIPELINE
	MAGNETOMETER SURVEY TRACK LINES
	PIPELINE PROBING AREA (SEE TABLE ON SHEET 29)
	MAGNETOMETER ANOMALY (SEE TABLES SHEETS 27 - 29)

REVISED BY:	DATE:
HORIZONTAL SCALE 1" = 400' 400' 0' 200' 400'	
DATE: 05/09/2017	JOB# 2171003

**HYDROTERRA**
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

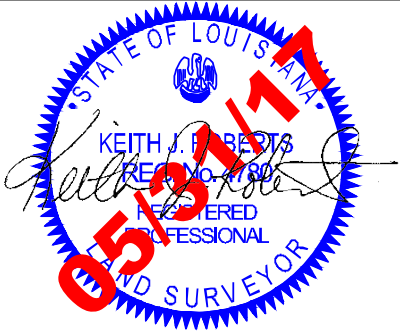


PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

STATE OF LOUISIANA (CPRA)	
CAMINADA HEADLANDS BACK BARRIER	
MARSH CREATION INCREMENT II PROJECT (BA-193)	
TOPOGRAPHIC/BATHYMETRIC SURVEY	
MAGNETOMETER/PIPELINE LOCATION PLAN VIEW	
LAFOURCHE AND JEFFERSON PARISH, LA	
FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 26 OF 33

Magnetometer Anomalies Report (March 27, 2017)						
Name	Y	X	Signature Amplitude	Signature Width	Signature Type	Description
A-1	234906.5	3663926.4	289.1	32.0	Monopolar	Existing Pipeline
A-2	234945.5	3663956.8	523.3	59.0	Monopolar	Existing Pipeline
A-3	235282.2	3663680.1	1714.0	34.8	Monopolar	Chevron Pipeline
A-4	235251.9	3663668.9	1553.1	45.0	Monopolar	Chevron Pipeline
A-5	235174.5	3663634.7	360.8	20.2	Monopolar	Existing Pipeline
A-6	235160.7	3663631.0	416.9	19.1	Monopolar	Existing Pipeline
A-7	235438.8	3663200.3	139.1	41.8	Monopolar	Existing Pipeline
A-8	235473.7	3663226.1	498.7	33.7	Monopolar	Existing Pipeline
A-9	235730.0	3662856.7	681.7	43.1	Monopolar	Existing Pipeline
A-10	235698.6	3662835.5	268.1	16.3	Monopolar	Existing Pipeline
A-11	235686.4	3662827.4	40.7	9.9	Monopolar	Existing Pipeline
A-12	235938.3	3662512.1	376.6	38.7	Monopolar	Existing Pipeline
A-13	235976.9	3662538.7	584.9	36.7	Monopolar	Existing Pipeline
A-14	236349.0	3664002.3	1537.0	35.8	Monopolar	Harvest Pipeline
A-15	236359.3	3663994.2	856.2	20.4	Monopolar	Harvest Pipeline
A-16	236670.0	3664399.7	293.2	41.3	Monopolar	Harvest Pipeline
A-17	236648.2	3664415.8	386.0	37.2	Monopolar	Harvest Pipeline
A-18	236946.1	3664794.2	1094.9	21.1	Monopolar	Harvest Pipeline
A-19	236966.4	3664778.4	1274.7	20.8	Monopolar	Harvest Pipeline
A-20	237251.6	3665209.9	647.8	15.6	Monopolar	Harvest Pipeline
A-21	238162.9	3666384.2	814.9	18.8	Monopolar	Harvest Pipeline
A-22	238176.0	3666372.5	5538.2	26.1	Monopolar	Harvest Pipeline
A-23	238479.8	3666783.2	8315.5	25.6	Monopolar	Harvest Pipeline
A-24	238461.4	3666795.5	1407.1	12.1	Monopolar	Harvest Pipeline
A-25	238768.8	3667183.1	711.8	29.7	Monopolar	Harvest Pipeline
A-26	238791.9	3667169.2	296.7	12.8	Monopolar	Harvest Pipeline
A-27	239090.8	3667577.9	1591.5	23.9	Monopolar	Harvest Pipeline
A-28	239090.4	3667578.1	1591.5	23.6	Monopolar	Harvest Pipeline
A-29	239067.9	3667596.0	997.4	49.3	Monopolar	Harvest Pipeline
A-30	239377.1	3667975.0	1353.6	20.3	Monopolar	Harvest Pipeline
A-31	239385.9	3667968.5	950.5	17.7	Monopolar	Harvest Pipeline
A-32	239699.5	3668374.9	3399.8	40.7	Monopolar	Harvest Pipeline
A-33	239678.1	3668386.3	1015.1	30.7	Monopolar	Harvest Pipeline
A-34	248259.6	3679450.2	1491.6	63.5	Monopolar	Harvest Pipeline
A-35	248239.5	3679465.1	1562.3	49.4	Monopolar	Harvest Pipeline
A-36	235955.0	3662523.0	952.8	104.3	Monopolar	Existing Pipeline

Magnetometer Anomalies Report (March 27, 2017)						
Name	Y	X	Signature Amplitude	Signature Width	Signature Type	Description
A-37	235708.0	3662842.0	699.1	110.2	Monopolar	Existing Pipeline
A-38	235473.0	3663226.0	589.6	97.3	Monopolar	Existing Pipeline
A-39	235275.0	3663676.0	3082.6	132.5	Monopolar	Chevron Pipeline
A-40	235169.0	3663633.0	710.2	53.6	Monopolar	Existing Pipeline
A-41	234927.0	3663942.0	816.1	105.7	Monopolar	Existing Pipeline
A-42	235811.0	3664386.0	1065.5	71.5	Monopolar	Chevron Pipeline
A-43	236358.0	3663995.0	1631.0	97.6	Monopolar	Harvest Pipeline
A-44	236661.0	3664406.0	709.4	106.7	Monopolar	Harvest Pipeline
A-45	236100.0	3664807.0	1524.7	85.6	Monopolar	Chevron Pipeline
A-46	236402.0	3665187.0	1049.8	84.2	Monopolar	Chevron Pipeline
A-47	236955.0	3664786.0	2360.2	96.5	Monopolar	Harvest Pipeline
A-48	237269.0	3665192.0	2916.1	106.5	Monopolar	Harvest Pipeline
A-49	236699.0	3665603.0	295.5	103.7	Monopolar	Chevron Pipeline
A-50	236998.0	3665997.0	1891.9	95.8	Monopolar	Chevron Pipeline
A-51	237552.0	3665593.0	457.2	33.1	Monopolar	Harvest Pipeline
A-52	237577.0	3665574.0	437.1	37.9	Monopolar	Harvest Pipeline
A-53	237874.0	3665985.0	850.9	45.8	Monopolar	Harvest Pipeline
A-54	237854.0	3666002.0	274.9	24.6	Monopolar	Harvest Pipeline
A-55	237310.0	3666401.0	841.9	105.6	Monopolar	Chevron Pipeline
A-56	237118.0	3666544.0	31.8	11.8	Monopolar	Anomaly/No Source Found
A-57	236647.0	3666881.0	86.6	12.6	Monopolar	Anomaly/No Source Found
A-58	237603.0	3666798.0	529.5	59.9	Monopolar	Chevron Pipeline
A-59	238175.0	3666372.0	6204.0	55.0	Monopolar	Harvest Pipeline
A-60	238479.0	3666783.0	8415.9	98.7	Monopolar	Harvest Pipeline
A-61	237906.0	3667224.0	525.0	96.3	Monopolar	Chevron Pipeline
A-62	238190.0	3667595.0	5571.0	82.6	Monopolar	Chevron Pipeline
A-63	238768.0	3667183.0	858.6	56.1	Monopolar	Harvest Pipeline
A-64	239076.0	3667587.0	2099.7	111.5	Monopolar	Harvest Pipeline
A-65	238490.0	3668001.0	1676.0	119.7	Monopolar	Chevron Pipeline
A-66	238792.0	3668405.0	538.5	97.2	Monopolar	Chevron Pipeline
A-67	239382.0	3667970.0	2143.9	99.2	Monopolar	Harvest Pipeline
A-68	239692.0	3668377.0	3399.8	89.8	Monopolar	Harvest Pipeline
A-69	239503.0	3668509.0	57.3	5.7	Monopolar	Anomaly/No Source Found
A-70	239086.0	3668818.0	672.8	97.3	Monopolar	Chevron Pipeline
A-71	238705.0	3669095.0	47.5	6.6	Monopolar	Anomaly/No Source Found
A-72	247432.0	3680061.0	540.0	136.6	Monopolar	Chevron Pipeline



REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> MAGNETOMETER ANOMALIES TABLE LAFOURCHE AND JEFFERSON PARISH, LA
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
DATE: 05/09/2017	JOB# 2171003	FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 27 OF 33

Magnetometer Anomalies Report (March 27, 2017)						
Name	Y	X	Signature Amplitude	Signature Width	Signature Type	Description
A-73	250119.0	3683664.0	934.5	91.4	Monopolar	Chevron Pipeline
A-74	249680.0	3683376.0	47.5	13.1	Monopolar	Anomaly/No Source Found
A-75	239393.6	3669213.3	202.7	72.6	Dipolar	Chevron Pipeline
A-76	239981.7	3668777.8	1729.1	24.6	Monopolar	Harvest Pipeline
A-77	239989.6	3668769.9	1818.7	85.0	Monopolar	Harvest Pipeline
A-78	240296.7	3669168.1	605.4	35.2	Monopolar	Harvest Pipeline
A-79	240283.2	3669180.8	267.0	87.1	Monopolar	Harvest Pipeline
A-80	239686.0	3669616.2	250.9	99.4	Monopolar	Chevron Pipeline
A-81	239978.1	3670010.6	1767.5	98.3	Monopolar	Chevron Pipeline
A-82	240590.5	3669573.1	2937.8	38.7	Monopolar	Harvest Pipeline
A-83	240605.7	3669556.8	1068.8	28.9	Monopolar	Harvest Pipeline
A-84	240906.1	3669959.2	1737.3	28.7	Monopolar	Harvest Pipeline
A-85	240887.8	3669972.3	1658.6	36.2	Monopolar	Harvest Pipeline
A-86	240277.1	3670420.5	3287.5	91.0	Monopolar	Chevron Pipeline
A-87	241209.6	3670346.9	1943.9	23.4	Dipolar	Harvest Pipeline
A-88	241219.8	3670338.9	1185.9	35.0	Monopolar	Harvest Pipeline
A-89	241508.7	3670757.7	881.6	35.2	Monopolar	Harvest Pipeline
A-90	241490.0	3670769.5	456.8	26.9	Monopolar	Harvest Pipeline
A-91	240873.1	3671226.2	301.5	66.6	Monopolar	Chevron Pipeline
A-92	241171.6	3671608.0	1435.8	79.6	Monopolar	Chevron Pipeline
A-93	241798.8	3671158.5	1148.9	21.3	Monopolar	Harvest Pipeline
A-94	241819.1	3671143.9	2685.0	20.0	Monopolar	Harvest Pipeline
A-95	241475.2	3672022.2	854.4	66.7	Monopolar	Chevron Pipeline
A-96	242106.5	3671557.5	1081.5	24.4	Monopolar	Harvest Pipeline
A-97	242116.7	3671549.8	1806.0	35.4	Monopolar	Harvest Pipeline
A-98	249811.6	3683273.0	803.2	56.6	Monopolar	Chevron Pipeline
A-99	249531.5	3682869.6	1653.3	86.1	Monopolar	Chevron Pipeline
A-100	249340.8	3682384.7	227.0	8.9	Monopolar	Chevron Pipeline
A-101	249218.9	3682463.0	1946.2	75.0	Monopolar	Chevron Pipeline
A-102	248921.5	3682065.1	1750.4	73.9	Monopolar	Chevron Pipeline
A-103	249532.1	3680994.5	373.7	190.1	Monopolar	Approaching Harvest Pipeline Canal/Existing Structure
A-104	248629.0	3681672.8	361.4	52.0	Monopolar	Chevron Pipeline
A-105	248364.9	3681847.9	216.6	28.3	Monopolar	Anomaly/No Source Found
A-106	248939.5	3680170.3	1375.8	40.7	Monopolar	Harvest Pipeline
A-107	248922.1	3680189.3	1196.5	16.1	Monopolar	Harvest Pipeline
A-108	248028.5	3680865.3	1249.9	63.9	Monopolar	Chevron Pipeline

Magnetometer Anomalies Report (March 27, 2017)						
Name	Y	X	Signature Amplitude	Signature Width	Signature Type	Description
A-109	247730.6	3680439.1	2219.5	73.8	Monopolar	Chevron Pipeline
A-110	248610.6	3679816.1	2297.3	18.3	Monopolar	Harvest Pipeline
A-111	248620.9	3679804.2	576.3	22.0	Monopolar	Harvest Pipeline
A-112	247129.2	3679636.1	1327.6	71.4	Monopolar	Chevron Pipeline
A-113	247899.2	3679096.3	1876.5	85.3	Monopolar	Harvest Pipeline
A-114	247921.4	3679078.4	1700.0	62.9	Monopolar	Harvest Pipeline
A-115	246850.7	3679248.4	690.1	39.7	Monopolar	Chevron Pipeline
A-116	247555.3	3678721.3	688.8	36.6	Monopolar	Harvest Pipeline
A-117	247585.2	3678699.2	618.4	56.3	Monopolar	Harvest Pipeline
A-118	247794.6	3678554.5	227.0	7.7	Monopolar	Anomaly/No Source Found
A-119	247260.9	3678317.2	634.8	30.1	Monopolar	Harvest Pipeline
A-120	247244.7	3678329.9	312.9	26.7	Monopolar	Harvest Pipeline
A-121	246547.9	3678844.4	1726.3	80.2	Monopolar	Chevron Pipeline
A-122	246952.7	3677924.2	646.5	15.4	Monopolar	Harvest Pipeline
A-123	246965.8	3677914.4	152.2	4.5	Monopolar	Harvest Pipeline
A-124	246970.8	3677911.3	834.2	15.8	Monopolar	Harvest Pipeline
A-126	246653.9	3677520.8	2808.1	13.8	Monopolar	Harvest Pipeline
A-128	246640.2	3677531.2	1567.1	45.9	Monopolar	Harvest Pipeline
A-129	245942.1	3678044.8	1204.8	73.7	Monopolar	Chevron Pipeline
A-130	245657.6	3677641.6	905.7	44.0	Monopolar	Chevron Pipeline
A-131	246352.6	3677126.8	1633.1	52.9	Monopolar	Harvest Pipeline
A-132	246054.4	3676721.4	956.1	23.0	Monopolar	Harvest Pipeline
A-133	246032.0	3676740.2	577.7	17.2	Monopolar	Harvest Pipeline
A-134	245343.9	3677245.0	614.9	59.2	Monopolar	Chevron Pipeline
A-135	245736.3	3676333.9	762.8	15.9	Monopolar	Harvest Pipeline
A-136	245754.3	3676319.2	2241.5	17.3	Monopolar	Harvest Pipeline
A-137	245910.1	3675585.2	621.7	13.8	Monopolar	Anomaly/No Source Found
A-138	245453.1	3675932.5	1898.9	71.9	Monopolar	Harvest Pipeline
A-139	245377.9	3675877.4	714.6	64.8	Monopolar	Harvest Pipeline
A-140	245377.9	3675877.4	714.6	64.8	Monopolar	Harvest Pipeline
A-141	244739.4	3676444.5	1775.4	82.8	Monopolar	Chevron Pipeline
A-142	244454.4	3676052.8	428.4	47.2	Monopolar	Chevron Pipeline
A-143	244475.8	3676024.6	154.3	37.3	Monopolar	Chevron Pipeline
A-144	245133.7	3675541.4	354.9	28.2	Monopolar	Harvest Pipeline
A-145	245157.8	3675523.5	579.0	16.6	Monopolar	Harvest Pipeline
A-146	244454.5	3676050.5	479.0	55.9	Dipolar	Chevron Pipeline



REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> MAGNETOMETER ANOMALIES TABLE LAFOURCHE AND JEFFERSON PARISH, LA
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
DATE: 05/09/2017	JOB# 2171003	FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 28 OF 33

Magnetometer Anomalies Report (March 27, 2017)						
Name	Y	X	Signature Amplitude	Signature Width	Signature Type	Description
A-147	244474.7	3676023.7	138.7	51.1	Monopolar	Chevron Pipeline
A-148	244474.7	3676023.7	138.7	51.1	Monopolar	Chevron Pipeline
A-149	245132.0	3675541.7	471.8	81.2	Monopolar	Harvest Pipeline
A-150	245157.6	3675522.0	575.7	21.1	Monopolar	Harvest Pipeline
A-151	244846.2	3675136.3	657.0	74.8	Monopolar	Harvest Pipeline
A-152	244823.7	3675152.5	499.5	86.4	Monopolar	Harvest Pipeline
A-153	244149.1	3675645.5	1716.2	126.3	Monopolar	Chevron Pipeline
A-154	243861.7	3675225.1	2284.2	102.1	Monopolar	Chevron Pipeline
A-155	244523.1	3674744.9	221.3	40.8	Monopolar	Harvest Pipeline
A-156	244552.2	3674727.3	314.7	20.5	Dipolar	Harvest Pipeline
A-157	244624.3	3674669.6	363.5	29.3	Monopolar	Harvest Pipeline
A-158	244237.9	3674332.3	884.7	49.7	Dipolar	Harvest Pipeline
A-159	244214.0	3674350.4	1037.9	60.3	Monopolar	Harvest Pipeline
A-160	243563.3	3674833.6	260.8	105.0	Monopolar	Chevron Pipeline
A-161	243273.0	3674428.4	516.0	86.9	Monopolar	Chevron Pipeline
A-162	243922.3	3673945.7	1093.9	43.3	Monopolar	Harvest Pipeline
A-163	243939.5	3673937.5	1740.1	85.3	Multiple Component	Harvest Pipeline
A-164	243634.6	3673540.6	1221.7	26.0	Monopolar	Harvest Pipeline
A-165	243615.4	3673555.2	247.7	19.8	Dipolar	Harvest Pipeline
A-166	242958.9	3674032.9	2826.3	104.0	Dipolar	Chevron Pipeline
A-167	242668.0	3673633.2	410.5	97.2	Monopolar	Chevron Pipeline
A-168	243323.3	3673143.6	1892.6	35.2	Monopolar	Harvest Pipeline
A-169	243335.0	3673134.5	4537.2	31.1	Monopolar	Harvest Pipeline
A-170	242374.7	3673225.8	1318.4	92.4	Monopolar	Chevron Pipeline
A-171	243015.2	3672751.0	704.0	38.6	Monopolar	Harvest Pipeline
A-172	243039.8	3672734.7	1618.0	36.0	Monopolar	Harvest Pipeline
A-173	242732.5	3672339.5	1662.2	44.8	Monopolar	Harvest Pipeline
A-174	242712.9	3672354.4	1658.5	52.5	Monopolar	Harvest Pipeline
A-175	242064.4	3672826.7	1173.6	111.3	Monopolar	Chevron Pipeline
A-176	242416.6	3671952.0	1418.8	39.7	Monopolar	Harvest Pipeline
A-177	242432.4	3671939.7	1418.8	39.7	Monopolar	Harvest Pipeline
A-178	242409.6	3671951.0	708.1	14.1	Monopolar	Harvest Pipeline
A-179	242412.8	3671950.1	708.1	14.1	Monopolar	Harvest Pipeline
A-180	242423.3	3671946.3	1963.0	35.8	Monopolar	Harvest Pipeline



REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> MAGNETOMETER ANOMALIES TABLE LAFOURCHE AND JEFFERSON PARISH, LA
		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
DATE: 05/09/2017	JOB# 2171003	FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 29 OF 33

Pipeline Point Table				
Point #	Northing	Easting	Top of Pipe Elev	Description
PL 1	235939.40	3662506.99	-5.08	PL_EX 3.3 COVER
PL 2	235696.84	3662851.62	-3.00	PL_EX 2.0 COVER
PL 3	235325.19	3663342.80	-3.27	PL_EX 2.9 COVER
PL 4	234890.36	3663942.00	-6.30	PL_EX 7.5 COVER
PL 5	234752.93	3664130.38	-6.47	PL_EX 8.7 COVER
PL 6	235078.93	3663685.05	-4.52	PL_EX 5.0 COVER
PL 7	235570.63	3663005.37	-5.15	PL_EX 3.2 COVER
PL 8	235977.16	3662530.89	-5.22	PL_EX 3.0 COVER
PL 9	235736.99	3662860.14	-6.15	PL_EX 5.1 COVER
PL 10	235365.65	3663370.60	-4.19	PL_EX 3.4 COVER
PL 11	234926.96	3663977.76	-6.39	PL_EX 7.8 COVER
PL 12	235114.04	3663717.15	-4.27	PL_EX 4.8 COVER
PL 13	235602.00	3663044.50	-5.79	PL_EX 2.1 COVER
PL 14	235174.66	3662433.38	-5.30	PL_EX (HARVEST_PL)_ 3.0_COVER
PL 15	235157.13	3662448.40	-5.95	PL_EX (HARVEST_PL)_ 2.1_COVER
PL 16	235643.85	3663050.89	0.29	PL_EX PL_MKR_PVC_HARVEST
PL 17	235624.17	3663069.96	0.76	PL_EX PL_MKR_PVC_HARVEST
PL 18	235020.97	3663328.31	-9.72	PL_EX 9.6 COVER
PL 19	235869.90	3663392.95	1.28	PL_EX PL_MKR_PVC_HARVEST
PL 20	236091.37	3663684.63	-1.11	PL_EX PL_MKR_PVC_HARVEST
PL 21	236094.18	3663684.72	-2.71	PL_EX (HARVEST_PL)_ 0_COVER
PL 22	236094.09	3663684.86	-6.15	PL_EX (HARVEST_PL)_ 0_COVER
PL 23	236178.81	3663757.34	0.61	PL_EX (HARVEST_PL)_ 0.5_COVER
PL 24	236152.08	3663764.72	-0.26	PL_EX PL_MKR_PVC_HARVEST
PL 25	236325.11	3663944.93	-0.58	PL_EX PL_MKR_PVC_HARVEST
PL 26	236298.11	3663952.33	-0.20	PL_EX PL_MKR_PVC_HARVEST
PL 27	236371.15	3664007.75	0.73	PL_EX (OLD_CANE_POLE)
PL 28	235590.82	3664098.42	-7.73	PL_EX 8.4 COVER
PL 29	236478.85	3664186.70	-0.08	PL_EX (OLD_CANE_POLE)
PL 30	236587.06	3664279.04	-0.57	PL_EX PL_MKR_PVC_HARVEST
PL 31	236591.27	3664285.63	-6.36	PL_EX (HARVEST_PL)_ 4.0_COVER
PL 32	236564.04	3664302.23	-0.37	PL_EX PL_MKR_PVC_HARVEST
PL 33	236564.61	3664303.09	-6.63	PL_EX (HARVEST_PL)_ 2.9_COVER
PL 34	236620.39	3664326.01	0.63	PL_EX (OLD_CANE_POLE)
PL 35	236718.71	3664502.50	0.31	PL_EX (OLD_CANE_POLE)
PL 36	236819.80	3664581.22	0.16	PL_EX (OLD_CANE_POLE)
PL 37	236851.43	3664599.50	0.16	PL_EX PL_MKR_PVC_HARVEST
PL 38	236808.24	3664622.41	-0.16	PL_EX PL_MKR_PVC_HARVEST

Pipeline Point Table				
Point #	Northing	Easting	Top of Pipe Elev	Description
PL 39	236862.42	3664638.41	-0.13	PL_EX (OLD_CANE_POLE)
PL 40	236842.38	3664664.24	0.32	PL_EX (OLD_CANE_POLE)
PL 41	236920.52	3664719.20	0.25	PL_EX (OLD_CANE_POLE)
PL 42	236954.58	3664768.70	0.56	PL_EX (OLD_CANE_POLE)
PL 43	236963.93	3664823.18	0.08	PL_EX (OLD_CANE_POLE)
PL 44	236175.52	3664890.26	-9.32	PL_EX 6.7 COVER
PL 45	237072.25	3664921.39	1.00	PL_EX PL_MKR_PVC_HARVEST
PL 46	237045.41	3664928.84	0.17	PL_EX PL_MKR_PVC_HARVEST
PL 47	237065.15	3664954.11	1.12	PL_EX (OLD_CANE_POLE)
PL 48	237211.60	3665107.90	0.14	PL_EX (OLD_CANE_POLE)
PL 49	237200.69	3665129.59	0.35	PL_EX (OLD_CANE_POLE)
PL 50	237330.01	3665261.10	1.33	PL_EX (OLD_CANE_POLE)
PL 51	237299.43	3665262.68	-3.40	PL_EX (HARVEST_PL)_ 2.5_COVER
PL 52	237332.45	3665263.78	-2.70	PL_EX (HARVEST_PL)_ 1.8_COVER
PL 53	237302.71	3665267.69	-0.15	PL_EX (OLD_CANE_POLE)
PL 54	237353.80	3665294.70	0.93	PL_EX PL_MKR_PVC_HARVEST
PL 55	237326.94	3665300.18	1.17	PL_EX PL_MKR_PVC_HARVEST
PL 56	236759.82	3665671.66	-8.33	PL_EX 6.0 COVER
PL 57	238125.26	3666310.94	-2.59	PL_EX (HARVEST_PL)_ 0_COVER
PL 58	238115.34	3666334.75	-3.18	PL_EX (HARVEST_PL)_ 0.6_COVER
PL 59	237339.13	3666445.74	-8.36	PL_EX 4.8 COVER
PL 60	237921.53	3667230.12	-8.30	PL_EX 5.0 COVER
PL 61	238919.32	3667350.30	-2.06	PL_EX (HARVEST_PL)_ 0.6_COVER
PL 62	238899.41	3667364.26	-4.05	PL_EX (HARVEST_PL)_ 1.9_COVER
PL 63	239271.76	3667812.00	-2.44	PL_EX (HARVEST_PL)_ 1.4_COVER
PL 64	239254.71	3667827.77	-4.21	PL_EX (HARVEST_PL)_ 2.0_COVER
PL 65	238480.03	3667989.46	-8.32	PL_EX 4.6 COVER
PL 66	239036.11	3668737.41	-7.22	PL_EX 8.6 COVER
PL 67	240009.88	3668783.47	-2.45	PL_EX (HARVEST_PL)_ 1.4_COVER
PL 68	239995.53	3668794.20	-3.99	PL_EX (HARVEST_PL)_ 1.8_COVER
PL 69	239573.44	3669464.13	-10.87	PL_EX 8.9 COVER
PL 70	240851.58	3669884.46	-1.22	PL_EX (HARVEST_PL)_ 1.7_COVER
PL 71	240833.63	3669895.26	-2.54	PL_EX (HARVEST_PL)_ 1.3_COVER
PL 72	240143.30	3670227.33	-10.94	PL_EX 8.7 COVER
PL 73	241555.03	3670805.88	-2.57	PL_EX (HARVEST_PL)_ 2.0_COVER
PL 74	241534.28	3670813.21	-3.89	PL_EX (HARVEST_PL)_ 2.4_COVER
PL 75	240743.20	3671038.57	-10.27	PL_EX 9.0 COVER
PL 76	242260.40	3671734.32	-2.78	PL_EX (HARVEST_PL)_ 1.5_COVER

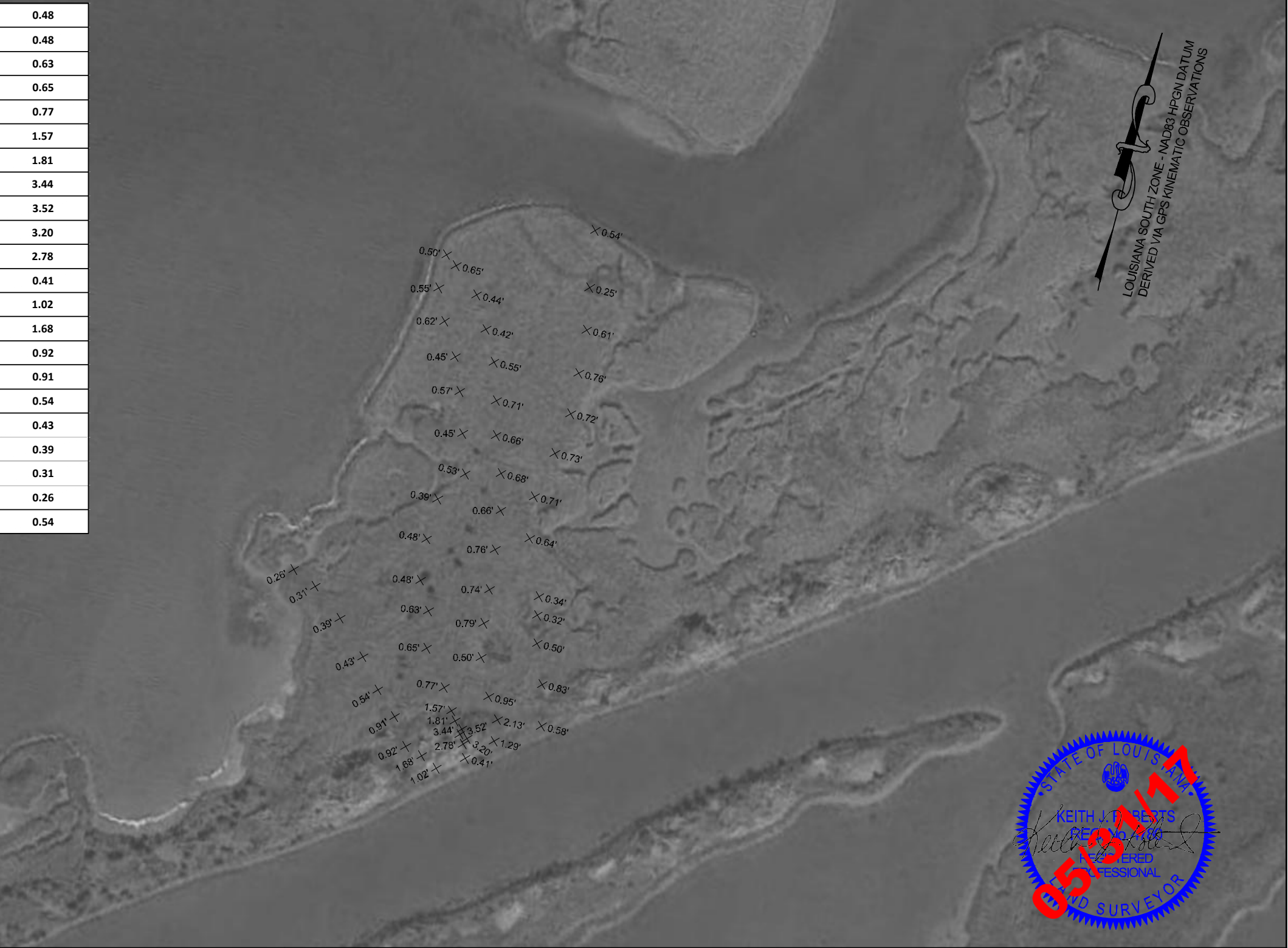
Pipeline Point Table				
Point #	Northing	Easting	Top of Pipe Elev	Description
PL 77	242242.84	3671743.36	-3.04	PL_EX (HARVEST_PL)_ 1.9_COVER
PL 78	241497.75	3672057.17	-9.26	PL_EX 7.1_COVER
PL 79	243026.86	3672734.20	-1.65	PL_EX (HARVEST_PL)_ 0_COVER
PL 80	243011.28	3672748.60	-3.76	PL_EX (HARVEST_PL)_ 2.4_COVER
PL 81	242149.71	3672929.91	-8.63	PL_EX 7.3_COVER
PL 82	242149.36	3672930.04	-8.59	PL_EX 7.3_COVER
PL 83	243780.97	3673725.37	-2.65	PL_EX (HARVEST_PL)_ 0.5_COVER
PL 84	243762.09	3673738.09	-5.13	PL_EX (HARVEST_PL)_ 2.2_COVER
PL 85	242750.25	3673746.14	-10.00	PL_EX 8.7_COVER
PL 86	243374.35	3674584.81	-9.20	PL_EX 7.0_COVER
PL 87	244635.01	3674851.57	-4.87	PL_EX (HARVEST_PL)_ 1.4_COVER
PL 88	244610.84	3674858.71	-5.12	PL_EX (HARVEST_PL)_ 1.6_COVER
PL 89	244051.07	3675480.61	-10.19	PL_EX 7.9_COVER
PL 90	245469.17	3675948.72	-3.65	PL_EX (HARVEST_PL)_ 2.1_COVER
PL 91	245449.56	3675963.31	-6.31	PL_EX (HARVEST_PL)_ 6.0_COVER
PL 92	244751.62	3676434.31	-9.91	PL_EX 8.7 COVER
PL 93	246197.99	3676908.24	-2.06	PL_EX (HARVEST_PL)_ 0.1_COVER
PL 94	246186.19	3676928.80	-5.61	PL_EX (HARVEST_PL)_ 3.0_COVER
PL 95	245421.02	3677332.66	-10.22	PL_EX 10.6 COVER
PL 96	246920.12	3677860.43	-1.90	PL_EX (HARVEST_PL)_ 0_COVER
PL 97	246905.67	3677869.02	-5.61	PL_EX (HARVEST_PL)_ 3.9_COVER
PL 98	246022.53	3678141.99	-9.07	PL_EX 10.8_COVER
PL 99	246576.50	3678887.61	-8.85	PL_EX 6.7_COVER
PL 100	247955.97	3679134.72	-5.25	PL_EX 3.3_COVER
PL 101	247940.57	3679142.84	-5.60	PL_EX 3.6_COVER
PL 102	246841.95	3679248.69	-9.16	PL_EX 5.0_COVER
PL 103	247606.80	3680285.68	-8.57	PL_EX 5.0_COVER
PL 104	249196.31	3680440.46	-5.81	PL_EX 3.3_COVER
PL 105	249180.92	3680452.83	-5.42	PL_EX 3.8_COVER
PL 106	248578.40	3681594.99	-9.86	PL_EX 7.1_COVER
PL 107	249247.93	3682488.34	-8.33	PL_EX 3.9_COVER
PL 108	249917.84	3683397.31	-10.74	PL_EX 8.6_COVER
PL 109	250044.21	3683565.50	-10.19	PL_EX 7.8 COVER
PL 110	250314.61	3683937.75	-7.92	PL_EX 5.1 COVER
PL 111	252926.66	3684379.27	-14.17	PL_EX 4.6_COVER
PL 112	252926.56	3684379.56	-14.11	PL_EX 4.6_COVER
PL 113	253022.25	3684559.36	-7.65	PL_EX 4.5_COVER
PL 114	253005.38	3684563.36	-9.85	PL_EX 6.9_COVER



REVISED BY:	DATE:	 	STATE OF LOUISIANA (CPRA) CAMINADA HEADLANDS BACK BARRIER MARSH CREATION INCREMENT II PROJECT (BA-193) <i>TOPOGRAPHIC/BATHYMETRIC SURVEY</i> EXISTING PIPELINE POINT TABLE LAFOURCHE AND JEFFERSON PARISH, LA
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583			
DATE: 05/09/2017	JOB# 2171003	FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg	SHEET: 30 OF 33

Healthy Marsh Elevation Point Table		
Easting NAD83 LA South 1702) (ft)	Northing (NAD83 LA South 1702) (ft)	Elevation (NAVD88) (ft) Geoid 12A
3665109.26	236811.86	0.25
3665115.54	236776.01	0.61
3665117.84	236738.41	0.76
3665119.62	236703.00	0.72
3665114.65	236666.82	0.73
3665106.49	236626.50	0.71
3665111.05	236591.01	0.64
3665130.85	236544.54	0.34
3665133.44	236528.64	0.32
3665139.07	236505.13	0.50
3665151.53	236472.21	0.83
3665159.46	236437.35	0.58
3665123.34	236415.12	1.29
3665121.64	236433.63	2.13
3665109.60	236450.99	0.95
3665095.33	236482.12	0.50
3665090.55	236511.03	0.79
3665088.22	236540.27	0.74
3665084.71	236574.58	0.76
3665081.35	236608.17	0.66
3665073.94	236639.06	0.68
3665062.07	236669.61	0.66
3665054.95	236698.71	0.71
3665045.12	236730.01	0.55
3665031.63	236755.77	0.42
3665016.80	236782.41	0.44
3664993.76	236802.52	0.65
3664983.51	236809.83	0.50
3664983.90	236780.55	0.55
3664995.61	236753.97	0.62
3665011.70	236726.80	0.45
3665022.71	236698.63	0.57
3665033.83	236664.45	0.45
3665044.25	236631.27	0.53
3665026.51	236604.80	0.39

3665025.49	236569.30	0.48
3665029.00	236533.71	0.48
3665041.92	236509.83	0.63
3665048.08	236478.39	0.65
3665070.79	236449.38	0.77
3665081.69	236431.57	1.57
3665086.76	236423.81	1.81
3665093.90	236418.56	3.44
3665093.34	236413.74	3.52
3665100.36	236411.69	3.20
3665098.19	236406.39	2.78
3665102.87	236394.79	0.41
3665080.79	236380.73	1.02
3665066.00	236388.04	1.68
3665050.87	236392.56	0.92
3665035.46	236415.07	0.91
3665016.11	236433.82	0.54
3664996.75	236458.21	0.43
3664969.79	236485.57	0.39
3664942.64	236507.07	0.31
3664921.34	236516.48	0.26
3665102.19	236860.64	0.54



NOTES

1. ALL HORIZONTAL COORDINATES ARE BASED ON LOUISIANA SOUTH ZONE - NAD83 HPGN DATUM, US SURVEY FOOT AS DERIVED FROM PROJECT CONTROL (CRMSBA-SM-19) VIA GPS KINEMATIC OBSERVATIONS.

2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12A) AS DERIVED FROM PROJECT CONTROL (CONN).

3. SURVEY DATA ACQUISITION PERFORMED WITH RTK.

4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

5. HEALTHY MARSH ELEVATION SURVEY DATA ACQUISITION WAS PERFORMED MARCH 8, 2017.

LEGEND

X 0.0' HEALTHY MARSH ELEVATION SHOT

REVISED BY:

DATE:

HORIZONTAL SCALE

1" = 100'

100'

0'

50'

100'

DATE: 05/09/2017

JOB# 2171003

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

CPRA

STATE OF LOUISIANA (CPRA)

CAMINADA HEADLANDS BACK BARRIER

MARSH CREATION INCREMENT II PROJECT (BA-193)

TOPOGRAPHIC/BATHYMETRIC SURVEY

HEALTHY MARSH ELEVATION PLAN VIEW

LAFOURCHE AND JEFFERSON PARISH, LA

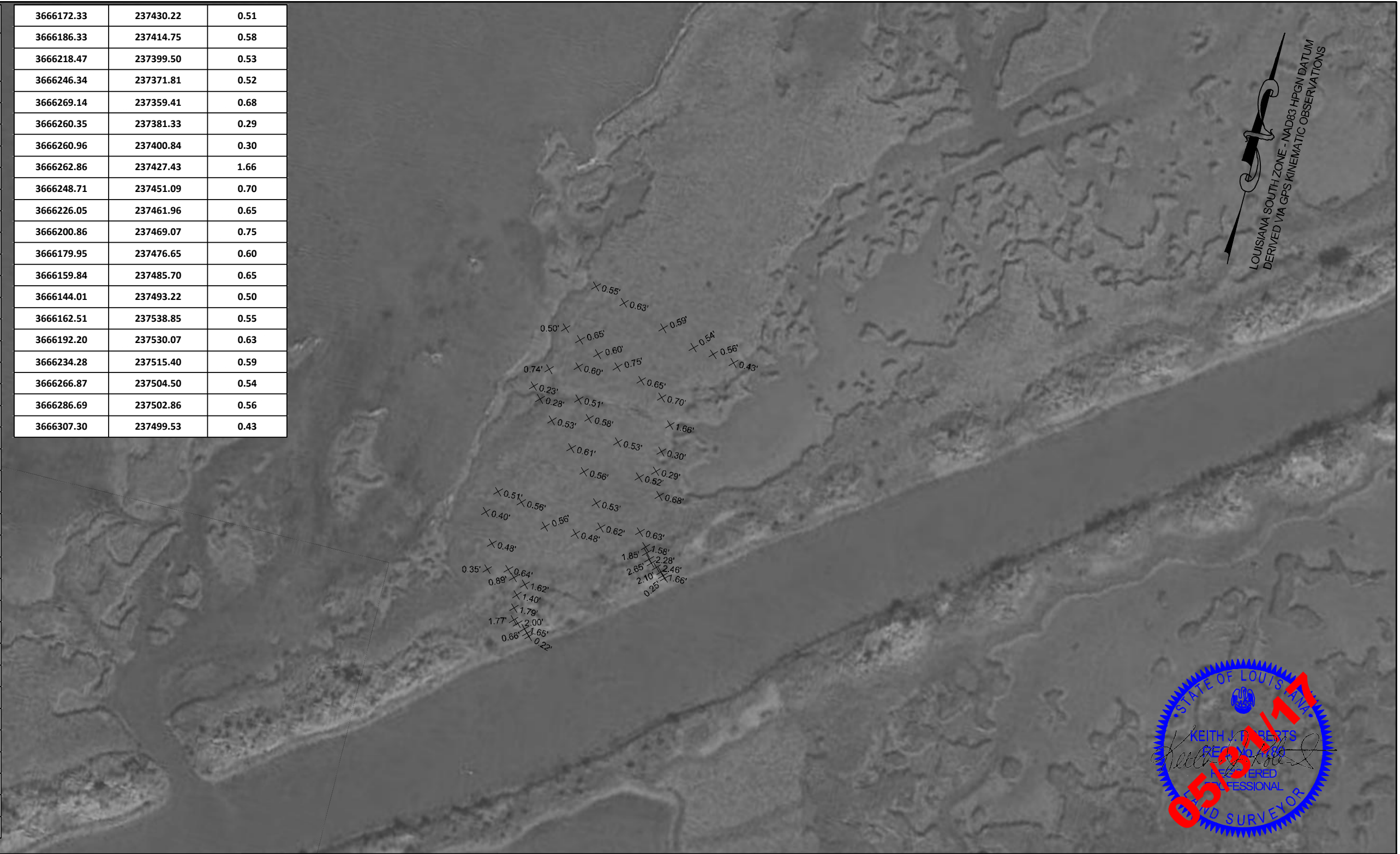
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 31 OF 33

Healthy Marsh Elevation Point Table		
Easting NAD83 LA South 1702) (ft)	Northing (NAD83 LA South 1702) (ft)	Elevation (NAVD88) (ft) Geoid 12A
3666259.58	237321.40	0.63
3666268.16	237308.89	1.58
3666270.61	237303.71	1.85
3666274.28	237298.47	2.28
3666277.21	237295.43	2.65
3666282.87	237292.28	2.46
3666288.22	237289.45	2.10
3666290.89	237286.30	1.66
3666293.06	237284.54	0.25
3666146.26	237256.42	0.64
3666153.22	237250.32	0.89
3666165.04	237246.46	1.62
3666159.98	237234.82	1.40
3666160.41	237222.03	1.79
3666162.71	237210.86	1.77
3666167.22	237208.77	2.00
3666174.75	237205.27	1.65
3666178.17	237201.79	0.66
3666180.77	237199.51	0.22
3666126.73	237251.94	0.35
3666124.93	237276.84	0.48
3666112.13	237304.69	0.40
3666118.87	237326.25	0.51
3666142.92	237321.67	0.56
3666170.41	237304.68	0.56
3666200.27	237304.96	0.48
3666221.95	237316.50	0.62
3666212.53	237338.12	0.53
3666193.95	237364.47	0.56
3666176.72	237383.35	0.61
3666152.34	237404.58	0.53
3666136.45	237421.81	0.28
3666127.49	237432.10	0.23
3666138.09	237451.30	0.74
3666164.62	237460.13	0.60

3666172.33	237430.22	0.51
3666186.33	237414.75	0.58
3666218.47	237399.50	0.53
3666246.34	237371.81	0.52
3666269.14	237359.41	0.68
3666260.35	237381.33	0.29
3666260.96	237400.84	0.30
3666262.86	237427.43	1.66
3666248.71	237451.09	0.70
3666226.05	237461.96	0.65
3666200.86	237469.07	0.75
3666179.95	237476.65	0.60
3666159.84	237485.70	0.65
3666144.01	237493.22	0.50
3666162.51	237538.85	0.55
3666192.20	237530.07	0.63
3666234.28	237515.40	0.59
3666266.87	237504.50	0.54
3666286.69	237502.86	0.56
3666307.30	237499.53	0.43



NOTES

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2. ELEVATIONS ARE BASED ON NAVD 88 US SURVEY FEET (GEOID12A) AS DERIVED FROM PROJECT CONTROL (CONN).

3. SURVEY DATA ACQUISITION PERFORMED WITH RTK.

4. THIS DRAWING INDICATES GENERAL CONDITIONS AT THE TIME OF SURVEY.

5. HEALTHY MARSH ELEVATION SURVEY DATA ACQUISITION WAS PERFORMED MARCH 8, 2017.

LEGEND

X 0.0' HEALTHY MARSH ELEVATION SHOT

REVISED BY:

DATE:

HORIZONTAL SCALE
1" = 100'

100' 0' 50' 100'

DATE: 05/09/2017

JOB# 2171003



HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



STATE OF LOUISIANA (CPRA)
CAMINADA HEADLANDS BACK BARRIER
MARSH CREATION INCREMENT II PROJECT (BA-193)
TOPOGRAPHIC/BATHYMETRIC SURVEY
HEALTHY MARSH ELEVATION PLAN VIEW
LAFOURCHE AND JEFFERSON PARISH, LA

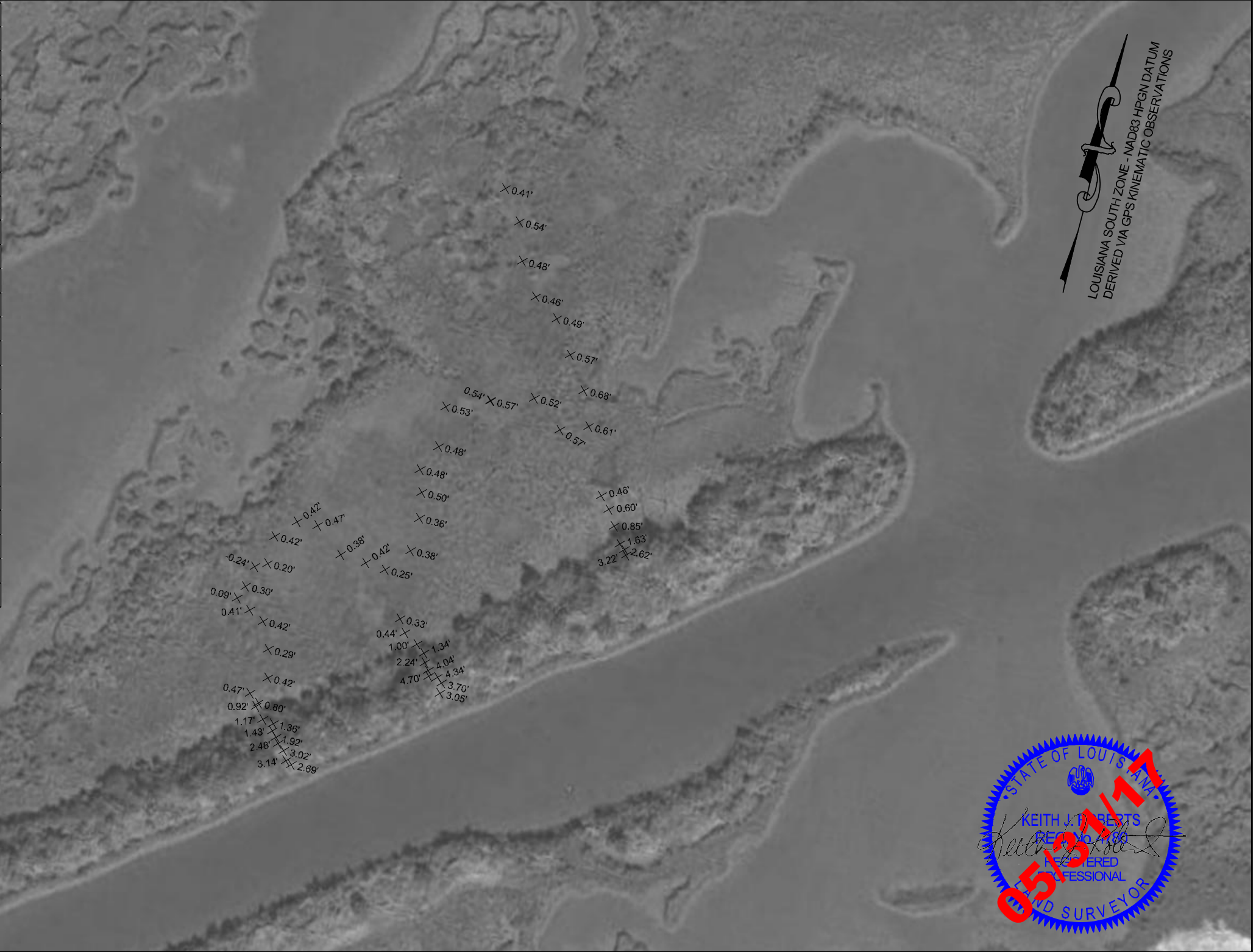
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: BA-193 Caminada Headlands Back Barrier Marsh Creation Survey (Rev 05-31-17).dwg

SHEET: 32 OF 33

Healthy Marsh Elevation Point Table		
Easting NAD83 LA South 1702) (ft)	Northing (NAD83 LA South 1702) (ft)	Elevation (NAVD88) (ft) Geoid 12A
3680899.72	248260.30	0.46
3680908.91	248250.61	0.60
3680916.64	248237.90	0.85
3680924.91	248224.24	1.63
3680930.13	248220.46	2.62
3680932.43	248216.19	3.22
3680758.20	248117.11	0.33
3680764.99	248106.30	0.44
3680777.31	248099.51	1.00
3680785.17	248093.54	1.34
3680787.72	248085.74	2.24
3680792.20	248079.96	4.04
3680793.66	248075.21	4.70
3680801.10	248076.22	4.34
3680805.82	248072.29	3.70
3680806.49	248063.64	3.05
3680649.07	248024.52	0.47
3680656.69	248014.81	0.92
3680665.05	248005.52	1.17
3680674.41	248004.10	1.36
3680675.21	247998.10	1.43
3680679.52	247993.36	1.92
3680682.75	247988.62	2.48
3680688.76	247983.82	3.02
3680692.60	247976.01	3.14
3680697.91	247973.89	2.69
3680657.92	248018.07	0.80
3680660.48	248040.89	0.42
3680655.14	248064.65	0.29
3680645.00	248086.84	0.42
3680631.67	248093.31	0.41
3680618.81	248100.75	0.09
3680623.35	248112.20	0.30
3680627.02	248130.47	-0.24

3680636.97	248135.60	0.20
3680637.18	248159.61	0.42
3680652.95	248176.23	0.42
3680670.68	248177.25	0.47
3680695.73	248157.90	0.38
3680718.34	248156.43	0.42
3680735.66	248154.53	0.25
3680752.79	248175.76	0.38
3680753.67	248204.40	0.36
3680750.15	248226.20	0.50
3680744.03	248244.94	0.48
3680754.66	248267.72	0.48
3680752.22	248302.16	0.53
3680788.30	248316.47	0.54
3680788.49	248316.34	0.57
3680824.19	248327.43	0.52
3680852.03	248306.48	0.57
3680875.06	248315.11	0.61
3680863.67	248344.01	0.68
3680845.14	248370.85	0.57
3680826.58	248398.05	0.49
3680804.49	248411.80	0.46
3680786.13	248438.64	0.48
3680775.54	248470.60	0.54
3680757.04	248495.39	0.41



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TOPOGRAPHIC/BATHYMETRIC SURVEY
HEALTHY MARSH ELEVATION PLAN VIEW
LAFOURCHE AND JEFFERSON PARISH, LA

SHEET: 33 OF 33