

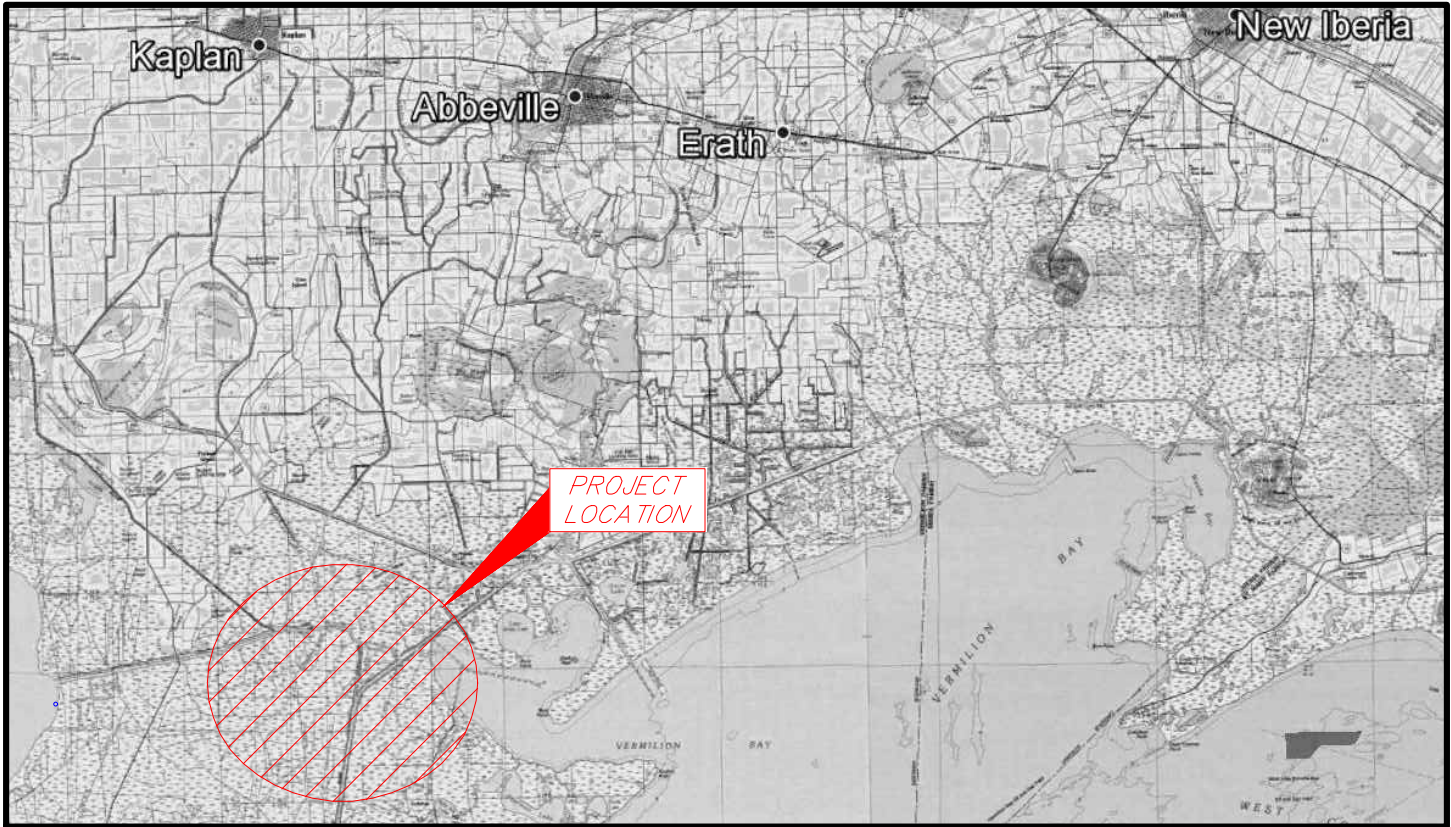
STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY

PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE

COLE'S BAYOU
MARSH RESTORATION PROJECT (TV-63)

REGION 3 OF THE TECHE/VERMILION BASIN

VERMILION PARISH, LA



VICINITY MAP (N.T.S.)

INDEX TO SHEETS

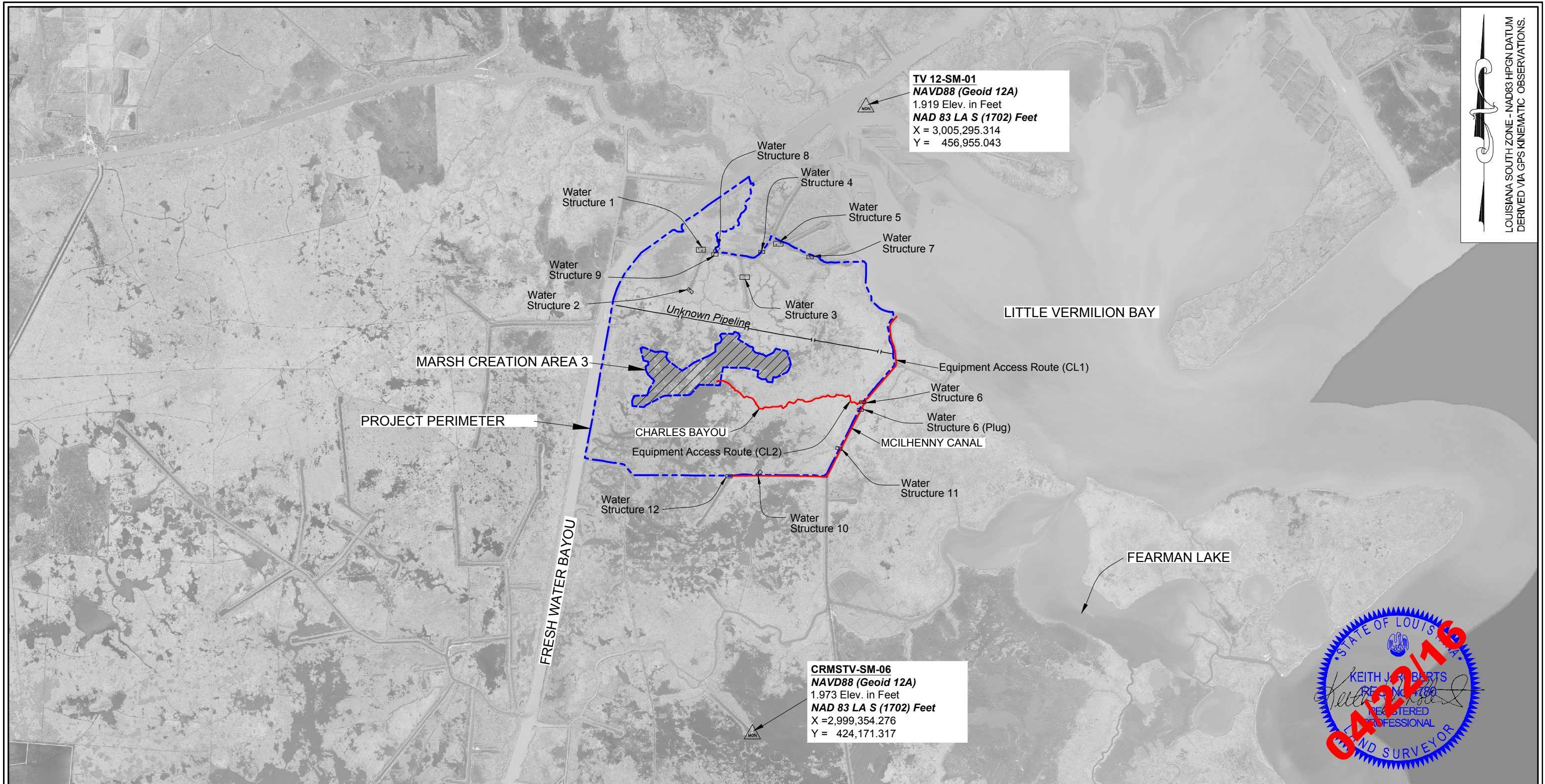
SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
1	TITLE PAGE	19	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 8
2	OVERALL PLAN VIEW SCALE: 1" = 5000'	20	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 9
3	OVERALL PLAN VIEW SCALE: 1" = 2000'	21	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 10
4	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 1	22	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 11
5	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 1	23	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 11
6	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 2	24	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 12
7	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 2	25	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 12
8	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 3		
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14	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 6		
15	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 6 (PLUG)		
16	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 6 (PLUG)		
17	MAGNETOMETER SURVEY PLAN VIEW WATER STRUCTURE 7		
18	TRANSECTS SURVEY PLAN VIEW WATER STRUCTURE 7		



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

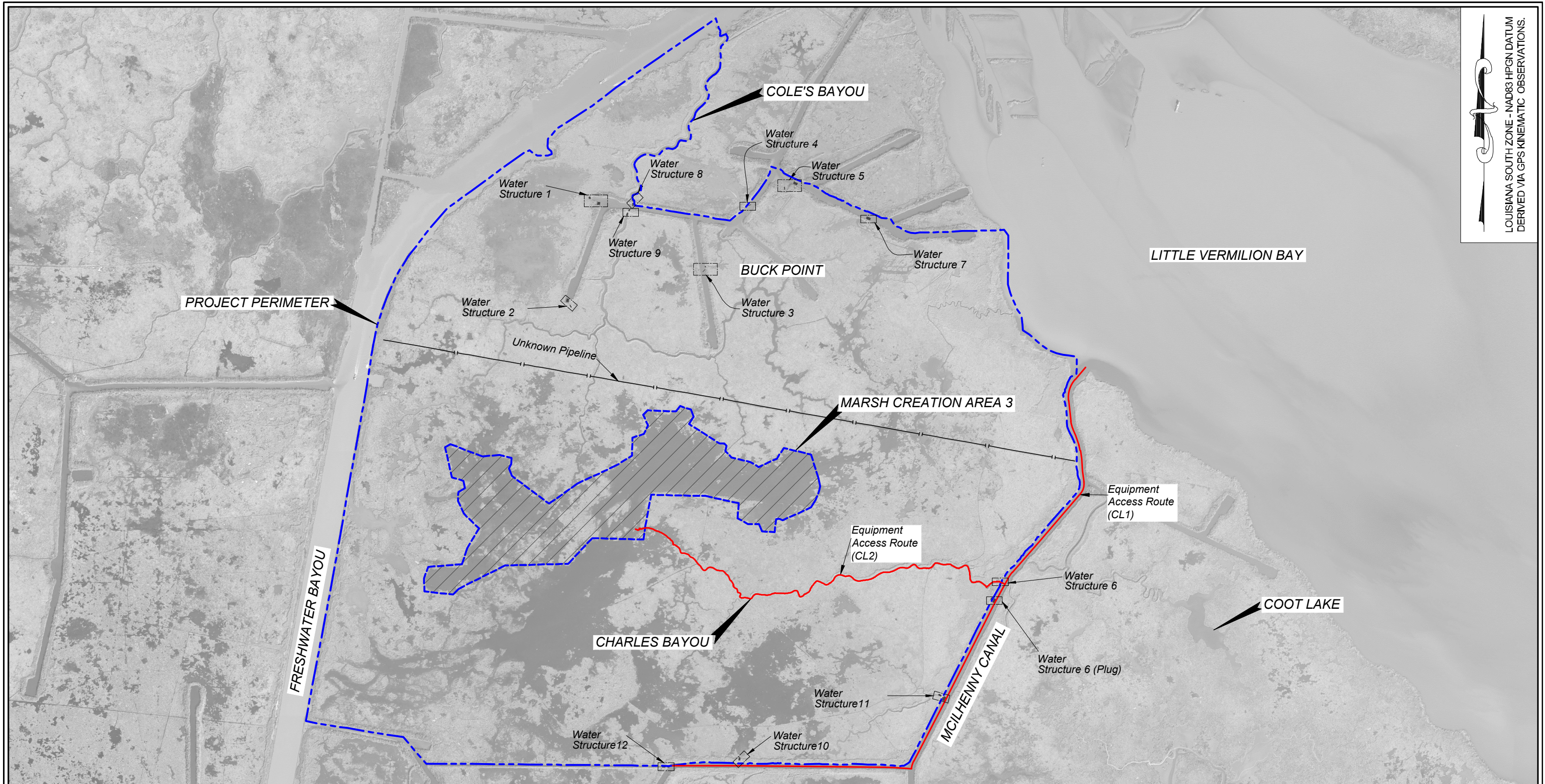
Keith J. Roberts
KEITH J. ROBERTS, PLS # 4780
HYDROTERRA TECHNOLOGIES, LLC
LAND SURVEYING FIRM NO. 614
202 JACOBS RUN
SCOTT, LOUISIANA 70583
(337) 706-8219

REVISED BY:	DATE:	 	STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE TITLE PAGE VERMILION PARISH, LA.
PLAN SCALE SCALE: NTS 		PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
DATE: 04/22/2016	JOB# 2161015	FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 1 OF 25



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

NOTES	LEGEND PROJECT PERIMETER MARSH CREATION AREA 3 EQUIPMENT ACCESS ROUTE AREA OF PROPOSED WATER STRUCTURE LOUISIANA COASTAL ZONE (LCZ) SECONDARY GPS NETWORK MONUMENTS	REVISED BY:	DATE:	HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS COASTAL PROTECTION AND RESTORATION AUTHORITY CPRA	STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE OVERALL PLAN VIEW VERMILION PARISH, LA.	
		HORIZONTAL SCALE				
		SCALE: 1" = 5000'				
		5000' 0' 2500' 5000'				
		DATE: 04/22/2016	JOB# 2161015	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
				FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 2 OF 25	



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

STATE OF LOUISIANA
KEITH J. ROBERTS
REG. NO. 180
REGISTERED
PROFESSIONAL
LAND SURVEYOR
04/22/16

LEGEND	
	PROJECT PERIMETER
	MARSH CREATION AREA 3
	EQUIPMENT ACCESS ROUTE
	AREA OF PROPOSED WATER STRUCTURE

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 2000'	
DATE: 04/22/2016	JOB# 2161015

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

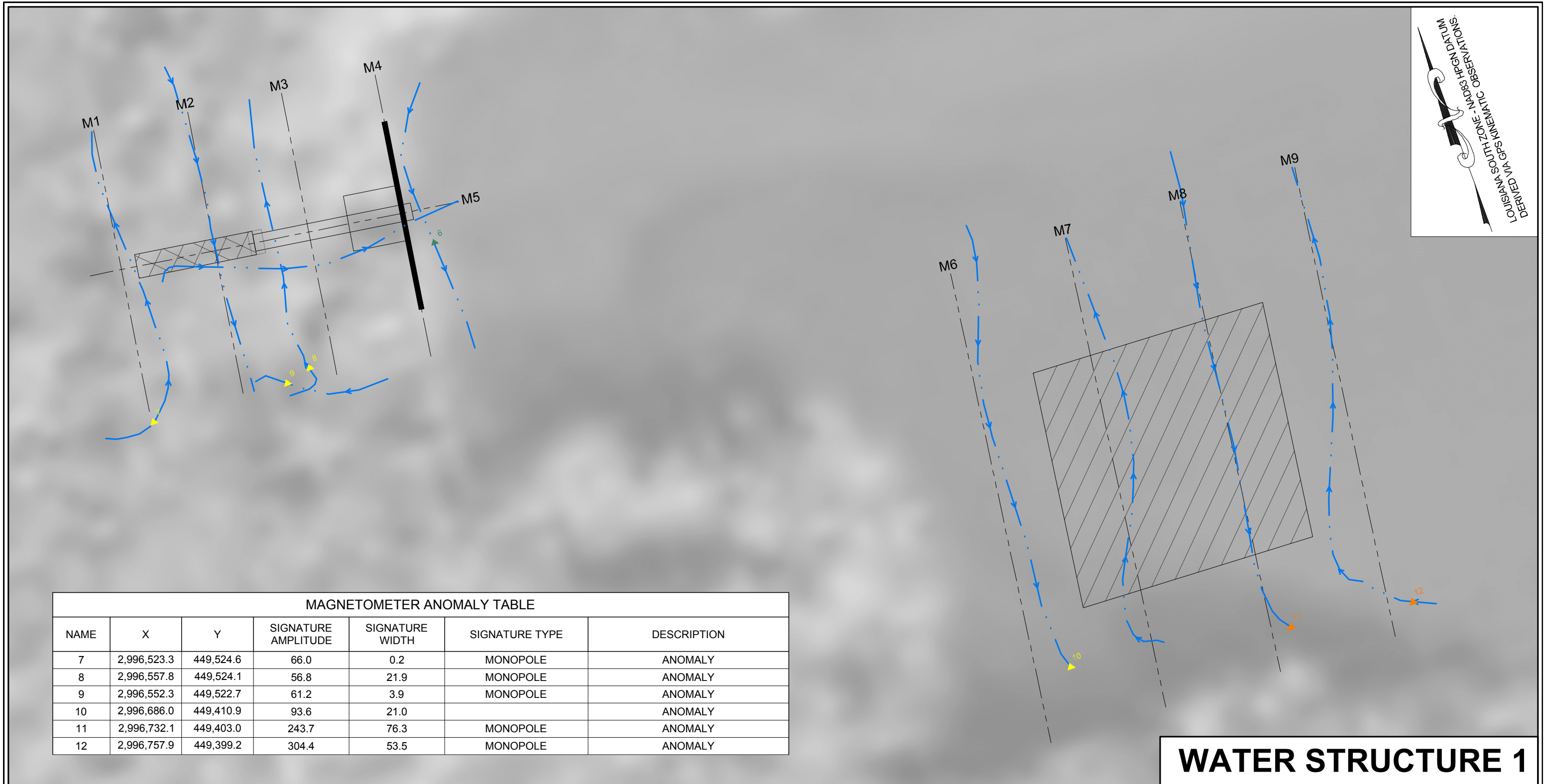
COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

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

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
OVERALL PLAN VIEW
VERMILION PARISH, LA.

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 3 OF 25



MAGNETOMETER ANOMALY TABLE

NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
7	2,996,523.3	449,524.6	66.0	0.2	MONOPOLE	ANOMALY
8	2,996,557.8	449,524.1	56.8	21.9	MONOPOLE	ANOMALY
9	2,996,552.3	449,522.7	61.2	3.9	MONOPOLE	ANOMALY
10	2,996,686.0	449,410.9	93.6	21.0		ANOMALY
11	2,996,732.1	449,403.0	243.7	76.3	MONOPOLE	ANOMALY
12	2,996,757.9	449,399.2	304.4	53.5	MONOPOLE	ANOMALY

WATER STRUCTURE 1



MAG LEGEND

1-50 GAMMAS

51-100 GAMMAS

101-500 GAMMAS

501-1000 GAMMAS

> 1001 GAMMAS

LEGEND

MAGNETOMETER SURVEY LINES

PROJECT PERIMETER

EQUIPMENT ACCESS ROUTE

PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER

WATER STRUCTURE BORROW AREA

REVISED BY:

DATE:

HORIZONTAL SCALE

SCALE: 1" = 20'

DATE: 04/22/2016

JOB# 2161015

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

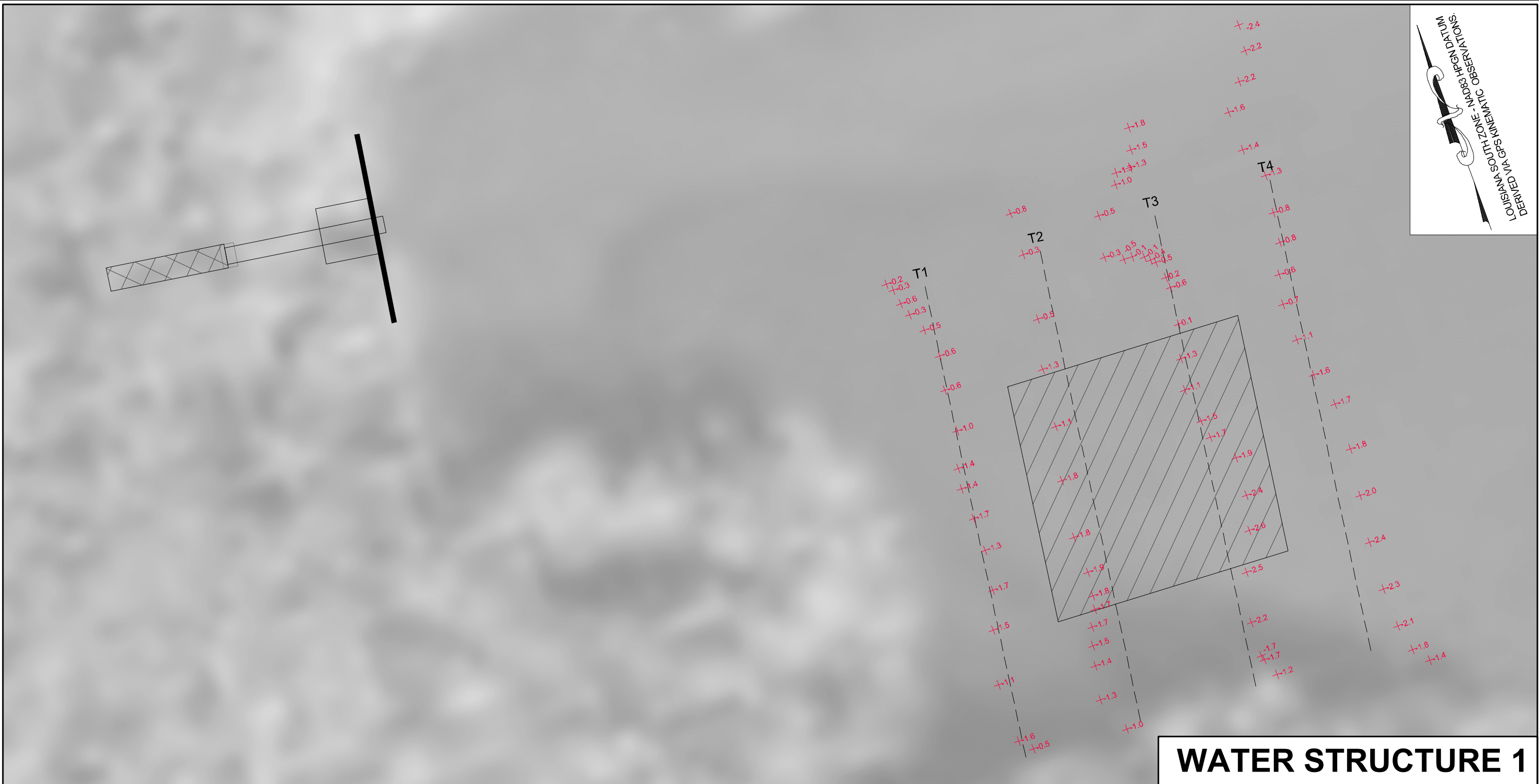
COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

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

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 4 OF 25



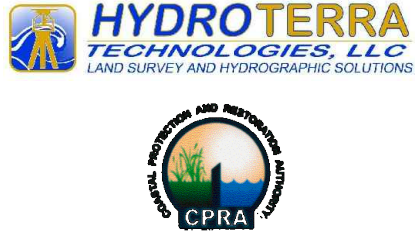
DERIVED VIA GPS KINEMATIC OBSERVATIONS
- ENVELOPE - NAVD83 HORIZONTAL DATUM

WATER STRUCTURE 1



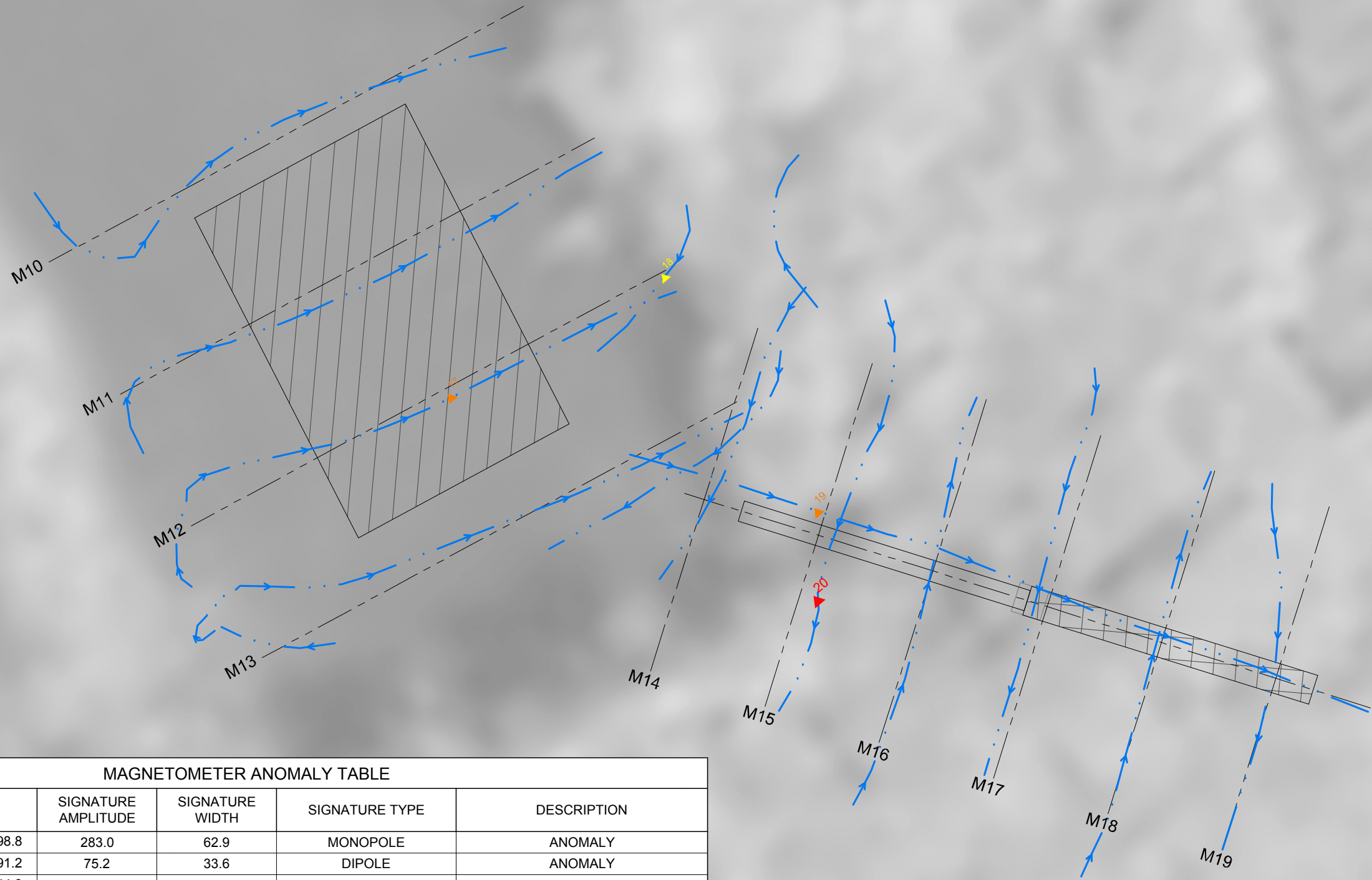
LEGEND	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
-----	PROJECT PERIMETER
-----	EQUIPMENT ACCESS ROUTE
+0.80	ELEVATIONS IN FEET (NAVD88)
	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015



STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE TRANSECTS SURVEY PLAN VIEW VERMILION PARISH, LA.	
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 5 OF 25

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



MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
17	2,996,070.5	447,398.8	283.0	62.9	MONOPOLE	ANOMALY
18	2,996,110.7	447,391.2	75.2	33.6	DIPOLE	ANOMALY
19	2,996,105.1	447,344.8	286.6	75.1	DIPOLE	ANOMALY
20	2,996,095.6	447,333.4	3,816.6	87.1	DIPOLE	ANOMALY

WATER STRUCTURE 2

04/22/16

MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION AUTHORITY

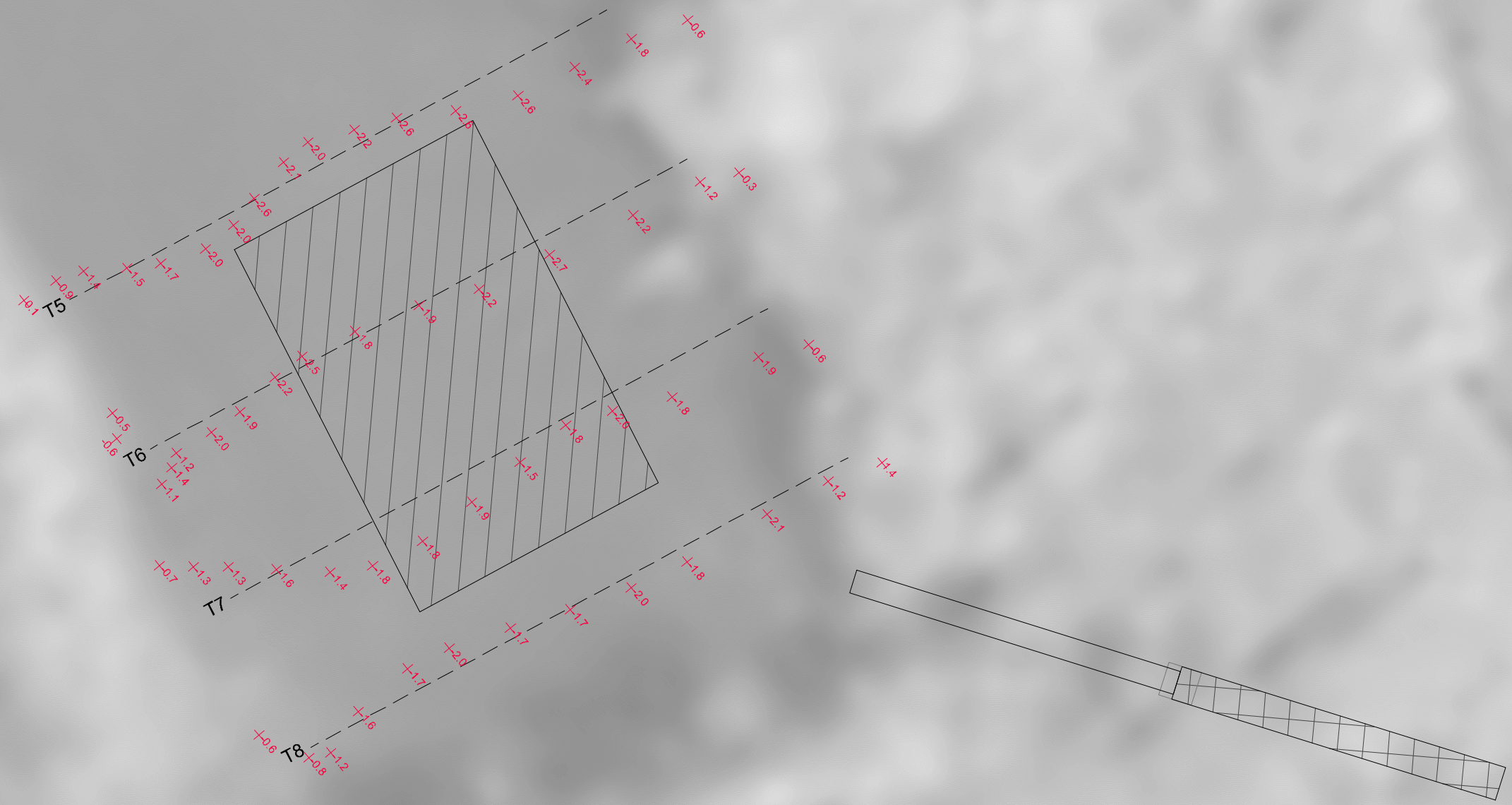
STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

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

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 6 OF 25

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



WATER STRUCTURE 2



LEGEND	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
-----	PROJECT PERIMETER
-----	EQUIPMENT ACCESS ROUTE
+0.80	ELEVATIONS IN FEET (NAVD88)
	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

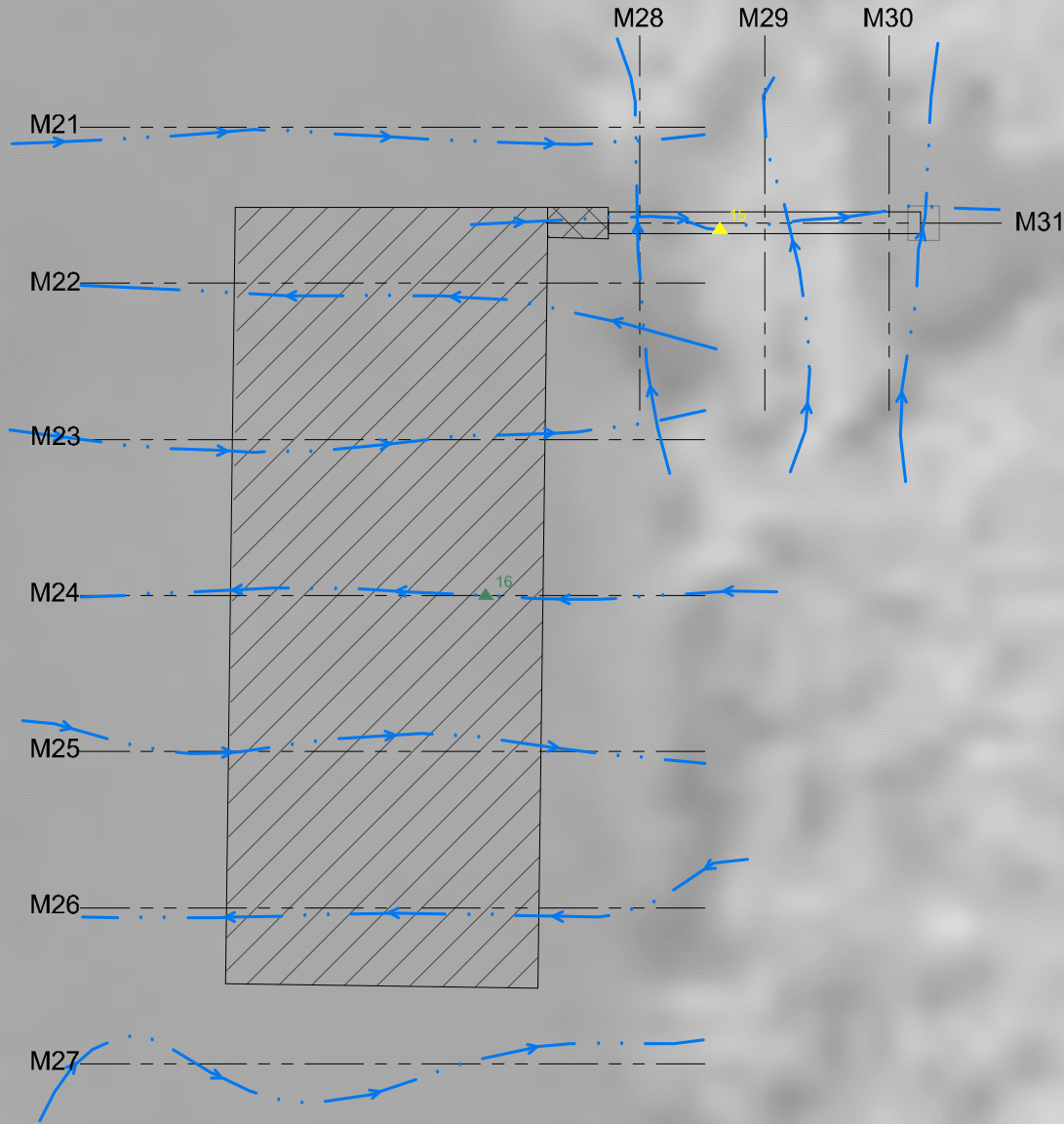
HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

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

STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE TRANSECTS SURVEY PLAN VIEW VERMILION PARISH, LA.	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 7 OF 25

MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
15	2,998,976.6	448,117.9	97.4	43.6	DIPOLE	ANOMALY
16	2,998,939.1	448,059.3	30.4	32.1	MONOPOLE	ANOMALY



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

WATER STRUCTURE 3

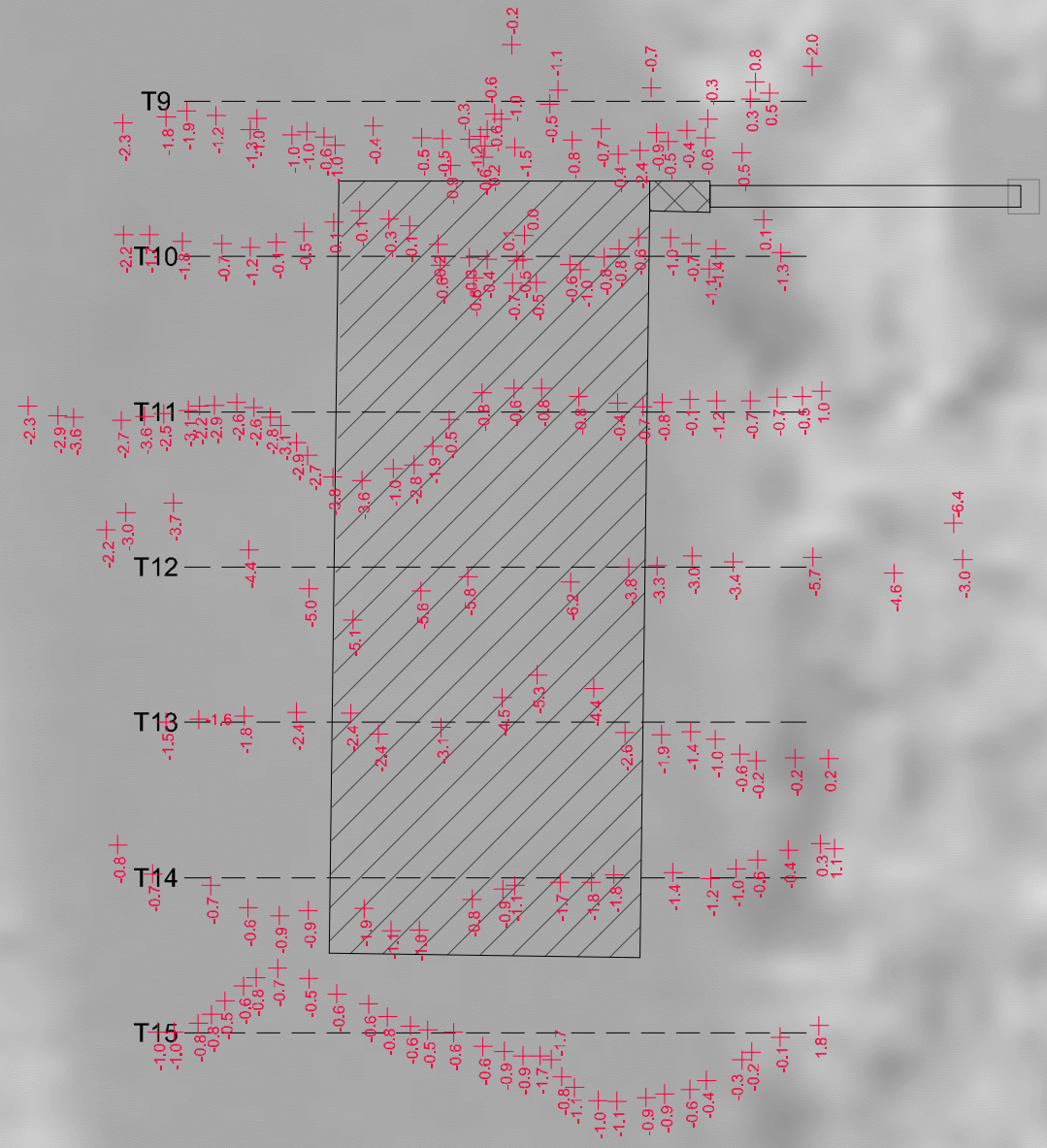


MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 30'	
DATE: 04/22/2016	JOB# 2161015

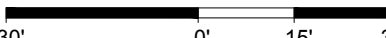


STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE MAGNETOMETER SURVEY PLAN VIEW VERMILION PARISH, LA.	
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 8 OF 25



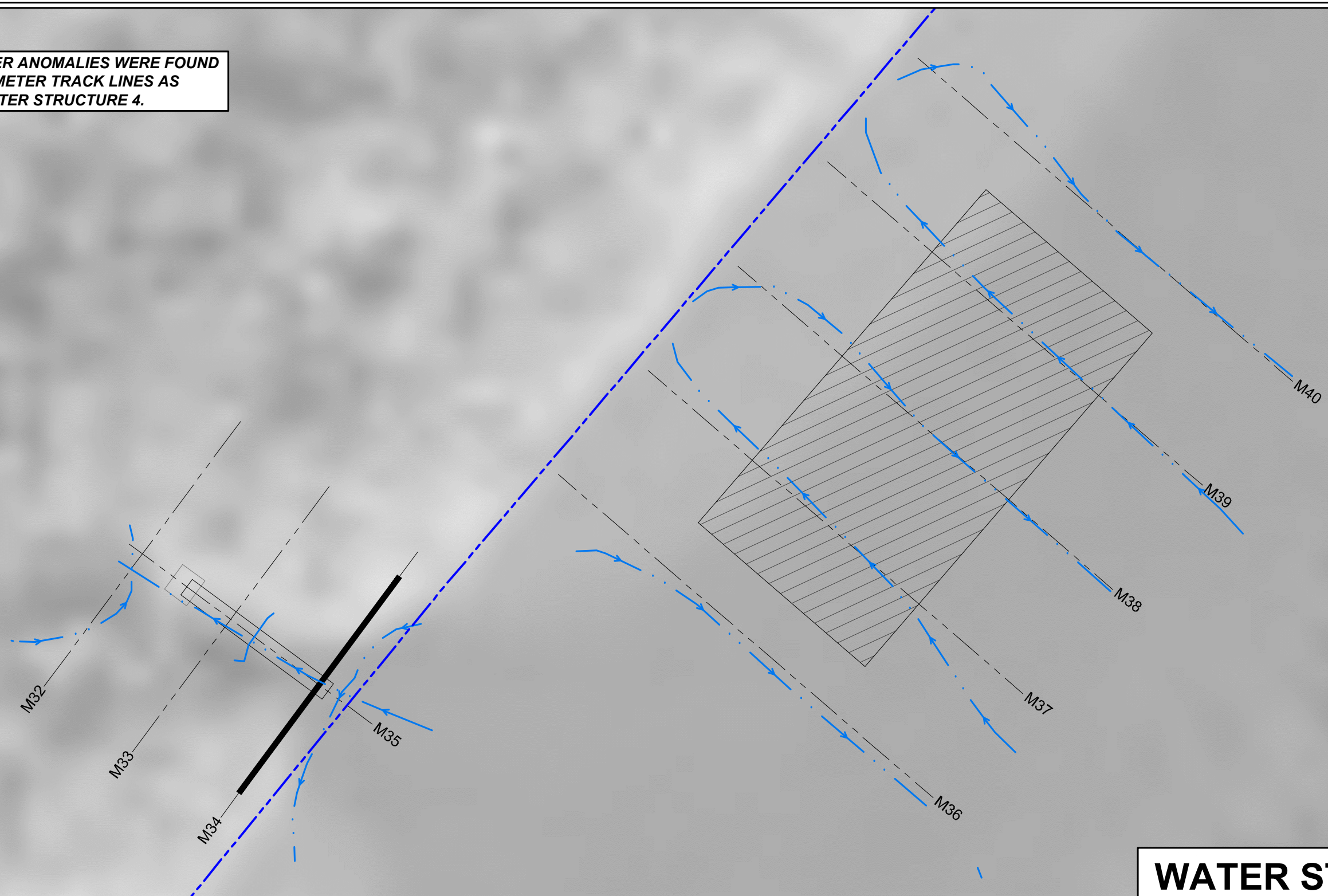
WATER STRUCTURE 3



LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE TRANSECTS SURVEY PLAN VIEW VERMILION PARISH, LA.	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER				PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
-----	PROJECT PERIMETER					
-----	EQUIPMENT ACCESS ROUTE					
+0.80	ELEVATIONS IN FEET (NAVD88)	HORIZONTAL SCALE SCALE: 1" = 30'			FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	
	WATER STRUCTURE BORROW AREA					
		DATE: 04/22/2016	JOB# 2161015	SHEET: 9 OF 25		

NO MAGNETOMETER ANOMALIES WERE FOUND
ALONG MAGNETOMETER TRACK LINES AS
DEPICTED FOR WATER STRUCTURE 4.

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



WATER STRUCTURE 4



MAG LEGEND

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

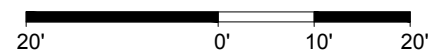
LEGEND

- MAGNETOMETER SURVEY LINES
- PROJECT PERIMETER
- EQUIPMENT ACCESS ROUTE
- M1 --- PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
- ▨ WATER STRUCTURE BORROW AREA

REVISED BY:

DATE:

HORIZONTAL SCALE
SCALE: 1" = 20'



DATE: 04/22/2016

JOB# 2161015

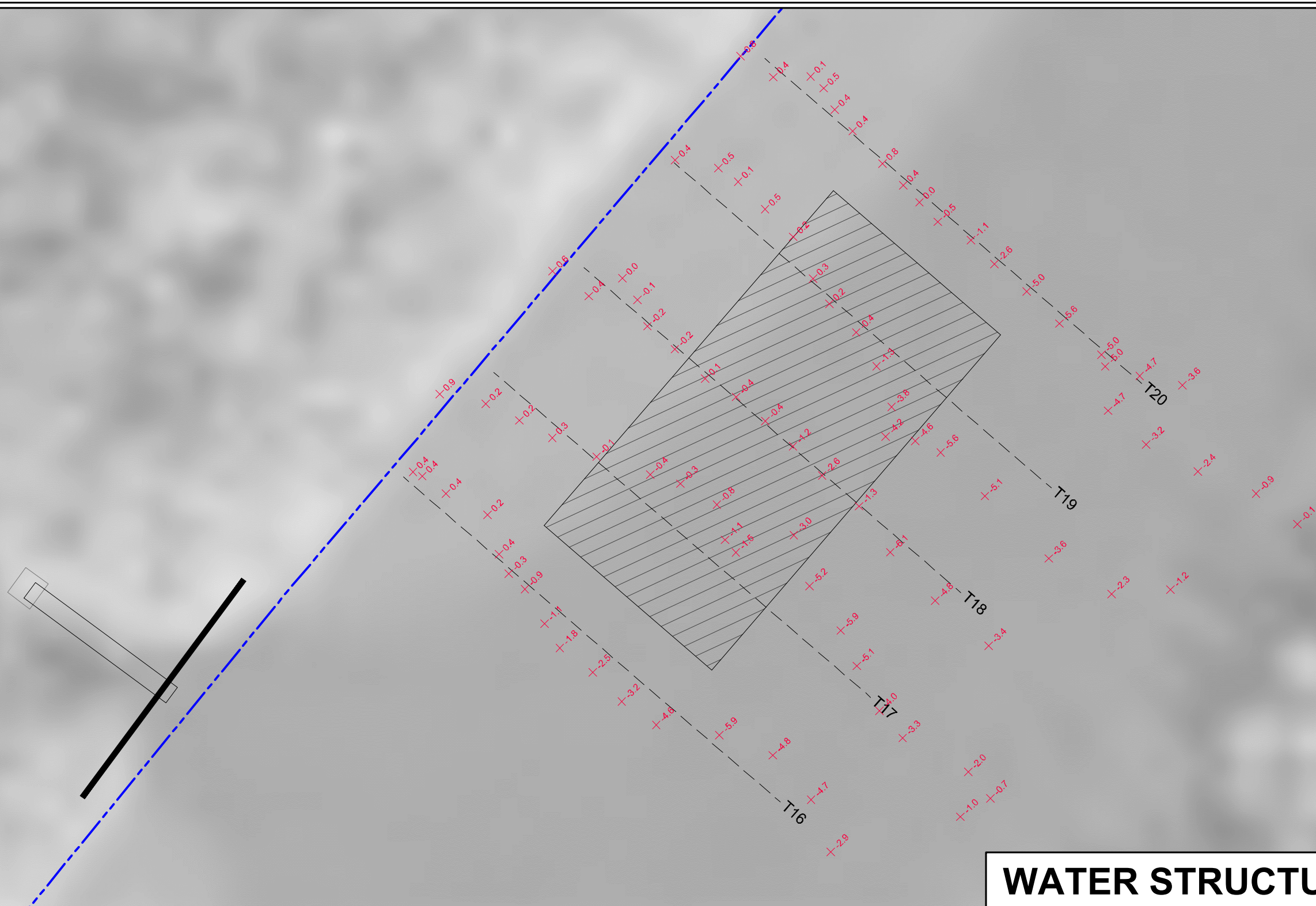


PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 10 OF 25

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.



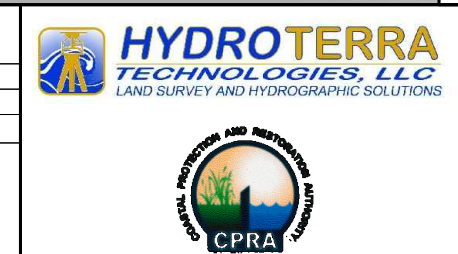
WATER STRUCTURE 4



LEGEND

- T1 ----- PLANNED TRANSECT LINE AND TRANSECT NUMBER
- PROJECT PERIMETER
- EQUIPMENT ACCESS ROUTE
- +0.80 ELEVATIONS IN FEET (NAVD88)
- Water Structure Borrow Area

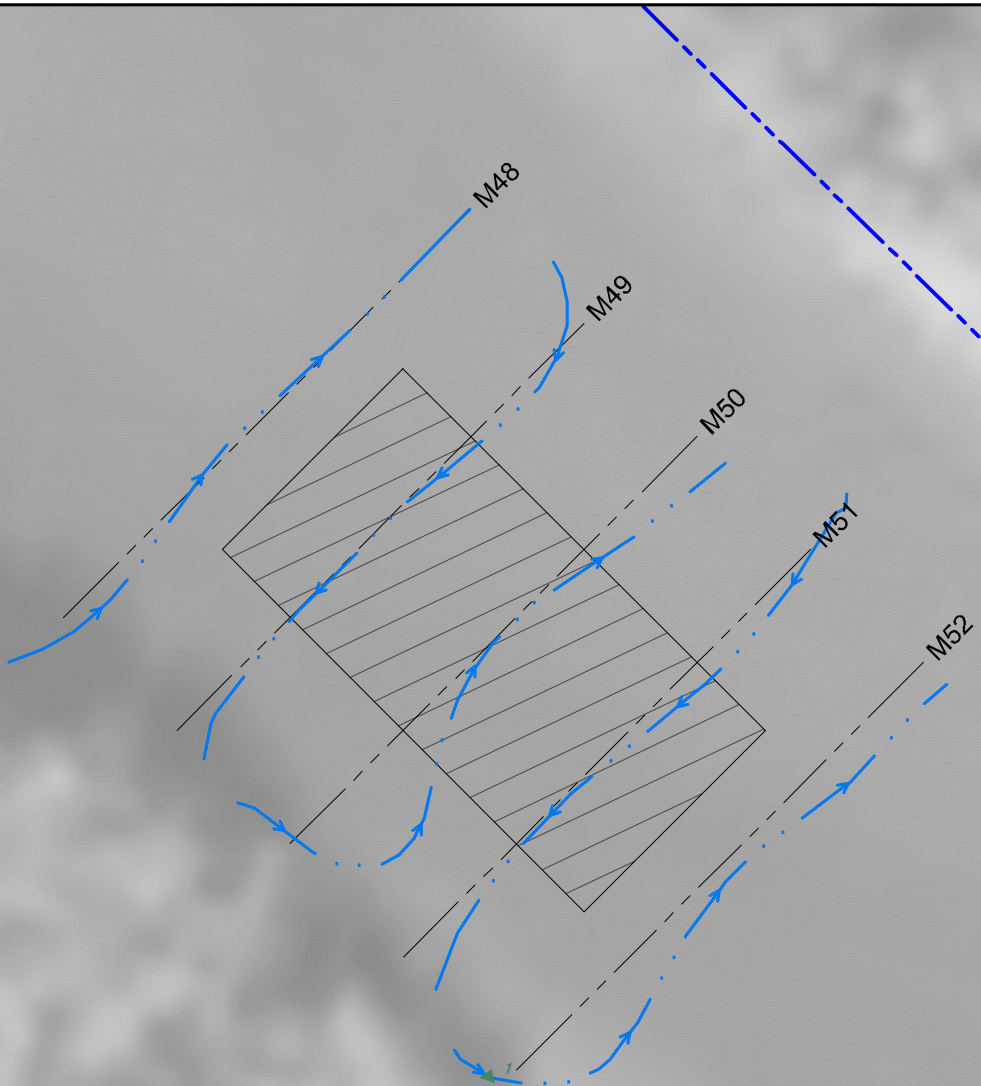
REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015



STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
TRANSECTS SURVEY PLAN VIEW
VERMILION PARISH, LA.

PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 11 OF 25

MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
1	3,000,857.5	449,799.3	39.5	8.8	MONOPOLE	ANOMALY
2	3,000,605.2	449,771.7	658.4	79.3	DIPOLE	ANOMALY
3	3,000,589.2	449,769.3	3,641.0	78.8	MONOPOLE	ANOMALY
4	3,000,566.3	449,729.3	2,336.4	65.7	MONOPOLE	ANOMALY
5	3,000,565.2	449,725.1	991.9	70.0	MONOPOLE	ANOMALY



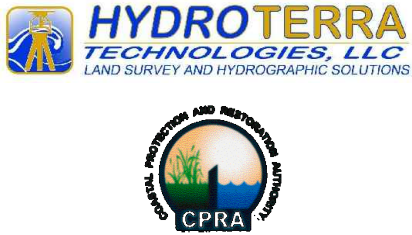
LOUISIANA SOUTH ZONE - NAD83 HFGN DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS.

WATER STRUCTURE 5

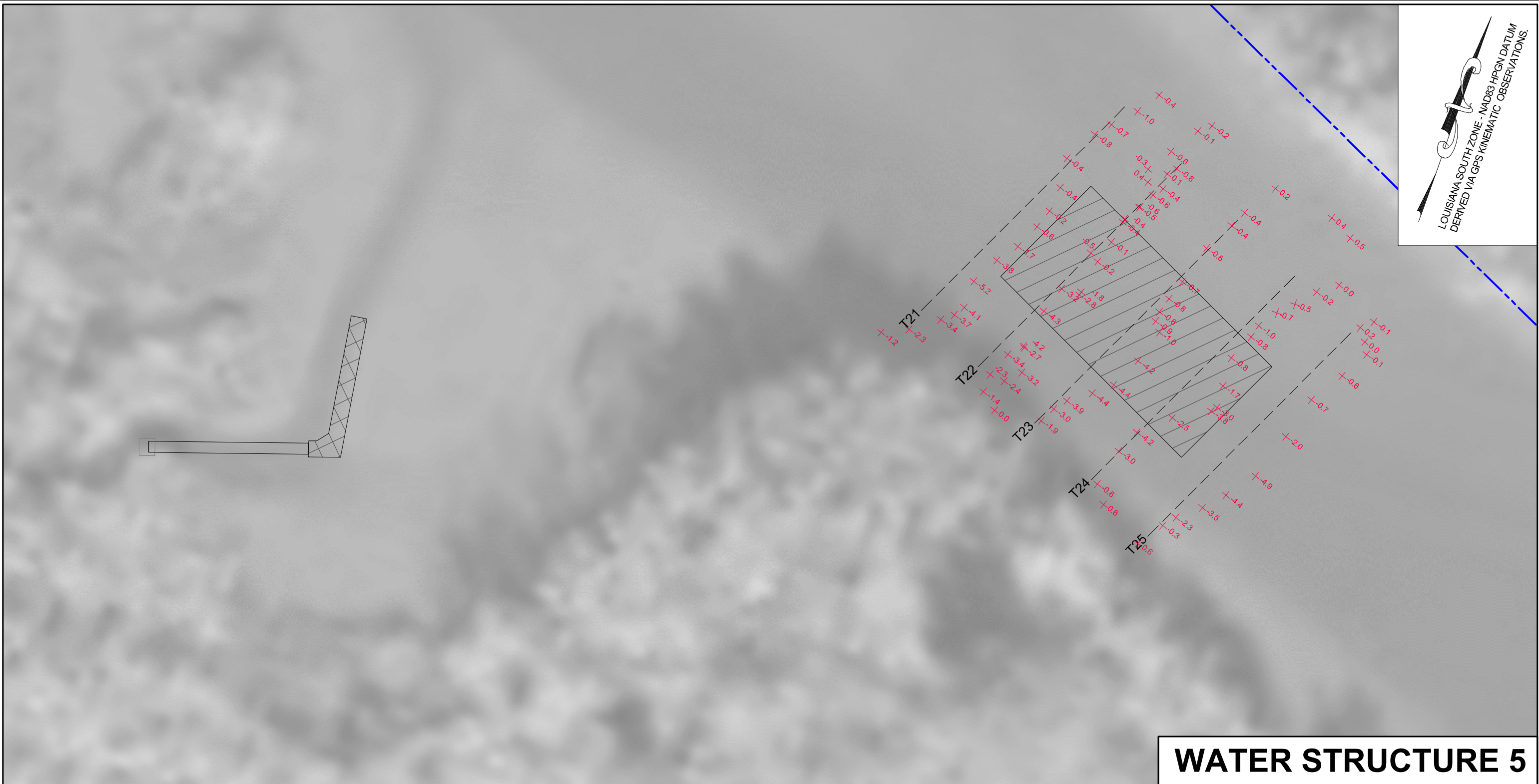


MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 30'	
DATE: 04/22/2016	JOB# 2161015

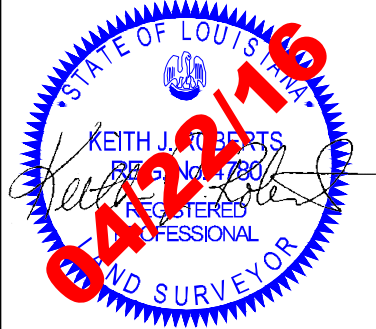


STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE MAGNETOMETER SURVEY PLAN VIEW VERMILION PARISH, LA.	
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 12 OF 25



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

WATER STRUCTURE 5



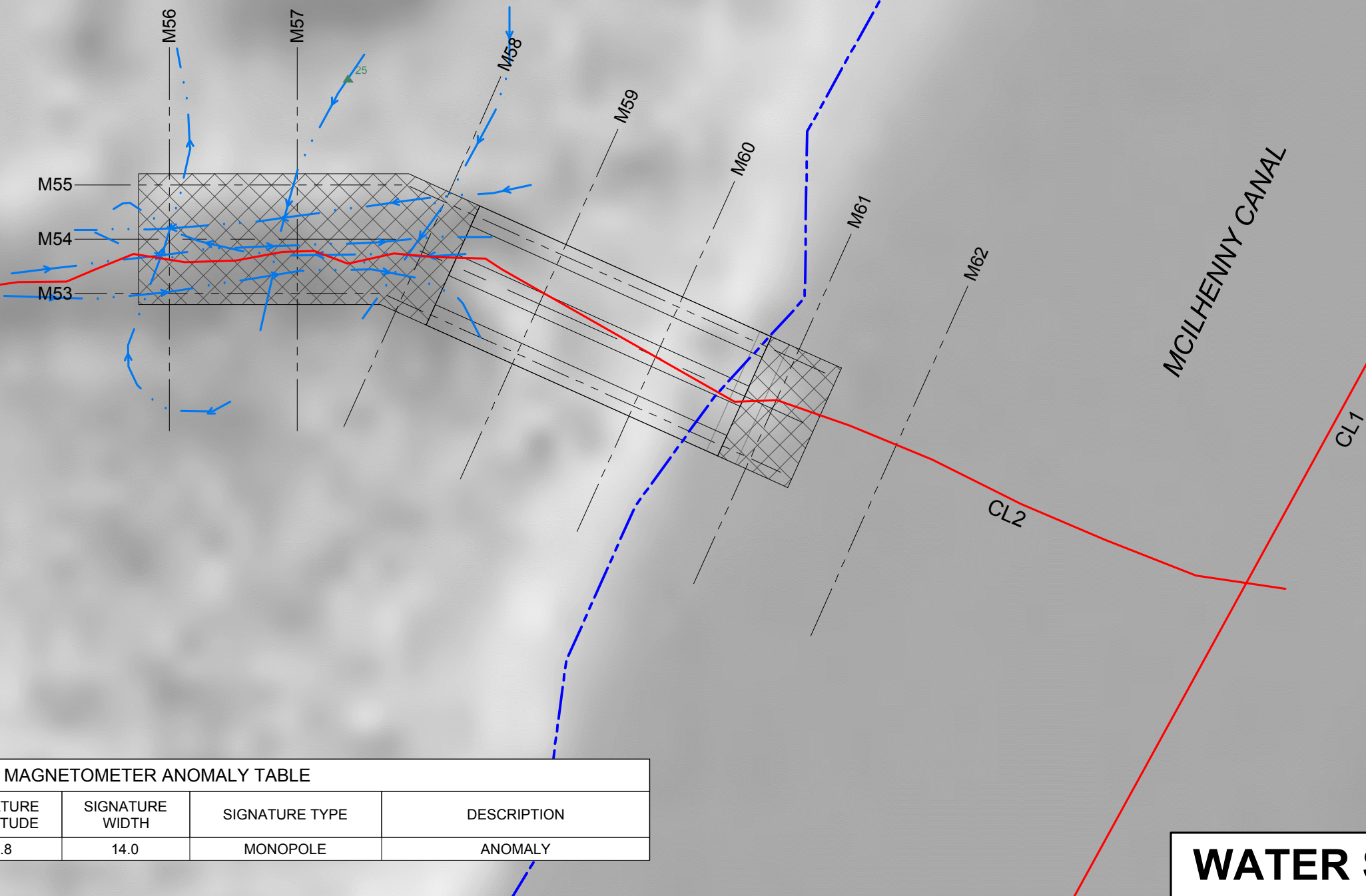
LEGEND	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
-----	PROJECT PERIMETER
-----	EQUIPMENT ACCESS ROUTE
+0.80	ELEVATIONS IN FEET (NAVD88)
▨	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 30'	
DATE: 04/22/2016	JOB# 2161015

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


COASTAL PROTECTION AND RESTORATION AUTHORITY

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
TRANSECTS SURVEY PLAN VIEW
VERMILION PARISH, LA.



MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
25	3,005,081.5	441,558.7	24.8	14.0	MONOPOLE	ANOMALY

WATER STRUCTURE 6



MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015



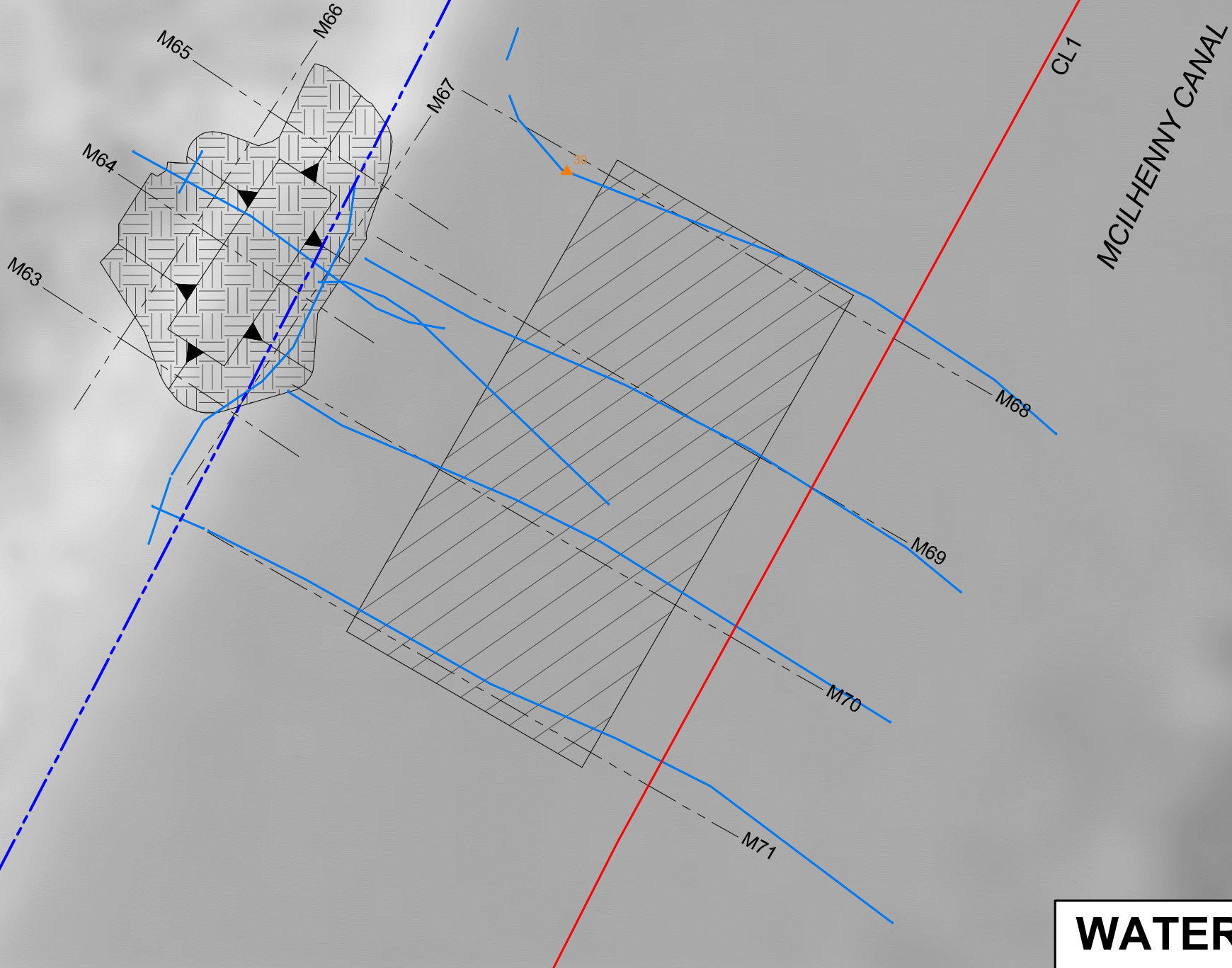
STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

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

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 14 OF 25

MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
30	3,004,992.8	441,174.2	171.1	6.4	MONOPOLE	ANOMALY



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



MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

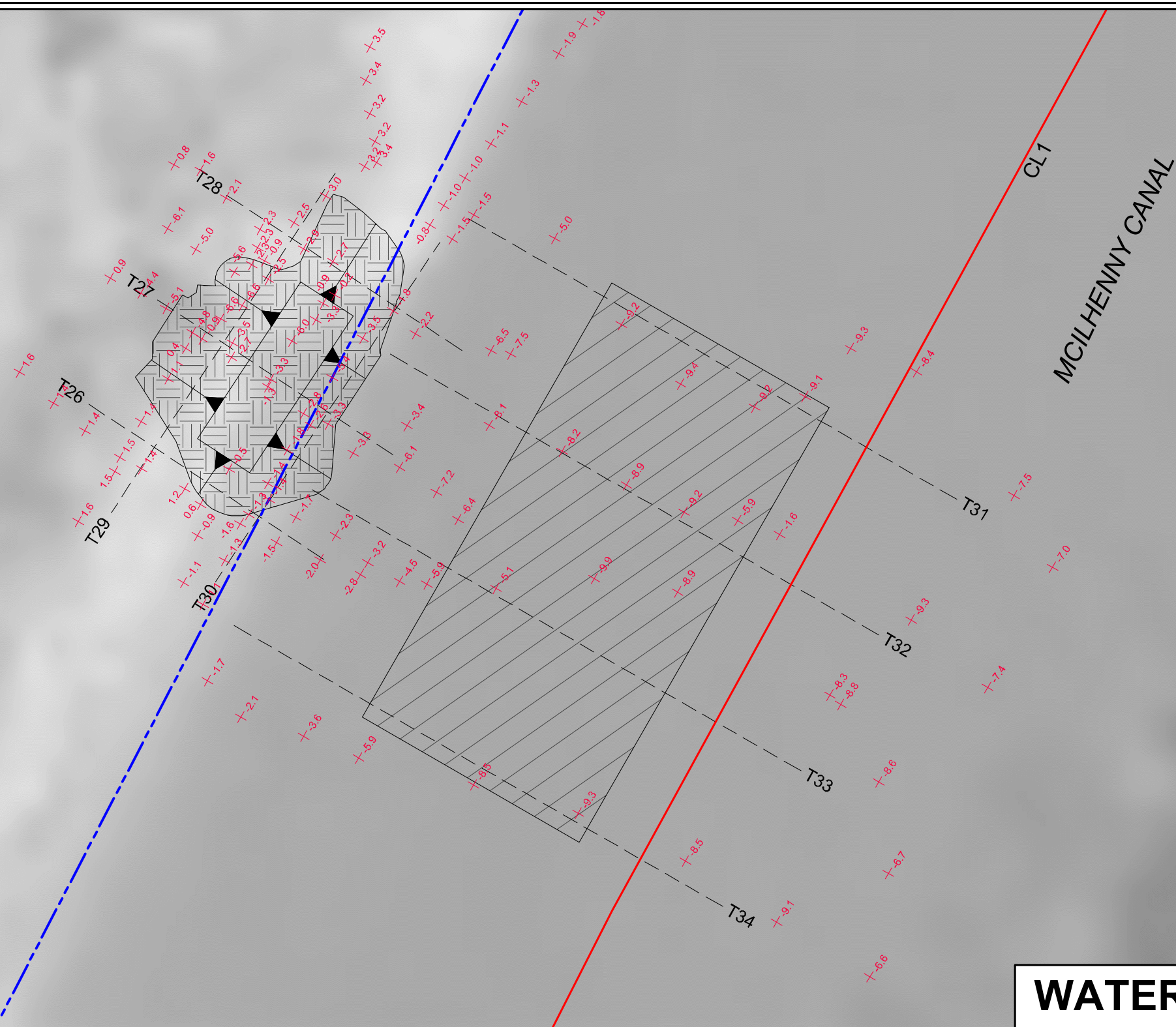
REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

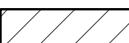
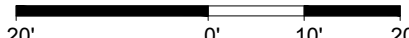
COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

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

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

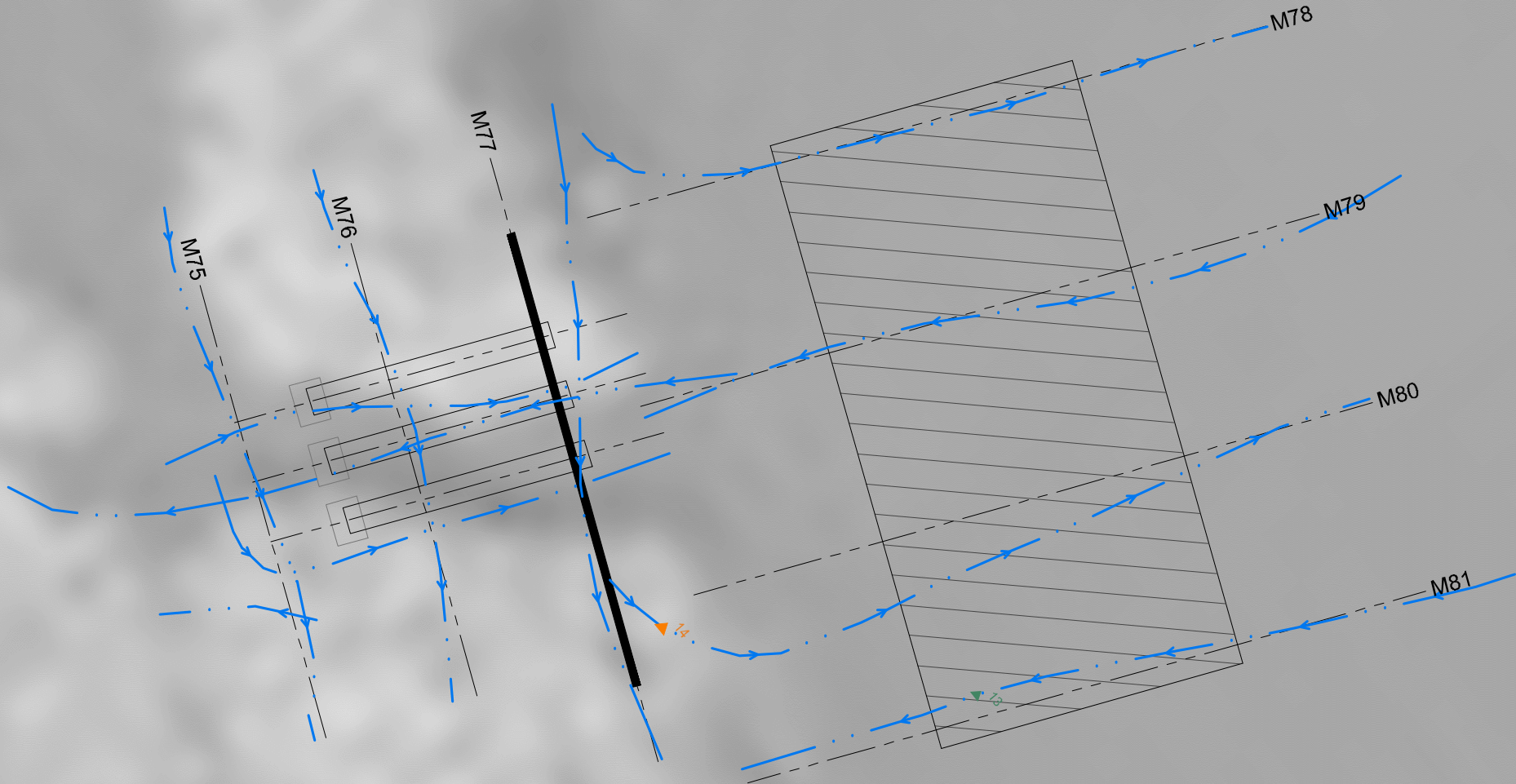


STATE OF LOUISIANA
KEITH J. ROBERTS
REG. NO. 1780
REGISTERED PROFESSIONAL
LAND SURVEYOR
04/22/16

LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE TRANSECTS SURVEY PLAN VIEW VERMILION PARISH, LA.	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER				PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
-----	PROJECT PERIMETER					
-----	EQUIPMENT ACCESS ROUTE	HORIZONTAL SCALE SCALE: 1" = 20'			FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	
+0.80	ELEVATIONS IN FEET (NAVD88)					
	WATER STRUCTURE BORROW AREA				SHEET: 16 OF 25	
DATE: 04/22/2016		JOB# 2161015				

MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
14	3,002,355.3	449,078.7	334.3	32.9	MONOPOLE	ANOMALY

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



WATER STRUCTURE 7



MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

HYDROTERRA
TECHNOLOGIES, LLC
LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION AUTHORITY
CPRA

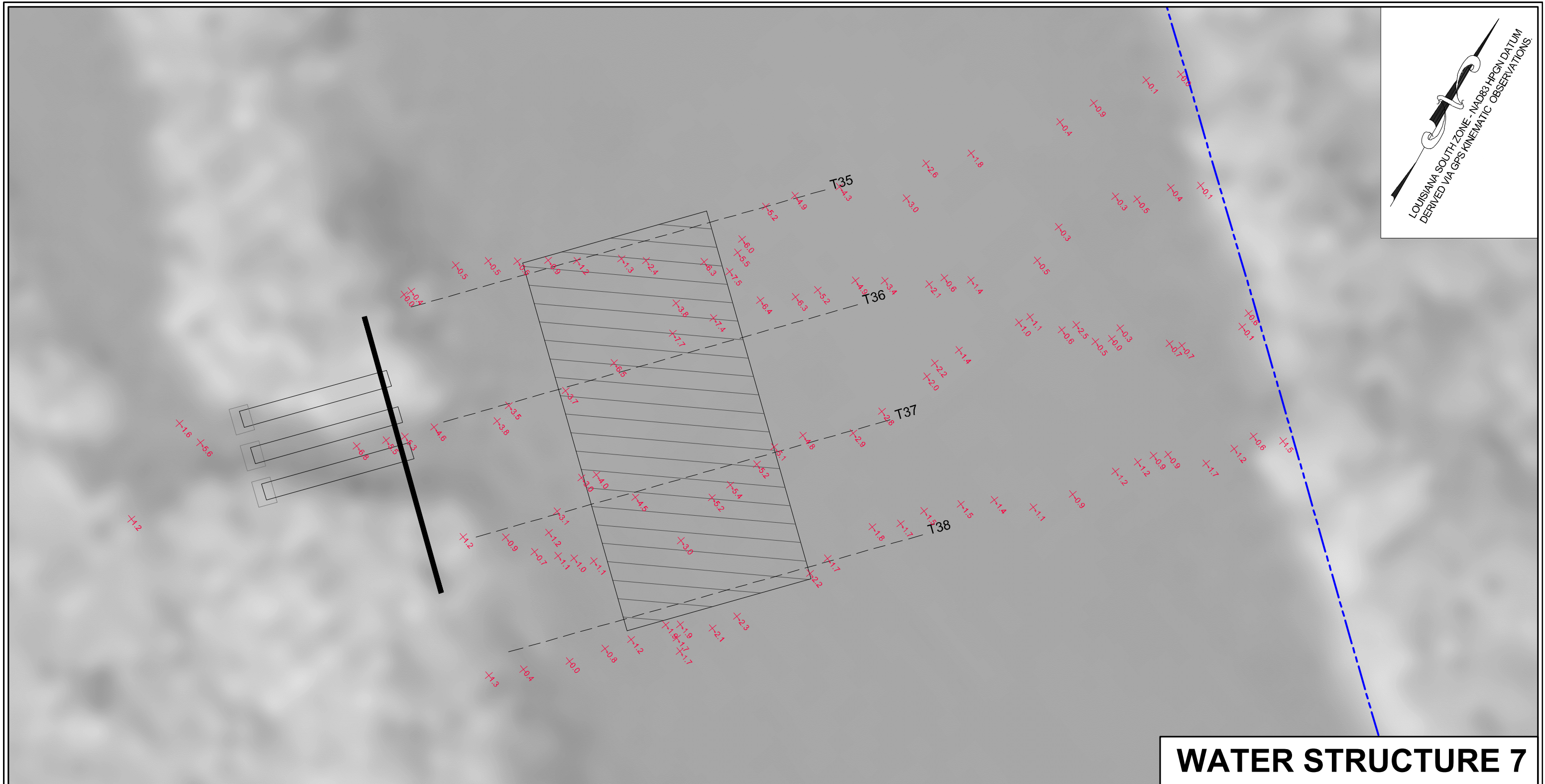
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 17 OF 25

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



WATER STRUCTURE 7



LEGEND	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
-----	PROJECT PERIMETER
-----	EQUIPMENT ACCESS ROUTE
+0.80	ELEVATIONS IN FEET (NAVD88)
	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

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


COASTAL PROTECTION AND RESTORATION AUTHORITY

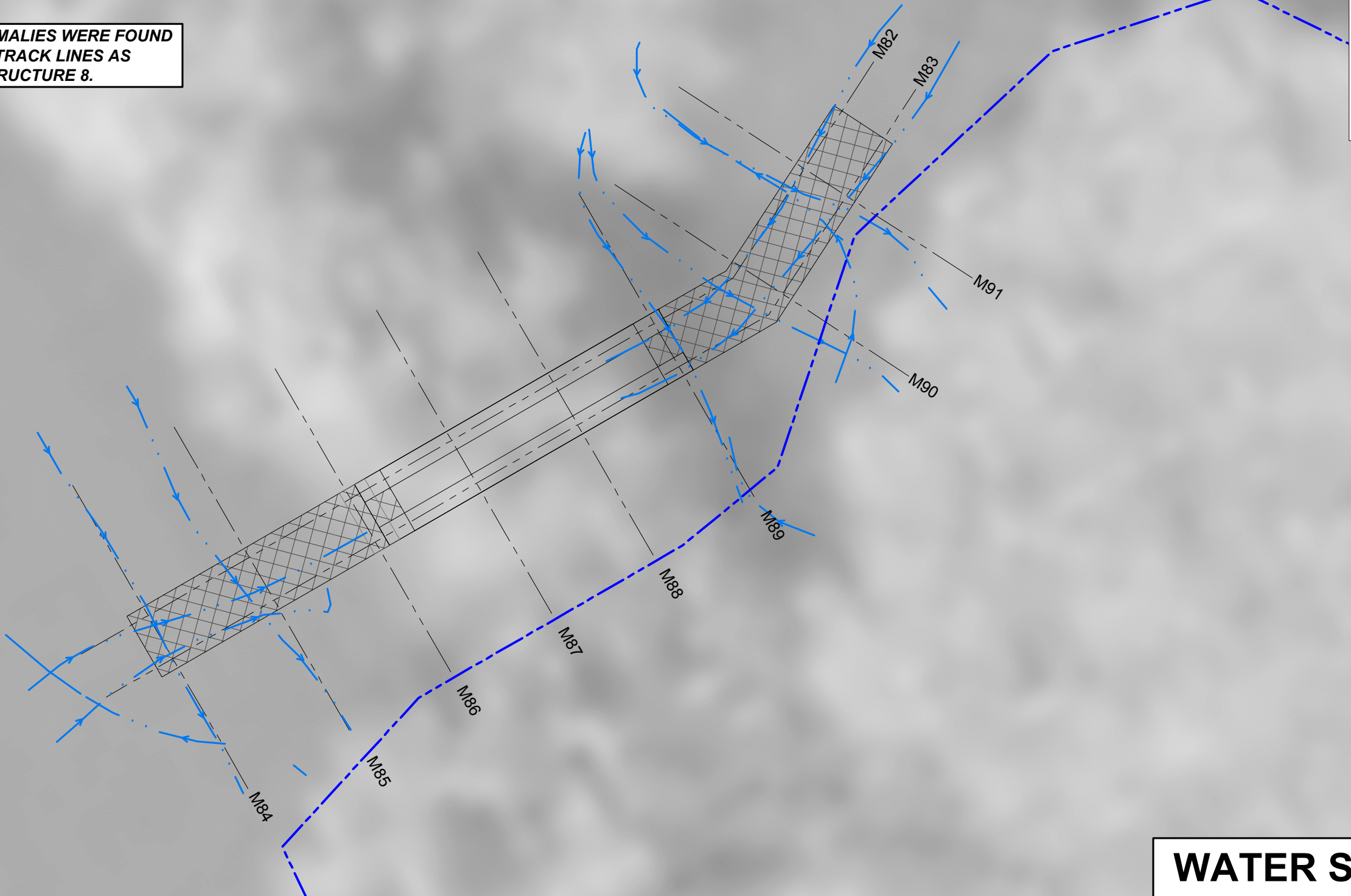
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
TRANSECTS SURVEY PLAN VIEW
VERMILION PARISH, LA.

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

NO MAGNETOMETER ANOMALIES WERE FOUND
ALONG MAGNETOMETER TRACK LINES AS
DEPICTED FOR WATER STRUCTURE 8.

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



WATER STRUCTURE 8



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

LEGEND	
	MAGNETOMETER SURVEY LINES
	PROJECT PERIMETER
	EQUIPMENT ACCESS ROUTE
	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

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

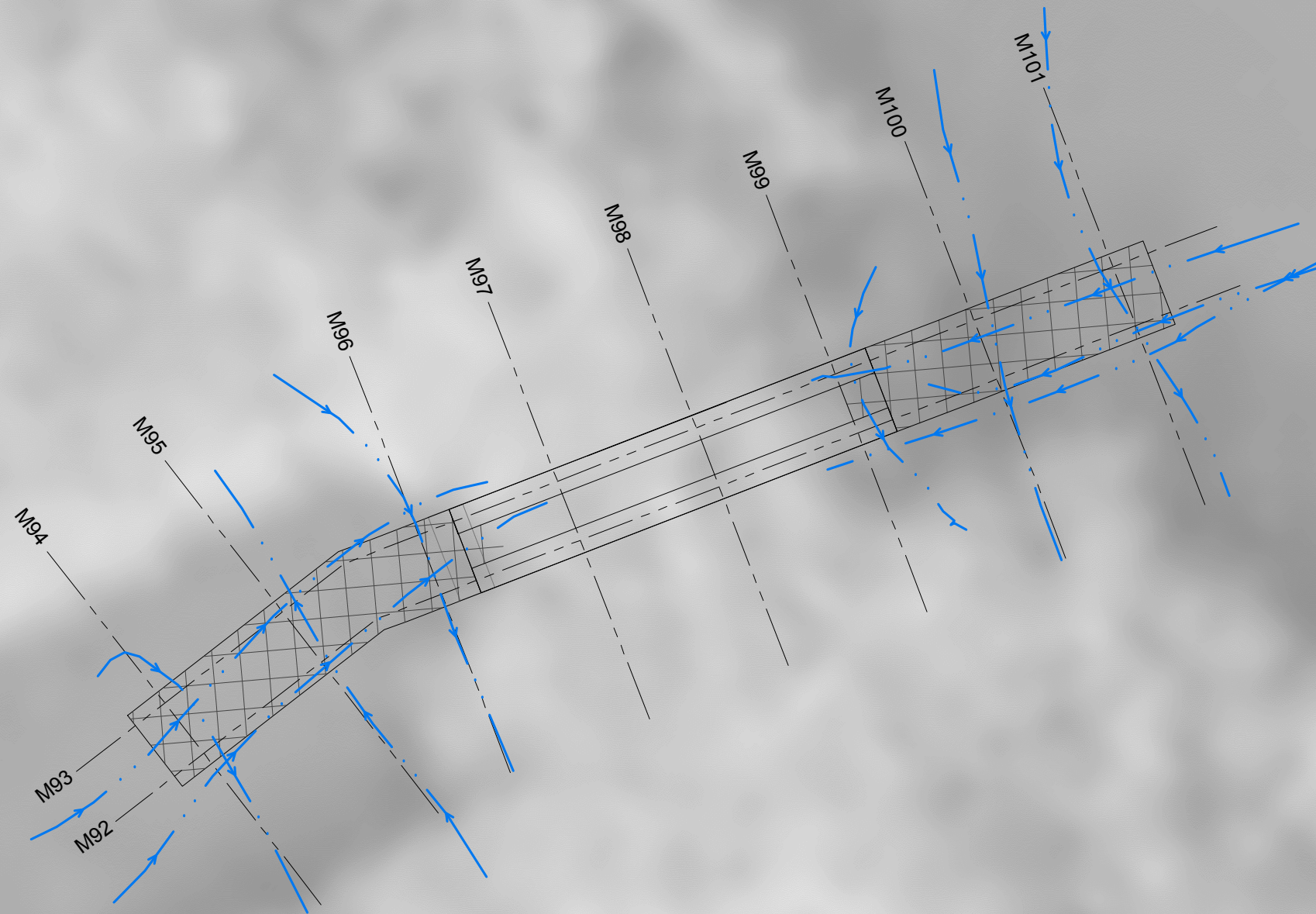
STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 19 OF 25

NO MAGNETOMETER ANOMALIES WERE FOUND
ALONG MAGNETOMETER TRACK LINES AS
DEPICTED FOR WATER STRUCTURE 9.

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



WATER STRUCTURE 9



MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015

LAND SURVEY AND HYDROGRAPHIC SOLUTIONS

COASTAL PROTECTION AND RESTORATION AUTHORITY

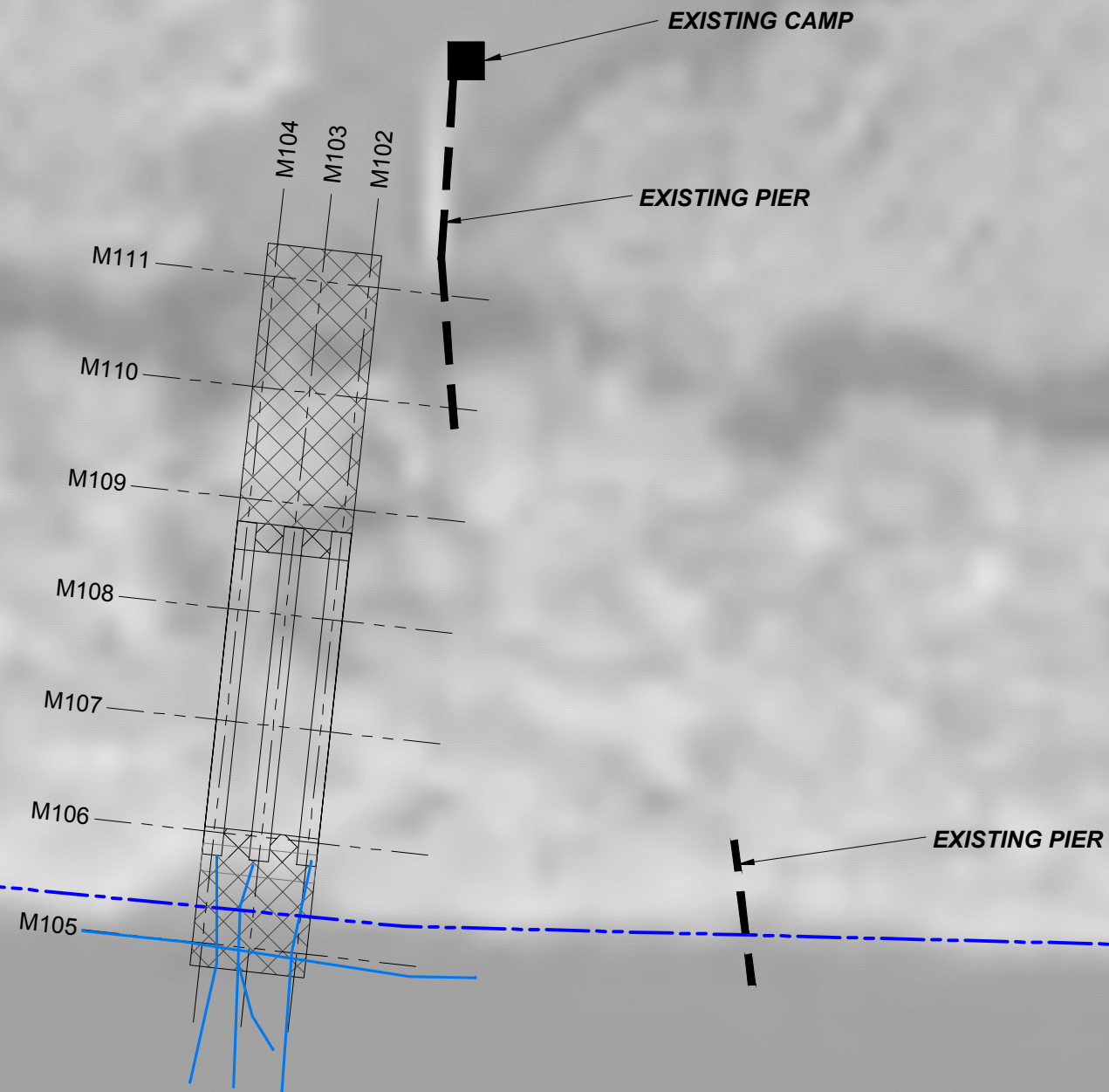
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
MAGNETOMETER SURVEY PLAN VIEW
VERMILION PARISH, LA.

SHEET: 20 OF 25

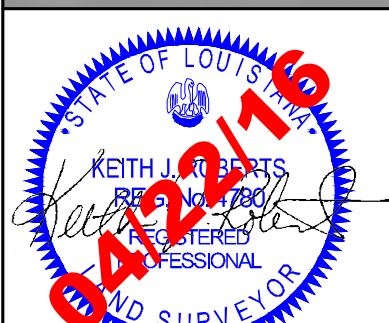
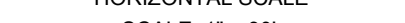
NO MAGNETOMETER ANOMALIES WERE FOUND
ALONG MAGNETOMETER TRACK LINES AS
DEPICTED FOR WATER STRUCTURE 10.



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

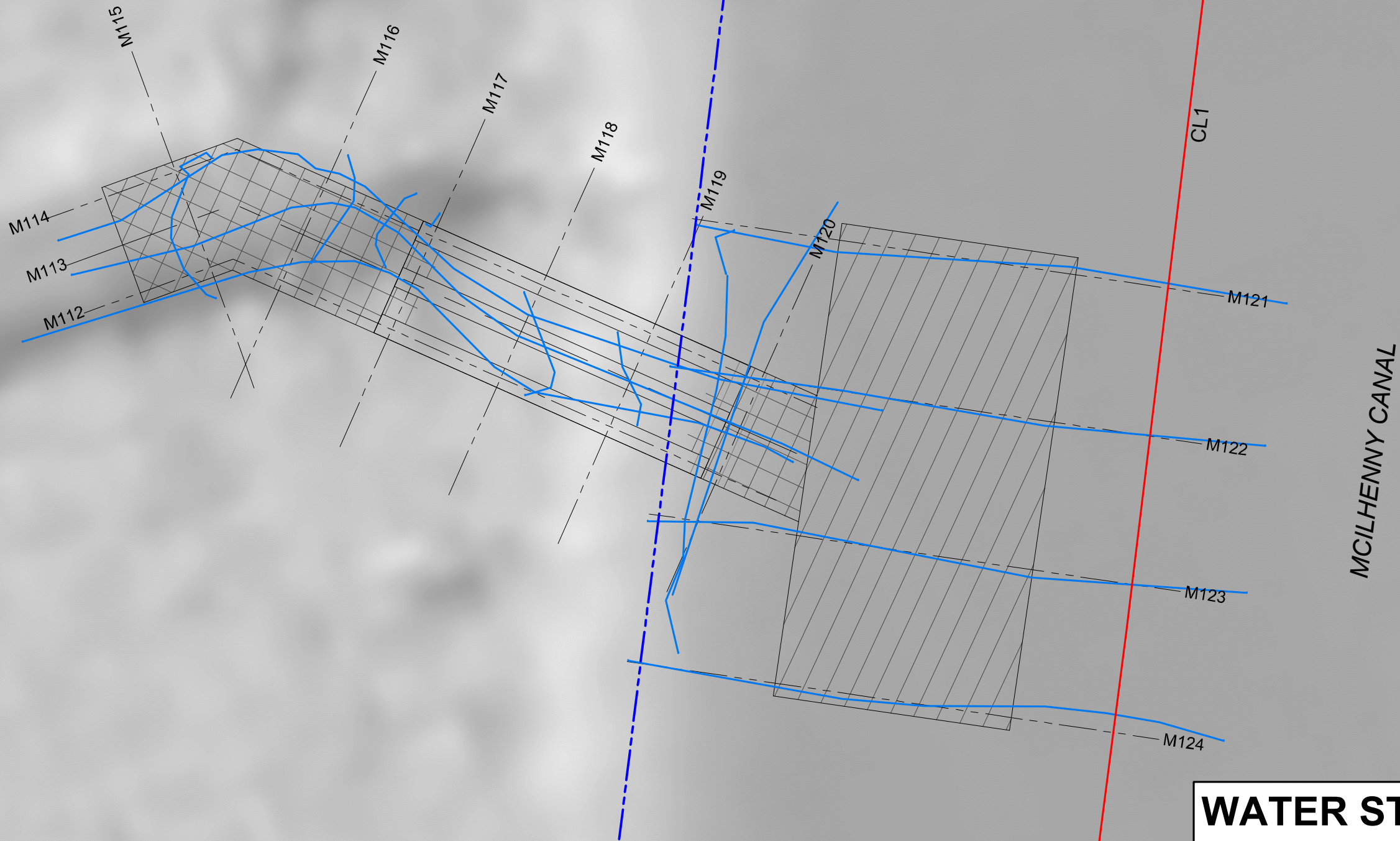
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WATER STRUCTURE 10

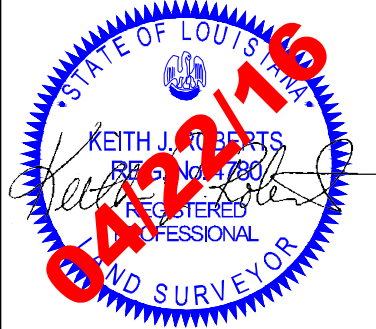
	MAG LEGEND		LEGEND		REVISED BY:	DATE:	 	STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE MAGNETOMETER SURVEY PLAN VIEW VERMILION PARISH, LA.	
	 1-50 GAMMAS  51-100 GAMMAS  101-500 GAMMAS  501-1000 GAMMAS  > 1001 GAMMAS	 MAGNETOMETER SURVEY LINES  PROJECT PERIMETER  EQUIPMENT ACCESS ROUTE  M1----- PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER  WATER STRUCTURE BORROW AREA							
			HORIZONTAL SCALE SCALE: 1" = 30' 						
				DATE: 04/22/2016	JOB# 2161015	PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583			
						FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg		SHEET: 21 OF 25	

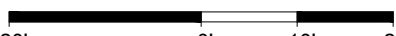
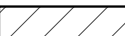
NO MAGNETOMETER ANOMALIES WERE FOUND
ALONG MAGNETOMETER TRACK LINES AS
DEPICTED FOR WATER STRUCTURE 11.

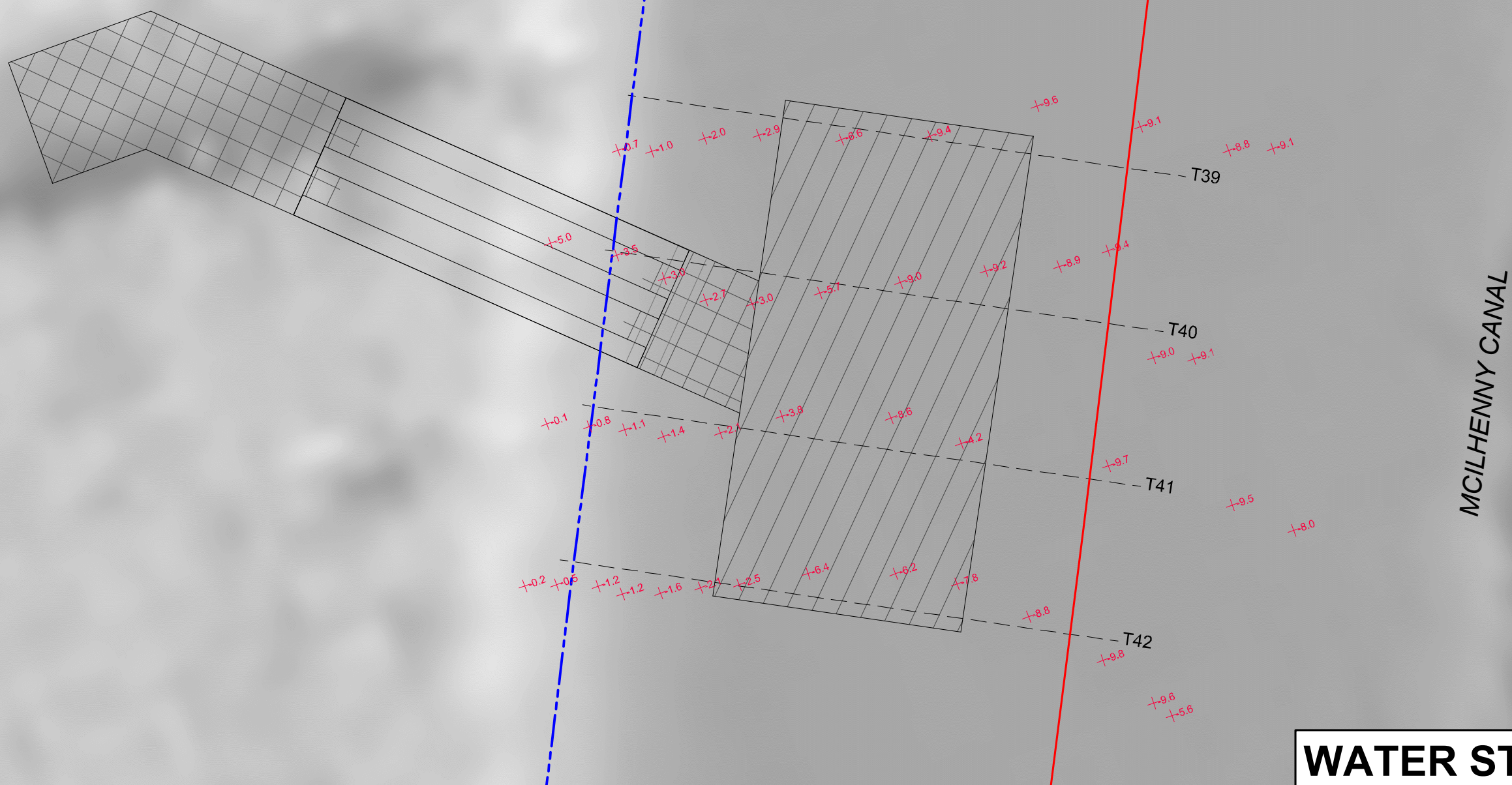
LOUISIANA SOUTH ZONE - NAD83 HPGL DATUM
DERIVED VIA GPS KINEMATIC OBSERVATIONS



WATER STRUCTURE 11



MAG LEGEND		LEGEND		REVISED BY:	DATE:	 HYDROTERRA TECHNOLOGIES, LLC LAND SURVEY AND HYDROGRAPHIC SOLUTIONS	 STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE MAGNETOMETER SURVEY PLAN VIEW VERMILION PARISH, LA.	
 1-50 GAMMAS	 MAGNETOMETER SURVEY LINES							
 51-100 GAMMAS	 PROJECT PERIMETER							
 101-500 GAMMAS	 EQUIPMENT ACCESS ROUTE	HORIZONTAL SCALE SCALE: 1" = 20' 				PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583		
 501-1000 GAMMAS	M1-  PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER							
 > 1001 GAMMAS	 WATER STRUCTURE BORROW AREA	DATE: 04/22/2016				JOB# 2161015	FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 22 OF 25



WATER STRUCTURE 11

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
TRANSECTS SURVEY PLAN VIEW
VERMILION PARISH, LA.



LEGEND

T1	-----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
	-----	PROJECT PERIMETER
	-----	EQUIPMENT ACCESS ROUTE
+0.80		ELEVATIONS IN FEET (NAVD88)
		WATER STRUCTURE BORROW AREA

REVISÉD BY:

DATE:



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

DATE: 04/22/2016

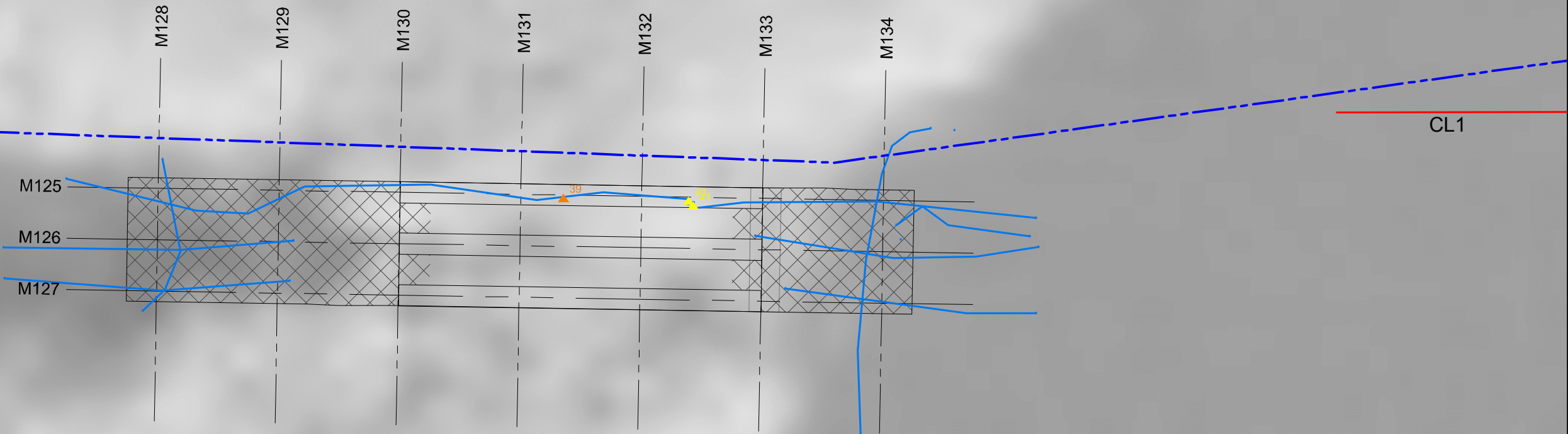
JOB# 2161015

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 23 OF 25

MAGNETOMETER ANOMALY TABLE						
NAME	X	Y	SIGNATURE AMPLITUDE	SIGNATURE WIDTH	SIGNATURE TYPE	DESCRIPTION
39	2,998,134.7	437,665.0	100.8	5.7	DIPOLE	ANOMALY
40	2,998,155.4	437,664.5	82.2	1.9	DIPOLE	ANOMALY
41	2,998,156.2	437,663.7	92.1	1.0	MONOPOLE	ANOMALY

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

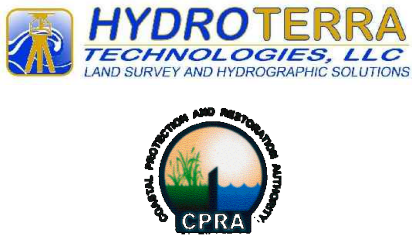


WATER STRUCTURE 12

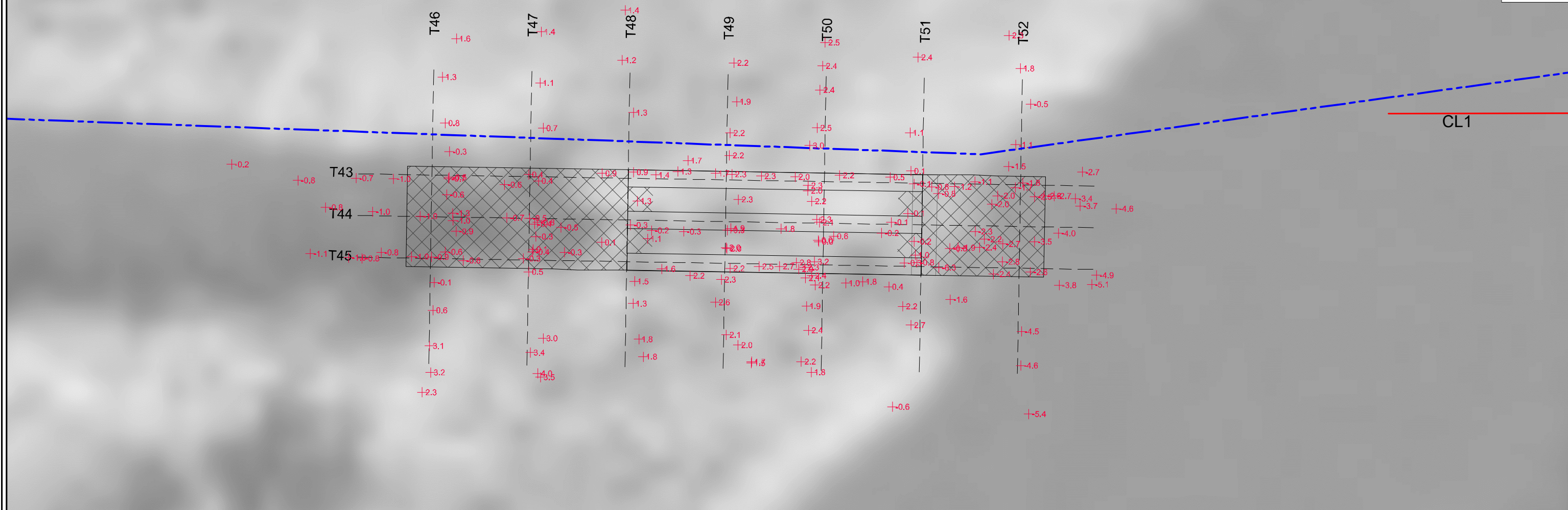


MAG LEGEND	LEGEND
1-50 GAMMAS	MAGNETOMETER SURVEY LINES
51-100 GAMMAS	PROJECT PERIMETER
101-500 GAMMAS	EQUIPMENT ACCESS ROUTE
501-1000 GAMMAS	PROPOSED MAGNETOMETER TRACK LINE AND TRACK NUMBER
> 1001 GAMMAS	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
DATE: 04/22/2016	JOB# 2161015



STATE OF LOUISIANA COASTAL PROTECTION & RESTORATION AUTHORITY COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63) PRE-CONSTRUCTION SURVEY WATER STRUCTURES 1 THRU 12 INCLUSIVE MAGNETOMETER SURVEY PLAN VIEW VERMILION PARISH, LA.	
PREPARED BY: HYDROTERRA TECHNOLOGIES, LLC. - 202 JACOBS RUN, SCOTT, LA 70583	
FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg	SHEET: 24 OF 25



WATER STRUCTURE 12



LEGEND	
T1 -----	PLANNED TRANSECT LINE AND TRANSECT NUMBER
-----	PROJECT PERIMETER
-----	EQUIPMENT ACCESS ROUTE
+0.80	ELEVATIONS IN FEET (NAVD88)
	WATER STRUCTURE BORROW AREA

REVISED BY:	DATE:
HORIZONTAL SCALE SCALE: 1" = 20'	
20' 0' 10' 20'	
DATE: 04/22/2016	JOB# 2161015

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LAND SURVEY AND HYDROGRAPHIC SOLUTIONS



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

STATE OF LOUISIANA
COASTAL PROTECTION & RESTORATION AUTHORITY
COLE'S BAYOU MARSH RESTORATION PROJECT (TV-63)
PRE-CONSTRUCTION SURVEY
WATER STRUCTURES 1 THRU 12 INCLUSIVE
TRANSECTS SURVEY PLAN VIEW
VERMILION PARISH, LA.

FILE: TV-63_Coles Bayou Marsh Restoration_Water Structures (042216).dwg

SHEET: 25 OF 25