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Little Lake Shoreline Protection & Marsh Creation Project (BA-37)

(MPH/OCPR CONTRACT NO. 2503-12-14)

2011 Post-Construction Survey Monitoring Report

PREPARED FOR:



PREPARED BY:

Morris P. Hebert, Inc.

January 2012

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SECTION 1

METHODOLOGY REPORT

Morris P. Hebert, Inc. (MPH) has been contracted by the Office of Coastal Protection & Restoration (OCPR) to perform the 2011 monitoring survey for the Little Lake Shoreline Protection & Marsh Creation Project (BA-37). This monitoring report discusses the methods used by MPH to provide OCPR with quality data and data that is consistent with the data obtained from previous surveys.

1.1 Project Location:

The Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project (BA-37) is located along the southwestern shoreline of Little Lake from Plum Point westward to Superior Canal in Lafourche Parish, Louisiana in the vicinity of Brusle and Round Lakes. The center of the project area is located at the approximate coordinates Latitude = 29° 29' 45" N and Longitude = 90° 20' 15" W. The site is accessible only by boat. The public launch on Clovelly Canal located in Cut Off, Louisiana is the nearest boat launch to the project site.

1.2 Project Description:

According to OCPR, the project includes approximately 25,000 linear feet of rock dike constructed along the Little Lake shoreline and approximately 1,000 acres of marsh creation/nourishment that was completed in March 2007. The project is sponsored by the United States Department of Commerce / National Ocean and Atmospheric Administration (NOAA) / National Marine Fisheries Services (NMFS) and the Louisiana Department of Natural Resources (LDNR) under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).

1.3 MPH's Scope of Services:

- 1.3.1 Perform Marsh Creation Area Grid Survey
- 1.3.2 Perform Average Marsh Elevation Survey
- 1.3.3 Perform Rock Dike Settlement Plate Elevation Survey
- 1.3.4 Perform Rock Dike Profile and Transects
- 1.3.5 Provide Deliverables
- 1.3.6 Check LCZ Secondary Monuments and TBM using GulfNET GPS System (added to scope after-the-fact)

The description of the above Scope of Services provided by OCPR and performed by MPH is included in Appendix A.

1.4 Planning & Layout of the GPS Survey:

OCPR provided MPH with the Annual Monitoring Reports from the years 2007, 2008, and 2009. MPH used the locations of the survey points from the 2010 survey to plan for the surveying of the Settlement Plates, Grid Elevations and Average Grid Marsh Elevations in 2011.

OCPR conducted a meeting with MPH on July 15, 2010 regarding the Planning and Layout of the surveying for the project. OCPR provided MPH with a copy of the Final Draft document titled “Surveying Coastal Marsh Found in Louisiana” and instructed MPH to follow the procedures in this document while performing the survey.

During the meeting, OCPR discussed the control points to be used to perform the survey. The LCZ Secondary Monuments were installed in 2002 and have experienced significant subsidence over the years. OCPR made the decision to use the Railroad Spike, having an elevation of +3.69' to maintain consistency with the previous surveys since the R/R spike appears to be the most stable control point of the three.

1.5 GPS Survey Control using existing LCZ Secondary Monuments

LCZ Secondary Monuments “SM01” and “SM02” were provided by OCPR. Data sheets for the monuments are included in Appendix B. Survey data on the T.B.M. Railroad (R/R) Spike, which was used in the previous surveys, was provided by OCPR. Since the Railroad Spike having an elevation of +3.69' was used as the primary control for the previous surveys, it was used as the primary control for the 2010 survey to insure the consistency of the data between the 2010 survey and the previous surveys.

1.6 Quality Assurance Procedures

Prior to beginning the survey, MPH checked the LCZ Secondary Monuments “SM01” and “SM02” and the R/R Spike using *GULFNet* / Trimble R8 GPS System. *GULFNet* is a network of Continually Operating GPS Reference Stations (**CORS**) that delivers Real Time Network (RTN) error corrections via a cell phone and Bluetooth connection to the GPS data that is collected with a Trimble R8 Rover GPS Receiver. The purpose of checking the control points with *GULFNet* was to determine an accurate comparison of the 3 control points. The control points were shot 3 times using *GULFNet* / R8 GPS System and an average position and elevation was calculated. The elevations were adjusted by adding 0.76' to them to be consistent with R/R spike having an elevation of 3.69', which was used for the previous surveys. The average coordinates for the control points using *GULFNet* are as follows:

POINT	NORTHING (<i>GULFNet</i>)	EASTING (<i>GULFNet</i>)	ELEVATION (<i>GULFNet</i>)	ELEVATION (ADJUST +0.76')
SM01	363981.42	3638772.83	2.53'	3.29'
SM02	350270.13	3655746.01	2.42'	3.18'
R/R SPIKE	349553.65	3642771.67	2.93'	3.69'

OCPR decided to use the R/R spike having an elevation of 3.69' as the primary control point so that the survey data would be consistent with the previous surveys. MPH calculated an adjusted elevation for both SM01 and SM02 to be used when performing Quality Control (QC) checks for the GPS, since both monuments have subsided over the years. With the GPS R7 base station set up on the R/R spike (elevation 3.69'), daily QC shots were taken on SM01 and/or SM02, and the observed daily QC shots were compared to the adjusted coordinates and elevations of SM01 and SM02 in the above table to make sure the GPS was working properly.

1.7 Key Personnel & Survey Timeline

Project Manager: ----- Aric Gisclair, C.S.T.

Draftsman: ----- Timmy Crosby

Survey Crew "A" – (Rock Dike Transects & Settlement Plates)

Survey Party Chief----- Aaron Beal

Survey Instrument Man ----- Jacob Walker

Survey Rod Man ----- Larry Vito

Survey Crew "B" – (Rock Dike Profile, Marsh & Grid Elevations)

Survey Party Chief----- Corey Guidry

Survey Instrument Man ----- Blake Vogel

Survey Rod Man ----- Paul Foster

09/01/11 MPH received Notice to Proceed from OCPR

09/12/11 MPH crew checked Secondary Monuments using GULFNET.

09/12/11 MPH crew performed elevation survey of settlement plates.

09/28/11 MPH crew began marsh grid elevation survey.

10/07/11 MPH crew completed marsh grid elevation survey.

1.8 Equipment, Data Collection & Data Processing

- Airboat was used to access the location and perform the survey
- Trimble Survey Controller (TSC2) used for GPS Data Collection
- Combination Trimble R7 GNSS (base) / R8 GNSS (rover) GPS Receivers
- Combination *GULFNet* (base) / R8 GNSS (rover) GPS Receivers
- Trimble Geomatics Office v1.63 used to process survey data from TCS2 data collectors.
- ACAD Civil3D 2012 used to prepare drawings.

SECTION 2

Drawing Files

The drawings for the 2011 Post-Construction Monitoring Survey – Little Lake Shoreline Protection & Marsh Creation Project (BA-37) are referenced to the Louisiana State Plane Coordinate System, South Zone, U.S. Survey Feet. The horizontal datum is North American Datum of 1983 (NAD83) and the vertical datum is North American Vertical Datum of 1988 (NAVD88). The drawings include the following:

Sheet 1	Title Sheet
Sheet 2	Marsh Transection Plan View
Sheet 3	2011 Post-Construction Elevation Surveys
Sheet 4	Elevation Comparison Chart
Sheet 5	Average Grid Location Elevations
Sheet 6	Marsh Cross Sections 1A, 1, 2A & 2
Sheet 7	Marsh Cross Sections 3A, 3, 4A & 4
Sheet 8	Marsh Cross Sections 5A, 5, 6A & 6
Sheet 9	Marsh Cross Sections 7A, 7, 8A & 8
Sheet 10	Marsh Cross Sections 9A, 9, 10A, 10, 11, 12A, 12 & 13A
Sheet 11	Marsh Cross Sections 13, 14A, 14 & 15A
Sheet 12	Marsh Cross Sections 15, 16A & 16
Sheet 13	Marsh Cross Sections 17A – 17
Sheet 14	Settlement Plate Elevation Survey
Sheet 15	Rock Dike Alignment Survey (Plan View – Segments 1 thru 13)
Sheet 16	Rock Dike Alignment Survey (Plan View – Segments 14 thru 24)
Sheet 17	Rock Dike Alignment Survey (Profile – Sta. 10+00 thru 140+00)
Sheet 18	Rock Dike Alignment Survey (Profile – Sta. 140+00 thru 270+00)
Sheet 19-30	Rock Transects at Settlement Plates

Office of Coastal Protection and Restoration

LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION BA-37 (MPH/OCPR CONTRACT NO. 2503-12-14) LAFOURCHE PARISH

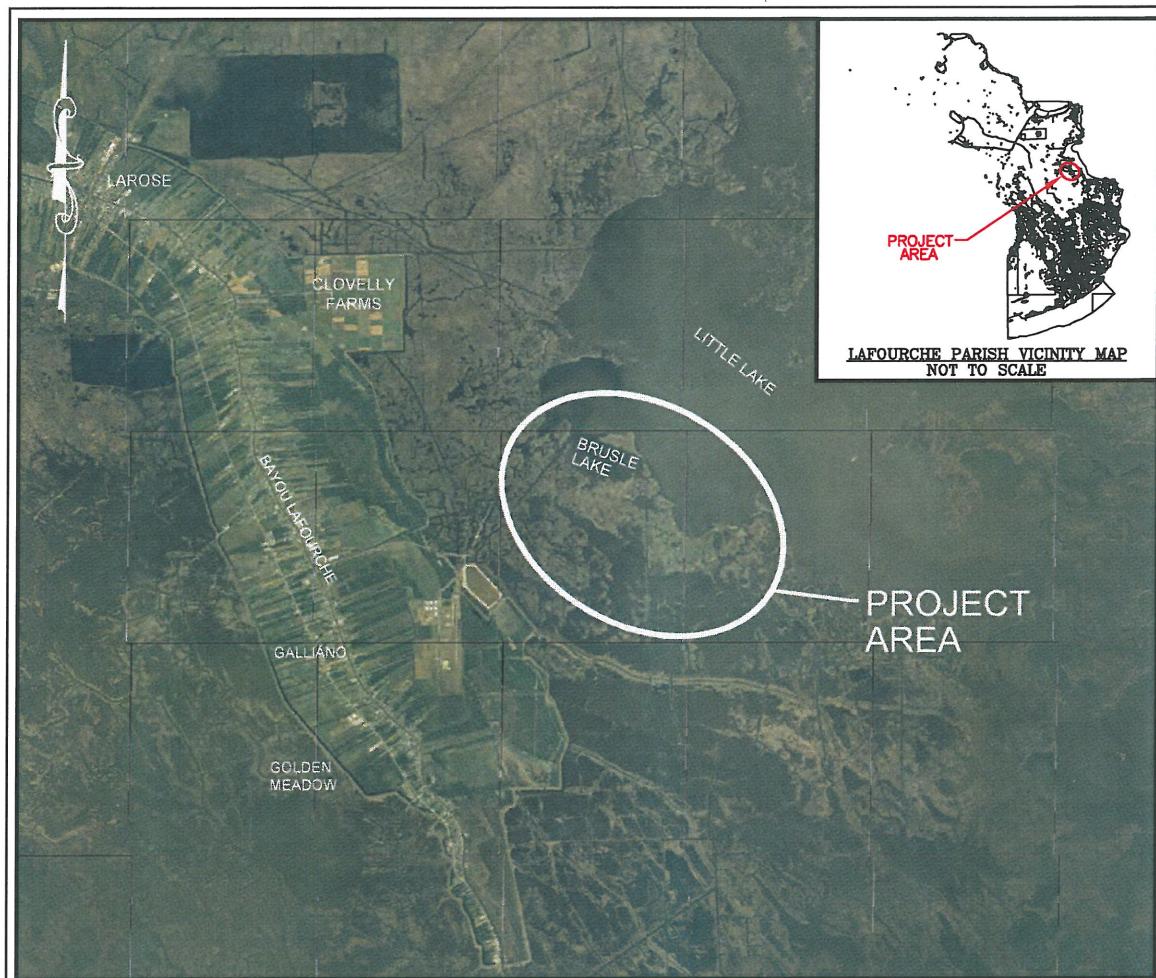
SUMMER 2011 POST CONSTRUCTION MONITORING REPORT



INDEX TO SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	MARSH TRANSECTION PLAN VIEW
3	2011 POST-CONSTRUCTION ELEV. SURVEYS
4	ELEVATION COMPARISON CHART
5	AVERAGE GRID LOCATION ELEVATIONS
6	MARSH CROSS SECTIONS 1A, 1, 2A & 2
7	MARSH CROSS SECTIONS 3A, 3, 4A & 4
8	MARSH CROSS SECTIONS 5A, 5, 6A & 6
9	MARSH CROSS SECTIONS 7A, 7, 8A & 8
10	MARSH CROSS SECTIONS 9A, 9, 10A, 10, 11, 12A, 12 & 13A
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14	SETTLEMENT PLATE ELEVATION SURVEY
15	ROCK DIKE ALIGNMENT SURVEY (PLAN VIEW - SEGMENTS 1 THRU 13)
16	ROCK DIKE ALIGNMENT SURVEY (PLAN VIEW - SEGMENTS 14 THRU 24)
17	ROCK DIKE ALIGNMENT SURVEY (PROFILE - STA. 10+00 THRU 140+00)
18	ROCK DIKE ALIGNMENT SURVEY (PROFILE - STA. 140+00 THRU 270+00)
19-30	ROCK TRANSECTS AT SETTLEMENT PLATES

REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



PROJECT LOCATION MAP

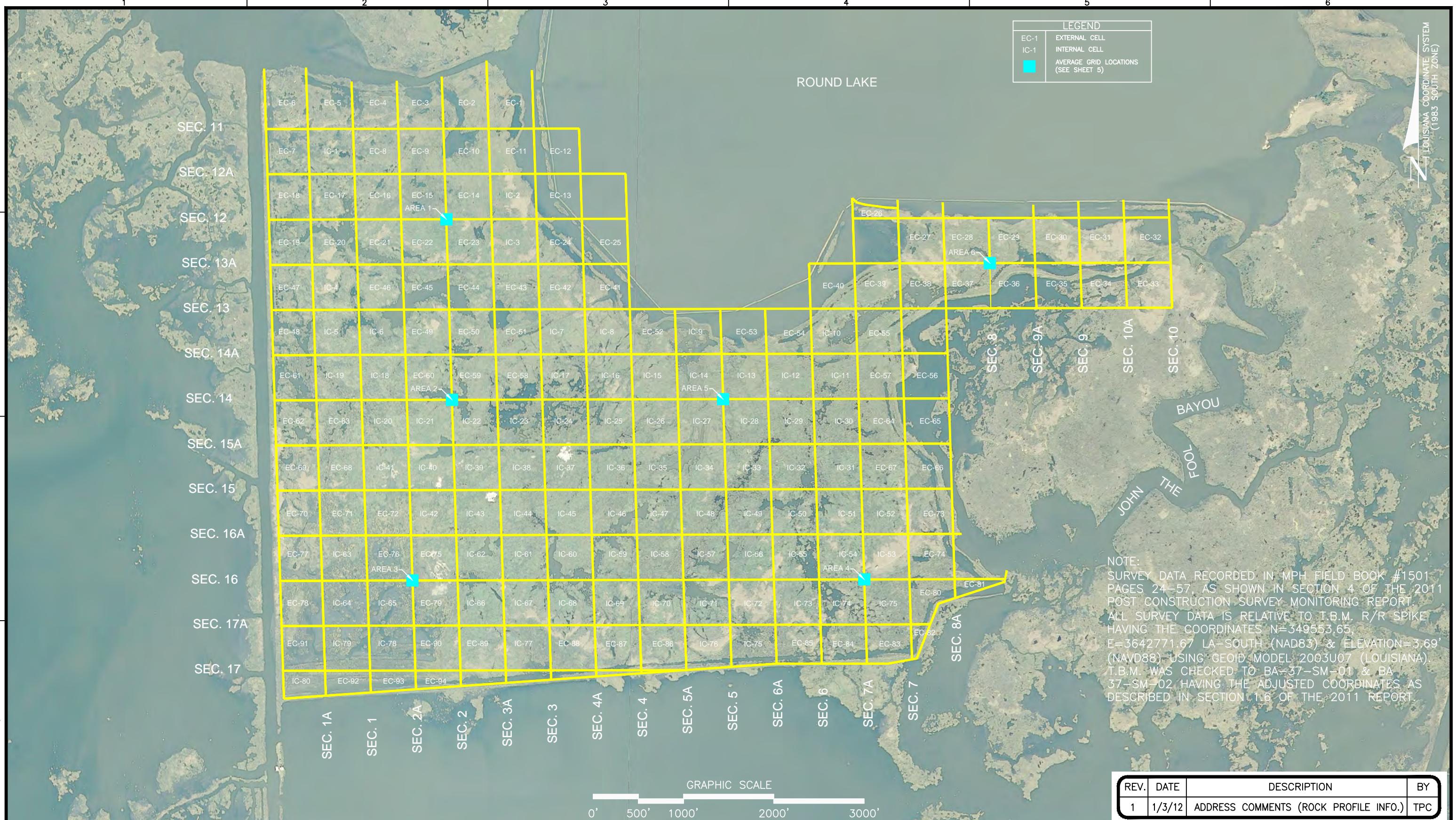


APPROVED:
GERARD M. LEGENDRE, LA. LICENSE NO. 4966



THIS DOCUMENT VALID ONLY WHEN EITHER AN
ORIGINAL CERTIFICATION STAMP OR AN EMBOSSED
SEAL IS IMPRESSED OVER AN ORIGINAL SIGNATURE.

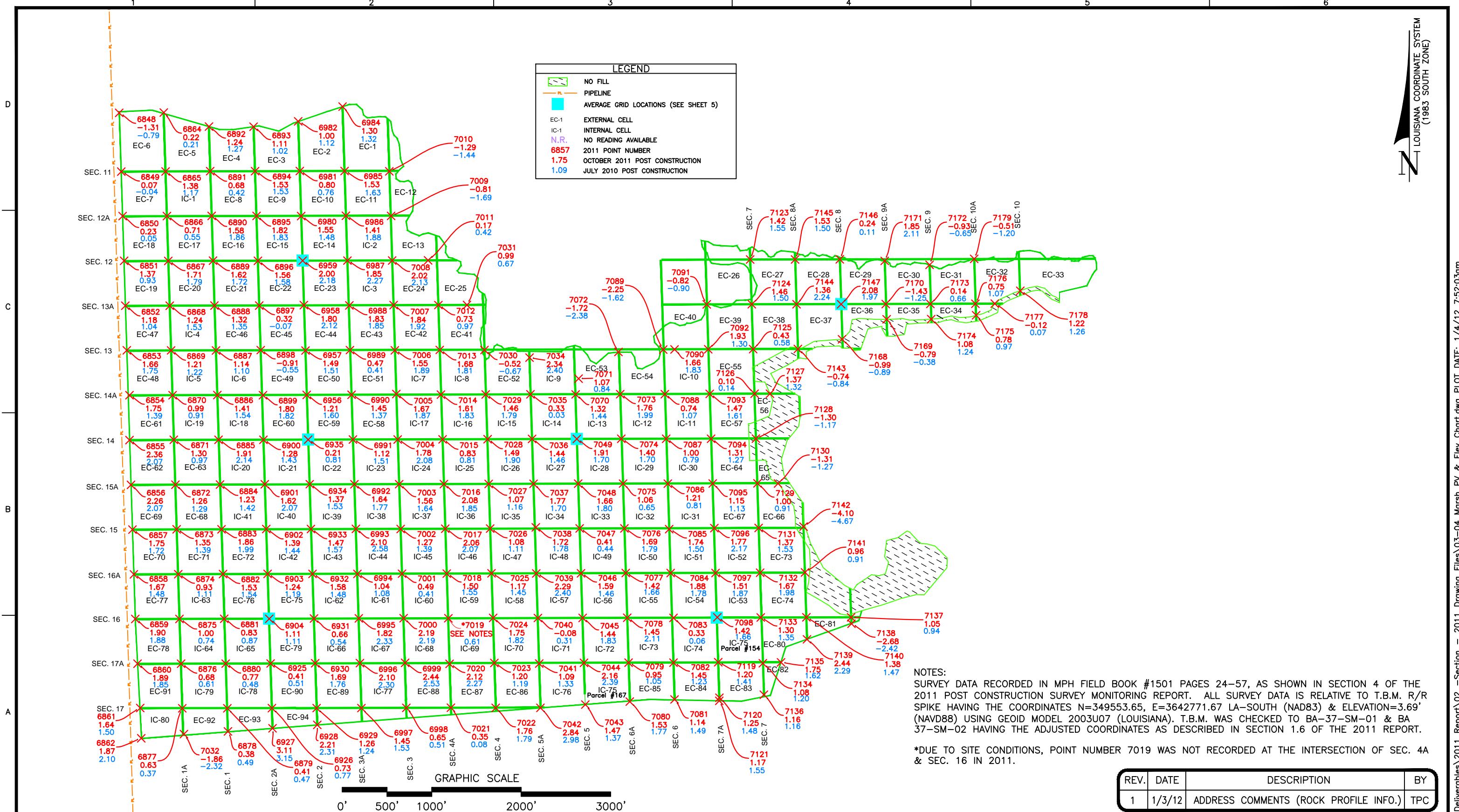
SET NO. 1



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH TRANSECT PLAN VIEW
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	2 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	02 MARCH TRANSECT PLAN VIEW.DWG		



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

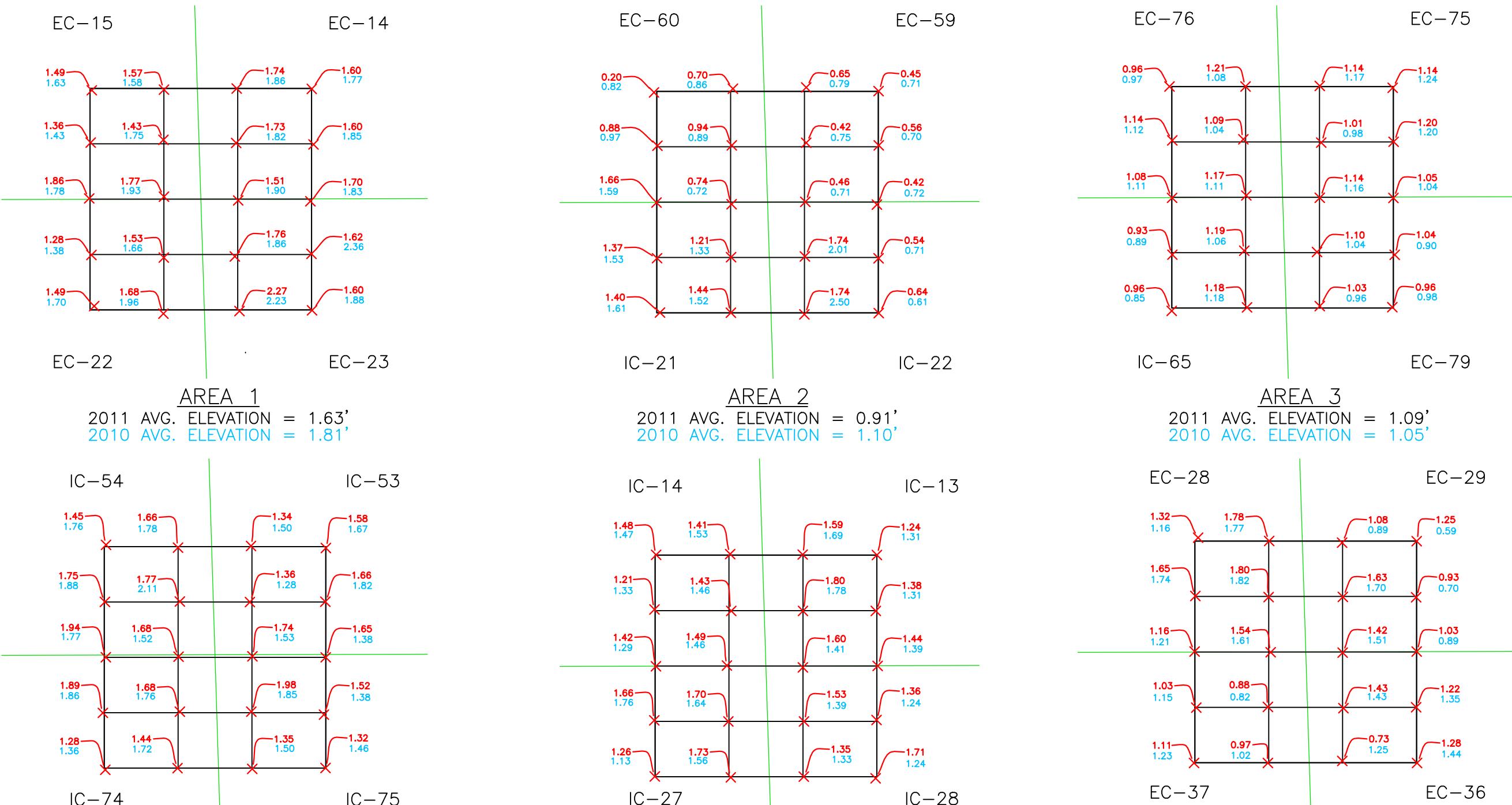
2011 POST-CONSTRUCTION ELEVATIONS SURVEYS
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	3 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02

MPH CAD FILE: 03-04 MARSH PV & ELEV CHART.DWG

Point Table - Elevation Comparison							
Point # 2011	Elevation (FT.)						
	Original	2006	2007	2008	2009	2010	2011
6848	1.11	1.30	1.17	1.01	-1.05	-0.79	-1.31
6849	1.69	1.60	1.42	1.05	-0.26	-0.04	0.07
6850	0.26	1.50	1.24	1.04	-0.11	0.05	0.23
6851	0.97	1.90	1.66	1.81	0.67	0.93	1.37
6852	0.96	1.90	1.40	1.45	1.12	1.04	1.18
6853	1.70	1.70	1.47	1.49	1.85	1.75	1.66
6854	1.24	1.50	1.30	1.58	1.17	1.39	1.75
6855	1.37	1.90	1.31	1.28	2.00	2.07	2.36
6856	1.71	2.00	1.39	1.86	2.02	2.07	2.26
6857	1.93	1.80	1.47	1.55	1.78	1.72	1.75
6858	2.20	1.70	0.21	0.60	1.56	1.48	1.67
6859	2.43	1.40	1.11	1.24	1.16	1.88	1.90
6860	1.68	1.40	1.33	1.36	1.74	1.85	1.89
6861	-0.40	2.00	1.55	1.39	1.50	1.50	1.64
6862	1.95	1.80	0.63	1.02	1.61	2.10	1.87
6864	0.62	1.30	1.42	0.34	0.31	0.21	0.22
6865	1.17	1.50	1.32	1.18	1.24	1.17	1.38
6866	-0.89	2.00	0.81	0.41	1.00	0.55	0.71
6867	-0.70	2.20	1.87	1.70	1.56	1.79	1.71
6868	-0.61	2.30	1.65	1.70	1.50	1.53	1.24
6869	2.60	2.20	1.08	1.11	1.23	1.22	1.21
6870	-1.00	2.10	1.21	1.38	0.84	0.91	0.99
6871	-0.40	2.10	1.43	1.18	0.83	0.97	1.30
6872	0.52	2.10	1.39	1.43	1.15	1.29	1.26
6873	-0.80	2.10	1.37	1.12	1.10	1.39	1.35
6874	-1.10	1.90	1.09	0.92	0.85	1.11	0.93
6875	-1.50	1.80	0.96	0.82	0.94	0.74	1.00
6876	-1.30	2.00	0.83	0.68	0.63	0.61	0.68
6877	0.00	1.90	0.88	0.30	0.41	0.37	0.63
6878	-1.90	1.50	0.33	-0.08	0.28	0.49	0.38
6879	-1.70	1.80	0.88	0.29	0.58	0.47	0.41
6880	-1.80	2.50	0.63	0.67	0.66	0.48	0.77
6881	-2.30	2.60	1.20	0.98	1.02	0.87	0.83
6882	1.30	2.50	1.80	1.52	1.46	1.54	1.53
6883	1.63	3.00	2.32	2.16	1.75	1.99	1.86
6884	-1.20	2.40	1.66	1.49	1.40	1.42	1.23
6885	-1.00	2.80	2.50	2.26	2.00	2.14	1.91
6886	-0.16	2.70	1.89	1.68	1.43	1.54	1.41
6887	3.80	2.60	1.28	1.32	0.92	1.10	1.14
6888	-1.55	2.60	1.41	1.32	1.14	1.35	1.32
6889	1.44	2.40	2.03	2.05	1.78	1.72	1.62
6890	1.43	2.40	2.08	1.62	1.80	1.86	1.58
6891	-1.26	1.10	0.81	0.99	-1.05	0.42	0.68
6892	1.24	1.30	1.26	0.99	0.91	1.27	1.24
6893	0.55	1.10	1.01	0.86	1.04	1.02	1.11
6894	1.41	1.80	1.61	1.46	1.47	1.53	1.53
6895	1.22	2.10	1.91	1.43	1.33	1.83	1.82
6896	-0.62	2.80	2.04	2.13	1.77	1.58	1.56
6897	-2.05	2.20	0.74	0.45	0.42	-0.07	0.32
6898	3.10	2.30	0.63	0.42	-0.49	-0.55	-0.91
6899	-2.80	2.30	2.09	2.54	1.69	1.82	1.80
6900	0.00	2.50	1.49	1.42	1.37	1.43	1.28
6901	1.06	3.10	2.41	2.35	2.13	2.07	1.62
6902	-1.00	3.30	2.07	1.41	1.37	1.44	1.39
6903	-2.80	3.20	1.71	1.35	1.26	1.19	1.24
6904	-1.90	3.10	1.55	1.16	1.09	1.11	1.11
6925	-1.60	2.40	1.10	0.83	0.76	0.51	0.41
6926	-1.70	1.50	0.84	0.31	0.65	0.77	0.73
6927	-1.80	1.90	0.68	0.19	3.11	3.15	3.11
6928	1.57	1.90	1.70	1.63	2.18	2.31	2.21
6929	-0.30	2.00	0.98	0.67	0.98	1.24	1.26
6930	1.20	2.50	1.90	1.91	1.66	1.76	1.69
6931	-1.90	2.80	1.40	1.00	0.63	0.54	0.66
6932	-2.00	3.30	1.95	1.78	1.48	1.48	1.58
6933	-1.50	3.70	2.19	1.66	1.51	1.57	1.47
6934	-0.18	2.80	2.06	1.60	1.46	1.53	1.37
6935	1.21	2.60	1.24	1.02	0.63	0.81	0.21
6956	1.52	2.30	0.78	1.28	1.08	1.60	1.21
6957	3.50	3.00	1.96	1.84	1.86	1.51	1.49
6958	-1.22	2.80	2.90	2.65	2.30	2.12	1.80

Point Table - Elevation Comparison							
Point # 2011	Elevation (FT.)						
	Original	2006	2007	2008	2009	2010	2011
6959	-0.04	2.70	2.35	2.44	2.21	2.18	2.00
6980	0.75	2.00	1.54	1.47	1.45	1.48	1.55
6981	-3.40	1.70	0.96	0.68	0.61	0.76	0.80
6982	1.28	1.20	0.90	1.17	0.89	1.12	1.00
6984	1.46	1.20	1.35	1.00	1.35	1.32	1.30
6985	2.50	2.10	1.58	1.39	1.33	1.63	1.53
6986	1.85	2.20	1.62	1.69	1.57	1.88	1.41
6987	1.75	2.80	2.70	2.47	2.19	2.27	1.85
6988	0.20	3.10	2.63	2.45	1.92	1.85	1.83
6989	3.40	2.70	1.16	0.86	-0.23	0.41	0.47
6990	0.62	2.40	1.45	1.49	1.61	1.37	1.45
6991	0.11	2.40	1.47	1.56	0.83	1.51	1.12
6992	0.30	2.80	2.07	1.83	1.61	1.77	1.64
6993	0.52	3.80	3.02	2.63	2.53	2.58	2.10
6994	-1.16	2.70	1.35	1.11	0.85	1.08	1.04
6995	0.60	3.40	3.05	2.81	1.97	2.33	1.82
7000	-0.54	3.30	2.94	2.			



NOTE:

SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOD MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

GRAPHIC SCALE
0' 25' 50' 100' 150'

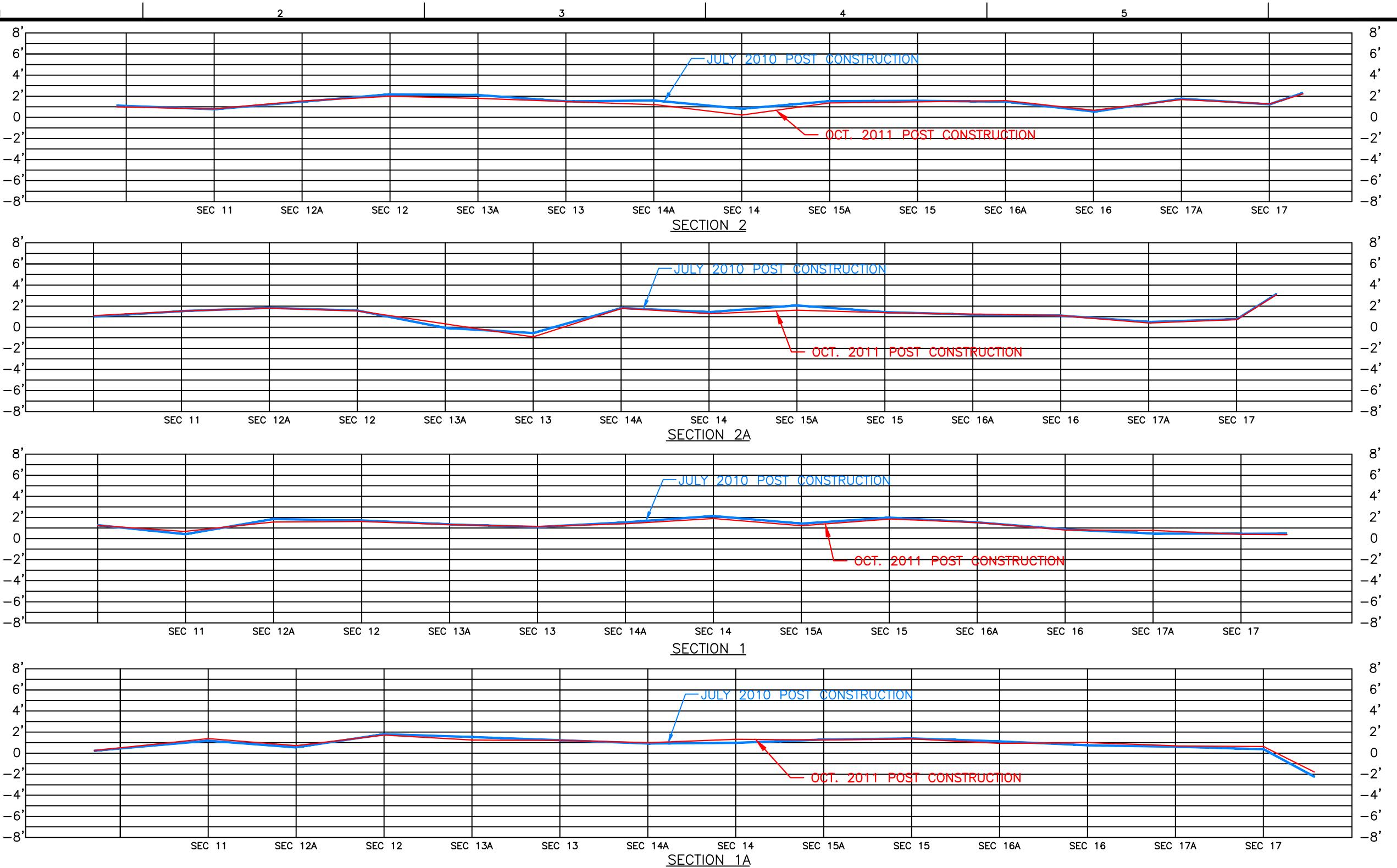
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



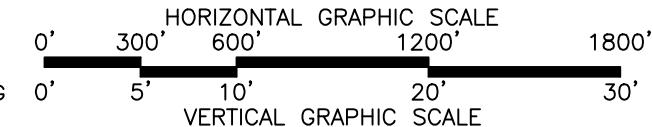
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

AVERAGE GRID LOCATION ELEVATIONS
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	5 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	05 AREA 1 THRU 6 - ELEV.DWG		



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011
POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE
HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88)
USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING
THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

- JULY 2011 POST CONSTRUCTION
- JULY 2010 POST CONSTRUCTION

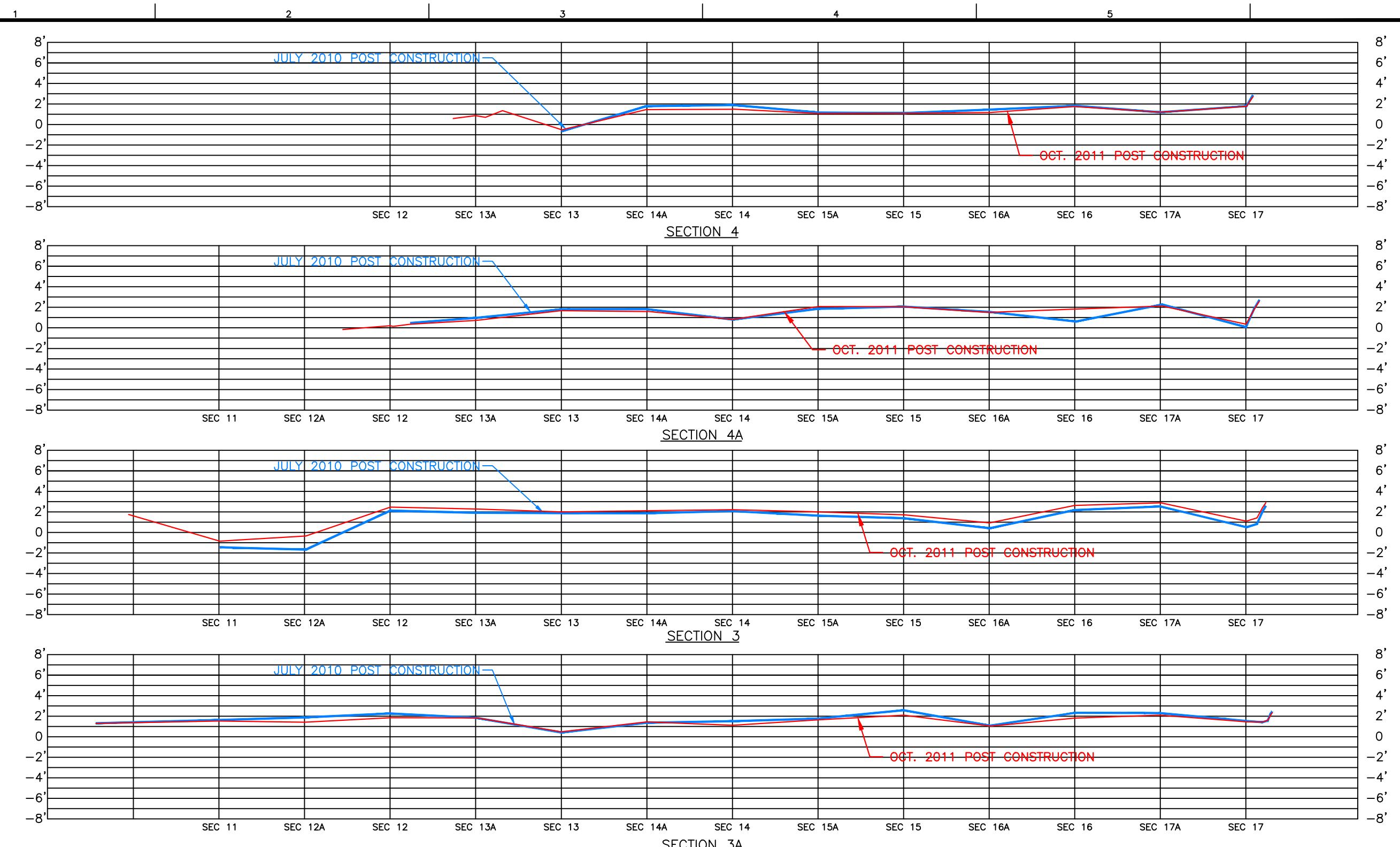
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1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



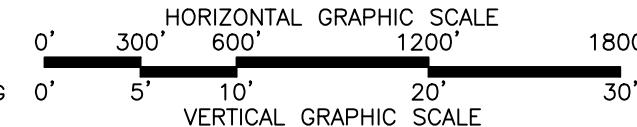
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 1A, 1, 2A & 2
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	6 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011
POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE
HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88)
USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING
THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

— JULY 2011 POST CONSTRUCTION
— JULY 2010 POST CONSTRUCTION

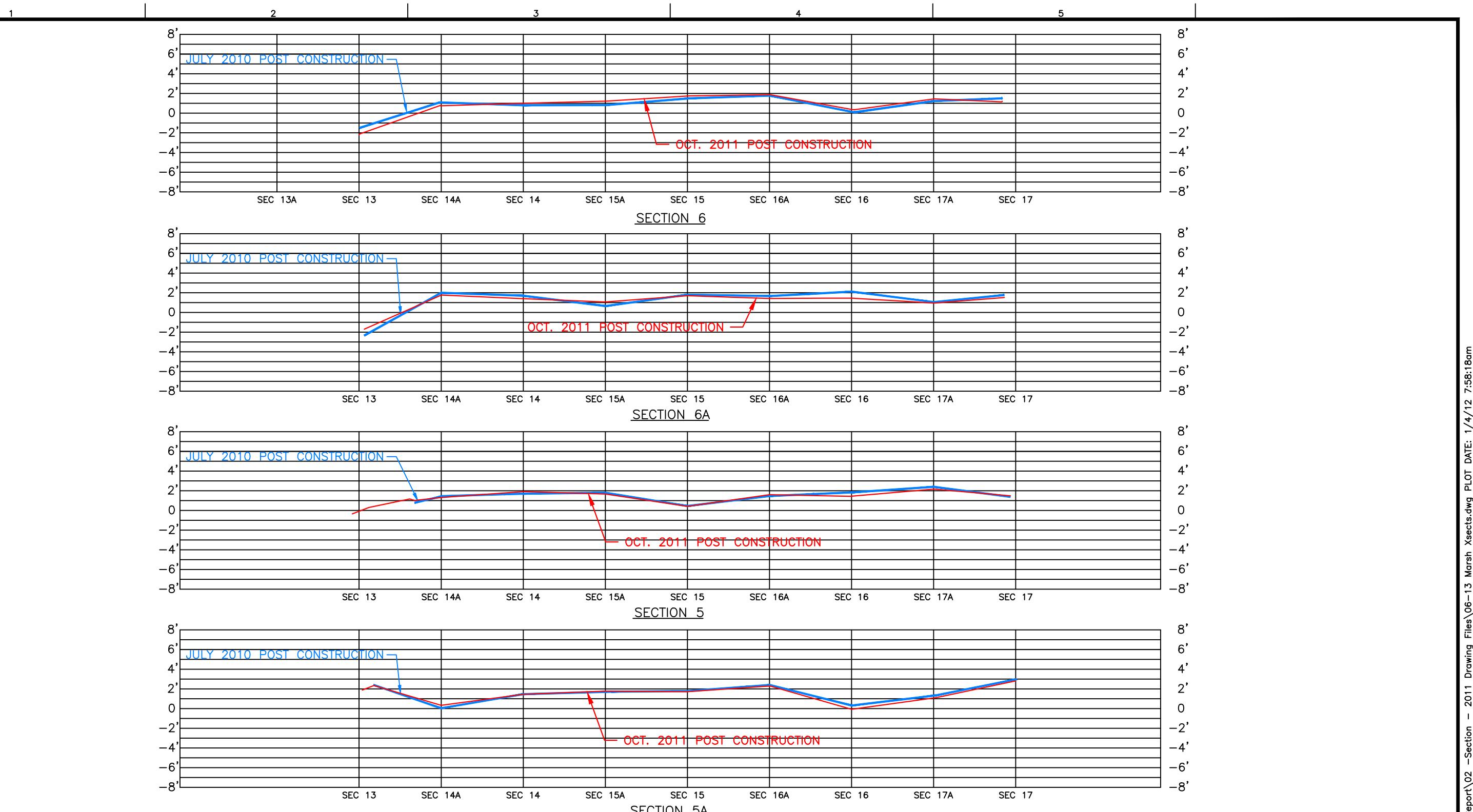
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



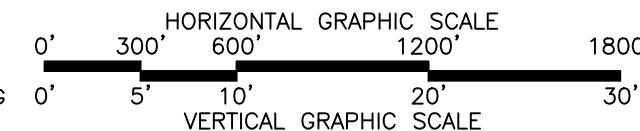
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 3A, 3, 4A & 4
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	7 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011
POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE
HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88)
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THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

— JULY 2011 POST CONSTRUCTION
— JULY 2010 POST CONSTRUCTION

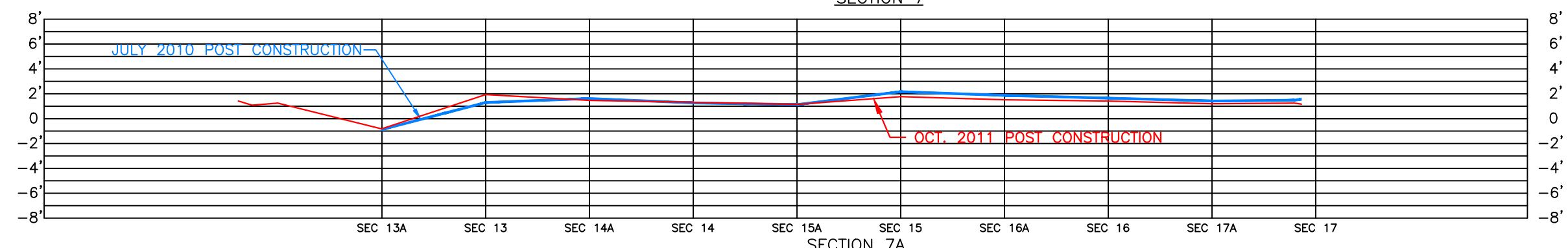
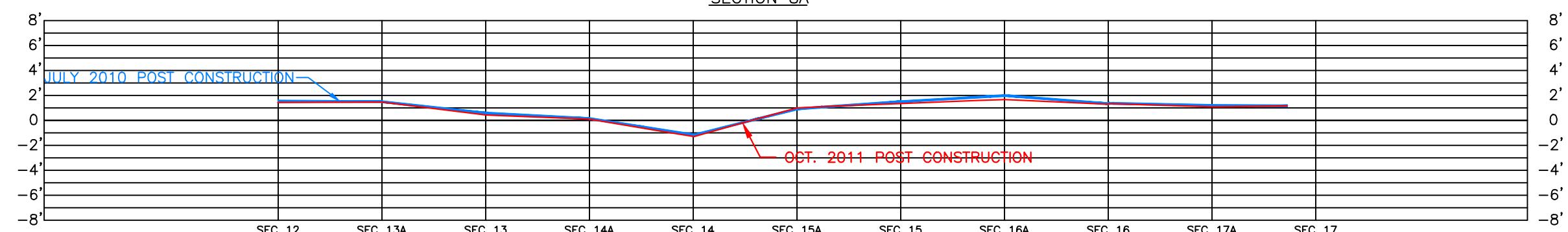
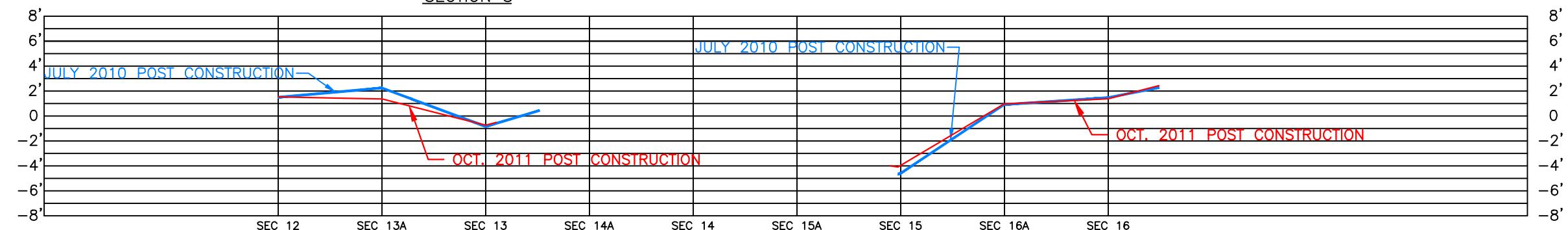
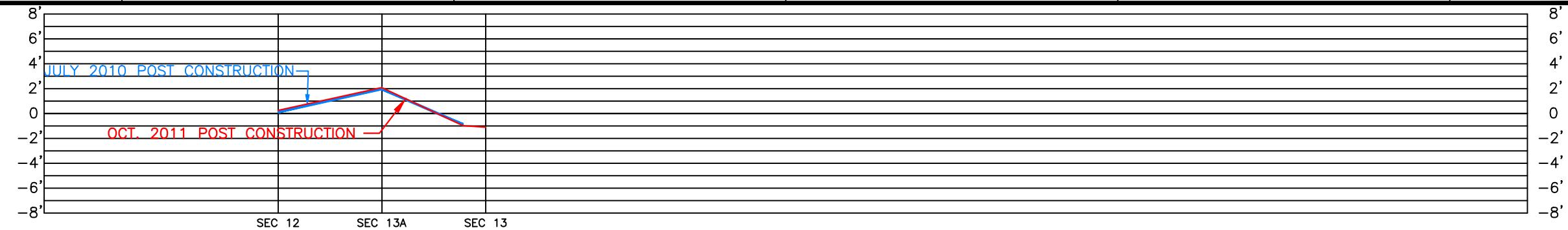
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



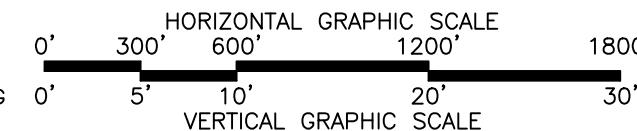
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 5A, 5, 6A & 6
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	8 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011
POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE
HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88)
USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING
THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

— JULY 2011 POST CONSTRUCTION
— JULY 2010 POST CONSTRUCTION

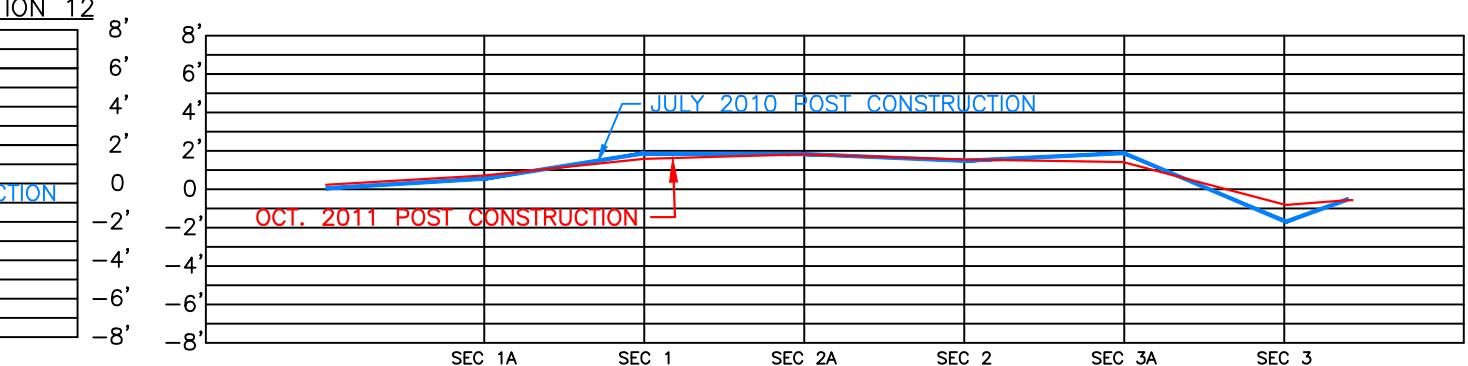
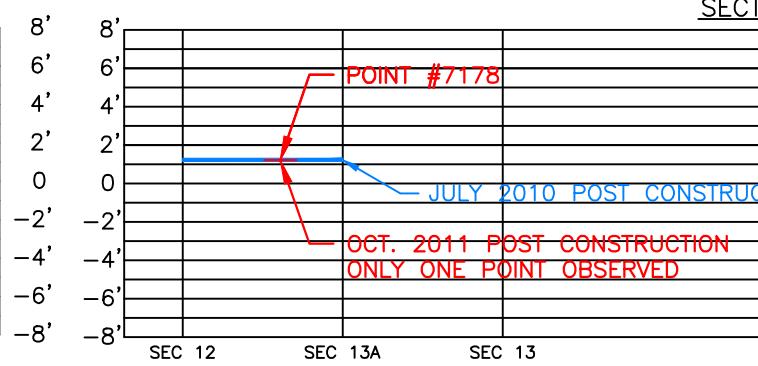
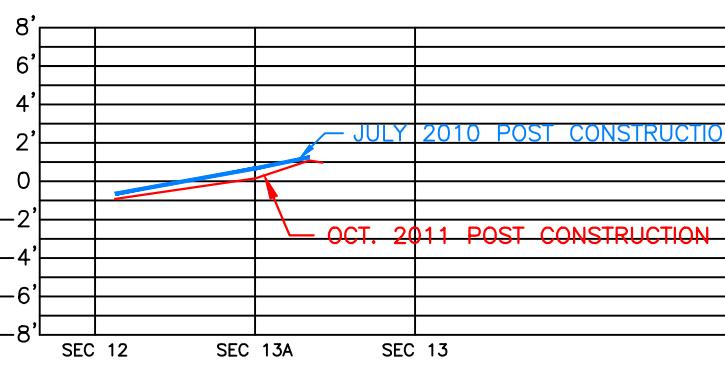
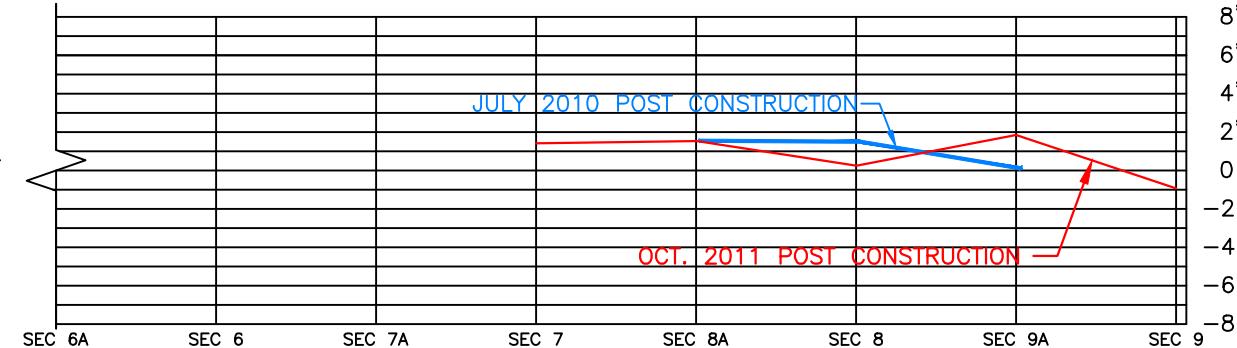
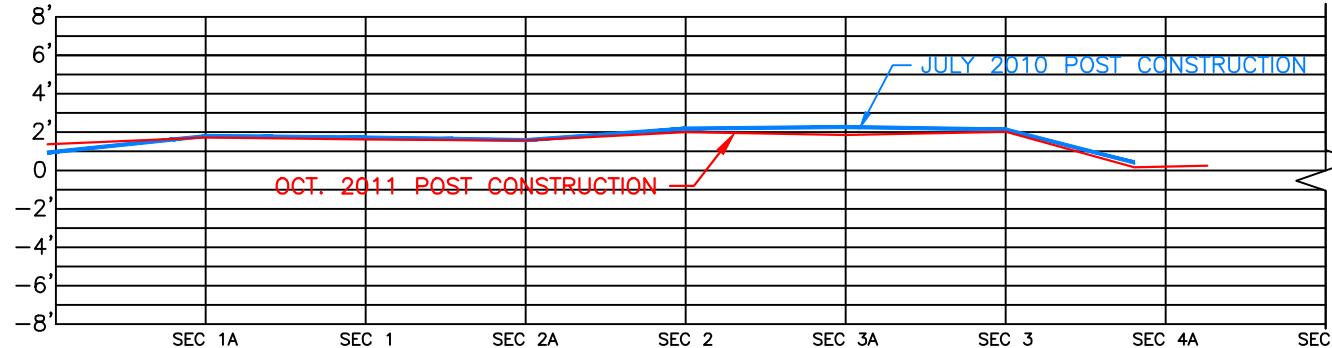
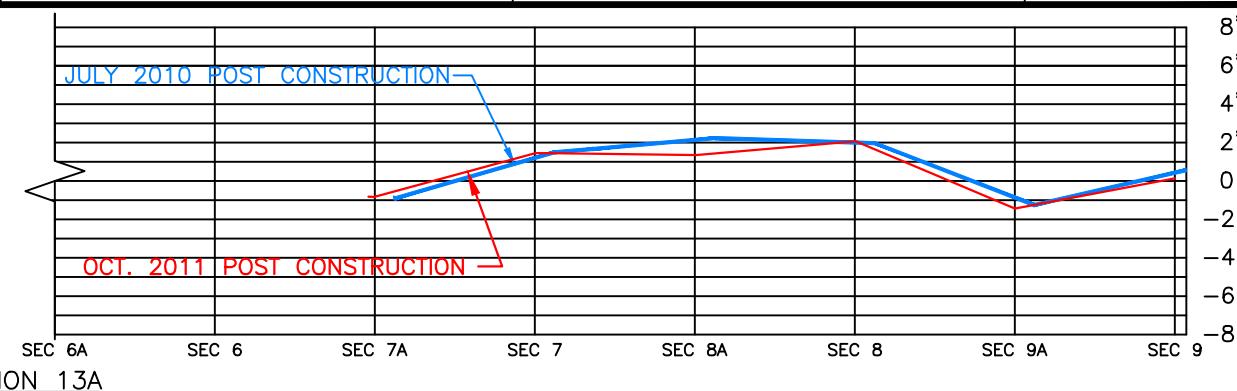
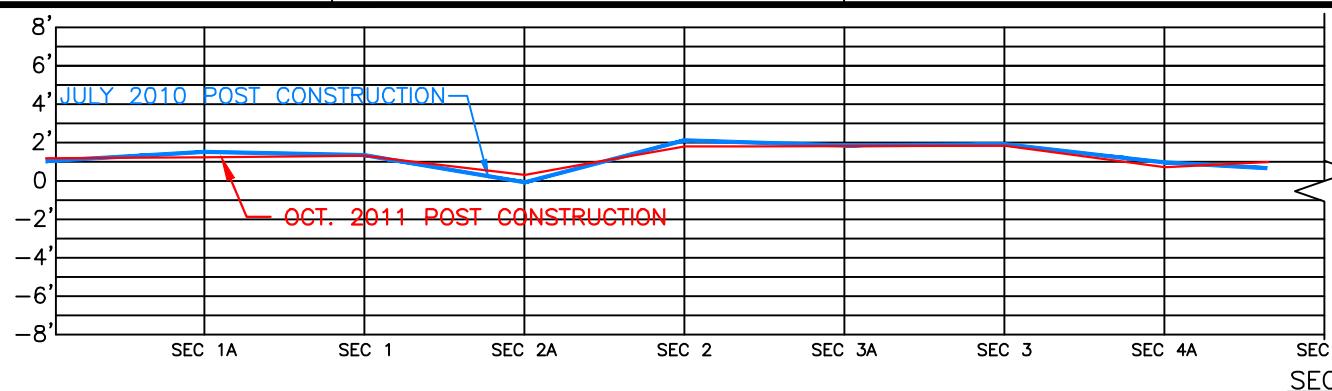
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 7A, 7, 8A & 8
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

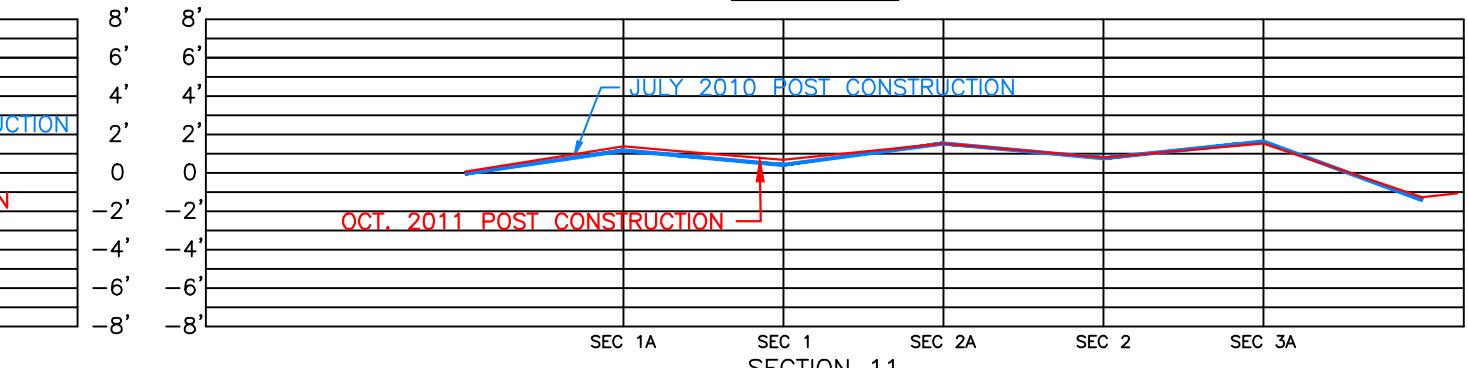
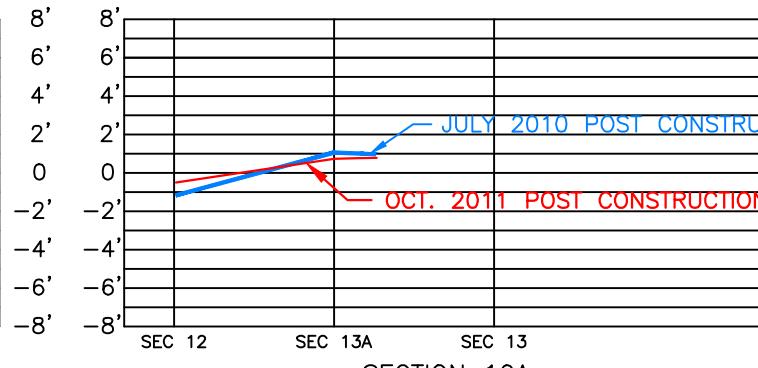
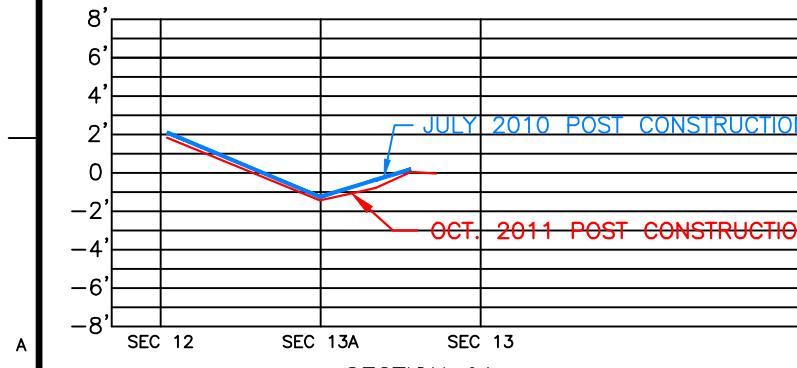
DRAWN BY:	TPC	SHEET:	9 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



SECTION

SECTION 1C

SECTION 12



SECTION

SECTION 10

SECTION I

NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEODIODE MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

LEGEND

JULY 2011 POST CONSTRUCTION

JULY 2010 POST CONSTRUCTION

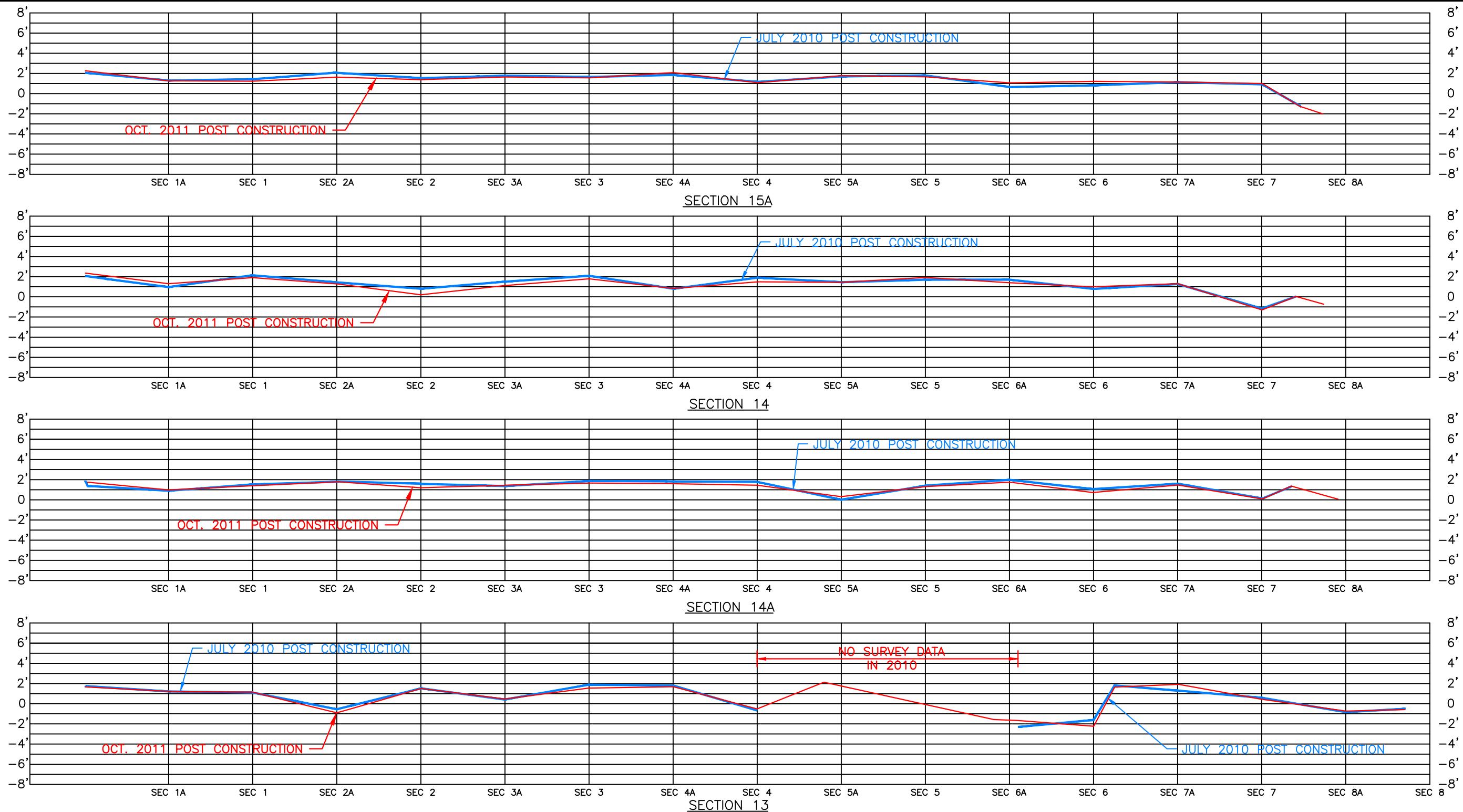
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



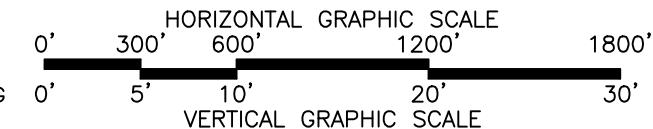
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 9A, 9, 10A, 10, 11, 12A, 12 & 13A
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	10 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE: 06-13 MARSH XSECTS.DWG			



NOTE:
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THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

— JULY 2011 POST CONSTRUCTION
— JULY 2010 POST CONSTRUCTION

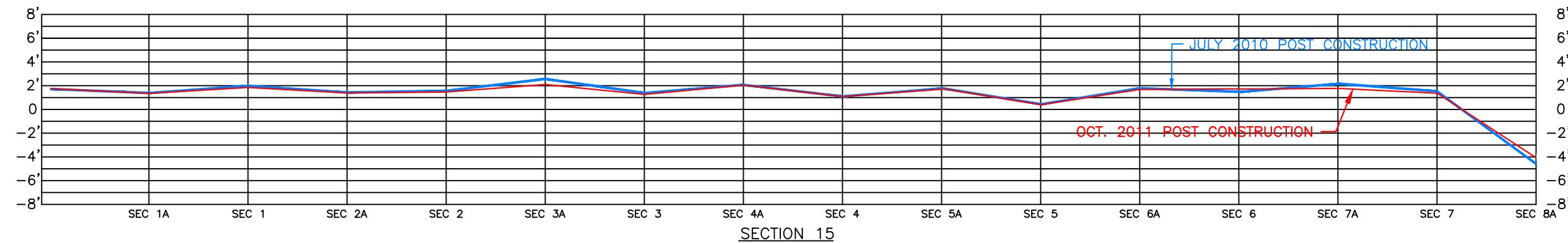
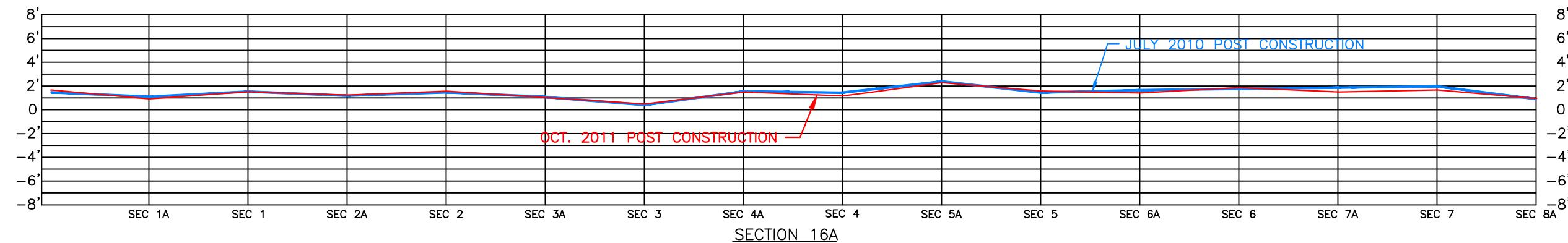
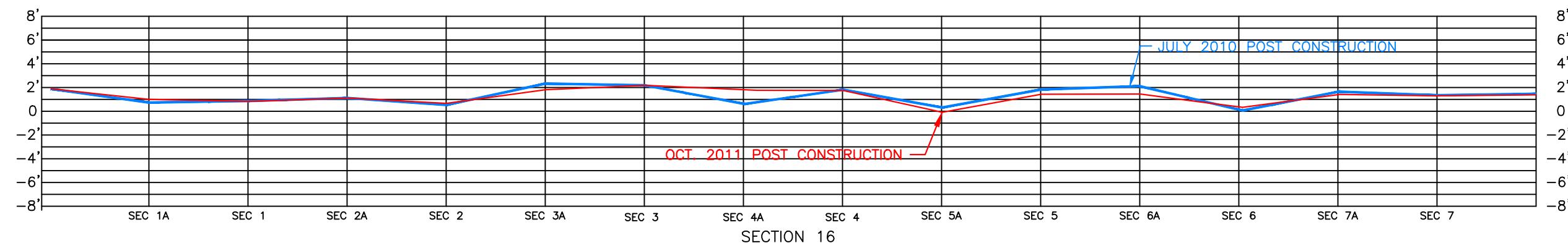
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



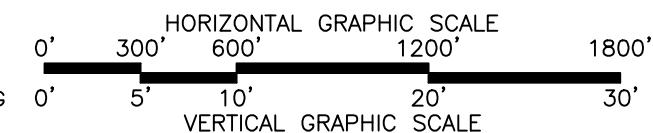
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 13, 14A, 14 & 15A
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	11 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011
POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE
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THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

- JULY 2011 POST CONSTRUCTION
- JULY 2010 POST CONSTRUCTION

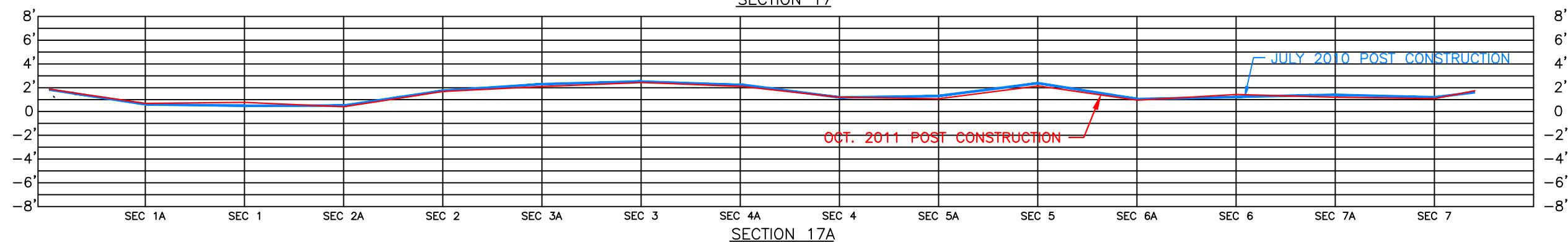
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



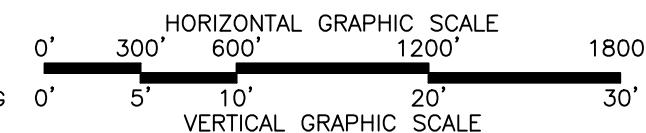
OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 15, 16A & 16
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	12 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	06-13 MARSH XSECTS.DWG		



NOTE:
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THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.



LEGEND

- JULY 2011 POST CONSTRUCTION
- JULY 2010 POST CONSTRUCTION

REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

MARSH CROSS SECTIONS 17A & 17
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	13 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02

MPH CAD FILE: 06-13 MARSH XSECTS.DWG

BAY L' OURS

N LOUISIANA COORDINATE SYSTEM
(1983 SOUTH ZONE)

BRUSLE LAKE

SURVEYED TRANSECTS AT
SETTLEMENT PLATES REFERENCE
SHEET 19 THRU 30

MARSH CREATION AREA

ROUND LAKE

ROCK DIKE PROFILE
REFERENCE SHEET 17 & 18

GRAPHIC SCALE

0' 1000' 2000' 4000' 6000'



Morris P. Hebert, Inc.
SURVEYING • ENGINEERING • ENVIRONMENTAL SERVICES • FIELD SERVICES • GIS
P.O. BOX 3106 • 283 CORPORATE DRIVE • HOUma, LOUISIANA 70361 • (985) 879-2731
10101 SOUTHWEST FREEWAY • SUITE 400 • HOUSTON, TEXAS 77074 • (713) 219-1470

OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

SETTLEMENT PLATE ELEVATION SURVEY
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

SETTLEMENT PLATES															
	DATE INSTALLED	STATION	ELEV. INST.	ELEV. AFTER 2nd LIFT	DATE OF 2nd LIFT ELEV.	FINAL ELEVATION	DATE OF FINAL ELEV.	SPRING 2008 ELEV.	DATE OF SPRING 2008	SUMMER 2009 ELEV.	DATE OF SUMMER 2009	SUMMER 2010 ELEV.	DATE OF SUMMER 2010	SUMMER 2011 ELEV.	DATE OF SUMMER 2011
01	11/27/06	14+23	6.48	5.842	01/26/07	5.867	02/11/07	5.709	05/09/08	5.619	08/20/09	5.598	07/26/10	5.61	09/12/11
02	11/14/06	23+93	6.32	3.978	01/26/07	3.951	02/11/07	3.595	05/09/08	3.475	08/20/09	3.557	07/26/10	3.43	09/12/11
03	11/09/06	34+22	7.02	5.155	01/29/07	5.167	02/11/07	4.933	05/09/08	4.940	08/20/09	4.940	07/26/10	4.78	09/12/11
04	11/06/06	44+41	6.96	4.627	01/29/07	4.574	02/11/07	4.414	05/09/08	4.456	08/20/09	4.323	07/26/10	4.21	09/12/11
05	11/06/06	54+75	7.71	5.892	01/29/07	5.897	02/11/07	5.664	05/09/08	5.650	08/20/09	5.476	07/26/10	5.48	09/12/11
06	11/05/06	63+17	6.98	4.955	01/29/07	4.968	02/11/07	4.699	05/09/08	4.612	08/20/09	4.560	07/26/10	4.61	09/12/11
07	11/05/06	71+47	7.92	4.427	01/29/07	4.423	02/11/07	4.079	05/09/08	4.031	08/20/09	4.195	07/26/10	3.91	09/12/11
08	10/25/06	82+37	6.98	5.456	01/29/07	5.507	02/11/07	5.322	05/09/08	5.285	08/20/09	5.332	07/26/10	5.13	09/12/11
09	10/06/06	92+32	6.70	5.838	01/29/07	5.839	02/11/07	5.817	05/09/08	5.815	08/20/09	5.827	07/26/10	5.65	09/12/11
10	09/28/06	102+21	6.96	5.309	12/07/06	5.279	02/11/07	5.183	05/09/08	5.084	08/20/09	5.259	07/26/10	4.94	09/12/11
11	09/01/06	112+90	6.4	4.370	12/07/06	4.188	02/11/07	3.822	05/09/08	3.692	08/20/09	3.856	07/26/10	3.59	09/12/11
12	07/09/06	123+14	7.74	6.360	12/07/06	6.157	02/11/07	5.743	05/09/08	5.677	08/20/09	5.655	07/26/10	5.46	09/12/11
13	07/06/06	133+25	7.32	3.904	09/14/06	3.611	02/11/07	3.244	05/09/08	3.086	08/20/09	3.135	07/26/10	2.96	09/12/11
14	06/27/06	144+18	6.68	5.842	09/14/06	5.557	02/11/07	5.381	05/09/08	5.400	08/20/09	5.290	07/26/10	5.22	09/12/11
15	06/16/06	154+23	7.02	5.433	09/14/06	5.169	02/11/07	4.926	05/09/08	4.960	08/20/09	4.714	07/26/10	4.67	09/12/11
16	06/03/06	164+05	6.95	6.863	08/01/06	6.103	02/11/07	5.931	05/09/08	5.860	08/20/09	5.821	07/26/10	5.76	09/12/11
17	05/21/06	175+51	7.53	6.761	08/01/06	6.363	02/11/07	6.268	05/09/08	6.273	08/20/09	6.150	07/26/10	6.10	09/12/11
18	05/18/06	190+71	7.68	6.424	08/01/06	5.972	02/11/07	5.739	05/09/08	5.597	08/20/09	5.582	07/26/10	5.48	09/12/11
19	05/06/06	203+43	8.51	6.776	08/01/06	6.266	02/11/07	6.086	05/09/08	5.939	08/20/09	5.853	07/26/10	5.79	09/12/11
20	04/11/06	216+05	7.8	5.818	08/01/06	5.647	02/11/07	5.515	05/09/08	5.344	08/20/09	5.279	07/26/10	5.25	09/12/11
21	04/05/06	229+62	7.31	5.395	08/01/06	4.805	02/11/07	4.654	05/09/08	4.340	08/20/09	4.406	07/26/10	4.31	09/12/11
22	03/31/06	240+24	8.38	5.295	08/01/06	4.581	02/11/07	4.345	05/09/08	4.262	08/20/09	4.206	07/26/10	4.00	09/12/11
23	03/26/06	250+46	7.64	5.498	08/01/06	5.155	02/11/07	4.988	05/09/08	4.617	08/20/09	4.785	07/26/10	4.65	09/12/11
24	03/21/06	262+76	8.26	7.064	08/01/06	6.708	02/11/07	6.688	05/09/08	6.506	08/20/09	6.508	07/26/10	6.35	09/12/11

NOTE:

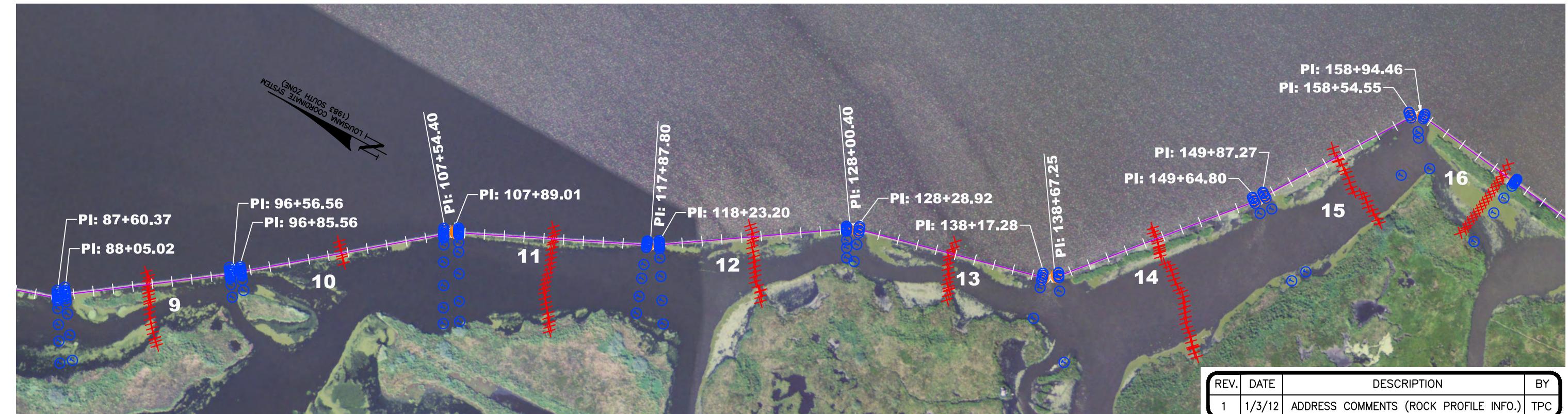
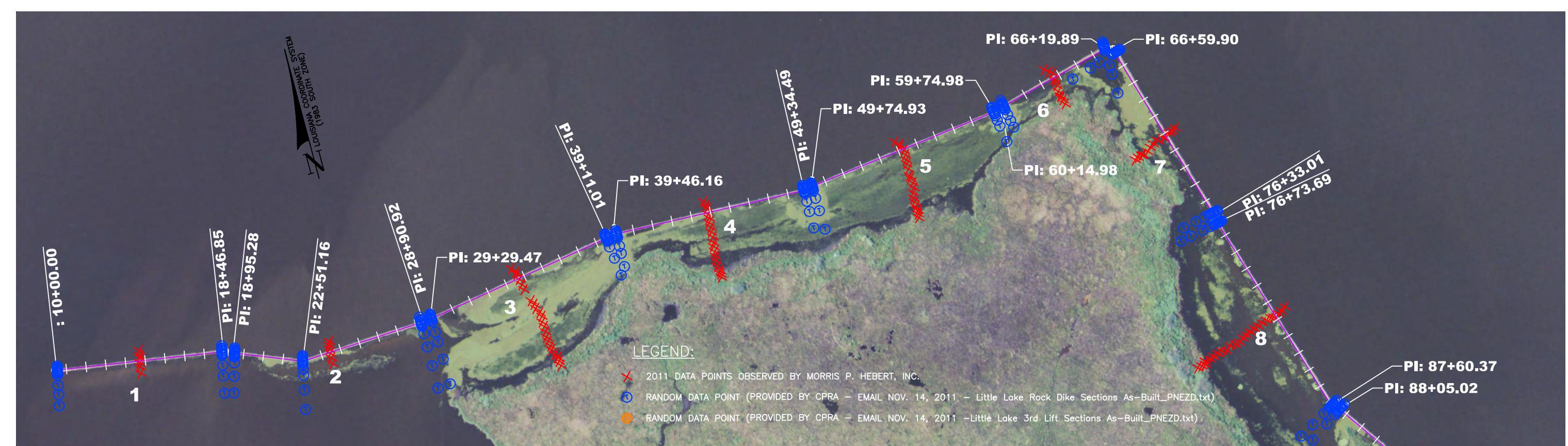
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ROCK DIKE ALIGNMENT

REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC

DRAWN BY:	TPC	SHEET:	14 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02

MPH CAD FILE: 14 ROCK DIKE PLAN VIEW.DWG



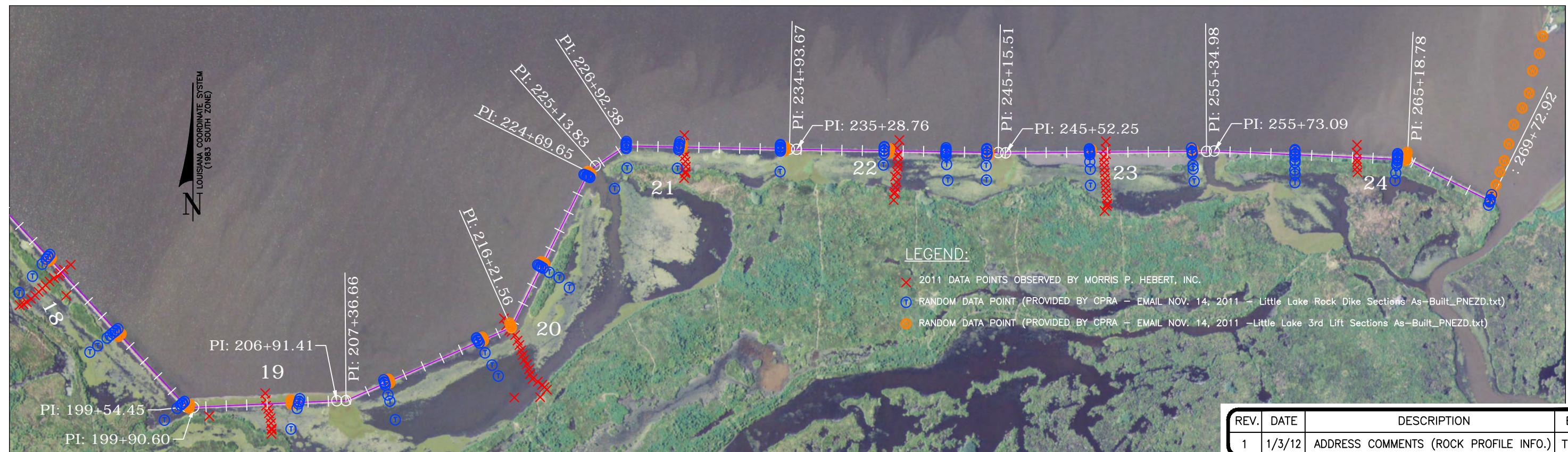
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY (PLAN VIEW – SEGMENTS 1 THRU 13)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

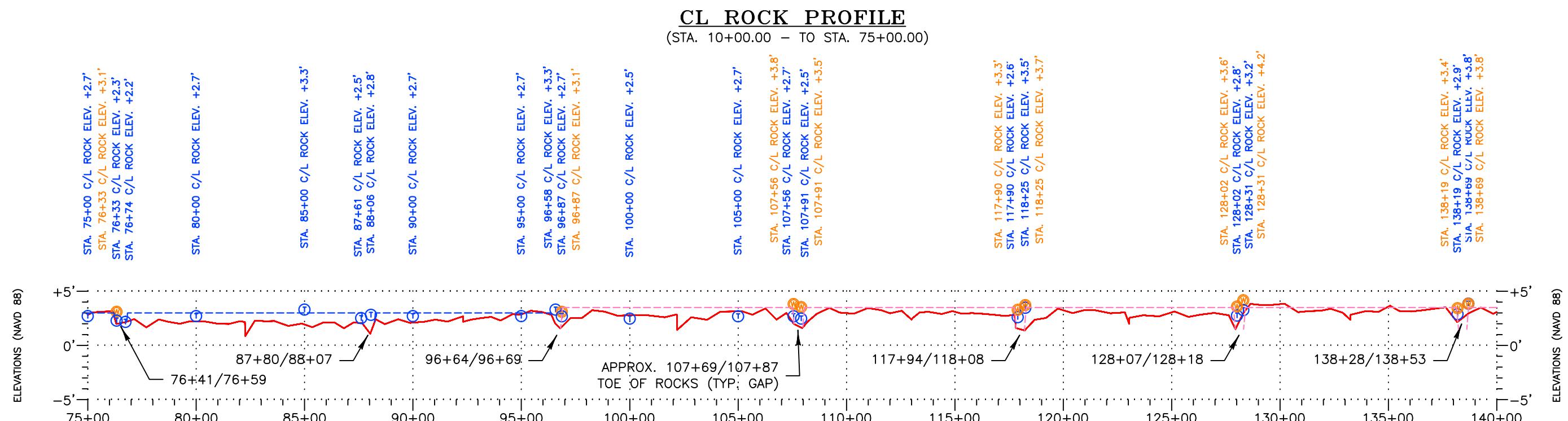
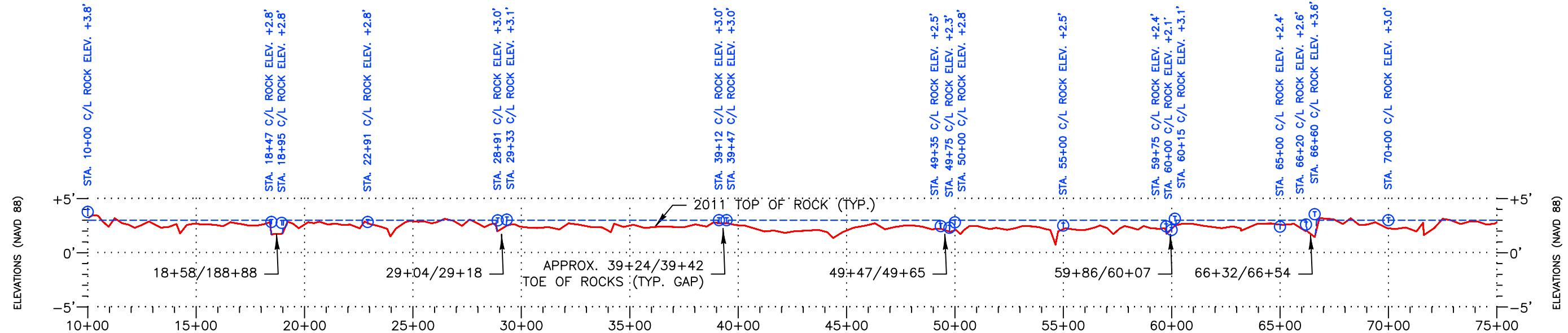
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CHKD./APPD. BY:	GML	SCALE:	1" = 500'
UPDATED BY:	TPC	DATE:	01-03-12
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	15-18 Rock Dike Profile – Gaps .dwg		



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

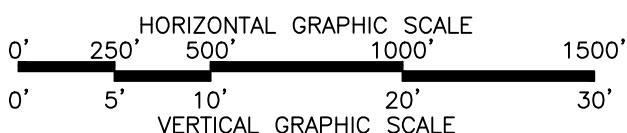
ROCK DIKE ALIGNMENT SURVEY (PLAN VIEW – SEGMENTS 14 THRU 24)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	16 OF 30
CHKD./APPD. BY:	GML	SCALE:	AS SHOWN
UPDATED BY:	TPC	DATE:	01-03-12
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	15-18 Rock Dike Profile – Gaps.dwg		



LEGEND:

- 2011 PROFILES CREATED BY MORRIS P. HEBERT, INC.
- - - SEGMENTS 1 THRU 9 (ELEV. +3.0' PROVIDED VERBALLY BY CPRA - MEETING DEC. 21, 2011)
- - - SEGMENTS 10 THRU 20 (ELEV. +3.5' PROVIDED BY CPRA - REV. DRAWINGS JUNE 1, 2007 - MEETING DEC. 21, 2011)
- - - SEGMENTS 21 & 22 (ELEV. +4.0' PROVIDED BY CPRA - REV. DRAWINGS JUNE 1, 2007 - MEETING DEC. 21, 2011)
- - - SEGMENTS 23 & 24 (ELEV. +4.0' PROVIDED BY CPRA - REV. DRAWINGS JUNE 1, 2007 - MEETING DEC. 21, 2011)
- Ⓐ RANDOM DATA POINT (PROVIDED BY CPRA - EMAIL NOV. 14, 2011 - Little Lake Rock Dike Sections As-Built_PNEZD.txt)
- Ⓑ RANDOM DATA POINT (PROVIDED BY CPRA - EMAIL NOV. 14, 2011 - Little Lake 3rd Lift Sections As-Built_PNEZD.txt)



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC
2	1/13/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC

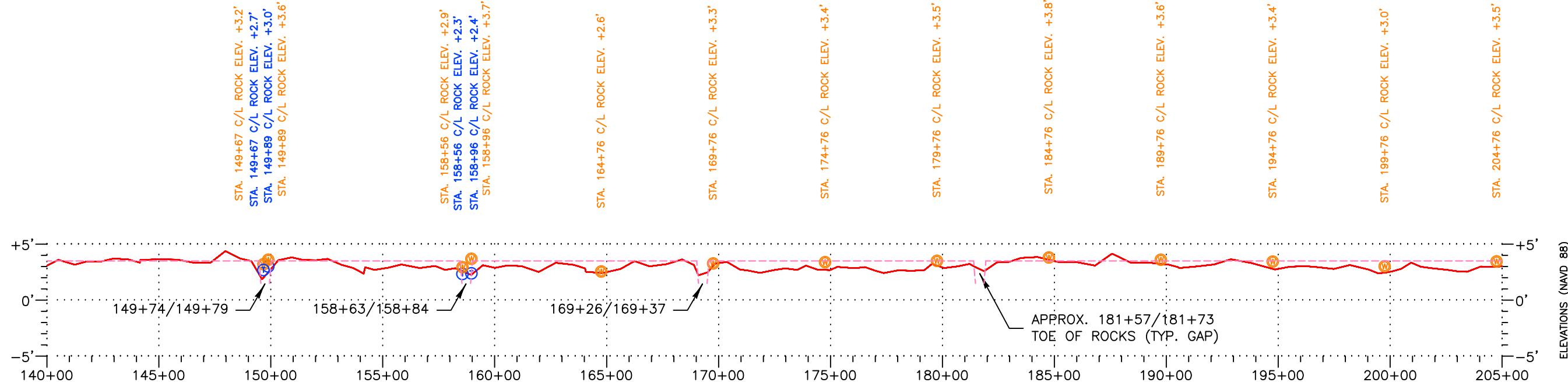


OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY - C/L ROCK PROFILE 10+00 TO 140+00
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	17 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:	TPC	DATE:	01-03-12
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	15-18 Rock Dike Profile - Gaps.dwg		

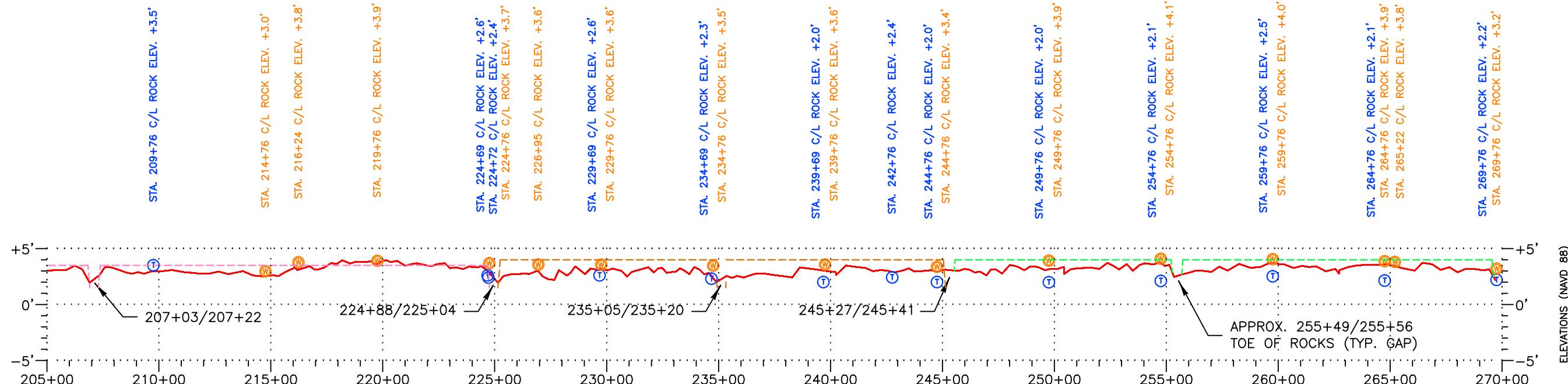
ELEVATIONS (NAVD 88)



CL ROCK PROFILE

(STA. 140+00.00 – TO STA. 205+00.00)

ELEVATIONS (NAVD 88)

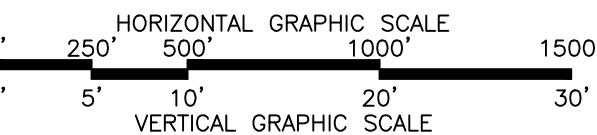


CL ROCK PROFILE

(STA. 205+00.00 – TO STA. 270+00.00)

LEGEND:

- 2011 PROFILES CREATED BY MORRIS P. HEBERT, INC.
- - - SEGMENTS 1 THRU 9 (ELEV. +3.0' PROVIDED VERBALLY BY CPRA – MEETING DEC. 21, 2011)
- - - SEGMENTS 10 THRU 20 (ELEV. +3.5' PROVIDED BY CPRA – REV. DRAWINGS JUNE 1, 2007 – MEETING DEC. 21, 2011)
- - - SEGMENTS 21 & 22 (ELEV. +4.0' PROVIDED BY CPRA – REV. DRAWINGS JUNE 1, 2007 – MEETING DEC. 21, 2011)
- - - SEGMENTS 23 & 24 (ELEV. +4.0' PROVIDED BY CPRA – REV. DRAWINGS JUNE 1, 2007 – MEETING DEC. 21, 2011)
- (T) RANDOM DATA POINT (PROVIDED BY CPRA – EMAIL NOV. 14, 2011 – Little Lake Rock Dike Sections As-Built_PNEZD.txt)
- (W) RANDOM DATA POINT (PROVIDED BY CPRA – EMAIL NOV. 14, 2011 – Little Lake 3rd Lift Sections As-Built_PNEZD.txt)



NOTE:
SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24–57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

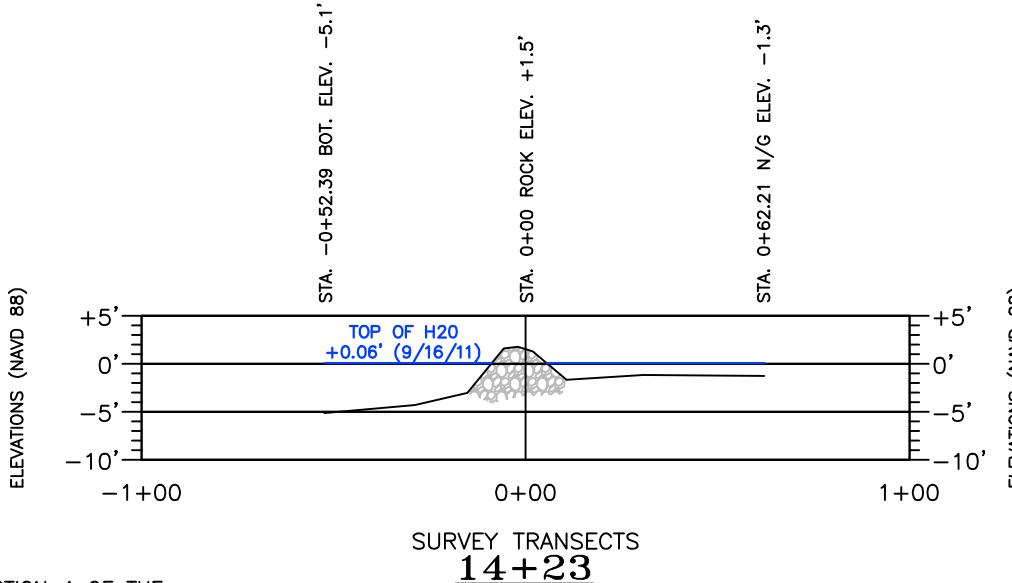
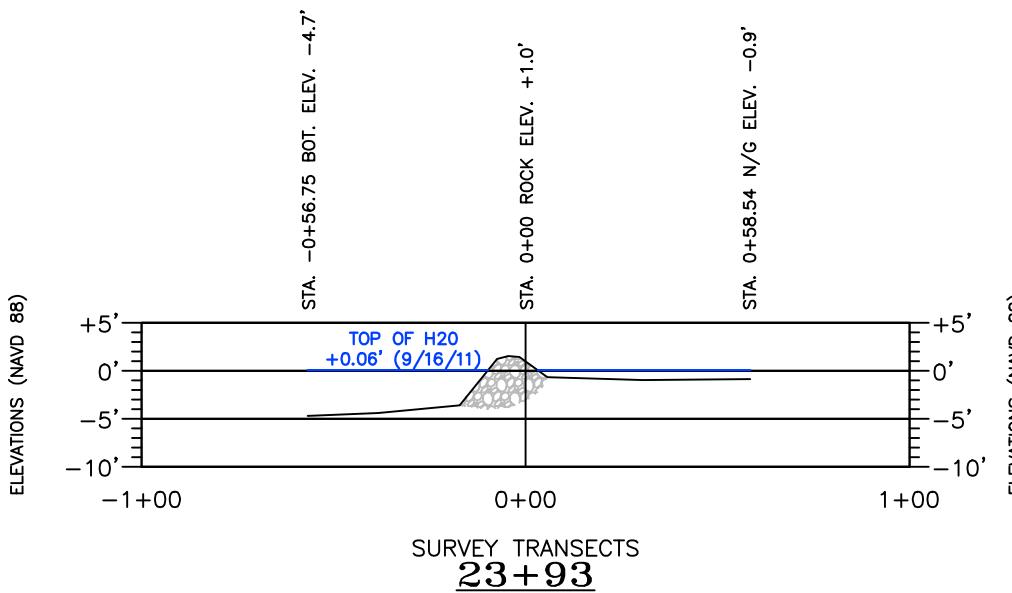
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC
2	1/13/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – C/L ROCK PROFILE 140+00 TO 270+00
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	18 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:	TPC	DATE:	01-03-12
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE: 15-18 Rock Dike Profile – Gaps.dwg			

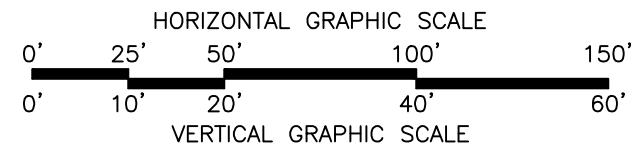


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



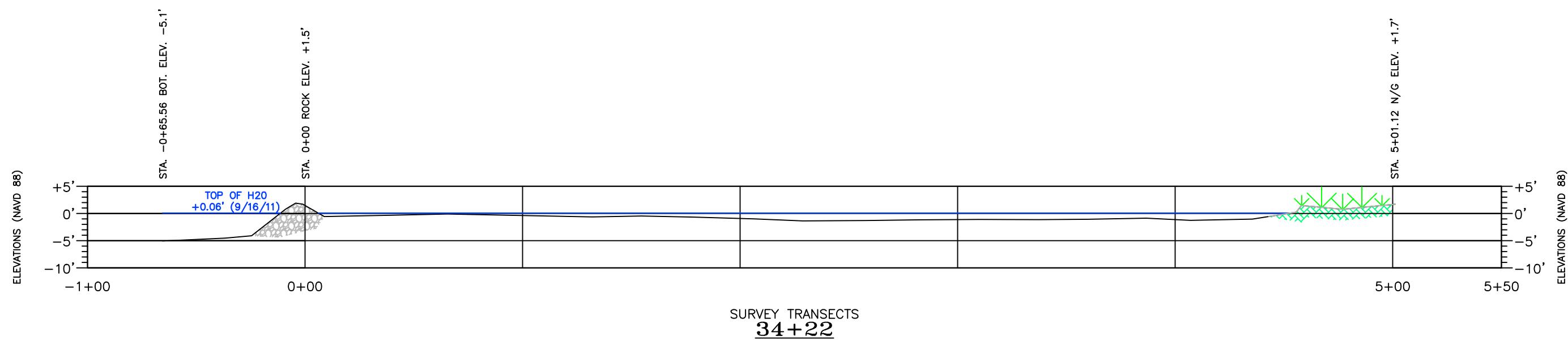
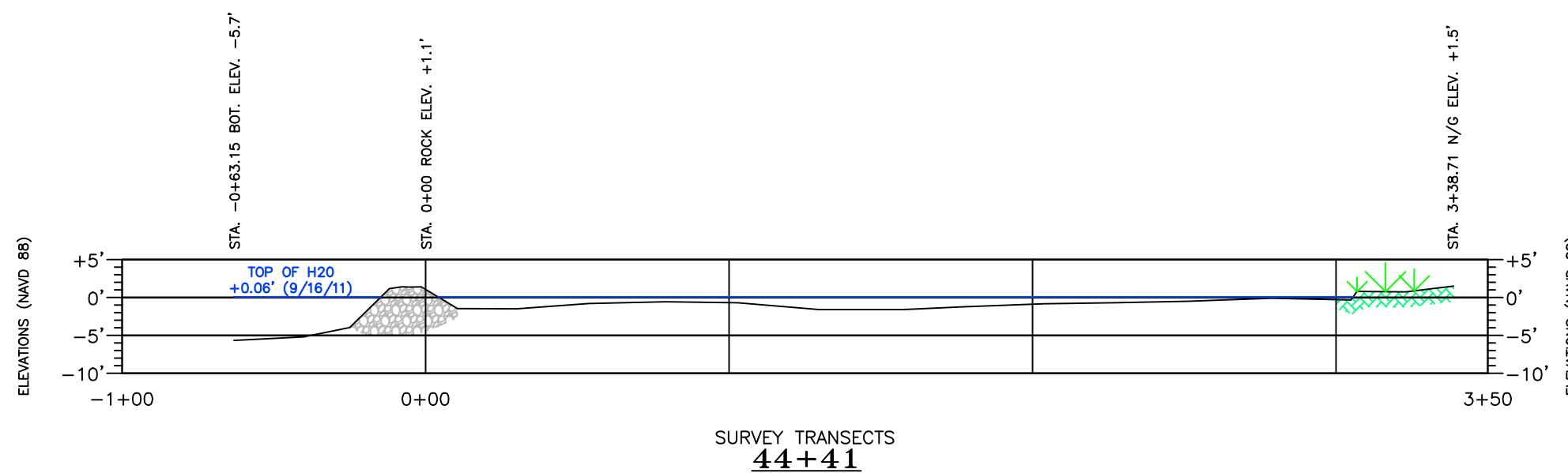
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (14+23 & 23+93)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	19 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE: 19-30 XSECTS AT PLATES.DWG			

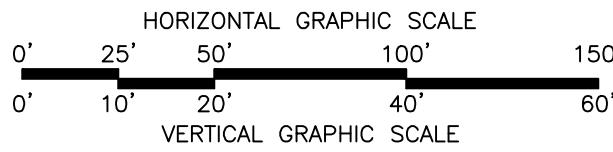


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



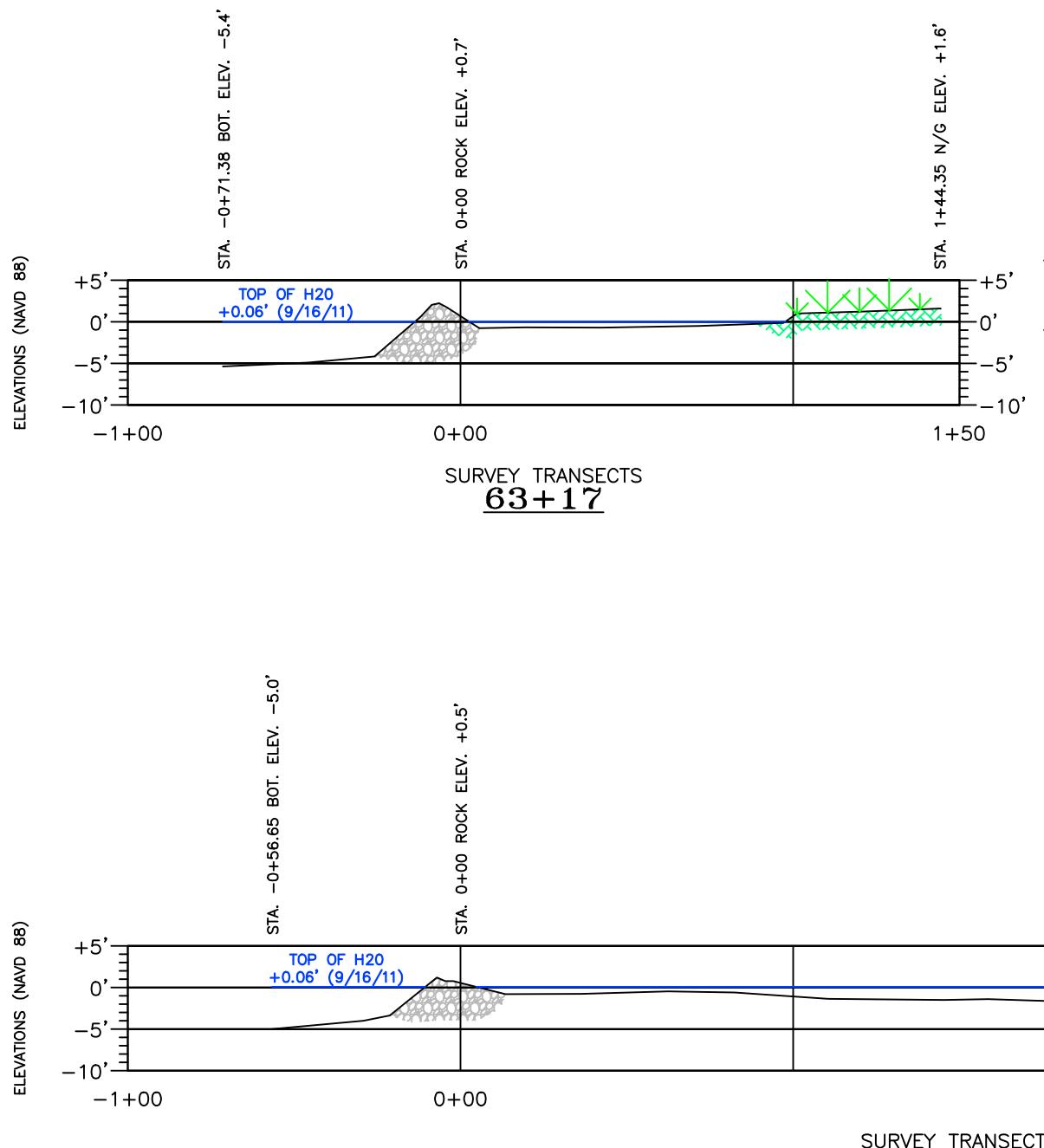
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (34+22 & 44+41)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	20 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		



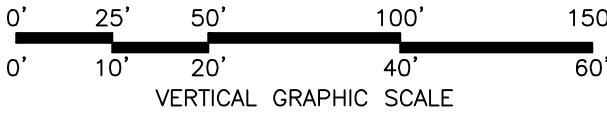
NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440

HORIZONTAL GRAPHIC SCALE



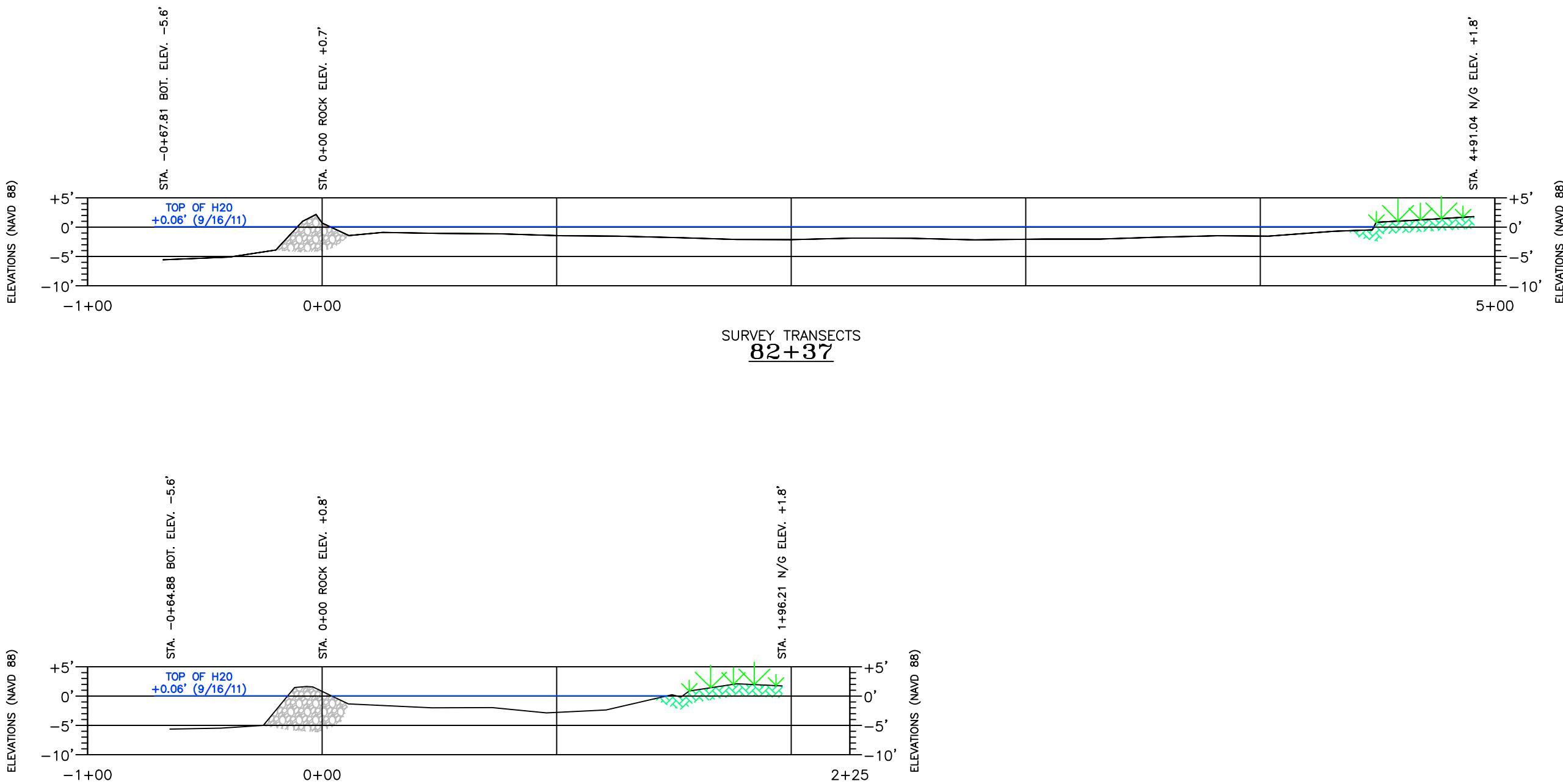
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (54+75 & 63+17)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	21 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

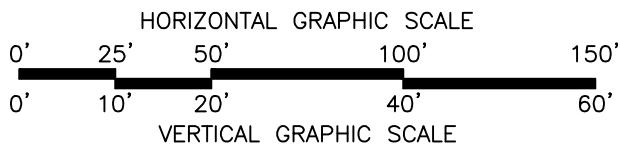


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 74 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



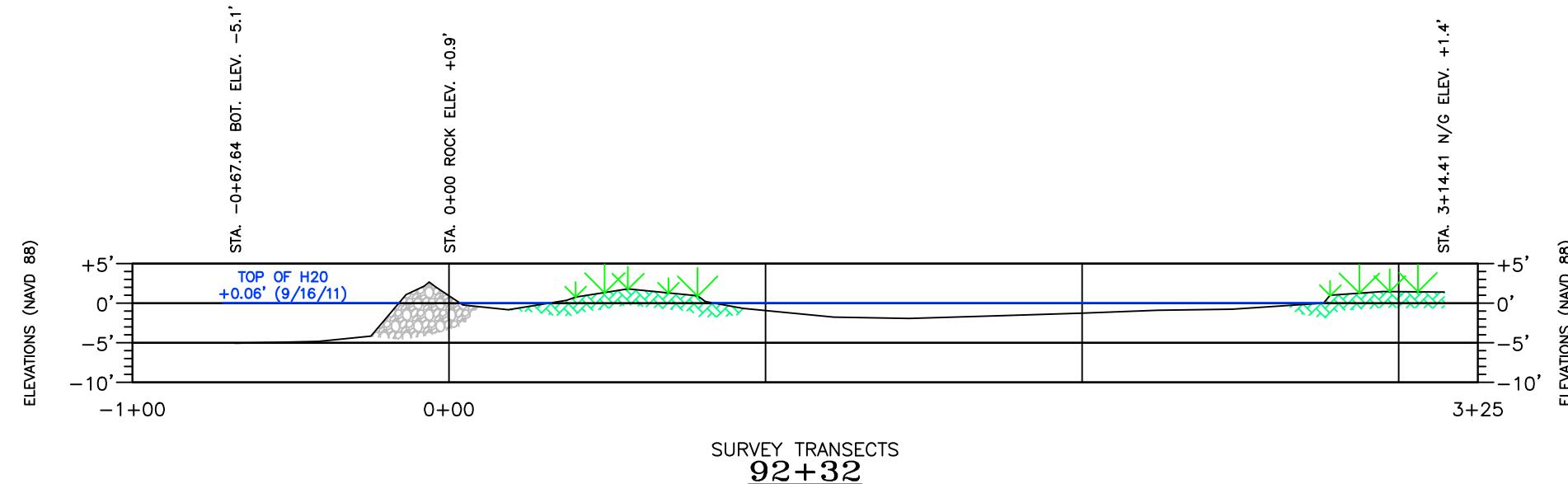
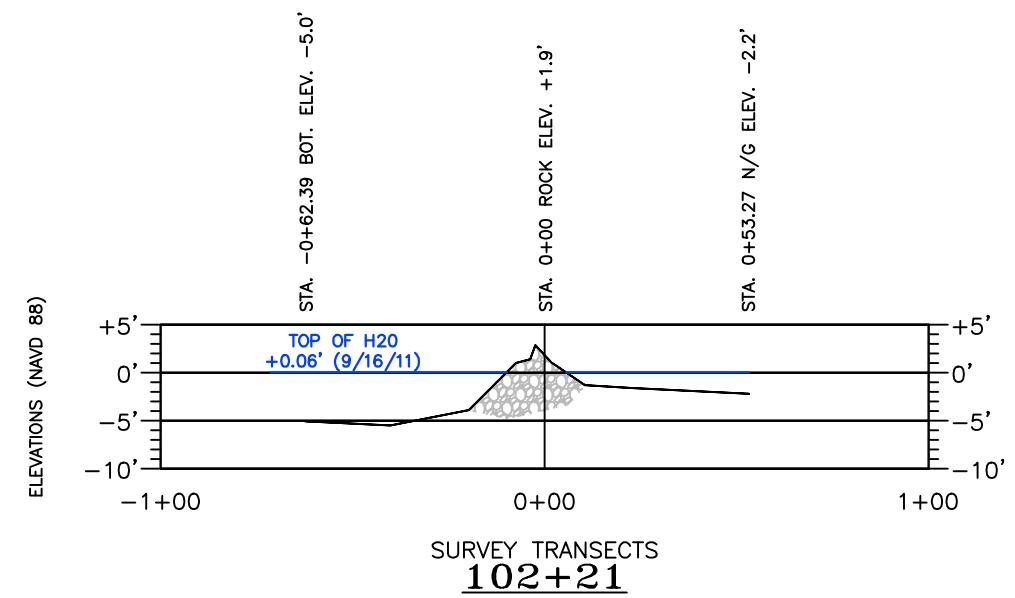
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (71+47 & 82+37)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	22 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

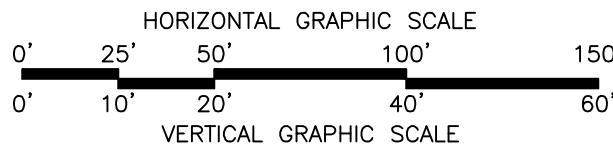


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



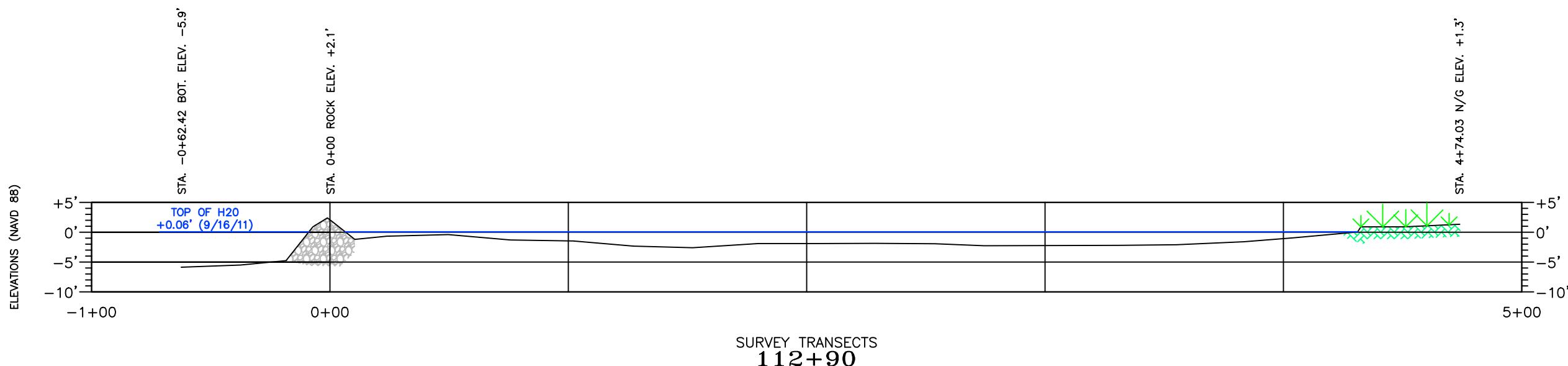
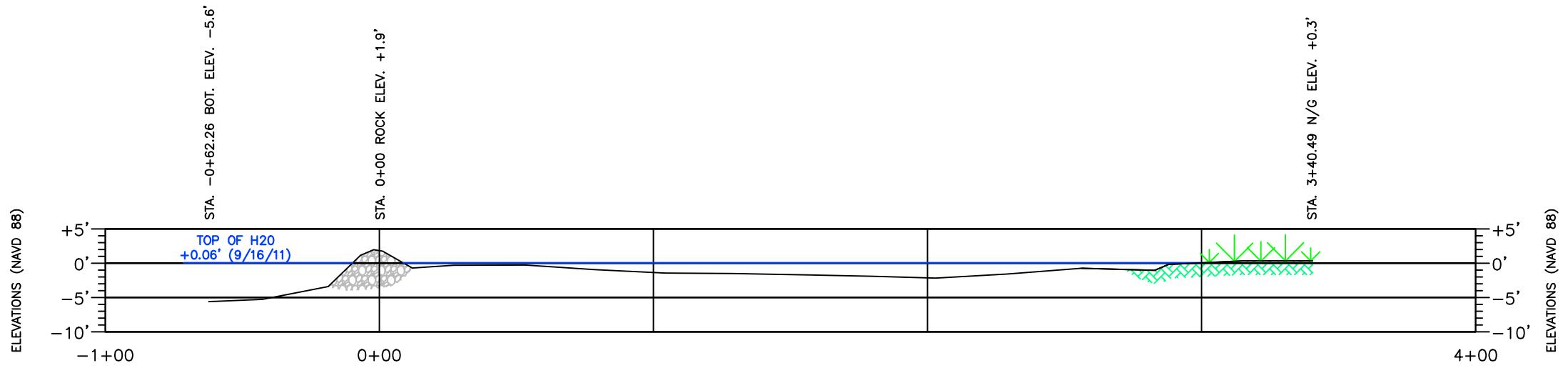
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (92+32 & 102+21)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	23 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

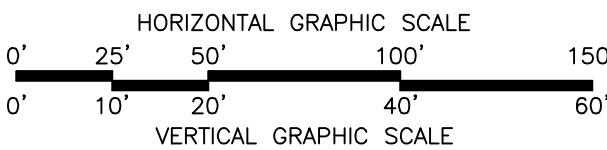


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
 DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
 LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



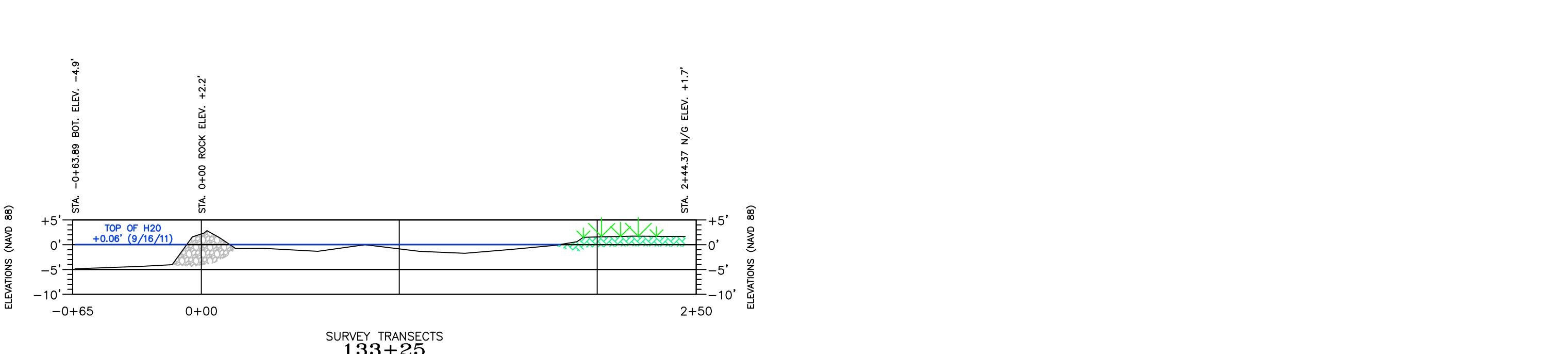
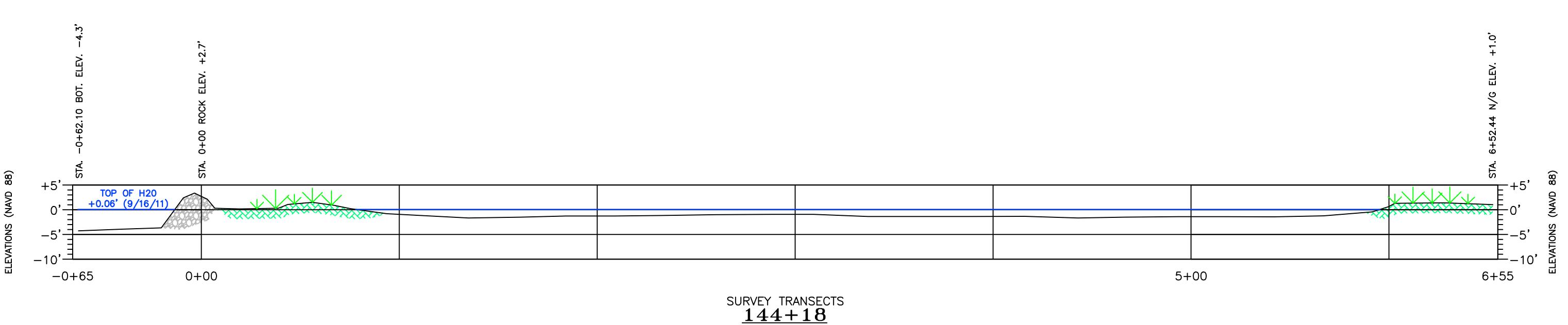
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (112+90 & 123+14)
 LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
 SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
 LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	24 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		



NOTES:

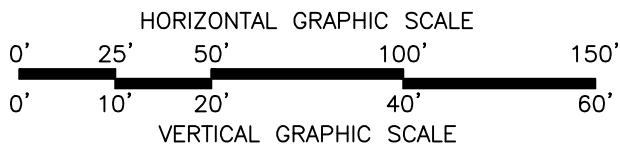
1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)

DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88

LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



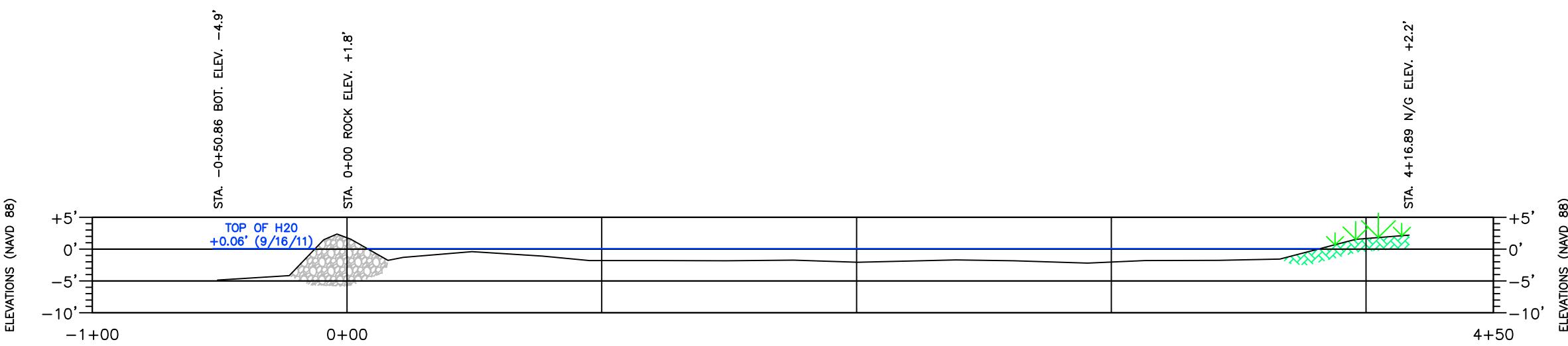
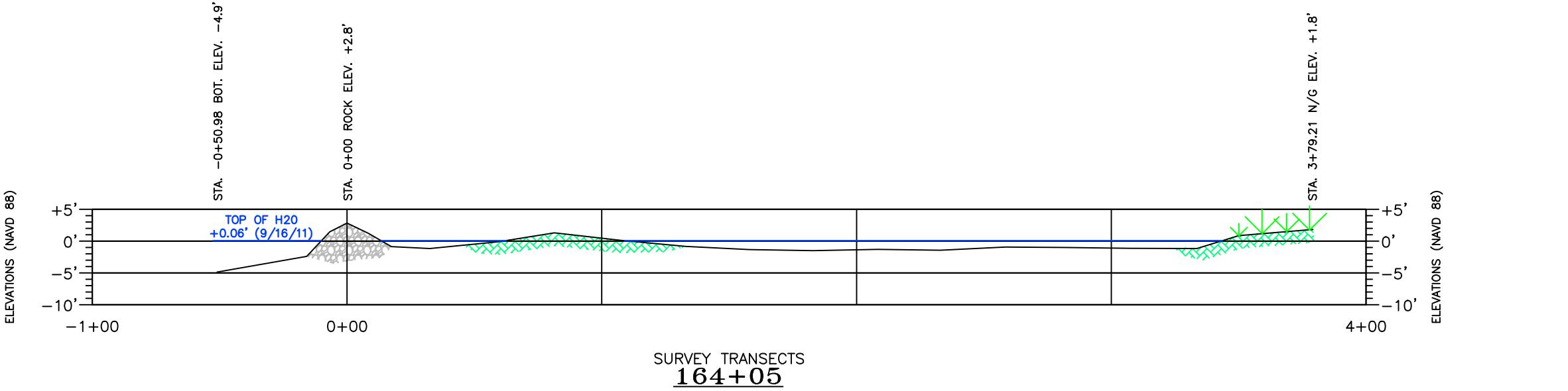
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (133+25 & 144+118)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	25 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

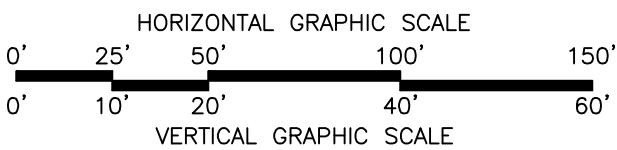


NOTES:

1. SURVEY DATA RECORDED IN MPH FIELD BOOK #1501 PAGES 24-57, AS SHOWN IN SECTION 4 OF THE 2011 POST CONSTRUCTION SURVEY MONITORING REPORT. ALL SURVEY DATA IS RELATIVE TO T.B.M. R/R SPIKE HAVING THE COORDINATES N=349553.65, E=3642771.67 LA-SOUTH (NAD83) & ELEVATION=3.69' (NAVD88) USING GEOID MODEL 2003U07 (LOUISIANA). T.B.M. WAS CHECKED TO BA-37-SM-01 & BA 37-SM-02 HAVING THE ADJUSTED COORDINATES AS DESCRIBED IN SECTION 1.6 OF THE 2011 REPORT.

2. THE WATER ELEVATION SHOWN ON SHEETS 16 THRU 27 WAS OBTAINED FROM THE US ARMY CORPS OF ENGINEERS WEBSITE (<http://www2.mvr.usace.army.mil/WaterControl/new/layout.cfm>)

STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



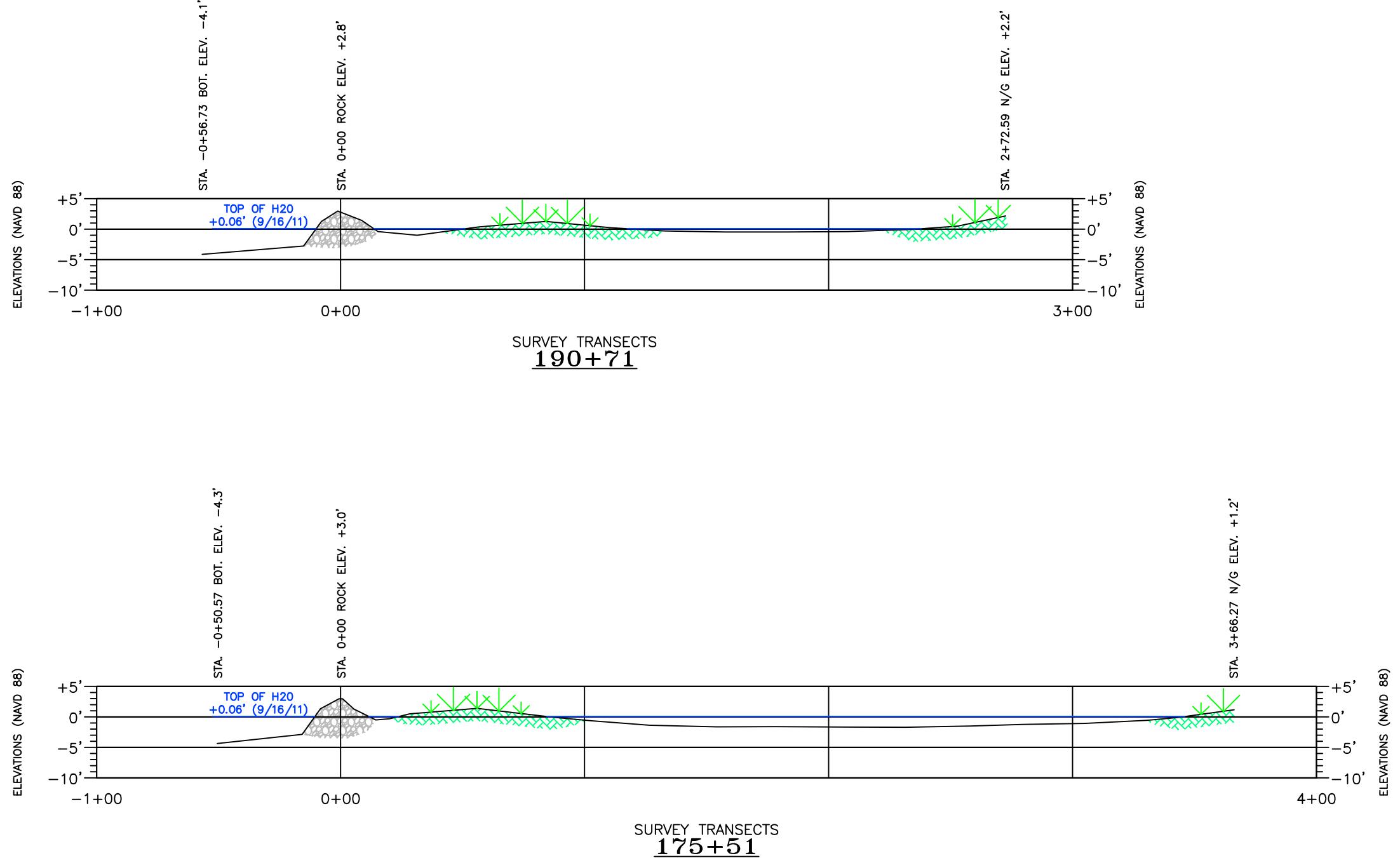
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (154+23 & 164+05)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	26 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

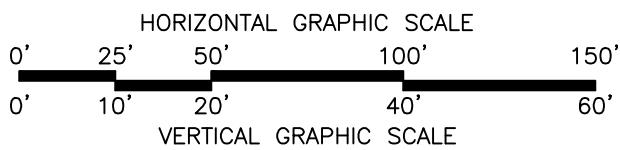


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 DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
 LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



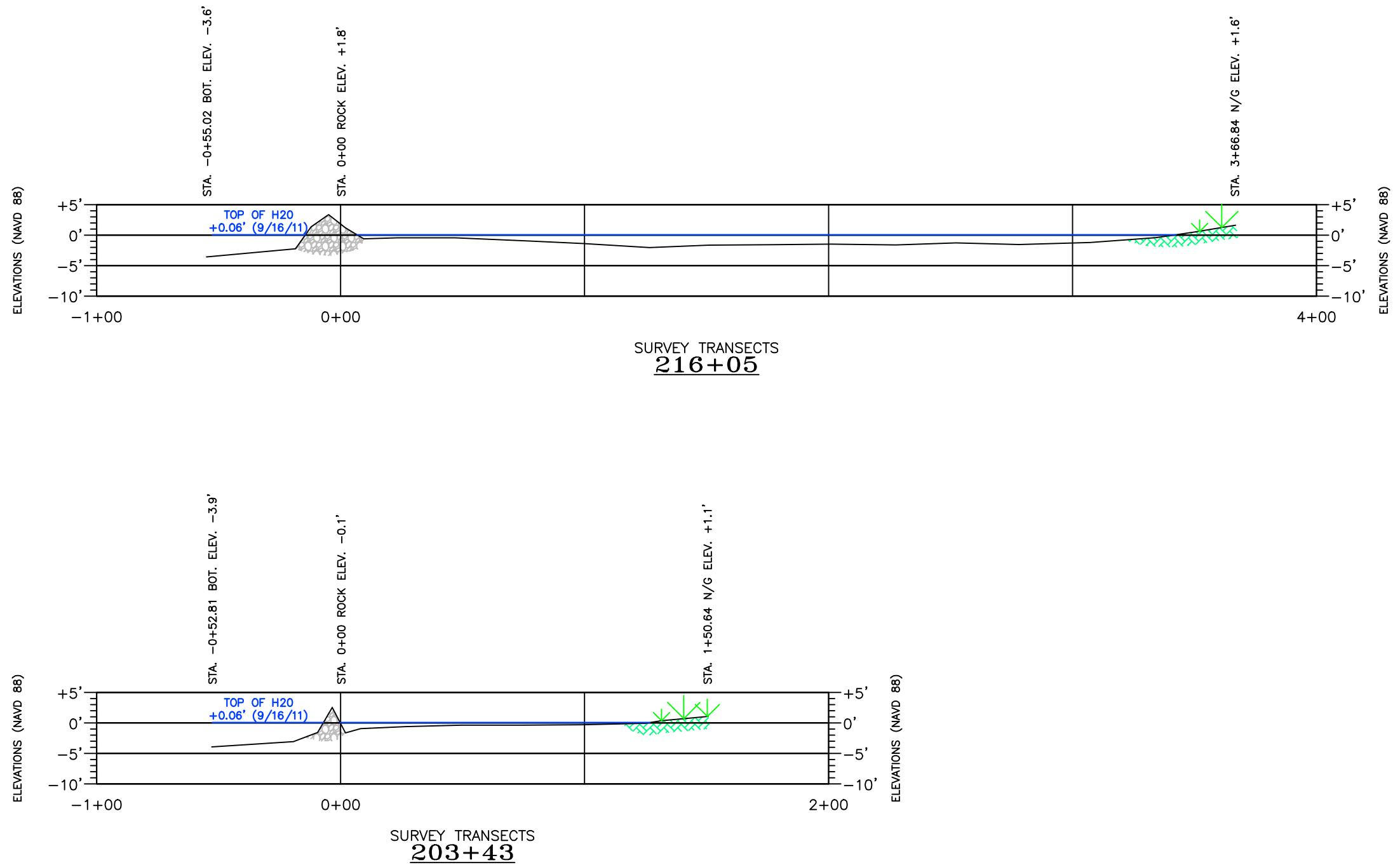
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (175+51 & 190+71)
 LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
 SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
 LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	27 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

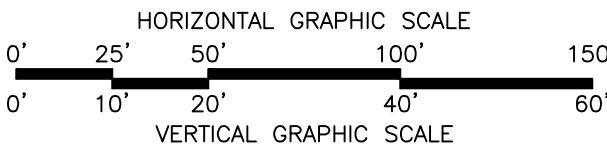


NOTES:

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DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



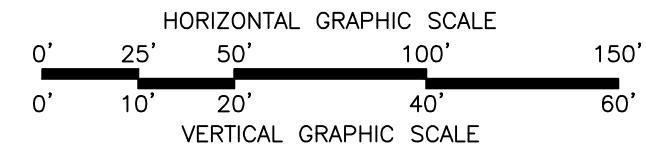
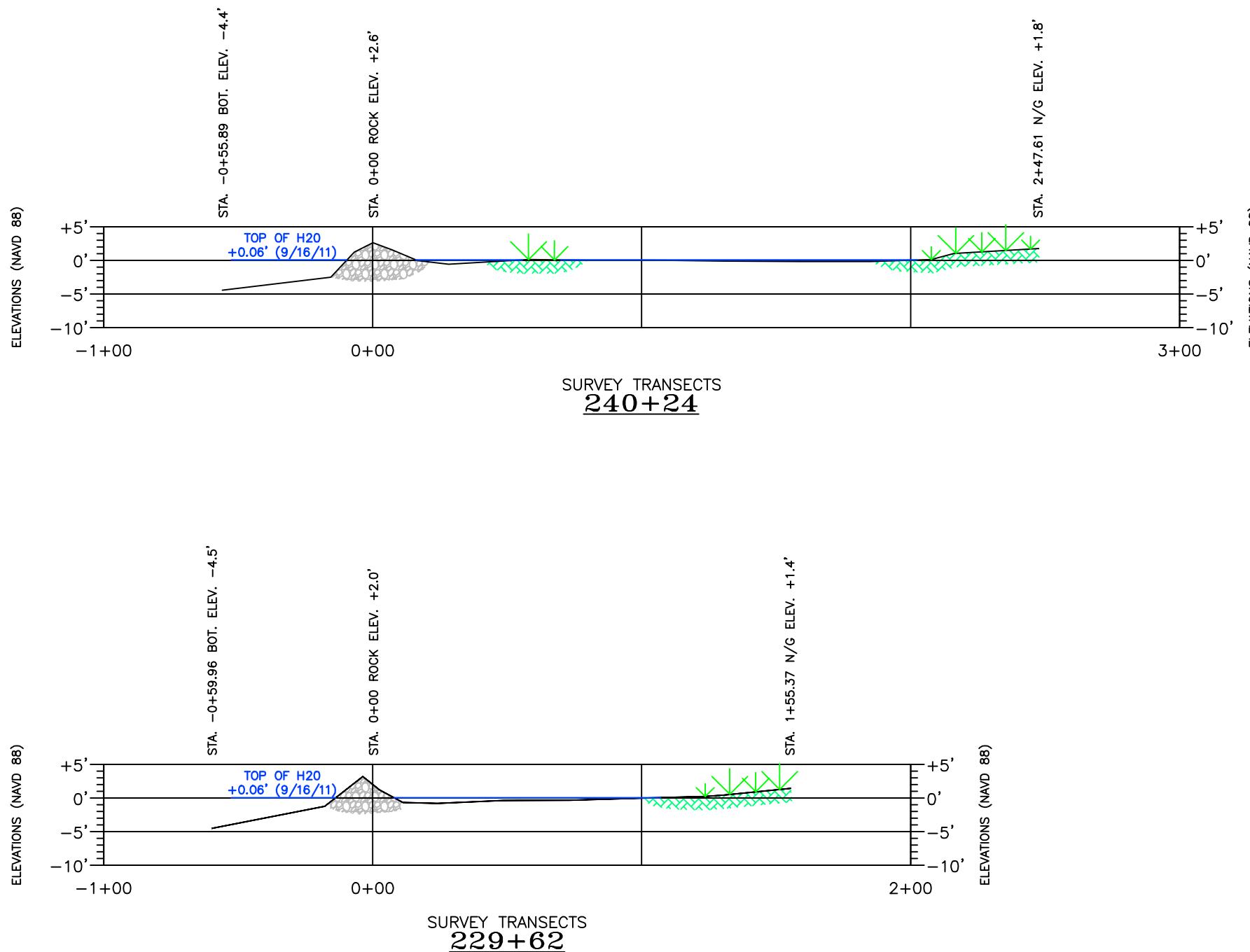
REV.	DATE	DESCRIPTION	BY
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OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (203+43 & 216+05)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	28 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		



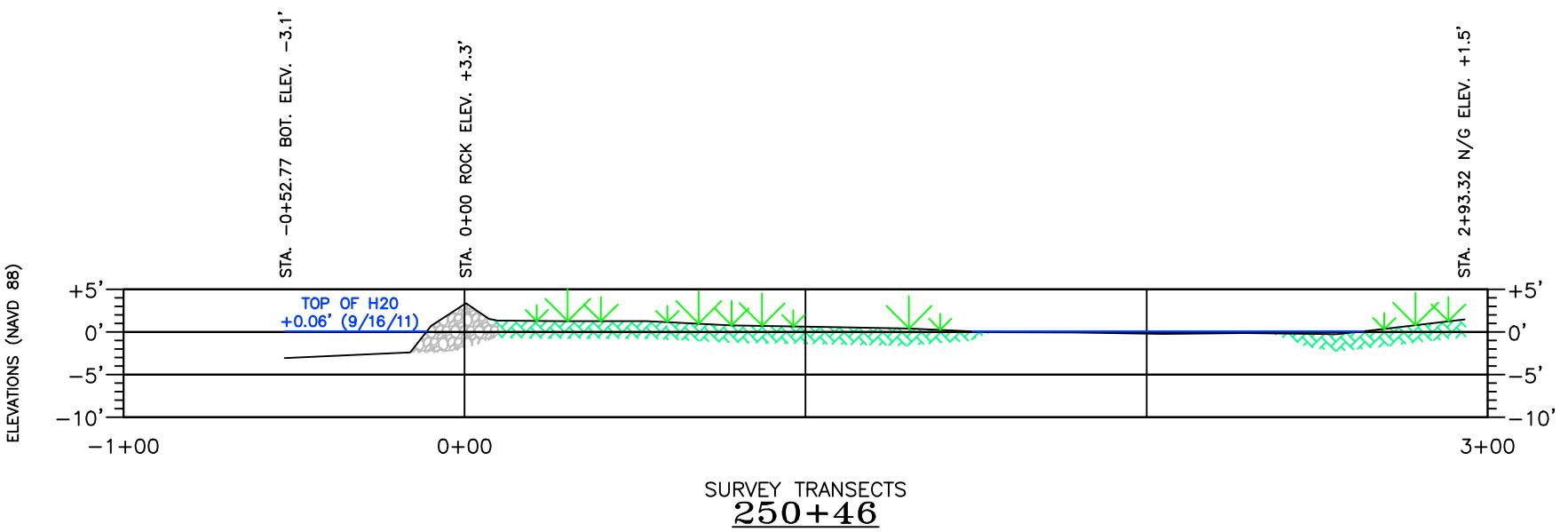
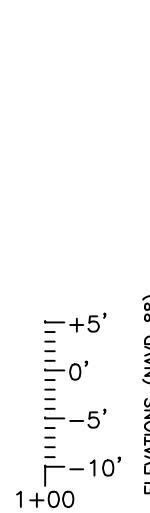
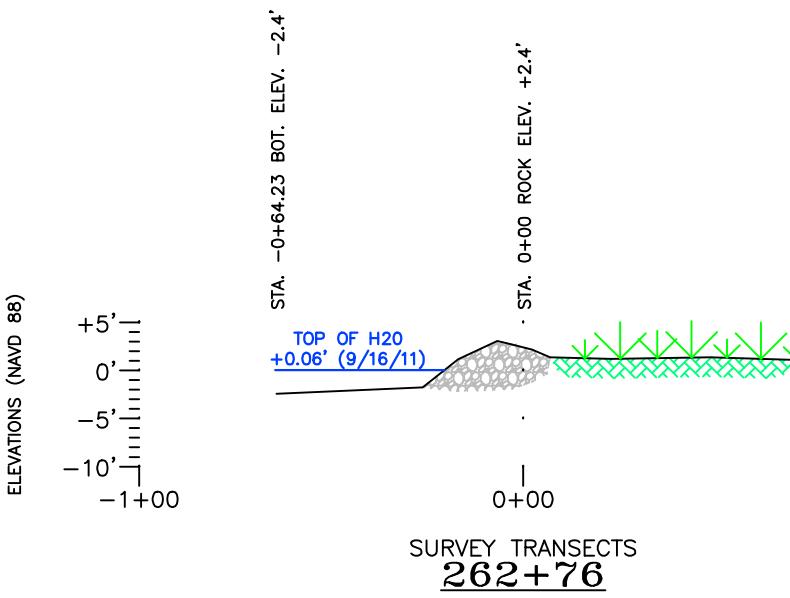
REV.	DATE	DESCRIPTION	BY
1	1/3/12	ADDRESS COMMENTS (ROCK PROFILE INFO.)	TPC



OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (229+62 & 240+24)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	29 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

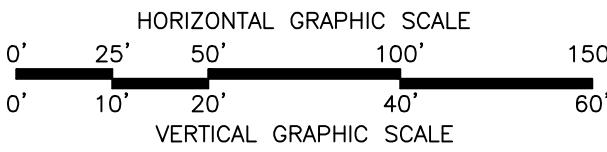


NOTES:

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STREAM NAME: BARATARIA BAY WATERWAY AT LAFITTE (82875)
DATE/TIME: 09/16/2011 08:00 ELEVATION (FT) +0.06 NAVD88
LONGITUDE: -90.11055556..... LATITUDE: 29.66944440



REV.	DATE	DESCRIPTION	BY
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OFFICE OF COASTAL PROTECTION & RESTORATION AUTHORITY OF LOUISIANA

ROCK DIKE ALIGNMENT SURVEY – TRANSECTS (250+46 & 262+76)
LITTLE LAKE SHORELINE PROTECTION & MARSH CREATION
SUMMER 2011 POST-CONSTRUCTION MONITORING REPORT
LOCATED IN LAFOURCHE PARISH, LOUISIANA

DRAWN BY:	TPC	SHEET:	30 OF 30
CHKD./APPD. BY:	AJG/GML	SCALE:	AS SHOWN
UPDATED BY:		DATE:	10-24-11
DATA BASE:	11025-02	JOB NO.	11025-02
MPH CAD FILE:	19-30 XSECTS AT PLATES.DWG		

SECTION 3

2011 Survey Point Data

The point data was compiled into an ASCII formatted point list and includes the following surveys:

- 3.1 Average Marsh Area Grid Survey Elevations
 - Area 1 (Points 6960 - 6979)
 - Area 2 (Points 6936 - 6955)
 - Area 3 (Points 6905 - 6924)
 - Area 4 (Points 7099 - 7118)
 - Area 5 (Points 7050 - 7069)
 - Area 6 (Points 7148 - 7167)
- 3.2 Marsh Grid Survey Elevations (see attached for point numbers)
- 3.3 Settlement Plate Elevations (points 9005 - 9028)
- 3.4 Control Points (see attached for point numbers)
- 3.5 Rock Dike Profile (see attached for point numbers)
- 3.6 Rock Dike Transects (see attached for point numbers)

The 2011 survey point data list includes the point number, x-coordinate, y-coordinate, elevation and description. The point data is referenced to the Louisiana State Plane Coordinate System, South Zone, U.S. Survey Feet, using Geoid03LA. The horizontal datum is North American Datum of 1983 (NAD83) and the vertical datum is North American Vertical Datum of 1988 (NAVD88). The survey point data includes the following list of points ranging from 6000 thru 7179 & 9005 thru 9314:

2011 SURVEY POINT DATA - SECTION 3.1

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6960	3,644,573.62	355,454.97	1.49	avg grid area 1
6961	3,644,606.20	355,455.29	1.57	avg grid area 1
6962	3,644,639.05	355,455.78	1.74	avg grid area 1
6963	3,644,672.88	355,455.58	1.60	avg grid area 1
6964	3,644,673.71	355,430.49	1.60	avg grid area 1
6965	3,644,638.80	355,431.18	1.73	avg grid area 1
6966	3,644,605.92	355,432.60	1.43	avg grid area 1
6967	3,644,573.11	355,431.35	1.36	avg grid area 1
6968	3,644,572.47	355,406.16	1.86	avg grid area 1
6969	3,644,606.15	355,406.93	1.77	avg grid area 1
6970	3,644,639.68	355,405.24	1.51	avg grid area 1
6971	3,644,672.29	355,404.87	1.70	avg grid area 1
6972	3,644,672.75	355,381.12	1.62	avg grid area 1
6973	3,644,638.15	355,379.97	1.76	avg grid area 1
6974	3,644,606.10	355,379.44	1.53	avg grid area 1
6975	3,644,573.48	355,380.59	1.28	avg grid area 1
6976	3,644,574.68	355,357.58	1.49	avg grid area 1
6977	3,644,605.97	355,354.12	1.68	avg grid area 1
6978	3,644,640.23	355,355.32	2.27	avg grid area 1
6979	3,644,673.01	355,355.61	1.60	avg grid area 1
			32.59	
			1.63	avg elev area 1
6936	3,644,634.14	353,455.46	0.20	avg grid area 2
6937	3,644,669.79	353,457.14	0.70	avg grid area 2
6938	3,644,702.86	353,457.73	0.65	avg grid area 2
6939	3,644,735.50	353,456.05	0.45	avg grid area 2
6940	3,644,735.60	353,431.57	0.56	avg grid area 2
6941	3,644,702.83	353,432.79	0.42	avg grid area 2
6942	3,644,669.26	353,431.62	0.94	avg grid area 2
6943	3,644,635.70	353,431.40	0.88	avg grid area 2
6944	3,644,635.24	353,405.78	1.66	avg grid area 2
6945	3,644,669.14	353,405.02	0.74	avg grid area 2
6946	3,644,702.43	353,406.07	0.46	avg grid area 2
6947	3,644,734.70	353,404.88	0.42	avg grid area 2

2011 SURVEY POINT DATA - SECTION 3.1

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6948	3,644,735.48	353,380.60	0.54	avg grid area 2
6949	3,644,702.23	353,381.44	1.74	avg grid area 2
6950	3,644,668.93	353,381.11	1.21	avg grid area 2
6951	3,644,635.51	353,380.65	1.37	avg grid area 2
6952	3,644,636.81	353,356.12	1.40	avg grid area 2
6953	3,644,668.85	353,356.06	1.44	avg grid area 2
6954	3,644,702.01	353,355.32	1.74	avg grid area 2
6955	3,644,735.60	353,355.87	0.64	avg grid area 2
			18.16	
			0.91	avg elev area 2
6905	3,644,196.71	351,454.95	0.96	avg grid area 3
6906	3,644,198.01	351,430.64	1.14	avg grid area 3
6907	3,644,197.90	351,404.71	1.08	avg grid area 3
6908	3,644,198.02	351,379.05	0.93	avg grid area 3
6909	3,644,197.70	351,353.70	0.96	avg grid area 3
6910	3,644,231.68	351,355.30	1.18	avg grid area 3
6911	3,644,230.45	351,380.84	1.19	avg grid area 3
6912	3,644,231.40	351,405.79	1.17	avg grid area 3
6913	3,644,230.03	351,431.19	1.09	avg grid area 3
6914	3,644,231.04	351,454.98	1.21	avg grid area 3
6915	3,644,264.55	351,455.26	1.14	avg grid area 3
6916	3,644,265.21	351,429.69	1.01	avg grid area 3
6917	3,644,264.55	351,404.77	1.14	avg grid area 3
6918	3,644,263.27	351,380.26	1.10	avg grid area 3
6919	3,644,264.53	351,355.82	1.03	avg grid area 3
6920	3,644,297.30	351,355.36	0.96	avg grid area 3
6921	3,644,298.37	351,379.04	1.04	avg grid area 3
6922	3,644,297.75	351,404.65	1.05	avg grid area 3
6923	3,644,297.84	351,430.03	1.20	avg grid area 3
6924	3,644,297.40	351,454.40	1.14	avg grid area 3
			21.71	
			1.09	avg elev area 3
7099	3,649,200.62	351,466.18	1.45	avg grid area 4

2011 SURVEY POINT DATA - SECTION 3.1

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
7100	3,649,233.18	351,464.98	1.66	avg grid area 4
7101	3,649,266.10	351,465.66	1.34	avg grid area 4
7102	3,649,299.92	351,464.81	1.58	avg grid area 4
7103	3,649,299.64	351,440.53	1.66	avg grid area 4
7104	3,649,265.60	351,440.39	1.36	avg grid area 4
7105	3,649,233.95	351,440.62	1.77	avg grid area 4
7106	3,649,200.14	351,440.45	1.75	avg grid area 4
7107	3,649,200.60	351,415.50	1.94	avg grid area 4
7108	3,649,233.42	351,415.69	1.68	avg grid area 4
7109	3,649,266.74	351,415.90	1.74	avg grid area 4
7110	3,649,299.77	351,415.42	1.65	avg grid area 4
7111	3,649,299.01	351,389.57	1.52	avg grid area 4
7112	3,649,266.26	351,390.88	1.98	avg grid area 4
7113	3,649,234.01	351,390.86	1.68	avg grid area 4
7114	3,649,199.27	351,390.35	1.89	avg grid area 4
7115	3,649,200.35	351,364.65	1.28	avg grid area 4
7116	3,649,232.94	351,365.37	1.44	avg grid area 4
7117	3,649,266.61	351,365.06	1.35	avg grid area 4
7118	3,649,299.73	351,365.51	1.32	avg grid area 4
			32.05	
			1.60	avg elev area 4
7050	3,647,636.46	353,363.10	1.26	avg grid area 5
7051	3,647,670.76	353,362.66	1.73	avg grid area 5
7052	3,647,703.67	353,363.00	1.35	avg grid area 5
7053	3,647,736.11	353,362.20	1.71	avg grid area 5
7054	3,647,736.53	353,388.58	1.36	avg grid area 5
7055	3,647,703.78	353,387.87	1.53	avg grid area 5
7056	3,647,669.68	353,387.92	1.70	avg grid area 5
7057	3,647,636.25	353,388.39	1.66	avg grid area 5
7058	3,647,636.97	353,412.83	1.42	avg grid area 5
7059	3,647,669.01	353,413.13	1.49	avg grid area 5
7060	3,647,703.26	353,412.32	1.60	avg grid area 5
7061	3,647,737.00	353,412.98	1.44	avg grid area 5
7062	3,647,736.21	353,437.76	1.38	avg grid area 5

2011 SURVEY POINT DATA - SECTION 3.1

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
7063	3,647,703.33	353,437.77	1.80	avg grid area 5
7064	3,647,670.97	353,437.82	1.43	avg grid area 5
7065	3,647,636.34	353,438.43	1.21	avg grid area 5
7066	3,647,637.10	353,463.14	1.48	avg grid area 5
7067	3,647,670.45	353,463.45	1.41	avg grid area 5
7068	3,647,703.18	353,463.24	1.59	avg grid area 5
7069	3,647,736.66	353,463.01	1.24	avg grid area 5
			29.77	
			1.49	avg elev area 5
7148	3,650,592.37	354,971.37	1.32	avg grid area 6
7149	3,650,624.44	354,969.91	1.78	avg grid area 6
7150	3,650,657.37	354,969.16	1.08	avg grid area 6
7151	3,650,691.06	354,969.84	1.25	avg grid area 6
7152	3,650,690.79	354,944.51	0.93	avg grid area 6
7153	3,650,657.74	354,944.64	1.63	avg grid area 6
7154	3,650,624.19	354,944.61	1.80	avg grid area 6
7155	3,650,591.13	354,945.12	1.65	avg grid area 6
7156	3,650,590.84	354,920.03	1.16	avg grid area 6
7157	3,650,625.12	354,919.68	1.54	avg grid area 6
7158	3,650,657.61	354,919.53	1.42	avg grid area 6
7159	3,650,691.01	354,919.99	1.03	avg grid area 6
7160	3,650,690.79	354,894.89	1.22	avg grid area 6
7161	3,650,657.93	354,894.43	1.43	avg grid area 6
7162	3,650,623.92	354,895.00	0.88	avg grid area 6
7163	3,650,591.58	354,894.72	1.03	avg grid area 6
7164	3,650,590.61	354,869.68	1.11	avg grid area 6
7165	3,650,623.86	354,869.66	0.97	avg grid area 6
7166	3,650,657.49	354,870.60	0.73	avg grid area 6
7167	3,650,691.21	354,869.66	1.28	avg grid area 6
			25.25	
			1.26	avg elev area 6

2011 SURVEY POINT DATA - SECTION 3.2

POINT	EASTING (X)	NORTHING (Y)	ELEVATION	DESCRIPTION
6848	3,642,573.70	357,056.56	-1.31	grid point
6849	3,642,596.41	356,400.38	0.07	grid point
6850	3,642,612.18	355,903.66	0.23	grid point
6851	3,642,628.22	355,403.99	1.37	grid point
6852	3,642,642.07	354,902.35	1.18	grid point
6853	3,642,658.69	354,403.43	1.66	grid point
6854	3,642,687.96	353,901.78	1.75	grid point
6855	3,642,688.34	353,400.68	2.36	grid point
6856	3,642,704.69	352,900.67	2.26	grid point
6857	3,642,720.84	352,400.24	1.75	grid point
6858	3,642,737.42	351,900.85	1.67	grid point
6859	3,642,753.83	351,401.64	1.90	grid point
6860	3,642,778.41	350,901.80	1.89	grid point
6861	3,642,808.79	350,406.29	1.64	grid point
6862	3,642,820.49	350,068.32	1.87	grid point
6864	3,643,071.09	357,060.15	0.22	grid point
6865	3,643,091.21	356,401.29	1.38	grid point
6866	3,643,106.63	355,902.65	0.71	grid point
6867	3,643,121.71	355,401.50	1.71	grid point
6868	3,643,137.71	354,901.75	1.24	grid point
6869	3,643,153.88	354,402.59	1.21	grid point
6870	3,643,169.19	353,902.05	0.99	grid point
6871	3,643,183.88	353,403.56	1.30	grid point
6872	3,643,201.28	352,902.22	1.26	grid point
6873	3,643,215.34	352,402.86	1.35	grid point
6874	3,643,232.46	351,901.50	0.93	grid point
6875	3,643,247.11	351,402.30	1.00	grid point
6876	3,643,264.67	350,902.13	0.68	grid point
6877	3,643,277.68	350,403.66	0.63	grid point
6878	3,643,788.66	350,145.00	0.38	grid point
6879	3,643,781.35	350,404.00	0.41	grid point
6880	3,643,763.26	350,902.85	0.77	grid point
6881	3,643,747.06	351,404.09	0.83	grid point
6882	3,643,733.08	351,903.99	1.53	grid point
6883	3,643,716.21	352,404.20	1.86	grid point

2011 SURVEY POINT DATA - SECTION 3.2

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6884	3,643,700.42	352,902.85	1.23	grid point
6885	3,643,683.19	353,403.08	1.91	grid point
6886	3,643,669.67	353,904.02	1.41	grid point
6887	3,643,654.72	354,402.41	1.14	grid point
6888	3,643,637.30	354,903.91	1.32	grid point
6889	3,643,621.76	355,404.89	1.62	grid point
6890	3,643,606.24	355,905.55	1.58	grid point
6891	3,643,590.19	356,405.53	0.68	grid point
6892	3,643,576.19	356,902.59	1.24	grid point
6893	3,644,075.24	356,901.59	1.11	grid point
6894	3,644,092.03	356,404.85	1.53	grid point
6895	3,644,107.72	355,904.20	1.82	grid point
6896	3,644,122.64	355,403.63	1.56	grid point
6897	3,644,138.28	354,903.54	0.32	grid point
6898	3,644,154.19	354,405.92	-0.91	grid point
6899	3,644,179.08	353,902.26	1.80	grid point
6900	3,644,185.44	353,403.49	1.28	grid point
6901	3,644,199.01	352,906.09	1.62	grid point
6902	3,644,217.18	352,406.31	1.39	grid point
6903	3,644,231.88	351,905.18	1.24	grid point
6904	3,644,250.30	351,404.14	1.11	grid point
6925	3,644,264.15	350,904.49	0.41	grid point
6926	3,644,280.05	350,405.50	0.73	grid point
6927	3,644,286.72	350,179.66	3.11	grid point
6928	3,644,785.64	350,218.13	2.21	grid point
6929	3,644,778.90	350,406.17	1.26	grid point
6930	3,644,762.52	350,906.38	1.69	grid point
6931	3,644,749.12	351,406.36	0.66	grid point
6932	3,644,733.10	351,905.54	1.58	grid point
6933	3,644,715.61	352,406.59	1.47	grid point
6934	3,644,702.19	352,907.63	1.37	grid point
6935	3,644,684.12	353,404.94	0.21	grid point
6956	3,644,667.62	353,904.93	1.21	grid point
6957	3,644,654.46	354,400.92	1.49	grid point
6958	3,644,635.79	354,907.67	1.80	grid point

2011 SURVEY POINT DATA - SECTION 3.2

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6959	3,644,622.75	355,405.28	2.00	grid point
6980	3,644,605.85	355,903.23	1.55	grid point
6981	3,644,590.70	356,406.41	0.80	grid point
6982	3,644,573.33	356,961.09	1.00	grid point
6984	3,645,068.79	357,126.00	1.30	grid point
6985	3,645,091.57	356,406.94	1.53	grid point
6986	3,645,106.99	355,906.86	1.41	grid point
6987	3,645,122.25	355,405.79	1.85	grid point
6988	3,645,143.99	354,904.50	1.83	grid point
6989	3,645,151.08	354,405.91	0.47	grid point
6990	3,645,169.32	353,907.44	1.45	grid point
6991	3,645,185.19	353,406.52	1.12	grid point
6992	3,645,200.85	352,906.17	1.64	grid point
6993	3,645,217.45	352,408.04	2.10	grid point
6994	3,645,234.13	351,905.44	1.04	grid point
6995	3,645,250.52	351,408.61	1.82	grid point
6996	3,645,263.72	350,907.98	2.10	grid point
6997	3,645,279.50	350,406.21	1.45	grid point
6998	3,645,780.99	350,408.66	0.65	grid point
6999	3,645,767.66	350,911.48	2.44	grid point
7000	3,645,750.62	351,409.94	2.19	grid point
7001	3,645,732.75	351,907.69	0.49	grid point
7002	3,645,717.85	352,407.52	1.27	grid point
7003	3,645,701.50	352,907.58	1.56	grid point
7004	3,645,685.13	353,407.35	1.78	grid point
7005	3,645,669.39	353,915.56	1.67	grid point
7006	3,645,653.08	354,403.02	1.55	grid point
7007	3,645,639.20	354,908.46	1.84	grid point
7008	3,645,623.07	355,407.28	2.02	grid point
7009	3,645,611.56	355,905.13	-0.81	grid point
7010	3,645,591.01	356,403.07	-1.29	grid point
7011	3,646,025.06	355,408.02	0.17	grid point
7012	3,646,139.26	354,909.09	0.73	grid point
7013	3,646,154.78	354,407.52	1.68	grid point
7014	3,646,167.59	353,908.35	1.61	grid point

2011 SURVEY POINT DATA - SECTION 3.2

POINT	EASTING (X)	NORTHING (Y)	ELEVATION	DESCRIPTION
7015	3,646,186.81	353,408.81	0.83	grid point
7016	3,646,201.96	352,909.09	2.08	grid point
7017	3,646,216.48	352,410.49	2.06	grid point
7018	3,646,233.24	351,908.82	1.50	grid point
7020	3,646,264.86	350,899.66	2.12	grid point
7021	3,646,280.30	350,410.36	0.35	grid point
7022	3,646,779.04	350,408.64	1.76	grid point
7023	3,646,763.96	350,910.14	1.20	grid point
7024	3,646,750.94	351,413.26	1.75	grid point
7025	3,646,733.20	351,911.23	1.17	grid point
7026	3,646,717.58	352,412.57	1.08	grid point
7027	3,646,701.69	352,910.08	1.07	grid point
7028	3,646,689.25	353,410.59	1.49	grid point
7029	3,646,668.53	353,909.76	1.46	grid point
7030	3,646,654.18	354,407.44	-0.52	grid point
7031	3,646,458.69	354,909.98	0.99	grid point
7032	3,643,296.51	350,115.19	-1.86	grid point
7034	3,647,158.06	354,320.99	2.34	grid point
7035	3,647,167.43	353,911.42	0.33	grid point
7036	3,647,185.76	353,413.03	1.44	grid point
7037	3,647,202.17	352,911.61	1.77	grid point
7038	3,647,228.12	352,424.96	1.72	grid point
7039	3,647,232.83	351,910.78	2.29	grid point
7040	3,647,251.26	351,412.77	-0.08	grid point
7041	3,647,265.51	350,902.95	1.09	grid point
7042	3,647,280.01	350,408.39	2.84	grid point
7043	3,647,780.34	350,445.13	1.47	grid point
7044	3,647,765.48	350,912.28	2.16	grid point
7045	3,647,751.31	351,413.81	1.44	grid point
7046	3,647,732.11	351,912.22	1.59	grid point
7047	3,647,717.87	352,413.61	0.41	grid point
7048	3,647,701.38	352,913.29	1.66	grid point
7049	3,647,686.35	353,412.92	1.91	grid point
7070	3,647,672.96	353,910.91	1.32	grid point
7071	3,647,705.33	354,087.15	1.07	grid point

2011 SURVEY POINT DATA - SECTION 3.2

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
7072	3,648,151.73	354,385.40	-1.72	grid point
7073	3,648,171.10	353,912.86	1.76	grid point
7074	3,648,183.40	353,414.71	1.40	grid point
7075	3,648,201.97	352,914.37	1.06	grid point
7076	3,648,217.51	352,414.20	1.69	grid point
7077	3,648,232.32	351,914.59	1.42	grid point
7078	3,648,250.02	351,415.88	1.45	grid point
7079	3,648,264.76	350,913.98	0.95	grid point
7080	3,648,278.13	350,478.37	1.53	grid point
7081	3,648,778.26	350,502.85	1.14	grid point
7082	3,648,766.14	350,913.22	1.45	grid point
7083	3,648,765.84	351,413.62	0.33	grid point
7084	3,648,734.06	351,914.83	1.88	grid point
7085	3,648,717.83	352,405.15	1.74	grid point
7086	3,648,703.31	352,914.02	1.21	grid point
7087	3,648,684.17	353,415.13	1.00	grid point
7088	3,648,669.15	353,913.86	0.74	grid point
7089	3,648,651.85	354,411.72	-2.25	grid point
7090	3,648,778.09	354,413.31	1.66	grid point
7091	3,649,138.35	354,916.78	-0.82	grid point
7092	3,649,154.39	354,414.53	1.93	grid point
7093	3,649,171.22	353,916.13	1.47	grid point
7094	3,649,185.77	353,415.74	1.31	grid point
7095	3,649,204.38	352,915.38	1.15	grid point
7096	3,649,222.98	352,417.54	1.77	grid point
7097	3,649,235.98	351,915.86	1.51	grid point
7098	3,649,255.91	351,420.50	1.42	grid point
7119	3,649,266.46	350,917.95	1.20	grid point
7120	3,649,279.66	350,521.79	1.25	grid point
7121	3,649,277.88	350,487.33	1.17	grid point
7123	3,649,622.59	355,418.75	1.42	grid point
7124	3,649,640.21	354,917.58	1.46	grid point
7125	3,649,656.16	354,416.31	0.43	grid point
7126	3,649,673.09	353,918.46	0.10	grid point
7127	3,649,844.48	353,918.79	1.37	grid point

2011 SURVEY POINT DATA - SECTION 3.2

POINT	EASTING (X)	NORTHING (Y)	ELEVATION	DESCRIPTION
7128	3,649,686.78	353,416.49	-1.30	grid point
7129	3,649,704.03	352,917.16	1.00	grid point
7130	3,649,933.45	352,914.58	-1.31	grid point
7131	3,649,716.89	352,417.75	1.37	grid point
7132	3,649,734.99	351,919.31	1.67	grid point
7133	3,649,740.27	351,418.77	1.30	grid point
7134	3,649,764.73	350,907.72	1.08	grid point
7135	3,649,967.41	350,916.88	1.75	grid point
7136	3,649,775.69	350,555.24	1.16	grid point
7137	3,650,750.56	351,420.28	1.05	grid point
7138	3,650,754.98	351,349.01	-2.68	grid point
7139	3,650,257.07	351,174.48	2.44	grid point
7140	3,650,250.11	351,419.97	1.38	grid point
7141	3,650,235.33	351,921.92	0.96	grid point
7142	3,650,219.17	352,433.31	-4.10	grid point
7143	3,650,156.15	354,418.89	-0.74	grid point
7144	3,650,141.24	354,917.78	1.36	grid point
7145	3,650,124.48	355,418.77	1.53	grid point
7146	3,650,623.50	355,419.81	0.24	grid point
7147	3,650,639.41	354,918.94	2.08	grid point
7168	3,650,648.47	354,525.99	-0.99	grid point
7169	3,651,147.75	354,749.29	-0.79	grid point
7170	3,651,137.52	354,920.27	-1.43	grid point
7171	3,651,125.90	355,402.42	1.85	grid point
7172	3,651,626.67	355,358.62	-0.93	grid point
7173	3,651,636.29	354,921.20	0.14	grid point
7174	3,651,645.90	354,751.64	1.08	grid point
7175	3,652,147.55	354,794.79	0.78	grid point
7176	3,652,139.12	354,922.98	0.75	grid point
7177	3,652,355.94	354,925.03	-0.12	grid point
7178	3,652,640.60	355,068.83	1.22	grid point
7179	3,652,124.96	355,424.89	-0.51	grid point

2011 SURVEY POINT DATA - SECTION 3.3

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9005	3,636,018.40	365,351.73	5.612	PLATE 01
9006	3,636,952.56	365,149.16	3.427	PLATE 02
9007	3,637,966.54	365,262.39	4.782	PLATE 03
9008	3,638,980.03	365,336.41	4.212	PLATE 04
9009	3,640,011.90	365,389.87	5.478	PLATE 05
9010	3,640,838.06	365,545.28	4.608	PLATE 06
9011	3,641,311.66	365,116.26	3.911	PLATE 07
9012	3,641,610.46	364,094.65	5.126	PLATE 08
9013	3,642,045.94	363,206.73	5.649	PLATE 09
9014	3,642,638.24	362,419.12	4.936	PLATE 10
9015	3,643,205.97	361,506.55	3.592	PLATE 11
9016	3,643,684.86	360,625.71	5.459	PLATE 12
9017	3,644,077.25	359,701.31	2.964	PLATE 13
9018	3,644,635.58	358,822.45	5.223	PLATE 14
9019	3,645,429.02	358,211.48	4.671	PLATE 15
9020	3,645,745.91	357,429.28	5.756	PLATE 16
9021	3,645,754.23	356,311.46	6.104	PLATE 17
9022	3,646,434.49	355,029.27	5.484	PLATE 18
9023	3,647,435.96	354,383.26	5.788	PLATE 19
9024	3,648,618.58	354,751.29	5.254	PLATE 20
9025	3,649,474.14	355,639.59	4.314	PLATE 21
9026	3,650,529.43	355,615.65	4.000	PLATE 22
9027	3,651,548.13	355,610.43	4.648	PLATE 23
9028	3,652,776.21	355,588.42	6.349	PLATE 24

2011 SURVEY POINT DATA - SECTION 3.4

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6000	3,634,211.41	364,159.51	1.609	qc
6083	3,638,772.85	363,981.44	2.981	ba-37-sm01
6084	3,638,772.77	363,981.53	2.974	qc
6255	3,634,211.37	364,159.42	1.628	qc
6399	3,634,211.35	364,159.41	1.531	qc
6807	3,634,211.33	364,159.41	1.543	qc
6863	3,634,211.39	364,159.44	1.533	qc
6983	3,634,211.36	364,159.44	1.521	qc
7033	3,634,211.38	364,159.46	1.595	qc
7122	3,634,211.43	364,159.44	1.688	qc
8009	3,642,771.67	349,553.65	3.690	RR SPIKE
8233	3,655,746.07	350,270.10	3.141	qc check on sm02
9000	3,642,771.59	349,553.63	3.178	QC CHECK ON 8009
9001	3,655,746.23	350,270.15	3.384	SM02
9002	3,655,746.05	350,270.20	2.579	QC CHECK ON 9001
9003	3,638,772.85	363,981.44	2.981	SM01
9004	3,638,772.83	363,981.44	2.454	QC CHECK ON PT 9003
9029	3,634,211.22	364,159.51	1.032	SET IR W/ CAP
9102	3,634,211.30	364,159.43	1.555	IR W/ CAP
PAUL	3,606,321.37	353,430.32	39.619	

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6346	3,641,167.86	365,609.91	-4.34	toe of c/l rocks
6347	3,641,172.95	365,597.00	1.45	c/l rocks
6348	3,641,180.67	365,576.25	3.22	c/l rocks
6349	3,641,189.13	365,548.26	3.14	c/l rocks
6350	3,641,199.67	365,514.27	3.11	c/l rocks
6351	3,641,210.91	365,472.40	2.66	c/l rocks
6352	3,641,219.96	365,437.83	3.19	c/l rocks
6353	3,641,229.49	365,399.78	2.58	c/l rocks
6354	3,641,239.61	365,363.15	2.60	c/l rocks
6355	3,641,249.69	365,328.08	2.83	c/l rocks
6356	3,641,266.02	365,276.86	2.29	c/l rocks
6357	3,641,276.03	365,241.58	2.19	c/l rocks
6358	3,641,289.43	365,192.95	2.34	c/l rocks
6359	3,641,303.96	365,145.79	1.97	c/l rocks
6360	3,641,312.79	365,116.06	2.78	c/l rocks
6361	3,641,327.67	365,068.02	2.28	c/l rocks
6362	3,641,339.55	365,030.88	3.14	c/l rocks
6363	3,641,350.94	364,996.09	3.02	c/l rocks
6364	3,641,363.84	364,950.53	2.66	c/l rocks
6365	3,641,375.46	364,908.06	2.91	c/l rocks
6366	3,641,384.56	364,875.65	2.90	c/l rocks
6367	3,641,394.90	364,838.39	2.62	c/l rocks
6368	3,641,405.42	364,802.56	2.67	c/l rocks
6369	3,641,415.31	364,768.11	3.05	c/l rocks
6370	3,641,426.95	364,728.41	3.12	c/l rocks
6371	3,641,440.84	364,679.64	3.15	c/l rocks
6372	3,641,445.89	364,663.74	1.98	c/l rocks
6373	3,641,446.40	364,653.55	-2.98	toe of c/l rocks
6374	3,641,445.90	364,635.17	-2.63	toe of c/l rocks
6375	3,641,448.37	364,620.99	2.15	c/l rocks
6376	3,641,461.32	364,583.04	2.44	c/l rocks
6377	3,641,476.65	364,529.17	1.67	c/l rocks
6378	3,641,495.64	364,475.00	2.39	c/l rocks
6379	3,641,506.50	364,433.22	2.19	c/l rocks
6380	3,641,523.32	364,381.13	2.00	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6381	3,641,535.96	364,338.77	2.21	c/l rocks
6382	3,641,554.34	364,277.93	2.23	c/l rocks
6383	3,641,574.49	364,212.20	2.00	c/l rocks
6384	3,641,589.87	364,165.14	1.99	c/l rocks
6385	3,641,602.87	364,116.93	2.24	c/l rocks
6386	3,641,610.14	364,094.18	2.17	c/l rocks
6387	3,641,622.40	364,050.04	2.29	c/l rocks
6388	3,641,637.25	364,003.05	2.23	c/l rocks
6389	3,641,649.27	363,963.96	2.25	c/l rocks
6390	3,641,670.17	363,903.46	1.80	c/l rocks
6391	3,641,688.41	363,843.44	2.02	c/l rocks
6392	3,641,702.23	363,797.50	1.68	c/l rocks
6393	3,641,718.03	363,748.81	2.12	c/l rocks
6394	3,641,732.91	363,700.07	2.11	c/l rocks
6395	3,641,745.44	363,657.90	1.58	c/l rocks
6396	3,641,759.60	363,614.74	2.14	c/l rocks
6397	3,641,770.89	363,581.27	2.04	c/l rocks
6398	3,641,782.90	363,573.76	-3.00	toe of c/l rocks
6400	3,641,792.64	363,565.66	-3.02	toe of c/l rocks
6401	3,641,798.91	363,557.31	1.08	c/l rocks
6402	3,641,815.21	363,536.75	2.42	c/l rocks
6403	3,641,839.24	363,502.83	1.97	c/l rocks
6404	3,641,874.66	363,451.65	2.42	c/l rocks
6405	3,641,905.27	363,406.64	2.09	c/l rocks
6406	3,641,942.70	363,352.97	2.18	c/l rocks
6407	3,641,973.22	363,310.37	2.39	c/l rocks
6408	3,642,006.44	363,265.79	2.21	c/l rocks
6409	3,642,033.84	363,226.32	2.54	c/l rocks
6410	3,642,046.66	363,206.79	2.68	c/l rocks
6411	3,642,068.91	363,175.76	2.38	c/l rocks
6412	3,642,092.74	363,140.59	2.51	c/l rocks
6413	3,642,119.65	363,100.39	2.63	c/l rocks
6414	3,642,144.95	363,064.44	2.30	c/l rocks
6415	3,642,176.49	363,018.96	2.88	c/l rocks
6416	3,642,197.60	362,989.84	2.84	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6417	3,642,225.73	362,950.05	3.21	c/l rocks
6418	3,642,254.31	362,907.68	3.08	c/l rocks
6419	3,642,280.11	362,872.51	2.81	c/l rocks
6420	3,642,289.31	362,859.07	2.06	c/l rocks
6421	3,642,294.06	362,852.52	-2.58	toe of c/l rocks
6422	3,642,297.11	362,848.97	-2.76	toe of c/l rocks
6423	3,642,302.70	362,839.23	1.56	c/l rocks
6424	3,642,332.62	362,803.00	2.52	c/l rocks
6425	3,642,365.42	362,761.00	2.53	c/l rocks
6426	3,642,394.23	362,723.73	3.26	c/l rocks
6427	3,642,431.09	362,679.29	3.11	c/l rocks
6428	3,642,465.00	362,633.04	2.75	c/l rocks
6429	3,642,504.99	362,583.76	2.79	c/l rocks
6430	3,642,548.61	362,530.64	2.80	c/l rocks
6431	3,642,603.89	362,462.19	2.60	c/l rocks
6432	3,642,638.95	362,419.43	2.87	c/l rocks
6433	3,642,681.03	362,367.99	2.59	c/l rocks
6434	3,642,726.02	362,310.76	2.37	c/l rocks
6435	3,642,763.77	362,262.79	3.12	c/l rocks
6436	3,642,795.71	362,222.57	3.14	c/l rocks
6437	3,642,825.78	362,186.56	3.16	c/l rocks
6438	3,642,857.10	362,147.67	2.83	c/l rocks
6439	3,642,893.99	362,099.61	3.42	c/l rocks
6440	3,642,925.97	362,060.41	2.39	c/l rocks
6441	3,642,954.70	362,025.11	3.01	c/l rocks
6442	3,642,976.24	361,999.36	1.99	c/l rocks
6443	3,642,983.61	361,989.31	-3.23	toe of c/l rocks
6444	3,642,994.73	361,974.24	-4.47	toe of c/l rocks
6445	3,642,998.56	361,966.53	1.60	c/l rocks
6446	3,643,009.58	361,942.24	2.22	c/l rocks
6447	3,643,025.71	361,905.11	2.92	c/l rocks
6448	3,643,049.93	361,851.93	3.47	c/l rocks
6449	3,643,067.99	361,808.36	3.03	c/l rocks
6450	3,643,095.04	361,748.22	2.93	c/l rocks
6451	3,643,122.41	361,689.99	3.46	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6452	3,643,147.70	361,633.72	3.25	c/l rocks
6453	3,643,165.22	361,596.78	2.97	c/l rocks
6454	3,643,187.42	361,548.32	3.19	c/l rocks
6455	3,643,205.40	361,506.12	2.38	c/l rocks
6456	3,643,220.97	361,472.09	3.05	c/l rocks
6457	3,643,237.20	361,434.08	3.10	c/l rocks
6458	3,643,262.56	361,378.94	2.89	c/l rocks
6459	3,643,282.70	361,334.58	3.16	c/l rocks
6460	3,643,299.70	361,295.38	2.94	c/l rocks
6461	3,643,319.19	361,250.79	2.99	c/l rocks
6462	3,643,340.24	361,204.36	2.91	c/l rocks
6463	3,643,363.21	361,152.78	2.82	c/l rocks
6464	3,643,382.16	361,110.29	2.71	c/l rocks
6465	3,643,399.68	361,072.40	2.83	c/l rocks
6466	3,643,402.75	361,066.35	1.60	c/l rocks
6467	3,643,407.95	361,055.28	-4.16	toe of c/l rocks
6468	3,643,417.01	361,045.13	-3.63	toe of c/l rocks
6469	3,643,421.71	361,031.82	1.38	c/l rocks
6470	3,643,447.39	360,993.23	2.37	c/l rocks
6471	3,643,475.60	360,949.69	2.54	c/l rocks
6472	3,643,506.15	360,903.83	3.41	c/l rocks
6473	3,643,543.97	360,846.20	2.98	c/l rocks
6474	3,643,571.37	360,803.12	3.25	c/l rocks
6475	3,643,599.39	360,760.17	3.25	c/l rocks
6476	3,643,637.59	360,699.71	2.97	c/l rocks
6477	3,643,673.93	360,643.80	3.05	c/l rocks
6478	3,643,684.50	360,625.93	2.55	c/l rocks
6479	3,643,718.28	360,571.96	2.79	c/l rocks
6480	3,643,758.87	360,511.74	2.68	c/l rocks
6481	3,643,797.99	360,451.08	3.13	c/l rocks
6482	3,643,832.57	360,397.12	2.63	c/l rocks
6483	3,643,860.85	360,351.57	2.83	c/l rocks
6484	3,643,895.44	360,297.31	3.00	c/l rocks
6485	3,643,931.32	360,239.82	2.78	c/l rocks
6486	3,643,946.65	360,213.06	1.50	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6487	3,643,952.63	360,202.13	-4.63	toe of c/l rocks
6488	3,643,960.14	360,193.54	-4.87	toe of c/l rocks
6489	3,643,961.78	360,180.51	3.02	c/l rocks
6490	3,643,969.12	360,149.78	3.83	c/l rocks
6491	3,643,980.82	360,102.39	3.72	c/l rocks
6492	3,643,991.95	360,057.08	3.73	c/l rocks
6493	3,644,007.42	359,996.82	3.86	c/l rocks
6494	3,644,022.31	359,936.18	3.07	c/l rocks
6495	3,644,032.97	359,888.49	3.16	c/l rocks
6496	3,644,045.92	359,834.75	3.21	c/l rocks
6497	3,644,057.12	359,790.28	3.39	c/l rocks
6498	3,644,070.82	359,736.30	3.01	c/l rocks
6499	3,644,078.91	359,701.81	2.37	c/l rocks
6500	3,644,095.06	359,632.49	3.17	c/l rocks
6501	3,644,108.19	359,575.85	3.10	c/l rocks
6502	3,644,120.94	359,523.66	3.66	c/l rocks
6503	3,644,129.98	359,482.82	3.18	c/l rocks
6504	3,644,144.06	359,428.27	3.14	c/l rocks
6505	3,644,153.78	359,382.43	3.23	c/l rocks
6506	3,644,171.86	359,312.85	3.42	c/l rocks
6507	3,644,180.75	359,273.81	3.51	c/l rocks
6508	3,644,192.84	359,222.10	2.15	c/l rocks
6509	3,644,196.53	359,211.56	-2.99	toe of c/l rocks
6510	3,644,213.55	359,192.68	-2.80	toe of c/l rocks
6511	3,644,224.47	359,179.84	2.96	c/l rocks
6512	3,644,267.59	359,142.98	3.49	c/l rocks
6513	3,644,310.52	359,106.16	2.91	c/l rocks
6514	3,644,361.33	359,062.78	3.61	c/l rocks
6515	3,644,415.90	359,013.59	3.17	c/l rocks
6516	3,644,456.34	358,978.45	3.45	c/l rocks
6517	3,644,501.85	358,939.65	3.44	c/l rocks
6518	3,644,547.38	358,898.74	3.72	c/l rocks
6519	3,644,596.95	358,856.41	3.64	c/l rocks
6520	3,644,635.67	358,822.52	3.35	c/l rocks
6521	3,644,695.29	358,771.83	3.65	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6522	3,644,762.35	358,712.85	3.61	c/l rocks
6523	3,644,818.78	358,662.32	3.34	c/l rocks
6524	3,644,872.45	358,614.76	3.34	c/l rocks
6525	3,644,922.92	358,569.70	4.39	c/l rocks
6526	3,644,972.69	358,527.07	3.73	c/l rocks
6527	3,645,010.81	358,494.44	3.49	c/l rocks
6528	3,645,046.75	358,463.42	1.88	c/l rocks
6529	3,645,056.08	358,457.05	-3.78	toe of c/l rocks
6530	3,645,060.16	358,451.91	-3.48	toe of c/l rocks
6531	3,645,070.60	358,445.44	2.57	c/l rocks
6532	3,645,105.66	358,423.47	3.58	c/l rocks
6533	3,645,156.39	358,390.11	3.83	c/l rocks
6534	3,645,198.36	358,361.87	3.59	c/l rocks
6535	3,645,246.57	358,329.02	3.57	c/l rocks
6536	3,645,289.36	358,303.18	3.68	c/l rocks
6537	3,645,342.43	358,268.05	3.16	c/l rocks
6538	3,645,384.97	358,239.59	2.88	c/l rocks
6539	3,645,430.31	358,210.77	2.94	c/l rocks
6540	3,645,465.28	358,188.02	2.71	c/l rocks
6541	3,645,517.92	358,154.72	2.90	c/l rocks
6542	3,645,566.03	358,123.29	3.19	c/l rocks
6543	3,645,634.60	358,078.37	2.87	c/l rocks
6544	3,645,692.46	358,041.07	3.06	c/l rocks
6545	3,645,729.65	358,016.93	2.71	c/l rocks
6546	3,645,768.79	357,992.60	2.85	c/l rocks
6547	3,645,793.44	357,976.13	2.61	c/l rocks
6548	3,645,802.26	357,966.03	-3.74	toe of c/l rocks
6549	3,645,812.37	357,947.69	-2.58	toe of c/l rocks
6550	3,645,813.08	357,934.24	2.25	c/l rocks
6551	3,645,806.92	357,882.07	3.12	c/l rocks
6552	3,645,798.09	357,828.22	2.89	c/l rocks
6553	3,645,791.55	357,772.39	3.11	c/l rocks
6554	3,645,783.08	357,710.19	3.04	c/l rocks
6555	3,645,772.31	357,635.19	2.52	c/l rocks
6556	3,645,763.02	357,559.01	3.34	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6557	3,645,754.24	357,479.54	3.16	c/l rocks
6558	3,645,746.99	357,428.71	2.84	c/l rocks
6559	3,645,736.47	357,352.36	2.42	c/l rocks
6560	3,645,726.98	357,271.93	2.79	c/l rocks
6561	3,645,719.23	357,210.01	3.48	c/l rocks
6562	3,645,709.60	357,143.38	3.02	c/l rocks
6563	3,645,700.28	357,067.36	3.21	c/l rocks
6564	3,645,692.50	356,998.95	3.63	c/l rocks
6565	3,645,684.66	356,947.36	3.15	c/l rocks
6566	3,645,682.57	356,926.28	2.22	c/l rocks
6567	3,645,682.05	356,913.09	-2.62	toe of c/l rocks
6568	3,645,677.05	356,900.16	-2.67	toe of c/l rocks
6569	3,645,677.73	356,886.55	2.48	c/l rocks
6570	3,645,682.25	356,853.99	3.25	c/l rocks
6571	3,645,688.22	356,801.52	3.43	c/l rocks
6572	3,645,695.93	356,743.58	2.75	c/l rocks
6573	3,645,699.82	356,709.42	2.65	c/l rocks
6574	3,645,708.43	356,654.62	2.44	c/l rocks
6575	3,645,717.18	356,588.11	2.70	c/l rocks
6576	3,645,723.09	356,542.58	2.84	c/l rocks
6577	3,645,730.57	356,490.23	2.71	c/l rocks
6578	3,645,735.72	356,451.15	3.08	c/l rocks
6579	3,645,742.84	356,399.51	2.72	c/l rocks
6580	3,645,750.01	356,345.06	2.69	c/l rocks
6581	3,645,755.31	356,311.78	2.97	c/l rocks
6582	3,645,765.51	356,234.80	2.85	c/l rocks
6583	3,645,771.13	356,189.12	2.95	c/l rocks
6584	3,645,777.15	356,144.56	2.64	c/l rocks
6585	3,645,781.44	356,107.07	2.42	c/l rocks
6586	3,645,790.75	356,041.55	2.68	c/l rocks
6587	3,645,797.78	355,984.14	2.63	c/l rocks
6588	3,645,805.61	355,926.56	2.68	c/l rocks
6589	3,645,810.88	355,893.09	3.24	c/l rocks
6590	3,645,817.79	355,839.12	2.87	c/l rocks
6591	3,645,825.54	355,778.65	3.02	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6592	3,645,832.97	355,726.63	3.23	c/l rocks
6593	3,645,834.63	355,705.56	3.01	c/l rocks
6594	3,645,840.91	355,693.23	-2.64	toe of c/l rocks
6595	3,645,841.66	355,676.96	-1.97	toe of c/l rocks
6596	3,645,847.24	355,665.40	2.59	c/l rocks
6597	3,645,886.12	355,623.16	3.38	c/l rocks
6598	3,645,920.54	355,584.87	3.40	c/l rocks
6599	3,645,958.38	355,542.79	3.77	c/l rocks
6600	3,646,008.84	355,489.60	3.85	c/l rocks
6601	3,646,072.40	355,419.65	3.40	c/l rocks
6602	3,646,122.22	355,365.56	3.43	c/l rocks
6603	3,646,183.63	355,300.68	3.08	c/l rocks
6604	3,646,234.74	355,245.46	4.15	c/l rocks
6605	3,646,292.20	355,182.39	3.34	c/l rocks
6606	3,646,345.32	355,124.80	3.35	c/l rocks
6607	3,646,405.98	355,058.47	3.17	c/l rocks
6608	3,646,434.69	355,029.71	2.96	c/l rocks
6609	3,646,494.78	354,963.94	3.02	c/l rocks
6610	3,646,544.07	354,909.70	3.19	c/l rocks
6611	3,646,594.59	354,854.75	3.66	c/l rocks
6612	3,646,655.96	354,787.32	3.33	c/l rocks
6613	3,646,727.84	354,708.61	2.73	c/l rocks
6614	3,646,771.62	354,659.49	2.99	c/l rocks
6615	3,646,819.28	354,608.60	3.04	c/l rocks
6616	3,646,852.78	354,570.11	2.96	c/l rocks
6617	3,646,904.16	354,514.66	2.79	c/l rocks
6618	3,646,953.01	354,461.69	3.14	c/l rocks
6619	3,647,009.49	354,400.37	2.75	c/l rocks
6620	3,647,041.28	354,372.93	2.40	c/l rocks
6621	3,647,070.11	354,366.37	2.46	c/l rocks
6622	3,647,100.94	354,369.36	2.57	c/l rocks
6623	3,647,141.77	354,370.86	2.80	c/l rocks
6624	3,647,186.43	354,372.94	3.36	c/l rocks
6625	3,647,228.36	354,375.44	3.00	c/l rocks
6626	3,647,278.23	354,376.76	2.85	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6627	3,647,348.16	354,380.51	2.70	c/l rocks
6628	3,647,394.31	354,381.31	2.57	c/l rocks
6629	3,647,435.87	354,383.05	2.54	c/l rocks
6630	3,647,457.76	354,384.17	2.71	c/l rocks
6631	3,647,496.89	354,385.33	3.00	c/l rocks
6632	3,647,554.11	354,388.55	2.98	c/l rocks
6633	3,647,596.46	354,389.67	3.02	c/l rocks
6634	3,647,642.13	354,391.81	3.09	c/l rocks
6635	3,647,678.21	354,392.94	3.10	c/l rocks
6636	3,647,716.14	354,393.77	3.47	c/l rocks
6637	3,647,749.31	354,394.66	3.14	c/l rocks
6638	3,647,781.96	354,395.91	1.94	c/l rocks
6639	3,647,794.25	354,395.57	-3.75	toe of c/l rocks
6640	3,647,813.33	354,393.05	-3.20	toe of c/l rocks
6641	3,647,827.36	354,395.52	2.65	c/l rocks
6642	3,647,847.76	354,405.67	3.33	c/l rocks
6643	3,647,873.20	354,417.20	3.32	c/l rocks
6644	3,647,900.66	354,429.50	3.13	c/l rocks
6645	3,647,934.38	354,444.48	2.87	c/l rocks
6646	3,647,958.51	354,455.43	2.75	c/l rocks
6647	3,647,984.27	354,466.06	2.89	c/l rocks
6648	3,648,007.61	354,476.39	2.75	c/l rocks
6649	3,648,043.50	354,493.06	3.00	c/l rocks
6650	3,648,083.16	354,510.09	2.98	c/l rocks
6651	3,648,122.59	354,527.91	3.07	c/l rocks
6652	3,648,177.39	354,552.72	2.86	c/l rocks
6653	3,648,207.71	354,565.69	2.82	c/l rocks
6654	3,648,237.60	354,578.92	2.74	c/l rocks
6655	3,648,277.26	354,597.83	2.78	c/l rocks
6656	3,648,311.35	354,612.54	2.94	c/l rocks
6657	3,648,351.94	354,631.51	2.72	c/l rocks
6658	3,648,410.85	354,658.19	2.97	c/l rocks
6659	3,648,451.48	354,676.43	2.60	c/l rocks
6660	3,648,499.90	354,698.04	2.50	c/l rocks
6661	3,648,530.70	354,711.58	2.61	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6662	3,648,556.38	354,722.87	2.55	c/l rocks
6663	3,648,586.23	354,736.61	2.93	c/l rocks
6664	3,648,607.05	354,746.12	3.14	c/l rocks
6665	3,648,618.55	354,751.50	3.22	c/l rocks
6666	3,648,632.68	354,758.10	3.08	c/l rocks
6667	3,648,647.07	354,782.56	3.29	c/l rocks
6668	3,648,657.15	354,801.95	3.44	c/l rocks
6669	3,648,667.54	354,821.13	3.13	c/l rocks
6670	3,648,675.84	354,836.62	3.13	c/l rocks
6671	3,648,687.88	354,861.78	3.31	c/l rocks
6672	3,648,701.11	354,889.46	3.72	c/l rocks
6673	3,648,711.26	354,909.46	3.61	c/l rocks
6674	3,648,722.63	354,932.26	3.95	c/l rocks
6675	3,648,739.53	354,964.00	3.66	c/l rocks
6676	3,648,750.22	354,988.90	3.83	c/l rocks
6677	3,648,764.92	355,016.49	3.80	c/l rocks
6678	3,648,781.00	355,047.61	3.85	c/l rocks
6679	3,648,791.60	355,066.58	3.54	c/l rocks
6680	3,648,800.36	355,084.52	3.82	c/l rocks
6681	3,648,812.17	355,105.64	3.95	c/l rocks
6682	3,648,821.66	355,124.83	3.79	c/l rocks
6683	3,648,835.12	355,151.51	3.90	c/l rocks
6684	3,648,851.50	355,183.40	3.46	c/l rocks
6685	3,648,864.51	355,208.29	3.61	c/l rocks
6686	3,648,874.64	355,229.20	3.68	c/l rocks
6687	3,648,905.31	355,286.47	3.42	c/l rocks
6688	3,648,915.19	355,307.51	3.59	c/l rocks
6689	3,648,932.31	355,339.73	3.70	c/l rocks
6690	3,648,941.79	355,360.67	3.24	c/l rocks
6691	3,648,954.85	355,386.84	3.31	c/l rocks
6692	3,648,968.30	355,412.51	3.16	c/l rocks
6693	3,648,980.69	355,436.13	3.38	c/l rocks
6694	3,648,996.55	355,468.29	3.31	c/l rocks
6695	3,649,006.15	355,487.79	3.41	c/l rocks
6696	3,649,018.69	355,511.40	2.97	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6697	3,649,031.28	355,522.94	-1.85	toe of c/l rocks
6698	3,649,041.62	355,536.40	-2.72	toe of c/l rocks
6699	3,649,051.28	355,540.24	1.94	c/l rocks
6700	3,649,070.78	355,556.44	2.54	c/l rocks
6701	3,649,100.62	355,576.82	2.71	c/l rocks
6702	3,649,123.58	355,594.41	2.71	c/l rocks
6703	3,649,144.19	355,609.03	2.77	c/l rocks
6704	3,649,164.15	355,623.90	2.72	c/l rocks
6705	3,649,198.66	355,646.02	3.04	c/l rocks
6706	3,649,219.38	355,647.84	2.51	c/l rocks
6707	3,649,244.01	355,646.22	2.27	c/l rocks
6708	3,649,271.95	355,645.42	2.20	c/l rocks
6709	3,649,292.64	355,645.10	3.07	c/l rocks
6710	3,649,328.33	355,643.82	2.57	c/l rocks
6711	3,649,346.04	355,642.26	2.86	c/l rocks
6712	3,649,365.08	355,642.32	3.42	c/l rocks
6713	3,649,385.75	355,641.94	3.08	c/l rocks
6714	3,649,408.74	355,642.04	2.72	c/l rocks
6715	3,649,433.39	355,641.57	3.21	c/l rocks
6716	3,649,473.72	355,639.55	3.06	c/l rocks
6717	3,649,507.92	355,638.45	3.04	c/l rocks
6718	3,649,532.21	355,638.08	3.21	c/l rocks
6719	3,649,572.12	355,637.20	3.00	c/l rocks
6720	3,649,596.36	355,636.35	2.50	c/l rocks
6721	3,649,616.57	355,634.99	2.89	c/l rocks
6722	3,649,646.54	355,634.73	3.08	c/l rocks
6723	3,649,668.98	355,634.71	3.19	c/l rocks
6724	3,649,691.65	355,633.10	3.33	c/l rocks
6725	3,649,716.66	355,632.65	2.86	c/l rocks
6726	3,649,736.04	355,631.77	3.25	c/l rocks
6727	3,649,753.96	355,631.19	3.26	c/l rocks
6728	3,649,773.00	355,630.67	2.83	c/l rocks
6729	3,649,795.65	355,628.78	2.89	c/l rocks
6730	3,649,812.99	355,629.80	2.90	c/l rocks
6731	3,649,833.23	355,630.63	3.23	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6732	3,649,852.22	355,629.49	3.03	c/l rocks
6733	3,649,875.05	355,628.77	2.72	c/l rocks
6734	3,649,896.42	355,628.40	3.35	c/l rocks
6735	3,649,919.34	355,627.51	3.13	c/l rocks
6736	3,649,941.73	355,627.68	2.70	c/l rocks
6737	3,649,961.63	355,626.94	2.83	c/l rocks
6738	3,649,995.51	355,625.57	2.00	c/l rocks
6739	3,650,010.14	355,624.53	-2.38	toe of c/l rocks
6740	3,650,024.83	355,625.54	-2.93	toe of c/l rocks
6741	3,650,040.18	355,625.52	2.54	c/l rocks
6742	3,650,065.80	355,624.69	2.38	c/l rocks
6743	3,650,088.10	355,623.86	2.55	c/l rocks
6744	3,650,117.60	355,624.40	2.42	c/l rocks
6745	3,650,163.59	355,621.84	2.74	c/l rocks
6746	3,650,206.65	355,621.75	2.78	c/l rocks
6747	3,650,246.31	355,621.27	2.65	c/l rocks
6748	3,650,301.02	355,620.95	2.51	c/l rocks
6749	3,650,334.79	355,620.10	2.41	c/l rocks
6750	3,650,368.15	355,619.29	3.32	c/l rocks
6751	3,650,435.30	355,617.68	3.14	c/l rocks
6752	3,650,478.45	355,617.68	3.02	c/l rocks
6753	3,650,528.40	355,616.24	2.89	c/l rocks
6754	3,650,573.55	355,614.88	3.48	c/l rocks
6755	3,650,617.14	355,614.18	3.37	c/l rocks
6756	3,650,660.74	355,613.40	3.27	c/l rocks
6757	3,650,695.00	355,611.63	2.97	c/l rocks
6758	3,650,730.68	355,610.70	3.08	c/l rocks
6759	3,650,763.78	355,609.82	3.00	c/l rocks
6760	3,650,792.24	355,610.40	2.87	c/l rocks
6761	3,650,823.82	355,608.78	3.01	c/l rocks
6762	3,650,855.27	355,608.51	3.22	c/l rocks
6763	3,650,879.48	355,608.44	2.95	c/l rocks
6764	3,650,910.45	355,607.92	2.98	c/l rocks
6765	3,650,954.03	355,606.30	3.07	c/l rocks
6766	3,650,980.66	355,605.79	2.90	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6767	3,651,016.08	355,604.88	3.10	c/l rocks
6768	3,651,031.44	355,605.26	-2.03	toe of c/l rocks
6769	3,651,045.54	355,608.64	-2.81	toe of c/l rocks
6770	3,651,076.13	355,609.26	2.99	c/l rocks
6771	3,651,104.11	355,609.08	3.18	c/l rocks
6772	3,651,125.62	355,609.13	3.09	c/l rocks
6773	3,651,148.05	355,609.48	2.89	c/l rocks
6774	3,651,174.95	355,610.35	2.91	c/l rocks
6775	3,651,201.64	355,610.28	2.60	c/l rocks
6776	3,651,222.65	355,611.10	3.14	c/l rocks
6777	3,651,245.59	355,609.84	3.11	c/l rocks
6778	3,651,271.65	355,610.72	2.76	c/l rocks
6779	3,651,305.85	355,610.15	3.52	c/l rocks
6780	3,651,338.10	355,610.72	3.39	c/l rocks
6781	3,651,370.99	355,610.68	3.05	c/l rocks
6782	3,651,398.32	355,610.31	3.41	c/l rocks
6783	3,651,433.00	355,610.58	3.34	c/l rocks
6784	3,651,463.75	355,610.92	3.06	c/l rocks
6785	3,651,486.63	355,611.28	3.18	c/l rocks
6786	3,651,517.01	355,611.03	3.17	c/l rocks
6787	3,651,548.19	355,610.85	2.74	c/l rocks
6788	3,651,578.26	355,611.60	3.14	c/l rocks
6789	3,651,605.73	355,611.23	3.23	c/l rocks
6790	3,651,638.72	355,610.75	3.27	c/l rocks
6791	3,651,668.33	355,612.37	3.30	c/l rocks
6792	3,651,705.69	355,612.75	3.17	c/l rocks
6793	3,651,741.41	355,613.04	3.71	c/l rocks
6794	3,651,769.00	355,613.17	3.45	c/l rocks
6795	3,651,794.43	355,614.08	3.14	c/l rocks
6796	3,651,828.22	355,614.08	3.62	c/l rocks
6797	3,651,856.26	355,613.72	3.01	c/l rocks
6798	3,651,883.99	355,613.12	3.52	c/l rocks
6799	3,651,908.53	355,612.77	3.68	c/l rocks
6800	3,651,935.21	355,612.98	3.61	c/l rocks
6801	3,651,952.73	355,612.64	3.61	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6802	3,651,977.02	355,613.14	3.76	c/l rocks
6803	3,651,998.90	355,614.41	3.45	c/l rocks
6804	3,652,018.44	355,613.87	3.55	c/l rocks
6805	3,652,039.92	355,614.62	2.46	c/l rocks
6806	3,652,054.26	355,613.07	-2.62	toe of c/l rocks
6808	3,652,061.40	355,611.49	-2.50	toe of cl rocks
6809	3,652,077.75	355,612.45	2.70	c/l rocks
6810	3,652,107.38	355,613.72	2.85	c/l rocks
6811	3,652,137.34	355,612.48	3.03	c/l rocks
6812	3,652,166.08	355,611.75	3.01	c/l rocks
6813	3,652,206.79	355,610.46	2.91	c/l rocks
6814	3,652,241.16	355,609.36	3.39	c/l rocks
6815	3,652,279.13	355,606.89	3.04	c/l rocks
6816	3,652,329.57	355,606.04	3.63	c/l rocks
6817	3,652,380.45	355,604.74	3.28	c/l rocks
6818	3,652,424.43	355,603.61	3.35	c/l rocks
6819	3,652,467.76	355,602.12	3.72	c/l rocks
6820	3,652,501.83	355,601.39	3.62	c/l rocks
6821	3,652,532.53	355,599.30	3.58	c/l rocks
6822	3,652,574.06	355,598.07	3.26	c/l rocks
6823	3,652,609.70	355,597.13	3.45	c/l rocks
6824	3,652,642.83	355,595.71	3.34	c/l rocks
6825	3,652,674.29	355,594.05	3.42	c/l rocks
6826	3,652,717.02	355,593.83	2.97	c/l rocks
6827	3,652,759.76	355,592.75	3.18	c/l rocks
6828	3,652,777.65	355,591.09	3.07	c/l rocks
6829	3,652,817.11	355,590.66	3.35	c/l rocks
6830	3,652,858.89	355,587.55	3.49	c/l rocks
6831	3,652,910.37	355,585.60	3.57	c/l rocks
6832	3,652,957.39	355,583.18	3.54	c/l rocks
6833	3,652,993.74	355,583.49	3.60	c/l rocks
6834	3,653,024.99	355,581.33	3.44	c/l rocks
6835	3,653,060.73	355,563.57	3.24	c/l rocks
6836	3,653,106.83	355,537.68	3.04	c/l rocks
6837	3,653,137.16	355,521.49	3.73	c/l rocks

2011 SURVEY POINT DATA - SECTION 3.5 (C/L Rocks)

<u>POINT</u>	<u>EASTING (X)</u>	<u>NORTHING (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6838	3,653,176.01	355,502.44	3.60	c/l rocks
6839	3,653,209.61	355,485.74	3.09	c/l rocks
6840	3,653,244.87	355,468.06	3.32	c/l rocks
6841	3,653,277.87	355,451.46	2.88	c/l rocks
6842	3,653,307.86	355,436.67	3.15	c/l rocks
6843	3,653,346.85	355,417.57	3.16	c/l rocks
6844	3,653,377.58	355,400.80	3.05	c/l rocks
6845	3,653,404.51	355,387.74	3.12	c/l rocks
6846	3,653,429.88	355,378.62	2.19	c/l rocks
6847	3,653,435.91	355,372.11	-0.73	toe of c/l rocks

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6001	3,645,456.82	358,248.68	-4.86	nb
6002	3,645,435.11	358,230.70	-4.18	nb@rock
6003	3,645,427.97	358,219.24	1.46	top rock
6004	3,645,425.25	358,214.78	2.37	c/l rocks
6005	3,645,421.72	358,210.76	1.56	top rocks
6006	3,645,413.95	358,198.33	-1.77	nb @ rocks
6007	3,645,412.99	358,192.40	-1.31	nb
6008	3,645,402.36	358,167.61	-0.38	nb
6009	3,645,384.11	358,146.75	-1.11	nb
6010	3,645,375.97	358,130.25	-1.78	nb
6011	3,645,358.56	358,109.85	-1.81	nb
6012	3,645,340.47	358,089.86	-1.84	nb
6013	3,645,320.50	358,072.78	-1.74	nb
6014	3,645,308.47	358,050.59	-2.07	nb
6015	3,645,317.13	358,013.00	-1.70	nb
6016	3,645,312.01	357,990.82	-1.85	nb
6017	3,645,294.96	357,967.53	-2.21	nb
6018	3,645,277.13	357,953.72	-1.80	nb
6019	3,645,270.13	357,925.78	-1.78	nb
6020	3,645,257.04	357,905.48	-1.57	nb
6021	3,645,240.96	357,880.41	1.53	nb@marsh
6022	3,645,231.49	357,861.73	2.21	ng
6023	3,645,797.71	357,428.94	-4.89	nb
6024	3,645,762.59	357,430.55	-2.41	nb@rocks
6025	3,645,753.57	357,430.43	1.45	top rocks
6026	3,645,746.21	357,425.86	2.54	c/l rocks
6027	3,645,740.22	357,423.90	1.22	top rocks
6028	3,645,733.82	357,430.40	-0.89	nb @ rocks
6029	3,645,719.38	357,426.14	-1.19	nb
6030	3,645,693.37	357,433.54	-0.13	nb @ marsh
6031	3,645,671.51	357,433.21	1.30	ng
6032	3,645,645.78	357,433.78	0.13	nb @ marsh
6033	3,645,620.47	357,438.95	-0.86	nb
6034	3,645,595.73	357,442.20	-1.34	nb
6035	3,645,570.97	357,445.72	-1.52	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6036	3,645,545.85	357,450.00	-1.30	nb
6037	3,645,521.48	357,453.22	-1.45	nb
6038	3,645,496.35	357,457.11	-0.94	nb
6039	3,645,473.83	357,461.06	-1.02	nb
6040	3,645,447.81	357,465.15	-1.15	nb
6041	3,645,421.90	357,466.34	-1.19	nb
6042	3,645,405.50	357,468.27	0.87	nb @ marsh
6043	3,645,379.08	357,480.54	1.81	ng
6044	3,645,803.96	356,311.51	-4.35	nb
6045	3,645,769.50	356,316.32	-2.86	nb@rocks
6046	3,645,762.08	356,315.33	1.35	top rocks
6047	3,645,754.15	356,312.63	2.97	c/l rocks
6048	3,645,749.60	356,312.07	1.31	top rocks
6049	3,645,741.38	356,308.35	-0.50	nb @ rocks
6050	3,645,735.69	356,307.25	-0.30	nb
6051	3,645,727.82	356,305.26	0.51	nb @ marsh
6052	3,645,700.20	356,304.71	1.41	ng
6053	3,645,668.82	356,305.40	-0.07	nb@marsh
6054	3,645,653.62	356,302.93	-0.61	nb
6055	3,645,629.93	356,300.04	-1.34	nb
6056	3,645,602.47	356,299.95	-1.64	nb
6057	3,645,578.51	356,302.49	-1.60	nb
6058	3,645,549.79	356,302.62	-1.67	nb
6059	3,645,525.64	356,307.62	-1.70	nb
6060	3,645,499.23	356,307.23	-1.49	nb
6061	3,645,477.43	356,306.84	-1.23	nb
6062	3,645,452.48	356,311.06	-1.07	nb
6063	3,645,427.21	356,308.98	-0.56	nb
6064	3,645,418.05	356,317.74	-0.10	nb @ marsh
6065	3,645,395.77	356,324.21	1.17	ng
6066	3,646,480.90	355,060.23	-4.12	nb
6067	3,646,446.32	355,037.09	-2.78	nb@rocks
6068	3,646,440.83	355,032.28	1.26	top rocks
6069	3,646,438.23	355,024.89	2.88	c/l rocks
6070	3,646,435.07	355,019.91	1.43	top rocks

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6071	3,646,428.43	355,020.61	-0.41	nb @ rocks
6072	3,646,421.48	355,006.10	-0.99	nb
6073	3,646,398.49	354,995.69	0.36	nb @ marsh
6074	3,646,376.96	354,978.55	1.26	ng
6075	3,646,357.81	354,960.20	0.22	nb @ marsh
6076	3,646,341.36	354,945.01	-0.31	nb
6077	3,646,323.17	354,928.32	-0.45	nb
6078	3,646,305.59	354,910.98	-0.45	nb
6079	3,646,286.90	354,893.69	-0.42	nb
6080	3,646,265.91	354,877.05	-0.04	nb
6081	3,646,250.00	354,868.14	0.52	nb @ marsh
6082	3,646,230.98	354,863.16	2.16	ng
6256	3,647,432.23	354,432.29	-3.93	nb
6257	3,647,435.09	354,398.92	-3.05	nb @ rocks
6258	3,647,435.79	354,389.02	-1.56	top of rocks
6259	3,647,436.49	354,383.52	-0.49	c/l rocks
6260	3,647,437.14	354,377.78	-1.63	top of rocks
6261	3,647,437.03	354,371.53	-0.93	nb @ rocks
6262	3,647,447.79	354,356.18	-0.58	nb
6263	3,647,451.15	354,333.86	-0.36	nb
6264	3,647,458.67	354,310.87	-0.35	nb
6265	3,647,461.01	354,285.79	-0.28	nb
6266	3,647,464.57	354,260.17	-0.07	nb
6267	3,647,464.35	354,253.43	0.37	nb @ marsh
6268	3,647,463.76	354,234.34	1.07	ng
6269	3,648,600.85	354,798.37	-3.59	nb
6270	3,648,612.06	354,763.66	-2.26	nb @ rocks
6271	3,648,614.84	354,757.86	1.37	top of rocks
6272	3,648,618.84	354,751.86	3.37	c/l rocks
6273	3,648,621.81	354,745.60	1.19	top of rocks
6274	3,648,627.39	354,740.60	-0.60	nb @ rocks
6275	3,648,638.47	354,732.42	-0.43	nb
6276	3,648,655.66	354,716.23	-0.46	nb
6277	3,648,667.78	354,689.80	-0.93	nb
6278	3,648,676.96	354,668.48	-1.39	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6279	3,648,685.18	354,642.27	-2.06	nb
6280	3,648,692.93	354,619.16	-1.65	nb
6281	3,648,700.18	354,595.78	-1.57	nb
6282	3,648,713.55	354,573.80	-1.49	nb
6283	3,648,723.22	354,549.22	-1.62	nb
6284	3,648,728.96	354,525.40	-1.27	nb
6285	3,648,740.76	354,502.33	-1.55	nb
6286	3,648,766.58	354,488.66	-1.21	nb
6287	3,648,788.61	354,472.96	-0.40	nb
6288	3,648,799.79	354,462.36	0.48	nb @ marsh
6289	3,648,811.28	354,449.70	1.62	ng
6290	3,649,484.65	355,694.19	-4.53	nb
6291	3,649,474.05	355,653.46	-1.22	nb @ rocks
6292	3,649,475.45	355,645.53	1.27	top of rocks
6293	3,649,474.33	355,639.54	3.22	c/l rocks
6294	3,649,474.47	355,633.29	1.22	top of rocks
6295	3,649,473.23	355,624.68	-0.64	nb @ rocks
6296	3,649,480.29	355,613.92	-0.80	nb
6297	3,649,485.24	355,590.07	-0.36	nb
6298	3,649,489.31	355,565.63	-0.34	nb
6299	3,649,491.50	355,540.22	-0.03	nb
6300	3,649,490.37	355,515.36	0.23	nb
6301	3,649,488.54	355,508.67	0.46	nb @ marsh
6302	3,649,482.83	355,484.53	1.45	ng
6303	3,650,536.65	355,670.14	-4.44	nb
6304	3,650,525.14	355,631.51	-2.50	nb @ rocks
6305	3,650,527.60	355,623.09	1.22	top of rocks
6306	3,650,529.93	355,616.59	2.63	c/l rocks
6307	3,650,533.81	355,610.54	1.56	top of rocks
6308	3,650,530.83	355,601.52	-0.05	nb @ rocks
6309	3,650,526.41	355,590.94	-0.57	nb
6310	3,650,529.97	355,561.45	0.12	nb
6311	3,650,530.57	355,539.58	0.01	nb
6312	3,650,525.20	355,515.24	0.02	nb
6313	3,650,515.10	355,491.87	-0.09	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
6314	3,650,522.56	355,464.27	-0.16	nb
6315	3,650,517.49	355,438.43	-0.18	nb
6316	3,650,514.26	355,416.10	0.13	nb
6317	3,650,511.07	355,408.30	1.03	nb @ marsh
6318	3,650,508.27	355,376.94	1.76	ng
6319	3,651,546.92	355,663.62	-3.08	nb
6320	3,651,545.87	355,626.82	-2.40	nb @ rocks
6321	3,651,545.53	355,620.70	0.68	top of rocks
6322	3,651,547.53	355,610.65	3.37	c/l rocks
6323	3,651,548.47	355,603.98	1.51	top of rocks
6324	3,651,548.09	355,601.51	1.34	nb @ rocks
6325	3,651,538.75	355,585.93	1.24	nb
6326	3,651,537.79	355,560.42	1.26	nb
6327	3,651,540.12	355,535.56	0.77	nb
6328	3,651,541.95	355,510.81	0.60	nb
6329	3,651,543.17	355,483.63	0.40	nb
6330	3,651,545.58	355,460.02	-0.03	nb
6331	3,651,546.97	355,435.21	-0.08	nb
6332	3,651,549.49	355,409.51	-0.24	nb
6333	3,651,552.68	355,385.59	-0.16	nb
6334	3,651,555.42	355,358.80	-0.26	nb
6335	3,651,551.71	355,348.90	0.18	nb @ marsh
6336	3,651,541.15	355,324.13	1.47	ng
6337	3,652,776.45	355,646.93	-2.43	nb
6338	3,652,774.24	355,608.98	-1.75	nb @ rocks
6339	3,652,772.48	355,599.88	1.19	top of rocks
6340	3,652,775.97	355,587.99	2.76	c/l rocks
6341	3,652,773.97	355,582.79	2.19	top of rocks
6342	3,652,775.61	355,578.42	1.39	marsh ng @ rocks
6343	3,652,777.34	355,562.62	1.22	ng
6344	3,652,776.42	355,536.88	1.39	ng
6345	3,652,778.95	355,512.69	1.09	ng
9030	3,636,024.83	365,403.42	-5.12	nb
9031	3,636,021.35	365,380.09	-4.28	nb
9032	3,636,019.70	365,366.56	-3.01	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9033	3,636,018.72	365,357.11	1.61	top of rocks
9034	3,636,017.30	365,353.75	1.79	c/l rocks
9035	3,636,014.65	365,350.90	1.29	top of rocks
9036	3,636,964.23	365,200.20	-4.69	nb
9037	3,636,957.62	365,183.08	-4.40	nb
9038	3,636,952.93	365,162.38	-3.60	nb
9039	3,636,953.11	365,152.58	1.23	top of rocks
9040	3,636,952.02	365,149.96	1.51	c/l rocks
9041	3,636,950.98	365,147.23	1.42	top of rocks
9042	3,637,945.50	365,317.82	-5.06	nb
9043	3,637,962.10	365,294.24	-4.54	nb
9044	3,637,965.44	365,282.57	-4.10	nb
9045	3,637,963.54	365,267.00	0.80	top of rocks
9046	3,637,961.35	365,263.01	1.90	c/l rocks
9047	3,637,962.44	365,259.86	1.71	top of rocks
9048	3,638,972.04	365,392.56	-5.68	nb
9049	3,638,976.49	365,370.03	-5.22	nb
9050	3,638,979.96	365,355.21	-3.99	nb
9051	3,638,982.78	365,342.43	1.17	top of rocks
9052	3,638,981.74	365,338.63	1.40	c/l rocks
9053	3,638,983.27	365,335.27	1.40	top of rocks
9054	3,639,981.13	365,435.22	-5.01	nb
9055	3,639,999.95	365,415.22	-4.00	nb
9056	3,640,000.24	365,407.23	-3.37	nb
9057	3,639,999.05	365,393.17	1.18	top of rocks
9058	3,640,000.02	365,390.81	0.75	c/l rocks
9059	3,640,000.00	365,388.45	0.76	top of rocks
9060	3,640,804.47	365,592.31	-5.35	nb
9061	3,640,824.44	365,576.07	-4.88	nb
9062	3,640,840.08	365,563.89	-4.15	nb
9063	3,640,837.02	365,550.30	0.64	top of rocks
9064	3,640,838.22	365,547.27	2.04	c/l rocks
9065	3,640,839.52	365,543.90	1.74	top of rocks
9066	3,641,366.81	365,135.80	-5.63	nb
9067	3,641,347.05	365,126.62	-5.44	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9068	3,641,329.95	365,120.97	-4.99	nb
9069	3,641,319.14	365,113.16	1.47	top of rocks
9070	3,641,314.03	365,113.10	1.64	c/l rocks
9071	3,641,311.57	365,112.00	1.57	top of rocks
9072	3,641,668.01	364,120.45	-5.58	nb
9073	3,641,643.62	364,105.81	-5.09	nb
9074	3,641,626.91	364,095.57	-3.90	nb
9075	3,641,615.77	364,093.03	1.00	top of rocks
9076	3,641,611.12	364,092.74	0.86	c/l rocks
9077	3,641,608.00	364,092.72	0.71	top of rocks
9078	3,642,091.74	363,243.21	-5.06	nb
9079	3,642,077.83	363,220.73	-4.83	nb
9080	3,642,061.79	363,216.45	-4.16	nb
9081	3,642,053.58	363,209.07	1.07	top of rocks
9082	3,642,047.92	363,207.52	2.19	c/l rocks
9083	3,642,045.22	363,205.25	2.04	top of rocks
9084	3,642,684.67	362,456.25	-5.05	nb
9085	3,642,667.05	362,442.70	-5.48	nb
9086	3,642,650.37	362,430.89	-3.88	nb
9087	3,642,643.22	362,420.96	1.00	top of rocks
9088	3,642,640.18	362,418.81	1.43	c/l rocks
9089	3,642,635.34	362,417.34	1.09	top of rocks
9090	3,643,256.18	361,535.57	-5.89	nb
9091	3,643,238.64	361,517.83	-5.51	nb
9092	3,643,219.90	361,514.20	-4.76	nb
9093	3,643,211.51	361,506.78	0.89	top of rocks
9094	3,643,207.48	361,503.20	2.49	c/l rocks
9095	3,643,203.59	361,504.59	1.65	top of rocks
9096	3,643,731.05	360,662.71	-5.58	nb
9097	3,643,716.54	360,649.47	-5.26	nb
9098	3,643,701.26	360,631.05	-3.41	nb
9099	3,643,689.48	360,629.50	1.19	top of rocks
9100	3,643,685.34	360,627.29	1.99	c/l rocks
9101	3,643,682.07	360,627.23	1.79	top of rocks
9102	3,634,211.30	364,159.43	1.56	IR W/ CAP

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9103	3,636,011.33	365,342.74	-1.66	nb
9104	3,636,007.14	365,323.20	-1.16	nb
9105	3,636,002.35	365,292.01	-1.26	nb
9106	3,636,953.07	365,140.25	-0.66	nb
9107	3,636,952.01	365,115.32	-0.97	nb
9108	3,636,950.38	365,087.45	-0.88	nb
9109	3,637,970.74	365,254.59	-0.55	nb
9110	3,637,976.10	365,225.47	-0.33	nb
9111	3,637,980.03	365,198.72	-0.10	nb
9112	3,638,000.76	365,135.50	-0.64	nb
9113	3,638,009.46	365,114.55	-0.47	nb
9114	3,638,013.02	365,091.20	-0.67	nb
9115	3,638,026.55	365,066.20	-1.00	nb
9116	3,638,032.58	365,045.15	-1.34	nb
9117	3,638,026.07	365,016.64	-1.28	nb
9118	3,638,031.37	364,992.17	-1.15	nb
9119	3,638,030.39	364,965.37	-1.08	nb
9120	3,638,027.60	364,937.99	-1.11	nb
9121	3,638,030.98	364,915.74	-1.06	nb
9122	3,638,036.46	364,889.32	-0.87	nb
9123	3,638,036.31	364,868.95	-1.27	nb
9124	3,638,046.27	364,842.31	-1.01	nb
9125	3,638,053.89	364,823.85	0.25	nb
9126	3,638,056.30	364,822.97	1.46	ng
9127	3,638,058.43	364,804.25	0.78	ng
9128	3,638,061.60	364,780.25	1.71	ng
9129	3,638,976.33	365,325.55	-1.48	nb
9130	3,638,976.46	365,306.15	-1.51	nb
9131	3,638,969.01	365,283.54	-0.80	nb
9132	3,638,972.64	365,258.36	-0.58	nb
9133	3,638,968.15	365,235.10	-0.71	nb
9134	3,638,969.59	365,208.18	-1.61	nb
9135	3,638,966.92	365,180.87	-1.63	nb
9136	3,638,960.50	365,161.98	-1.24	nb
9137	3,638,959.84	365,135.51	-0.85	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9138	3,638,956.17	365,113.00	-0.71	nb
9139	3,638,953.43	365,088.29	-0.51	nb
9140	3,638,953.54	365,060.72	-0.12	nb
9141	3,638,960.38	365,035.69	-0.33	nb
9142	3,638,960.83	365,033.68	0.78	ng
9143	3,638,959.29	365,017.83	0.71	ng
9144	3,638,958.09	365,002.02	1.49	ng
9145	3,640,013.93	365,381.31	-0.81	nb
9146	3,640,016.62	365,358.60	-0.79	nb
9147	3,640,013.66	365,332.70	-0.47	nb
9148	3,640,009.80	365,313.18	-0.63	nb
9149	3,640,012.25	365,284.99	-1.39	nb
9150	3,640,007.63	365,250.58	-1.52	nb
9151	3,640,009.58	365,237.48	-1.41	nb
9152	3,640,016.67	365,212.01	-1.74	nb
9153	3,640,014.24	365,186.91	-1.69	nb
9154	3,640,003.86	365,162.45	-1.15	nb
9155	3,640,000.07	365,136.34	-0.78	nb
9156	3,639,999.47	365,114.79	-0.78	nb
9157	3,639,998.59	365,089.71	-0.33	nb
9158	3,640,005.47	365,071.60	-0.05	nb
9159	3,640,005.18	365,069.04	1.06	ng
9160	3,640,001.69	365,053.29	1.07	ng
9161	3,639,998.50	365,034.20	1.24	ng
9162	3,640,840.82	365,534.27	-0.74	nb
9163	3,640,842.01	365,520.67	-0.64	nb
9164	3,640,844.66	365,497.85	-0.69	nb
9165	3,640,844.36	365,468.43	-0.50	nb
9166	3,640,848.58	365,443.42	-0.11	nb
9167	3,640,848.35	365,439.35	1.01	ng
9168	3,640,855.75	365,420.89	1.26	ng
9169	3,640,861.22	365,398.24	1.62	ng
9170	3,641,297.53	365,106.42	-1.33	nb
9171	3,641,298.08	365,100.54	-2.12	nb
9172	3,641,262.59	365,099.54	-2.00	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9173	3,641,239.30	365,088.30	-1.95	nb
9174	3,641,220.52	365,074.99	-2.87	nb
9175	3,641,201.12	365,058.57	-2.34	nb
9176	3,641,174.60	365,049.29	0.25	nb
9177	3,641,170.76	365,049.48	-0.16	nb
9178	3,641,167.60	365,047.96	0.88	ng
9179	3,641,148.36	365,041.50	2.11	ng
9180	3,641,130.43	365,034.09	1.76	ng
9181	3,641,598.18	364,086.76	-1.44	nb
9182	3,641,583.85	364,087.16	-0.89	nb
9183	3,641,560.61	364,079.72	-1.05	nb
9184	3,641,536.49	364,072.57	-1.13	nb
9185	3,641,511.65	364,062.34	-1.48	nb
9186	3,641,489.18	364,055.11	-1.52	nb
9187	3,641,464.82	364,044.09	-1.80	nb
9188	3,641,443.13	364,033.80	-2.09	nb
9189	3,641,421.80	364,024.65	-2.12	nb
9190	3,641,400.61	364,007.53	-1.88	nb
9191	3,641,377.06	364,003.47	-1.90	nb
9192	3,641,349.78	364,001.97	-2.15	nb
9193	3,641,326.73	363,983.78	-2.04	nb
9194	3,641,302.75	363,986.86	-2.02	nb
9195	3,641,280.83	363,980.34	-1.74	nb
9196	3,641,255.55	363,970.99	-1.45	nb
9197	3,641,235.20	363,963.02	-1.52	nb
9198	3,641,207.40	363,960.31	-0.70	nb
9199	3,641,204.85	363,944.14	-0.48	nb
9200	3,641,203.31	363,943.52	0.83	ng
9201	3,641,184.67	363,941.68	1.25	ng
9202	3,641,162.24	363,937.11	1.81	ng
9203	3,642,037.20	363,202.12	-0.24	nb
9204	3,642,023.66	363,197.46	-0.81	nb
9205	3,642,008.83	363,186.43	0.37	nb
9206	3,642,007.02	363,184.38	0.79	ng
9207	3,641,992.57	363,176.32	1.81	ng

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9208	3,641,975.75	363,162.22	0.93	ng
9209	3,641,973.64	363,160.89	0.21	nb
9210	3,641,962.67	363,155.98	-0.66	nb
9211	3,641,937.63	363,142.24	-1.76	nb
9212	3,641,916.13	363,132.06	-1.93	nb
9213	3,641,893.14	363,116.54	-1.60	nb
9214	3,641,872.70	363,099.51	-1.25	nb
9215	3,641,854.80	363,083.37	-0.90	nb
9216	3,641,836.45	363,068.67	-0.74	nb
9217	3,641,816.27	363,048.00	0.00	nb
9218	3,641,814.36	363,047.06	1.00	ng
9219	3,641,801.54	363,036.49	1.48	ng
9220	3,641,788.76	363,021.82	1.41	ng
9221	3,642,630.68	362,409.93	-1.30	nb
9222	3,642,621.15	362,402.39	-1.57	nb
9223	3,642,596.55	362,384.22	-2.18	nb
9224	3,643,194.79	361,502.35	-1.22	nb
9225	3,643,181.42	361,500.34	-0.67	nb
9226	3,643,156.97	361,492.23	-0.40	nb
9227	3,643,132.96	361,482.28	-1.30	nb
9228	3,643,108.72	361,472.00	-1.47	nb
9229	3,643,085.26	361,462.17	-2.36	nb
9230	3,643,062.16	361,453.29	-2.62	nb
9231	3,643,034.84	361,450.30	-1.91	nb
9232	3,643,010.20	361,443.88	-1.90	nb
9233	3,642,987.18	361,438.59	-1.88	nb
9234	3,642,963.60	361,430.14	-1.95	nb
9235	3,642,944.44	361,422.50	-2.27	nb
9236	3,642,920.88	361,404.94	-2.23	nb
9237	3,642,899.25	361,387.78	-2.22	nb
9238	3,642,880.13	361,373.80	-2.10	nb
9239	3,642,859.70	361,354.40	-1.60	nb
9240	3,642,841.80	361,343.20	-0.95	nb
9241	3,642,819.91	361,328.01	0.03	nb
9242	3,642,818.79	361,327.08	0.88	ng

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9243	3,642,804.02	361,316.40	0.88	ng
9244	3,642,782.31	361,307.96	1.33	ng
9245	3,643,676.47	360,617.89	-0.71	nb
9246	3,643,663.09	360,611.20	-0.29	nb
9247	3,643,638.34	360,602.34	-0.28	nb
9248	3,643,619.04	360,585.97	-0.91	nb
9249	3,643,598.76	360,570.29	-1.41	nb
9250	3,643,577.72	360,557.55	-1.48	nb
9251	3,643,554.80	360,543.27	-1.68	nb
9252	3,643,535.31	360,529.43	-1.90	nb
9253	3,643,514.54	360,518.92	-2.14	nb
9254	3,643,490.61	360,507.92	-1.57	nb
9255	3,643,477.57	360,484.49	-0.72	nb
9256	3,643,464.78	360,460.97	-1.04	nb
9257	3,643,459.75	360,461.16	-0.17	ng
9258	3,643,436.96	360,447.01	0.34	ng
9259	3,643,413.52	360,436.52	0.34	ng
9260	3,644,142.99	359,708.52	-4.87	nb
9261	3,644,109.98	359,702.05	-4.36	nb
9262	3,644,094.75	359,699.25	-4.04	nb
9263	3,644,672.58	358,862.08	-4.27	nb
9264	3,644,653.18	358,852.10	-3.94	nb
9265	3,644,649.16	358,832.49	-3.66	nb
9266	3,644,084.86	359,701.58	1.57	top of rocks
9267	3,644,078.56	359,700.39	2.83	c/l rocks
9268	3,644,072.17	359,701.02	1.40	top of rocks
9269	3,644,065.11	359,704.91	-0.75	nb
9270	3,644,053.22	359,697.29	-0.73	nb
9271	3,644,027.23	359,688.66	-1.32	nb
9272	3,644,005.29	359,679.05	0.00	nb
9273	3,643,984.03	359,661.91	-1.34	nb
9274	3,643,963.53	359,651.40	-1.74	nb
9275	3,643,939.94	359,647.01	-0.94	nb
9276	3,643,924.55	359,632.21	-0.13	nb
9277	3,643,915.32	359,625.75	0.62	nb

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9278	3,643,912.44	359,624.31	1.51	ng
9279	3,643,888.93	359,615.68	1.75	ng
9280	3,643,863.34	359,609.22	1.65	ng
9281	3,644,640.03	358,826.04	2.40	top of rocks
9282	3,644,636.80	358,820.51	3.59	c/l rocks
9283	3,644,631.47	358,817.66	2.12	top of rocks
9284	3,644,628.57	358,815.14	0.29	nb
9285	3,644,619.13	358,806.79	0.16	nb
9286	3,644,606.94	358,791.61	0.28	nb
9287	3,644,602.71	358,789.42	1.06	ng
9288	3,644,592.97	358,781.55	1.50	ng
9289	3,644,584.42	358,774.24	0.85	ng
9290	3,644,576.85	358,772.61	0.22	nb
9291	3,644,562.94	358,760.56	-0.81	nb
9292	3,644,543.49	358,724.02	-1.69	nb
9293	3,644,541.12	358,697.74	-1.49	nb
9294	3,644,530.19	358,677.72	-1.25	nb
9295	3,644,511.32	358,661.77	-1.27	nb
9296	3,644,493.97	358,646.15	-1.18	nb
9297	3,644,478.72	358,623.08	-1.02	nb
9298	3,644,460.82	358,600.84	-0.95	nb
9299	3,644,456.62	358,580.42	-0.92	nb
9300	3,644,437.05	358,560.98	-1.36	nb
9301	3,644,413.88	358,545.22	-1.38	nb
9302	3,644,393.48	358,532.87	-1.38	nb
9303	3,644,370.73	358,517.76	-1.35	nb
9304	3,644,348.98	358,501.98	-1.66	nb
9305	3,644,327.84	358,492.30	-1.51	nb
9306	3,644,308.16	358,473.02	-1.41	nb
9307	3,644,295.99	358,453.59	-1.40	nb
9308	3,644,277.98	358,435.68	-1.43	nb
9309	3,644,256.93	358,422.27	-1.23	nb
9310	3,644,238.28	358,406.21	-0.45	nb
9311	3,644,235.28	358,398.70	0.58	nb
9312	3,644,233.17	358,396.15	1.28	ng

2011 SURVEY POINT DATA - SECTION 3.6 (Rock Transects)

<u>POINT</u>	<u>EASTIng (X)</u>	<u>NORTHIng (Y)</u>	<u>ELEVATION</u>	<u>DESCRIPTION</u>
9313	3,644,212.68	358,382.20	1.41	ng
9314	3,644,201.50	358,360.17	1.03	ng

SECTION 4
2011 Survey Field Notes

The survey was documented and recorded in MPH Field Book 1501, Pages 24-57. Copies of the field notes are attached as follows:

JOB# 11,025-02 ADNR
Little Lake Marsh
Creation
RTK Survey

Set Base on Pt# 8009
QC on Pt# SM01
and Pt SM02

A. Real
L. Vito

1501

9-12-11 24

Job #11025-02

LADNR Cont'd.

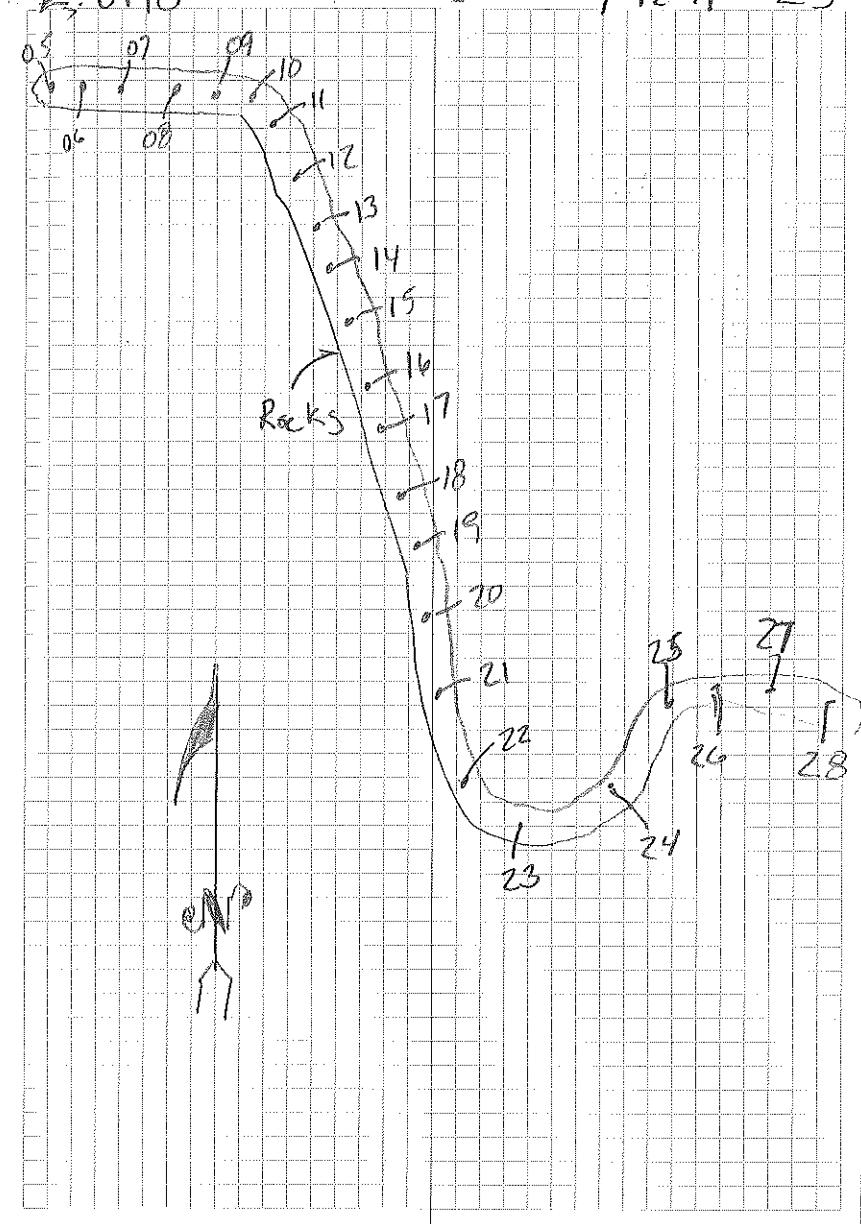
RTK Survey

Pt #	Description
9005	Plate
06	Plate
07	Plate
08	Plate
09	Plate
10	Plate
11	Plate
12	Plate
13	Plate
14	Plate
15	Plate
16	Plate
17	Plate
18	Plate
19	Plate
20	Plate
21	Plate
22	Plate
23	Plate
24	Plate
25	Plate
26	Plate
27	Plate
9028	Plate

A. Beat
L. Vito

1501

9-12-11 25



JUB# 11,025-02 LADNR Cont'd.
Base on P# 9029

P#	Description
9029	Set IR w/ Gulfnet
30	Natural Bottom
31	Natural Bottom
32	Natural Bottom @ Rocks
33	Top of Rocks
34	C/L of Rocks
35	TOP of ROCKS
36	Natural Bottom
37	Natural Bottom
38	Natural Bottom @ Rocks
39	Top of Rocks
40	C/L of Rocks
41	TOP of ROCKS
42	Natural Bottom
43	Natural Bottom.
44	Natural Bottom @ Rock
45	Top of Rocks
46	C/L of Rocks
47	Top of Rocks
48	Natural Bottom
49	Natural Bottom
50	Natural Bottom @ Rocks
51	Top of Rocks
52	C/L of Rocks
90	TOP of Rocks

A. Bear
Swaner
L. V. H.

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9-15-11 26

Plate 1



Plate 2

Plate 3

Plate 4

Little
LAKE

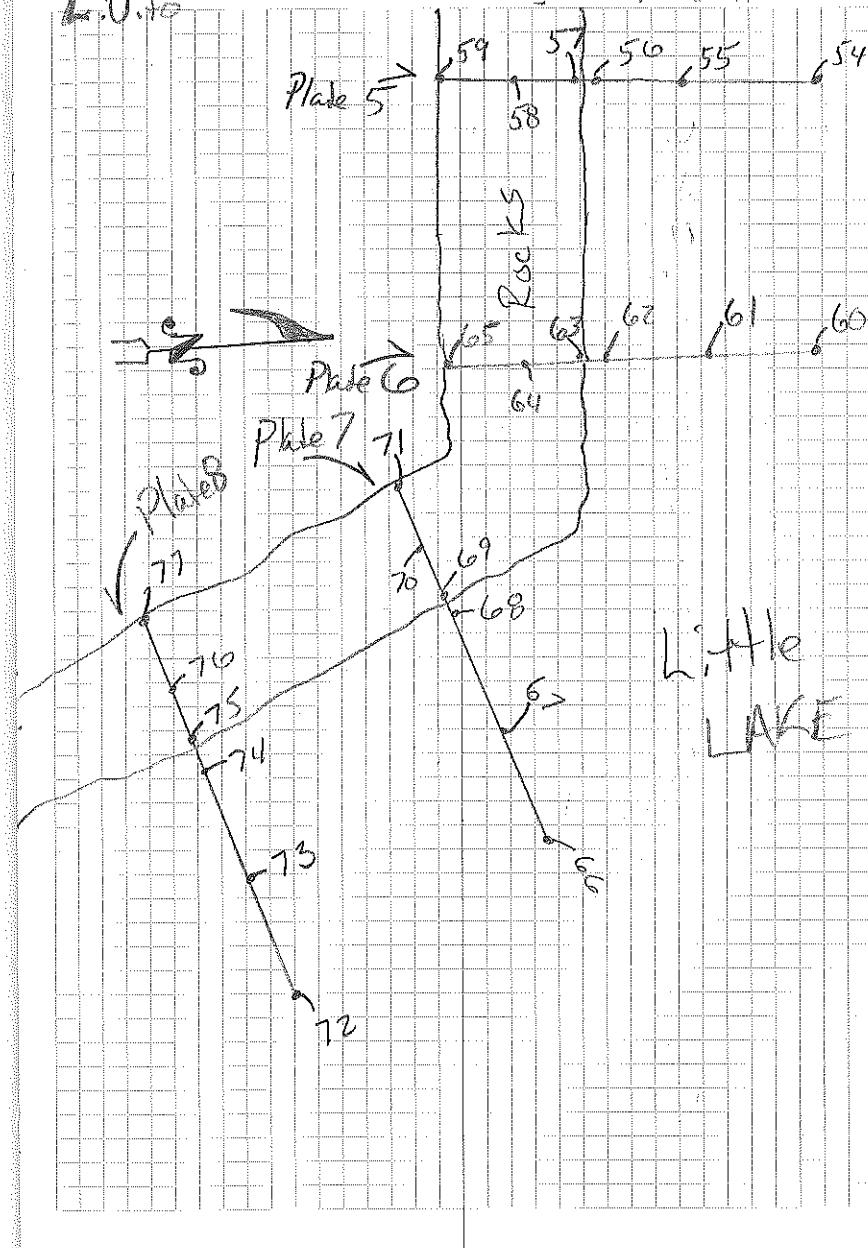
Job # 11025-02 LADNR Cont'd

Pl. #	Description
9054	Natural Bottom
55	Natural Bottom
56	Natural Bottom @ Rocks
57	Top of Rocks
58	C/L of Rocks
59	Top of Rocks
60	Natural Bottom
61	Natural Bottom
62	Natural Bottom @ Rocks
63	Top of Rocks
64	C/L of Rocks
65	Top of Rocks
66	Natural Bottom
67	Natural Bottom
68	Natural Bottom @ Rocks
69	Top of Rocks
70	C/L of Rocks
71	Top of Rocks
72	Natural Bottom
73	Natural Bottom
74	Natural Bottom @ Rocks
75	Top of Rocks
76	C/L of Rocks
9077	Top of Rocks

A. Basal
S. Ute
A. Ute

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9-15-11 27



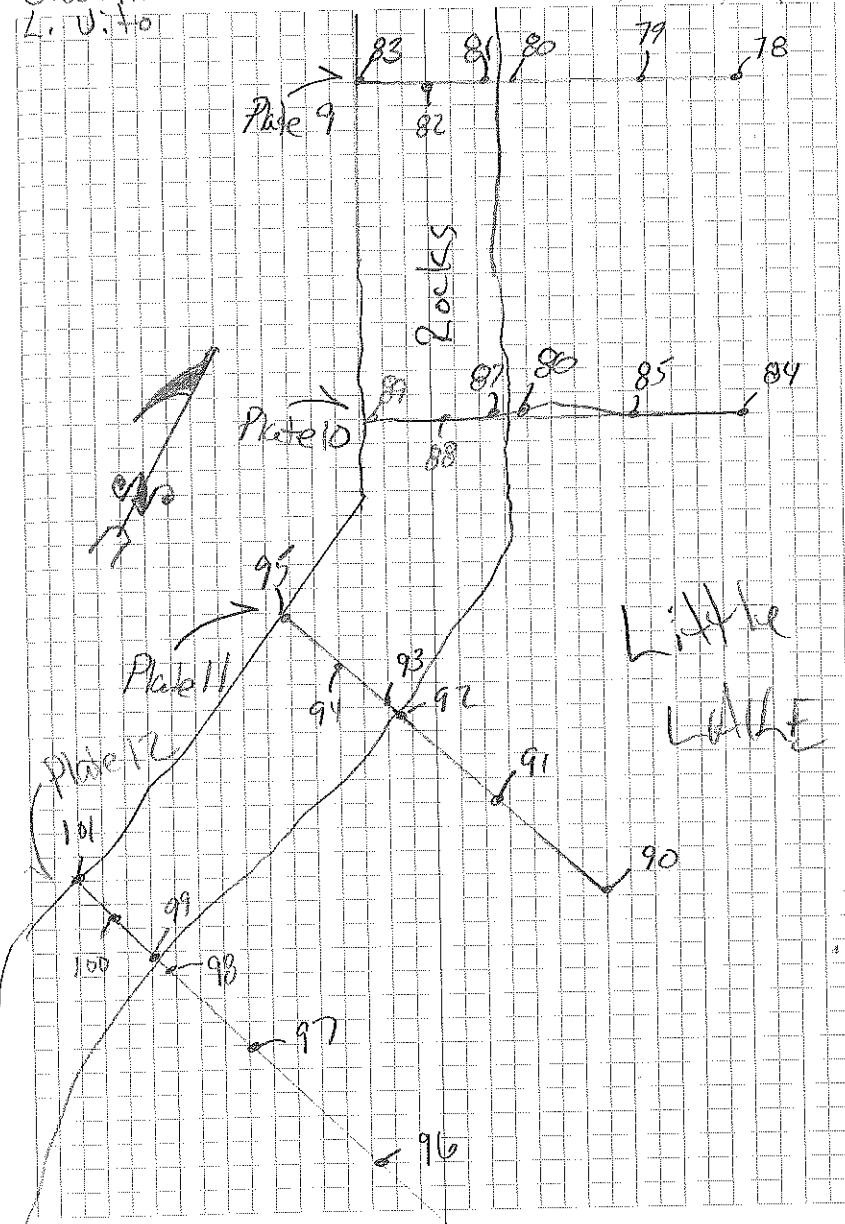
Woff# 11025-02 LADNR Conf'd

P#	Description
9073	Natural Bottom
79	Natural Bottom
80	Natural Bottom @ Rocks
81	Top of Rocks
82	C/L of Rocks
83	Top of Rocks
84	Natural Bottom
85	Natural Bottom
86	Natural Bottom @ Rocks
87	Top of Rocks
88	C/L of Rocks
89	Top of Rocks
90	Natural Bottom
91	Natural Bottom
92	Natural Bottom @ Rocks
93	Top of Rocks
94	C/L of Rocks
95	Top of Rocks
96	Natural Bottom
97	Natural Bottom
98	Natural Bottom @ Rocks
99	Top of Rocks
9100	C/L of Rocks
9101	Top of Rocks

A. Beat
J. Walker
L. U. to

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9-15-11 28



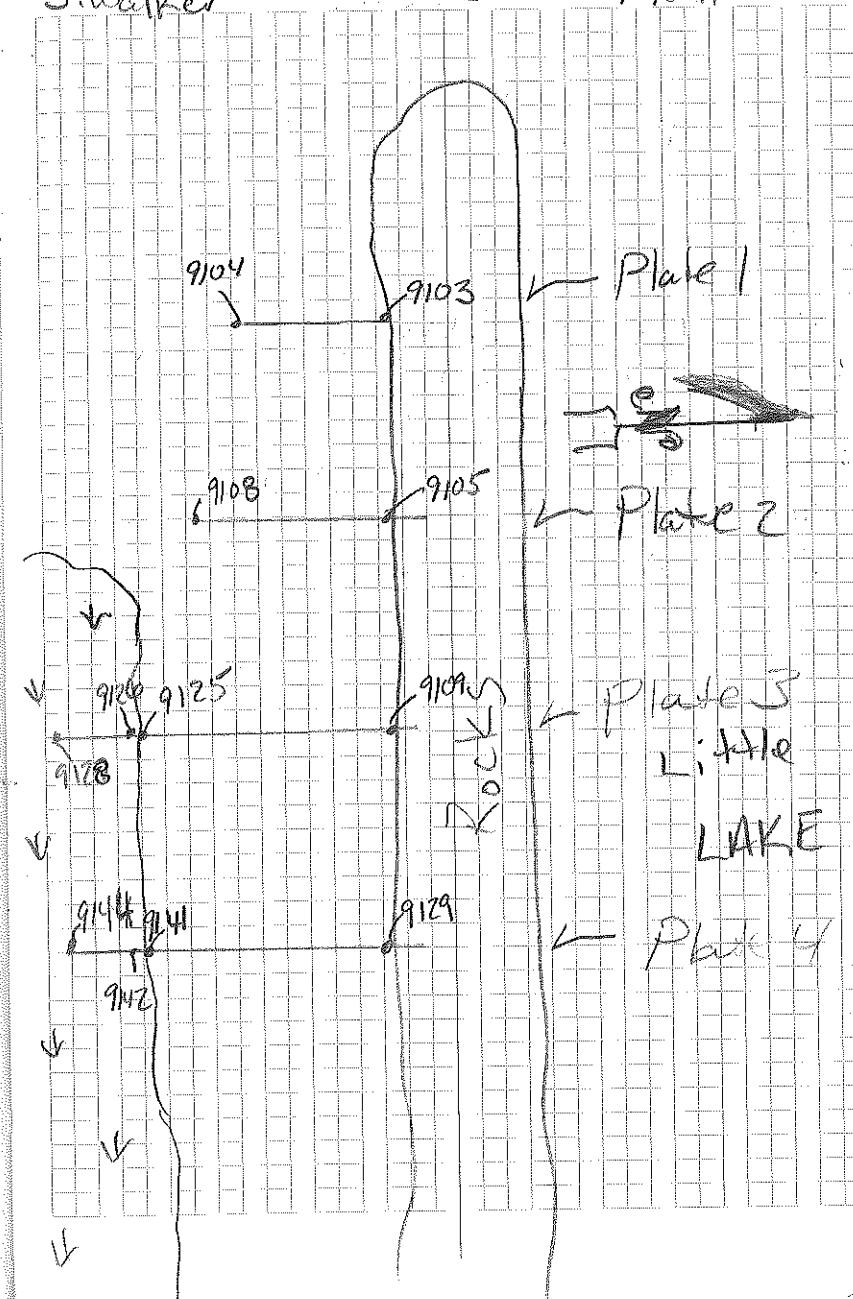
JUL #11, 025-02 LADWP Conf 6

- Pl. 1 Description
- 9102 Iron Rod w/ Cap (PF 9029)
 - 9103 Natural Bottom @ Rocks
 - 9104 Natural Bottom
 - 9105 Natural Bottom @ Rocks
 - 9106-9108 Natural Bottom
 - 9109 Natural Bottom @ Rocks
 - 9110-9124 Natural Bottom
 - 9125 Natural Bottom @ Marsh
 - 9126-9128 Natural Ground
 - 9129 Natural Bottom @ Rocks
 - 9130-9140 Natural Bottom
 - 9141 Natural Bottom @ Marsh
 - 9142-9144 Natural Ground

A. Beat
J. Walker

150

9-16-11 29



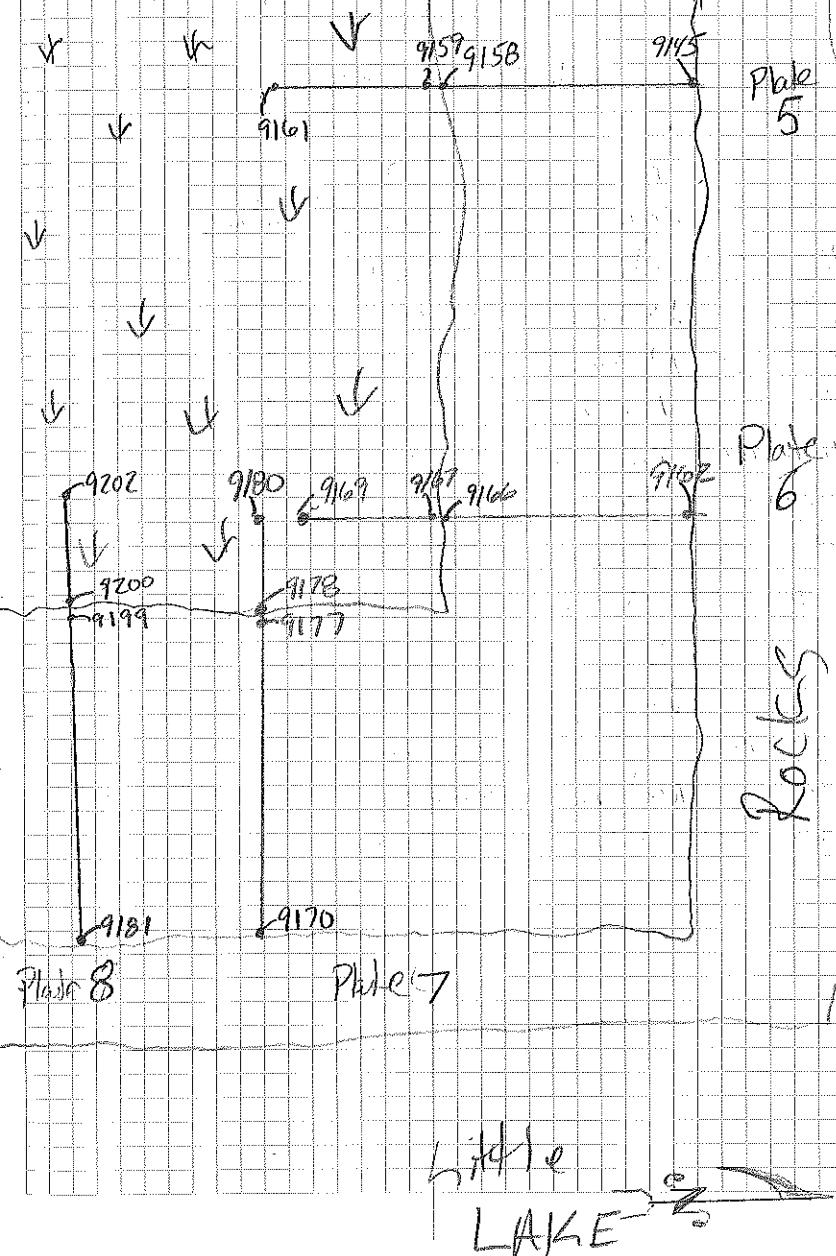
JOB # 11025-02 LADNR Cont'd.

P#	Description
9145	Natural Bottom @ Rocks
9146-9157	Natural Bottom
9158	Natural Bottom @ Marsh
9159-9161	Natural Ground
9162	Natural Bottom @ Rocks
9163-9165	Natural Bottom
9166	Natural Bottom @ Marsh
9167-9169	Natural Ground
9170	Natural Bottom @ Rocks
9171-9176	Natural Bottom
9177	Natural Bottom @ Marsh
9178-9180	Natural Ground
9181	Natural Bottom @ Rocks
9182-9198	Natural Bottom
9199	Natural Bottom @ Marsh
9200-9202	Natural Ground

A. Beal
S. Walker

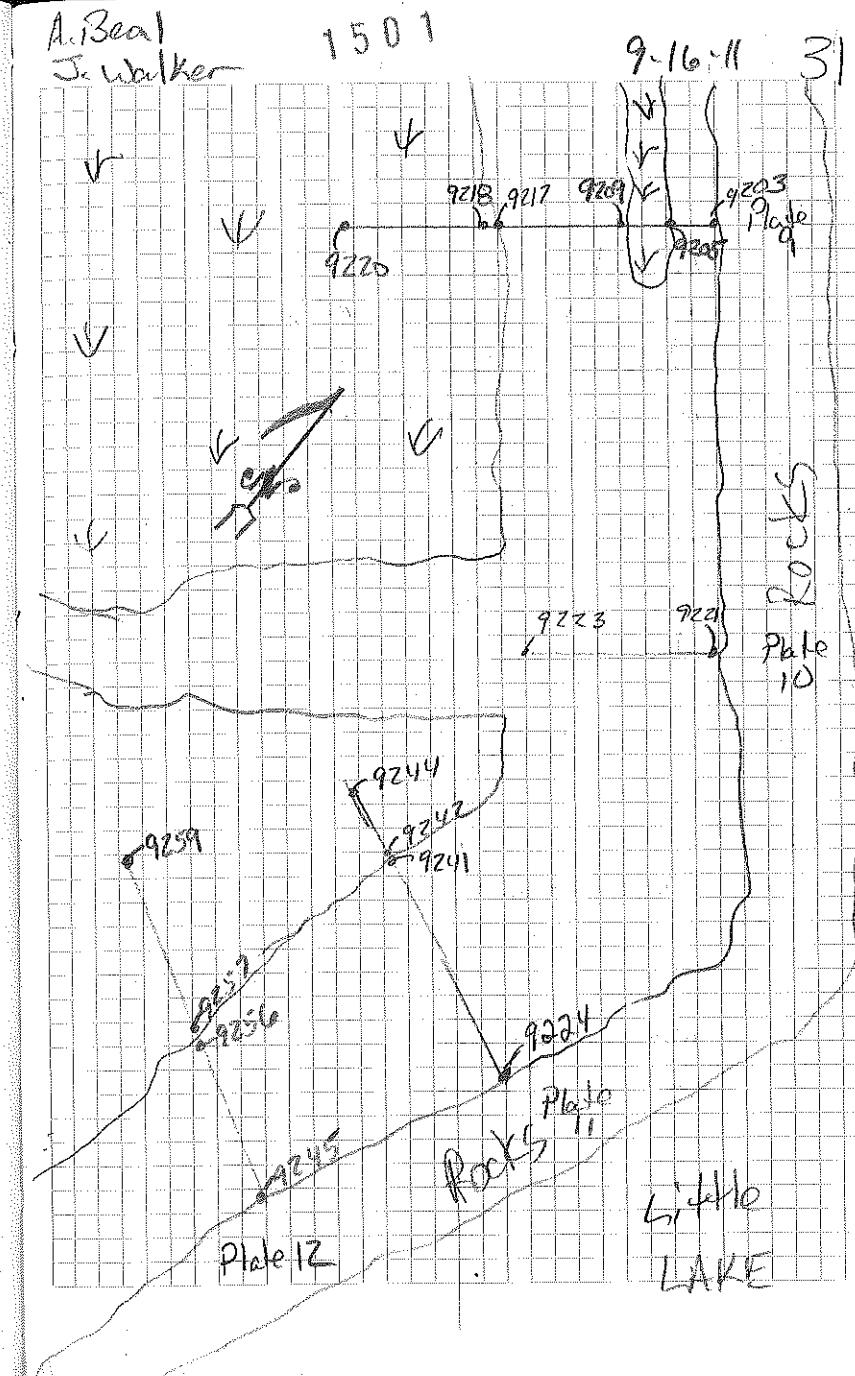
150.1

9-16-11 30.



Job # 11,025-02 LADUR Conf'd

P#	Description
9203	Natural Bottom @ Rocks
9204	Natural Bottom
9205	Natural Bottom @ Marsh
9206-9208	Natural Ground
9209	Natural Bottom @ Marsh
9210-9216	Natural Bottom
9217	Natural Bottom @ Marsh
9218- 9220	Natural Ground
9221	Natural Bottom @ Rocks
9222-9223	Natural Bottom
9224	Natural Bottom @ Rocks
9225-9240	Natural Bottom
9241	Natural Bottom @ Marsh
9242-9244	Natural Ground
9245	Natural Bottom @ Rocks
9246-9255	Natural Bottom
*	↓ VRS Gulf Net ↓*
9256	Natural Bottom @ Marsh
9257-9259	Natural Ground



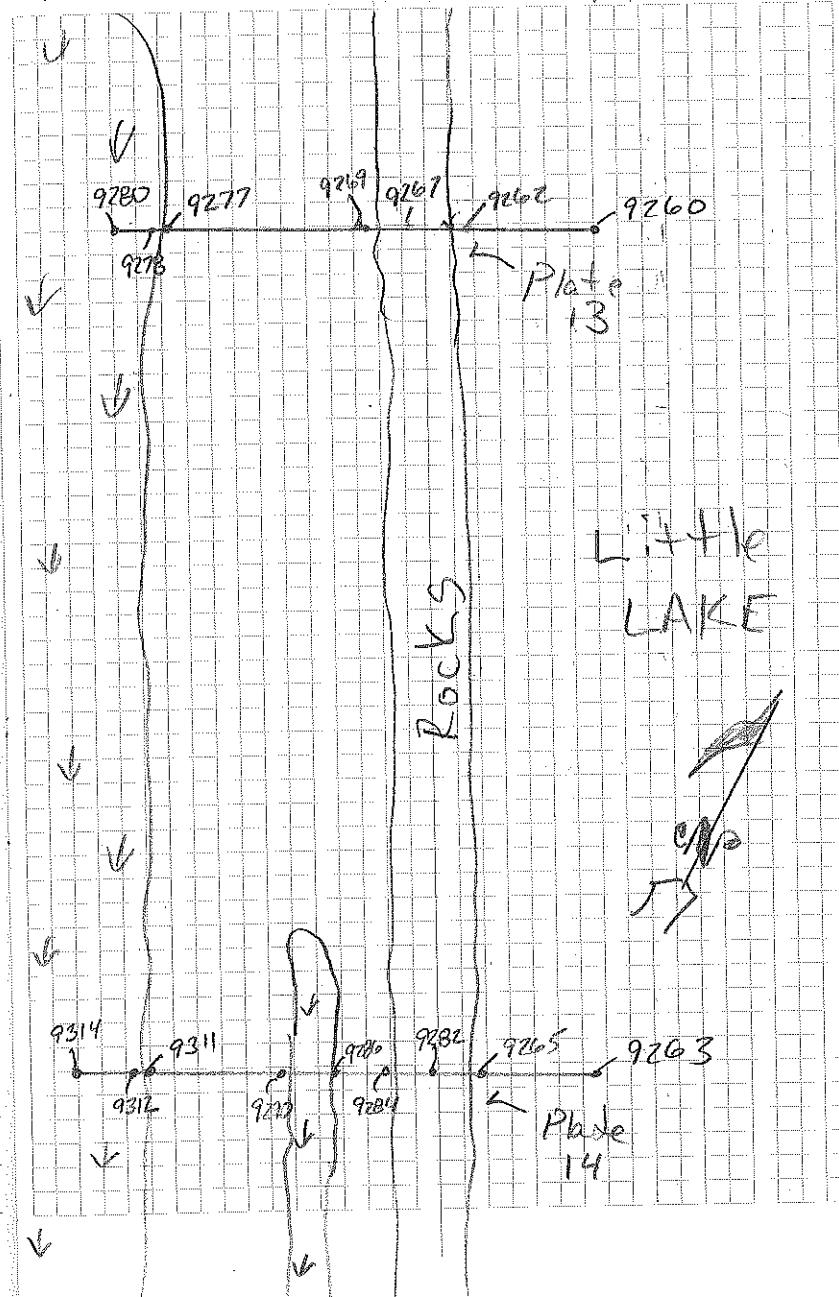
Job # 11025-02 UDNR cont'd.

pt#	Description
9260	Natural Bottom
9261	Natural Bottom
9262	Natural Bottom @ Rocks
9263	Natural Bottom
9264	Natural Bottom
9265	Natural Bottom @ Rocks
9266	Top of Rocks
9267	C/L of Rocks
9268	Top of Rocks
9269	Natural Bottom @ Rocks
9270-9276	Natural Bottom
9277	Natural Bottom @ Marsh
9278-9280	Natural Ground
9281	Top of Rocks
9282	C/L of Rocks
9283	Top of Rocks
9284	Natural Bottom @ Rocks
9285	Natural Bottom
9286	Natural Bottom @ Marsh
9287-9289	Natural Ground
9290	Natural Bottom @ Marsh
9291-9310	Natural Bottom
9311	Natural Bottom @ Marsh
9312-9314	Natural Ground

A. Beat

1501

9-17-11 32



Job#11025-02 LA, DNR
Little Lake Area

Topo#8009 QC#9102

P# Remarks A+ H.

6000 QC#9102 ($H=0.132$ $V=0.054$)

6001-	NB	11.37
2	NB @ Rocks	11.37
3	Top of Rocks	8.1
4	E of Rocks	8.1
5	Top of Rocks	8.1
6	NB @ Rocks	11.37
7 - 20	NB	11.37
21	NB @ Marsh	8.1
22	NG	8.1

Plate 15 ↑ Plate 16↓

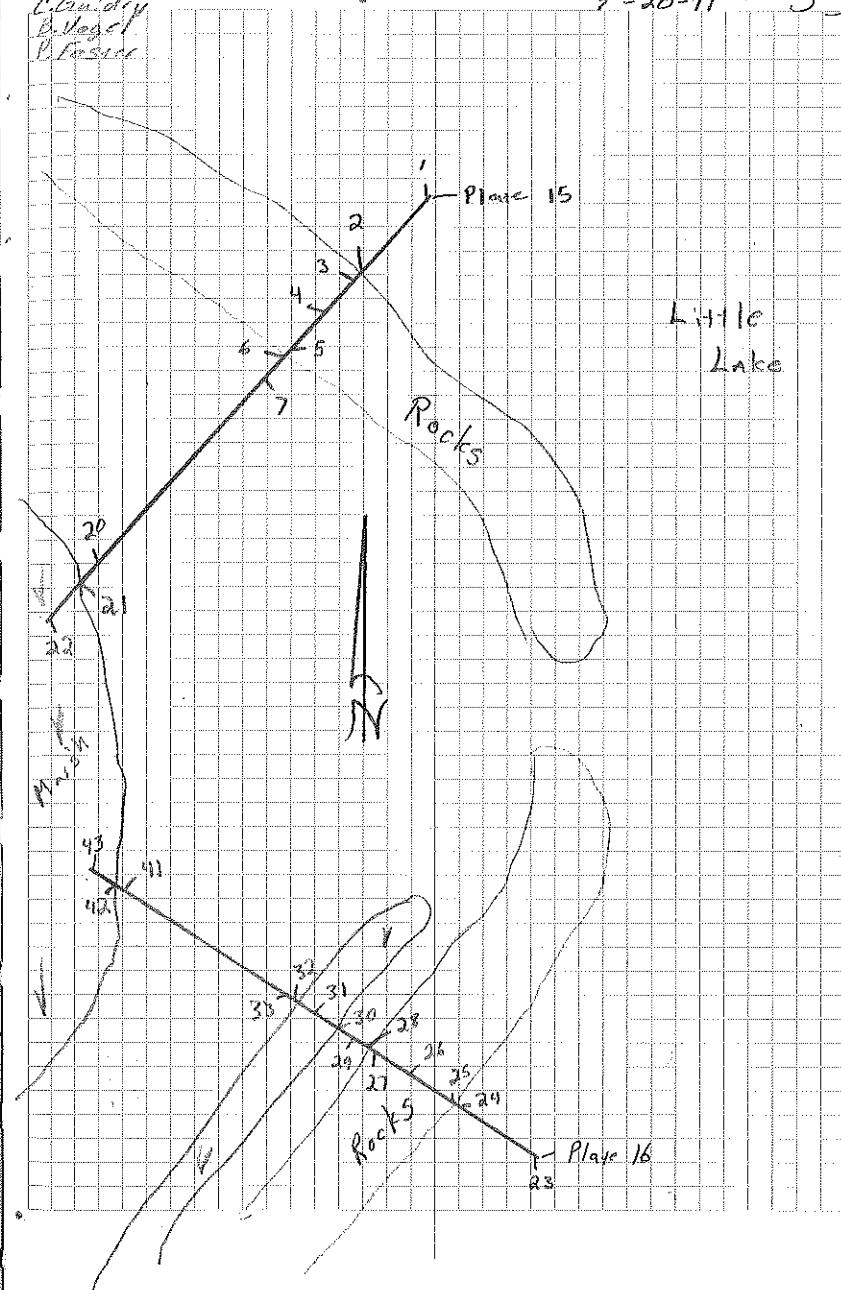
23	NB	11.37
24	NB @ Rocks	11.37
25	Top of Rocks	8.1
26	E of Rocks	8.1
27	Top of Rocks	8.1
28	NB @ Rocks	11.37
29-	NB	8.1
30	NB @ Marsh	8.1
31	NG	8.1
32	NB @ Marsh	8.1
33 - 41	NB	8.1

Cloudy
B. Veget.
P. Forest

1501

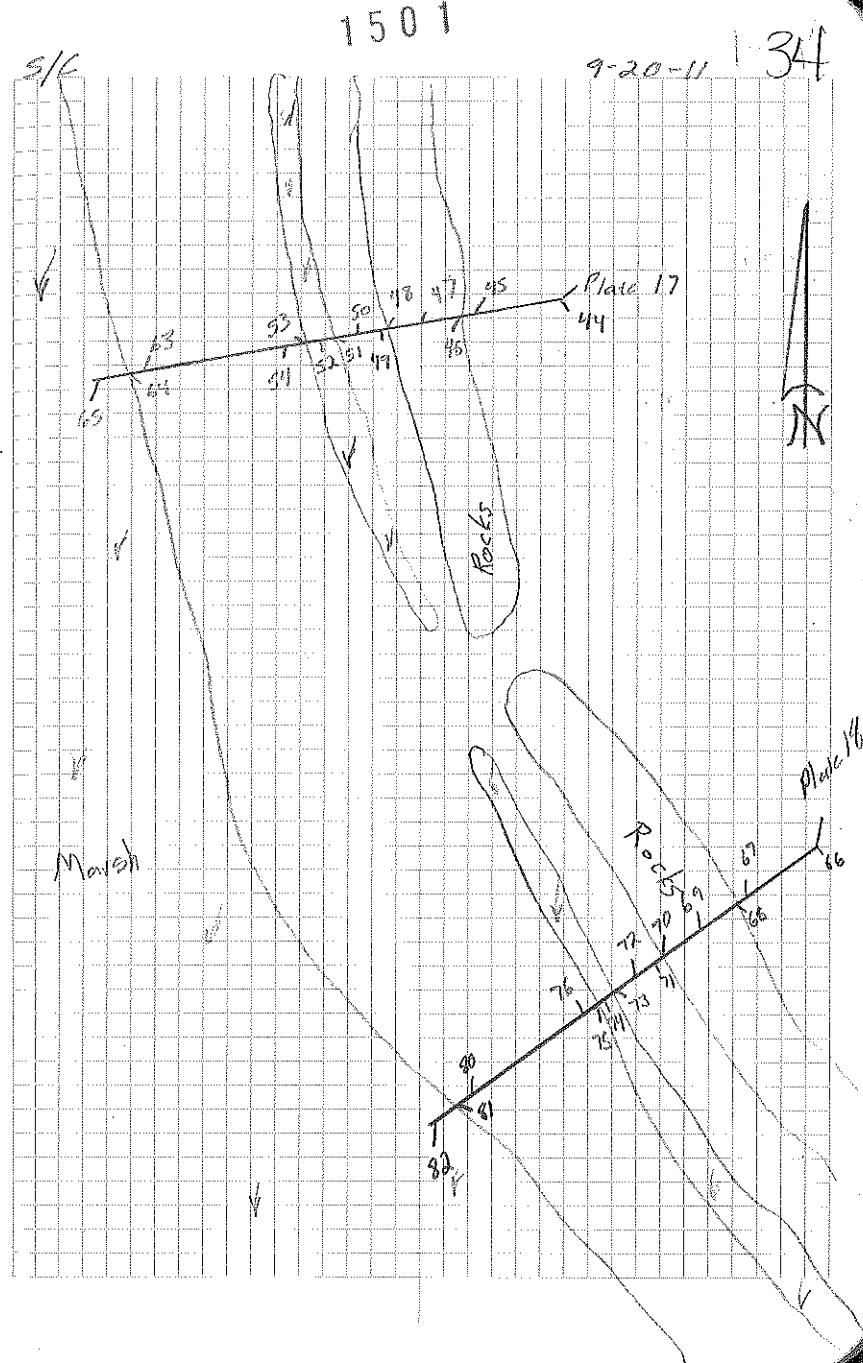
7-20-11

33



Job # 11025-02 LA, DNR
Little Lake Area

P#	Remarks	Ant. Ht.
6042	NB @ Marsh	8.1
43	NG	8.1
Plate 16 ↑ (See PG 83) Plate 17 ↓		
44	NB	11.37
45	NB @ Rocks	11.37
46	Top of Rocks	8.1
47	C of Rocks	8.1
48	Top of Rocks	8.1
49	NB @ Rocks	8.1
50	NB	8.1
51	NB @ Marsh	8.1
52	NG	8.1
53	NB @ Marsh	8.1
54-63	NG	8.1
64	NB @ Marsh	8.1
65	NG	8.1
Plate 17 ↑ Plate 18 ↓		
66	NB	11.37
67	NB @ Rocks	11.37
68	Top of Rocks	8.1
69	C of Rocks	8.1
70	Top of Rocks	8.1



9-20-11

34

JMT 11025-02 LA, DNR
Little Lake, Area

Pr#	Remarks	Ant Ht.
6071	NB @ Rocks	8.1
6072	NB	
6073	NB @ Marsh	
71	NG	
75	NB @ Marsh	
76-80	NB	
81	NB @ Marsh	
82	NG	

5/5

1501

7-20-11 35

See PG 34

JH# 1025-02 LA, DNR
Little Lake, Area

E Rock Profile

TA # 9102 AC @ 6083

Remarks

6083 (BA-37-SMO)

84 AC @ PA 6083 (H-0.120 V. 0.007)

85 Toe of E Rocks

86-115 E of Rocks

116-117 Toe of E Rocks

118-150 E of Rocks

151-152 Toe of E Rocks

153-176 E of Rocks

177-178 Toe of E Rocks

179-201 E of Rocks

202-203 Toe of E Rocks

204-239 E of Rocks

240-241 Toe of E Rocks

242-263 E of Rocks

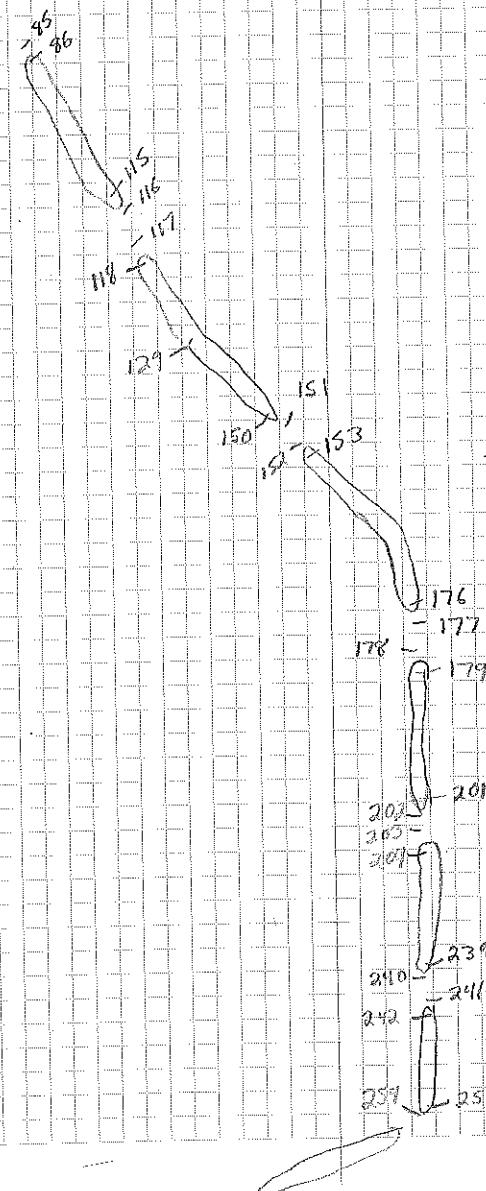
254 Toe of E Rocks

Classifying
B. Vogt
P. 10-11

1501

7-26-11

1136



Job # 11025-02 LA, DNR
Little Lake, Wisconsin

T@PF 8009 QC @PF 9102

Py# Remarks

6255 QC @ PH 7102 ($H = 0.071$ $V = 0.073$) 2m

256 NB 11.37

257 NB @ Rocks 11.37

258 Top of Rocks 8.1

259 *I of Rocks*

260 Top of Rocks

261 NB @ Rocks

~~263-266 NB~~

100 MR. & MRS.

U. S. A.

Plate 19 A Plate 20 B

Plate 11, Figure 20

26.1 100 0.1
27.0 100 1

210 NB lo rocks

27) Top of Rocks

12. I Rock

213 Tap a rock

2 m. ~~Blue~~ ~~Wells~~

275-287 NB

288 NB @ March

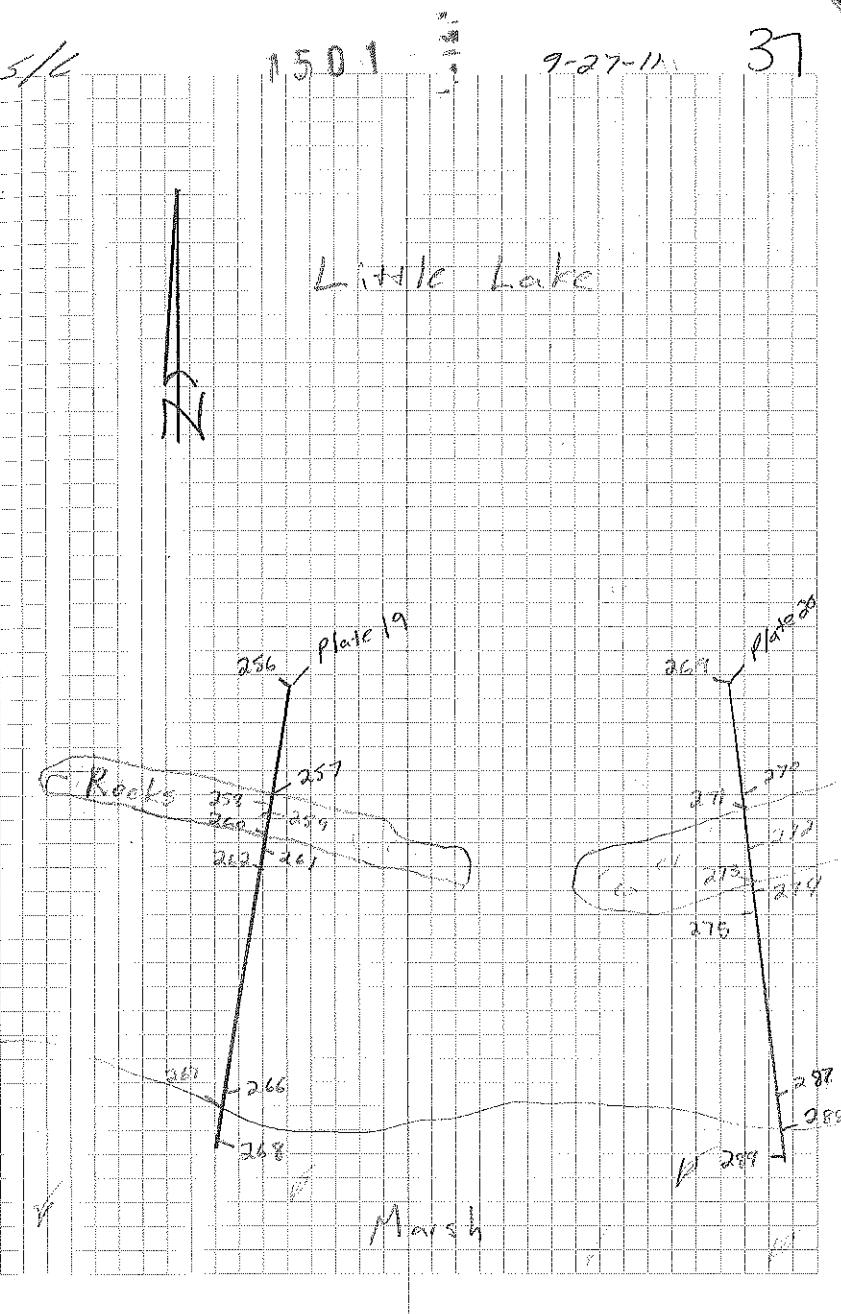
289 NG ↓

5/16/2011

501

9-27-11

3



Job# 11025-02 LA, DNR
Little Lake, Mea

P# Remarks

6290 NB

291 NB @ Rocks

292 Top Rocks

293 @ Rocks

294 Top of Rocks

295 NB @ Rocks

296-300 NB

301 NB @ Marsh

302 NG

Place 21 ↑ Place 22 ↓

303 NB

304 NB @ Rocks

305 Top of Rocks

306 @ of Rocks

307 Top of Rocks

308 NB @ Rocks

309-316 NB

317 NB @ Marsh

318 NG

Am He

11.37

8.1



11.37

8.1

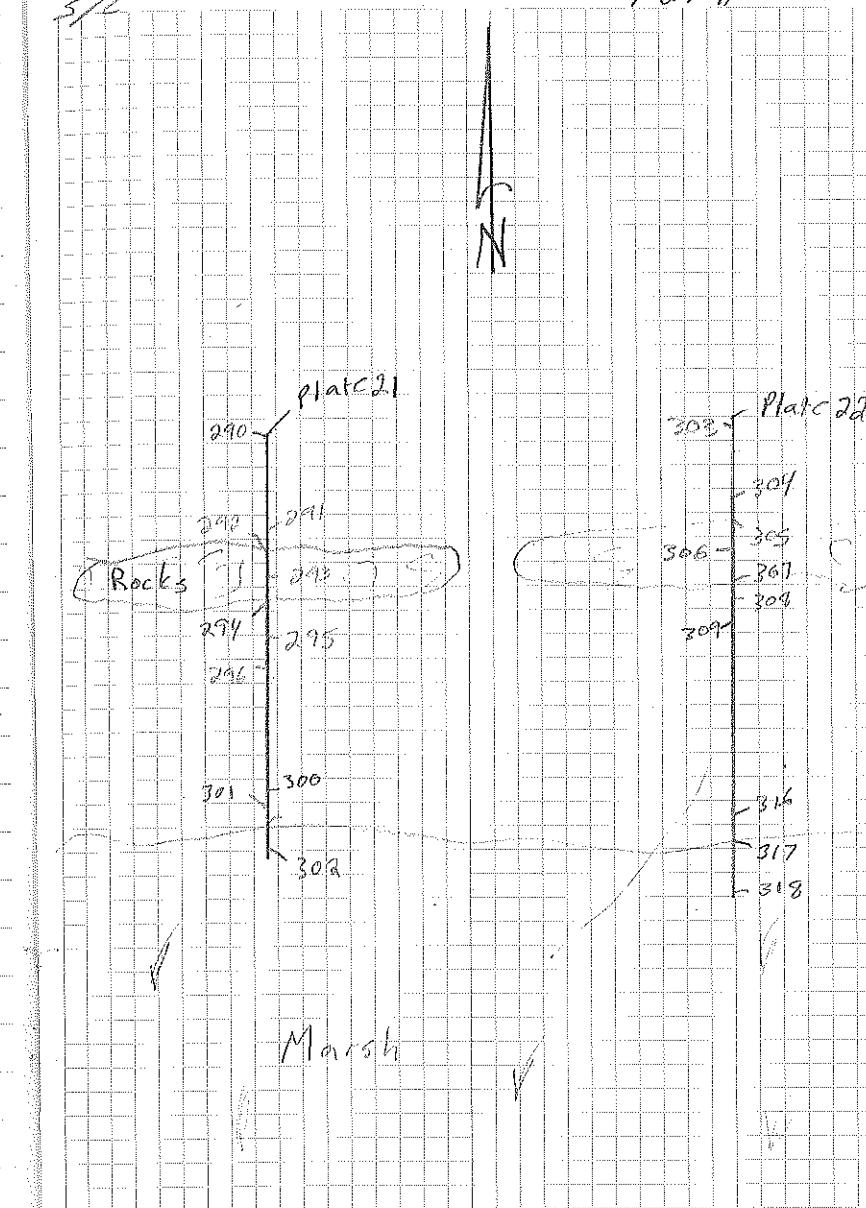


SK

150

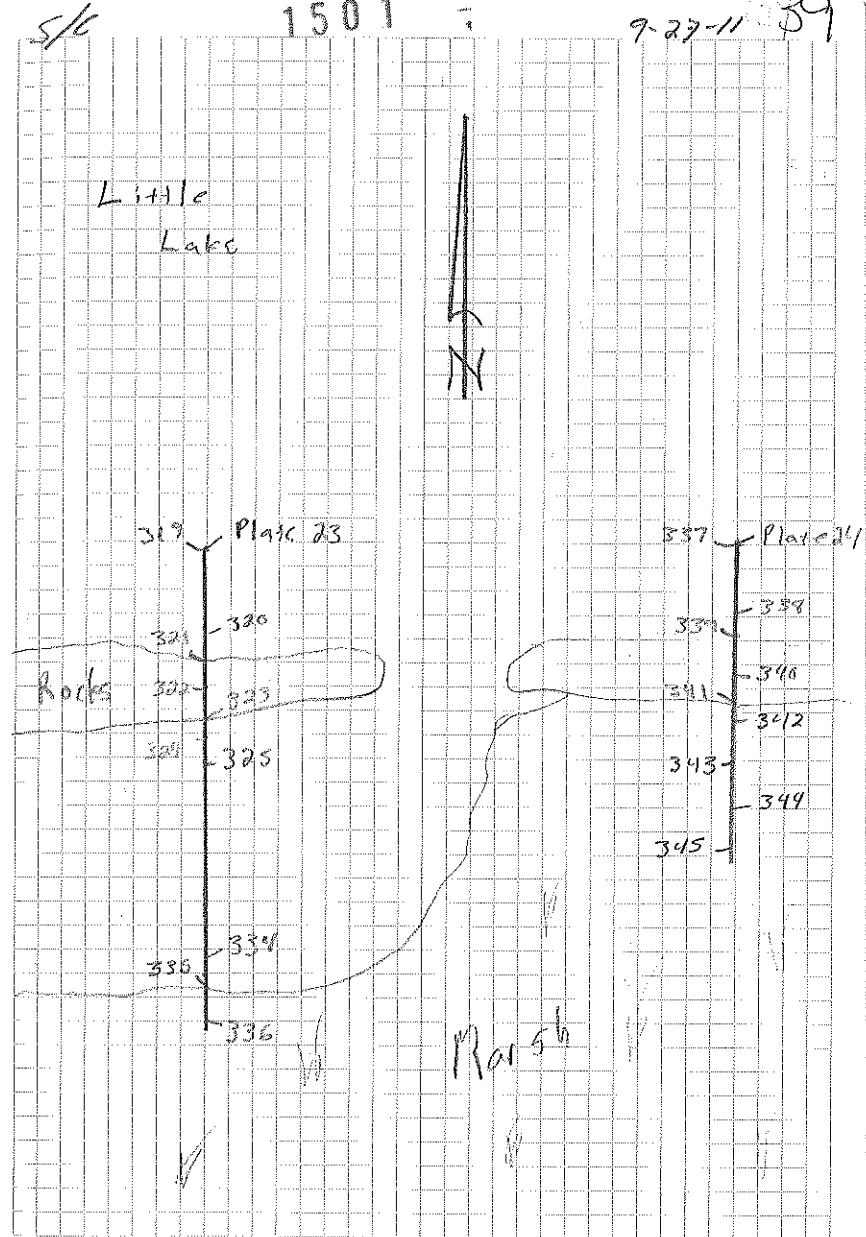
9-27-11

38



Job# 11025-02 LA, DNR
Little Lake, Area

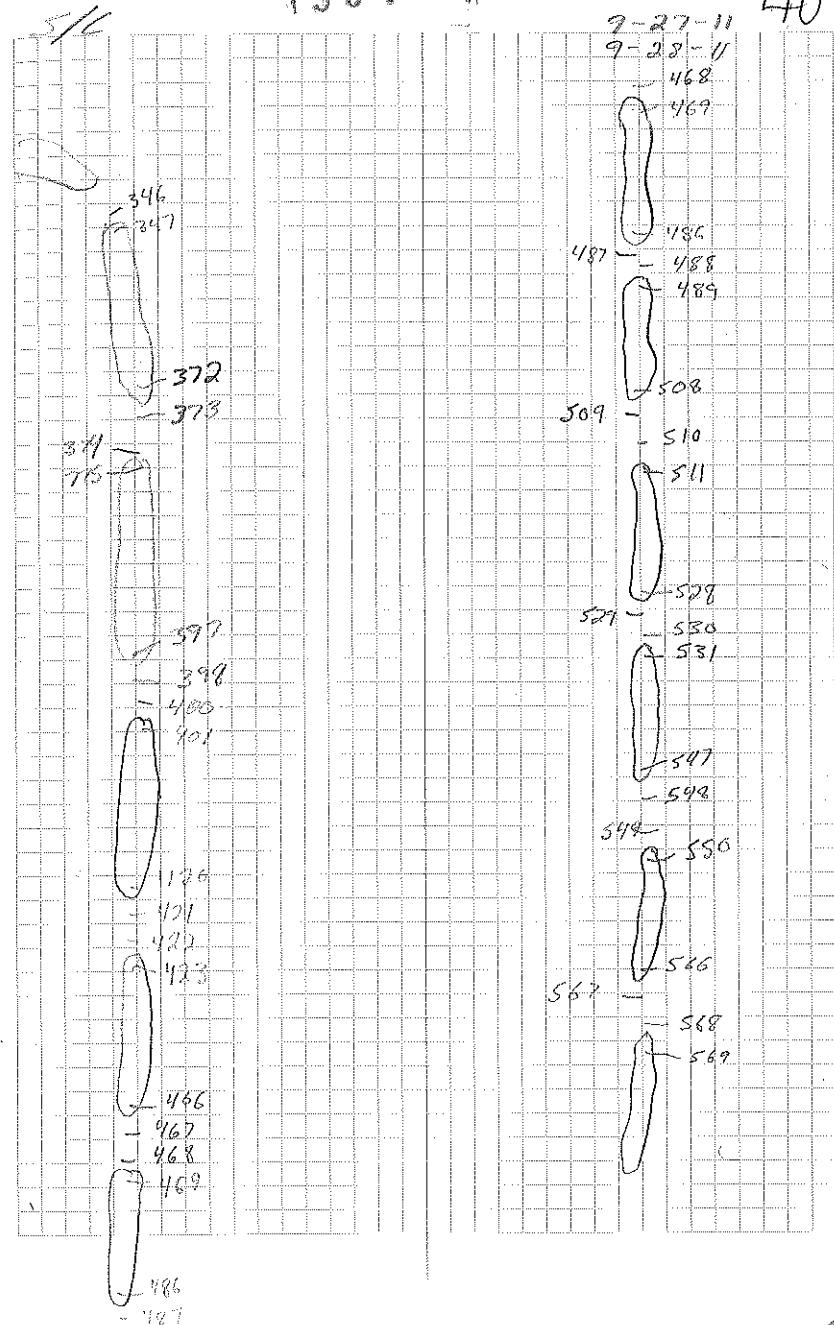
P#	Remarks	Anti-H.
6319	NR	11.32
320	NG @ Rocks	8.1
321	Top of Rocks	
322	E of Rocks	
323	Top of Rocks	
324	NG @ Rocks	
325-334	NB	
335	NG @ Marsh	
336	NG	
Plate 23 1	Plate 24 4	
337	NB	11.32
338	NG @ Rocks	8.1
339	Top of Rocks	
340	E of Rocks	
341	Top of Rocks	
342	NG Marsh @ Rocks	
343-345	NG	



Jib# 11025-02 LA. DNR
Little Lake Area

- P1# Remains
- 6346 Toe of ♀ Rocks
- 347-372 ♀ Rocks
- 373-374 Toe of ♀ Rocks
- 375-397 ♀ Rocks
- 398 Toe of ♀ Rocks
- 399 QC@ P1# 9102 ($H=0.046$ $V=0.024$)
- 400 Toe of ♀ Rocks
- 401-420 ♀ Rocks
- 421-422 Toe of ♀ Rocks
- 423-442 ♀ Rocks
- 443-449 Toe of ♀ Rocks
- 445-466 ♀ Rocks
- 467-468 Toe of ♀ Rocks
- 469-486 ♀ Rocks
- 487-488 Toe of ♀ Rocks
- 499-508 ♀ Rocks
- 509-510 Toe of ♀ Rocks
- 511-529 ♀ Rocks
- 529-530 Toe of ♀ Rocks
- 531-547 ♀ Rocks
- 548-549 Toe of ♀ Rocks
- 550-566 ♀ Rocks
- 567-569 Toe of ♀ Rocks

1501



Job # 11025-02 LA, DNR
Little Lake Area

P# # Review ss

6567-568 Toe of Q Rocks

569-593 Q Rocks

594-595 Toe of Q Rocks

596-638 Q Rocks

639-640 Toe of P Rocks

641-696 Q Rocks

697-698 Toe of P Rocks

699-738 Q Rocks

739-740 Toe of Q Rocks

741-769 Q Rocks

768-769 Toe of Q Rocks

770-805 Q Rocks

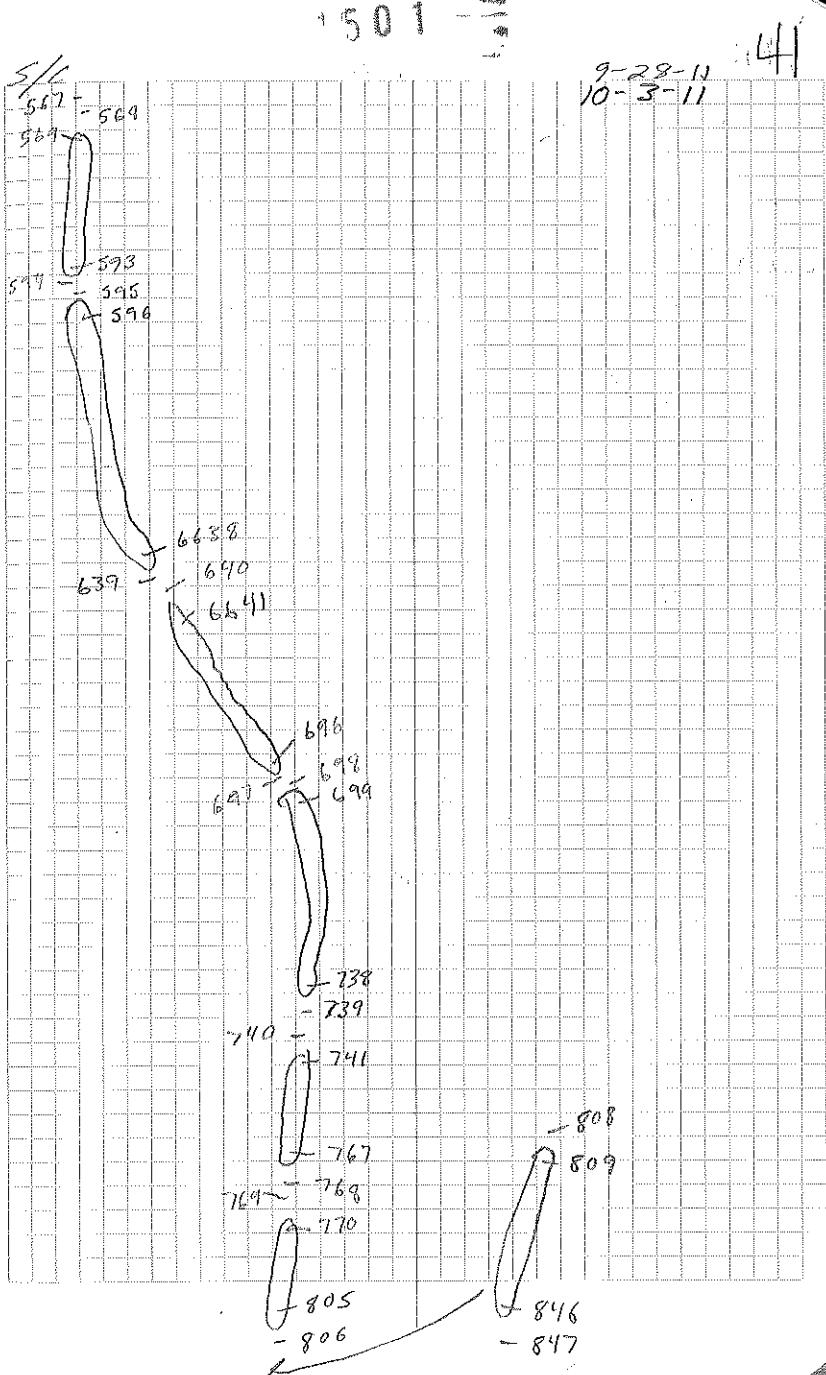
806 Toe of P Rocks

807 QC @ H+9102 ($H=0.33$ $V=0.012$)

808 Toe of Q Rocks

809-846 Q Rocks

847 Toe of P Rocks



JNFF 11025-02

LA, DNR
Little Lake Area
Grid Survey

Pt#	Remarks
6848	N=357056.561 E=3642573.695 Z=-1.307
6849	N=356400.378 E=3642596.412 Z= 0.065
6850	N=355903.662 E=3642612.175 Z= 0.231
6851	N=355403.989 E=3642628.218 Z= 1.336
6852	N=354902.351 E=3642642.085 Z= 1.182
6853	N=354403.427 E=3642658.694 Z= 1.658
6854	N=353901.775 E=3642687.959 Z= 1.749
6855	N=353400.684 E=3642688.536 Z= 2.360
6856	N=352900.670 E=3642704.685 Z= 2.257
6857	N=352400.241 E=3642720.839 Z= 1.750
6858	N=351900.849 E=3642737.420 Z= 1.665
6859	N=351401.639 E=3642753.982 Z= 1.897
6860	N=350901.796 E=3642779.467 Z= 1.889
6861	N=350406.285 E=3642808.785 Z= 1.639
6862	N=350068.320 E=3642820.493 Z= 1.865

C. Gandy
P.L.S.C.

150.1

6848	EC-6
6849	EC-7
6850	EC-18
6851	EC-19
6852	EC-17
6853	EC-98
6854	EC-61
6855	EC-62
6856	EC-69
6857	EC-70
6858	EC-77
6859	EC-79
6860	EC-91
6861	EC-90
6862	

10-3-11

42

WOT

11025-02 LA, DNR
Little Lake Area
Grid Survey

Pd

Remarks

6863	QC @ H# 9102 ($H = 0.084$ $V = 0.022$)
6864	N=357060.148 E=3643071.089 Z=0.224
6865	N=356401.285 E=3643071.209 Z=1.375
6866	N=355902.645 E=3643106.630 Z=0.712
6867	N=355401.502 E=3643121.708 Z=1.711
6868	N=354901.754 E=3643137.713 Z=1.237
6869	N=354402.586 E=3643153.877 Z=1.207
6870	N=353902.054 E=3643169.187 Z=0.989
6871	N=353403.561 E=3643185.882 Z=1.297
6872	N=352902.215 E=3643201.280 Z=1.264
6873	N=352402.855 E=3643215.332 Z=1.346
6874	N=351901.501 E=3643232.464 Z=0.928
6875	N=351402.297 E=3643247.108 Z=1.001
6876	N=350902.132 E=3643264.666 Z=0.684
6877	N=350403.658 E=3643277.678 Z=0.632
6878	N=350145.000 E=3643288.661 Z=0.377
6879	N=350403.998 E=3643281.353 Z=0.411
6880	N=350902.854 E=3643268.256 Z=0.764
6881	N=351404.090 E=3643274.059 Z=0.834
6882	N=351903.990 E=3643273.078 Z=1.533
6883	N=352404.204 E=3643276.211 Z=1.863
6884	N=352902.854 E=3643270.429 Z=1.232

C. Gandy				6864	501	43
D. Gandy	6898	6893	6983	EL-76	10-4-11	EC-75
L. Foss	EC-5	EC-4	EC-3	6905	6914	6924
6865	6891	6894	6981	06	16	23
	16-1	EL-8	EC-7	07	17	21
6866	6890	6895	6990	08	18	21
	EC-12	EC-16	EC-15	6907		
6867	6889	6896	6959	(3)		
	EC-20	EC-21	EC-22	IC-65	6910	6930
6868	6888	6887	6958	EC-79		
	10-4	EC-46	EC-45	Area 3		
6869	6887	6898	6957			
	10-5	10-4	EC-50	EC-60	EC-59	
6870	6886	6899	6956	6936	37	38
	10-19	10-18	EC-60	FC-53	39	
6871	6885	6900	6935	43	42	40
	EC-63	10-20	10-21	10-32	(1)	
6872	6884	6901	6934	44	45	47
	EC-68	10-41	10-40	10-39	51	50
6873	6883	6902	6933	52	53	54
	EC-71	EC-72	10-42	10-43	6955	
6874	6882	6903	6932	7C-21	Area 2	10-22
	10-63	EC-76	EC-75	10-62		
6875	6881	6904	6931	6960	61	62
	(1)			6961	63	63
6876	10-64	10-65	EC-79	10-66	67	66
	6880	6915	6930	6962	65	64
6877	10-79	10-78	EC-90	EC-89	68	67
	6879	6926	6928	6963	70	71
6878	EC-92	EC-93	EC-94	6964	71	72
	7032	6878	6927	6928	75	74
				76	77	78
				78	79	79
				EC-22	Area 1	EC-23

JOB# 11025-02

LA, DNR

Little Lake, Acre
Grid Survey

Pt#

Remarks

6885	N=353403.081	E=3643685.192	Z=1.912
6886	N=353904.020	E=3643669.605	Z=1.405
6887	N=354402.418	E=3643654.716	Z=1.143
6888	N=354903.909	E=3643637.302	Z=1.317
6889	N=355404.899	E=3643621.789	Z=1.623
6890	N=355905.550	E=3643606.238	Z=1.582
6891	N=356405.528	E=3643590.186	Z=0.682
6892	N=356902.592	E=3643576.192	Z=1.243
6893	N=356901.586	E=3644025.338	Z=1.106
6894	N=356404.847	E=3644093.027	Z=1.533
6895	N=355904.201	E=3644107.729	Z=1.817
6896	N=355405.630	E=3644122.644	Z=1.556
6897	N=354903.535	E=3644138.276	Z=0.321
6898	N=354405.923	E=3644154.190	Z=-0.914
6899	N=353902.264	E=3644179.082	Z=1.795
6900	N=353403.492	E=3644185.443	Z=1.282
6901	N=352906.069	E=3644199.014	Z=1.620
6902	N=352406.311	E=3644217.179	Z=1.387
6903	N=351905.183	E=3644231.874	Z=1.238
6904	N=351404.138	E=3644250.301	Z=1.106
6905	N=351454.951	E=3644196.209	Z=0.951
6906	N=351430.640	E=3644198.011	Z=1.138

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See PG 43

Job# 11025-02

LA, DNR
Little Lake Area
Grid Survey

Pt# Remarks

6907	N= 351404.712	E= 3644197.891e	Z= 1.081
6908	N= 351379.048	E= 3644198.020	Z= 0.931
6909	N= 351353.1697	E= 3644197.702	Z= 0.955
6910	N= 351355.299	E= 3644231.1084	Z= 1.179
6911	N= 351380.811	E= 3644230.4117	Z= 1.194
6912	N= 351405.789	E= 3644231.398	Z= 1.173
6913	N= 351431.189	E= 3644230.031	Z= 1.089
6914	N= 351454.981	E= 3644231.040	Z= 1.205
6915	N= 351455.257	E= 3644231.1551	Z= 1.142
6916	N= 351489.1689	E= 3644265.207	Z= 1.004e
6917	N= 351404.715	E= 3644264.554	Z= 1.136
6918	N= 351380.2160	E= 3644263.271	Z= 1.104
6919	N= 351355.823	E= 3644264.529	Z= 1.028
6920	N= 351356.356	E= 3644291.291e	Z= 0.764
6921	N= 351379.044	E= 3644298.374	Z= 1.036
6922	N= 351404.646	E= 3644297.747	Z= 1.046
6923	N= 351430.031	E= 3644297.841	Z= 1.198
6924	N= 351454.400	E= 3644297.402	Z= 1.141
6925	N= 350904.486	E= 3644264.147	Z= 0.408
6926	N= 350105.498	E= 3644280.053	Z= 0.733
6927	N= 350179.659	E= 3644286.723	Z= 3.106
6928	N= 350218.133	E= 3644285.636	Z= 2.207

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See PG 43

JOB#

11025-02

LA, DNR

Little Lake Area

Grid Survey

Pt #	Remarks			
6929	N=350406.172	E=3644778.901	Z=1.263	
6930	N=350406.278	E=3644762.517	Z=1.699	
6931	N=351406.357	E=3644774.122	Z=0.658	
6932	N=351905.541	E=3644783.099	Z=1.584	
6933	N=352406.588	E=3644715.608	Z=1.472	
6934	N=352907.633	E=3644702.192	Z=1.369	
6935	N=353404.932	E=3644684.177	Z=0.208	
6936	N=353455.456	E=3644634.137	Z=0.195	
6937	N=353457.137	E=3644669.785	Z=0.702	
6938	N=353457.732	E=3644702.856	Z=0.649	
6939	N=353456.046	E=3644735.498	Z=0.453	
6940	N=353453.522	E=3644725.600	Z=0.559	
6941	N=353432.794	E=3644702.831	Z=0.423	
6942	N=353431.616	E=3644669.260	Z=0.940	
6943	N=353431.403	E=3644635.698	Z=0.879	
6944	N=353405.783	E=3644635.240	Z=1.663	
6945	N=353405.022	E=3649689.143	Z=0.793	
6946	N=353406.076	E=3649702.427	Z=0.457	
6947	N=353404.875	E=3649734.697	Z=0.419	
6948	N=353380.595	E=3649735.481	Z=0.537	
6949	N=353381.492	E=3649702.225	Z=1.736	
6950	N=353381.109	E=3649669.933	Z=1.213	

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See PG. 43

Job # 11025-02

LA DNR

Little Lake, Area
Grid Survey

P#	Remarks	E=	Z=
6951	N= 353380.051	E= 36441635.507	Z= 1.369
6952	N= 353356.123	E= 36441636.813	Z= 1.400
6953	N= 353356.061	E= 36441636.818	Z= 1.442
6954	N= 353355.318	E= 36441602.008	Z= 1.741
6955	N= 353355.874	E= 36441635.602	Z= 0.1637
6956	N= 353904.934	E= 36441667.604	Z= 1.213
6957	N= 354400.921	E= 36441654.456	Z= 1.490
6958	N= 354907.673	E= 36441635.791	Z= 1.798
6959	N= 355405.282	E= 36441622.751	Z= 1.997
6960	N= 3554154.970	E= 36441653.616	Z= 1.490
6961	N= 355455.293	E= 36441606.199	Z= 1.565
6962	N= 355455.779	E= 36441639.048	Z= 1.735
6963	N= 355456.578	E= 36441672.682	Z= 1.595
6964	N= 355430.492	E= 36441633.712	Z= 1.596
6965	N= 355431.182	E= 36441638.804	Z= 1.733
6966	N= 355432.602	E= 36441615.920	Z= 1.432
6967	N= 355431.351	E= 36441573.113	Z= 1.356
6968	N= 355406.160	E= 36441572.471	Z= 1.863
6969	N= 355406.926	E= 36441606.152	Z= 1.768
6970	N= 355405.239	E= 36441639.683	Z= 1.514
6971	N= 355404.870	E= 36441672.292	Z= 1.701
6972	N= 355381.123	E= 36441672.746	Z= 1.1618

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See Pg. 43

JOB# 11025-02 LA, DNR
Little Lake, Area
Grid Survey

Pt#	Remarks
6973	N: 355379.9165 E: 364441.038.151 Z: 1.714
6974	N: 355379.441 E: 364441.016.103 Z: 1.534
6975	N: 355380.586 E: 364445.13.483 Z: 1.281
6976	N: 35 5357.582 E: 364445.74.1677 Z: 1.492
6977	N: 35 5354.116 E: 364446.05.9167 Z: 1.677
6978	N: 355355.319 E: 364446.410.221 Z: 2.274
6979	N: 355355.1605 E: 364446.73.006 Z: 1.1602
6980	N: 355903.227 E: 364446.05.850 Z: 1.548
6981	N: 356406.413 E: 364459.0.675 Z: 0.801
6982	N: 356961.091 E: 364457.3.33 Z: 0.998

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See PG 43

JOB #

1025-02 LA, PNR

Little Lake, Area
Grid Survey

Pt # Remarks

6983		AC 011 + 9102 (H. 0.055 V=0.034)	
6984	N= 352125.999	E= 3645068.736	Z= 1.300
6985	N= 356406.936	E= 3645096.572	Z= 1.528
6986	N= 355906.258	E= 3645106.989	Z= 1.413
6987	N= 355405.794	E= 3645122.252	Z= 1.851
6988	N= 354904.501	E= 3645142.977	Z= 1.822
6989	N= 354405.910	E= 3645151.080	Z= 0.466
6990	N= 353907.442	E= 3645169.342	Z= 1.459
6991	N= 353406.520	E= 3645185.192	Z= 1.123
6992	N= 352906.165	E= 3645200.850	Z= 1.642
6993	N= 352409.093	E= 3645217.448	Z= 2.100
6994	N= 351905.438	E= 3645234.153	Z= 1.042
6995	N= 351408.610	E= 3645250.521	Z= 1.819
6996	N= 350907.977	E= 3645268.734	Z= 2.095
6997	N= 350406.207	E= 3645279.499	Z= 1.459
6998	N= 350408.662	E= 3645280.989	Z= 0.647
6999	N= 350911.475	E= 3645267.655	Z= 2.440
7000	N= 351409.944	E= 3645250.615	Z= 2.191
7001	N= 351907.694	E= 3645236.750	Z= 0.490
7002	N= 352407.512	E= 3645217.645	Z= 1.270
7003	N= 352907.584	E= 3645201.301	Z= 1.555
7004	N= 353407.349	E= 3645185.129	Z= 1.772

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6984	EC-1	7010
6985	EC-11	EC-12
6986	10-2	EC-13
6987	10-3	EC-24
6988	EC-43	EC-42
6989	EC-51	10-7
6990	EC-58	10-17
6991	10-23	10-24
6992	10-38	10-37
6993	10-44	10-45
6994	10-61	10-60
6995	10-67	10-68
6996	10-77	EC-88
6997	6998	EC-87
		EC-86
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JUDT

11025-02 LA, DNR

LWILC Lake, 4 sec.
Grid Survey

Pt# Remarks

7005	N: 353 915.558	E: 3645669.385	Z: 1.670
7006	N: 354 403.021	E: 3645653.082	Z: 1.597
7007	N: 354 908.462	E: 3645639.202	Z: 1.836
7008	N: 355 407.277	E: 3645623.068	Z: 2.021
7009	N: 355 905.133	E: 3645611.563	Z: -0.808
7010	N: 356 403.065	E: 3645591.012	Z: -1.289
7011	N: 355 408.018	E: 3646025.065	Z: 0.132
7012	N: 354 909.086	E: 3646139.264	Z: 0.733
7013	N: 354 407.515	E: 3646154.729	Z: 1.680
7014	N: 353 908.348	E: 3646167.589	Z: 1.605
7015	N: 353 408.813	E: 3646166.811	Z: 0.982
7016	N: 352 909.089	E: 3646201.961	Z: 2.084
7017	N: 352 410.494	E: 3646216.489	Z: 2.059
7018	N: 351 908.815	E: 3646233.291	Z: 1.498
*7019	N: 351 416.947	E: 3646317.367	Z: 1.767
7020	N: 350 899.660	E: 3646264.864	Z: 2.117
7021	N: 350 410.361	E: 3646280.300	Z: 0.353
7022	N: 350 408.642	E: 3646779.037	Z: 1.762
7023	N: 350 910.139	E: 3646763.957	Z: 1.197
7024	N: 351 413.256	E: 3646750.743	Z: 1.754
7025	N: 351 911.238	E: 3646733.202	Z: 1.166
7026	N: 352 412.572	E: 3646717.578	Z: 1.078

S/C

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See Pg 49

*Note - Due to site conditions, point
NUMBER 7019 WAS NOT RECORDED
AT THE INTERSECTION OF SEC. 4A
& SEC. 16 IN 2011

Job# 11025-02 LA, DNR
Little Lake, Acc
Grid Survey

Pg # Remarks

- | | | | |
|------|----------------------------------|-----------------|-----------|
| 2027 | N° 352910.082 | E=3646701.689 | Z= 1.088 |
| 2028 | N° 353410.592 | E= 3646689.251 | Z= 1.468 |
| 2029 | N° 353909.759 | E= 3646688.586 | Z= 1.463 |
| 2030 | N° 354107.411 | E= 3646654.178 | Z= -0.516 |
| 2031 | N° 354909.980 | E= 3646458.693 | Z= 0.992 |
| 2032 | N° 350115.187 | E= 3643296.506 | Z= +1.861 |
| 2033 | QL @ Pt 9102 (H= 0.077 V= 0.040) | | |
| 2034 | N° 354320.986 | E= 364758.0163 | Z= 2.335 |
| 2035 | N° 353911.419 | E= 36471167.432 | Z= 0.330 |
| 2036 | N° 353413.027 | E= 3647185.755 | Z= 1.440 |
| 2037 | N° 352811.1613 | E= 3647262.171 | Z= 1.172 |
| 2038 | N° 352424.961 | E= 3647228.120 | Z= 1.721 |
| 2039 | N° 351910.777 | E= 3647232.834 | Z= 2.271 |
| 2040 | N° 351412.771 | E= 3647251.255 | Z= -0.077 |
| 2041 | N° 350902.953 | E= 3647245.510 | Z= 1.094 |
| 2042 | N° 350408.330 | E= 3647280.012 | Z= 2.844 |
| 2043 | N° 350445.133 | E= 3647780.341 | Z= 1.473 |
| 2044 | N° 350912.981 | E= 36477165.480 | Z= 2.157 |
| 2045 | N° 351413.811 | E= 3647751.312 | Z= 1.435 |
| 2046 | N° 351912.218 | E= 3647732.106 | Z= 1.592 |
| 2047 | N° 352413.1606 | E= 3647717.871 | Z= 0.413 |
| 2048 | N° 352713.291 | E= 3647701.383 | Z= 1.662 |

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Job#

11025-02 LA, DNR
Little Lake, Area
Grid Survey

P/L#

Remarks

7049	N= 353412.921	E= 3647686.345	Z= 1,911
7050	N= 3533163.100	E= 3647636.456	Z= 1,855
7051	N= 3533162.1613	E= 3647670.712	Z= 1,730
7052	N= 3533162.998	E= 3647703.671	Z= 1,351
7053	N= 3533162.199	E= 3647736.111	Z= 1,712
7054	N= 353388.578	E= 3647734.534	Z= 1,355
7055	N= 353387.872	E= 3647703.779	Z= 1,531
7056	N= 353387.922	E= 3647669.1682	Z= 1,703
7057	N= 353386.393	E= 3647636.247	Z= 1,656
7058	N= 353412.834	E= 3647634.971	Z= 1,420
7059	N= 353413.129	E= 3647669.008	Z= 1,493
7060	N= 353412.323	E= 3647703.258	Z= 1,460
7061	N= 353412.977	E= 3647736.995	Z= 1,434
7062	N= 353437.761	E= 3647736.208	Z= 1,380
7063	N= 353437.773	E= 3647703.325	Z= 1,798
7064	N= 353437.817	E= 3647670.968	Z= 1,427
7065	N= 353438.431	E= 3647636.342	Z= 1,204
7066	N= 353443.136	E= 3647637.100	Z= 1,483
7067	N= 353443.447	E= 3647670.449	Z= 1,405
7068	N= 353443.238	E= 36477703.183	Z= 1,593
7069	N= 353443.013	E= 3647736.1664	Z= 1,236
7070	N= 353910.914	E= 3647672.961	Z= 1,315

S/C

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Area 5

66	67	68	69
68	69	63	62
69	61	60	61
61	54	53	54

7050

Area 4

100	101	102
106	105	104
107	108	109
108	109	110

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Area 3

49	50	51
55	54	53
56	52	53
55	52	51

See PG 51

Job #	Date	LA, DNR		
		Lake Lake, Area		
		Grid Survey		
P#	Remarks			
2071	N: 354081.152	E: 3647705.328	Z: 1.072	
2072	N: 354385.404	E: 3648151.726	Z: 1.717	
2073	N: 353912.856	E: 3648171.098	Z: 1.757	
2074	N: 353414.708	E: 3648183.399	Z: 1.404	
2075	N: 352914.365	E: 3648201.916	Z: 1.063	
2076	N: 352414.204	E: 3648217.510	Z: 1.485	
2077	N: 351914.588	E: 3648232.317	Z: 1.421	
2078	N: 351415.877	E: 3648250.623	Z: 1.447	
2079	N: 350913.980	E: 3648264.759	Z: 0.948	
2080	N: 350478.368	E: 3648278.131	Z: 1.532	
2081	N: 350502.850	E: 3648278.260	Z: 1.136	
2082	N: 350913.221	E: 3648278.144	Z: 1.447	
2083	N: 351413.4621	E: 36482765.842	Z: 0.329	
2084	N: 351914.830	E: 36482734.057	Z: 1.879	
2085	N: 352415.149	E: 3648277.821	Z: 1.735	
2086	N: 352914.015	E: 3648273.310	Z: 1.208	
2087	N: 353415.127	E: 3648284.165	Z: 1.004	
2088	N: 353913.856	E: 36482669.151	Z: 0.739	
2089	N: 354411.719	E: 3648251.844	Z: -2.246	
2090	N: 354413.310	E: 3648278.085	Z: 1.458	
2091	N: 354916.784	E: 3649138.353	Z: 0.821	
2092	N: 354414.530	E: 3649154.394	Z: 1.934	

S/C

1501

10-5-11

5B

See PG 51 & 52

Job #

1025-02 LA, DNR
Lac du Lake, Area
Grid Survey

Point Remarks

7093	N: 3539116.132	E: 3649171.219	Z: 1,472
7094	N: 353415.743	E: 3649185.767	Z: 1,308
7095	N: 352915.376	E: 3649204.383	Z: 1,147
7096	N: 352411.544	E: 3649222.978	Z: 1,773
7097	N: 351915.862	E: 3649235.980	Z: 1,511
7098	N: 351420.500	E: 3649255.914	Z: 1,419
7099	N: 351416.180	E: 3649200.621	Z: 1,453
7100	N: 3514164.916	E: 3649233.181	Z: 1,659
7101	N: 3514165.1661	E: 36492461.098	Z: 1,344
7102	N: 3514464.809	E: 3649299.921	Z: 1,581
7103	N: 351440.524	E: 3649279	Z: 1,458
7104	N: 351440.389	E: 3649265.603	Z: 1,364
7105	N: 351440.422	E: 3649233.952	Z: 1,771
7106	N: 351440.447	E: 3649206.142	Z: 1,750
7107	N: 351415.497	E: 3649200.404	Z: 1,941
7108	N: 351415.187	E: 3649233.419	Z: 1,677
7109	N: 351415.899	E: 3649246.744	Z: 1,742
7110	N: 351415.422	E: 3649299.768	Z: 1,650
7111	N: 3513891.572	E: 3649299.013	Z: 1,516
7112	N: 351390.879	E: 3649216.262	Z: 1,979
7113	N: 351390.863	E: 3649234.010	Z: 1,677
7114	N: 351390.347	E: 3649199.265	Z: 1,884

S/C

1501

10-6-11

154

See Pg 51 & 52

JOB # 1025-02 LA, DNR
 Little Lake Area
 Grid Survey

Pt #	Remarks	N	E	Z
7115		N: 351364.354	E: 3649200.347	Z: 1.283
7116		N: 351365.365	E: 3649232.941	Z: 1.444
7117		N: 351365.051	E: 3649246.409	Z: 1.351
7118		N: 351365.508	E: 3649299.727	Z: 1.321
7119		N: 350917.946	E: 3649264.463	Z: 1.203
7120		N: 350521.787	E: 3649279.657	Z: 1.250
7121		N: 350487.328	E: 3649277.877	Z: 1.165
7122	QC 67 Pt # 9102 (H=0.121 V=0.134)			
7123		N: 355418.751	E: 3649232.593	Z: 1.291
7124		N: 354917.582	E: 36491640.213	Z: 1.327
7125		N: 354416.813	E: 36491656.157	Z: 0.305
7126		N: 353918.463	E: 36491673.088	Z: -0.025
7127		N: 353918.791	E: 364918421.481	Z: +208
7128		N: 353416.472	E: 36491686.79	Z: -1.436
7129		N: 352917.159	E: 36491704.33	Z: 0.869
7130		N: 352914.581	E: 36491933.448	Z: -1.436
7131		N: 352417.747	E: 36491716.886	Z: +1.241
7132		N: 351919.307	E: 36491734.991	Z: +1.537
7133		N: 351418.77	E: 36491740.266	Z: +1.17
7134		N: 350917.723	E: 36491704.706	Z: 0.954
7135		N: 350916.861	E: 36491916.7411	Z: +1.017
7136		N: 350555.237	E: 36491715.688	Z: +0.86

S/C

150

10-6-11

155

See Pg. 51 & 52

Note: Points 7123-7179
 Adjusted pg 55, 56 & 57
 Elev "Z" Info.

1.419
 1.4155
 0.430
 0.104
 1.367
 -1.297
 0.999
 -1.306
 1.372
 1.670
 1.301
 1.083
 1.748
 1.160

JOB# 1025-02 LA PNR
 Little Lake Area
 Grid Survey

P#	Remarks
7137	N: 351420.284 E: 3650750.561 Z: -0.915
7138	N: 351349.008 E: 3650754.977 Z: -2.829
7139	N: 351174.418 E: 3650251.071 Z: -2.305
7140	N: 351419.972 E: 3650250.111 Z: -1.246
7141	N: 351921.918 E: 3650235.33 Z: -0.828
7142	N: 352433.307 E: 3650219.174 Z: -4.228
7143	N: 354418.889 E: 3650156.153 Z: -0.865
7144	N: 354917.783 E: 3650141.239 Z: -1.23
7145	N: 355418.977 E: 3650124.479 Z: +1.403
7146	N: 355419.806 E: 3650123.501 Z: -0.711
7147	N: 3521918.938 E: 36501239.41 Z: -1.951
7148	N: 354971.366 E: 3650592.371 Z: +1.495
7149	N: 354969.913 E: 36501241.439 Z: +1.653
7150	N: 354969.116 E: 36501657.369 Z: -0.95
7151	N: 354969.835 E: 36501691.061 Z: -1.125
7152	N: 354944.514 E: 36504690.792 Z: -0.803
7153	N: 354944.638 E: 36504657.739 Z: -1.493
7154	N: 354944.606 E: 3650524.191 Z: -1.677
7155	N: 354945.115 E: 3650591.128 Z: -1.527
7156	N: 354920.032 E: 3650590.943 Z: -1.035
7157	N: 354919.679 E: 3650625.115 Z: +1.401
7158	N: 354919.532 E: 3650657.609 Z: -1.298

SK	1501	10-7-11	SL
	1.045		
	-2.679		
	2.436		
	1.377		
	0.953		
	-0.098		
	-0.1737		
	1.357		
	1.329		
	0.237		
	1.078		
	1.322		
	1.780		
	1.076		
	1.252		
	0.932		
	1.625		
	1.804		
	1.162		
	1.536		
	1.424		
sec PG ST 152			

Job# 11023-02

LA, DNR

Little Lake Area
Grid Survey

Pt# Remarks

7169	N: 354749.984	E: 3650491.013	Z: -0.402
7160	N: 354894.891	E: 3650490.791	Z: +0.094
7161	N: 354874.428	E: 3650457.934	Z: -1.3
7162	N: 354895	E: 3650423.921	Z: +0.75
7163	N: 354894.72	E: 3650591.58	Z: -0.905
7164	N: 354869.683	E: 3650570.607	Z: -0.981
7165	N: 354869.1604	E: 3650623.81	Z: -0.846
7166	N: 354870.401	E: 3650657.492	Z: -0.601
7167	N: 354869.451	E: 3650691.201	Z: +1.157
7168	N: 354525.998	E: 3650648.474	Z: +1.119
7169	N: 354749.285	E: 3651147.745	Z: -0.921
7170	N: 354920.266	E: 3651131.52	Z: +1.552
7171	N: 355402.421	E: 3651125.894	Z: +1.723
7172	N: 355368.1616	E: 3651124.1674	Z: -1.054
7173	N: 354921.195	E: 3651136.294	Z: -0.018
7174	N: 354751.644	E: 36511645.898	Z: -0.949
7175	N: 354794.786	E: 3652147.552	Z: -0.655
7176	N: 354922.981	E: 3652139.121	Z: -0.124
7177	N: 354925.021	E: 3652355.944	Z: -0.213
7178	N: 355069.827	E: 36523440.5916	Z: +1.072
7179	N: 355424.889	E: 3652184.959	Z: -0.021

S/C

1501

10-7-11

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See PG 51 & 52

1.029

1.120

1.427

0.877

1.033

1.103

0.973

0.723

1.184

-0.992

-0.794

-1.426

1.849

-0.928

0.137

1.075

0.781

0.749

-0.118

1.223

-0.512

APPENDIX A
Scope of Services

SCOPE OF SERVICES
MARSH CREATION AREA GRID AND ROCK SHORELINE
SURVEY
LITTLE LAKE SHORELINE PROTECTION/
DEDICATED DREDGING NEAR ROUND LAKE
PROJECT BA-37
LAFOURCHE PARISH, LOUISIANA

6/24/11

1.0 LOCATION

The Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project (BA-37) is located along the southwestern shoreline of Little Lake from Plum Point westward to Superior Canal in Lafourche Parish, Louisiana in the vicinity of Brusle and Round Lakes. The center of the project area is located at the approximate coordinates latitude 29° 29' 45" N and longitude 90° 20' 15" W.

2.0 DESCRIPTION

The project consists of approximately 25,000 linear feet of foreshore rock dike constructed along the Little Lake shoreline and approximately 1,000 acres of marsh creation/nourishment. The construction was completed in March 2007. The project is sponsored by the United States Department of Commerce / National Ocean and Atmospheric Administration (NOAA) / National Marine Fisheries Services (NMFS) and the Office of Coastal Protection and Restoration (OCPR) under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA).

3.0 SCOPE OF SERVICES

The surveying firm, hereafter referred to as "Contracting Party", shall perform the surveying services necessary to complete the tasks for Little Lake Shoreline Protection / Dedicated Dredging near Round Lake Project (BA-37) as outlined in the following subsections.

3.1 Marsh Creation Area Grid Survey

Perform RTK surveys of the Marsh Creation Area grid. The elevation shots shall be taken in the same locations as those taken by the contractor for the existing, 14-day, and 28-day as-built survey points. This survey shall be referenced to the LDNR Louisiana Coastal Zone (LCZ) GPS Network. The LCZ Secondary Monuments to be used as the GPS reference station shall be the same two used by the contractor during his surveys, BA37-SM-01 and BA37-SM-02.

3.1.1 Average Marsh Elevation

In addition to the grid elevation shots described above, at each of the locations shown on the attached figure, 20 additional evenly-distributed marsh elevation shots shall be collected within each 100 ft. by 100 ft. area centered on the selected grid points in order to obtain average marsh elevations for those selected areas.

3.2 Rock Dike Settlement Plate Survey

Perform RTK survey of the tops of the 24 settlement plate pipes installed in the foreshore rock dike segments. This survey shall be referenced to the LDNR Louisiana Coastal Zone (LCZ) GPS Network. The LCZ Secondary Monuments to be used as the GPS reference station shall be the same two used by the contractor during his surveys, BA37-SM-01 and BA37-SM-02.

3.3 Rock Dike Profile and Transects

Perform survey profile and transects of approximately 26,000 linear feet of rock dike shoreline along 24 separate segments. The points along the survey profile shall be taken at 50 ft. intervals and all abrupt changes in elevations along the profile. All transects shall be taken at stations shown on the attached map, with points along transect taken every 25 ft., and at all abrupt changes in elevations. Transects shall extend approximately 50 ft from the toe of dike on the lake side and to the existing vegetative line on the marsh side. This survey shall be referenced to the LDNR Louisiana Coastal Zone (LCZ) GPS Network. The LCZ Secondary Monuments to be used as the GPS reference station shall be the same two used by the contractor during his surveys, BA37-SM-01 and BA37-SM-02.

3.4 Deliverables

A Survey Report shall be provided to OCPR and shall contain the following information:

- a. The methodology section shall contain but not be limited to the following information: project description, planning and layout of the survey, information on Secondary Monument used as reference station, dates for each job task and key personnel involved, the GPS RTK survey including quality assurance (elevation check) procedures, equipment used for data collection, and downloading/processing procedures. This section shall be in Microsoft Word format.
- b. Electronic survey data shall be submitted in ASCII format and shall contain the point number, x-coordinate, y-coordinate, elevation, and description (grid location, e.g. 4A-14A or settlement plate and rock segment). Three separate files shall be generated for marsh survey data, settlement plate and profile data and survey transects. Survey data shall

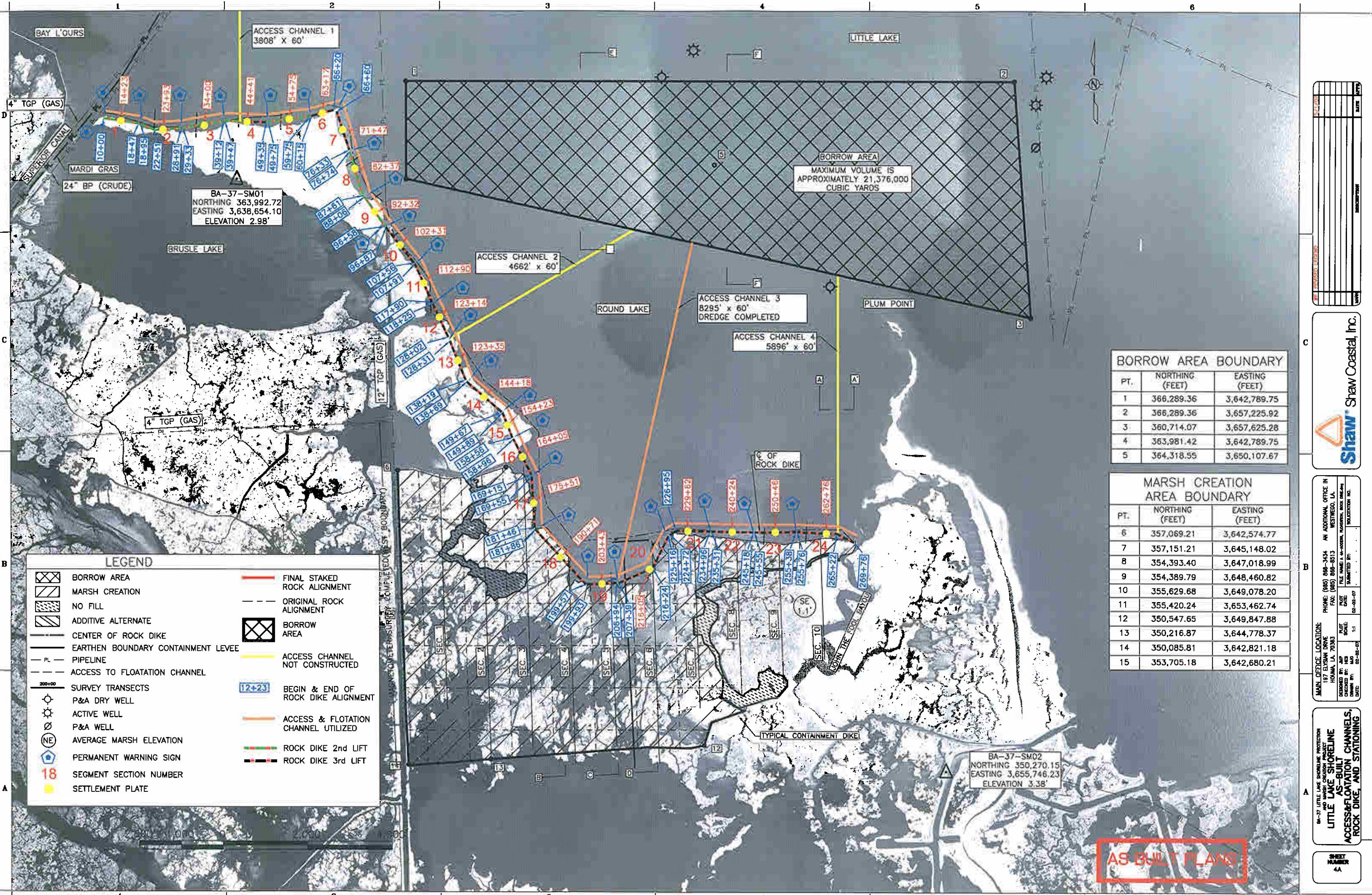
be reported in Louisiana State Plane Coordinates, South Zone in feet with elevations in feet. All survey data shall be referenced to the North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88). The data files shall be written to the compact disc (CD) with hard copies bound in the survey report.

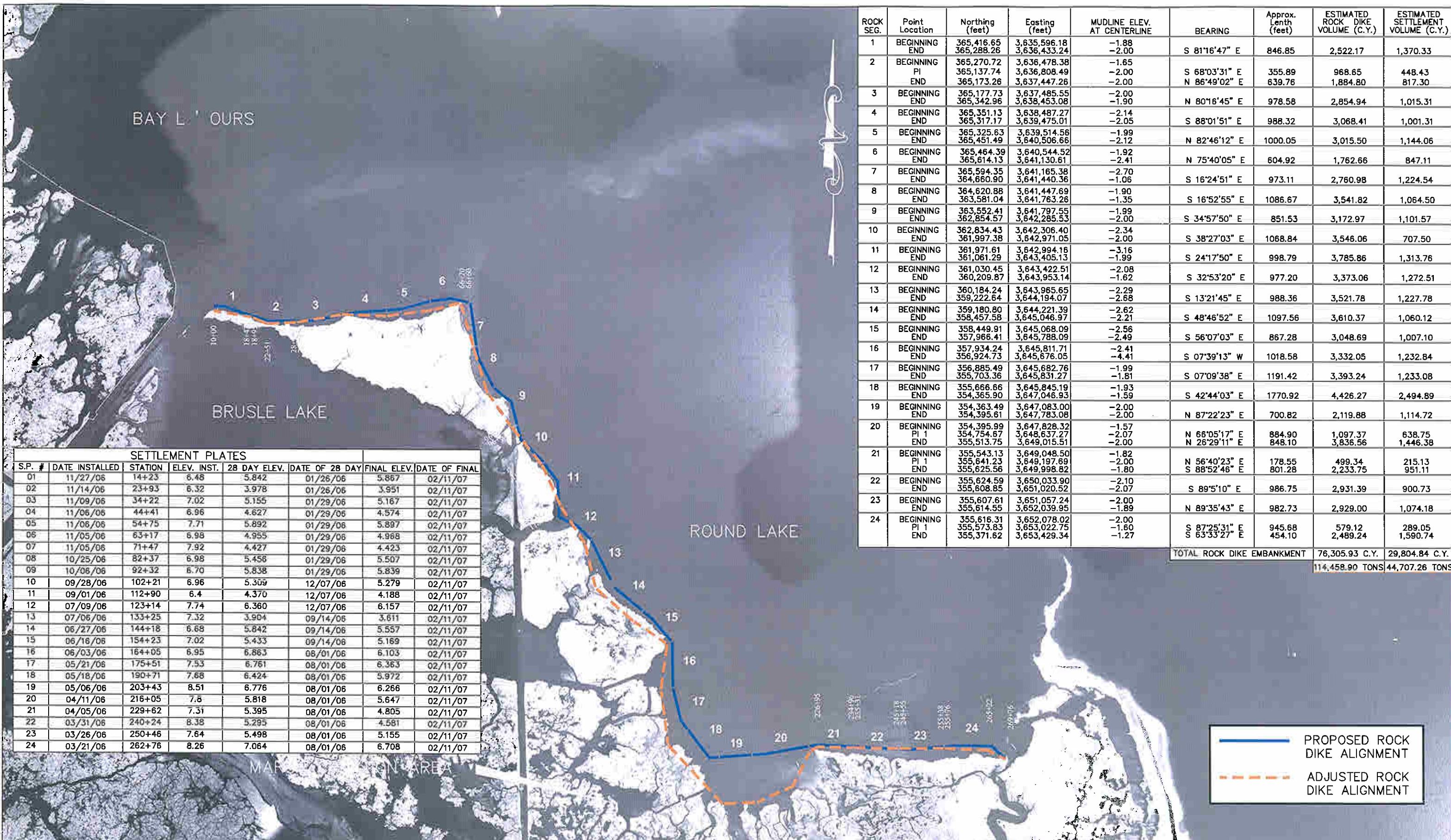
- c. A plan view drawing shall be created for the project area with the Marsh Creation Area grid and elevations clearly labeled and plotted using the coordinates. The drawing shall be referenced to the Louisiana State Plane Coordinates, South Zone, and the North American Datum of 1983 (NAD 83) in feet. The information to be shown on the drawings will include but not be limited to the following: project name; Contracting Party name; digital aerial referenced to LA State Plane Coordinates, South Zone, NAD83 in feet; grid section lines; grid point elevations in feet; labeling/description of secondary monuments and control points used (including xyz data); field book numbers; horizontal and vertical datum; survey dates; drawing date; drawing scale; and north arrow. The drawing files shall be in AutoCAD format (*.dwg) and written to the compact disc (CD). The hard copies shall be half-size, folded to 8 ½" x 11", and bound in the survey report.
- d. A plan view drawing shall be created for the project area showing the rock dike profile and settlement plate locations. The drawing shall be referenced to the Louisiana State Plane Coordinates, South Zone, and the North American Datum of 1983 (NAD 83) in feet. The information to be shown on the drawings will include but not be limited to the following: project name; Contracting Party name; digital aerial referenced to LA State Plane Coordinates, South Zone, NAD83 in feet; rock dike profile and stations; transect locations and stations; labeling/description of secondary monuments and control points used (including xyz data); field book numbers; horizontal and vertical datum; survey dates; drawing date; drawing scale; and north arrow. The drawing files shall be in AutoCAD format (*.dwg) and written to the compact disc (CD). The hard copies shall be half-size, folded to 8 ½" x 11", and bound in the survey report. In addition to the plan view drawing, profile drawings showing each transect shall be provided. The information to be shown on profile drawings will include but not limited to the items mentioned above and will be provided in the same format and method of delivery.
- e. A table shall be generated for the settlement plate survey elevations containing the settlement plate / rock segment number, station, as-built elevation, date of as-built elevation, current elevation, and date of current survey. The table shall be in Excel format and written to the compact disc (CD). A hard copy of the table shall be bound in the survey report.

- f. Provide a table for each average marsh elevation area that includes the individual points and the average elevation. The tables shall be in Excel format and written to the compact disc (CD). A hard copy of the tables shall be bound in the survey report.
- g. All deliverables shall be certified by a professional land surveyor licensed in the State of Louisiana.

The Contracting Party shall prepare and deliver a complete **preliminary draft** copy of the Survey Report (including the inserted CD) described above to OCPR for review and comment no later than 21 days after completion of survey. The Contracting Party shall address all comments to the preliminary draft to the satisfaction of OCPR and submit one (1) **final** set of unbound originals and two (2) complete bound copies of the Survey Report (including the CD) described above to OCPR no later than 14 days after receiving comments from OCPR. The Survey Report shall be delivered to the following OCPR representative:

Brian Babin, P.E. OCPR/TFO 1440 Tiger Drive, Suite B Thibodaux, La 70301	TEL: (985) 447-0956 FAX: (985) 447-0997 brian.babin@la.gov
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NOTES:
AS BUILT PLANS

03/19/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
02/14/07	AS-BUILT RECORD DRAWINGS	KSP	PJT
01/11/06	AS-BUILT RECORD DRAWINGS	KSP	PJT
10/18/06	AS-BUILT RECORD DRAWINGS	STB	PJT
01/08/06	REVISED MUDLINE ELEVATIONS	KSP	DBR
11/15/05	REVISED PLAN VIEW	STB	PJT
DATE	REVISIONS	DRAWN BY	APPROVED BY
	REVISIONS		



T. BAKER SMITH
PROFESSIONAL CONSULTANTS SINCE 1915
(888) 868-1050 www.tbsmith.com

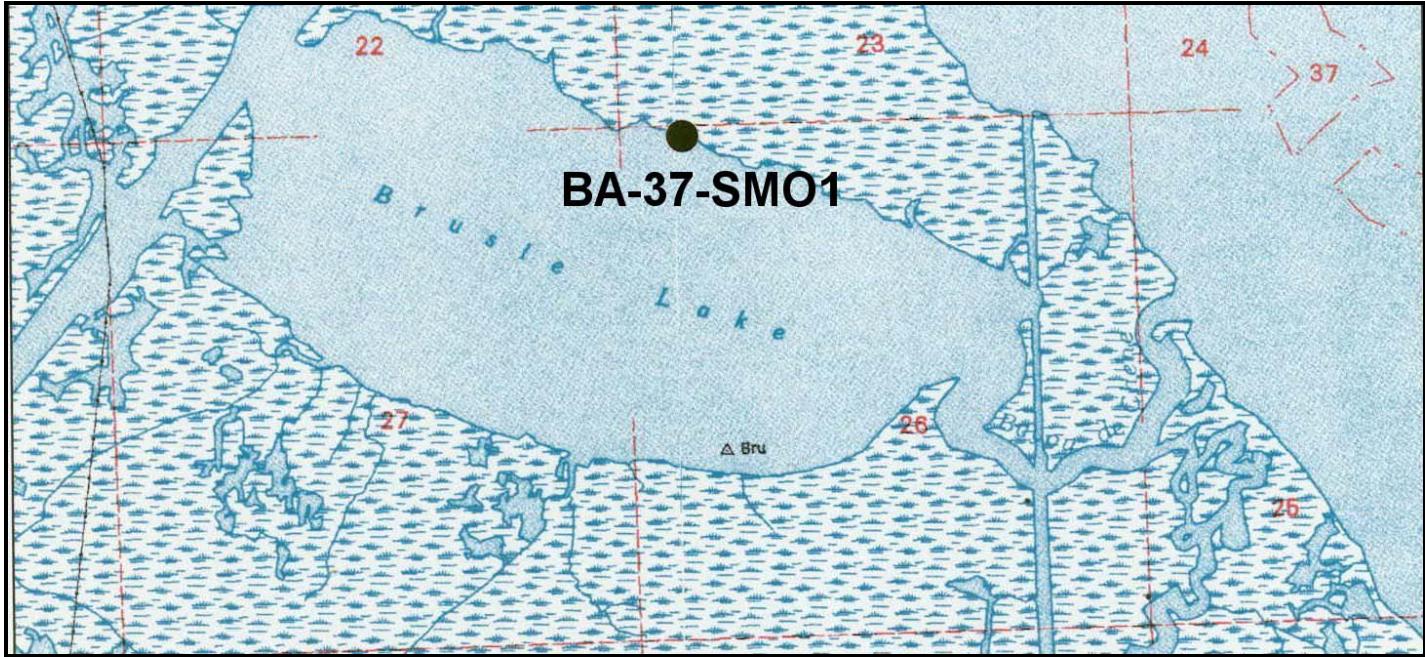
FILE NAME: 051460-P1
TBS NO.: 2005-1460
DATE: 09/28/06
PLOT SCALE: 2000
DRAWN BY: ADP
APPROVED: PJT
MAP NO.

SCALE IN FEET
2,000 1,000 0 2,000

ADJUSTED ROCK DOCK ALIGNMENT
PLAN VIEW
LITTLE LAKE SHORELINE PROTECTION
AND MARSH CREATION
PINE BLUFF SAND & GRAVEL COMPANY

SHEET NO.
1
OF
15

APPENDIX B
LCZ Secondary Monument Data Sheets



VICINITY MAP

Scale: 1" = 2000'

Reproduced from USC&GS "Golden Meadow Farms" Quadrangle

Station Name: "SM01"

Location: The monument stamped BA-37-SM01 is located near the north shore of Brusle Lake in Lafourche Parish, Louisiana. The monument is approximately 11.8 miles southwest of the intersection of Bayou Lafourche and the Gulf Intracoastal Waterway in Larose, Louisiana.

Monument Description: NGS style floating sleeve monument; datum point set on 9/16" stainless steel sectional rods driven 88 feet to refusal, set in sand filled 6" PVC pipe with access cover set in concrete, flush with ground.

Stamping: BA-37-SM01

Installation Date: 08-15-02 **Date of Survey:** August 16 and 17, 2002

Monument Established By: T. Baker Smith & Son, Inc.

For: Louisiana Department of Natural Resources, CRD

Adjusted NAD 83 Geodetic Position

Lat. 29°29' 45.72302" N

Long. 90°12' 29.46131" W

Adjusted NAD 83 Datum LSZ (1702) Feet

N= 363,981.440

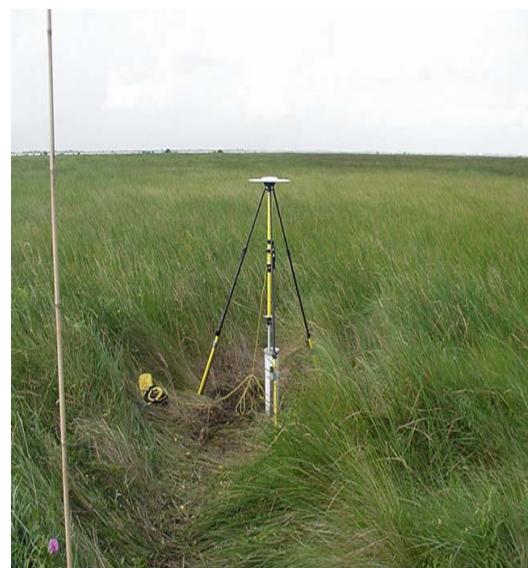
E= 3,638,772.849

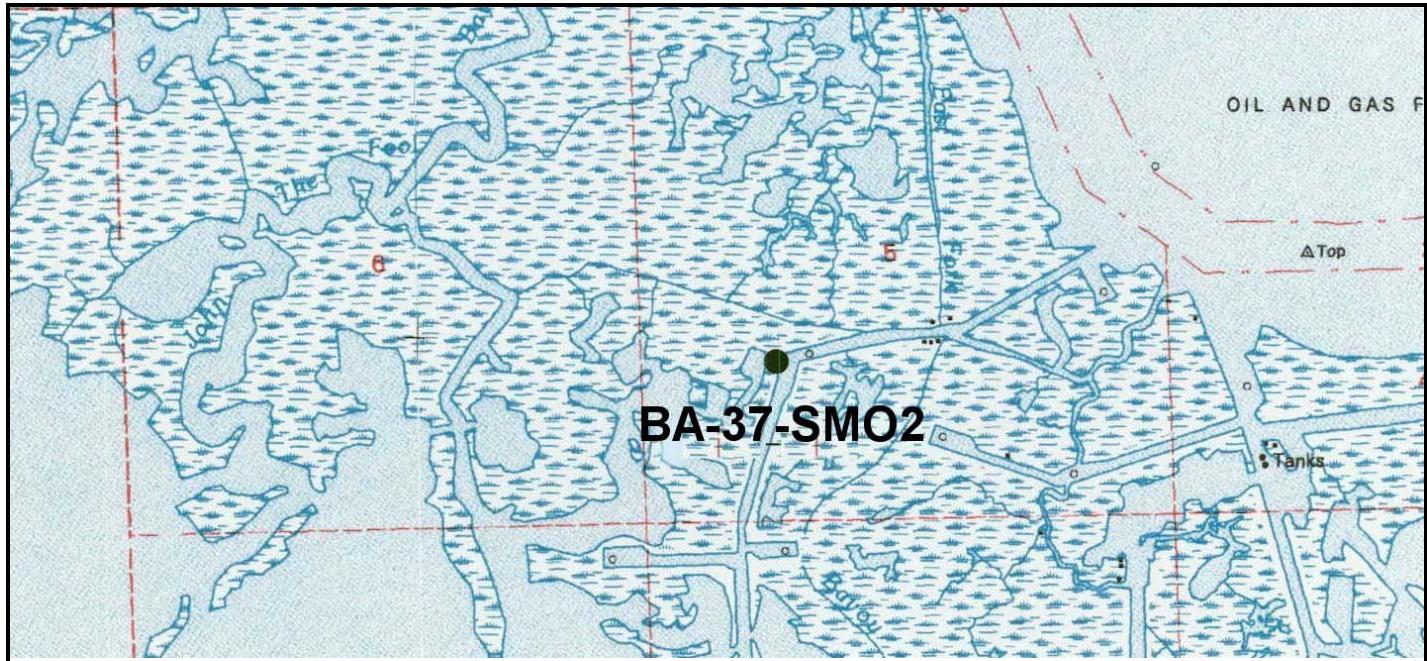
Adjusted NAVD88 Height

Elevation = 2.981 feet (.909 mtrs)

Geoid99 Height = -24.899 mtrs.

Ellipsoid Height = -23.990 mtrs.





VICINITY MAP Scale: 1" = 2000'

Reproduced from USC&GS "Golden Meadow Farms" Quadrangle

Station Name: "SM02"

Location: The monument stamped BA-37-SM02 is located just less than 2 miles south Plum Point which is located within Little Lake in Lafourche Parish, Louisiana. The monument is approximately 13.9 miles southwest of the intersection of Bayou Lafourche and the Gulf Intracoastal Waterway in Larose, Louisiana

Monument Description: NGS style floating sleeve monument; datum point set on 9/16" stainless steel sectional rods driven 104 feet to refusal, set in sand filled 6" PVC pipe with access cover set in concrete, flush with ground.

Stamping: BA-37-SM02

Installation Date: August 15, 2002 **Date of Survey:** August 16 and 17, 2002



Monument Established By: T. Baker Smith & Son, Inc

For: Louisiana Department of Natural Resources, CRD

Adjusted NAD 83 Geodetic Position

Lat. 29°27' 28.30362" N
Long. 90°09' 18.99432" W

Adjusted NAD 83 Datum LSZ (1702) Feet

N= 350,270.145
E= 3,655,746.234

Adjusted NAVD88 Height

Elevation = 3.384 feet (1.031 mtrs)

Geoid99 Height = -24.760 mtrs.
Ellipsoid Height = -23.729 mtrs.



APPENDIX C
Survey Report on Data CD

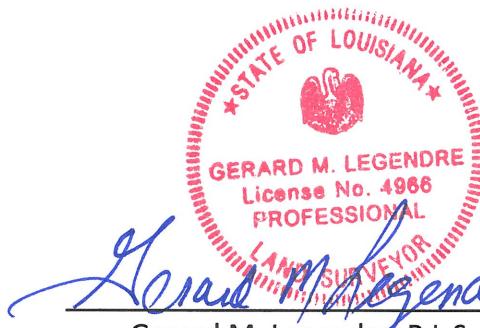
APPENDIX D
Surveyor's Certification



CERTIFICATION:

I hereby certify that the data, drawings and report referenced herein were prepared from a field survey conducted on the ground by me or under my direct supervision and control; and that the survey was performed as per OCPR specifications; and that the report, data and drawings accurately depict the results of said survey.

Morris P. Hebert, Inc.
283 Corporate Drive
Houma, LA 70360



Gerard M. Legendre
Gerard M. Legendre, P.L.S.
Louisiana Registration Number 4966

This document valid when either an original certification stamp or
an embossing seal is impressed over an original signature.