

**CMP Cycle #12
Final Report**

September 30, 2009

Project: Coastal Habitat Restoration GIS (CHRGIS): Expansion, Population, Enhancement, Monitoring and Surveying Along the Texas Coast

GLO Contract: #08-005

Entity Name: TAMU-CC

Department: Division of Nearshore Research, Conrad Blucher Institute for Surveying and Science

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Project website: <http://goliath.cbi.tamucc.edu/CHRGIS/>

Direct link to CHRGIS Interactive Maps: <http://gis.cbi.tamucc.edu/chrgis/maps/>

Summary

A diverse set of tasks were completed during Cycle 12. The focus was on surveying, obtaining historic data and posting the data on the improved and upgraded Coastal Habitat Restoration Site. Beach profile and shoreline position surveys were conducted at three CEPRA beach sites during the contract period; Corpus Christi Beach, McGee Beach and University Beach. Additional surveys were conducted by a companion project funded through CEPRA Project No. 1422, Work Order No. 07-021-000-3466. This included a survey at University Beach during August 2009 as well as surveys at other CEPRA beaches. A comprehensive report describing all the CEPRA beaches surveyed during this joint effort was submitted in fulfillment of the CEPRA agreement. A monitoring summary describing the recent surveys and the status of the three CEPRA beaches surveyed under this contract is provided with this report. The data for these sites is posted on the CHRGIS website and users can view the data on the new CHRGIS Interactive Mapping interface. A major accomplishment during the contract period was the migration of the CHRGIS website to an ArcGIS Server interface that is 000 on a new GIS dedicated server sponsored by the Conrad Blucher Institute for Surveying and Science. With the migration to the new server system came a name revision to "CHRGIS Interactive Maps" The CHRGIS website was demonstrated during a seminar conducted for educators at Texas A&M University Corpus Christi. The teachers that attended commented on the visualization tool through an online blog called "CHRGIS Enhancement." Some of the suggestions provided through this online forum such as adding videos and blog sites for student interaction will be integrated into the educational site in the future.

Accomplishments

Task 1 and 2.

Acquisition, QA/QC and Formatting of Data/Imagery and Population of CHRGIS

Historic data sets and aerial photographs were reviewed for posting in the CHRGIS archive. Not all data was added if verification of control methods were not possible or if the data did not agree with the recent surveys to avoid confusion. All data collected during phases of this project and related projects are posted on CHRGIS.

Task 3.

Upgrade and Expansion of CHRGIS Tools.

The CHRGIS mapping tool was migrated to a new software platform called ArcGIS Server. The visualization tool is now accessible from a new GIS dedicated server that is sponsored by the Conrad Blucher Institute for Surveying and Science. The migration of the project has facilitated not only a new look, the site now has new tools that expand the interactive capabilities (Figure 1). The new tools that are now available target the resource manager as well as teachers and particularly students. The user can access distance and area measurement tools in the data display window. The data display window is twice as large allowing more of the project area to be viewed as the user navigates through the CEPRA locations which is especially effective when viewing larger sites such as Corpus Christi Beach. The new system displays high resolution images rapidly and has the capacity to archive more data as the project expands in the future (<http://gis.cbi.tamucc.edu/chrgis/maps/>).

Educational pages have been revised to include a secondary interface that targets teachers and students. The new pages are concise for quick reference while using the CHRGIS Interactive Mapping tools. The educational WebPages will continue to be expanded to better serve the educational community.

Task 4.

Beach Profile Surveys

Three beach profile surveys were conducted over the study period (Table 1). Previous CMP and CEPRA sponsored surveys are included for reference. A monitoring summary of changes in shoreline position and volume change is included as a companion report. All three beaches are remarkable stable despite inundation during Hurricane Ike. Corpus Christi Beach and McGee Beach have experienced localized recession and limited volume loss and are considered stable over the 2007 to 2009 study period. University Beach is also stable, actually increasing in volume since constructed as the beach cell functions to protect the beach from direct wave action. Redistribution of sand impounded landward of the detached breakwaters along the central beach face and berm is recommended at University Beach to maintain adequate water depth for flushing and limiting growth of vegetation as well as renourishing the receding central section of the subaerial beach. There are no recommendations for McGee Beach and Corpus Christi Beach based on changes occurring since 2007. Data consisting of northing, easting and

elevation are provided in ASCII format as well as AutoCad drawing format (DWG). All surveys are referenced to NAVD88 vertical datum and NAD83 State Plane South zone 4205, feet.

Task 5. CHRGIS Demonstration Seminars for Educators and Resource Agency Professionals

Two seminars for educators were held on April 27 and 28, 2009 at Texas A&M University-Corpus Christi (TAMUCC). These seminars were conducted as a component of the Educational Technology Program at TAMUCC that was hosted by Dr. Susan Elwood. The purpose of the seminars was two fold; 1) introduce a stimulating tool for introducing information to children on beach stewardship and coastal processes and

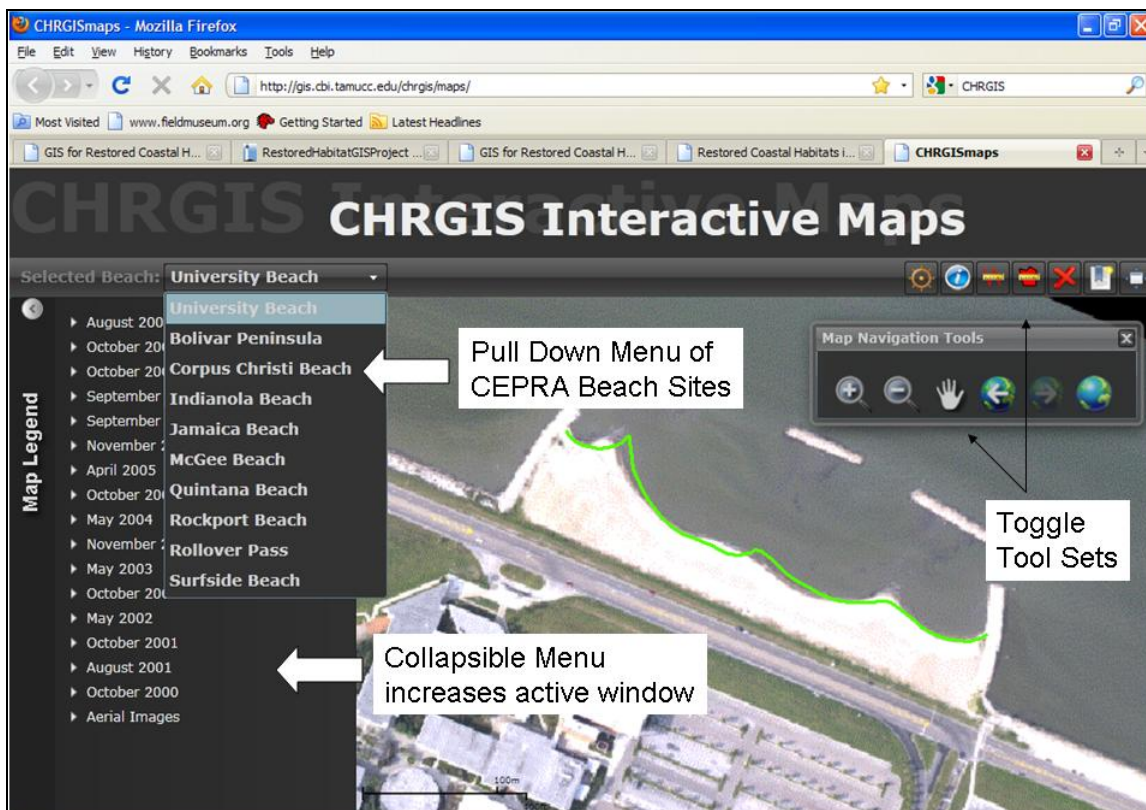


Figure 1. New CHRGIS Interactive Maps interface and tool bars.

Table 1. Annual and Post-storm Beach Profile Survey Date and Location.			
CEPRA Location	Annual/Post Storm Date		Previous Survey Date
1. Corpus Christi Beach	Annual	02 May 09	Annual 26 Sep 07
2. McGee Beach	Annual	28 Apr 09	Annual 21 Jun 07
3. University Beach	Annual/Post-Ike	08 Oct 08	Annual since 31 Aug 01
	Annual	21 Aug 09	

2) invite teachers to evaluate the website and related tools for classroom effectiveness. During the seminar teachers each had access to computers and were able to test the CHRGIS system after an introduction to the website and CHRGIS mapping tools was presented. The teachers were led through practice applications of the mapping tools and educational content. A user blog called “CHRGIS Enhancement” was created so that the teachers could provide suggestions for increasing the effectiveness of the educational interfaces and mapping tool in the classroom (<http://chrgiscoastalresource.blogspot.com/>) The group recommended implementing either video tours of sites and blogging so that children and teachers could interact with others about the content. The teachers also recommended adding flash buttons and animation to stimulate the students and keep their attention. All expressed the need for additional subject specific educational modules that would lead busy teachers through possible classroom interactions. Over 50 teachers were in attendance (Appendix 1). The website and new CHRGIS mapping interface will be demonstrated to TGLO representatives on October 9, 2009, a revised date due to conflict in DNR survey schedules.

Budget (July 2009 through Sept 2009)

Note: A budget amendment request will be submitted in a separate correspondence.

Federal Expenditures	Current CMP	Expenditures Jul-Sept 09 (Estimated)	Amount Previously Reported Jun 09	Amount Remaining
Personnel	\$15,444.84	\$0.00	\$15,444.84	\$0.00
Benefits	\$3,416.15	\$0.00	\$3,416.15	\$0.00
Supplies	\$1,037.31	\$669.09	\$365.66	\$2.56
Equipment	\$0.00	\$0.00	\$0.00	\$0.00
Contractual**	\$24,790.00	\$3,000.00	\$21,360.00	\$430.00
Travel/Other	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal	\$44,688.30	\$3,386.97	\$42,586.65	\$432.56
Indirect Costs	\$2,316.70	\$0.00	\$2,316.70	\$0.00
Totals	\$47,005.00	\$3,669.09	\$42,903.35	\$432.56

Cost Sharing Match	Current Local	Expenditures Jul-Sept 09	Amount Previously Reported Jun 09	Amount Remaining
Personnel	\$12,004.25	\$0.00	\$12,004.25	\$0.00
Fringe	\$3,481.24	\$0.00	\$3,481.24	\$0.00
Travel	\$0.00	\$0.00	\$0.00	\$0.00
Supplies	\$0.00	\$0.00	\$0.00	\$0.00
Equipment	\$0.00	\$0.00	\$0.00	\$0.00
Contractual	\$15,939.86	\$0.00	\$15,939.86	\$0.00
Other	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal	\$31,425.35	\$0.00	\$31,425.35	\$0.00
Indirect Costs	\$1,800.65	\$0.00	\$1,800.65	\$0.00
Totals	\$33,226.00	\$0.00	\$33,226.00	\$0.00

APPENDIX 1.

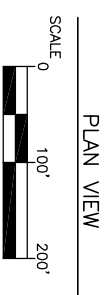
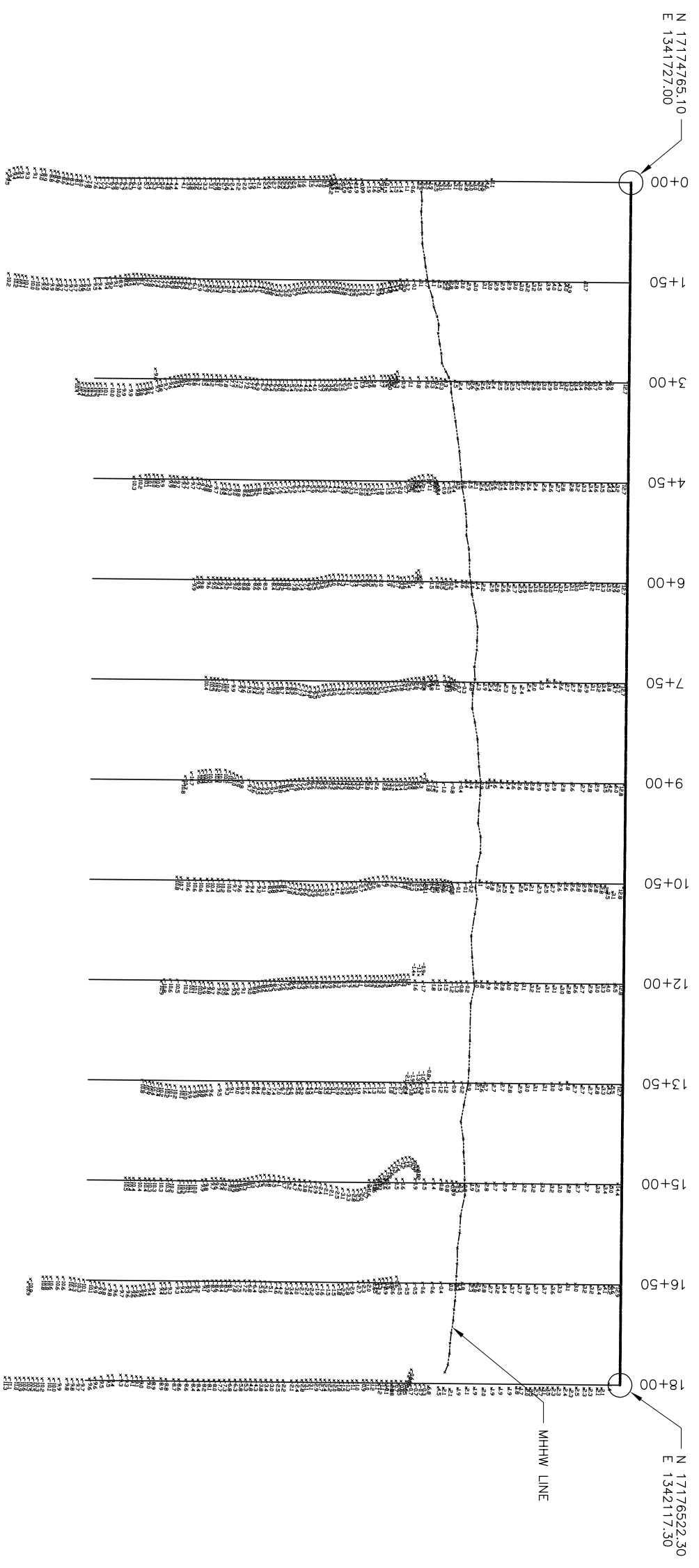
CHRGIS Seminar and Demonstration

Sponsor: Dr. Susan Elwood, Associate Professor, College of Education, TAMUCC
Contact: susan.elwood@tamucc.edu

List of CHRGIS Seminar Attendees	
Arlan, Amy	Higgs, Amy
Bradshaw, Shawna	Hinojosa, Amanda
Barron, Delmy	Hinojosa, Jessica
Belser, Katie	Hosea, Samantha
Briscoe, Sarah	Itschner, Sarah
Cantu, Crystal	Kirstein, Ambria
Cavazos, Tara	Kowalski, Natalie
Chambless, Kellyn	Lomba, Alysha
Champion-Sablatura, Valarie	Longoria, Corinna
Covarrubias, Ashlyn	Longoria, Josette
Cullen, Heather	Luera, Savannah
Ellis, Teresa	Lutzke, Becky
Escamilla, Lori	Martinez, Alanna
Escobar, Allison	McLemore, Lisa
Espinoza, Alyssa	Mendiola, Annabelle
Fionda, Elizabeth	Montalvo, Marisela
Galan, Yvonne	Olivo, Mary
Garza, Danielle	Paz, Rita
Gonzalez, Veronica	Pena, Lori
Gonzalez, Yarid	Reinecke, Erika
Guerra, Corinna	Rowekamp, Katherine
Hall, Stacy	Seals, Morgan
Harris, Kari	Spitzer, Vicky
Hawes, Brittany	Strauss, Jessica
Hernandez, Susanna	Tschoepe, Ida
Herrera, Jennifer	Westrup, Cara
Herrmann, Renae	



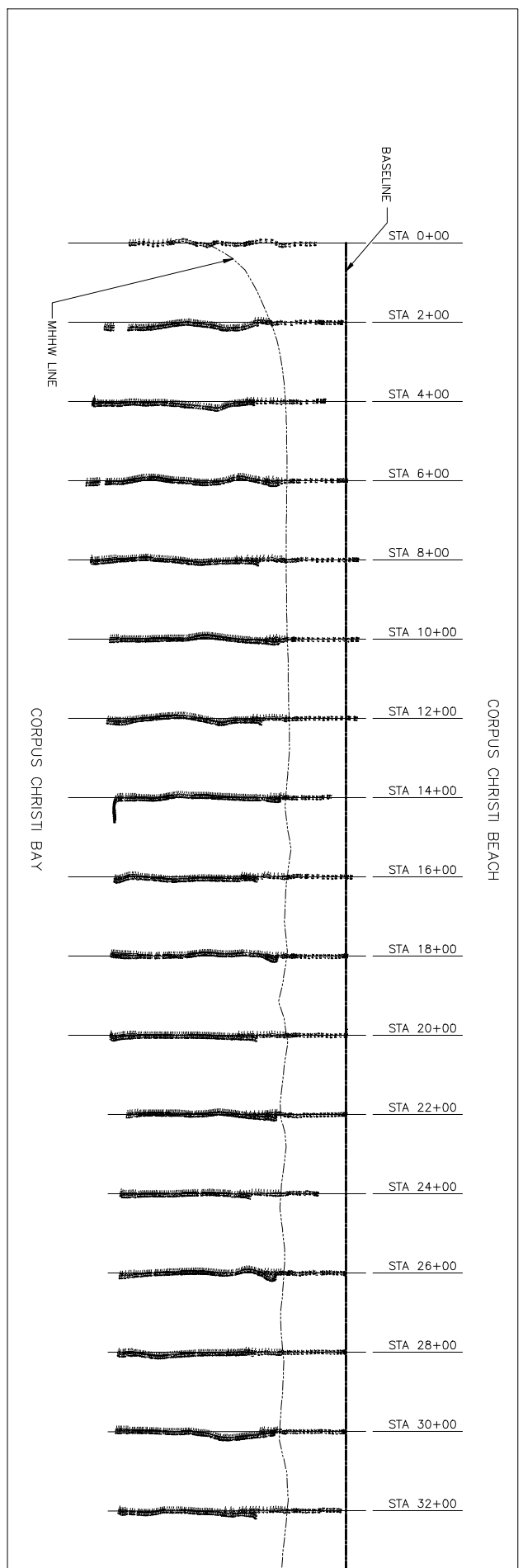
MAGEE BEACH
CORPUS CHRISTI, TEXAS



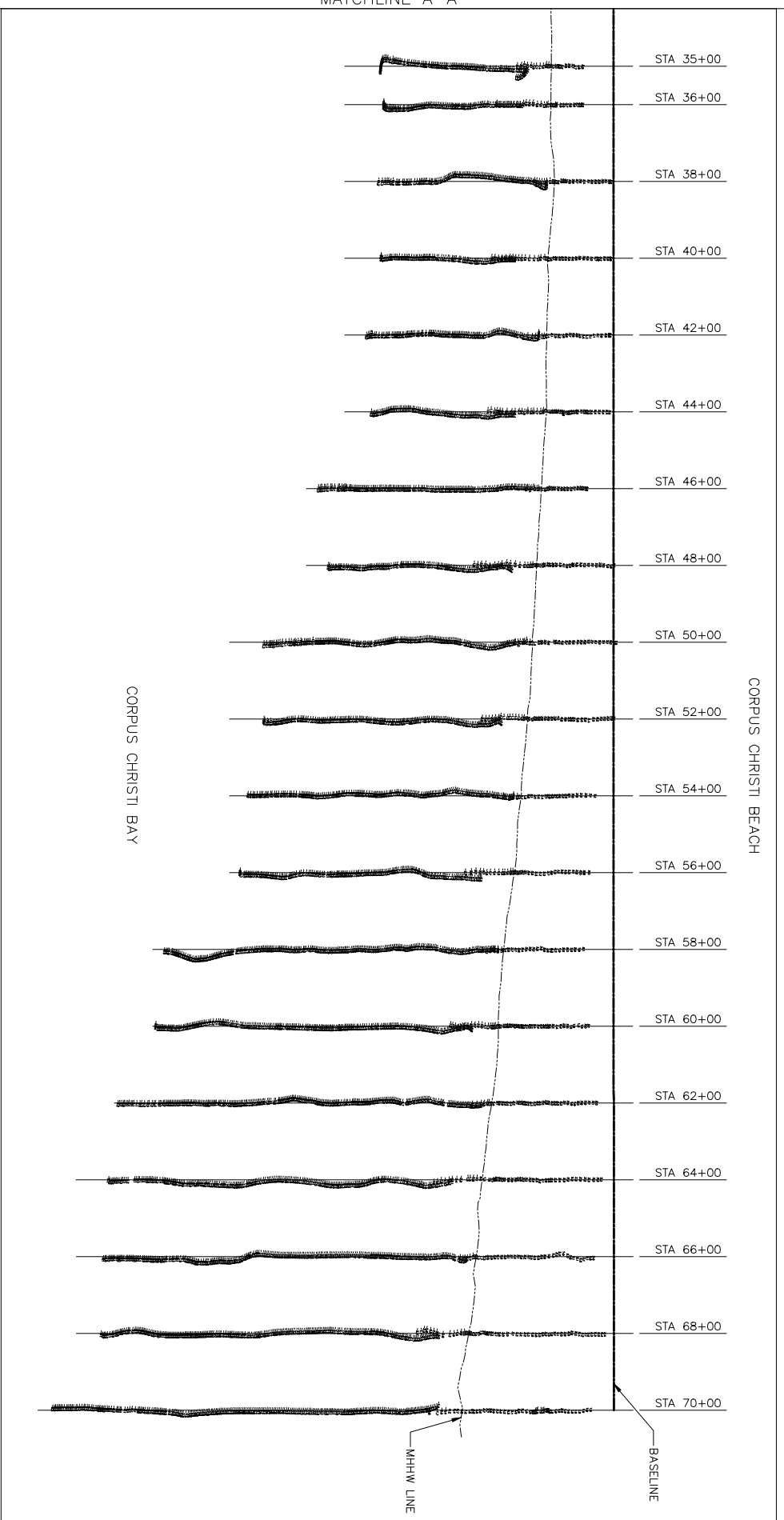
LEGEND	
	SURVEY BASELINE
	MHHW LINE (EL. 0.89')
	ELEVATIONS

- NOTES:
- COORDINATES ARE BASED ON THE NGS STATION "SPOLL", N 17,183,121.36, E 1,342,430.2, ELEV. 12.98', TEXAS STATE PLANE GRID, NAD 83, SOUTH ZONE, IN U.S. FEET.
 - ELEVATIONS SHOWN ARE IN FEET AND REFERENCED TO NAVD '88.
 - SURVEYING WAS COMPLETED BY NAISMITH MARINE SERVICES ON 4/28/2009.

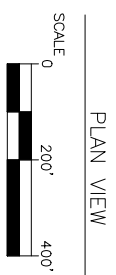
<p>Naismith Marine Services Sea Floor Surveying</p> <p>3765 South Alameda, Suite 205, Corpus Christi, Texas 78411 (361) 949-2419 (361) 949-0795</p>		<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	REVISION																														
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MATCHLINE A-A



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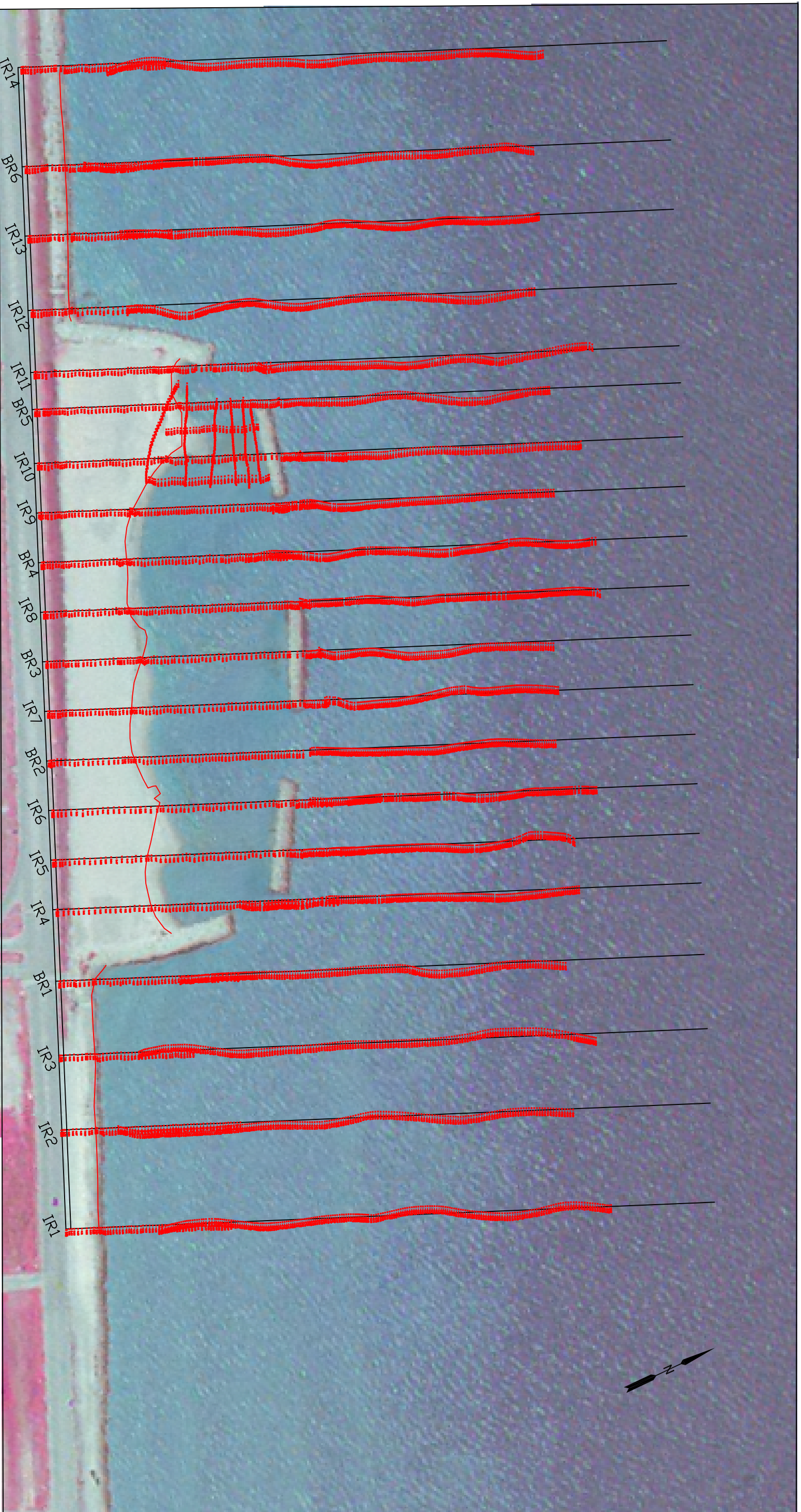
LEGEND	
	SURVEY BASELINE
	MHHW LINE (EL. 0.89')
	ELEVATIONS

- NOTES:**
- COORDINATES ARE BASED ON THE NGS MONUMENT "SK130", N 17,190,290.73, E 1,344,264.39, ELEV. 6.24' TEXAS STATE PLANE GRID, NAD '83, SOUTH ZONE, IN U.S. FEET.
 - ELEVATIONS SHOWN ARE IN FEET AND REFERENCED TO NAVD '88.
 - SURVEYING WAS COMPLETED BY NASMITH MARINE SERVICES ON 5/2/2009.

SURVEY OF
CORPUS CHRISTI BEACH

DATE	AS SHOWN	DATE
11/15/09	01	MAY 2009

1 OF 1



NOTES:

1. COORDINATES ARE BASED ON CONTROL POINT "BR-5", N 17,150,627.00, E 1,365,111.39, ELEV. 14.69', TEXAS STATE PLANE GRID, NAD 83; SOUTH ZONE; IN U.S. FEET.
2. ELEVATIONS SHOWN ARE IN FEET AND REFERENCED TO NAVD '88.
3. SURVEYING WAS COMPLETED BY NAISMITH MARINE SERVICES ON 4/28/2009.



PLAN VIEW

UNIVERSITY BEACH
CORPUS CHRISTI, TEXAS

LEGEND	
	SURVEY BASELINE
	SHORELINE (EL. 1.6')
	ELEVATIONS

<p>Naismith Marine Services Sea Floor Surveying</p> <p>3788 South Alameda, Suite 205, Corpus Christi, Texas 78411 (361) 346-0248 (361) 348-8788</p>		<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	REVISION															
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