

**SUMMARY REPORT
REVIEW OF FLOOD INSURANCE STUDY
TOWN OF FORT MYERS BEACH, FLORIDA**

Submitted to
Town of Fort Myers Beach, Florida
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Fort Myers Beach, Florida

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Table of Contents

I.	Purpose of Study	1
II.	Still Water Flood Elevations	1
III.	Waves	2
IV.	TCE Findings and Recommendations	5
V.	References	6

Figures

- Figure 1 - Fort Myers Beach SFWMD SURGE Model Grids Computed Surge plus Tides
- Figure 2 – Fort Myers Beach RFIS Proposed Transects

Appendices

Appendix A – Data Collection

Appendix B- – Coastal Analysis Modeling Program

Lee County FIS	B-1
Transect 13.....	B-2
Transect 14.....	B-19
Transect 15.....	B-34
Transect 16	B-50

FLOOD INSURANCE STUDY
TOWN OF FORT MYERS BEACH, FLORIDA

I. The Purpose of Study

The purpose of this report is to summarize the comprehensive review of available information regarding the Revised Flood Insurance Study (RFIS) including Draft Flood Insurance Rate Maps (FIRMs)¹ and “Coastal Engineering Analysis” (CEA)². (See Appendix A) The review identified the components of the RFIS stillwater flood elevations (surge plus tides and wave setup) and the inputs to the wave height analyses including transect details (See Appendix B).

The review was intended to identify any data gaps or mapping alternatives overlooked by FEMA and its contractor that could affect the outcome of the RFIS.

Tomasello Consulting Engineers, Inc. (TCE) was also to identify any additional engineering or modeling task that the town might consider to supplement the efforts of FEMA and it’s contractors.

II. Still Water Flood Elevations

Still water flood elevations in earlier FEMA coastal flood studies referred to storm surge plus astronomic tides. The proposed RFIS as well as, all of the more recent coastal flood studies also include wave setup on the open coast as part of the still water flood elevation.

Effective Lee County FIS (FIS Report, 1998)

The effective FIS Report³ describes the still water flood elevations for the Ft. Myers Beach area as being derived from the storm surge and astronomic tide analyses performed by South Florida Water Management District (SFWMD)⁴. The storm surge analysis was accomplished using the TTSURGE model, as revised by SFWMD, applied to a grid of 1 nautical mile by 1 nautical mile cells. An array of hypothetical storms was applied to the model and the computed storm surges applied to the FEMA Joint Probability Method (JPM) to derive the tide corrected 100-year surge elevations. The results of these analyses are plotted on Figure 1.

Proposed Lee County RFIS (Coastal Engineering Analysis (CEA), 1999)

The proposed RFIS analyses assumed the still water elevations for the Ft. Myers Beach area were based on the SFWMD still water flood elevations described in the above section with wave setup effects added. The wave setup effects are computed as part of the RFIS and are described in the CEA Report². The wave setup computations are based on 100-year wave heights determined from the Wave Information Study (WIS) data available from the Coastal Engineering Data Retrieval System (CEDRS). FEMA’s contractor used three methods for computing the 100-year wave setup:

- Method 1 – WIS Hindcast Method
- Method 2 – SPM with Monte-Carlo Simulation
- Method 3 – Young with Monte Carlo Simulation

The results of the three methods were similar with Method 1 producing the lowest wave setup. The wave setup results were added to the effective FIS 100-year still water flood elevations and the sum compared to the 1873 hurricane observed high water marks at Sanibel Island and Punta Rassa to justify their application. Method 1 was chosen by FEMA contractor to represent the wave setup for all of the Gulf Coast of Lee County.

The final wave setup estimates are reported in the CEA. For Ft. Myers Beach, the wave setup was computed to be 1.5 feet for the entire Gulfshore length of the town limits.

III. Wave Effects

The Coastal Hazard Analysis Modeling Program (CHAMP) is a software program used in the proposed RFIS for Fort Myers Beach. CHAMP is designed to enable the user to perform storm-induced erosion treatments, wave heights analyses, and wave runup analyses associated with coastal flooding hazard assessments for FEMA Flood Insurance Studies (FIS) and revisions to Flood Insurance Rate Maps.

CHAMP is a Window-interfaced Visual Basic language program that allows the user to enter data, perform coastal engineering analyses, visualize and tabulate results and chart summary information for each transect within a user-friendly graphical interface. With CHAMP, the user can import digital elevation data; perform storm-induced erosion treatments, wave height analyses, and wave runup analyses; plot summary graphics of the results; and create summary tables and reports in a single environment.

CHAMP analyses are completed in 3 general steps:

1. Project Information and Data Entry
 2. Modeling
 3. Summary Graphics and Tables
1. Project Information and Data Entry
 - A. General Transect Description/ Parameter Entry (Program 1)– projects information and general characteristic of transects
 - B. Transect Data Entry and Editing (Program 2)– transect ground profile station and elevation data (Station represents distance from shoreline, Station 0 is at 0' NGVD)
2. Modeling
 - A. Erosion Treatment (Program 3) – analysis of transect data for existing storm-induced erosion quantities and geometries, if needed.
 - B. Wave Height Analysis For Flood Insurance Studies (WHAFIS) (Program 4)– analysis of wave heights to establish wave crest elevations
 - C. Wave Runup Analysis (Program 5) – analysis of wave runup elevations
3. Summary Graphics and Tables
 - A. Graphics and Tables (Program 6) – review the results from the analyses for a selected transect.

In WHAFIS, the eroded transect is imported into the WHAFIS window. WHAFIS uses points landward of the first (0,0) elevation only. WHAFIS will import only the points that are equal or below the total stillwater level. Areas above the 1% annual chance stillwater (with setup) are above surge, therefore, the wave crests are not computed. Stations used for WHAFIS are then

input with WHAFIS cards. WHAFIS cards represent the physical features found along the transect. Types of WHAFIS cards are:

- IE card - initial elevation (This WHAFIS input card describes the initial overwater fetch, wave conditions, and stillwater elevation for the first segment of the transect starting at elevation 0.0 NGVD).
- IF card – inland fetch (This WHAFIS input card represents an area where waves are regenerated across somewhat sheltered fetches and are over shallow inland water bodies, using a sustained wind speed of 60 miles per hour.)
- OF card – overwater fetch (This WHAFIS input card represents an area characterized by an unobstructed fetch over large bodies of water (water depths greater than 10 feet) where wave energy is regenerated using a sustained wind speed of 80 miles per hour)
- *BU card – buildings (This WHAFIS input card represents an area where buildings (or groups of buildings) dissipate wave energy)
- *DU card – dune (This WHAFIS input card represents an area where wave energy is dissipated across a flooded sand dune or other natural or manmade, elongated barrier (e.g. levee, seawall)
- *VE card – vegetation (This WHAFS input card represents an area where wave energy is dissipated due to rigid vegetation, which can be modeled as equivalent stand of equally spaced circular cylinders (e.g. trees, scrubs)
- *VH card - vegetation (This WHAFS input card represents an area where wave energy is dissipated due to marsh vegetation that is flexible and oscillates with wave action. This card must precede any, M (Marsh grass) line segment, if applicable.
- AS card – above surge vegetation (This WHAFS input card represents an area where the ground elevation temporarily rises above the 1% annual chance stillwater elevation, such as a high dune or other land mass. The stillwater elevation on the inland side may differ from that on the seaward side, though the station elevation on either side of the AS line segment must equal the applicable stillwater elevation on that side.)

*This card requires additional input.

To organize and store the general information and transect data, CHAMP generates one MS Access database file, to which the user does not have direct access to. Transect data files for WHAFIS and RUNUP are stored in subfolders with the same name as the database files. Data and output file names begin with “W” for WHAFIS and “R” for RUNUP, followed by the name assigned by the transect in CHAMP followed by the file type, (.dat) or output (.out).

Fort Myers Beach CHAMP (Proposed Draft)

For the proposed Draft FIS Study for Lee County, a DVD¹ was provided containing a folder called CHAMP. This folder contains the MS Access file called *Lee County.mdb*. The CHAMP folder also contains a folder called *Lee County*. This *Lee County* folder contains the WHAFIS files. (e.g. Transect 13, there is a *w13.dat* (input file), *W13.OUT* (output files) and *13.dxf* (graphic file)).

The four transects run through Fort Myers Beach are Transect 13, 14, 15 and 16. (See Figure 2)

1. Project Information and Data Entry

A. General Transect Description/ Parameter Entry

Each transect was NAVD 88, State Plane, estimated FIRM Scale 1"=500'¹. Each transect was located at the same location of the effective study, running perpendicular to shoreline and extending across the barrier islands²

Stillwater elevations for 10-year and 100-year floods from the effective FIS were used. The 100-year offshore stillwater elevations were converted to NAVD88 (i.e. NGVD elevation - 1.18') for all transects. Stillwater levels were reduced along all transects, due to physical obstructions, in the same manner as the effective FIS².

Wave Characteristics and Wave Setup Magnitude - Wave information was not included in the effective FIS. The proposed RFIS computed the 100-year deepwater wave height for the open coast of Lee County based on wave data available from the Coastal Engineering Data Retrieval Systems².

Setup applied for Transects 13-16 was 1.5 feet.

General Transect Description/ Parameter Entry information for Transects 13-16¹ can be found in Appendix B.

B. Transect Data Entry and Editing

Beach profile data came from DEP 2000 survey data. This data covered the profile from the water depth of -7 feet to DEP monument (Transect 13-16). The remainder of the inland data came from 1999 county topographic contour data (NAVD88) plotted at a scale of 1 inch equals 500 feet.²

Transect elevation data and chart for Transects 13-16¹ can be found in Appendix B.

2. Modeling

A. Erosion Treatment

In all four transects, the 100-year SWEL (stillwater flood elevation) is above the highest elevation for the entire profile. Therefore, all transects were treated as dune removal cases². Dune removal procedures require the user to enter a dune toe location, for Transects 13-16, the exact location for the dune toe wasn't clear. Therefore, the 10-year stillwater elevation of 4.7' was used as the elevation for the dune toe. A 1:50 slope was then used for Transects 13-16 to erode the dune².

CHAMP Erosion charts for Transects 13-16¹ can be found in Appendix B.

B. Wave Height Analysis

The proposed RFIS state that the “Initial wave characteristics were calculated from Wave Information Study (WIS) data. Dune cards were used as the eroded beach face with overwater fetch (OF) and inland fetch (IF) cards were used in the unvegetated, undeveloped lands. Vegetation cards were used for wooded/mangrove areas. Building cards were used primarily on the mainland where buildings were not elevated”².

CHAMP WHAFIS card window, WHAFIS charts, WHAFIS input and outputs for Transects 13-16¹ can be found in Appendix B.

C. Wave Runup Analysis

Runup was not computed for any of the transects because the stillwater level completely inundated the island².

3. Summary Graphics and Tables

A. Graphics and Tables

CHAMP WHAFIS card window, WHAFIS charts, WHAFIS input and outputs for Transects 13-16¹ can be found in Appendix B.

IV. TCE Findings and Recommendations

The effective RFIS report², dated July 1998 indicates that the 1984 FIS was based on the coastal surge and wave heights analyses prepared by the South Florida Water Management District (SFWMD). Although some revisions to the SFWMD wave height results were presented in this 1998 revised report, none of these revisions affected the flood elevations at the Town of Fort Myers Beach. However, the proposed RFIS presents changes to the stillwater flood elevations (additional 1.5’ wave setup) and a revised WHAFIS analyses.

The RFIS CHAMP analyses were applied along four transects in the Town of Fort Beach. These transects are spaced on an average of 10,000 feet apart. This spacing did not provide the details necessary to properly evaluate the Times Square/ Old San Carlos Street District.

Irregularities were found in the RFIS application of WHAFIS program inputs including the misuse (according to the program user’s manual) of OF cards along the upland transects. Also, the still water flood elevations applied across the island did not recognize the reduced flood elevations on the bay side (as computed by SFWMD). These shortcomings in the FEMA RFIS will be investigated and reported in Summary Report 2 as to the magnitude of error in defining the BFEs and flood zones on the proposed FIRMs.

V. References

- ¹ DVD containing Coastal Flood Hazard Data for Proposed FIS received from Gib Jones of Dewberry
- 2 “Coastal Engineering Analysis Flood Insurance Study, Lee County , Florida EMA -97-CO-0137” prepared for Federal Emergency Management Agency prepared by Taylor Engineering, Inc., received by Dewberry and Davis Feb 28, 2002.
- 3 Flood Insurance Study Lee County, Florida , Federal Emergency Management Agency, July 20, 1998.
- 4 SFWMD, “Determination of 100-year Flood Elevations for Coastal Lee County, Florida” , 1983.

Figures

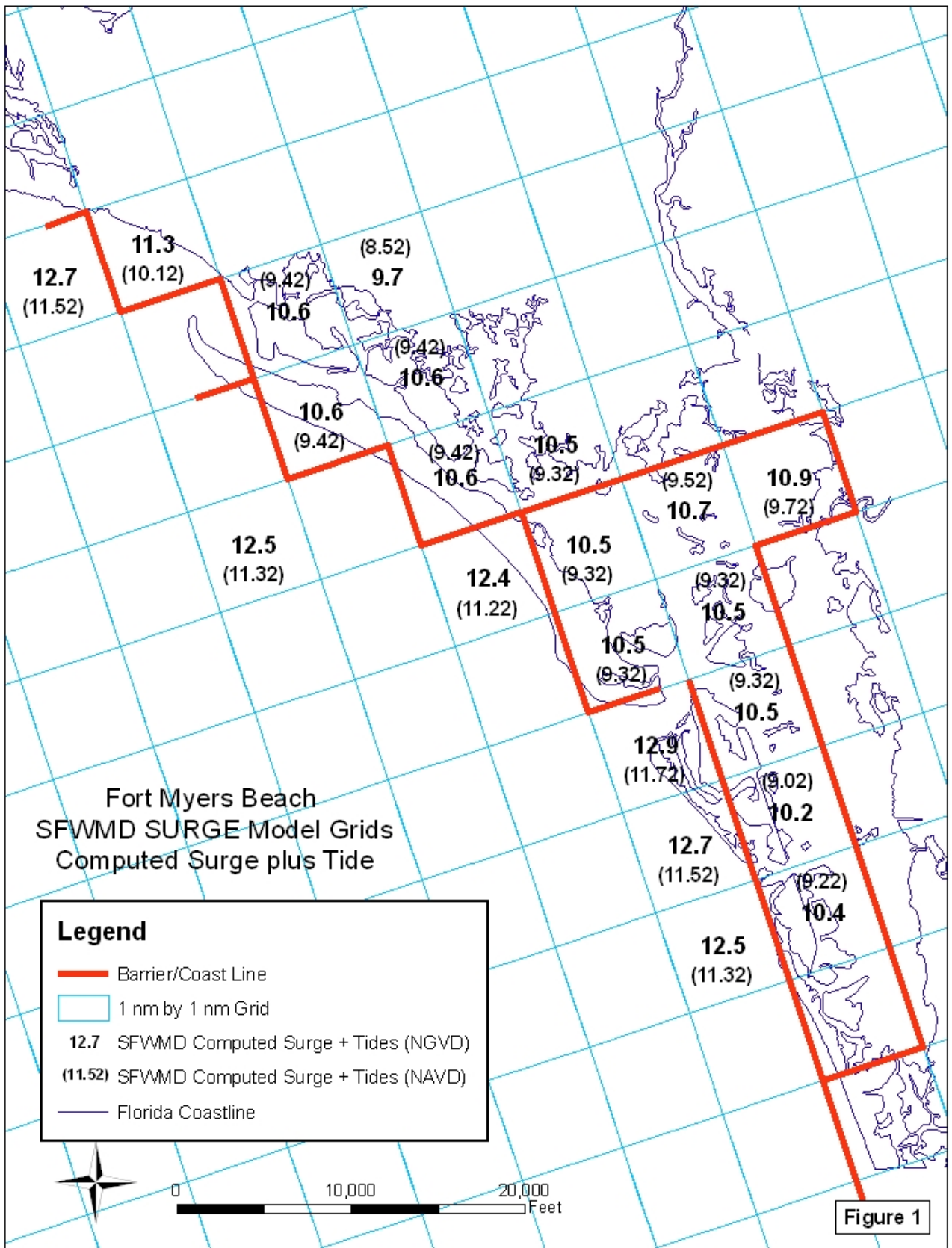


Figure 1

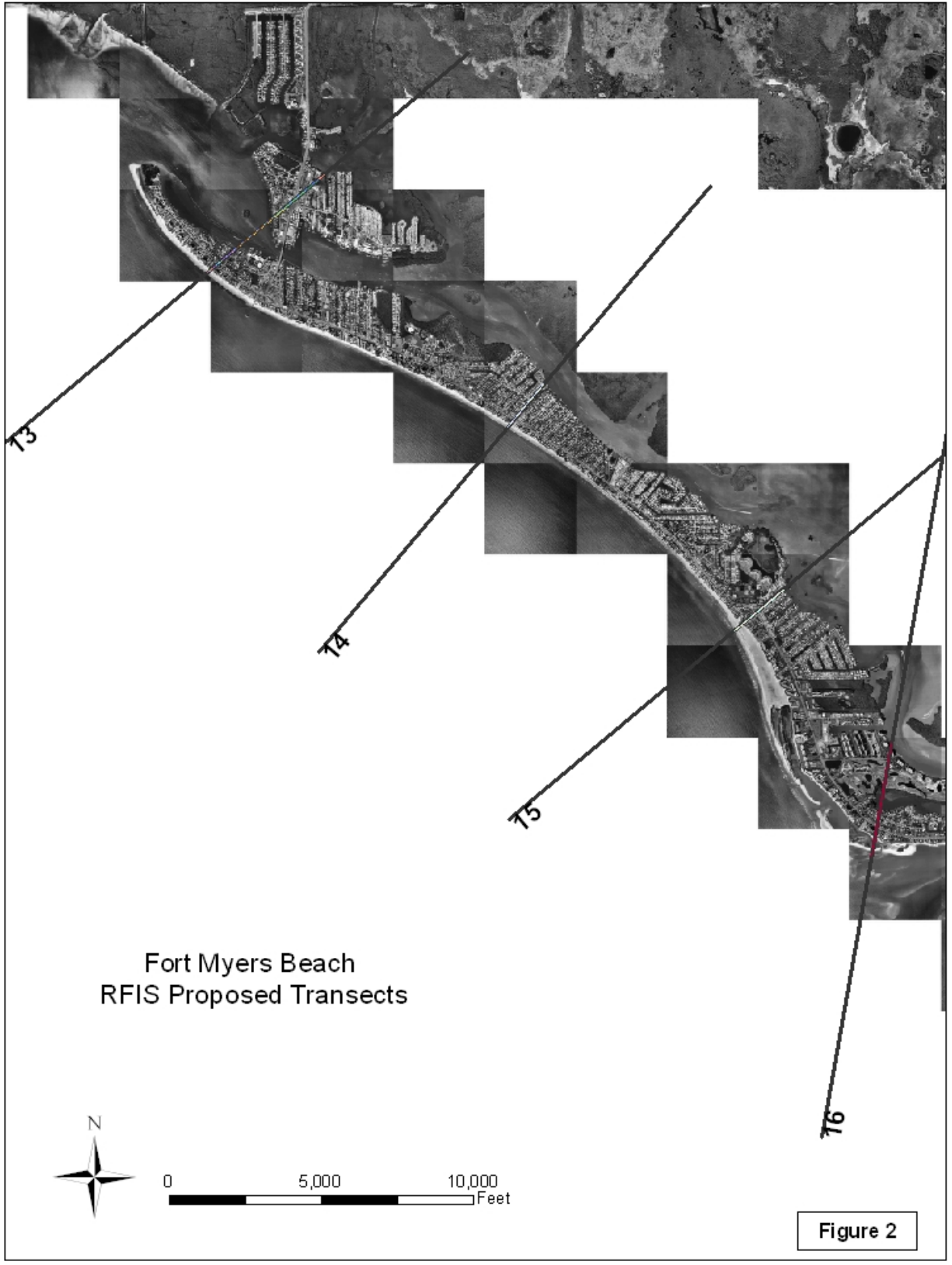


Figure 2

Appendix A

Tasks

1. **DATA COLLECTION:** The Town of Ft. Myers Beach (Town) will obtain and provide to TCE all information available from FEMA and its contractors regarding the Flood Insurance Restudy (RFIS), including the Technical Support Data Notebook (TSDN), RFIS Report, and Preliminary Flood Insurance Rate Maps (FIRMs).
2. **SUMMARY:** TCE will review, and summarize all information available from FEMA and its contractors regarding the Flood Insurance Restudy (RFIS) and the compare the RFIS findings to those of the effective flood insurance study (FIS) for land within the Town of Fort Myers Beach. This information to be reviewed includes still water elevation assumptions, wave setup computations, WHAFIS model inputs and outputs (all part of TSDN) which could justify changes to flood insurance rate maps.
3. **DATA REVIEW:** TCE will identify any data gaps or mapping alternatives overlooked by FEMA and its contractors that could affect the outcome of the Flood Insurance Restudy. TCE will identify any additional engineering or modeling tasks that the town might consider to supplement the efforts of FEMA and its contractors.
4. **SUMMARY REPORT 1:** TCE will prepare a brief report summarizing the findings of Tasks 2 and 3.

Task 1 Data Collection

- 7-29-05 Town manager, Marsha Segal-George letter to Mark Viera, FEMA Region IV, requesting latest drafts of new boundaries for A- and V-zones within the Town, potential new baseflood elevations for all A-and v- zones, the computer models being used to predict the elevations upon which the mapping is being based.
- 9-12-05 TCE met with Matt Feeney (Town) and William Spikowski (Spikowski Planning Associates (SPA))
- Also met with Lee County and FEMA representatives regarding the FEMA FIS Restudy maps for the Town. Town staff received draft maps for the Town.
- 9-20-05 SPA received from Gib Jones of Dewberry and forwarded to TCE, a DVD with individual GIS shape files containing proposed FEMA flood lines, 2' contour lines, transects, roads and aerials.
- 9-22-05 SPA received from FEMA and forwarded to TCE, the Lee County Technical Study Data Notebook (TSDN) "Coastal Engineering Analysis Flood Insurance Study, Lee County, Florida EMA-97-CO-0137" prepared for Federal Emergency

Management Agency prepared by Taylor Engineering, Inc., received by Dewberry & Davis Feb 28, 2002.

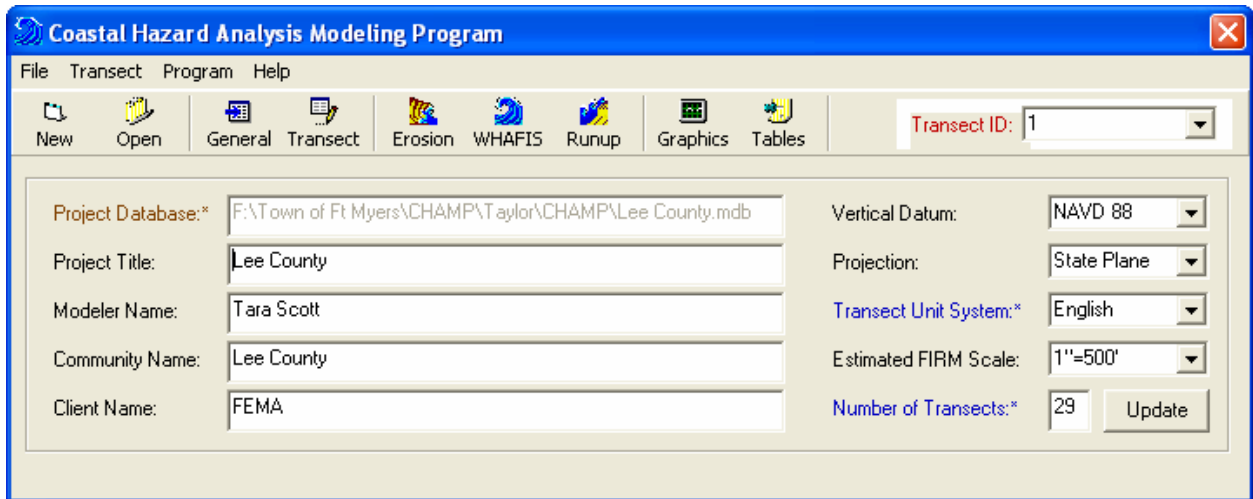
- 9-29-05 Received via e-mail from SPA the existing FEMA maps.
1. sde-GIS_FIRM.shp contains existing A&E elevation zones
2. sde_GIS_FIRMUndevelopedCoastalBarrier.shp
- Received via e-mail from SPA road shape file for Fort Myers Beach
1. FMBRdCL.shp
- Received via from SPA web site pdf for Fort Myers Beach FIRM and roads.
1. <http://www.spikowski.com/CCCL-FIRM-Jun20-02.pdf>
- 10-06-05 Downloaded the 1998 Lee County FIS from Lee County website
<http://www.lee-county.com/STORMWATER/FemaStudyPage.htm>
- 10-28-05 E-mailed from Matt Feeney – A FEMA memo from Michael Howard (8/1/05)-
“Procedure Memorandum No37 – Protocol for Atlantic and Gulf Coast coastal
Flood Insurance Studies in FY05
- 11-05-05 Downloaded “Mitigation Assessment Team Report Hurricane Charley in Florida
– Observations, Recommendations, and Technical Guidance, FEMA 488” April
2005. <http://www.fema.gov/fima/mat/fema488.shtm>.

Reports from TCE library

SFWMD, “Determination of 100-year Flood Elevations for Coastal Lee County, Florida”, 1983.

SFWMD, “Appendices for Determination of 100-year Flood Elevations for Coastal Lee County, Florida” 1985.

Appendix B



Proposed Transect 13

I.	CHAMP General Information	
	1. Description	B-3
	2. Parameters	B-3
II.	CHAMP Transect Elevation	
	1. Elevation Data	B-4
	2. Elevation Charts	B-5
III.	CHAMP Erosion	
	1. Erosion Charts	B-6
IV.	CHAMP WHAFIS	
	1. WHAFIS Input Data	B-7
	2. WHAFIS Charts	B-8
V.	WHAFIS Input Results	B-10
VI.	WHAFIS Output Results (Part 1- 6)	
	1. Part 1 – Input	B-11
	2. Part 2 – Controlling Wave Heights, Spectral Peak Wave Periods and Wave Crest Elevations	B-14
	3. Part 3 – Location of Areas Above 100-Year Surge	B-15
	4. Part 4 – Location of Surge Changes	B-16
	5. Part 5 – Location of V Zones	B-16
	6. Part 6 – Numbered A Zones and V Zones	B-16

Proposed Transect 13 - Elevations

STATION	ELEVATION	SOURCE
-11998.8	-7	
-9999	-14	
-8665.8	-9	
-7549.2	-7.4	
-7508.4	-8.7	
-7465.4	-12.1	
-7371.1	-15	
-7089.1	-15.6	
-6615.3	-15.8	
-6175.3	-16.2	
-5280.6	-16.9	
-4889.4	-16.5	
-4589.2	-16.2	
-4244.6	-15.9	
-4111.2	-15.8	
-3978.9	-16.3	
-3402.1	-15.3	
-3262.5	-15.6	
-2982.8	-15.4	
-2890.7	-15.1	
-2756.2	-15.3	
-2666.4	13	
-2615.6	-15	
-2431.7	-14.5	
-2199.8	-14	
-2107.7	-13	
-1970	-12.5	
-1835.7	-11.5	
-1789.7	-10.7	
-1657.2	-9.5	
-1437.5	-8.3	
-1396.9	-7.9	
-1187.9	-7.3	
-1141.9	-8	
-1102.7	-7.3	
-1058.4	-7	
-1017.1	-6.9	
-976.5	-7	
-936.7	-6.9	
-892.2	-7.1	
-852.4	-7.1	
-809.4	-7.3	
-779.4	-6.8	
-734.8	-6.6	
-703.2	-6.7	
-666.7	-6.5	
-633.1	-6.2	
-605.5	-7	

STATION	ELEVATION	SOURCE
-572.2	-6.5	
-546.1	-63	
-518.1	-6.7	
-481.2	-6.8	
-458.4	-6.7	
-446.2	-6.9	
-271	-5.6	
-229	-4.5	
-66	-3.3	
-40	-2.6	
0	0	
11	0.7	
18	1.3	
29	1.3	
62	2	
100	2.7	
164	0.4	
211	4.2	
274	4.1	
323	3.6	
380	3.2	
419	4	
580	4	
600	2	
650	-1	
660	2	
1240	2	
2850	-1	
2860	2	
3340	4	
3400	4	
3400	4	
3580	4	
3640	4	
3850	4	
4230	4	
4340	4	
4420	4	
4680	4	
4690	2	
4700	-1	
4760	2	
4770	4	
5010	4	
5035	2	
5060	-1	

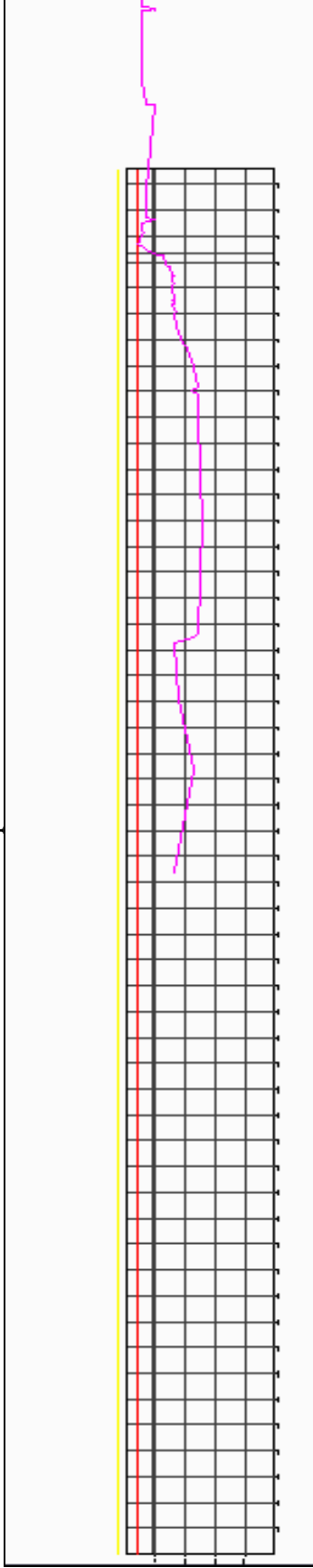
Proposed Transect 13 – Transect Elevations

SWEL 100 – yellow dashed

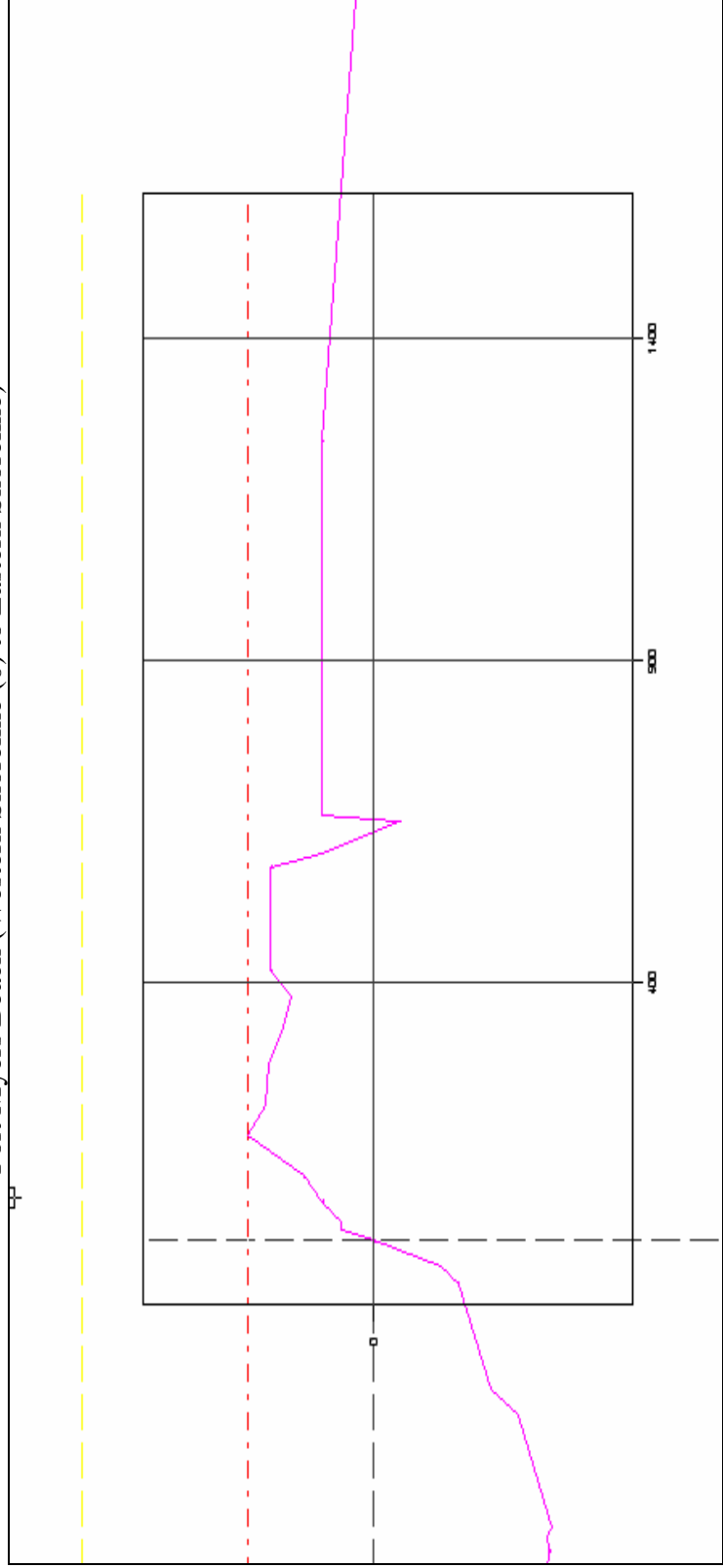
SWEL 10 – red dashed

Transect Elevation – Pink

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 13 – Erosion

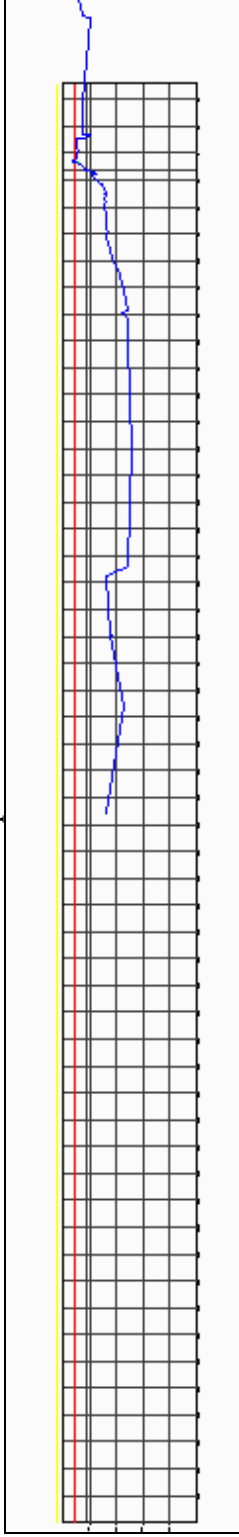
The 100-year SWEL is above the highest elevation for the entire profile. Therefore, it is treated as a dune removal case.

SWEL 100 – yellow dashed

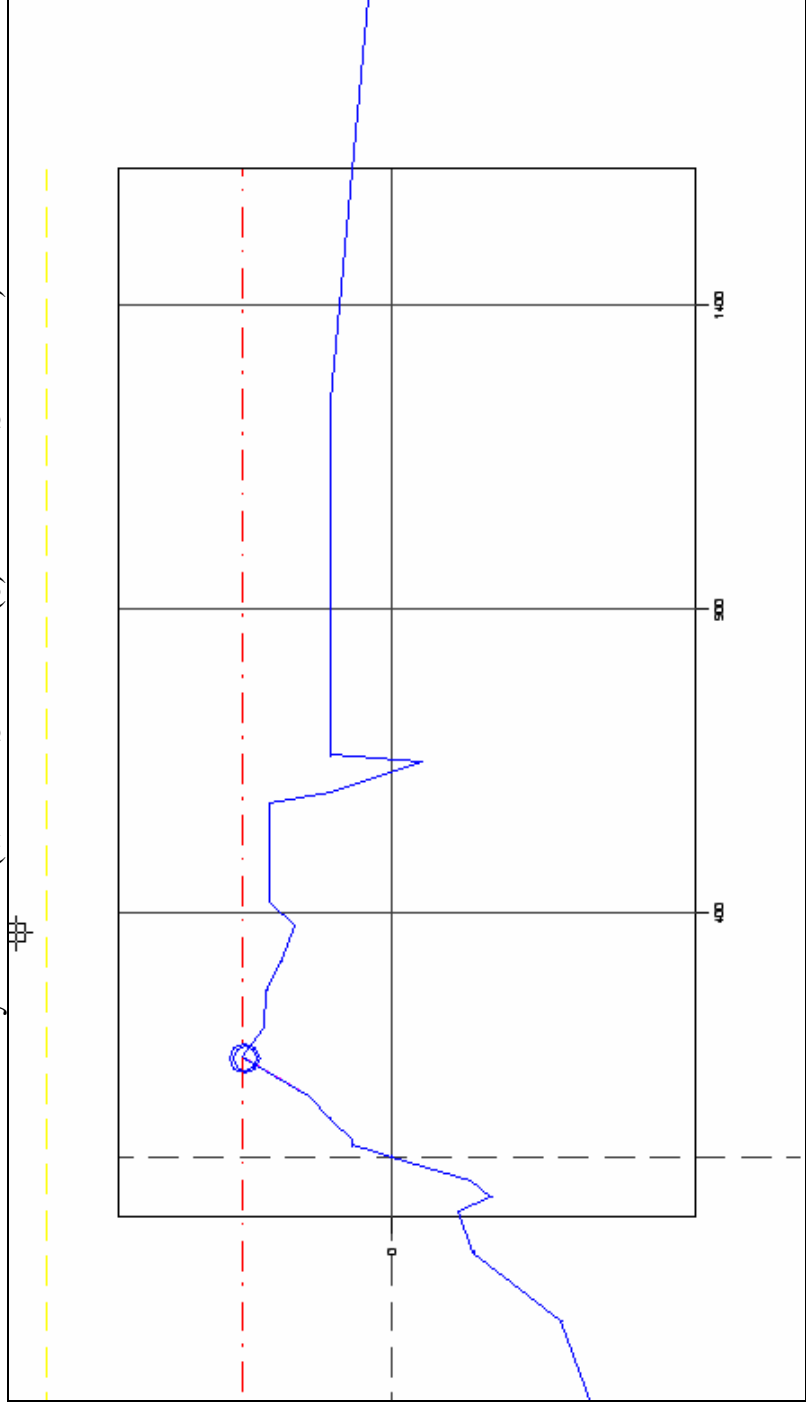
SWEL 10 – red dashed

Erosion – blue, dune crest – blue circle

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)

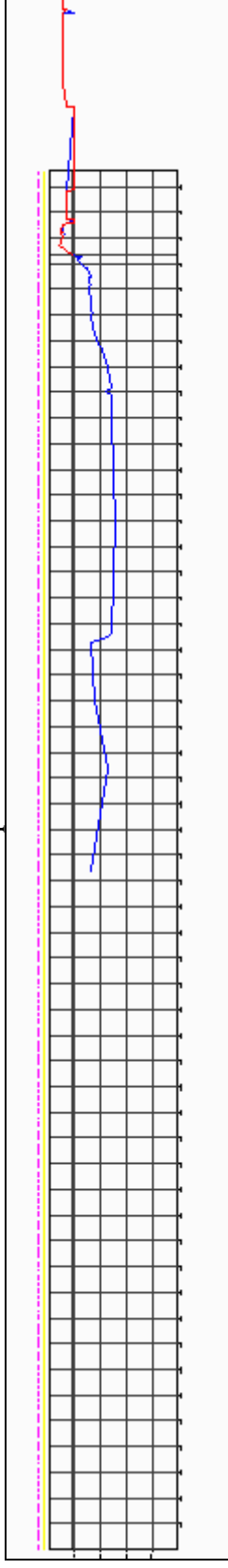


Proposed Transect 13 - WHAFIS

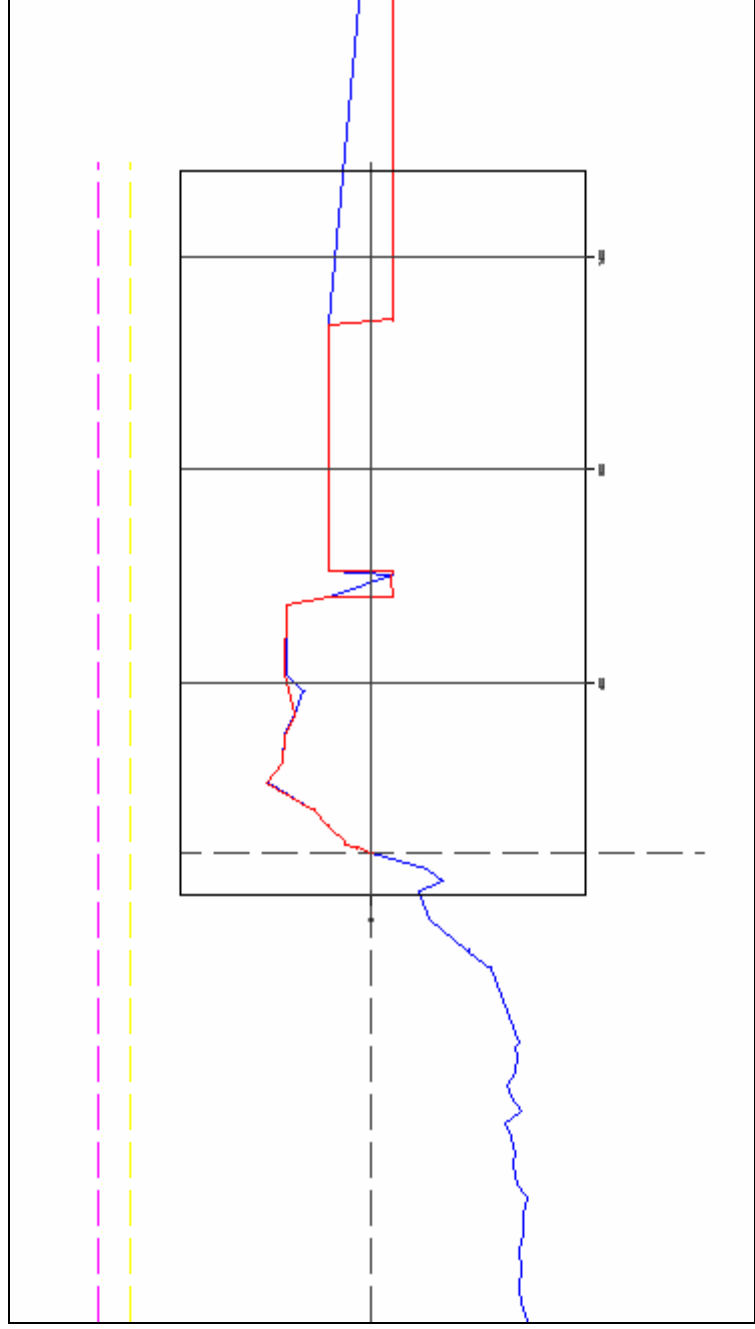
WHAFIS - Transect ID: 13					
File Program Results					
Data		Graph	Refresh		
Station	Elevation	WHAFIS Card	Total 1% SWEL	Total 10% SWEL	
0.00	0.00 IE		13.06	4.92	
11.00	0.70 OF		0	0	
18.00	1.30 OF		0	0	
29.00	1.30 OF		0	0	
62.00	2.00 OF		0	0	
100.00	2.70 OF		0	0	
163.74	4.89 DU		0	0	
211.00	4.20 OF		0	0	
273.52	4.10 OF		0	0	
323.00	3.60 BU		0	0	
421.49	4.05 DU		0	0	
579.27	4.01 BU		0	0	
598.78	2.05 BU		0	0	
600.00	-1.00 OF		0	0	
648.44	-0.92 IF		0	0	
660.00	-1.00 IF		0	0	
662.63	2.02 BU		0	0	
1240.00	2.00 BU		0	0	
1250.00	-1.00 OF		0	0	
2847.65	-1.00 OF		0	0	
2868.29	2.02 OF		0	0	
3335.38	4.01 BU		0	0	
3400.00	4.00 BU		0	0	
4230.00	4.00 BU		0	0	
4680.00	4.00 BU		0	0	
4760.00	2.00 BU		0	0	
4766.64	3.97 BU		0	0	
5010.00	4.00 BU		0	0	
5037.99	1.88 OF		0	0	
5061.05	-1.00 OF		11.32	0	
*					

Proposed Transect 13 - WHAFIS
 Total Still Water - Pink dashed
 SWEL 100 - Yellow dashed
 WHAFIS Still Water 10 - Blue
 WHAFIS Crest - Red

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 13 - Input

- Transect: 13 Date: 1/16/2004

IE0.00	0.00	24.	4.92	12.82	37.3	14.1	0.00
OF11.	.7	0.00	0.00	0.00	0.00	0.00	0.00
OF18.	1.3	0.00	0.00	0.00	0.00	0.00	0.00
OF29.	1.3	0.00	0.00	0.00	0.00	0.00	0.00
OF62.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF100.	2.7	0.00	0.00	0.00	0.00	0.00	0.00
DU164.	4.89	0.00	0.00	0.00	0.00	0.00	0.00
OF211.	4.2	0.00	0.00	0.00	0.00	0.00	0.00
OF274.	4.1	0.00	0.00	0.00	0.00	0.00	0.00
BU323.	3.6	.73	1.	0.00	0.00	0.00	0.00
DU421.	4.05	1.	0.00	0.00	0.00	0.00	0.00
BU579.	4.01	.73	1.	0.00	0.00	0.00	0.00
BU599.	2.05	.73	1.	0.00	0.00	0.00	0.00
OF600.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
IF648.	-.92	0.00	0.00	0.00	0.00	0.00	0.00
IF660.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
BU663.	2.02	.73	1.	0.00	0.00	0.00	0.00
BU1240.	2.	.73	3.	0.00	0.00	0.00	0.00
OF1250.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF2848.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF2858.	2.02	0.00	0.00	0.00	0.00	0.00	0.00
BU3335.	4.01	.82	1.	0.00	0.00	0.00	0.00
BU3400.	4.	.82	2.	0.00	0.00	0.00	0.00
BU4230.	4.	.2	10.	0.00	0.00	0.00	0.00
BU4680.	4.	.2	8.	0.00	0.00	0.00	0.00
BU4760.	2.	.2	1.	0.00	0.00	0.00	0.00
BU4767.	3.97	.2	1.	0.00	0.00	0.00	0.00
BU5010.	4.	.2	3.	0.00	0.00	0.00	0.00
OF5038.	1.88	0.00	0.00	0.00	0.00	0.00	0.00
OF5061.	-1.	0.00	11.32	0.00	0.00	0.00	0.00

ET

Proposed Transect 13 - Output files

1 *** THE FOLLOWING MESSAGES ARE THE RESULTS FROM THE 100-YR ELEVATION INTERPOLATION FOR THE
TRANSECT:

- Transect: 13 Date: 1/16/2004

1

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (VERSION 3.0, 9_88)
- Transect: 13 Date: 1/16/2004

PART1 INPUT

.000	IE	.000	.000	24.000	4.920	12.820	37.300	14.100	.000	.064
.000	OF	11.000	.700	.000	12.817	.000	.000	.000	.000	.072
.000	OF	18.000	1.300	.000	12.815	.000	.000	.000	.000	.033
.000	OF	29.000	1.300	.000	12.811	.000	.000	.000	.000	.016
.000	OF	62.000	2.000	.000	12.802	.000	.000	.000	.000	.020
.000	OF	100.000	2.700	.000	12.790	.000	.000	.000	.000	.028
.000	DU	164.000	4.890	.000	.000	12.771	.000	.000	.000	.014
.000	OF	211.000	4.200	.000	12.757	.000	.000	.000	.000	-.007
.000	OF	274.000	4.100	.000	12.739	.000	.000	.000	.000	-.005
.000	BU	323.000	3.600	.730	1.000	.000	12.724	.000	.000	-.000
.000	DU	421.000	4.050	1.000	.000	12.695	.000	.000	.000	.002
.000	BU	579.000	4.010	.730	1.000	.000	12.648	.000	.000	-.011
.000	BU	599.000	2.050	.730	1.000	.000	12.642	.000	.000	-.239
.000	OF	600.000	-1.000	.000	12.642	.000	.000	.000	.000	-.061
.000	IF	648.000	-.920	.000	12.628	.000	.000	.000	.000	.000
.000	IF	660.000	-1.000	.000	12.624	.000	.000	.000	.000	.196
.000	BU	663.000	2.020	.730	1.000	.000	12.623	.000	.000	.005
.000	BU	1240.000	2.000	.730	3.000	.000	12.452	.000	.000	-.005
.000	OF	1250.000	-1.000	.000	12.450	.000	.000	.000	.000	-.002
.000	OF	2848.000	-1.000	.000	11.976	.000	.000	.000	.000	.002
.000	OF	2858.000	2.020	.000	11.973	.000	.000	.000	.000	.010
.000	BU	3335.000	4.010	.820	1.000	.000	11.832	.000	.000	.004
.000	BU	3400.000	4.000	.820	2.000	.000	11.812	.000	.000	.000
.000	BU	4230.000	4.000	.200	10.000	.000	11.566	.000	.000	.000
.000	BU	4680.000	4.000	.200	8.000	.000	11.433	.000	.000	-.004
.000	BU	4760.000	2.000	.200	1.000	.000	11.409	.000	.000	-.000
.000	BU	4767.000	3.970	.200	1.000	.000	11.407	.000	.000	.008
.000	BU	5010.000	4.000	.200	3.000	.000	11.335	.000	.000	-.008
.000	OF	5038.000	1.880	.000	11.327	.000	.000	.000	.000	-.098
.000	OF	5061.000	-1.000	.000	11.320	.000	.000	.000	.000	-.125
.000	ET	.000	.000	.000	.000	.000	.000	.000	.000	.000

1

AVERAGE	END	END	FETCH	SURGE	ELEV	SURGE	ELEV	INITIAL	INITIAL	BOTTOM
ZONES	STATION	ELEVATION	LENGTH	10-YEAR	100-YEAR	WAVE HEIGHT	W. PERIOD			SLOPE A-

IE	.000	.000	24.000	4.920	12.820	37.300	14.100	.000	.064	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	11.000	.700	.000	12.817	.000	.000	.000	.000	.072	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	18.000	1.300	.000	12.815	.000	.000	.000	.000	.033	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	29.000	1.300	.000	12.811	.000	.000	.000	.000	.016	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	62.000	2.000	.000	12.802	.000	.000	.000	.000	.020	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	100.000	2.700	.000	12.790	.000	.000	.000	.000	.028	
.000										
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE					BOTTOM
ZONES	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR					SLOPE A-
DU	164.000	4.890	.000	.000	12.771	.000	.000	.000	.014	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	211.000	4.200	.000	12.757	.000	.000	.000	.000	-.007	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	274.000	4.100	.000	12.739	.000	.000	.000	.000	-.005	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU	323.000	3.600	.730	1.000	.000	12.724	.000	.000	.000	
.000										
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE					BOTTOM
ZONES	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR					SLOPE A-
DU	421.000	4.050	1.000	.000	12.695	.000	.000	.000	.002	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-

BU .000	579.000	4.010	.730	1.000	.000	12.648	.000	.000	-.011	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	599.000	2.050	.730	1.000	.000	12.642	.000	.000	-.239	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	600.000	-1.000	.000	12.642	.000	.000	.000	.000	-.061	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
IF .000	648.000	-.920	.000	12.628	.000	.000	.000	.000	.000	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
IF .000	660.000	-1.000	.000	12.624	.000	.000	.000	.000	.196	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	663.000	2.020	.730	1.000	.000	12.623	.000	.000	.005	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	1240.000	2.000	.730	3.000	.000	12.452	.000	.000	-.005	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	1250.000	-1.000	.000	12.450	.000	.000	.000	.000	-.002	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	2848.000	-1.000	.000	11.976	.000	.000	.000	.000	.002	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	2858.000	2.020	.000	11.973	.000	.000	.000	.000	.010	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	3335.000	4.010	.820	1.000	.000	11.832	.000	.000	.004	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-

BU	3400.000	4.000	.820	2.000	.000	11.812	.000	.000	.000	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	4230.000	4.000	.200	10.000	.000	11.566	.000	.000	.000	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	4680.000	4.000	.200	8.000	.000	11.433	.000	.000	-.004	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	4760.000	2.000	.200	1.000	.000	11.409	.000	.000	.000	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	4767.000	3.970	.200	1.000	.000	11.407	.000	.000	.008	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	5010.000	4.000	.200	3.000	.000	11.335	.000	.000	-.008	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	5038.000	1.880	.000	11.327	.000	.000	.000	.000	-.098	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	5061.000	-1.000	.000	11.320	.000	.000	.000	.000	-.125	
.000										

-----END OF TRANSECT-----

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

1

PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL
 PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS

LOCATION	CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION	
IE	.00	9.80	14.10	19.68
OF	11.00	9.28	14.10	19.31
OF	18.00	8.82	14.10	18.99
OF	29.00	8.82	14.10	18.99
OF	62.00	8.29	14.10	18.60
OF	100.00	7.75	14.10	18.21

DU	164.00	6.07	14.10	17.02
OF	211.00	6.25	14.10	17.13
OF	274.00	6.28	14.10	17.13
BU	323.00	5.36	14.10	16.48
DU	421.00	5.36	14.10	16.45
BU	579.00	4.58	14.10	15.85
BU	599.00	3.91	14.10	15.38
OF	600.00	3.48	14.10	15.08
IF	648.00	3.53	14.10	15.10
IF	660.00	3.53	14.10	15.10
BU	663.00	3.02	14.10	14.74
BU	1240.00	1.88	14.10	13.77
OF	1250.00	1.71	14.10	13.65
	1350.00	2.05	14.10	13.85
	1450.00	2.33	14.10	14.02
	1550.00	2.59	14.10	14.17
	1650.00	2.82	14.10	14.30
	1750.00	3.03	14.10	14.42
	1850.00	3.23	14.10	14.53
	1950.00	3.41	14.10	14.63
	2050.00	3.59	14.10	14.72
	2150.00	3.75	14.10	14.81
	2250.00	3.91	14.10	14.89
	2350.00	4.06	14.10	14.97
	2450.00	4.21	14.10	15.04
	2550.00	4.35	14.10	15.11
	2650.00	4.48	14.10	15.17
	2750.00	4.61	14.10	15.23
OF	2848.00	4.73	14.10	15.29
OF	2858.00	5.37	14.10	15.73
BU	3335.00	4.86	14.10	15.23
BU	3400.00	3.99	14.10	14.60
BU	4230.00	.00	14.10	11.57
BU	4680.00	.00	14.10	11.43
BU	4760.00	.00	14.10	11.41
BU	4767.00	.00	14.10	11.41
BU	5010.00	.00	14.10	11.34
OF	5038.00	.63	14.10	11.77
OF	5061.00	.77	14.10	11.86

TRANSMITTED WAVE HEIGHT AT LAST FETCH OR OBSTRUCTION = .77 WHICH EXCEEDS 0.5.

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
11.00	4.92	12.82
18.00	4.92	12.81
29.00	4.92	12.81
62.00	4.92	12.80
100.00	4.92	12.79
164.00	4.92	12.77
211.00	4.92	12.76
274.00	4.92	12.74
323.00	4.92	12.72
421.00	4.92	12.69
579.00	4.92	12.65
599.00	4.92	12.64
648.00	4.92	12.63
660.00	4.92	12.62
663.00	4.92	12.62
1240.00	4.92	12.45
1250.00	4.92	12.45
2848.00	4.92	11.98
2858.00	4.92	11.97
3335.00	4.92	11.83
3400.00	4.92	11.81
4230.00	4.92	11.57
4680.00	4.92	11.43
4760.00	4.92	11.41
4767.00	4.92	11.41
5010.00	4.92	11.34
5038.00	4.92	11.33
5061.00	4.92	11.32

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
671.92	WINDWARD
1735.51	LEEWARD
3605.26	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
.00	19.68		
		V22 EL=20	120
5.42	19.50		
		V22 EL=19	120
11.00	19.31		

		V22	EL=19	120
18.00	18.99			
		V22	EL=19	120
29.00	18.99			
		V22	EL=19	120
62.00	18.60			
		V22	EL=19	120
72.06	18.50			
		V22	EL=18	120
100.00	18.21			
		V22	EL=18	120
138.35	17.50			
		V22	EL=17	120
164.00	17.02			
		V22	EL=17	120
211.00	17.13			
		V22	EL=17	120
274.00	17.13			
		V22	EL=17	120
321.28	16.50			
		V22	EL=16	120
323.00	16.48			
		V22	EL=16	120
421.00	16.45			
		V22	EL=16	120
579.00	15.85			
		V22	EL=16	120
594.00	15.50			
		V22	EL=15	120
599.00	15.38			
		V22	EL=15	120
600.00	15.08			
		V22	EL=15	120
648.00	15.10			
		V22	EL=15	120
660.00	15.10			
		V22	EL=15	120
663.00	14.74			
		V22	EL=15	120
671.92	14.64			
		A18	EL=15	90
803.56	14.50			
		A18	EL=14	90
1240.00	13.77			
		A18	EL=14	90

1250.00	13.65			
		A18	EL=14	90
1735.51	14.42			
		V21	EL=14	110
1820.81	14.50			
		V21	EL=15	110
2848.00	15.29			
		V21	EL=15	110
2852.78	15.50			
		V21	EL=16	110
2858.00	15.73			
		V21	EL=16	110
3079.18	15.50			
		V21	EL=15	110
3335.00	15.23			
		V21	EL=15	110
3400.00	14.60			
		V20	EL=15	100
3427.81	14.50			
		V20	EL=14	100
3605.26	13.79			
		A14	EL=14	70
3701.30	13.50			
		A14	EL=13	70
3974.80	12.50			
		A14	EL=12	70
4230.00	11.57			
		A14	EL=12	70
4454.82	11.50			
		A14	EL=11	70
4680.00	11.43			
		A14	EL=11	70
4760.00	11.41			
		A14	EL=11	70
4767.00	11.41			
		A14	EL=11	70
5010.00	11.34			
		A14	EL=11	70
5020.62	11.50			
		A14	EL=12	70
5038.00	11.77			
		A14	EL=12	70
5061.00	11.86			

ZONE TERMINATED AT END OF TRANSECT

Proposed Transect 14

VII.	CHAMP General Information	
	1. Description	B-20
	2. Parameters	B-20
VIII.	CHAMP Transect Elevation	
	1. Elevation Data	B-21
	2. Elevation Charts	B-22
IX.	CHAMP Erosion	
	1. Erosion Charts	B-23
X.	CHAMP WHAFIS	
	1. WHAFIS Input Data	B-24
	2. WHAFIS Charts	B-25
XI.	WHAFIS Input Results	B-27
XII.	WHAFIS Output Results (Part 1- 6)	
	1. Part 1 – Input	B-28
	2. Part 2 – Controlling Wave Heights, Spectral Peak Wave Periods and Wave Crest Elevations	B-30
	3. Part 3 – Location of Areas Above 100-Year Surge	B-31
	4. Part 4 – Location of Surge Changes	B-31
	5. Part 5 – Location of V Zones	B-31
	6. Part 6 – Numbered A Zones and V Zones	B-32

Transect General Information - Transect ID: 14

Description | Parameters

Transect Type:

Description of Transect Location:

Range and Direction: Location of Station 0:

Range(ft) and Direction Left	<input type="text" value="4500"/>	<input type="text" value="North"/>	X(ft):	<input type="text" value="766303.5"/>
Range(ft) and Direction Right	<input type="text" value="4500"/>	<input type="text" value="South"/>	Y(ft):	<input type="text" value="522729"/>
			Bearing(dd):	<input type="text" value="220"/>

Transect Characteristics:

Copy OK Cancel

Transect General Information - Transect ID: 14

Description | **Parameters**

Flooding Source:

1% SWEL(ft):	<input type="text" value="11.32"/>	Source:	<input type="text" value="Effective Study"/>
10% SWEL(ft):	<input type="text" value="4.92"/>	Source:	<input type="text" value="Effective Study"/>
Mean High Water Elev (ft):	<input type="text" value="0.51"/>	Source:	<input type="text" value="Captive Island NOAA Tidal Beach Ma"/>
Mean Low Water Elev (ft):	<input type="text" value="-0.76"/>	Type of Event:	<input type="text" value="Hurricane"/>
Fetch Length (mile):	<input type="text" value="24"/>	Source of wave or fetch data:	<input type="text" value="WIS Station"/>
Significant Wave Height (ft):	<input type="text" value="23.3"/>		
Deepwater Wave Period (sec):	<input type="text" value="14.1"/>	Method for determining wave setup magnitude:	<input type="text" value="SPM"/>
Wave Setup Magnitude (ft):	<input type="text" value="1.5"/>		
2% SWEL(ft):	<input type="text"/>	0.2% SWEL(ft):	<input type="text"/>

Other Flooding Source

Source: 1% SWEL (ft): 10% SWEL (ft):

Copy OK Cancel

Proposed Transect 14- Elevations

STATION	ELEVATION	SOURCE
-21664.5	-11	
-7332.6	-14	
-5041.6	-13.8	
-4889.1	-14.1	
-4344.3	-13.4	
-3514.2	-13	
-3206.2	-12.9	
-2966.2	-12.4	
-2514.7	-11.6	
-2357.8	-11.5	
-2171.9	-11.4	
-1971.3	-10.9	
-1875.9	-10.8	
-1762.7	-10.4	
-1505.5	-10	
-1206	-9.6	
-1046.3	-9	
-990.9	-8.9	
-947.5	-8.7	
-892.3	-8.3	
-844.3	-8.2	
-792.1	-8.4	
-744.2	-8	
-698.1	-7.7	
-654.1	-7.5	
-636.2	-7.2	
-599.6	-6.8	
-543.6	-6.2	
-510.3	-6.2	
-481.5	-6.2	
-444.2	-6.1	
-420.2	-6	
-353.8	-5.5	
-332.9	-5.3	
-249	-5.3	
-200	-4.6	
-157	-3.9	
-112	-2.9	
-64	-2.1	
-17	-1.6	
0	0	
4	0.50	
13	1.40	
29	1.20	
44	2	
51	1.80	
73	2.80	
96	4.40	

STATION	ELEVATION	SOURCE
127	4.80	
189	5.50	
201	5.50	
251	5.30	
316	4.50	
339	4	
350	4	
860	4	
1210	4	
1260	4	
1800	4	
1890	2	
1910	-1	
2900	2	

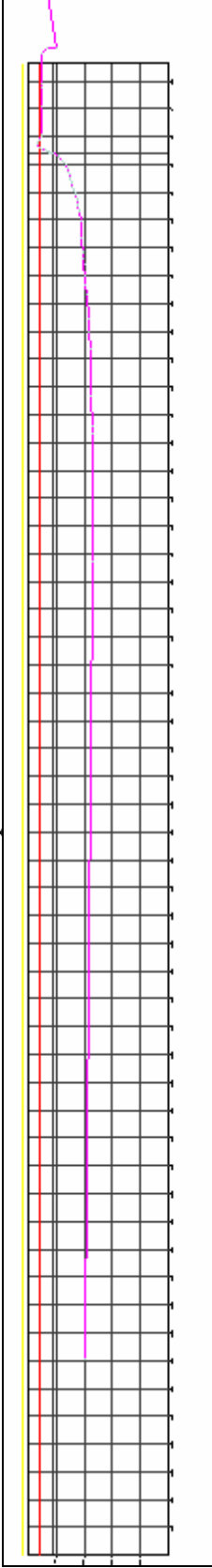
Proposed Transect 14- Transect Elevations

SWEL 100 - yellow dashed

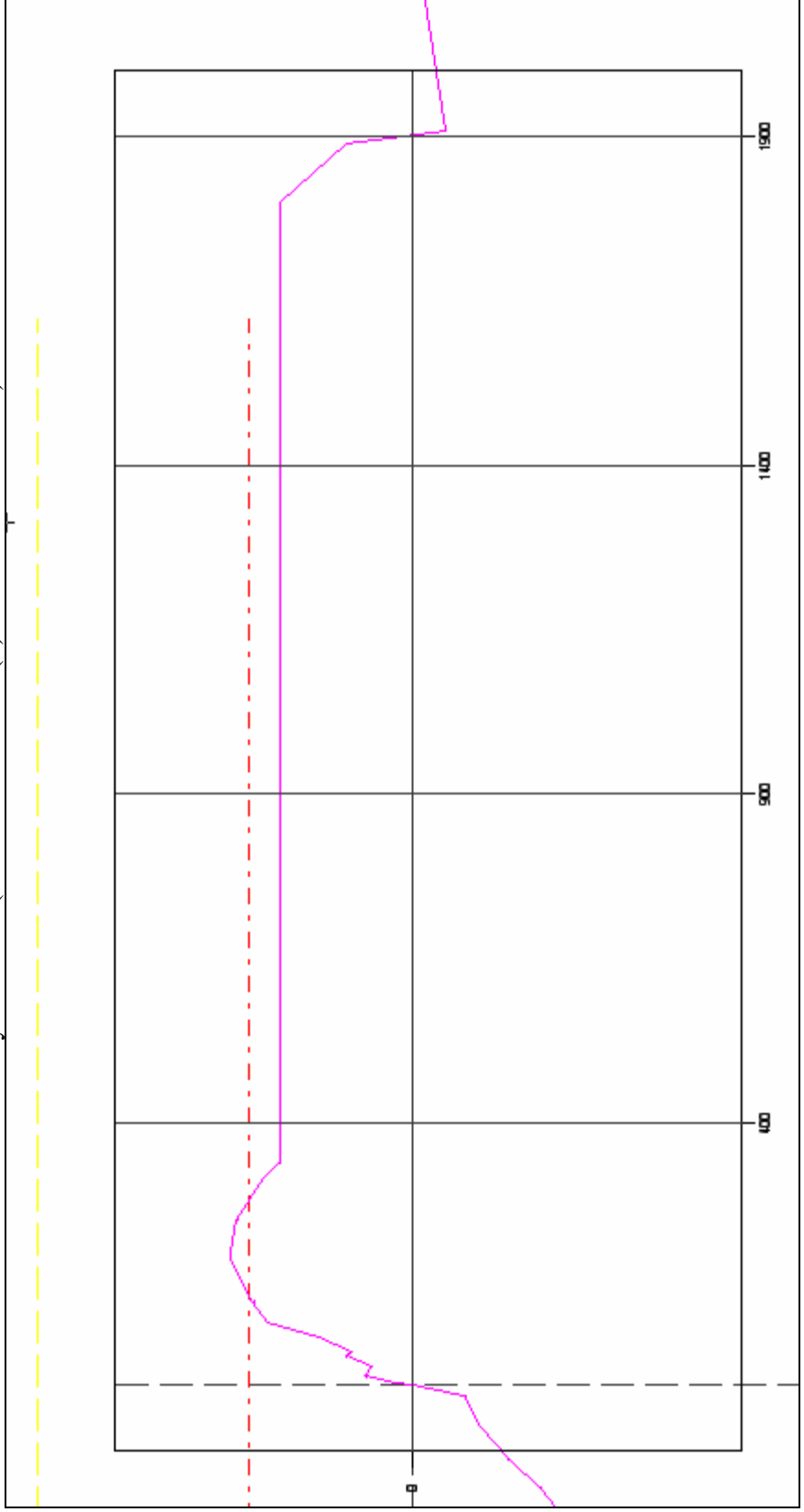
SWEL 10 - red dashed

Transect Elevation - Pink

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 14— Erosion

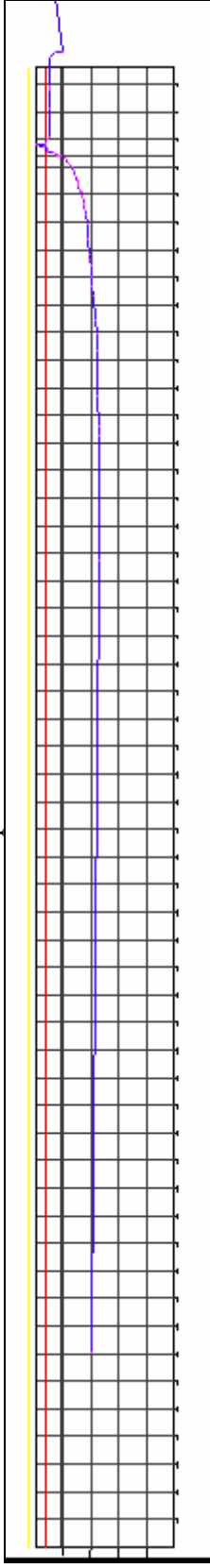
The 100-year SWEL is above the highest elevation for the entire profile. Therefore, it is treated as a dune removal case.

SWEL 100 – yellow dashed

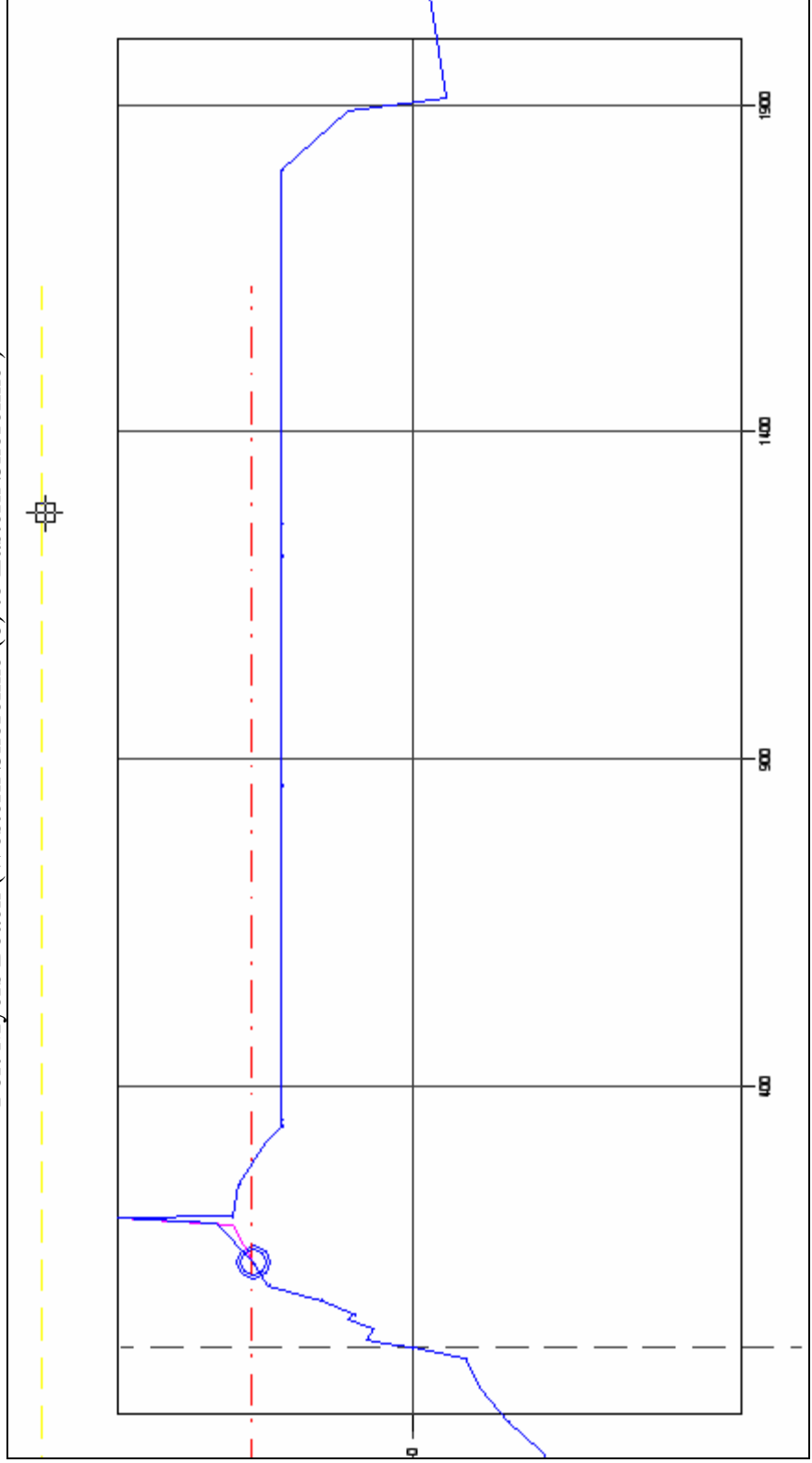
SWEL 10 – red dashed

Erosion – blue, dune crest – blue circle

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)

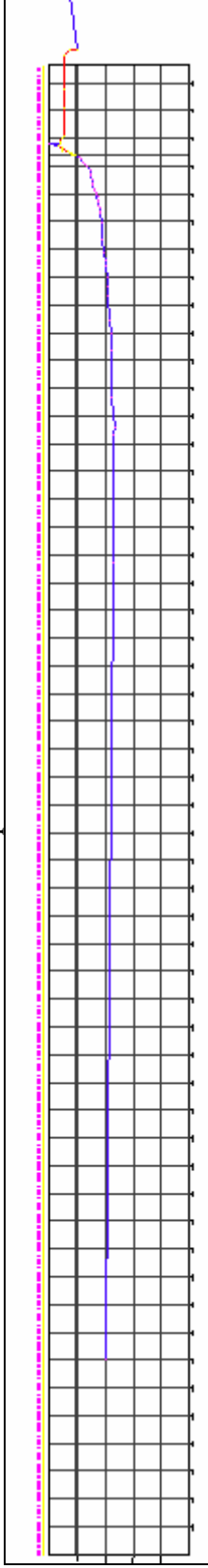


Proposed Transect 14- WHAFIS

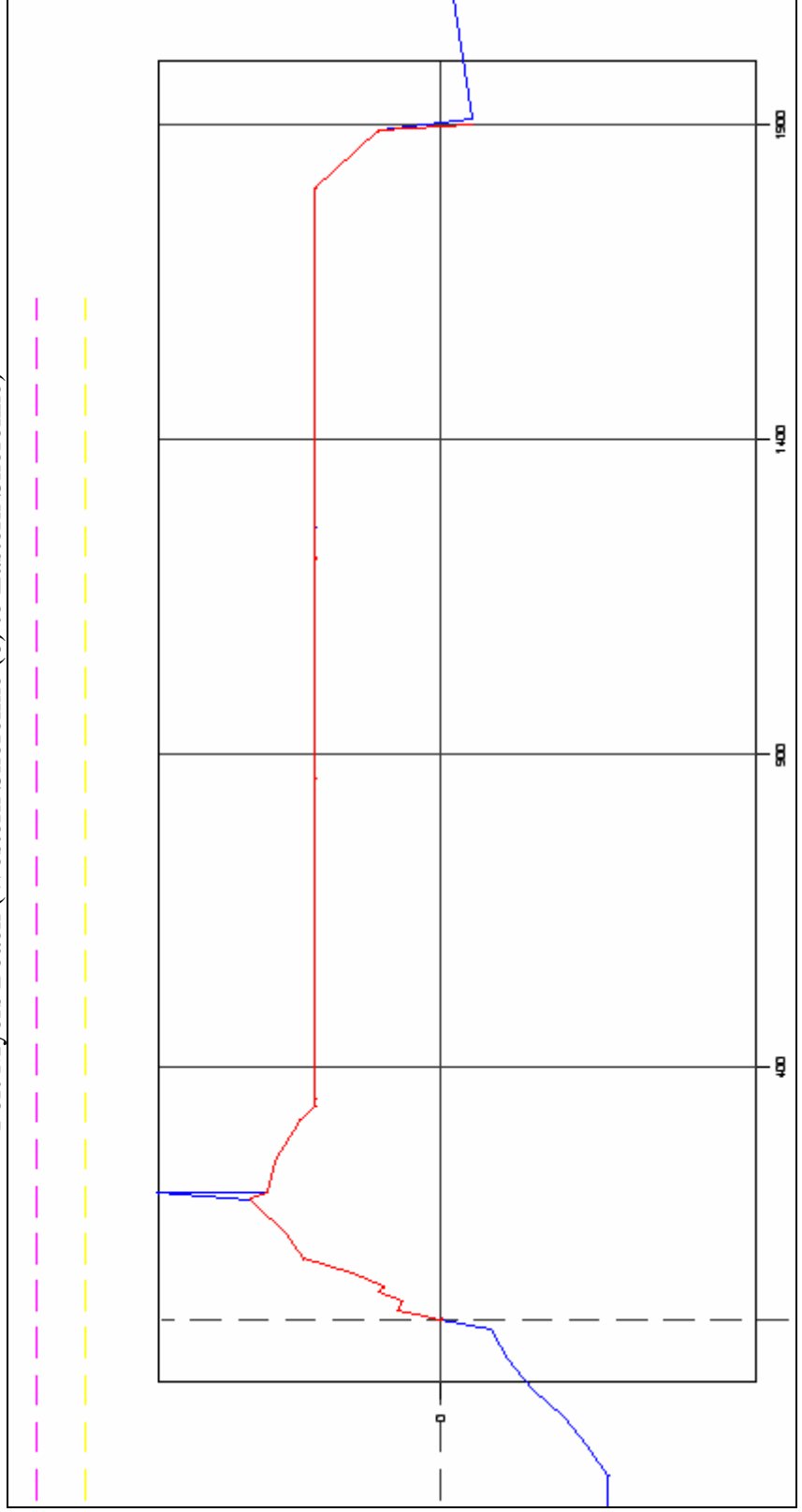
WHAFIS - Transect ID: 14					
File Program Results					
Data		Graph	Refresh		
Station	Elevation	WHAFIS Card	Total 1% SwEL	Total 10% SwEL	
0.00	0.00 IE		12.82	4.92	
4.00	0.50 OF		0	0	
13.00	1.40 OF		0	0	
29.00	1.20 OF		0	0	
44.00	2.00 OF		0	0	
51.00	1.80 OF		0	0	
73.00	2.80 OF		0	0	
96.00	4.40 OF		0	0	
127.00	4.80 OF		0	0	
132.07	4.86 OF		0	0	
190.66	6.03 DU		0	0	
201.00	5.50 OF		0	0	
251.00	5.30 OF		0	0	
316.00	4.50 OF		0	0	
339.00	4.00 OF		0	0	
350.00	4.00 BU		0	0	
860.00	4.00 BU		0	0	
1210.00	4.00 BU		0	0	
1800.00	4.00 BU		0	0	
1890.00	2.00 OF		0	0	
1900.00	-1.00 OF		11.32	0	
*					

- Proposed Transect 14-WHAFIS
- Total Still Water – Pink dashed
- SWEL 100 – Yellow dashed
- WHAFIS Still Water 10 – Blue
- WHAFIS Crest - Red

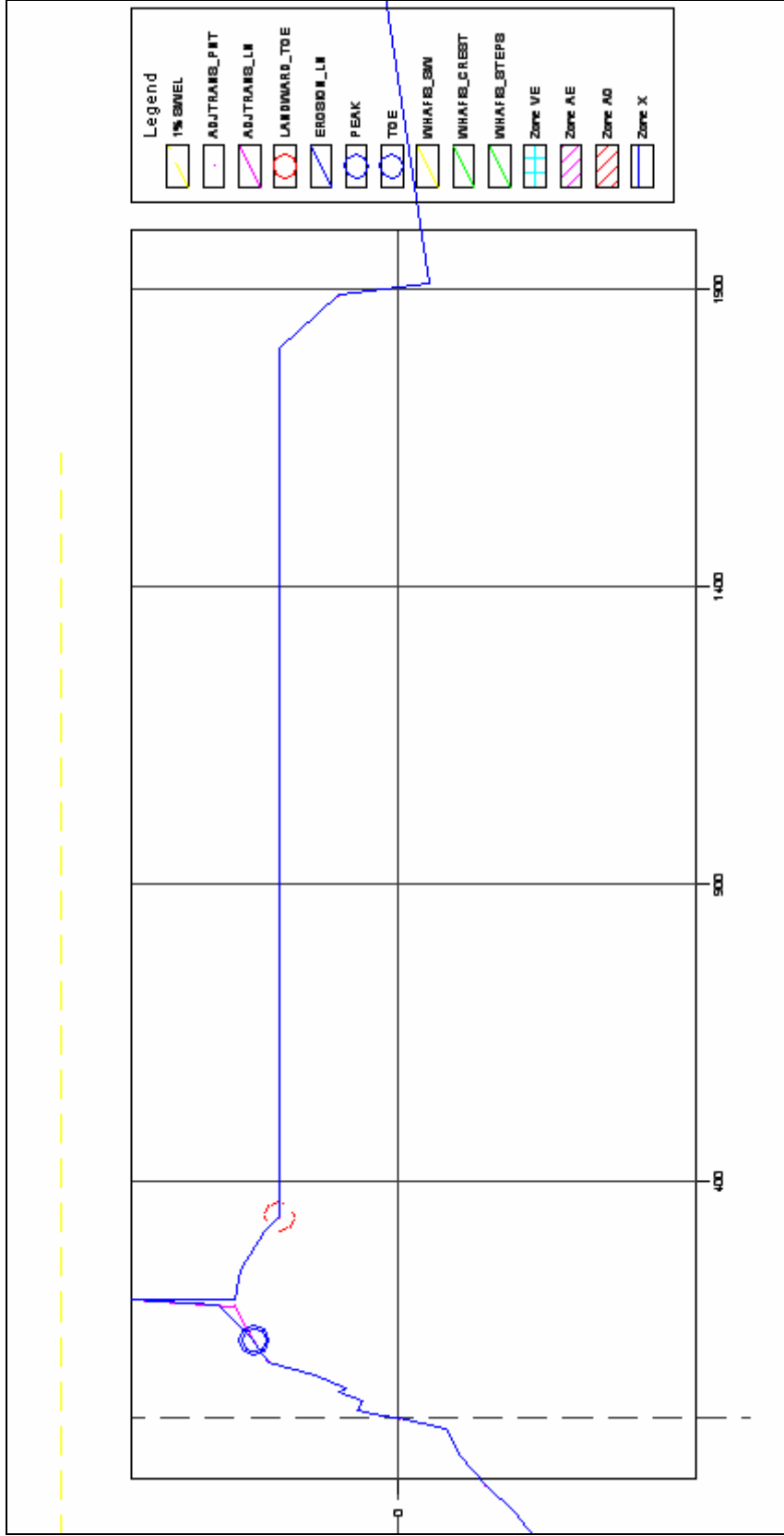
Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 14 WHAFIS Chart



Proposed Transect 14- Input

- Transect: 14 Date: 1/16/2004

IE0.00	0.00	24.	4.92	12.82	37.3	14.1	0.00
OF4.	.5	0.00	0.00	0.00	0.00	0.00	0.00
OF13.	1.4	0.00	0.00	0.00	0.00	0.00	0.00
OF29.	1.2	0.00	0.00	0.00	0.00	0.00	0.00
OF44.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF51.	1.8	0.00	0.00	0.00	0.00	0.00	0.00
OF73.	2.8	0.00	0.00	0.00	0.00	0.00	0.00
OF96.	4.4	0.00	0.00	0.00	0.00	0.00	0.00
OF127.	4.8	0.00	0.00	0.00	0.00	0.00	0.00
OF132.	4.86	0.00	0.00	0.00	0.00	0.00	0.00
DU191.	6.03	0.00	0.00	0.00	0.00	0.00	0.00
OF201.	5.5	0.00	0.00	0.00	0.00	0.00	0.00
OF251.	5.3	0.00	0.00	0.00	0.00	0.00	0.00
OF316.	4.5	0.00	0.00	0.00	0.00	0.00	0.00
OF339.	4.	0.00	0.00	0.00	0.00	0.00	0.00
BU350.	4.	.58	1.	0.00	0.00	0.00	0.00
BU860.	4.	.58	5.	0.00	0.00	0.00	0.00
BU1210.	4.	.56	5.	0.00	0.00	0.00	0.00
BU1800.	4.	.67	5.	0.00	0.00	0.00	0.00
OF1890.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF1900.	-1.	0.00	11.32	0.00	0.00	0.00	0.00

ET

Proposed Transect 14- Output files

1 *** THE FOLLOWING MESSAGES ARE THE RESULTS FROM THE 100-YR ELEVATION INTERPOLATION FOR THE
TRANSECT:

- Transect: 14 Date: 1/16/2004

1

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (VERSION 3.0, 9_88)
- Transect: 14 Date: 1/16/2004

PART I INPUT										
.000	IE	.000	.000	24.000	4.920	12.820	37.300	14.100	.000	.125
.000	OF	4.000	.500	.000	12.817	.000	.000	.000	.000	.108
.000	OF	13.000	1.400	.000	12.810	.000	.000	.000	.000	.028
.000	OF	29.000	1.200	.000	12.797	.000	.000	.000	.000	.019
.000	OF	44.000	2.000	.000	12.785	.000	.000	.000	.000	.027
.000	OF	51.000	1.800	.000	12.780	.000	.000	.000	.000	.028
.000	OF	73.000	2.800	.000	12.762	.000	.000	.000	.000	.058
.000	OF	96.000	4.400	.000	12.744	.000	.000	.000	.000	.037
.000	OF	127.000	4.800	.000	12.720	.000	.000	.000	.000	.013
.000	OF	132.000	4.860	.000	12.716	.000	.000	.000	.000	.019
.000	DU	191.000	6.030	.000	.000	12.669	.000	.000	.000	.009
.000	OF	201.000	5.500	.000	12.661	.000	.000	.000	.000	-.012
.000	OF	251.000	5.300	.000	12.622	.000	.000	.000	.000	-.009
.000	OF	316.000	4.500	.000	12.571	.000	.000	.000	.000	-.015
.000	OF	339.000	4.000	.000	12.552	.000	.000	.000	.000	-.015
.000	BU	350.000	4.000	.580	1.000	.000	12.544	.000	.000	.000
.000	BU	860.000	4.000	.580	5.000	.000	12.141	.000	.000	.000
.000	BU	1210.000	4.000	.560	5.000	.000	11.865	.000	.000	.000
.000	BU	1800.000	4.000	.670	5.000	.000	11.399	.000	.000	-.003
.000	OF	1890.000	2.000	.000	11.328	.000	.000	.000	.000	-.050
.000	OF	1900.000	-1.000	.000	11.320	.000	.000	.000	.000	-.300
.000	ET	.000	.000	.000	.000	.000	.000	.000	.000	.000

AVERAGE	END	END	FETCH	SURGE	ELEV	SURGE	ELEV	INITIAL	INITIAL	BOTTOM
ZONES	STATION	ELEVATION	LENGTH	10-YEAR	100-YEAR	WAVE HEIGHT	W. PERIOD			SLOPE
IE	.000	.000	24.000	4.920	12.820	37.300	14.100	.000	.125	A-

AVERAGE	END	END	NEW SURGE	NEW SURGE	BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR	SLOPE
OF	4.000	.500	.000	12.817	.000

AVERAGE	END	END	NEW SURGE	NEW SURGE	BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR	SLOPE
OF	13.000	1.400	.000	12.810	.000

AVERAGE	END	END	NEW SURGE	NEW SURGE	BOTTOM
---------	-----	-----	-----------	-----------	--------

ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	29.000	1.200	.000	12.797	.000	.000	.000	.000	.019	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	44.000	2.000	.000	12.785	.000	.000	.000	.000	.027	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	51.000	1.800	.000	12.780	.000	.000	.000	.000	.028	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	73.000	2.800	.000	12.762	.000	.000	.000	.000	.058	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	96.000	4.400	.000	12.744	.000	.000	.000	.000	.037	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	127.000	4.800	.000	12.720	.000	.000	.000	.000	.013	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	132.000	4.860	.000	12.716	.000	.000	.000	.000	.019	
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE				BOTTOM	
ZONES DU .000	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR				SLOPE	A-
	191.000	6.030	.000	.000	12.669	.000	.000	.000	.009	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	201.000	5.500	.000	12.661	.000	.000	.000	.000	-.012	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	251.000	5.300	.000	12.622	.000	.000	.000	.000	-.009	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	316.000	4.500	.000	12.571	.000	.000	.000	.000	-.015	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	

ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	339.000	4.000	.000	12.552	.000	.000	.000	.000	-.015	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES BU .000	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
	350.000	4.000	.580	1.000	.000	12.544	.000	.000	.000	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES BU .000	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
	860.000	4.000	.580	5.000	.000	12.141	.000	.000	.000	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES BU .000	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
	1210.000	4.000	.560	5.000	.000	11.865	.000	.000	.000	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES BU .000	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
	1800.000	4.000	.670	5.000	.000	11.399	.000	.000	-.003	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	1890.000	2.000	.000	11.328	.000	.000	.000	.000	-.050	
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES OF .000	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
	1900.000	-1.000	.000	11.320	.000	.000	.000	.000	-.300	

-----END OF TRANSECT-----

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

1

PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS

LOCATION	CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE .00	9.80	14.10	19.68
OF 4.00	9.43	14.10	19.42
OF 13.00	8.75	14.10	18.93
OF 29.00	8.78	14.10	18.95
OF 44.00	8.27	14.10	18.58
OF 51.00	8.31	14.10	18.60
OF 73.00	7.65	14.10	18.12
OF 96.00	6.43	14.10	17.24
OF 127.00	6.10	14.10	16.99

OF	132.00	6.05	14.10	16.95
DU	191.00	5.13	14.10	16.26
OF	201.00	5.26	14.10	16.34
OF	251.00	5.31	14.10	16.34
OF	316.00	5.48	14.10	16.41
OF	339.00	5.58	14.10	16.46
BU	350.00	4.25	14.10	15.52
BU	860.00	1.09	14.10	12.90
BU	1210.00	.26	14.10	12.04
BU	1800.00	.09	14.10	11.46
OF	1890.00	1.14	14.10	12.13
OF	1900.00	1.06	14.10	12.06

TRANSMITTED WAVE HEIGHT AT LAST FETCH OR OBSTRUCTION = 1.06 WHICH EXCEEDS 0.5.

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
4.00	4.92	12.82
13.00	4.92	12.81
29.00	4.92	12.80
44.00	4.92	12.78
51.00	4.92	12.78
73.00	4.92	12.76
96.00	4.92	12.74
127.00	4.92	12.72
132.00	4.92	12.72
191.00	4.92	12.67
201.00	4.92	12.66
251.00	4.92	12.62
316.00	4.92	12.57
339.00	4.92	12.55
350.00	4.92	12.54
860.00	4.92	12.14
1210.00	4.92	11.86
1800.00	4.92	11.40
1890.00	4.92	11.33
1900.00	4.92	11.32

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
551.67	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
.00	19.68	V22 EL=20	120
2.74	19.50	V22 EL=19	120
4.00	19.42	V22 EL=19	120
13.00	18.93	V22 EL=19	120
29.00	18.95	V22 EL=19	120
44.00	18.58	V22 EL=19	120
51.00	18.60	V22 EL=19	120
55.56	18.50	V22 EL=18	120
73.00	18.12	V22 EL=18	120
89.22	17.50	V22 EL=17	120
96.00	17.24	V22 EL=17	120
127.00	16.99	V22 EL=17	120
132.00	16.95	V22 EL=17	120
170.42	16.50	V22 EL=16	120
191.00	16.26	V22 EL=16	120
201.00	16.34	V22 EL=16	120
251.00	16.34	V22 EL=16	120
316.00	16.41	V22 EL=16	120
339.00	16.46	V22 EL=16	120
350.00	15.52	V22 EL=16	120
353.71	15.50	V22 EL=15	120

548.68	14.50			
		V22	EL=14	120
551.67	14.44			
		A15	EL=14	75
743.64	13.50			
		A15	EL=13	75
860.00	12.90			
		A15	EL=13	75
1024.22	12.50			
		A15	EL=12	75
1210.00	12.04			
		A15	EL=12	75
1764.06	11.50			
		A15	EL=11	75
1800.00	11.46			
		A15	EL=11	75
1804.79	11.50			
		A15	EL=12	75
1890.00	12.13			
		A15	EL=12	75
1900.00	12.06			

ZONE TERMINATED AT END OF TRANSECT

Proposed Transect 15

XIII.	CHAMP General Information	
	1. Description	B-35
	2. Parameters	B-35
XIV.	CHAMP Transect Elevation	
	1. Elevation Data	B-36
	2. Elevation Charts	B-37
XV.	CHAMP Erosion	
	1. Erosion Charts	B-38
XVI.	CHAMP WHAFIS	
	1. WHAFIS Input Data	B-39
	2. WHAFIS Charts	B-40
XVII.	WHAFIS Input Results	B-42
XVIII.	WHAFIS Output Results (Part 1- 6)	
	1. Part 1 – Input	B-43
	2. Part 2 – Controlling Wave Heights, Spectral Peak Wave Periods and Wave Crest Elevations	B-46
	3. Part 3 – Location of Areas Above 100-Year Surge	B-46
	4. Part 4 – Location of Surge Changes	B-46
	5. Part 5 – Location of V Zones	B-47
	6. Part 6 – Numbered A Zones and V Zones	B-47

Transect General Information - Transect ID: 15

Description | Parameters

Transect Type:

Description of Transect Location:

Range and Direction: Location of Station 0:

Range(ft) and Direction Left	<input type="text" value="5850"/>	<input type="text" value="North"/>	X(ft):	<input type="text" value="759571.5"/>
Range(ft) and Direction Right	<input type="text" value="2850"/>	<input type="text" value="South"/>	Y(ft):	<input type="text" value="530241"/>
			Bearing(dd):	<input type="text" value="230"/>

Transect Characteristics:

Copy OK Cancel

Transect General Information - Transect ID: 15

Description | **Parameters**

Flooding Source:

1% SWEL(ft):	<input type="text" value="11.22"/>	Source:	<input type="text" value="Effective Study"/>
10% SWEL(ft):	<input type="text" value="4.92"/>	Source:	<input type="text" value="Effective Study"/>
Mean High Water Elev (ft):	<input type="text" value="0.51"/>	Source:	<input type="text" value="Captive Island NOAA Tidal Beach Ma"/>
Mean Low Water Elev (ft):	<input type="text" value="-0.76"/>	Type of Event:	<input type="text" value="Hurricane"/>
Fetch Length (mile):	<input type="text" value="24"/>	Source of wave or fetch data:	<input type="text" value="WIS Station"/>
Significant Wave Height (ft):	<input type="text" value="23.3"/>	Method for determining wave setup magnitude:	<input type="text" value="SPM"/>
Deepwater Wave Period (sec):	<input type="text" value="14.1"/>	0.2% SWEL(ft):	<input type="text" value=""/>
Wave Setup Magnitude (ft):	<input type="text" value="1.5"/>		

Other Flooding Source

Source: 1% SWEL (ft): 10% SWEL (ft):

Copy OK Cancel

Proposed Transect 15- Elevations

STATION	ELEVATION	SOURCE
-27997.2	-26	
-18664.8	-22	
-11998.8	-18	
-9623.7	-18.1	
-9571.2	-18.4	
-9111.1	-17.8	
-8960.1	-17.9	
-8497.3	-17.7	
-7419.8	-17	
-6991.5	-16.2	
-6383.4	-15.6	
-6126	-15	
-5913.4	-14.7	
-5666.1	-12	
-5600.1	-14.4	
-5195.3	-13.9	
-4728.7	-13.2	
-4678.4	-13	
-4259.4	-12.6	
-3999.1	-12	
-3689.6	-11.4	
-3223.2	-11.1	
-2806.6	-10.7	
-2656.2	-10.7	
-2448.6	-10.3	
-2339.6	-10.2	
-1977.7	-9.9	
-1811	-10	
-1713.9	-9.6	
-1611	-9.5	
-1449.3	0	
-1336.1	-9.3	
-1238.8	-9.2	
-1028	-9	
-974.4	-8.6	
-923.4	-8.6	
-862.8	-8.5	
-812	-8.6	
-765.4	-8.4	
-723.7	-8.2	
-672	-8	
-615.7	-7.9	
-561.2	-7	
-513.9	-6.5	
-460.3	-6.2	
-398	-5.2	
-198	-5.1	
-175	-4.4	

STATION	ELEVATION	SOURCE
-139	-3.1	
-108	-2.4	
-69	-1.8	
-52	-1.8	
-34	-1.8	
-8	-0.9	
0	0	
11	1.20	
14	1.5	
50	1.8	
75	0.8	
108	2.9	
137	3.9	
151	2.1	
197	2.1	
218	2.7	
226	2.1	
260	2.4	
293	2.8	
326	4.6	
346	4.3	
347	5.4	
348	5.2	
368	5	
861	5	
1050	4	
1200	4	
1400	2	
1710	2	
2120	2	
2150	-1	

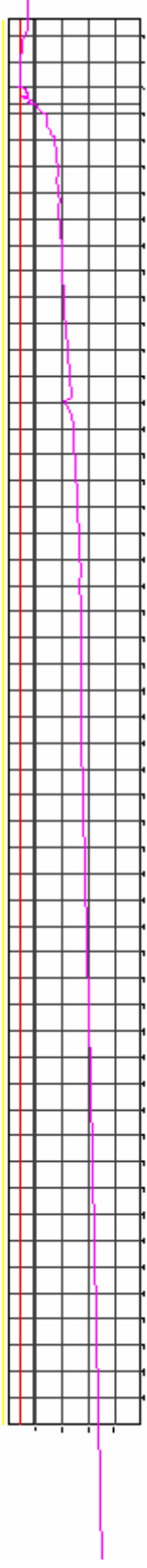
Proposed Transect 15- Transect Elevations

SWEL 100 – yellow dashed

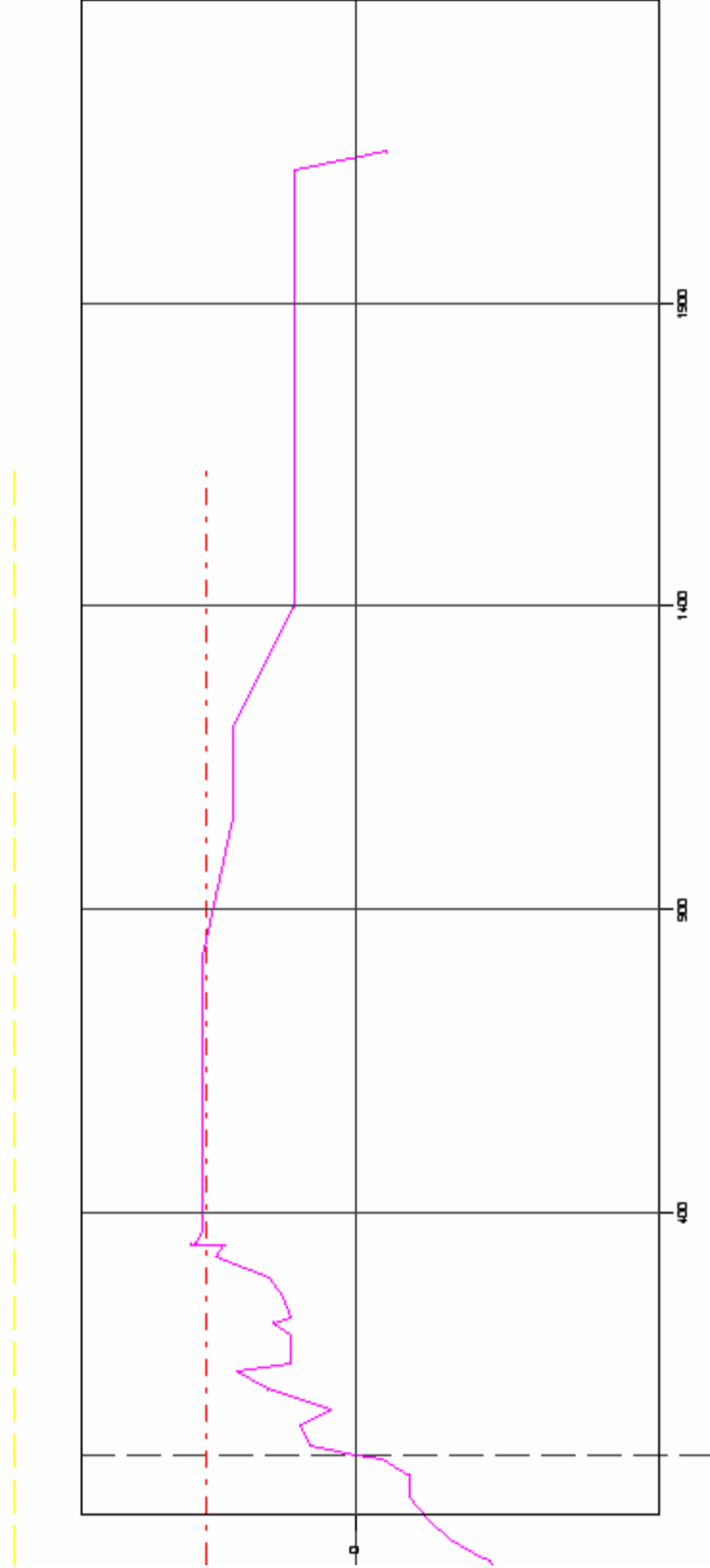
SWEL 10 – red dashed

Transect Elevation – Pink

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



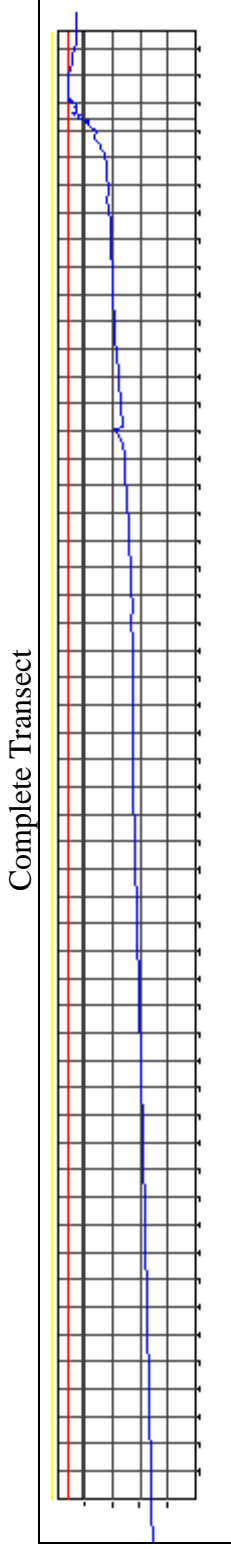
Proposed Transect 15 – Erosion

The 100-year SWEL is above the highest elevation for the entire profile. Therefore, it is treated as a dune removal case.

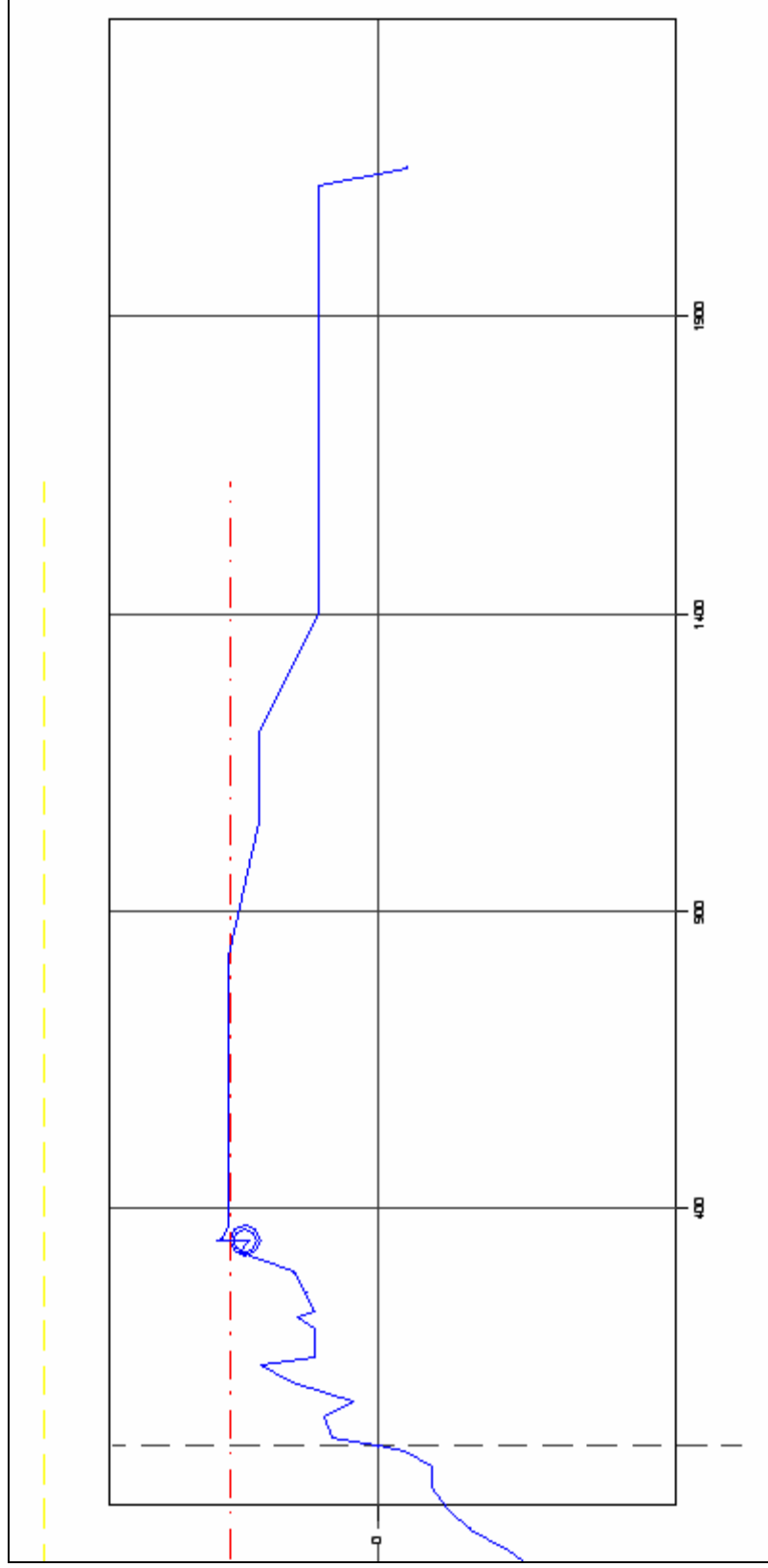
SWEL 100 – yellow dashed

SWEL 10 – red dashed

Erosion – blue, dune crest – blue circle



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)

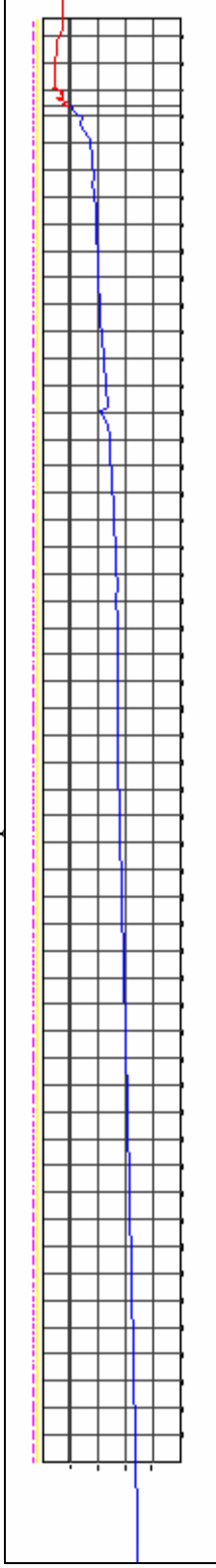


Proposed Transect 15- WHAFIS

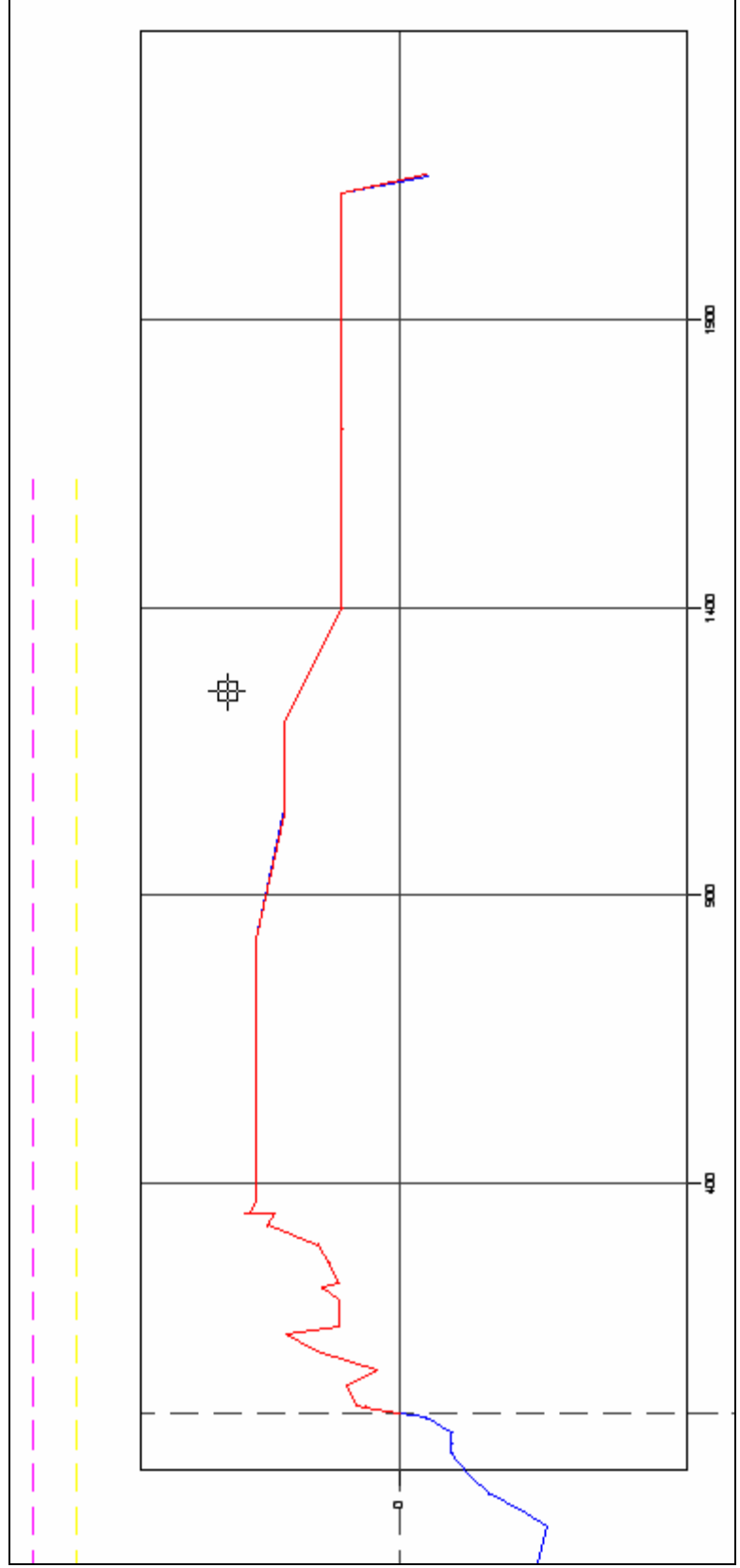
WHAFIS - Transect ID: 15					
File Program Results					
Data		Graph		Refresh	
Station	Elevation	WHAFIS Card	Total 1% SWEL	Total 10% SWEL	
0.00	0.00 IE		12.72	4.92	
11.00	1.20 OF		0	0	
14.00	1.50 OF		0	0	
50.00	1.80 OF		0	0	
75.00	0.80 OF		0	0	
108.00	2.90 OF		0	0	
137.00	3.90 OF		0	0	
151.00	2.10 OF		0	0	
197.00	2.10 OF		0	0	
218.00	2.70 OF		0	0	
226.00	2.10 OF		0	0	
260.00	2.40 OF		0	0	
293.00	2.80 OF		0	0	
326.00	4.60 OF		0	0	
346.00	4.30 OF		0	0	
347.00	5.40 DU		0	0	
348.00	5.20 IF		0	0	
368.00	5.00 OF		0	0	
821.00	5.00 BU		0	0	
1041.45	4.00 BU		0	0	
1200.00	4.00 BU		0	0	
1400.00	2.00 BU		0	0	
1710.00	2.00 BU		0	0	
2120.00	2.00 BU		0	0	
2152.85	-0.93 OF		11.22	0	
*					

Proposed Transect 15-WHAFIS
 Total Still Water – Pink dashed
 SWEL 100 – Yellow dashed
 WHAFIS Still Water 10 – Blue
 WHAFIS Crest - Red

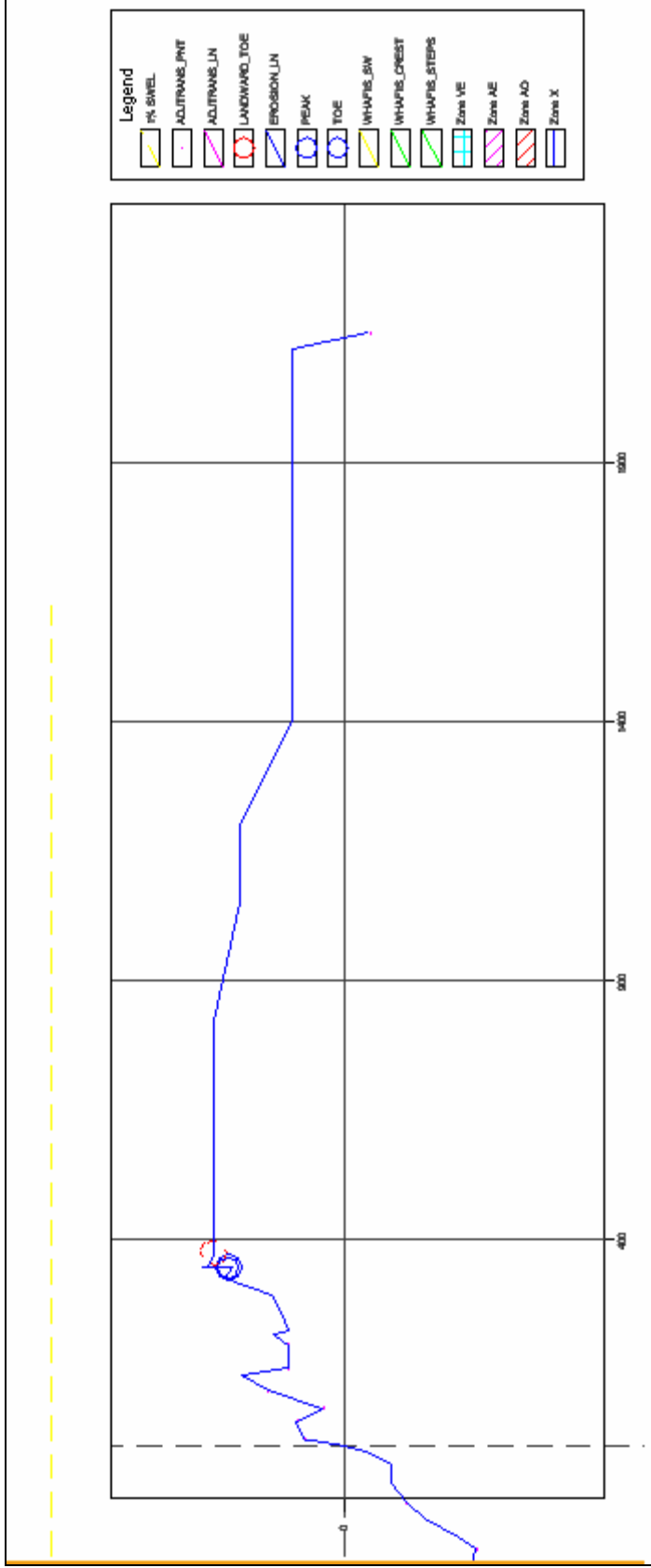
Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 15 WHAFIS Chart



Proposed Transect 15- Input

- Transect: 15 Date: 1/16/2004

IE0.00	0.00	24.	4.92	12.72	37.3	14.1	0.00
OF11.	1.2	0.00	0.00	0.00	0.00	0.00	0.00
OF14.	1.5	0.00	0.00	0.00	0.00	0.00	0.00
OF50.	1.8	0.00	0.00	0.00	0.00	0.00	0.00
OF75.	.8	0.00	0.00	0.00	0.00	0.00	0.00
OF108.	2.9	0.00	0.00	0.00	0.00	0.00	0.00
OF137.	3.9	0.00	0.00	0.00	0.00	0.00	0.00
OF151.	2.1	0.00	0.00	0.00	0.00	0.00	0.00
OF197.	2.1	0.00	0.00	0.00	0.00	0.00	0.00
OF218.	2.7	0.00	0.00	0.00	0.00	0.00	0.00
OF226.	2.1	0.00	0.00	0.00	0.00	0.00	0.00
OF260.	2.4	0.00	0.00	0.00	0.00	0.00	0.00
OF293.	2.8	0.00	0.00	0.00	0.00	0.00	0.00
OF326.	4.6	0.00	0.00	0.00	0.00	0.00	0.00
OF346.	4.3	0.00	0.00	0.00	0.00	0.00	0.00
DU347.	5.4	0.00	0.00	0.00	0.00	0.00	0.00
IF348.	5.2	0.00	0.00	0.00	0.00	0.00	0.00
OF368.	5.	0.00	0.00	0.00	0.00	0.00	0.00
BU821.	5.	.57	3.	0.00	0.00	0.00	0.00
BU1041.	4.	.66	1.	0.00	0.00	0.00	0.00
BU1200.	4.	.66	4.	0.00	0.00	0.00	0.00
BU1400.	2.	.74	3.	0.00	0.00	0.00	0.00
BU1710.	2.	.74	4.	0.00	0.00	0.00	0.00
BU2120.	2.	.87	4.	0.00	0.00	0.00	0.00
OF2153.	-.93	0.00	11.22	0.00	0.00	0.00	0.00

ET

Proposed Transect 15- Output files

1 *** THE FOLLOWING MESSAGES ARE THE RESULTS FROM THE 100-YR ELEVATION INTERPOLATION FOR THE
TRANSECT:

- Transect: 15 Date: 1/16/2004

1

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (VERSION 3.0, 9_88)
- Transect: 15 Date: 1/16/2004

PART1 INPUT

.000	IE	.000	.000	24.000	4.920	12.720	37.300	14.100	.000	.109
.000	OF	11.000	1.200	.000	12.712	.000	.000	.000	.000	.107
.000	OF	14.000	1.500	.000	12.710	.000	.000	.000	.000	.015
.000	OF	50.000	1.800	.000	12.685	.000	.000	.000	.000	-.012
.000	OF	75.000	.800	.000	12.668	.000	.000	.000	.000	.019
.000	OF	108.000	2.900	.000	12.645	.000	.000	.000	.000	.050
.000	OF	137.000	3.900	.000	12.625	.000	.000	.000	.000	-.019
.000	OF	151.000	2.100	.000	12.615	.000	.000	.000	.000	-.030
.000	OF	197.000	2.100	.000	12.583	.000	.000	.000	.000	.009
.000	OF	218.000	2.700	.000	12.568	.000	.000	.000	.000	.000
.000	OF	226.000	2.100	.000	12.563	.000	.000	.000	.000	-.007
.000	OF	260.000	2.400	.000	12.539	.000	.000	.000	.000	.010
.000	OF	293.000	2.800	.000	12.516	.000	.000	.000	.000	.033
.000	OF	326.000	4.600	.000	12.493	.000	.000	.000	.000	.028
.000	OF	346.000	4.300	.000	12.479	.000	.000	.000	.000	.038
.000	DU	347.000	5.400	.000	.000	12.478	.000	.000	.000	.450
.000	IF	348.000	5.200	.000	12.478	.000	.000	.000	.000	-.019
.000	OF	368.000	5.000	.000	12.464	.000	.000	.000	.000	-.000
.000	BU	821.000	5.000	.570	3.000	.000	12.148	.000	.000	-.002
.000	BU	1041.000	4.000	.660	1.000	.000	11.995	.000	.000	-.003
.000	BU	1200.000	4.000	.660	4.000	.000	11.884	.000	.000	-.006
.000	BU	1400.000	2.000	.740	3.000	.000	11.745	.000	.000	-.004
.000	BU	1710.000	2.000	.740	4.000	.000	11.529	.000	.000	.000
.000	BU	2120.000	2.000	.870	4.000	.000	11.243	.000	.000	-.007
.000	OF	2153.000	-.930	.000	11.220	.000	.000	.000	.000	-.089
.000	ET	.000	.000	.000	.000	.000	.000	.000	.000	.000

1

AVERAGE	END	END	FETCH	SURGE	ELEV	SURGE	ELEV	INITIAL	INITIAL	BOTTOM
ZONES	STATION	ELEVATION	LENGTH	10-YEAR	100-YEAR	WAVE HEIGHT	W. PERIOD			SLOPE A-
.000	IE	.000	.000	24.000	4.920	12.720	37.300	14.100	.000	.109

AVERAGE	END	END	NEW SURGE	NEW SURGE	BOTTOM					
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR	SLOPE A-					
.000	OF	11.000	1.200	.000	12.712	.000	.000	.000	.000	.107

AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	14.000	1.500	.000	12.710	.000	.000	.000	.000	.015	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	50.000	1.800	.000	12.685	.000	.000	.000	.000	-.012	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	75.000	.800	.000	12.668	.000	.000	.000	.000	.019	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	108.000	2.900	.000	12.645	.000	.000	.000	.000	.050	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	137.000	3.900	.000	12.625	.000	.000	.000	.000	-.019	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	151.000	2.100	.000	12.615	.000	.000	.000	.000	-.030	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	197.000	2.100	.000	12.583	.000	.000	.000	.000	.009	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	218.000	2.700	.000	12.568	.000	.000	.000	.000	.000	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	226.000	2.100	.000	12.563	.000	.000	.000	.000	-.007	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	260.000	2.400	.000	12.539	.000	.000	.000	.000	.010	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	293.000	2.800	.000	12.516	.000	.000	.000	.000	.033	
.000										

AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	326.000	4.600	.000	12.493	.000	.000	.000	.000	.028	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	346.000	4.300	.000	12.479	.000	.000	.000	.000	.038	
.000										
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE				BOTTOM	
ZONES	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR				SLOPE	A-
DU	347.000	5.400	.000	.000	12.478	.000	.000	.000	.450	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
IF	348.000	5.200	.000	12.478	.000	.000	.000	.000	-.019	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE					BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-
OF	368.000	5.000	.000	12.464	.000	.000	.000	.000	.000	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	821.000	5.000	.570	3.000	.000	12.148	.000	.000	-.002	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	1041.000	4.000	.660	1.000	.000	11.995	.000	.000	-.003	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	1200.000	4.000	.660	4.000	.000	11.884	.000	.000	-.006	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	1400.000	2.000	.740	3.000	.000	11.745	.000	.000	-.004	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	1710.000	2.000	.740	4.000	.000	11.529	.000	.000	.000	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE			BOTTOM	
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR			SLOPE	A-
BU	2120.000	2.000	.870	4.000	.000	11.243	.000	.000	-.007	
.000										

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	2153.000	-.930	.000	11.220	.000	.000	.000	.000	.000	-.089	
.000											

-----END OF TRANSECT-----

NOTE:
 SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.
 1

PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL
 PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS

LOCATION	CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE .00	9.73	14.10	19.53
OF 11.00	8.82	14.10	18.89
OF 14.00	8.59	14.10	18.73
OF 50.00	8.35	14.10	18.53
OF 75.00	8.53	14.10	18.64
OF 108.00	7.49	14.10	17.89
OF 137.00	6.71	14.10	17.33
OF 151.00	7.09	14.10	17.58
OF 197.00	7.09	14.10	17.55
OF 218.00	6.95	14.10	17.44
OF 226.00	7.09	14.10	17.53
OF 260.00	7.03	14.10	17.46
OF 293.00	6.93	14.10	17.37
OF 326.00	6.08	14.10	16.75
OF 346.00	6.15	14.10	16.78
DU 347.00	5.46	14.10	16.30
IF 348.00	5.52	14.10	16.34
OF 368.00	5.57	14.10	16.36
BU 821.00	2.40	14.10	13.83
BU 1041.00	1.95	14.10	13.36
BU 1200.00	.85	14.10	12.48
BU 1400.00	.54	14.10	12.12
BU 1710.00	.30	14.10	11.74
BU 2120.00	.22	14.10	11.40
OF 2153.00	.67	14.10	11.69

TRANSMITTED WAVE HEIGHT AT LAST FETCH OR OBSTRUCTION = .67 WHICH EXCEEDS 0.5.

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE
 NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
11.00	4.92	12.71

14.00	4.92	12.71
50.00	4.92	12.69
75.00	4.92	12.67
108.00	4.92	12.65
137.00	4.92	12.63
151.00	4.92	12.61
197.00	4.92	12.58
218.00	4.92	12.57
226.00	4.92	12.56
260.00	4.92	12.54
293.00	4.92	12.52
326.00	4.92	12.49
346.00	4.92	12.48
347.00	4.92	12.48
368.00	4.92	12.46
821.00	4.92	12.15
1041.00	4.92	11.99
1200.00	4.92	11.88
1400.00	4.92	11.74
1710.00	4.92	11.53
2120.00	4.92	11.24
2153.00	4.92	11.22

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
734.77	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
.00	19.53	V22 EL=20	120
.53	19.50	V22 EL=19	120
11.00	18.89	V22 EL=19	120
14.00	18.73	V22 EL=19	120
50.00	18.53	V22 EL=19	120
75.00	18.64	V22 EL=19	120
81.19	18.50	V22 EL=18	120
108.00	17.89		

		V22	EL=18	120
127.97	17.50			
		V22	EL=17	120
137.00	17.33			
		V22	EL=17	120
146.71	17.50			
		V22	EL=18	120
151.00	17.58			
		V22	EL=18	120
197.00	17.55			
		V22	EL=18	120
205.76	17.50			
		V22	EL=17	120
218.00	17.44			
		V22	EL=17	120
223.58	17.50			
		V22	EL=18	120
226.00	17.53			
		V22	EL=18	120
239.40	17.50			
		V22	EL=17	120
260.00	17.46			
		V22	EL=17	120
293.00	17.37			
		V22	EL=17	120
326.00	16.75			
		V22	EL=17	120
346.00	16.78			
		V22	EL=17	120
346.59	16.50			
		V22	EL=16	120
347.00	16.30			
		V22	EL=16	120
348.00	16.34			
		V22	EL=16	120
368.00	16.36			
		V21	EL=16	110
521.90	15.50			
		V21	EL=15	110
700.51	14.50			
		V21	EL=14	110
734.77	14.41			
		A15	EL=14	75
821.00	13.83			

		A15 EL=14	75
974.05	13.50		
		A15 EL=13	75
1041.00	13.36		
		A15 EL=13	75
1195.95	12.50		
		A15 EL=12	75
1200.00	12.48		
		A15 EL=12	75
1400.00	12.12		
		A15 EL=12	75
1710.00	11.74		
		A15 EL=12	75
1997.62	11.50		
		A15 EL=11	75
2120.00	11.40		
		A15 EL=11	75
2131.33	11.50		
		A15 EL=12	75
2153.00	11.69		

ZONE TERMINATED AT END OF TRANSECT

Proposed Transect 16

XIX.	CHAMP General Information	
	1. Description	B-51
	2. Parameters	B-51
XX.	CHAMP Transect Elevation	
	1. Elevation Data	B-52
	2. Elevation Charts	B-53
XXI.	CHAMP Erosion	
	1. Erosion Charts	B-54
XXII.	CHAMP WHAFIS	
	1. WHAFIS Input Data	B-55
	2. WHAFIS Charts	B-57
XXIII.	WHAFIS Input Results	B-59
XXIV.	WHAFIS Output Results (Part 1- 6)	
	1. Part 1 – Input	B-60
	2. Part 2 – Controlling Wave Heights, Spectral Peak Wave Periods and Wave Crest Elevations	B-64
	3. Part 3 – Location of Areas Above 100-Year Surge	B-66
	4. Part 4 – Location of Surge Changes	B-66
	5. Part 5 – Location of V Zones	B-67
	6. Part 6 – Numbered A Zones and V Zones	B-67

Transect General Information - Transect ID: 16

Description | Parameters

Transect Type:

Description of Transect Location:

Range and Direction: Location of Station 0:

Range(ft) and Direction Left	<input type="text" value="3600"/>	<input type="text" value="North"/>	X(ft):	<input type="text" value="752534.5"/>
Range(ft) and Direction Right	<input type="text" value="3900"/>	<input type="text" value="South"/>	Y(ft):	<input type="text" value="534590.5"/>
			Bearing(dd):	<input type="text" value="190"/>

Transect Characteristics:

Copy OK Cancel

Transect General Information - Transect ID: 16

Description | **Parameters**

Flooding Source:

1% SWEL(ft):	<input type="text" value="11.22"/>	Source:	<input type="text" value="Effective Study"/>
10% SWEL(ft):	<input type="text" value="4.92"/>	Source:	<input type="text" value="Effective Study"/>
Mean High Water Elev (ft):	<input type="text" value="0.51"/>	Source:	<input type="text" value="Captive Island NOAA Tidal Beach Ma"/>
Mean Low Water Elev (ft):	<input type="text" value="-0.76"/>	Type of Event:	<input type="text" value="Hurricane"/>
Fetch Length (mile):	<input type="text" value="24"/>	Source of wave or fetch data:	<input type="text" value="WIS Station"/>
Significant Wave Height (ft):	<input type="text" value="23.3"/>		
Deepwater Wave Period (sec):	<input type="text" value="14.1"/>	Method for determining wave setup magnitude:	<input type="text" value="SPM"/>
Wave Setup Magnitude (ft):	<input type="text" value="1.5"/>		
2% SWEL(ft):	<input type="text"/>	0.2% SWEL(ft):	<input type="text"/>

Other Flooding Source

Source: 1% SWEL (ft): 10% SWEL (ft):

Copy OK Cancel

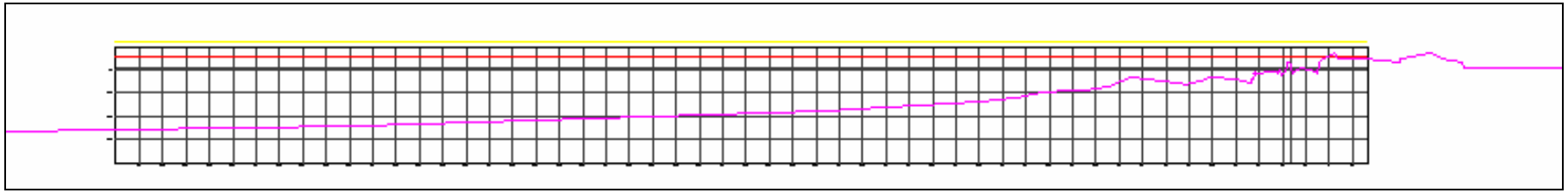
Proposed Transect 16 Elevations

STATION	ELEVATION	SOURCE
-36663	-30	
-19998	-25	
-9999	-19	
-6666	-15	
-5920.9	-12.8	
-5863.1	-12.8	
-5580.4	-11.6	
-5239.3	-10.9	
-4800.6	-10.1	
-4425.6	-9.4	
-3929.9	-7.8	
-3432.3	-4.4	
-2447	-6.9	
-2244.8	-7.4	
-2148.8	-6.4	
-1907.1	-5.4	
-1841	-5.1	
-1746.9	-4.2	
-1657	-4	
-1588.2	-4.1	
-1315.2	-4.8	
-1236.2	-5	
-1009.5	-5.7	
-963.8	-6	
-933.8	-6.3	
-911.7	-6.4	
-891	-6.7	
-878.2	-6.5	
-871.2	-5.2	
-834.4	-5	
-799.3	-2.7	
-776.3	-1.6	
-749.3	-2.3	
-699.3	-2.9	
-649.3	-2.8	
-649.3	-2.6	
-649.3	-1.9	
-499.3	-1.5	
-399.3	-1.4	
-349.3	-1.7	
-301	-2.3	
-244	-0.8	
-200	-3	
-152	-1.8	
-112	0.9	
-99	1.1	
-81	2	
-11	1.5	

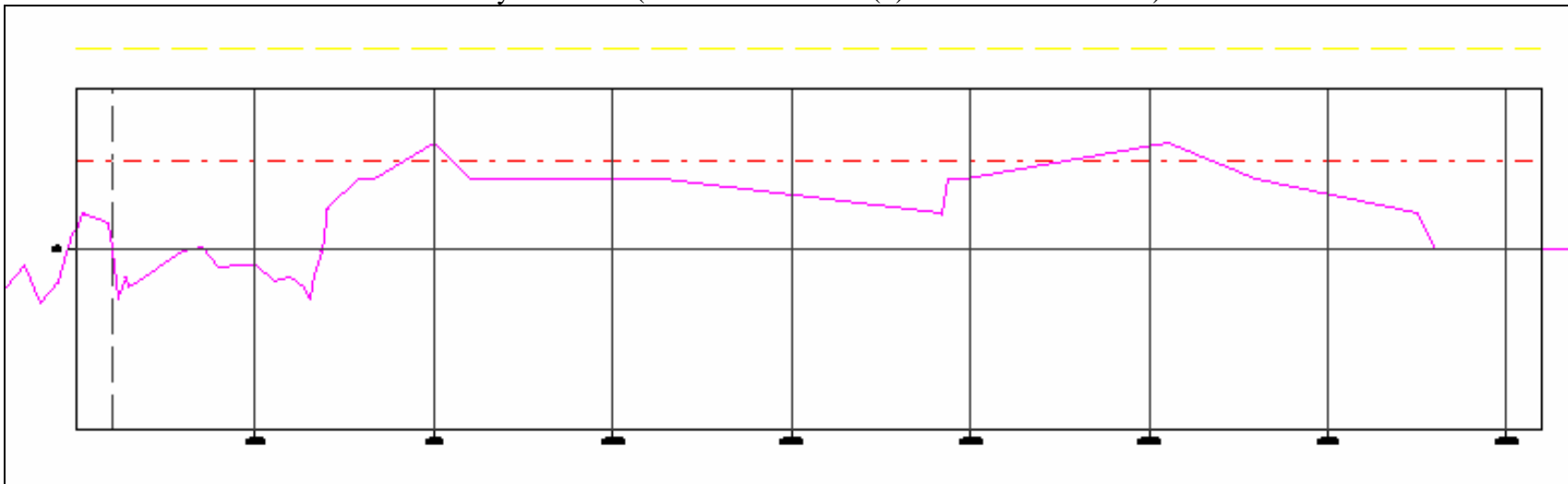
STATION	ELEVATION	SOURCE
0	0	
16	-2.7	
37	-1.5	
75	-2.1	
75	-1.7	
197	-0.1	
253	0.2	
296	-1	
364	-0.9	
404	-0.9	
451	-1.7	
497	-1.5	
537	-2.1	
555	-2.8	
566	-1.4	
585	-0.1	
600	1.6	
601	2.3	
690	4	
730	4	
900	6	
1000	4	
1540	4	
2320	2	
2340	4	
2380	4	
2950	6	
3200	4	
3650	2	
3700	0	
6000	0	

Proposed Transect 16 Transect Elevations
SWEL 100 – yellow dashed
SWEL 10 – red dashed
Transect Elevation – Pink

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 16– Erosion

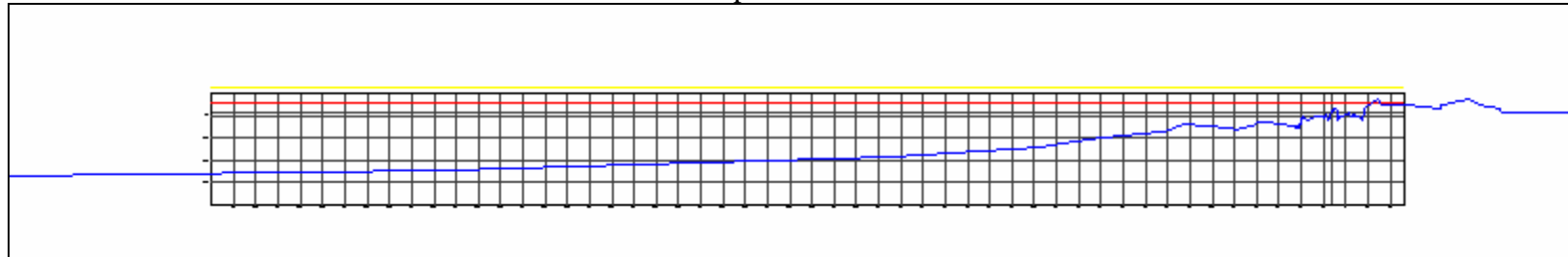
The 100-year SWEL is above the highest elevation for the entire profile. Therefore, it is treated as a dune removal case.

SWEL 100 – yellow dashed

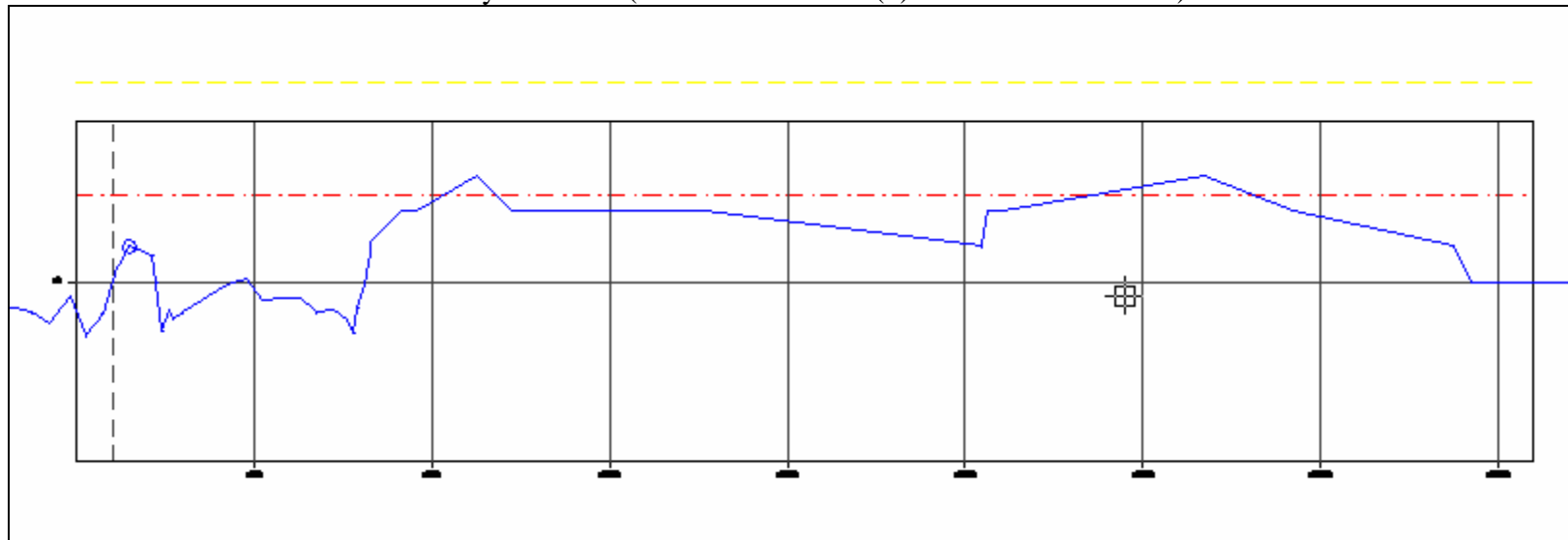
SWEL 10 – red dashed

Erosion – blue, dune crest – blue circle

Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 16- WHAFIS

WHAFIS - Transect ID: 16

File Program Results

Data Graph Refresh

	Station	Elevation	WHAFIS Card	Total 1% SWEL	Total 10% SWEL
✎	0.00	0.00	IE	12.72	4.92
	16.64	0.81	OF	0	0
	32.21	1.08	OF	0	0
	44.66	1.97	OF	0	0
	116.26	1.43	OF	0	0
	126.64	-0.07	OF	0	0
	141.00	-2.70	OF	0	0
	162.00	-1.50	OF	0	0
	170.41	-2.09	OF	0	0
	200.00	-1.70	OF	0	0
	323.00	-0.10	OF	0	0
	377.78	0.20	OF	0	0
	420.32	-1.00	OF	0	0
	489.85	-0.92	OF	0	0
	529.29	-0.96	OF	0	0
	573.29	-1.68	OF	0	0
	619.00	-1.00	OF	0	0
	620.61	-1.54	OF	0	0
	663.65	-2.11	OF	0	0
	680.00	-2.80	OF	0	0
	691.00	-1.40	OF	0	0
	710.00	-0.10	OF	0	0
	725.00	1.60	OF	0	0
	726.00	2.30	OF	0	0
	815.00	4.00	DU	0	0
	855.00	4.00	IF	0	0
	1025.00	6.00	DU	0	0
	1125.00	4.00	BU	0	0
	1565.00	4.00	BU	0	0
	1600.00	2.00	OF	0	0
	1602.00	-1.00	OF	0	0
	2200.00	-1.00	OF	0	0
	2201.00	2.00	OF	0	0

WHAFIS continued.

WHAFIS - Transect ID: 16

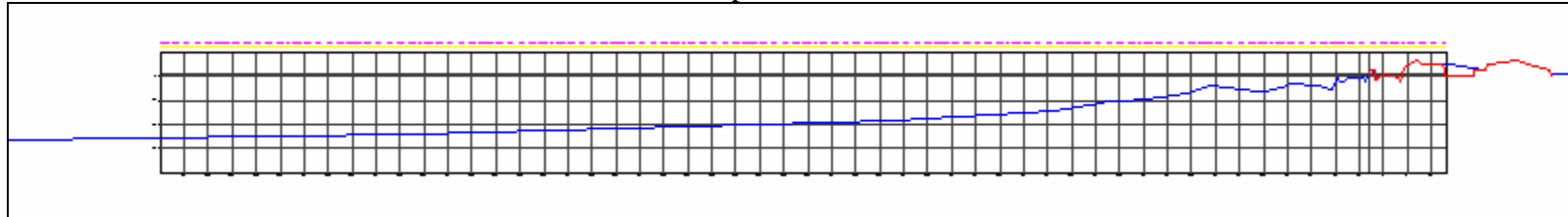
File Program Results

Data Graph Refresh

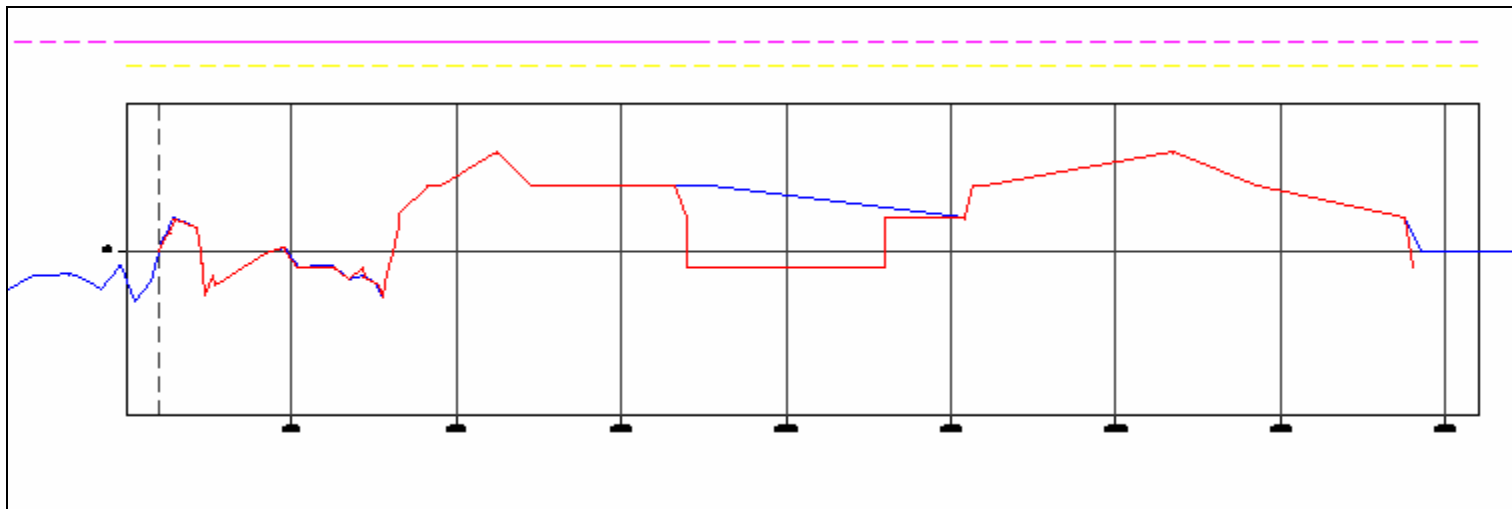
	Station	Elevation	WHAFIS Card	Total 1% SWEL	Total 10% SWEL
	2200.00	-1.00	OF	0	0
	2201.00	2.00	OF	0	0
	2445.00	2.00	OF	0	0
	2465.00	4.00	OF	0	0
	2505.00	4.00	OF	0	0
	3075.00	6.00	OF	0	0
	3325.00	4.00	OF	0	0
	3775.00	2.00	BU	0	0
	3800.00	-1.00	OF	11.22	0
*					

Proposed Transect 16-WHAFIS
Total Still Water – Pink dashed
SWEL 100 – Yellow dashed
WHAFIS Still Water 10 – Blue
WHAFIS Crest - Red

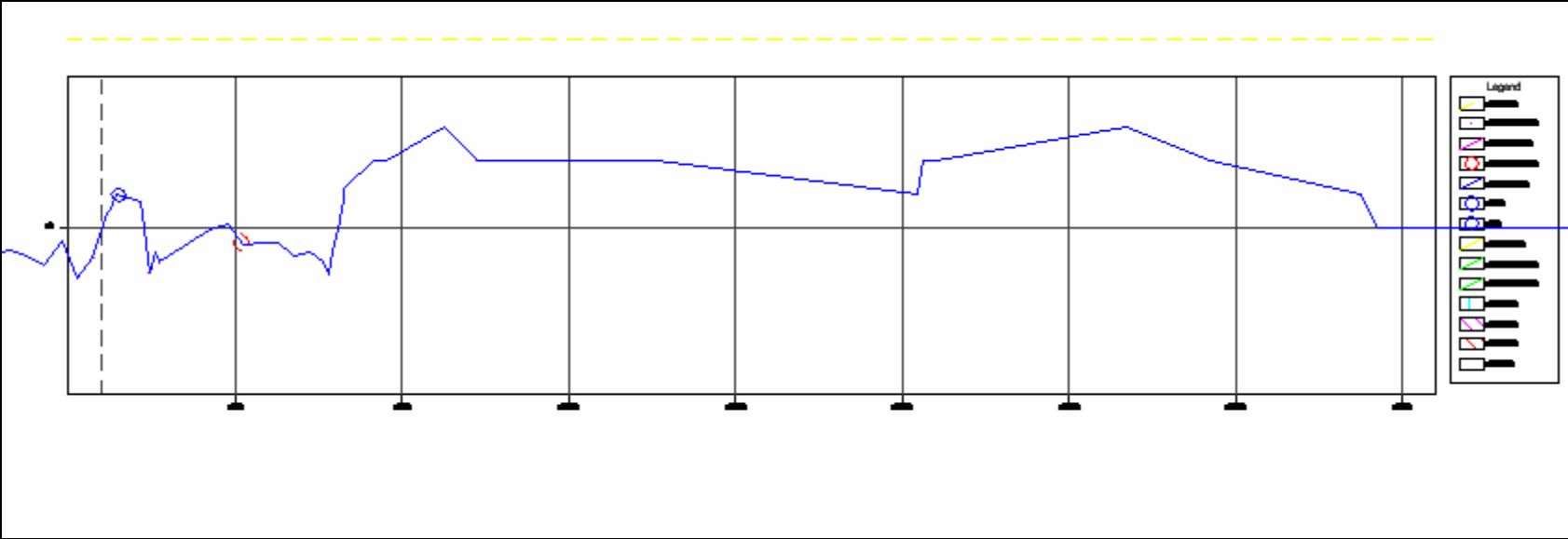
Complete Transect



Fort Myers Beach (Western Shoreline (0) to Eastern Shoreline)



Proposed Transect 16 WHAFIS Chart



Proposed Transect 16- Input

- Transect: 16 Date: 1/16/2004

IE0.00	0.00	24.	4.92	12.72	37.3	14.1	0.00
OF17.	.81	0.00	0.00	0.00	0.00	0.00	0.00
OF32.	1.08	0.00	0.00	0.00	0.00	0.00	0.00
OF45.	1.97	0.00	0.00	0.00	0.00	0.00	0.00
OF116.	1.43	0.00	0.00	0.00	0.00	0.00	0.00
OF127.	-.07	0.00	0.00	0.00	0.00	0.00	0.00
OF141.	-2.7	0.00	0.00	0.00	0.00	0.00	0.00
OF162.	-1.5	0.00	0.00	0.00	0.00	0.00	0.00
OF170.	-2.09	0.00	0.00	0.00	0.00	0.00	0.00
OF200.	-1.7	0.00	0.00	0.00	0.00	0.00	0.00
OF323.	-.1	0.00	0.00	0.00	0.00	0.00	0.00
OF378.	.2	0.00	0.00	0.00	0.00	0.00	0.00
OF420.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF490.	-.92	0.00	0.00	0.00	0.00	0.00	0.00
OF529.	-.96	0.00	0.00	0.00	0.00	0.00	0.00
OF573.	-1.68	0.00	0.00	0.00	0.00	0.00	0.00
OF619.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF621.	-1.54	0.00	0.00	0.00	0.00	0.00	0.00
OF664.	-2.11	0.00	0.00	0.00	0.00	0.00	0.00
OF680.	-2.8	0.00	0.00	0.00	0.00	0.00	0.00
OF691.	-1.4	0.00	0.00	0.00	0.00	0.00	0.00
OF710.	-.1	0.00	0.00	0.00	0.00	0.00	0.00
OF725.	1.6	0.00	0.00	0.00	0.00	0.00	0.00
OF726.	2.3	0.00	0.00	0.00	0.00	0.00	0.00
DU815.	4.	0.00	0.00	0.00	0.00	0.00	0.00
IF855.	4.	0.00	0.00	0.00	0.00	0.00	0.00
DU1025.	6.	1.	0.00	0.00	0.00	0.00	0.00
BU1125.	4.	.77	1.	0.00	0.00	0.00	0.00
BU1565.	4.	.58	3.	0.00	0.00	0.00	0.00
OF1600.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF1602.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF2200.	-1.	0.00	0.00	0.00	0.00	0.00	0.00
OF2201.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF2445.	2.	0.00	0.00	0.00	0.00	0.00	0.00
OF2465.	4.	0.00	0.00	0.00	0.00	0.00	0.00
OF2505.	4.	0.00	0.00	0.00	0.00	0.00	0.00
OF3075.	6.	0.00	0.00	0.00	0.00	0.00	0.00
OF3325.	4.	0.00	0.00	0.00	0.00	0.00	0.00
BU3775.	2.	.76	1.	0.00	0.00	0.00	0.00
OF3800.	-1.	0.00	11.22	0.00	0.00	0.00	0.00

ET

Proposed Transect 16- Output files

1 *** THE FOLLOWING MESSAGES ARE THE RESULTS FROM THE 100-YR ELEVATION INTERPOLATION FOR THE
 TRANSECT:

- Transect: 16 Date: 1/16/2004

1

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (VERSION 3.0, 9_88)
 - Transect: 16 Date: 1/16/2004

PART1 INPUT										
.000	IE	.000	.000	24.000	4.920	12.720	37.300	14.100	.000	.048
.000	OF	17.000	.810	.000	12.713	.000	.000	.000	.000	.034
.000	OF	32.000	1.080	.000	12.707	.000	.000	.000	.000	.041
.000	OF	45.000	1.970	.000	12.702	.000	.000	.000	.000	.004
.000	OF	116.000	1.430	.000	12.674	.000	.000	.000	.000	-.025
.000	OF	127.000	-.070	.000	12.670	.000	.000	.000	.000	-.165
.000	OF	141.000	-2.700	.000	12.664	.000	.000	.000	.000	-.041
.000	OF	162.000	-1.500	.000	12.656	.000	.000	.000	.000	.021
.000	OF	170.000	-2.090	.000	12.653	.000	.000	.000	.000	-.005
.000	OF	200.000	-1.700	.000	12.641	.000	.000	.000	.000	.013
.000	OF	323.000	-.100	.000	12.593	.000	.000	.000	.000	.011
.000	OF	378.000	.200	.000	12.571	.000	.000	.000	.000	-.009
.000	OF	420.000	-1.000	.000	12.554	.000	.000	.000	.000	-.010
.000	OF	490.000	-.920	.000	12.527	.000	.000	.000	.000	.000
.000	OF	529.000	-.960	.000	12.511	.000	.000	.000	.000	-.009
.000	OF	573.000	-1.680	.000	12.494	.000	.000	.000	.000	-.000
.000	OF	619.000	-1.000	.000	12.476	.000	.000	.000	.000	.003
.000	OF	621.000	-1.540	.000	12.475	.000	.000	.000	.000	-.025
.000	OF	664.000	-2.110	.000	12.458	.000	.000	.000	.000	-.021
.000	OF	680.000	-2.800	.000	12.452	.000	.000	.000	.000	.026
.000	OF	691.000	-1.400	.000	12.447	.000	.000	.000	.000	.090
.000	OF	710.000	-.100	.000	12.440	.000	.000	.000	.000	.088
.000	OF	725.000	1.600	.000	12.434	.000	.000	.000	.000	.150
.000	OF	726.000	2.300	.000	12.433	.000	.000	.000	.000	.027
.000	DU	815.000	4.000	.000	.000	12.398	.000	.000	.000	.013
.000	IF	855.000	4.000	.000	12.383	.000	.000	.000	.000	.009
.000	DU	1025.000	6.000	1.000	.000	12.315	.000	.000	.000	.000
.000	BU	1125.000	4.000	.770	1.000	.000	12.276	.000	.000	-.004
.000	BU	1565.000	4.000	.580	3.000	.000	12.102	.000	.000	-.004
.000	OF	1600.000	2.000	.000	12.088	.000	.000	.000	.000	-.135
.000	OF	1602.000	-1.000	.000	12.088	.000	.000	.000	.000	-.005
.000	OF	2200.000	-1.000	.000	11.852	.000	.000	.000	.000	.005
.000	OF	2201.000	2.000	.000	11.851	.000	.000	.000	.000	.012
.000	OF	2445.000	2.000	.000	11.755	.000	.000	.000	.000	.008
.000	OF	2465.000	4.000	.000	11.747	.000	.000	.000	.000	.033
.000	OF	2505.000	4.000	.000	11.731	.000	.000	.000	.000	.003

.000	OF	3075.000	6.000	.000	11.506	.000	.000	.000	.000	.000
.000	OF	3325.000	4.000	.000	11.408	.000	.000	.000	.000	-.006
.000	BU	3775.000	2.000	.760	1.000	.000	11.230	.000	.000	-.010
.000	OF	3800.000	-1.000	.000	11.220	.000	.000	.000	.000	-.120
.000	ET	.000	.000	.000	.000	.000	.000	.000	.000	.000

AVERAGE	END	END	FETCH	SURGE	ELEV	SURGE	ELEV	INITIAL	INITIAL	BOTTOM	
ZONES	STATION	ELEVATION	LENGTH	10-YEAR	100-YEAR	WAVE	HEIGHT	W.	PERIOD	SLOPE	A-
IE	.000	.000	24.000	4.920	12.720	37.300	14.100	.000	.048		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	17.000	.810	.000	12.713	.000	.000	.000	.000	.034		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	32.000	1.080	.000	12.707	.000	.000	.000	.000	.041		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	45.000	1.970	.000	12.702	.000	.000	.000	.000	.004		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	116.000	1.430	.000	12.674	.000	.000	.000	.000	-.025		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	127.000	-.070	.000	12.670	.000	.000	.000	.000	-.165		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	141.000	-2.700	.000	12.664	.000	.000	.000	.000	-.041		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	162.000	-1.500	.000	12.656	.000	.000	.000	.000	.021		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-
OF	170.000	-2.090	.000	12.653	.000	.000	.000	.000	-.005		
.000											

AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM	
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE	A-

OF .000	200.000	-1.700	.000	12.641	.000	.000	.000	.000	.013	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	323.000	-.100	.000	12.593	.000	.000	.000	.000	.011	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	378.000	.200	.000	12.571	.000	.000	.000	.000	-.009	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	420.000	-1.000	.000	12.554	.000	.000	.000	.000	-.010	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	490.000	-.920	.000	12.527	.000	.000	.000	.000	.000	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	529.000	-.960	.000	12.511	.000	.000	.000	.000	-.009	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	573.000	-1.680	.000	12.494	.000	.000	.000	.000	.000	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	619.000	-1.000	.000	12.476	.000	.000	.000	.000	.003	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	621.000	-1.540	.000	12.475	.000	.000	.000	.000	-.025	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	664.000	-2.110	.000	12.458	.000	.000	.000	.000	-.021	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	680.000	-2.800	.000	12.452	.000	.000	.000	.000	.026	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-

OF .000	691.000	-1.400	.000	12.447	.000	.000	.000	.000	.090	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	710.000	-.100	.000	12.440	.000	.000	.000	.000	.088	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	725.000	1.600	.000	12.434	.000	.000	.000	.000	.150	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	726.000	2.300	.000	12.433	.000	.000	.000	.000	.027	
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE					BOTTOM
ZONES	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR					SLOPE A-
DU .000	815.000	4.000	.000	.000	12.398	.000	.000	.000	.013	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
IF .000	855.000	4.000	.000	12.383	.000	.000	.000	.000	.009	
AVERAGE	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE					BOTTOM
ZONES	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR					SLOPE A-
DU .000	1025.000	6.000	1.000	.000	12.315	.000	.000	.000	.000	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	1125.000	4.000	.770	1.000	.000	12.276	.000	.000	-.004	
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU .000	1565.000	4.000	.580	3.000	.000	12.102	.000	.000	-.004	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	1600.000	2.000	.000	12.088	.000	.000	.000	.000	-.135	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF .000	1602.000	-1.000	.000	12.088	.000	.000	.000	.000	-.005	
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-

OF	2200.000	-1.000	.000	11.852	.000	.000	.000	.000	.005	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	2201.000	2.000	.000	11.851	.000	.000	.000	.000	.012	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	2445.000	2.000	.000	11.755	.000	.000	.000	.000	.008	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	2465.000	4.000	.000	11.747	.000	.000	.000	.000	.033	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	2505.000	4.000	.000	11.731	.000	.000	.000	.000	.003	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	3075.000	6.000	.000	11.506	.000	.000	.000	.000	.000	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	3325.000	4.000	.000	11.408	.000	.000	.000	.000	-.006	
.000										
AVERAGE	END	END	OPEN SPACE	NO. OF	NEW SURGE	NEW SURGE				BOTTOM
ZONES	STATION	ELEVATION	RATIO	ROWS	10-YEAR	100-YEAR				SLOPE A-
BU	3775.000	2.000	.760	1.000	.000	11.230	.000	.000	-.010	
.000										
AVERAGE	END	END	NEW SURGE	NEW SURGE						BOTTOM
ZONES	STATION	ELEVATION	10-YEAR	100-YEAR						SLOPE A-
OF	3800.000	-1.000	.000	11.220	.000	.000	.000	.000	-.120	
.000										

-----END OF TRANSECT-----

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

1

PART2: CONTROLLING WAVE HEIGHTS, SPECTRAL
 PEAK WAVE PERIOD, AND WAVE CREST ELEVATIONS

LOCATION	CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE .00	9.73	14.10	19.53
OF 17.00	9.12	14.10	19.09

OF	32.00	8.91	14.10	18.94
OF	45.00	8.23	14.10	18.47
OF	116.00	8.34	14.10	18.51
OF	127.00	8.58	14.10	18.68
OF	141.00	9.03	14.10	18.98
OF	162.00	8.82	14.10	18.83
OF	170.00	8.93	14.10	18.90
OF	200.00	8.86	14.10	18.84
OF	323.00	8.62	14.10	18.63
OF	378.00	8.57	14.10	18.57
OF	420.00	8.75	14.10	18.68
OF	490.00	8.75	14.10	18.65
OF	529.00	8.76	14.10	18.64
OF	573.00	8.87	14.10	18.71
OF	619.00	8.78	14.10	18.62
OF	621.00	8.85	14.10	18.67
OF	664.00	8.96	14.10	18.73
OF	680.00	9.09	14.10	18.82
OF	691.00	8.85	14.10	18.64
OF	710.00	8.66	14.10	18.50
OF	725.00	8.31	14.10	18.25
OF	726.00	7.78	14.10	17.88
DU	815.00	6.47	14.10	16.92
IF	855.00	6.45	14.10	16.90
DU	1025.00	5.67	14.10	16.28
BU	1125.00	4.97	14.10	15.76
BU	1565.00	2.20	14.10	13.64
OF	1600.00	2.08	14.10	13.54
OF	1602.00	1.85	14.10	13.38
	1702.00	2.17	14.10	13.56
	1802.00	2.44	14.10	13.72
	1902.00	2.69	14.10	13.85
	2002.00	2.91	14.10	13.97
	2152.00	3.22	14.10	14.13
OF	2200.00	3.31	14.10	14.17
OF	2201.00	3.76	14.10	14.48
	2371.80	4.06	14.10	14.63
OF	2445.00	4.18	14.10	14.68
OF	2465.00	4.40	14.10	14.83
OF	2505.00	4.43	14.10	14.83
	2655.00	4.45	14.10	14.79
	2755.00	4.44	14.10	14.74
	2855.00	4.41	14.10	14.68
	2955.00	4.36	14.10	14.61
	3055.00	4.30	14.10	14.52

OF	3075.00	4.26	14.10	14.49
	3250.00	4.60	14.10	14.65
OF	3325.00	4.72	14.10	14.71
BU	3775.00	4.12	14.10	14.11
OF	3800.00	3.63	14.10	13.76

TRANSMITTED WAVE HEIGHT AT LAST FETCH OR OBSTRUCTION = 3.63 WHICH EXCEEDS 0.5.

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
17.00	4.92	12.71
32.00	4.92	12.71
45.00	4.92	12.70
116.00	4.92	12.67
127.00	4.92	12.67
141.00	4.92	12.66
162.00	4.92	12.66
170.00	4.92	12.65
200.00	4.92	12.64
323.00	4.92	12.59
378.00	4.92	12.57
420.00	4.92	12.55
490.00	4.92	12.53
529.00	4.92	12.51
573.00	4.92	12.49
619.00	4.92	12.48
621.00	4.92	12.48
664.00	4.92	12.46
680.00	4.92	12.45
691.00	4.92	12.45
710.00	4.92	12.44
725.00	4.92	12.43
726.00	4.92	12.43
815.00	4.92	12.40
855.00	4.92	12.38
1025.00	4.92	12.31
1125.00	4.92	12.28
1565.00	4.92	12.10
1600.00	4.92	12.09
2200.00	4.92	11.85
2201.00	4.92	11.85
2445.00	4.92	11.76
2465.00	4.92	11.75

2505.00	4.92	11.73
3075.00	4.92	11.51
3325.00	4.92	11.41
3775.00	4.92	11.23
3800.00	4.92	11.22

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
1437.61	WINDWARD
2043.62	LEEWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
.00	19.53		
		V22 EL=20	120
1.20	19.50		
		V22 EL=19	120
17.00	19.09		
		V22 EL=19	120
32.00	18.94		
		V22 EL=19	120
44.07	18.50		
		V22 EL=18	120
45.00	18.47		
		V22 EL=18	120
101.60	18.50		
		V22 EL=19	120
116.00	18.51		
		V22 EL=19	120
127.00	18.68		
		V22 EL=19	120
141.00	18.98		
		V22 EL=19	120
162.00	18.83		
		V22 EL=19	120
170.00	18.90		
		V22 EL=19	120
200.00	18.84		
		V22 EL=19	120
323.00	18.63		
		V22 EL=19	120
378.00	18.57		
		V22 EL=19	120
420.00	18.68		

		V22	EL=19	120
490.00	18.65			
		V22	EL=19	120
529.00	18.64			
		V22	EL=19	120
573.00	18.71			
		V22	EL=19	120
619.00	18.62			
		V22	EL=19	120
621.00	18.67			
		V22	EL=19	120
664.00	18.73			
		V22	EL=19	120
680.00	18.82			
		V22	EL=19	120
691.00	18.64			
		V22	EL=19	120
710.00	18.50			
		V22	EL=19	120
710.22	18.50			
		V22	EL=18	120
725.00	18.25			
		V22	EL=18	120
726.00	17.88			
		V22	EL=18	120
761.40	17.50			
		V22	EL=17	120
815.00	16.92			
		V22	EL=17	120
855.00	16.90			
		V22	EL=17	120
965.08	16.50			
		V21	EL=16	110
1025.00	16.28			
		V21	EL=16	110
1125.00	15.76			
		V21	EL=16	110
1178.32	15.50			
		V21	EL=15	110
1386.15	14.50			
		V21	EL=14	110
1437.61	14.29			
		A18	EL=14	90
1565.00	13.64			

		A18	EL=14	90
1600.00	13.54			
		A18	EL=14	90
1600.54	13.50			
		A18	EL=13	90
1602.00	13.38			
		A18	EL=13	90
1667.16	13.50			
		A18	EL=14	90
2043.62	14.00			
		V21	EL=14	110
2200.00	14.17			
		V21	EL=14	110
2201.00	14.48			
		V21	EL=14	110
2219.90	14.50			
		V21	EL=15	110
2445.00	14.68			
		V21	EL=15	110
2465.00	14.83			
		V21	EL=15	110
2505.00	14.83			
		V20	EL=15	100
3067.67	14.50			
		V20	EL=14	100
3075.00	14.49			
		V20	EL=14	100
3088.79	14.50			
		V20	EL=15	100
3325.00	14.71			
		V20	EL=15	100
3485.25	14.50			
		V20	EL=14	100
3775.00	14.11			
		V16	EL=14	80
3800.00	13.76			

ZONE TERMINATED AT END OF TRANSECT