



Evaluation of 2013 Draft Federal Emergency Management Agency Flood Insurance Study for Town of Marshfield, Plymouth, Co, MA

Prepared For:

Town of Marshfield
870 Moraine Street
Marshfield, MA 02050

Prepared By:

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October 2013

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Agency Flood Insurance Study for Town of Marshfield,
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1.0 INTRODUCTION

This report describes an evaluation of the 2013 Draft Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and associated Digital Flood Insurance Rate Maps (DFIRMs) for the Town of Marshfield, Plymouth County, MA. Woods Hole Group was contracted in September 2013 by the Town of Marshfield to evaluate the Draft DFIRMs, and if warranted, to prepare the necessary documentation to support an appeal of the FIRM(s). The evaluation included a coastal engineering analysis using methodologies described in the “Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update” (FEMA, 2007) to Appendix D and “Guidance for Coastal Flooding Analyses and Mapping” (FEMA, 2003). Specific components of the FEMA study that were evaluated by Woods Hole Group include the following:

- Offshore significant wave heights and corresponding wave periods
- 100-yr stillwater elevations
- Wave setup
- Overland wave transformation and wave crest elevations using WHAFIS
- Wave runup and overtopping
- Flood zone and Base Flood Elevation (BFE) mapping

FEMA data for transect topography, station coding, dune erosion, structure failure, and primary frontal dunes were not evaluated as part of this review. As such, information for eroded transects and transects with both intact and failed structures, was taken directly from the CHAMP database and supporting files prepared by FEMA and supplied with the digital data submittal.

2.0 OFFSHORE WAVE CONDITIONS

FEMA utilizes offshore significant wave conditions (height and period) as the basis for coastal engineering analyses performed in support of DFIRM mapping. Woods Hole Group conducted an independent analysis of significant wave conditions offshore of the Marshfield coastline. The analysis was performed using 20 years of wave hindcast data (1979 to 1999) from US Army Corps of Engineers (USACE) Wave Information Stations (WIS) located in the southern portion of Massachusetts Bay (Figure 1). At each WIS station the largest significant wave height for each of the 20 years in the dataset was processed using EXTRM2 extremal analysis software. The 1% annual exceedance (100-year exceedance interval) significant wave heights determined by the extremal analyses are summarized in Table 1. The independently derived wave data were compared with the significant wave conditions utilized by FEMA for the Marshfield study and found to be consistent. As such, FEMA’s offshore significant wave conditions were specified in the CHAMP database, and for the wave setup calculations.

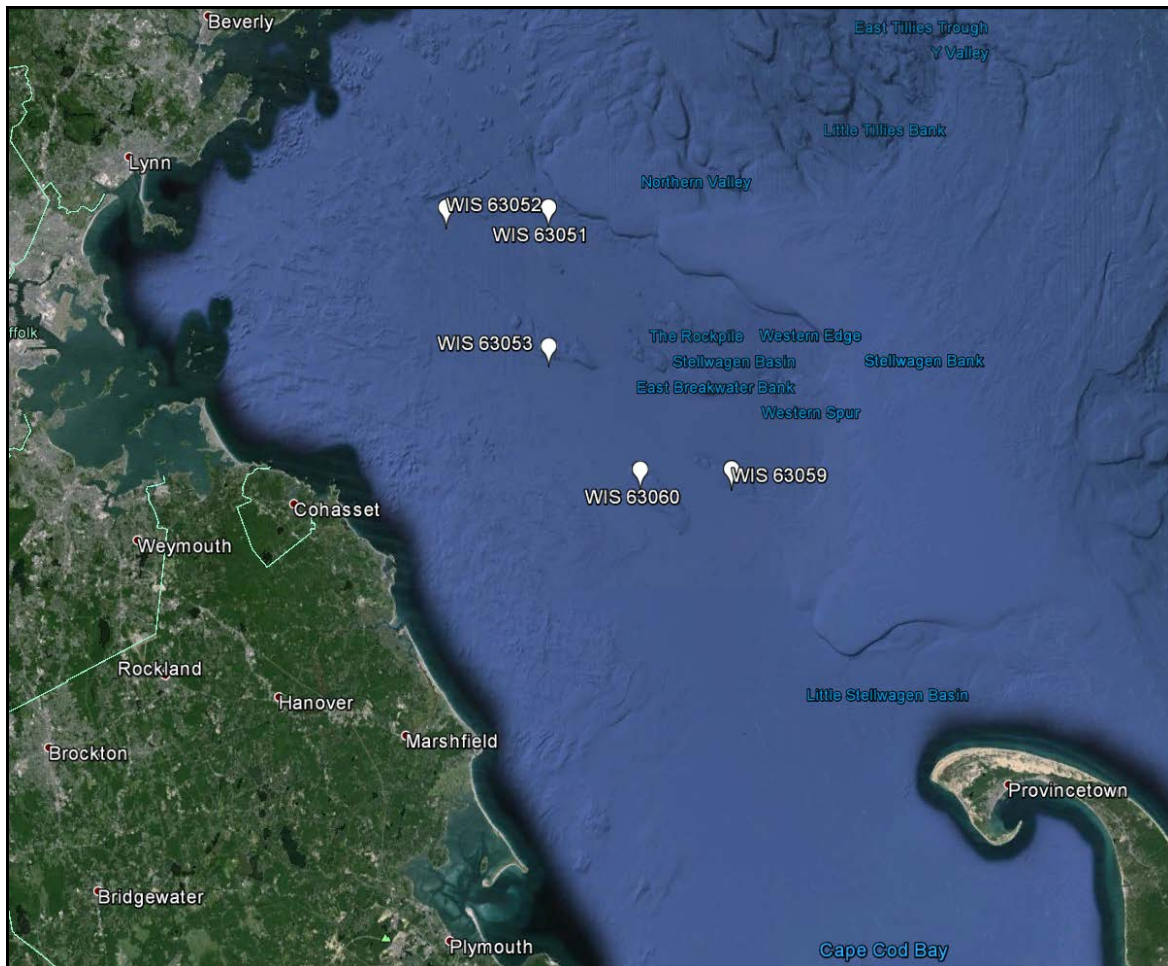


Figure 1. Wave Information Study Locations in Massachusetts Bay

Table 1. Results of Extremal Analysis Offshore of Plymouth County

WHG Extremal Analysis of WIS Data		FEMA Offshore Wave Conditions	
WIS Station	100 Yr Significant Wave Height (ft)	2013 DFIRM Transects – Open Coast of Marshfield/Scituate	FEMA 100 Yr Significant Wave Height (ft)
63051	27.91	52	30.67
63052	29.23	58 through 64	31.10
63053	30.24		
63059	31.83	65 through 68	30.60
63060	30.79		

3.0 100-YR STILLWATER ELEVATIONS

Another fundamental component of the FIS is the determination of the 1% annual exceedance still water level (SWL). The 100-year SWL is integral in establishing the base inundation level, calculating the average slope for wave setup calculations, and determining water depths along the transect for overland wave transformation. For the 2013 Coastal Study Update, the 100-year SWLs were taken from the July 2012 countywide analysis for Plymouth. The July 2012 countywide analysis, as well as the pre countywide study prepared in June 2006, utilized published values in the Tidal Flood Survey (USACE, 1988) to estimate the 100-year SWL. The USACE (1988) used surveys of high water marks following the 1978 storm to generate 1-yr, 10-yr, and 100-yr tidal flood profiles along the New England coastline. In Massachusetts Bay, the tidal flood profiles along the open coast of Marshfield predict a 100-yr (1% exceedance) SWL of 10.3 feet (NGVD29; Figure 2).

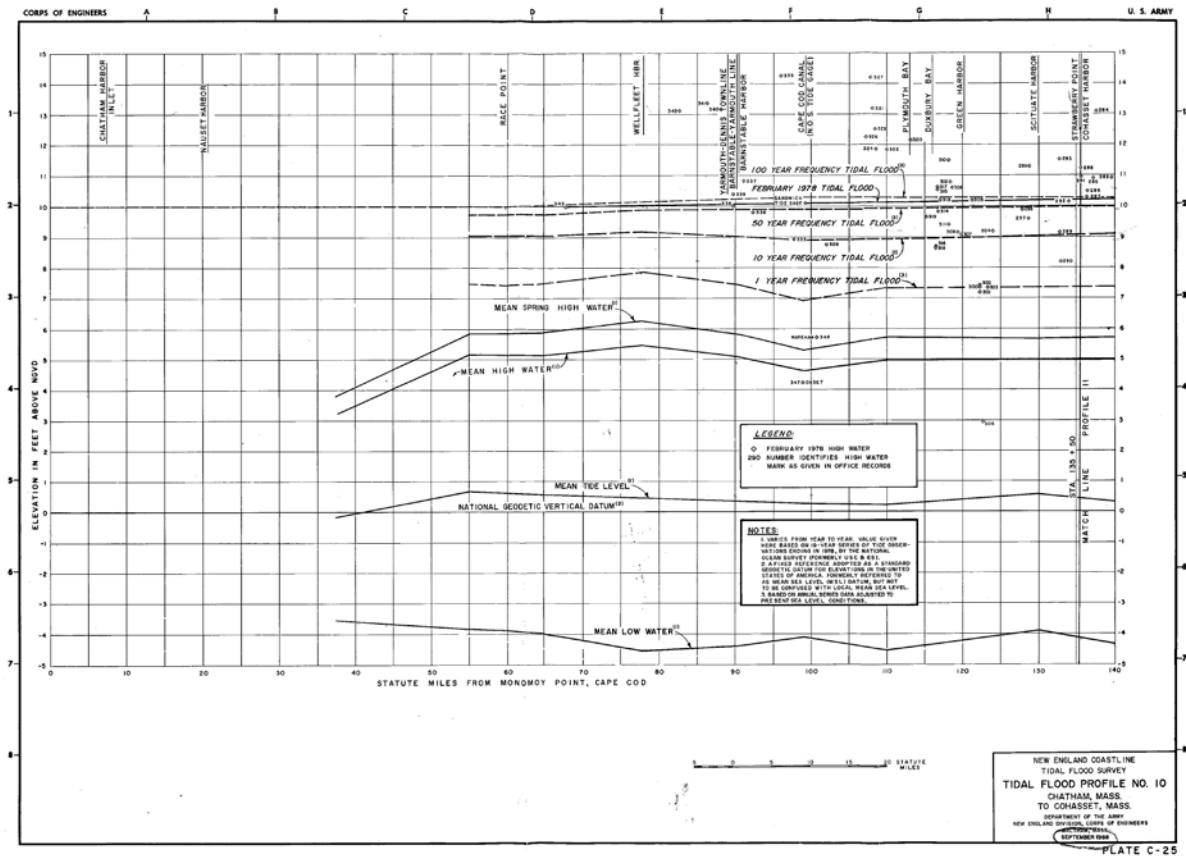


Figure 2. USACE Tidal Flood Profile showing 100-year SWL in study area (Hydraulics and Water Quality Section; New England Division USACE, 1988).

The June 2006 pre-countywide study utilized a 100-yr SWL of 10.3 ft (NGVD29) for all transects along the open coast of Marshfield (Table 2). This SWL is consistent with the Tidal Flood Survey (USACE, 1988) shown in Figure 2. The 2013 Coastal Update utilized 100-yr SWLs of 10.5 and 9.5 ft for the open coast areas of Marshfield; however, it appears that the datum correction to NAVD88 was not applied to all transects (Table 2). Until recently, the standard vertical datum used for FIS reports and FIRMs was NGVD29, but with the completion of the NAVD88, all new FIS reports and FIRMs are prepared using NAVD88 as the referenced vertical datum. Following the Draft 2013 FIS for Plymouth County, a factor of -0.8 was used to convert the SWLs from the pre-countywide study to NAVD88 (Table 2). All transects along the open coast of Marshfield were assigned a 100-yr SWL of 9.5 ft NAVD88. The corrected SWLs were specified in the CHAMP database.

Table 2. 100 Year SWLs in Marshfield for 2006 FIS, 2013 Update, and SWLs accounting for the conversion from NGVD29 to NAVD88

Town of Marshfield FIS (June 2006)		Plymouth County Coastal Update (May 2013)		Datum Correction
Transect	100-Yr SWL (ft, NGVD29)	Co-located Transect	100-Yr SWL (ft, NAVD88) ¹	Corrected 100-yr SWL (ft, NAVD88)
13	10.3	PL-58	10.5	9.5
12	10.3	PL-59	10.5	9.5
11	10.3	PL-60	10.5	9.5
10	10.3	PL-61	10.5	9.5
9	10.3			
8	10.3	PL-62	10.5	9.5
7	10.3	PL-64	10.5	9.5
6	10.3	PL-65	10.5	9.5
5	10.3			
4	10.3	PL-68	10.5	9.5
3	10.3	PL-69	9.5	Already corrected
2	10.3			
1	10.3	PL-70	9.5	Already corrected

¹ Correction to NAVD88 datum not applied to all transects

4.0 WAVE SETUP

Wave setup was calculated using the Direct Integration Method (DIM). This method takes into account the effect of profile slope and deepwater wave conditions to calculate a static wave setup, which can be a significant contributor to the total water level (TWL) along the open coast shoreline. Wave setup was recalculated using profile slopes adjusted to reflect the corrected 100-yr SWL. Where applicable, wave setup was also computed for intact and failed structures. Table 3 provides a comparison between the

adjusted wave setup values and the wave setup values utilized by FEMA for six (6) transects used to map portions of the Town of Marshfield. In most cases, the adjusted SWL resulted in slightly lower wave setup values. The only exception is at Transect PL-055, where FEMA utilized a profile slope across the entire floodplain, rather than the nearshore profile. When the slope was considered across the nearshore profile, the wave setup value increased.

Table 3. Comparison of Wave Setup Values

Transect	Adjusted Wave Setup (ft)	Type	FEMA Wave Setup (ft)
PL-055	4.12	Open coast	3.11
PL-056	4.24	Open coast	4.26
PL-057	5.00	Failed structure	5.07
PL-058	4.12	Open coast	4.15
PL-059	4.94	Failed structure	5.09
PL-060	4.13	Open coast	4.16

5.0 OVERLAND WAVE TRANSFORMATION

Overland wave heights were calculated using the Wave Height Analysis for Flood Insurance Studies (WHAFIS) software within the Coastal Hazard Analysis for Mapping Program (CHAMP), following the methodology described in the FEMA Guidelines and Specifications. Corrected SWLs from Table 2 and adjusted wave setup values from Table 3 were specified in CHAMP to develop a TWL.

The 2013 Coastal Update specified the TWL (SWL + wave setup) at the start of each transect, holding the TWL constant across the entire length of the transect. This method assumes that the TWL applies across the entire transect, without any dissipation. This is technically inaccurate. For example, the physical process of wave setup is generated in the zone of wave breaking, and as the surge bore propagates inland, momentum and energy are dissipated due to frictional effects by both vegetation and the land. By dissipating momentum and energy, there is less total energy available, which translates into both slower wave-generated currents and lower water levels. For more detailed discussions of the frictional effects on wave setup, the reader is referred to Anderson, Smith and McKay (2011) and Dean and Bender (2006).

This process is documented in the high water marks following the 1978 storm, which are available in a USGS report (Gadoury, 1979). Figure 3 shows the locations and NAVD88 elevations (converted from NGVD29) of high water marks recorded following the 1978 storm. Measured high water marks, especially along the exposed open coast, provide a benchmark value of the TWL at a given location. The high water marks include the increase in water surface elevation due to the combined effects of storm surge, wave setup, wind effects, and in some instances wave splashing. Therefore, the observed high water marks (Gadoury, 1979), which were also used as a basis for the 100-year still water elevation by FEMA and the USACE tidal flood profiles (1988), are inclusive of all coastal processes that occurred during the storm, including wave setup.

Woods Hole Group used the measured high water marks from the USGS study (Gadoury, 1979) during the overland wave transformation simulations with WHAFIS to more accurately identify the flood zones and BFEs. The TWLs assigned at the beginning of the transects were consistent with the high water marks reported along the open coast following the 1978 storm. High water marks reported behind the coastal barriers and at the inland edge of the floodplain were used in the WHAFIS simulations to assign lower TWLs that more accurately reflect dissipation of the water levels. Since the 1978 storm has been identified as the 100-yr storm of record, the associated high water marks provide the most accurate benchmarks for assigning the TWLs throughout the floodplain.



Figure 3. High water marks following the 1978 storm as reported in Gadoury (1979). Elevations were converted to NAVD88.

6.0 WAVE RUNUP AND OVERTOPPING

Wave runup and overtopping was calculated using the methodologies described in the FEMA Guidelines and Specifications. The elevation of wave runup is the value exceeded by 2% of the runup events. FEMA's RUNUP 2.0 model, within CHAMP, was used to calculate mean runup, which was multiplied by 2.2 to obtain the 2% runup height. This value was then added to the 1-percent annual chance SWL (without wave setup) to arrive and the total elevation of wave runup. Corrected SWLs from Table 2 and deepwater wave conditions were used along with shore profile points and roughness values from the

2013 Coastal Update to compute wave runup. Wave overtopping was also identified at transects where the barrier crest elevation was lower than the wave runup elevation. Table 4 provides a summary of wave runup and overtopping calculations performed for six (6) transects in Marshfield. The 2% wave runup values in Table 4 are slightly lower than wave runup used for the 2013 Coastal Update, primarily because of the corrected SWLs.

Table 4. Wave Runup and Overtopping Calculations

Transect	2% Wave Runup Height (ft)	Method Used	Overtopping
PL-055	3.86	RUNUP 2.0	Yes
PL-056	5.00	RUNUP 2.0	No
PL-057	4.82	RUNUP 2.0	No
PL-058	4.91	RUNUP 2.0	Yes
PL-059	4.91	RUNUP 2.0	No
PL-060	4.39	RUNUP 2.0	No

7.0 FLOOD ZONE AND BFE MAPPING

The flood zone and BFE mapping was performed according to the procedures outlined in FEMA's Guidelines and Specifications. Revised flood zone locations and BFEs based on modeling and engineering analyses at transects PL-055 through PL-060 are shown in Figure 4.



8.0 WORKS CITED

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- Dean, R. G., & C.J. Bender . 2006. Static wave setup with emphasis on damping effects by vegetation and bottom friction. *Coastal Engineering*, 53: 149-156.
- Federal Emergency Management Agency, Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix D: Guidance for Coastal Flooding Analyses and Mapping, Washington, D.C., April 2003.
- Federal Emergency Management Agency, Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update, Final Draft, Washington, D.C., February 2007
- Gadoury, R. A. (1979). *Coastal Flood of February 7, 1978 in Maine, Massachusetts, and New Hampshire*. Boston, MA: USGS.
- Hydraulics and Water Quality Section; New England Division USACE. (1988). *Tidal Flood Profiles New England Coastline*. Waltham, MA: USACE.
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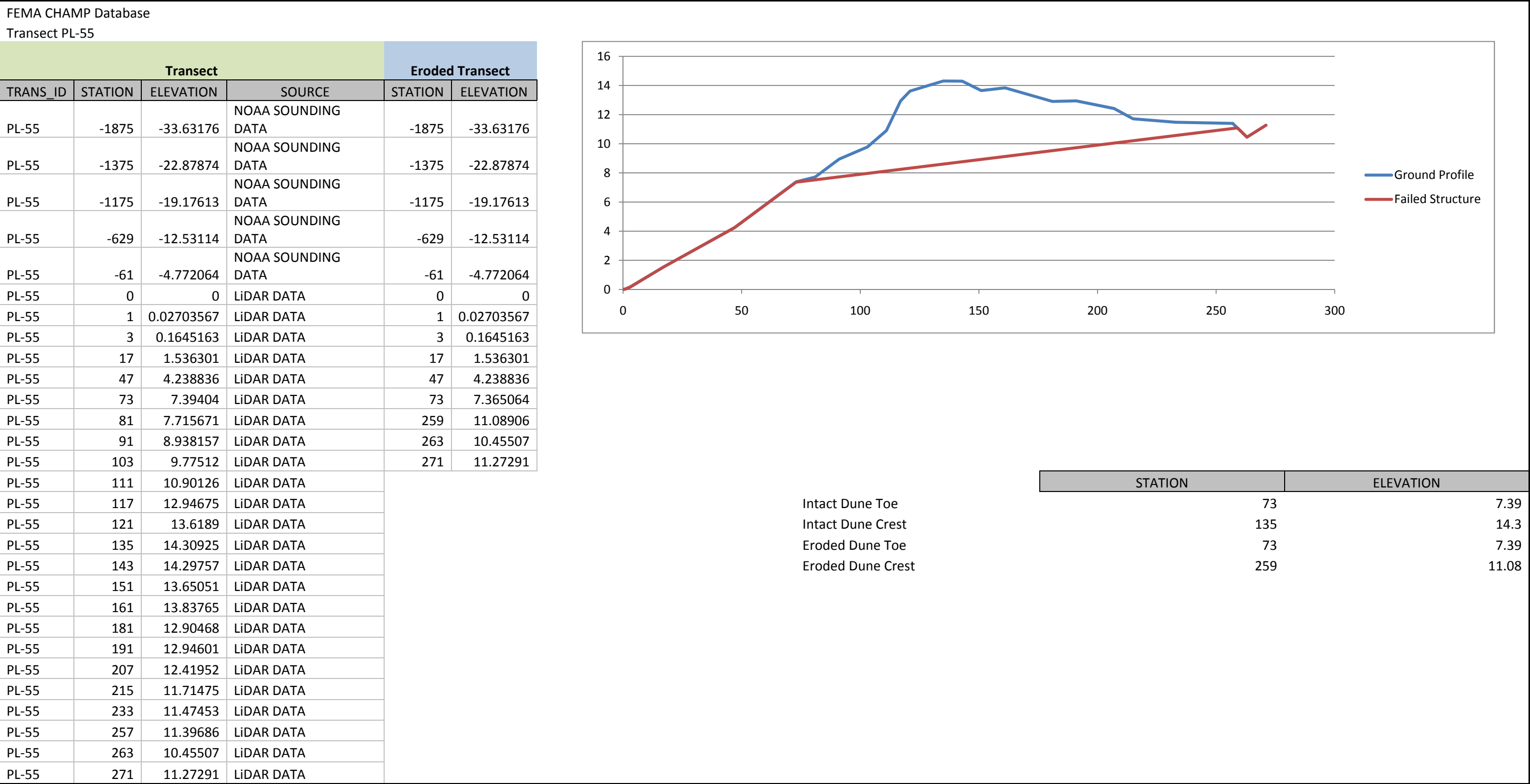
ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-055

Interpolation for Toe and Top/SWEL Stations – Eroded Profile

Eroded Transect		Interpolation for Station @			
STATION	ELEVATION	-22.6			
-1875	-33.63176	9.5			
-1375	-22.87874	-1375	-22.8787	3.70261	rise
-1175	-19.17613	-22.6			
-629	-12.53114	-1175	-19.1761	200	run
-61	-4.772064	0.018513			
0	0	-1359.94			
1	0.02703567	73	7.365064	0.018513	slope
3	0.1645163	9.5			
17	1.536301	259	11.08906	-1359.94	STATION
47	4.238836	0.020021			
73	7.365064	179.6323			
259	11.08906	STATION			
263	10.45507				
271	11.27291				
283	9.764829				
291	9.22535				
299	9.928986				
307	9.166748				
323	9.219844				
343	7.989693				

Transect Data Used to Represent Eroded Dune



Engineering Calculations

Transect PL-055		
Plymouth County		
Marshfield		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1359.94	
Top/SWEL Station	179.632	
Average Transect Slope, m	0.020827	
1:ON	48.01496	
Average Shore Slope		
Average Beach Slope	0.052886	
1:ON	18.90863	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.12	3.11
Toe Structure Elevation (ft)		
Depth at Toe of Structure (ft)		
Pre-calculation for H _b		
Pre-calculation for h _d		
h/H _d		
R multiplier		
Setup with Structure (ft)		
Total Water Level	13.62029	

Wave Runup (Intact & Eroded)	
Runup 2% (ft)	3.86
Method	Runup 2.0
Overtopped	Yes
Freeboard	2.16
AO (2 ft)	
Structure	
Does Structure Exist	No
Type of Structure	
Toe Station	
Top Station	
Armor Depth (ft)	
Failed Structure Data	
Failed Structure Top Station	
Failed Structure Top Elev (ft)	
Failed Structure Toe Station	
Failed Structure Toe Elev (ft)	
Avearge Transect Slope, m	
Wave Setup Calculations (Failed Structures)	
Comparison with FEMA Values	
Depth at Toe of Structure (ft)	
Pre-calculation for Hb	
Pre-calculation for hd	
h/Hd	
R multiplier	
Setup with Failed Structure (ft)	
Wave Runup (Failed Strucutre)	
Runup 2% (ft)	
Method	
Overtopped	
Freeboard	

WHAFIS and RUNUP 2.0 FILES

- Transect: PL-055-DISE Date: 10/11/2013

IE	0.00	0.00	0.00	0.00	13.61	49.8	10.65	0.00	0.00
0.00									
IF	1	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	17	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	47	4.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	73	7.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	259	11.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BU	263	10.46	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	271	11.27	0.5	1	0.00	13.61	0.00	0.00	0.00
BU	283	9.76	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	291	9.23	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	299	9.93	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	307	9.17	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	323	9.22	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	343	7.99	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	355	8.11	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	365	7.72	0.5	1	0.00	0.00	0.00	0.00	0.00
BU	371	8.05	0.5	1	0.00	0.00	0.00	0.00	0.00
DU	375	7.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	383	7.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	395	8.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	415	8.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	425	7.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	439	8.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DU	447	8.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VH	477	5.02	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
VH	563	3.56	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
IF	581	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	583	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	589	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	591	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VH	783	-0.15	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
VH	824	0.00	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
VH	1557	2.70	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
IF	1561	2.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	1575	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	1589	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	1591	-2.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	1871	-5.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	2155	-10.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	2317	-9.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VH	2355	-8.97	1	0.00	1	2	0.00	0.00	0.00

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
 Executed on: Fri Oct 11 07:32:00 2013
 Input file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-055-DISE.dat
 Output file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-055-DISE.out

- Transect: PL-055-DISE Date: 10/11/2013
 THIS IS A 100-YEAR CASE

PART1 INPUT

IE	0.000	0.000	0.000	0.000	13.610	49.800	10.650	0.000	0.030	0.000
IF	1.000	0.030	0.000	13.610	0.000	0.000	0.000	0.000	0.053	0.000
IF	3.000	0.160	0.000	13.610	0.000	0.000	0.000	0.000	0.094	0.000
DU	17.000	1.540	0.000	0.000	13.610	0.000	0.000	0.000	0.093	0.000
DU	47.000	4.240	0.000	0.000	13.610	0.000	0.000	0.000	0.104	0.000
DU	73.000	7.370	0.000	0.000	13.610	0.000	0.000	0.000	0.032	0.000
DU	259.000	11.090	0.000	0.000	13.610	0.000	0.000	0.000	0.016	0.000
BU	263.000	10.460	0.500	1.000	0.000	13.610	0.000	0.000	0.015	0.000
BU	271.000	11.270	0.500	1.000	0.000	13.610	0.000	0.000	-0.035	0.000
BU	283.000	9.760	0.500	1.000	0.000	13.598	0.000	0.000	-0.102	0.000
BU	291.000	9.230	0.500	1.000	0.000	13.591	0.000	0.000	0.011	0.000
BU	299.000	9.930	0.500	1.000	0.000	13.583	0.000	0.000	-0.004	0.000
BU	307.000	9.170	0.500	1.000	0.000	13.575	0.000	0.000	-0.030	0.000
BU	323.000	9.220	0.500	1.000	0.000	13.560	0.000	0.000	-0.033	0.000
BU	343.000	7.990	0.500	1.000	0.000	13.541	0.000	0.000	-0.035	0.000
BU	355.000	8.110	0.500	1.000	0.000	13.529	0.000	0.000	-0.012	0.000
BU	365.000	7.720	0.500	1.000	0.000	13.520	0.000	0.000	-0.004	0.000
BU	371.000	8.050	0.500	1.000	0.000	13.514	0.000	0.000	0.024	0.000
DU	375.000	7.960	0.000	0.000	13.510	0.000	0.000	0.000	-0.011	0.000
DU	383.000	7.920	0.000	0.000	13.502	0.000	0.000	0.000	0.026	0.000
DU	395.000	8.480	0.000	0.000	13.491	0.000	0.000	0.000	0.012	0.000
DU	415.000	8.300	0.000	0.000	13.471	0.000	0.000	0.000	-0.032	0.000
DU	425.000	7.520	0.000	0.000	13.462	0.000	0.000	0.000	-0.005	0.000
DU	439.000	8.180	0.000	0.000	13.448	0.000	0.000	0.000	0.022	0.000
DU	447.000	8.010	0.000	0.000	13.441	0.000	0.000	0.000	-0.083	0.000
VH	477.000	5.020	1.000	0.000	1.000	2.000	0.000	13.412	-0.038	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
VH	563.000	3.560	1.000	0.000	1.000	2.000	0.000	13.329	-0.031	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	581.000	1.820	0.000	13.312	0.000	0.000	0.000	0.000	-0.098	0.000
IF	583.000	1.600	0.000	13.310	0.000	0.000	0.000	0.000	-0.129	0.000
IF	589.000	0.790	0.000	13.304	0.000	0.000	0.000	0.000	-0.210	0.000
IF	591.000	-0.080	0.000	13.302	0.000	0.000	0.000	0.000	-0.005	0.000
VH	783.000	-0.150	1.000	0.000	1.000	2.000	0.000	13.117	0.000	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	824.000	0.000	1.000	0.000	1.000	2.000	0.000	13.078	0.004	0.000

MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	1557.000	2.700	1.000	0.000	1.000	2.000	0.000	12.373	0.003	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	1561.000	2.390	0.000	12.369	0.000	0.000	0.000	0.000	-0.058	0.000
IF	1575.000	1.660	0.000	12.356	0.000	0.000	0.000	0.000	-0.083	0.000
IF	1589.000	0.060	0.000	12.342	0.000	0.000	0.000	0.000	-0.244	0.000
IF	1591.000	-2.240	0.000	12.340	0.000	0.000	0.000	0.000	-0.021	0.000
IF	1871.000	-5.890	0.000	12.071	0.000	0.000	0.000	0.000	-0.015	0.000
IF	2155.000	-10.990	0.000	11.798	0.000	0.000	0.000	0.000	-0.009	0.000
IF	2317.000	-9.810	0.000	11.642	0.000	0.000	0.000	0.000	0.010	0.000
VH	2355.000	-8.970	1.000	0.000	1.000	2.000	0.000	11.605	0.060	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	2480.000	0.000	1.000	0.000	1.000	2.000	0.000	11.485	0.072	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	2485.000	0.360	1.000	0.000	1.000	2.000	0.000	11.480	-0.899	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	2487.000	-6.290	0.000	11.478	0.000	0.000	0.000	0.000	-0.168	0.000
VH	2521.000	-5.670	1.000	0.000	1.000	2.000	0.000	11.446	0.006	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	3465.000	0.000	1.000	0.000	1.000	2.000	0.000	10.538	0.006	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	4829.000	8.190	1.000	0.000	1.000	2.000	0.000	9.225	0.006	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	4833.000	8.220	0.000	9.222	0.000	0.000	0.000	0.000	-0.018	0.000
IF	4835.000	8.080	0.000	9.220	0.000	0.000	0.000	0.000	-0.220	0.000
IF	4837.000	7.340	0.000	9.218	0.000	0.000	0.000	0.000	-0.135	0.000
IF	4841.000	7.270	0.000	9.214	0.000	0.000	0.000	0.000	0.024	0.000
IF	4865.000	8.000	0.000	9.191	0.000	0.000	0.000	0.000	0.009	0.000
IF	4871.000	7.530	0.000	9.185	0.000	0.000	0.000	0.000	-0.021	0.000
IF	4885.000	7.590	0.000	9.172	0.000	0.000	0.000	0.000	-0.019	0.000
IF	4893.000	7.110	0.000	9.164	0.000	0.000	0.000	0.000	0.016	0.000
IF	4915.000	8.080	0.000	9.143	0.000	0.000	0.000	0.000	0.027	0.000
IF	4925.000	7.970	0.000	9.133	0.000	0.000	0.000	0.000	0.030	0.000
IF	4937.000	8.740	0.000	9.122	0.000	0.000	0.000	0.000	0.027	0.000
IF	4941.000	8.410	0.000	9.118	0.000	0.000	0.000	0.000	0.007	0.000
IF	4949.000	8.820	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	4957.000	10.160	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	4963.000	10.530	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	4967.000	11.250	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	4977.000	11.110	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	5007.000	12.200	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	5041.000	11.780	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	5043.000	12.180	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000

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AS	5053.000	12.520	0.000	9.110	0.000	0.000	0.000	0.000	0.000	0.051	0.000
AS	5067.000	12.230	0.000	9.110	0.000	0.000	0.000	0.000	0.000	0.051	0.000
AS	5083.000	12.660	0.000	9.110	0.000	0.000	0.000	0.000	0.000	0.051	0.000
AS	5100.000	13.610	0.000	9.110	0.000	0.000	0.000	0.000	0.000	0.051	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IE	END STATION	END ELEVATION	FETCH LENGTH	SURGE 10-YEAR	ELEV 100-YEAR	SURGE 100-YEAR	INITIAL WAVE HEIGHT	INITIAL W. PERIOD		BOTTOM SLOPE	AVERAGE A-ZONES
	0.000	0.000	0.000	0.000	13.610		49.800	10.650	0.000	0.030	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	1.000	0.030	0.000	13.610	0.000		0.000	0.000	0.000	0.053	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	3.000	0.160	0.000	13.610	0.000		0.000	0.000	0.000	0.094	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	17.000	1.540	0.000	0.000	13.610		0.000	0.000	0.000	0.093	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	47.000	4.240	0.000	0.000	13.610		0.000	0.000	0.000	0.104	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	73.000	7.370	0.000	0.000	13.610		0.000	0.000	0.000	0.032	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	259.000	11.090	0.000	0.000	13.610		0.000	0.000	0.000	0.016	0.000
BU	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	263.000	10.460	0.500	1.000	0.000	13.610		0.000	0.000	0.015	0.000
BU	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	271.000	11.270	0.500	1.000	0.000	13.610		0.000	0.000	-0.035	0.000

BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	283.000	9.760		0.500	1.000	0.000	13.598	0.000	0.000	-0.102	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	291.000	9.230		0.500	1.000	0.000	13.591	0.000	0.000	0.011	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	299.000	9.930		0.500	1.000	0.000	13.583	0.000	0.000	-0.004	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	307.000	9.170		0.500	1.000	0.000	13.575	0.000	0.000	-0.030	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	323.000	9.220		0.500	1.000	0.000	13.560	0.000	0.000	-0.033	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	343.000	7.990		0.500	1.000	0.000	13.541	0.000	0.000	-0.035	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	355.000	8.110		0.500	1.000	0.000	13.529	0.000	0.000	-0.012	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	365.000	7.720		0.500	1.000	0.000	13.520	0.000	0.000	-0.004	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	371.000	8.050		0.500	1.000	0.000	13.514	0.000	0.000	0.024	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL		NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	375.000	7.960	0.000		0.000	13.510	0.000	0.000	0.000	-0.011	0.000

DU	DUNE CREST STATION 383.000	DUNE CREST ELEVATION 7.920	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.502	0.000	0.000	0.000	BOTTOM SLOPE 0.026	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 395.000	DUNE CREST ELEVATION 8.480	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.491	0.000	0.000	0.000	BOTTOM SLOPE 0.012	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 415.000	DUNE CREST ELEVATION 8.300	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.471	0.000	0.000	0.000	BOTTOM SLOPE -0.032	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 425.000	DUNE CREST ELEVATION 7.520	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.462	0.000	0.000	0.000	BOTTOM SLOPE -0.005	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 439.000	DUNE CREST ELEVATION 8.180	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.448	0.000	0.000	0.000	BOTTOM SLOPE 0.022	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 447.000	DUNE CREST ELEVATION 8.010	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.441	0.000	0.000	0.000	BOTTOM SLOPE -0.083	AVERAGE A-ZONES 0.000
VH	END STATION 477.000	END ELEVATION 5.020	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.412	BOTTOM SLOPE -0.038	AVERAGE A-ZONES 0.000
MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
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TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA	RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590	

PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	END	END		REGION 1		NO. OF	NEW SURGE	NEW SURGE	BOTTOM	AVERAGE
	STATION	ELEVATION	REGION 1	WEIGHT	REGION 2	PLANT TYPES	10-YEAR	100-YEAR	SLOPE	A-ZONES
VH	563.000	3.560	1.000	0.000	1.000	2.000	0.000	13.329	-0.031	0.000

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
IF	581.000	1.820	0.000	13.312	0.000	0.000	0.000	0.000	-0.098	0.000

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

IF	583.000	1.600	0.000	13.310	0.000	0.000	0.000	0.000	-0.129	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	589.000	0.790	0.000	13.304	0.000	0.000	0.000	0.000	-0.210	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	591.000	-0.080	0.000	13.302	0.000	0.000	0.000	0.000	-0.005	0.000
	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	783.000	-0.150	1.000	0.000	1.000	2.000	0.000	13.117	0.000	0.000
	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590
PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	824.000	0.000	1.000	0.000	1.000	2.000	0.000	13.078	0.004	0.000
	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	

MG	TYPE SALM	COEFF. 0.000	RATIO 0.000	HEIGHT 1.390	DENSITY 45.000	DIAMETER 0.020	DIAMETER 0.020	DIAMETER 0.020	AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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VH	END STATION 1557.000	END ELEVATION 2.700	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.373	BOTTOM SLOPE 0.003	AVERAGE A-ZONES 0.000
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MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
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	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA	RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380	

	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1561.000	2.390	0.000	12.369	0.000	0.000	0.000	0.000	-0.058	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1575.000	1.660	0.000	12.356	0.000	0.000	0.000	0.000	-0.083	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1589.000	0.060	0.000	12.342	0.000	0.000	0.000	0.000	-0.244	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1591.000	-2.240	0.000	12.340	0.000	0.000	0.000	0.000	-0.021	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1871.000	-5.890	0.000	12.071	0.000	0.000	0.000	0.000	-0.015	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	2155.000	-10.990	0.000	11.798	0.000	0.000	0.000	0.000	-0.009	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	2317.000	-9.810	0.000	11.642	0.000	0.000	0.000	0.000	0.010	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
VH	STATION	ELEVATION	REGION 1	REGION 1	REGION 2	NO. OF	NEW SURGE	NEW SURGE	SLOPE	A-ZONES
	2355.000	-8.970	1.000	WEIGHT	1.000	PLANT TYPES	10-YEAR	100-YEAR	0.060	0.000
	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
MG	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA	RATIO
	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2480.000	0.000	1.000	0.000	1.000	2.000	0.000	11.485	0.072	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1 REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2485.000	0.360	1.000	0.000	1.000	2.000	0.000	11.480	-0.899	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	2487.000	-6.290	0.000	11.478	0.000	0.000	0.000	0.000	-0.168	0.000

	END STATION	END ELEVATION	REGION 1 REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2521.000	-5.670	1.000	0.000	1.000	2.000	0.000	11.446	0.006	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END	END	REGION 1	REGION 1	NO. OF	NEW SURGE	NEW SURGE	BOTTOM	AVERAGE
	STATION	ELEVATION	REGION 1	WEIGHT	REGION 2	10-YEAR	100-YEAR	SLOPE	A-ZONES
VH	3465.000	0.000	1.000	0.000	1.000	2.000	0.000	10.538	0.000

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM	
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT	DRAG	COVERAGE	AVG. STEM	NUMBER	BASE STEM	MID STEM	TOP STEM	LEAF-STEM
	TYPE	COEFF.	RATIO	HEIGHT	DENSITY	DIAMETER	DIAMETER	DIAMETER	AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.225	BOTTOM SLOPE 0.006	AVERAGE A-ZONES 0.000
VH	4829.000	8.190								

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	4833.000	8.220	0.000	9.222	0.000	0.000	0.000	0.000	-0.018	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	4835.000	8.080	0.000	9.220	0.000	0.000	0.000	0.000	-0.220	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	4837.000	7.340	0.000	9.218	0.000	0.000	0.000	0.000	-0.135	0.000

	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
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IF	STATION 4841.000	ELEVATION 7.270	10-YEAR 0.000	100-YEAR 9.214	0.000	0.000	0.000	0.000	SLOPE 0.024	A-ZONES 0.000
IF	END STATION 4865.000	END ELEVATION 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.191	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.009	AVERAGE A-ZONES 0.000
IF	END STATION 4871.000	END ELEVATION 7.530	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.185	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.021	AVERAGE A-ZONES 0.000
IF	END STATION 4885.000	END ELEVATION 7.590	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.172	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.019	AVERAGE A-ZONES 0.000
IF	END STATION 4893.000	END ELEVATION 7.110	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.164	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.016	AVERAGE A-ZONES 0.000
IF	END STATION 4915.000	END ELEVATION 8.080	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.143	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.027	AVERAGE A-ZONES 0.000
IF	END STATION 4925.000	END ELEVATION 7.970	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.133	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.030	AVERAGE A-ZONES 0.000
IF	END STATION 4937.000	END ELEVATION 8.740	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.122	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.027	AVERAGE A-ZONES 0.000
IF	END STATION 4941.000	END ELEVATION 8.410	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.118	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.007	AVERAGE A-ZONES 0.000
IF	END STATION 4949.000	END ELEVATION 8.820	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 9.110	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.051	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	4957.000	10.160	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4963.000	10.530	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4967.000	11.250	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4977.000	11.110	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5007.000	12.200	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5041.000	11.780	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5043.000	12.180	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5053.000	12.520	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5067.000	12.230	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5083.000	12.660	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5100.000	13.610	0.000	9.110	0.000	0.000	0.000	0.000	0.051	0.000

-----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	0.00	10.24	10.65	20.78
IF	1.00	10.22	10.65	20.76
IF	3.00	10.12	10.65	20.69
DU	17.00	9.12	10.65	19.99
DU	47.00	7.13	10.65	18.60
DU	73.00	4.79	10.65	16.96
DU	259.00	1.95	10.65	14.98
BU	263.00	1.38	10.65	14.58
BU	271.00	0.98	10.65	14.29
BU	283.00	0.69	10.65	14.08
BU	291.00	0.49	10.65	13.93
BU	299.00	0.35	10.65	13.82
BU	307.00	0.24	10.65	13.75
BU	323.00	0.17	10.65	13.68
BU	343.00	0.12	10.65	13.63
BU	355.00	0.09	10.65	13.59
BU	365.00	0.06	10.65	13.56

BU	371.00	0.04	10.65	13.54
DU	375.00	0.04	10.65	13.54
DU	383.00	0.04	10.65	13.53
DU	395.00	0.04	10.65	13.52
DU	415.00	0.04	10.65	13.50
DU	425.00	0.04	10.65	13.49
DU	439.00	0.04	10.65	13.48
DU	447.00	0.04	10.65	13.47
VH	477.00	0.41	10.65	13.70
VH	563.00	0.79	10.65	13.88
IF	581.00	0.80	10.65	13.87
IF	583.00	0.80	10.65	13.87
IF	589.00	0.80	10.65	13.86
IF	591.00	0.79	10.65	13.85
	701.00	1.09	10.65	13.96
VH	783.00	1.27	10.65	14.01
VH	824.00	1.35	10.65	14.03
	974.00	1.64	10.65	14.08
	1134.00	1.91	10.65	14.11
	1294.00	2.15	10.65	14.13
	1454.00	2.38	10.65	14.14
VH	1557.00	2.53	10.65	14.14
IF	1561.00	2.50	10.65	14.12
IF	1575.00	2.44	10.65	14.07
IF	1589.00	2.33	10.65	13.97

IF	1591.00	2.19	10.65	13.87
	1787.00	2.28	10.65	13.75
IF	1871.00	2.32	10.65	13.70
	2069.80	2.38	10.65	13.55
IF	2155.00	2.42	10.65	13.49
	2268.40	2.55	10.65	13.47
IF	2317.00	2.61	10.65	13.47
VH	2355.00	2.67	10.65	13.47
	2465.00	3.25	10.65	13.77
VH	2480.00	3.37	10.65	13.85
VH	2485.00	3.42	10.65	13.87
IF	2487.00	2.89	10.65	13.50
VH	2521.00	2.95	10.65	13.51
	2671.00	3.11	10.65	13.48
	2831.00	3.29	10.65	13.45
	2991.00	3.47	10.65	13.42
	3151.00	3.66	10.65	13.40
	3311.00	3.85	10.65	13.38
VH	3465.00	4.04	10.65	13.36
	3615.00	4.23	10.65	13.36
	3775.00	4.45	10.65	13.35
	3935.00	4.34	10.65	13.13
	4255.00	3.75	10.65	12.40
VH	4829.00	0.81	10.65	9.79
IF	4833.00	0.78	10.65	9.77
IF	4835.00	0.80	10.65	9.78

IF	4837.00	0.83	10.65	9.80
IF	4841.00	0.85	10.65	9.81
IF	4865.00	0.89	10.65	9.81
IF	4871.00	0.96	10.65	9.86
IF	4885.00	0.98	10.65	9.86
IF	4893.00	1.05	10.65	9.90
IF	4915.00	0.83	10.65	9.72
IF	4925.00	0.86	10.65	9.74
IF	4937.00	0.30	10.65	9.33
IF	4941.00	0.33	10.65	9.35
IF	4949.00	0.23	10.65	9.27
AS	4957.00	0.00	0.00	10.16
AS	4963.00	0.00	0.00	10.53
AS	4967.00	0.00	0.00	11.25
AS	4977.00	0.00	0.00	11.11
AS	5007.00	0.00	0.00	12.20
AS	5041.00	0.00	0.00	11.78
AS	5043.00	0.00	0.00	12.18
AS	5053.00	0.00	0.00	12.52
AS	5067.00	0.00	0.00	12.23
AS	5083.00	0.00	0.00	12.66
AS	5100.00	0.00	0.00	13.61

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE
 BETWEEN 4949.00 AND 4957.00

BETWEEN	4957.00	AND	4963.00
BETWEEN	4963.00	AND	4967.00
BETWEEN	4967.00	AND	4977.00
BETWEEN	4977.00	AND	5007.00
BETWEEN	5007.00	AND	5041.00
BETWEEN	5041.00	AND	5043.00
BETWEEN	5043.00	AND	5053.00
BETWEEN	5053.00	AND	5067.00
BETWEEN	5067.00	AND	5083.00
BETWEEN	5083.00	AND	5100.00

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
283.00	0.00	13.60
291.00	0.00	13.59
299.00	0.00	13.58
307.00	0.00	13.57
323.00	0.00	13.56
343.00	0.00	13.54
355.00	0.00	13.53
365.00	0.00	13.52
371.00	0.00	13.51
375.00	0.00	13.51
383.00	0.00	13.50
395.00	0.00	13.49
415.00	0.00	13.47

425.00	0.00	13.46
439.00	0.00	13.45
447.00	0.00	13.44
477.00	0.00	13.41
563.00	0.00	13.33
581.00	0.00	13.31
583.00	0.00	13.31
589.00	0.00	13.30
591.00	0.00	13.30
783.00	0.00	13.12
824.00	0.00	13.08
1557.00	0.00	12.37
1561.00	0.00	12.37
1575.00	0.00	12.36
1589.00	0.00	12.34
1591.00	0.00	12.34
1871.00	0.00	12.07
2155.00	0.00	11.80
2317.00	0.00	11.64
2355.00	0.00	11.60
2480.00	0.00	11.48
2485.00	0.00	11.48
2487.00	0.00	11.48
2521.00	0.00	11.45
3465.00	0.00	10.54

4829.00	0.00	9.23
4833.00	0.00	9.22
4835.00	0.00	9.22
4837.00	0.00	9.22
4841.00	0.00	9.21
4865.00	0.00	9.19
4871.00	0.00	9.19
4885.00	0.00	9.17
4893.00	0.00	9.16
4915.00	0.00	9.14
4925.00	0.00	9.13
4937.00	0.00	9.12
4941.00	0.00	9.12
4949.00	0.00	9.11

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
190.23	WINDWARD
2417.48	LEEWARD
2486.57	WINDWARD
2569.20	LEEWARD
4401.25	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
-------------------	-----------	------------------	-----

0.00	20.78			
		V30	EL=21	200
6.87	20.50			
		V30	EL=20	200
27.58	19.50			
		V30	EL=19	200
48.57	18.50			
		V30	EL=18	200
64.44	17.50			
		V30	EL=17	200
116.16	16.50			
		V30	EL=16	200
190.23	15.71			
		A24	EL=16	140
209.92	15.50			
		A24	EL=15	140
265.16	14.50			
		A24	EL=14	140
271.00	14.29			
		A24	EL=14	140
283.00	14.08			
		A24	EL=14	140
291.00	13.93			
		A24	EL=14	140
299.00	13.82			
		A24	EL=14	140

307.00	13.75			
		A24	EL=14	140
323.00	13.68			
		A24	EL=14	140
343.00	13.63			
		A24	EL=14	140
355.00	13.59			
		A24	EL=14	140
365.00	13.56			
		A24	EL=14	140
371.00	13.54			
		A24	EL=14	140
375.00	13.54			
		A24	EL=14	140
383.00	13.53			
		A24	EL=14	140
395.00	13.52			
		A24	EL=14	140
415.00	13.50			
		A24	EL=14	140
416.33	13.50			
		A24	EL=13	140
425.00	13.49			
		A24	EL=13	140
439.00	13.48			

		A24	EL=13	140
447.00	13.47			
		A24	EL=13	140
450.80	13.50			
		A24	EL=14	140
477.00	13.70			
		A24	EL=14	140
563.00	13.88			
		A24	EL=14	140
581.00	13.87			
		A24	EL=14	140
583.00	13.87			
		A24	EL=14	140
589.00	13.86			
		A24	EL=14	140
591.00	13.85			
		A24	EL=14	140
783.00	14.01			
		A24	EL=14	140
824.00	14.03			
		A24	EL=14	140
1557.00	14.14			
		A24	EL=14	140
1561.00	14.12			
		A24	EL=14	140
1575.00	14.07			

		A24	EL=14	140
1589.00	13.97			
		A24	EL=14	140
1591.00	13.87			
		A24	EL=14	140
1871.00	13.70			
		A24	EL=14	140
2139.41	13.50			
		A24	EL=13	140
2155.00	13.49			
		A24	EL=13	140
2317.00	13.47			
		A24	EL=13	140
2355.00	13.47			
		A24	EL=13	140
2364.41	13.50			
		A24	EL=14	140
2417.48	13.65			
		V28	EL=14	180
2480.00	13.85			
		V28	EL=14	180
2485.00	13.87			
		V28	EL=14	180
2486.57	13.58			
		A24	EL=14	140

2486.99	13.50			
		A24	EL=13	140
2487.00	13.50			
		A24	EL=13	140
2492.81	13.50			
		A24	EL=14	140
2521.00	13.51			
		A24	EL=14	140
2567.29	13.50			
		A24	EL=13	140
2569.20	13.47			
		V27	EL=13	170
3465.00	13.36			
		V26	EL=13	160
4212.08	12.50			
		V25	EL=12	150
4401.25	11.60			
		A21	EL=12	110
4453.23	11.50			
		A21	EL=11	110
4672.79	10.50			
		A21	EL=10	110
4829.00	9.79			
		A21	EL=10	110
4833.00	9.77			
		A21	EL=10	110

4835.00	9.78	A21	EL=10	110
4837.00	9.80	A21	EL=10	110
4841.00	9.81	A21	EL=10	110
4865.00	9.81	A21	EL=10	110
4871.00	9.86	A21	EL=10	110
4885.00	9.86	A21	EL=10	110
4893.00	9.90	A21	EL=10	110
4915.00	9.72	A21	EL=10	110
4925.00	9.74	A21	EL=10	110
4931.98	9.50	A21	EL= 9	110
4937.00	9.33	A21	EL= 9	110
4941.00	9.35	A21	EL= 9	110
4949.00	9.27			

4957.00	10.16
4963.00	10.53
4967.00	11.25
4977.00	11.11
5007.00	12.20
5041.00	11.78
5043.00	12.18
5053.00	12.52
5067.00	12.23
5083.00	12.66
5100.00	13.61

ZONE TERMINATED AT END OF TRANSECT

PART 7 POSTSCRIPT NOTES

2013-0127

PL-055-DISE

50.0

	-33.6-1875.	1.
	-19.2-1175.	1.
	-4.8 -61.	1.
	7.4 73.	1.
	11.1 259.	1.
1	8. 447.	1.
9.5	18.5	8.6
9.5	18.5	9.1
9.5	18.5	9.5
9.5	19.5	8.6
9.5	19.5	9.1
9.5	19.5	9.5
9.5	20.4	8.6
9.5	20.4	9.1
9.5	20.4	9.5

CLIENT-
PROJECT-
1

** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

JOB 2013-0127
RUN PL-0 PAGE

*

CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-1875.0	-33.0		
			50.00	1.00
2	-1175.0	-19.0		
			78.45	1.00
3	-61.0	-4.8		
			10.98	1.00
4	73.0	7.4		
			50.27	1.00
5	259.0	11.1		
			-60.65	1.00
6	447.0	8.0		
	LAST SLOPE	50.00	LAST ROUGHNESS	1.00

CLIENT-
PROJECT-
2

** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

JOB 2013-0127
RUN PL-0 PAGE

*

OUTPUT TABLE

INPUT PARAMETERS

RUNUP RESULTS

WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	2	6	1.66	27.69
9.50	18.50	9.10	2	6	1.66	28.09
9.50	18.50	9.50	2	6	1.85 1.48 SOLUTION DOES NOT CONVERGE	28.41
9.50	19.50	8.60	1	6	1.95 1.56 SOLUTION DOES NOT CONVERGE	29.00
9.50	19.50	9.10	1	6	1.75	29.41
9.50	19.50	9.50	1	6	1.75	29.74
9.50	20.40	8.60	1	6	1.63	30.17
9.50	20.40	9.10	1	6	1.84	30.60
9.50	20.40	9.50	1	6	1.84	30.93

ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-056

Interpolation for Toe and Top/SWEL Stations – Intact & Eroded Profile

Eroded Transect		Interpolation for Station @			
STATION	ELEVATION				
-2065	-38.15094				
-1015	-18.83152	-2065	-38.1509	19.31942	rise
-127	-6.33199			1050	run
0	0	-1015	-18.8315	0.018399	slope
1	0.07629664			-1219.81	STATION
3	0.03649477				
69	4.720047				
87	6.229819				
123	10.58282				
137	10.5859				
145	11.34208				
151	12.34916	87	6.229819	4.353001	rise
161	14.78886			36	run
165	15.45056	123	10.58282	0.120917	slope
167	15.56505			114.0449	STATION
175	15.60678				
179	13.86274				
185	14.32951				
203	13.9767				
221	12.41772				

NOTE: Erosion not considered as done by FEMA

Engineering Calculations

Transect PL-056 Plymouth County Duxbury		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1219.81	
Top/SWEL Station	114.045	
Average Transect Slope, m	0.024039	
1:ON	41.59922	
Average Shore Slope		
Average Beach Slope	0.0833	
1:ON	12.00474	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.24	4.26
Toe Structure Elevation (ft)		
Depth at Toe of Structure (ft)		
Pre-calculation for H _b		
Pre-calculation for h _d		
h/H _d		
R multiplier		
Setup with Structure (ft)		
Total Water Level	13.7402	
Wave Runup (Intact & Eroded)		
Runup 2% (ft)	5	
Method	Runup	

Overtopped Freeboard	2.0 No	
Structure		
Does Structure Exist	No	
Type of Structure		
Toe Station		
Top Station		
Armor Depth (ft)		
Failed Structure Data		
Failed Structure Top Station		
Failed Structure Top Elev (ft)		
Failed Structure Toe Station		
Failed Structure Toe Elev (ft)		
Avearge Transect Slope, m		
Wave Setup Calculations (Failed Structures)		Comparison with FEMA Values
Depth at Toe of Structure (ft)		
Pre-calculation for Hb		
Pre-calculation for hd		
h/Hd		
R multiplier		
Setup with Failed Structure (ft)		
Wave Runup (Failed Strucutre)		
Runup 2% (ft)		
Method		
Overtopped		
Freeboard		

WHAFIS and RUNUP 2.0 FILES

0.00

0.00

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
 Executed on: Fri Oct 11 09:10:01 2013
 Input file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-056-DISE.dat
 Output file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-056-DISE.out

- Transect: PL-056-DISE Date: 10/11/2013
 THIS IS A 100-YEAR CASE

PART1 INPUT

IE	0.000	0.000	0.000	0.000	13.740	49.800	10.650	0.000	0.080	0.000
IF	1.000	0.080	0.000	13.740	0.000	0.000	0.000	0.000	0.013	0.000
IF	3.000	0.040	0.000	13.740	0.000	0.000	0.000	0.000	0.068	0.000
IF	69.000	4.720	0.000	13.740	0.000	0.000	0.000	0.000	0.074	0.000
IF	87.000	6.230	0.000	13.740	0.000	0.000	0.000	0.000	0.108	0.000
IF	123.000	10.580	0.000	13.740	0.000	0.000	0.000	0.000	0.087	0.000
IF	137.000	10.590	0.000	13.740	0.000	0.000	0.000	0.000	0.034	0.000
IF	145.000	11.340	0.000	13.740	0.000	0.000	0.000	0.000	0.126	0.000
IF	151.000	12.350	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	161.000	14.790	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	165.000	15.450	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	167.000	15.570	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	175.000	15.610	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	179.000	13.860	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	185.000	14.330	0.000	13.740	0.000	0.000	0.000	0.000	0.168	0.000
AS	203.000	13.980	0.000	13.740	0.000	0.000	0.000	0.000	-0.087	0.000
IF	221.000	12.420	0.000	13.662	0.000	0.000	0.000	0.000	-0.056	0.000
IF	225.000	12.750	0.000	13.645	0.000	0.000	0.000	0.000	0.014	0.000
IF	239.000	12.680	0.000	13.584	0.000	0.000	0.000	0.000	-0.011	0.000
IF	259.000	12.370	0.000	13.498	0.000	0.000	0.000	0.000	-0.033	0.000
IF	267.000	11.760	0.000	13.463	0.000	0.000	0.000	0.000	-0.013	0.000
IF	313.000	11.660	0.000	13.265	0.000	0.000	0.000	0.000	-0.022	0.000
BU	321.000	10.600	0.600	5.000	0.000	13.230	0.000	0.000	-0.090	0.000
BU	327.000	10.400	0.600	5.000	0.000	13.204	0.000	0.000	0.001	0.000
BU	339.000	10.610	0.600	5.000	0.000	13.152	0.000	0.000	-0.007	0.000
BU	381.000	10.010	0.600	5.000	0.000	12.971	0.000	0.000	-0.001	0.000
BU	393.000	10.560	0.600	5.000	0.000	12.919	0.000	0.000	0.003	0.000
BU	407.000	10.080	0.600	5.000	0.000	12.859	0.000	0.000	0.004	0.000
BU	415.000	10.660	0.600	5.000	0.000	12.824	0.000	0.000	-0.011	0.000
BU	431.000	9.820	0.600	5.000	0.000	12.755	0.000	0.000	-0.014	0.000
BU	457.000	10.070	0.600	5.000	0.000	12.643	0.000	0.000	-0.013	0.000
BU	475.000	9.240	0.600	5.000	0.000	12.565	0.000	0.000	-0.023	0.000
BU	479.000	9.560	0.600	5.000	0.000	12.548	0.000	0.000	0.009	0.000
BU	495.000	9.410	0.600	5.000	0.000	12.478	0.000	0.000	-0.031	0.000
BU	501.000	8.880	0.600	5.000	0.000	12.453	0.000	0.000	-0.009	0.000
BU	523.000	9.170	0.600	5.000	0.000	12.357	0.000	0.000	-0.004	0.000
BU	547.000	8.710	0.600	5.000	0.000	12.254	0.000	0.000	-0.007	0.000
BU	565.000	8.880	0.600	5.000	0.000	12.176	0.000	0.000	-0.035	0.000
BU	583.000	7.460	0.600	5.000	0.000	12.098	0.000	0.000	-0.028	0.000

BU	611.000	7.580	0.600	5.000	0.000	11.977	0.000	0.000	0.017	0.000
BU	629.000	8.230	0.600	5.000	0.000	11.900	0.000	0.000	0.017	0.000
BU	633.000	7.960	0.600	5.000	0.000	11.882	0.000	0.000	0.037	0.000
BU	643.000	8.750	0.600	5.000	0.000	11.839	0.000	0.000	0.022	0.000
BU	683.000	9.040	0.600	5.000	0.000	11.666	0.000	0.000	0.014	0.000
BU	705.000	9.620	0.600	5.000	0.000	11.571	0.000	0.000	0.020	0.000
BU	711.000	9.600	0.600	5.000	0.000	11.545	0.000	0.000	-0.050	0.000
BU	719.000	8.920	0.600	5.000	0.000	11.511	0.000	0.000	0.007	0.000
IF	727.000	9.710	0.000	11.476	0.000	0.000	0.000	0.000	-0.007	0.000
IF	781.000	8.480	0.000	11.243	0.000	0.000	0.000	0.000	-0.008	0.000
IF	849.000	8.780	0.000	10.949	0.000	0.000	0.000	0.000	0.001	0.000
IF	865.000	8.520	0.000	10.880	0.000	0.000	0.000	0.000	-0.024	0.000
IF	879.000	8.050	0.000	10.819	0.000	0.000	0.000	0.000	-0.090	0.000
IF	883.000	6.900	0.000	10.802	0.000	0.000	0.000	0.000	-0.199	0.000
IF	893.000	5.260	0.000	10.759	0.000	0.000	0.000	0.000	-0.138	0.000
IF	919.000	1.940	0.000	10.647	0.000	0.000	0.000	0.000	-0.138	0.000
IF	931.000	0.020	0.000	10.595	0.000	0.000	0.000	0.000	-0.198	0.000
IF	933.000	-0.830	0.000	10.586	0.000	0.000	0.000	0.000	-0.005	0.000
IF	1347.000	-2.060	0.000	8.797	0.000	0.000	0.000	0.000	-0.002	0.000
IF	1419.000	-1.880	0.000	8.486	0.000	0.000	0.000	0.000	0.029	0.000
IF	1421.000	0.070	0.000	8.478	0.000	0.000	0.000	0.000	0.545	0.000
IF	1423.000	0.300	0.000	8.469	0.000	0.000	0.000	0.000	0.358	0.000
IF	1427.000	2.220	0.000	8.452	0.000	0.000	0.000	0.000	0.697	0.000
IF	1431.000	5.880	0.000	8.435	0.000	0.000	0.000	0.000	0.818	0.000
IF	1433.000	7.130	0.000	8.426	0.000	0.000	0.000	0.000	0.236	0.000
IF	1439.000	7.770	0.000	8.400	0.000	0.000	0.000	0.000	0.012	0.000
IF	1461.000	7.460	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1471.000	8.740	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1485.000	9.160	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1521.000	9.440	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1557.000	9.060	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1577.000	10.460	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1619.000	10.990	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1657.000	12.910	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1661.000	12.500	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1667.000	12.510	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1683.000	13.320	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1731.000	14.140	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1741.000	14.180	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1745.000	14.870	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1803.000	18.500	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1819.000	21.740	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
AS	1853.000	26.140	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	END STATION	END ELEVATION	FETCH LENGTH	SURGE 10-YEAR	ELEV 100-YEAR	INITIAL WAVE HEIGHT	INITIAL W. PERIOD		BOTTOM SLOPE	AVERAGE A-ZONES
IE	0.000	0.000	0.000	0.000	13.740	49.800	10.650	0.000	0.080	0.000

IF	END STATION 1.000	END ELEVATION 0.080	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.013	AVERAGE A-ZONES 0.000
IF	END STATION 3.000	END ELEVATION 0.040	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.068	AVERAGE A-ZONES 0.000
IF	END STATION 69.000	END ELEVATION 4.720	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.074	AVERAGE A-ZONES 0.000
IF	END STATION 87.000	END ELEVATION 6.230	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.108	AVERAGE A-ZONES 0.000
IF	END STATION 123.000	END ELEVATION 10.580	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.087	AVERAGE A-ZONES 0.000
IF	END STATION 137.000	END ELEVATION 10.590	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
IF	END STATION 145.000	END ELEVATION 11.340	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.126	AVERAGE A-ZONES 0.000
IF	END STATION 151.000	END ELEVATION 12.350	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 161.000	END ELEVATION 14.790	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 165.000	END ELEVATION 15.450	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000

AS	END STATION 167.000	END ELEVATION 15.570	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 175.000	END ELEVATION 15.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 179.000	END ELEVATION 13.860	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 185.000	END ELEVATION 14.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.168	AVERAGE A-ZONES 0.000
AS	END STATION 203.000	END ELEVATION 13.980	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.740	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.087	AVERAGE A-ZONES 0.000
IF	END STATION 221.000	END ELEVATION 12.420	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.662	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.056	AVERAGE A-ZONES 0.000
IF	END STATION 225.000	END ELEVATION 12.750	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.645	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.014	AVERAGE A-ZONES 0.000
IF	END STATION 239.000	END ELEVATION 12.680	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.584	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.011	AVERAGE A-ZONES 0.000
IF	END STATION 259.000	END ELEVATION 12.370	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.498	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.033	AVERAGE A-ZONES 0.000
IF	END STATION 267.000	END ELEVATION 11.760	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.463	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.013	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

IF	STATION 313.000	ELEVATION 11.660	10-YEAR 0.000	100-YEAR 13.265	0.000	0.000	0.000	0.000	SLOPE -0.022	A-ZONES 0.000	
BU	END STATION 321.000	END ELEVATION 10.600	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.230	0.000	0.000	BOTTOM SLOPE -0.090	AVERAGE A-ZONES 0.000
BU	END STATION 327.000	END ELEVATION 10.400	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.204	0.000	0.000	BOTTOM SLOPE 0.001	AVERAGE A-ZONES 0.000
BU	END STATION 339.000	END ELEVATION 10.610	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.152	0.000	0.000	BOTTOM SLOPE -0.007	AVERAGE A-ZONES 0.000
BU	END STATION 381.000	END ELEVATION 10.010	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.971	0.000	0.000	BOTTOM SLOPE -0.001	AVERAGE A-ZONES 0.000
BU	END STATION 393.000	END ELEVATION 10.560	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.919	0.000	0.000	BOTTOM SLOPE 0.003	AVERAGE A-ZONES 0.000
BU	END STATION 407.000	END ELEVATION 10.080	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.859	0.000	0.000	BOTTOM SLOPE 0.004	AVERAGE A-ZONES 0.000
BU	END STATION 415.000	END ELEVATION 10.660	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.824	0.000	0.000	BOTTOM SLOPE -0.011	AVERAGE A-ZONES 0.000
BU	END STATION 431.000	END ELEVATION 9.820	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.755	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
BU	END STATION 457.000	END ELEVATION 10.070	OPEN RATIO 0.600	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.643	0.000	0.000	BOTTOM SLOPE -0.013	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	OPEN RATIO	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES

BU	475.000	9.240	0.600	5.000	0.000	12.565	0.000	0.000	-0.023	0.000
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	479.000	9.560	0.600	5.000	5.000	0.000	12.548	0.000	0.000	0.000
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	495.000	9.410	0.600	5.000	5.000	0.000	12.478	0.000	0.000	-0.031
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	501.000	8.880	0.600	5.000	5.000	0.000	12.453	0.000	0.000	-0.009
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	523.000	9.170	0.600	5.000	5.000	0.000	12.357	0.000	0.000	-0.004
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	547.000	8.710	0.600	5.000	5.000	0.000	12.254	0.000	0.000	-0.007
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	565.000	8.880	0.600	5.000	5.000	0.000	12.176	0.000	0.000	-0.035
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	583.000	7.460	0.600	5.000	5.000	0.000	12.098	0.000	0.000	-0.028
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	611.000	7.580	0.600	5.000	5.000	0.000	11.977	0.000	0.000	0.017
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	629.000	8.230	0.600	5.000	5.000	0.000	11.900	0.000	0.000	0.017
	END	END	OPEN	SPACE	NO. OF	NEW SURGE	NEW SURGE		BOTTOM	AVERAGE
	STATION	ELEVATION		RATIO	ROWS	10-YEAR	100-YEAR		SLOPE	A-ZONES
BU	633.000	7.960	0.600	5.000	5.000	0.000	11.882	0.000	0.000	0.037

BU	END STATION 643.000	END ELEVATION 8.750	OPEN	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.839	0.000	0.000	BOTTOM SLOPE 0.022	AVERAGE A-ZONES 0.000
BU	END STATION 683.000	END ELEVATION 9.040	OPEN	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.666	0.000	0.000	BOTTOM SLOPE 0.014	AVERAGE A-ZONES 0.000
BU	END STATION 705.000	END ELEVATION 9.620	OPEN	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.571	0.000	0.000	BOTTOM SLOPE 0.020	AVERAGE A-ZONES 0.000
BU	END STATION 711.000	END ELEVATION 9.600	OPEN	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.545	0.000	0.000	BOTTOM SLOPE -0.050	AVERAGE A-ZONES 0.000
BU	END STATION 719.000	END ELEVATION 8.920	OPEN	SPACE RATIO 0.600	NO. OF ROWS 5.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.511	0.000	0.000	BOTTOM SLOPE 0.007	AVERAGE A-ZONES 0.000
IF	END STATION 727.000	END ELEVATION 9.710	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.476		0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.007	AVERAGE A-ZONES 0.000
IF	END STATION 781.000	END ELEVATION 8.480	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 11.243		0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.008	AVERAGE A-ZONES 0.000
IF	END STATION 849.000	END ELEVATION 8.780	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.949		0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.001	AVERAGE A-ZONES 0.000
IF	END STATION 865.000	END ELEVATION 8.520	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.880		0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.024	AVERAGE A-ZONES 0.000
IF	END STATION 879.000	END ELEVATION 8.050	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.819		0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.090	AVERAGE A-ZONES 0.000

IF	END STATION 883.000	END ELEVATION 6.900	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.802	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.199	AVERAGE A-ZONES 0.000
IF	END STATION 893.000	END ELEVATION 5.260	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.759	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.138	AVERAGE A-ZONES 0.000
IF	END STATION 919.000	END ELEVATION 1.940	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.647	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.138	AVERAGE A-ZONES 0.000
IF	END STATION 931.000	END ELEVATION 0.020	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.595	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.198	AVERAGE A-ZONES 0.000
IF	END STATION 933.000	END ELEVATION -0.830	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 10.586	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.005	AVERAGE A-ZONES 0.000
IF	END STATION 1347.000	END ELEVATION -2.060	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.797	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.002	AVERAGE A-ZONES 0.000
IF	END STATION 1419.000	END ELEVATION -1.880	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.486	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.029	AVERAGE A-ZONES 0.000
IF	END STATION 1421.000	END ELEVATION 0.070	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.478	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.545	AVERAGE A-ZONES 0.000
IF	END STATION 1423.000	END ELEVATION 0.300	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.469	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.358	AVERAGE A-ZONES 0.000
IF	END STATION 1427.000	END ELEVATION 2.220	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.452	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.697	AVERAGE A-ZONES 0.000

IF	END STATION 1431.000	END ELEVATION 5.880	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.435	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.818	AVERAGE A-ZONES 0.000
IF	END STATION 1433.000	END ELEVATION 7.130	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.426	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.236	AVERAGE A-ZONES 0.000
IF	END STATION 1439.000	END ELEVATION 7.770	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.012	AVERAGE A-ZONES 0.000
IF	END STATION 1461.000	END ELEVATION 7.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1471.000	END ELEVATION 8.740	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1485.000	END ELEVATION 9.160	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1521.000	END ELEVATION 9.440	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1557.000	END ELEVATION 9.060	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1577.000	END ELEVATION 10.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
AS	END STATION 1619.000	END ELEVATION 10.990	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1657.000	12.910	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1661.000	12.500	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1667.000	12.510	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1683.000	13.320	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1731.000	14.140	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1741.000	14.180	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1745.000	14.870	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1803.000	18.500	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1819.000	21.740	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1853.000	26.140	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000

-----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	0.00	10.33	10.65	20.97
IF	1.00	10.27	10.65	20.93
IF	3.00	10.27	10.65	20.93
IF	69.00	6.87	10.65	18.55
IF	87.00	5.74	10.65	17.76
IF	123.00	2.44	10.65	15.45
IF	137.00	2.44	10.65	15.45
IF	145.00	1.86	10.65	15.04
IF	151.00	1.08	10.65	14.50
AS	161.00	0.00	0.00	14.79
AS	165.00	0.00	0.00	15.45
AS	167.00	0.00	0.00	15.57
AS	175.00	0.00	0.00	15.61
AS	179.00	0.00	0.00	13.86
AS	185.00	0.00	0.00	14.33
AS	203.00	0.00	0.00	13.98
IF	221.00	0.11	0.38	13.74
IF	225.00	0.12	0.41	13.73
IF	239.00	0.17	0.48	13.70

IF	259.00	0.22	0.55	13.65
IF	267.00	0.24	0.58	13.63
IF	313.00	0.35	0.69	13.51
BU	321.00	0.10	0.69	13.30
BU	327.00	0.03	0.69	13.22
BU	339.00	0.01	0.69	13.16
BU	381.00	0.00	0.69	12.97
BU	393.00	0.00	0.69	12.92
BU	407.00	0.00	0.69	12.86
BU	415.00	0.00	0.69	12.82
BU	431.00	0.00	0.69	12.76
BU	457.00	0.00	0.69	12.64
BU	475.00	0.00	0.69	12.57
BU	479.00	0.00	0.69	12.55
BU	495.00	0.00	0.69	12.48
BU	501.00	0.00	0.69	12.45
BU	523.00	0.00	0.69	12.36
BU	547.00	0.00	0.69	12.25
BU	565.00	0.00	0.69	12.18
BU	583.00	0.00	0.69	12.10
BU	611.00	0.00	0.69	11.98
BU	629.00	0.00	0.69	11.90
BU	633.00	0.00	0.69	11.88
BU	643.00	0.00	0.69	11.84
BU	683.00	0.00	0.69	11.67

BU	705.00	0.00	0.69	11.57
BU	711.00	0.00	0.69	11.55
BU	719.00	0.00	0.69	11.51
IF	727.00	0.17	0.71	11.60
IF	781.00	0.47	0.80	11.57
IF	849.00	0.58	0.89	11.36
IF	865.00	0.61	0.91	11.31
IF	879.00	0.63	0.93	11.26
IF	883.00	0.64	0.94	11.25
IF	893.00	0.66	0.95	11.22
IF	919.00	0.70	0.97	11.13
IF	931.00	0.71	0.99	11.09
IF	933.00	0.72	0.99	11.09
	1057.20	0.89	1.10	10.67
	1222.80	1.10	1.22	10.10
IF	1347.00	1.24	1.30	9.66
IF	1419.00	1.32	1.34	9.41
IF	1421.00	1.32	1.34	9.40
IF	1423.00	1.32	1.34	9.39
IF	1427.00	1.32	1.35	9.38
IF	1431.00	1.18	1.35	9.26
IF	1433.00	0.80	1.35	8.99
IF	1439.00	0.44	1.35	8.71
IF	1461.00	0.51	1.36	8.76
AS	1471.00	0.00	0.00	8.74
AS	1485.00	0.00	0.00	9.16

AS	1521.00	0.00	0.00	9.44
AS	1557.00	0.00	0.00	9.06
AS	1577.00	0.00	0.00	10.46
AS	1619.00	0.00	0.00	10.99
AS	1657.00	0.00	0.00	12.91
AS	1661.00	0.00	0.00	12.50
AS	1667.00	0.00	0.00	12.51
AS	1683.00	0.00	0.00	13.32
AS	1731.00	0.00	0.00	14.14
AS	1741.00	0.00	0.00	14.18
AS	1745.00	0.00	0.00	14.87
AS	1803.00	0.00	0.00	18.50
AS	1819.00	0.00	0.00	21.74
AS	1853.00	0.00	0.00	26.14

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

BETWEEN	151.00	AND	161.00
BETWEEN	161.00	AND	165.00
BETWEEN	165.00	AND	167.00
BETWEEN	167.00	AND	175.00
BETWEEN	175.00	AND	179.00
BETWEEN	179.00	AND	185.00
BETWEEN	185.00	AND	203.00
BETWEEN	1461.00	AND	1471.00
BETWEEN	1471.00	AND	1485.00

BETWEEN	1485.00	AND	1521.00
BETWEEN	1521.00	AND	1557.00
BETWEEN	1557.00	AND	1577.00
BETWEEN	1577.00	AND	1619.00
BETWEEN	1619.00	AND	1657.00
BETWEEN	1657.00	AND	1661.00
BETWEEN	1661.00	AND	1667.00
BETWEEN	1667.00	AND	1683.00
BETWEEN	1683.00	AND	1731.00
BETWEEN	1731.00	AND	1741.00
BETWEEN	1741.00	AND	1745.00
BETWEEN	1745.00	AND	1803.00
BETWEEN	1803.00	AND	1819.00
BETWEEN	1819.00	AND	1853.00

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
221.00	0.00	13.66
225.00	0.00	13.65
239.00	0.00	13.58
259.00	0.00	13.50
267.00	0.00	13.46
313.00	0.00	13.27
321.00	0.00	13.23
327.00	0.00	13.20
339.00	0.00	13.15

381.00	0.00	12.97
393.00	0.00	12.92
407.00	0.00	12.86
415.00	0.00	12.82
431.00	0.00	12.76
457.00	0.00	12.64
475.00	0.00	12.56
479.00	0.00	12.55
495.00	0.00	12.48
501.00	0.00	12.45
523.00	0.00	12.36
547.00	0.00	12.25
565.00	0.00	12.18
583.00	0.00	12.10
611.00	0.00	11.98
629.00	0.00	11.90
633.00	0.00	11.88
643.00	0.00	11.84
683.00	0.00	11.67
705.00	0.00	11.57
711.00	0.00	11.55
719.00	0.00	11.51
727.00	0.00	11.48
781.00	0.00	11.24
849.00	0.00	10.95

865.00	0.00	10.88
879.00	0.00	10.82
883.00	0.00	10.80
893.00	0.00	10.76
919.00	0.00	10.65
931.00	0.00	10.60
933.00	0.00	10.59
1347.00	0.00	8.80
1419.00	0.00	8.49
1421.00	0.00	8.48
1423.00	0.00	8.47
1427.00	0.00	8.45
1431.00	0.00	8.44
1433.00	0.00	8.43
1439.00	0.00	8.40

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
116.93	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
0.00	20.97		
		V30 EL=21	200
14.83	20.50		

		V30	EL=20	200
42.57	19.50			
		V30	EL=19	200
70.08	18.50			
		V30	EL=18	200
91.03	17.50			
		V30	EL=17	200
106.63	16.50			
		V30	EL=16	200
116.93	15.84			
		A22	EL=16	120
122.23	15.50			
		A22	EL=15	120
150.96	14.50			
		A22	EL=14	120
151.00	14.50			
161.00	14.79			
165.00	15.45			
167.00	15.57			
175.00	15.61			
179.00	13.86			
185.00	14.33			

203.00	13.98			
		A22	EL=14	120
221.00	13.74			
		A22	EL=14	120
225.00	13.73			
		A22	EL=14	120
239.00	13.70			
		A22	EL=14	120
259.00	13.65			
		A22	EL=14	120
267.00	13.63			
		A22	EL=14	120
313.00	13.51			
		A22	EL=14	120
313.34	13.50			
		A22	EL=13	120
321.00	13.30			
		A22	EL=13	120
327.00	13.22			
		A22	EL=13	120
339.00	13.16			
		A22	EL=13	120
381.00	12.97			
		A22	EL=13	120
393.00	12.92			
		A22	EL=13	120

407.00	12.86			
		A22	EL=13	120
415.00	12.82			
		A22	EL=13	120
431.00	12.76			
		A22	EL=13	120
457.00	12.64			
		A22	EL=13	120
475.00	12.57			
		A22	EL=13	120
479.00	12.55			
		A22	EL=13	120
489.97	12.50			
		A22	EL=12	120
495.00	12.48			
		A22	EL=12	120
501.00	12.45			
		A22	EL=12	120
523.00	12.36			
		A22	EL=12	120
547.00	12.25			
		A22	EL=12	120
565.00	12.18			
		A22	EL=12	120
583.00	12.10			

		A22	EL=12	120
611.00	11.98			
		A22	EL=12	120
629.00	11.90			
		A22	EL=12	120
633.00	11.88			
		A22	EL=12	120
643.00	11.84			
		A22	EL=12	120
683.00	11.67			
		A22	EL=12	120
705.00	11.57			
		A22	EL=12	120
711.00	11.55			
		A22	EL=12	120
719.00	11.51			
		A22	EL=12	120
727.00	11.60			
		A22	EL=12	120
781.00	11.57			
		A22	EL=12	120
803.71	11.50			
		A22	EL=11	120
849.00	11.36			
		A22	EL=11	120
865.00	11.31			

		A22	EL=11	120
879.00	11.26			
		A22	EL=11	120
883.00	11.25			
		A22	EL=11	120
893.00	11.22			
		A22	EL=11	120
919.00	11.13			
		A22	EL=11	120
931.00	11.09			
		A22	EL=11	120
933.00	11.09			
		A22	EL=11	120
1106.95	10.50			
		A22	EL=10	120
1347.00	9.66			
		A22	EL=10	120
1393.21	9.50			
		A22	EL= 9	120
1419.00	9.41			
		A22	EL= 9	120
1421.00	9.40			
		A22	EL= 9	120
1423.00	9.39			
		A22	EL= 9	120

1427.00	9.38			
		A22	EL= 9	120
1431.00	9.26			
		A22	EL= 9	120
1433.00	8.99			
		A22	EL= 9	120
1439.00	8.71			
		A22	EL= 9	120
1461.00	8.76			
1471.00	8.74			
1485.00	9.16			
1521.00	9.44			
1557.00	9.06			
1577.00	10.46			
1619.00	10.99			
1657.00	12.91			
1661.00	12.50			
1667.00	12.51			
1683.00	13.32			
1731.00	14.14			

1741.00	14.18
1745.00	14.87
1803.00	18.50
1819.00	21.74
1853.00	26.14

ZONE TERMINATED AT END OF TRANSECT

PART 7 POSTSCRIPT NOTES

2013-0127

PL-056-DISE

50.0

-38.2-2065. 1.
-18.8-1015. 1.
-6.3 -127. 1.
4.7 69. 1.
14.8 161. 1.
15.5 165. 1.
15.6 167. 1.
15.6 175. 1.
7.5 583. 1.
8.5 865. 1.
-.8 933. 1.
-1.9 1419. 1.
7.8 1439. 1.
18.5 1803. 1.
44.5 1921. 1.
41.6 1953. 1.
48. 2107. 1.
35. 2251. 1.

1 20.7 2339. 1.

9.5 18.5 8.6
9.5 18.5 9.1
9.5 18.5 9.5
9.5 19.5 8.6
9.5 19.5 9.1
9.5 19.5 9.5
9.5 20.4 8.6
9.5 20.4 9.1
9.5 20.4 9.5

CLIENT-
PROJECT-

** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

JOB 2013-0127
RUN PL-0 PAGE 1

CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2065.0	-38.0		
			52.50	1.00
2	-1015.0	-18.0		
			75.90	1.00
3	-127.0	-6.3		
			17.82	1.00
4	69.0	4.7		
			9.11	1.00
5	161.0	14.8		
			5.71	1.00
6	165.0	15.5		
			20.00	1.00
7	167.0	15.6		
			FLAT	1.00
8	175.0	15.6		
			-50.37	1.00
9	583.0	7.5		
			282.00	1.00
10	865.0	8.5		
			-7.31	1.00
11	933.0	-.8		
			-441.82	1.00
12	1419.0	-1.9		
			2.06	1.00
13	1439.0	7.8		
			34.02	1.00
14	1803.0	18.5		
			4.54	1.00
15	1921.0	44.5		
			-11.03	1.00
16	1953.0	41.6		
			24.06	1.00
17	2107.0	48.0		
			-11.08	1.00
18	2251.0	35.0		
			-6.15	1.00
19	2339.0	20.7		
	LAST SLOPE	50.00	LAST ROUGHNESS	1.00

CLIENT-
PROJECT-

** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

JOB 2013-0127
RUN PL-0 PAGE 2

OUTPUT TABLE

INPUT PARAMETERS			RUNUP RESULTS			
-----			-----			
WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	1	4	2.22	27.69
9.50	18.50	9.10	1	4	2.22	28.09
9.50	18.50	9.50	1	4	2.22	28.41
9.50	19.50	8.60	1	4	2.14	29.00
9.50	19.50	9.10	1	4	2.34	29.41
9.50	19.50	9.50	1	4	2.34	29.74
9.50	20.40	8.60	1	4	2.24	30.17
9.50	20.40	9.10	1	4	2.24	30.60
9.50	20.40	9.50	1	4	2.24	30.93

ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-057

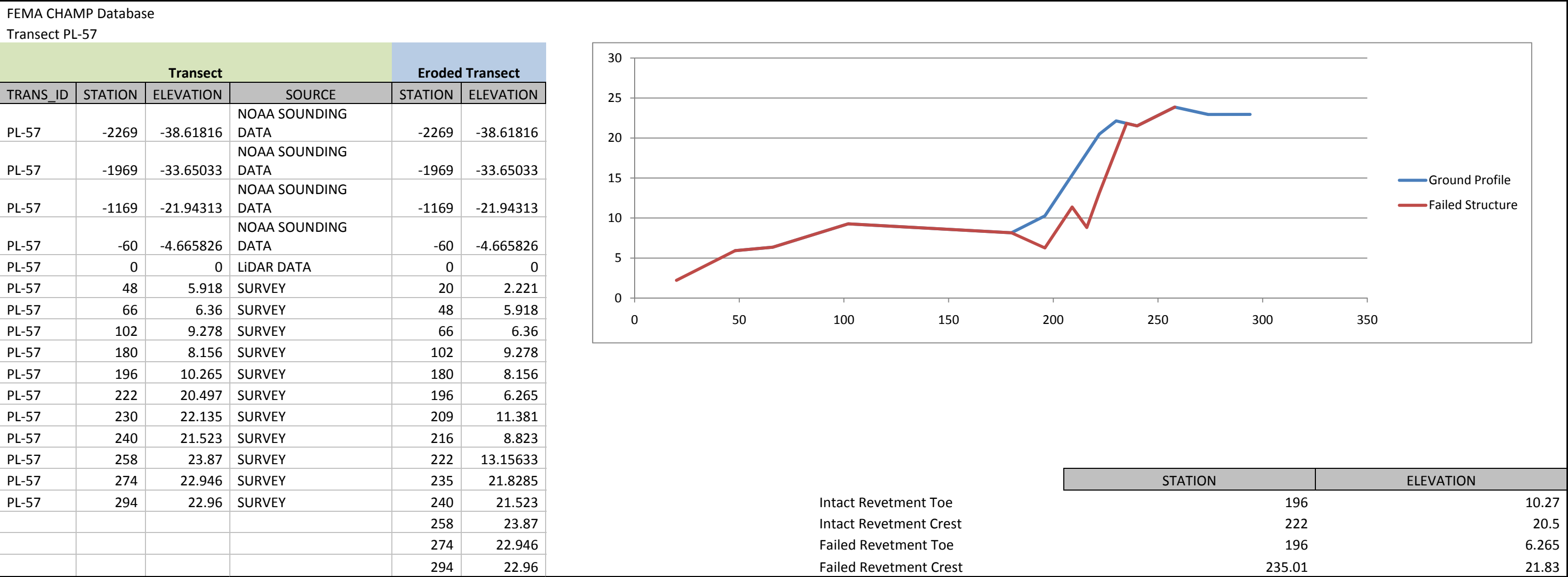
Interpolation for Toe and Top/SWEL Stations – Intact Structure

Intact Structure		Interpolation for Station @			
STATION	ELEVATION				
-2269	-38.61816				
-1969	-33.65033	-1969	-33.6503	11.7072	rise
-1169	-21.94313			800	run
-60	-4.665826	-1169	-21.9431	0.014634	slope
0	0			-1213.89	STATION
48	5.918				
66	6.36				
102	9.278				
180	8.156				
196	10.265				
222	20.497				
230	22.135	180	8.156	2.109	rise
240	21.523			16	run
258	23.87	196	10.265	0.131813	slope
274	22.946			190.1963	STATION
294	22.96				
320	20.934				
338	16.751				

Interpolation for Toe and Top/SWEL Stations – Failed Structure

Failed Structure		Interpolation for Station @			
STATION	ELEVATION				
-2269	-38.61816				
-1969	-33.65033	-1969	-33.6503	11.7072	rise
-1169	-21.94313			800	run
-60	-4.665826	-1169	-21.9431	0.014634	slope
0	0			-1213.89	STATION
20	2.221				
48	5.918				
66	6.36				
102	9.278				
180	8.156				
196	6.265				
209	11.381	196	6.265	5.116	rise
216	8.823			13	run
222	13.15633	209	11.381	0.393538	slope
235	21.8285			204.2203	STATION
240	21.523				
258	23.87				
274	22.946				
294	22.96				
320	20.934				
338	16.751				

Transect Data Used to Represent Failed Structure



Engineering Calculations

Transect PL-057		
Plymouth County		
Marshfield		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1213.89	
Top/SWEL Station	190.1963	
Average Transect Slope, m	0.022837	
1:ON	43.78954	
Average Shore Slope		
Average Beach Slope	0.049948	
1:ON	20.02066	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.20	4.23
Toe Structure Elevation (ft)	10.27	
Depth at Toe of Structure (ft)	0	
Pre-calculation for H _b	29.68913	
Pre-calculation for h _d	39.87573	
h/H _d	0	
R multiplier	1	
Setup with Structure (ft)	4.83	4.86
Total Water Level		14.32644
Wave Runup (Intact & Eroded)		
Runup 2% (ft)		
Method		

Overtopped		
Freeboard		
Structure		
Does Structure Exist	Yes	
Type of Structure	Revetment	
Toe Station	196	
Top Station	222	
Armor Depth (ft)		
Failed Structure Data		
Failed Structure Top Station	235.01	
Failed Structure Top Elev (ft)	21.83	
Failed Structure Toe Station	196	
Failed Structure Toe Elev (ft)	6.265	
Average Transect Slope, m	0.399	
Wave Setup Calculations (Failed Structures)		Comparison with FEMA Values
Depth at Toe of Structure (ft)	3.235	
Pre-calculation for Hb	29.68913	
Pre-calculation for hd	39.87573	
h/Hd	0.081127	
R multiplier	0.935098	
Setup with Failed Structure (ft)	5.00	5.07
Wave Runup (Failed Structure)		
Runup 2% (ft)	4.82	
Method	Runup 2.0	
Overtopped	No	
Freeboard	0	

WHAFIS and RUNUP 2.0 FILES

0.00

0.00

[illegible]

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)

Executed on: Fri Oct 11 10:21:28 2013

Input file: C:\Marshfield_CHAMP\Marshfield_WHG\WPL-057-DISF.dat

Output file: C:\Marshfield_CHAMP\Marshfield_WHG\WPL-057-DISF.out

- Transect: PL-057-DSIF Date: 10/11/2013

THIS IS A 100-YEAR CASE

PART1 INPUT

IE	0.000	0.000	0.000	0.000	14.570	49.800	10.650	0.000	0.111	0.000
IF	20.000	2.220	0.000	14.570	0.000	0.000	0.000	0.000	0.123	0.000
IF	48.000	5.920	0.000	14.570	0.000	0.000	0.000	0.000	0.090	0.000
IF	66.000	6.360	0.000	14.570	0.000	0.000	0.000	0.000	0.062	0.000
IF	102.000	9.280	0.000	14.570	0.000	0.000	0.000	0.000	0.016	0.000
DU	180.000	8.160	0.000	0.000	14.570	0.000	0.000	0.000	-0.032	0.000
DU	196.000	6.270	1.000	0.000	14.570	0.000	0.000	0.000	0.111	0.000
DU	209.000	11.380	1.000	0.000	14.570	0.000	0.000	0.000	0.127	0.000
DU	216.000	8.820	1.000	0.000	14.570	0.000	0.000	0.000	0.137	0.000
BU	222.000	13.160	0.400	8.000	0.000	14.570	0.000	0.000	0.723	0.000
AS	225.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	240.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	258.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	274.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	294.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	320.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	338.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	346.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	371.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	-0.070	0.000
BU	410.000	12.650	0.400	8.000	0.000	14.486	0.000	0.000	-0.038	0.000
BU	526.000	9.460	0.400	8.000	0.000	14.235	0.000	0.000	-0.014	0.000
BU	578.000	10.220	0.400	8.000	0.000	14.123	0.000	0.000	0.007	0.000
BU	628.000	10.150	0.400	8.000	0.000	14.015	0.000	0.000	0.008	0.000
BU	638.000	10.690	0.400	8.000	0.000	13.993	0.000	0.000	0.014	0.000
BU	644.000	10.380	0.400	8.000	0.000	13.980	0.000	0.000	0.005	0.000
BU	662.000	10.820	0.400	8.000	0.000	13.941	0.000	0.000	0.009	0.000
BU	672.000	10.630	0.400	8.000	0.000	13.920	0.000	0.000	-0.044	0.000
BU	676.000	10.210	0.400	8.000	0.000	13.911	0.000	0.000	-0.230	0.000
BU	684.000	7.870	0.400	8.000	0.000	13.894	0.000	0.000	-0.156	0.000
BU	694.000	7.400	0.400	8.000	0.000	13.872	0.000	0.000	-0.001	0.000
BU	730.000	7.830	0.400	8.000	0.000	13.794	0.000	0.000	-0.015	0.000
BU	780.000	6.090	0.400	8.000	0.000	13.686	0.000	0.000	-0.018	0.000
BU	794.000	6.710	0.400	8.000	0.000	13.656	0.000	0.000	-0.007	0.000
BU	802.000	5.930	0.400	8.000	0.000	13.639	0.000	0.000	-0.183	0.000
BU	806.000	4.520	0.400	8.000	0.000	13.630	0.000	0.000	-0.244	0.000
IF	810.000	3.980	0.000	13.621	0.000	0.000	0.000	0.000	-0.155	0.000
IF	812.000	3.590	0.000	13.617	0.000	0.000	0.000	0.000	-0.111	0.000
IF	846.000	0.000	0.000	13.543	0.000	0.000	0.000	0.000	-0.008	0.000
VH	1238.000	0.010	1.000	1.000	1.000	2.000	0.000	12.696	0.004	0.000

MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	1246.000	1.530	1.000	1.000	1.000	2.000	0.000	12.679	0.098	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
BU	1280.000	4.140	0.500	2.000	0.000	12.606	0.000	0.000	0.081	0.000
BU	1284.000	4.610	0.500	2.000	0.000	12.597	0.000	0.000	0.183	0.000
BU	1298.000	7.430	0.500	2.000	0.000	12.567	0.000	0.000	0.097	0.000
BU	1316.000	7.730	0.500	2.000	0.000	12.528	0.000	0.000	-0.013	0.000
BU	1320.000	7.150	0.500	2.000	0.000	12.519	0.000	0.000	0.011	0.000
BU	1330.000	7.880	0.500	2.000	0.000	12.497	0.000	0.000	0.004	0.000
BU	1344.000	7.240	0.500	2.000	0.000	12.467	0.000	0.000	-0.001	0.000
BU	1406.000	7.800	0.500	2.000	0.000	12.333	0.000	0.000	0.000	0.000
BU	1462.000	7.240	0.500	2.000	0.000	12.212	0.000	0.000	-0.014	0.000
BU	1480.000	6.730	0.500	2.000	0.000	12.173	0.000	0.000	-0.051	0.000
BU	1492.000	5.720	0.500	2.000	0.000	12.147	0.000	0.000	-0.124	0.000
VH	1494.000	4.990	1.000	1.000	1.000	2.000	0.000	12.143	-0.014	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	1894.000	0.190	1.000	1.000	1.000	2.000	0.000	11.279	-0.012	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	1896.000	0.000	0.000	11.274	0.000	0.000	0.000	0.000	-0.005	0.000
IF	1932.000	0.000	0.000	11.196	0.000	0.000	0.000	0.000	0.059	0.000
IF	1934.000	2.250	0.000	11.192	0.000	0.000	0.000	0.000	0.873	0.000
IF	1936.000	3.490	0.000	11.188	0.000	0.000	0.000	0.000	0.512	0.000
VH	1938.000	4.300	1.000	1.000	1.000	2.000	0.000	11.184	-0.001	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	2156.000	3.280	1.000	1.000	1.000	2.000	0.000	10.712	0.000	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	2160.000	4.350	0.000	10.704	0.000	0.000	0.000	0.000	-0.036	0.000
IF	2166.000	2.920	0.000	10.691	0.000	0.000	0.000	0.000	-0.108	0.000
IF	2168.000	3.490	0.000	10.686	0.000	0.000	0.000	0.000	0.075	0.000
VH	2172.000	3.370	1.000	1.000	1.000	2.000	0.000	10.678	0.001	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	3212.000	4.250	1.000	1.000	1.000	2.000	0.000	8.430	0.003	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VE	3226.000	6.820	0.500	15.000	10.000	0.000	0.000	8.400	0.184	0.000
AS	3240.000	9.600	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3248.000	9.930	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3254.000	11.090	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3262.000	11.100	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3266.000	11.670	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3274.000	11.470	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3280.000	12.470	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3290.000	12.840	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3304.000	14.070	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000

AS	3316.000	14.240	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3318.000	13.780	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3331.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3342.000	15.350	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3352.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3354.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3380.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3382.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3386.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3416.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3430.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3438.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3444.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3470.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3506.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3534.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3548.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3564.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3578.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3632.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	3656.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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IE	END STATION	END ELEVATION	FETCH LENGTH	SURGE 10-YEAR	ELEV 100-YEAR	SURGE 100-YEAR	INITIAL WAVE HEIGHT	INITIAL W. PERIOD		BOTTOM SLOPE	AVERAGE A-ZONES
	0.000	0.000	0.000	0.000	14.570		49.800	10.650	0.000	0.111	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	20.000	2.220	0.000	14.570	0.000		0.000	0.000	0.000	0.123	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	48.000	5.920	0.000	14.570	0.000		0.000	0.000	0.000	0.090	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	66.000	6.360	0.000	14.570	0.000		0.000	0.000	0.000	0.062	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	102.000	9.280	0.000	14.570	0.000		0.000	0.000	0.000	0.016	0.000
	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

DU	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR				SLOPE	A-ZONES
	180.000	8.160	0.000	0.000	14.570	0.000	0.000	0.000	-0.032	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	196.000	6.270	1.000	0.000	14.570	0.000	0.000	0.000	0.111	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	209.000	11.380	1.000	0.000	14.570	0.000	0.000	0.000	0.127	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	216.000	8.820	1.000	0.000	14.570	0.000	0.000	0.000	0.137	0.000
BU	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	222.000	13.160	0.400	8.000	0.000	14.570	0.000	0.000	0.723	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	225.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	240.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	258.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	274.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	294.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	320.000	15.370	0.000	14.570	0.000	0.000	0.000	0.000	0.723	0.000
AS	END STATION 338.000	END ELEVATION 15.370	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.570	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.723	AVERAGE A-ZONES 0.000
AS	END STATION 346.000	END ELEVATION 15.370	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.570	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.723	AVERAGE A-ZONES 0.000
AS	END STATION 371.000	END ELEVATION 15.370	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.570	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.070	AVERAGE A-ZONES 0.000
BU	END STATION 410.000	END ELEVATION 12.650	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.486	0.000	0.000	BOTTOM SLOPE -0.038	AVERAGE A-ZONES 0.000
BU	END STATION 526.000	END ELEVATION 9.460	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.235	0.000	0.000	BOTTOM SLOPE -0.014	AVERAGE A-ZONES 0.000
BU	END STATION 578.000	END ELEVATION 10.220	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.123	0.000	0.000	BOTTOM SLOPE 0.007	AVERAGE A-ZONES 0.000
BU	END STATION 628.000	END ELEVATION 10.150	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.015	0.000	0.000	BOTTOM SLOPE 0.008	AVERAGE A-ZONES 0.000
BU	END STATION 638.000	END ELEVATION 10.690	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.993	0.000	0.000	BOTTOM SLOPE 0.014	AVERAGE A-ZONES 0.000
BU	END STATION 644.000	END ELEVATION 10.380	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.980	0.000	0.000	BOTTOM SLOPE 0.005	AVERAGE A-ZONES 0.000
BU	END STATION 662.000	END ELEVATION 10.820	OPEN SPACE RATIO 0.400	NO. OF ROWS 8.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.941	0.000	0.000	BOTTOM SLOPE 0.009	AVERAGE A-ZONES 0.000

BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	672.000	10.630		0.400	8.000	0.000	13.920	0.000	0.000	-0.044	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	676.000	10.210		0.400	8.000	0.000	13.911	0.000	0.000	-0.230	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	684.000	7.870		0.400	8.000	0.000	13.894	0.000	0.000	-0.156	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	694.000	7.400		0.400	8.000	0.000	13.872	0.000	0.000	-0.001	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	730.000	7.830		0.400	8.000	0.000	13.794	0.000	0.000	-0.015	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	780.000	6.090		0.400	8.000	0.000	13.686	0.000	0.000	-0.018	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	794.000	6.710		0.400	8.000	0.000	13.656	0.000	0.000	-0.007	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	802.000	5.930		0.400	8.000	0.000	13.639	0.000	0.000	-0.183	0.000
BU	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	806.000	4.520		0.400	8.000	0.000	13.630	0.000	0.000	-0.244	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR						BOTTOM SLOPE	AVERAGE A-ZONES
	810.000	3.980	0.000	13.621		0.000	0.000	0.000	0.000	-0.155	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	812.000	3.590	0.000	13.617	0.000	0.000	0.000	0.000	-0.111	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	846.000	0.000	0.000	13.543	0.000	0.000	0.000	0.000	-0.008	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1238.000	0.010	1.000	1.000	1.000	2.000	0.000	12.696	0.004	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

 PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1246.000	1.530	1.000	1.000	1.000	2.000	0.000	12.679	0.098	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

MG	PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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BU	END STATION 1280.000	END ELEVATION 4.140	OPEN	SPACE RATIO 0.500	NO. OF ROWS 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.606	0.000	0.000	BOTTOM SLOPE 0.081	AVERAGE A-ZONES 0.000
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BU	END STATION 1284.000	END ELEVATION 4.610	OPEN	SPACE RATIO 0.500	NO. OF ROWS 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.597	0.000	0.000	BOTTOM SLOPE 0.183	AVERAGE A-ZONES 0.000
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BU	END STATION 1298.000	END ELEVATION 7.430	OPEN	SPACE RATIO 0.500	NO. OF ROWS 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.567	0.000	0.000	BOTTOM SLOPE 0.097	AVERAGE A-ZONES 0.000
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BU	END STATION 1316.000	END ELEVATION 7.730	OPEN	SPACE RATIO 0.500	NO. OF ROWS 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.528	0.000	0.000	BOTTOM SLOPE -0.013	AVERAGE A-ZONES 0.000
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BU	END STATION 1320.000	END ELEVATION 7.150	OPEN	SPACE RATIO 0.500	NO. OF ROWS 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 12.519	0.000	0.000	BOTTOM SLOPE 0.011	AVERAGE A-ZONES 0.000
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	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
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BU	1330.000	7.880	0.500	2.000	0.000	12.497	0.000	0.000	0.004	0.000
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	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1344.000	7.240		0.500	2.000	0.000	12.467	0.000	0.000	-0.001 0.000

	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1406.000	7.800		0.500	2.000	0.000	12.333	0.000	0.000	0.000 0.000

	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1462.000	7.240		0.500	2.000	0.000	12.212	0.000	0.000	-0.014 0.000

	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1480.000	6.730		0.500	2.000	0.000	12.173	0.000	0.000	-0.051 0.000

	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1492.000	5.720		0.500	2.000	0.000	12.147	0.000	0.000	-0.124 0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1494.000	4.990	1.000	1.000	1.000	2.000	0.000	12.143	-0.014	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

PLANT TYPE SPAT	DRAW COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1894.000	0.190	1.000	1.000	1.000	2.000	0.000	11.279	-0.012	0.000

MG	PLANT TYPE SALT	DRAW COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAW COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALT	DRAW COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAW COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1896.000	0.000	0.000	11.274	0.000	0.000	0.000	0.000	-0.005	0.000

IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1932.000	0.000	0.000	11.196	0.000	0.000	0.000	0.000	0.059	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	1934.000	2.250	0.000	11.192	0.000	0.000	0.000	0.000	0.873	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	1936.000	3.490	0.000	11.188	0.000	0.000	0.000	0.000	0.512	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1938.000	4.300	1.000	1.000	1.000	2.000	0.000	11.184	-0.001	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2156.000	3.280	1.000	1.000	1.000	2.000	0.000	10.712	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	2160.000	4.350	0.000	10.704	0.000	0.000	0.000	0.000	-0.036	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	2166.000	2.920	0.000	10.691	0.000	0.000	0.000	0.000	-0.108	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	2168.000	3.490	0.000	10.686	0.000	0.000	0.000	0.000	0.075	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2172.000	3.370	1.000	1.000	1.000	2.000	0.000	10.678	0.001	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	3212.000	4.250	1.000	1.000	1.000	2.000	0.000	8.430	0.003	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

VE	END STATION 3226.000	END ELEVATION 6.820	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3240.000	END ELEVATION 9.600	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3248.000	END ELEVATION 9.930	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3254.000	END ELEVATION 11.090	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3262.000	END ELEVATION 11.100	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3266.000	END ELEVATION 11.670	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3274.000	END ELEVATION 11.470	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3280.000	END ELEVATION 12.470	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3290.000	END ELEVATION 12.840	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
AS	END STATION 3304.000	END ELEVATION 14.070	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.184	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	3316.000	14.240	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3318.000	13.780	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3331.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3342.000	15.350	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3352.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3354.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3380.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3382.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3386.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3416.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	3430.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3438.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3444.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3470.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3506.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3534.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3548.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3564.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3578.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3632.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3656.000	15.370	0.000	8.400	0.000	0.000	0.000	0.000	0.184	0.000

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

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

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

LOCATION		CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE	0.00	10.93	10.65	22.22
IF	20.00	9.32	10.65	21.09
IF	48.00	6.59	10.65	19.18
IF	66.00	6.26	10.65	18.95
IF	102.00	4.07	10.65	17.42
DU	180.00	4.07	10.65	17.42
DU	196.00	4.07	10.65	17.42
DU	209.00	3.27	10.65	16.86
DU	216.00	3.27	10.65	16.86
BU	222.00	0.08	10.65	14.63
AS	225.00	0.00	0.00	15.37
AS	240.00	0.00	0.00	15.37
AS	258.00	0.00	0.00	15.37
AS	274.00	0.00	0.00	15.37
AS	294.00	0.00	0.00	15.37
AS	320.00	0.00	0.00	15.37
AS	338.00	0.00	0.00	15.37

AS	346.00	0.00	0.00	15.37
AS	371.00	0.00	0.00	15.37
BU	410.00	0.00	0.00	14.49
BU	526.00	0.00	0.00	14.23
BU	578.00	0.00	0.00	14.12
BU	628.00	0.00	0.00	14.02
BU	638.00	0.00	0.00	13.99
BU	644.00	0.00	0.00	13.98
BU	662.00	0.00	0.00	13.94
BU	672.00	0.00	0.00	13.92
BU	676.00	0.00	0.00	13.91
BU	684.00	0.00	0.00	13.89
BU	694.00	0.00	0.00	13.87
BU	730.00	0.00	0.00	13.79
BU	780.00	0.00	0.00	13.69
BU	794.00	0.00	0.00	13.66
BU	802.00	0.00	0.00	13.64
BU	806.00	0.00	0.00	13.63
IF	810.00	0.04	0.23	13.65
IF	812.00	0.05	0.27	13.65
IF	846.00	0.18	0.49	13.67
	956.00	0.43	0.77	13.61
	1116.00	0.70	0.98	13.45
VH	1238.00	0.87	1.09	13.30
VH	1246.00	0.88	1.10	13.29

BU	1280.00	0.44	1.10	12.91
BU	1284.00	0.22	1.10	12.75
BU	1298.00	0.11	1.10	12.64
BU	1316.00	0.05	1.10	12.57
BU	1320.00	0.03	1.10	12.54
BU	1330.00	0.01	1.10	12.51
BU	1344.00	0.01	1.10	12.47
BU	1406.00	0.00	1.10	12.34
BU	1462.00	0.00	1.10	12.21
BU	1480.00	0.00	1.10	12.17
BU	1492.00	0.00	1.10	12.15
VH	1494.00	0.09	1.10	12.20
	1614.00	0.66	1.19	12.35
	1734.00	0.93	1.27	12.28
VH	1894.00	1.20	1.36	12.12
IF	1896.00	1.20	1.36	12.12
IF	1932.00	1.25	1.38	12.07
IF	1934.00	1.26	1.38	12.07
IF	1936.00	1.26	1.38	12.07
VH	1938.00	1.27	1.38	12.07
	2088.00	1.46	1.46	11.88
VH	2156.00	1.53	1.49	11.78
IF	2160.00	1.53	1.49	11.78
IF	2166.00	1.54	1.49	11.77
IF	2168.00	1.55	1.49	11.77
VH	2172.00	1.55	1.49	11.76

	2322.00	1.70	1.56	11.55
	2482.00	1.84	1.62	11.30
	2642.00	1.96	1.68	11.04
	2802.00	2.06	1.73	10.76
	2962.00	2.10	1.78	10.44
VH	3212.00	2.09	1.85	9.90
VE	3226.00	1.07	1.85	9.15
AS	3240.00	0.00	0.00	9.60
AS	3248.00	0.00	0.00	9.93
AS	3254.00	0.00	0.00	11.09
AS	3262.00	0.00	0.00	11.10
AS	3266.00	0.00	0.00	11.67
AS	3274.00	0.00	0.00	11.47
AS	3280.00	0.00	0.00	12.47
AS	3290.00	0.00	0.00	12.84
AS	3304.00	0.00	0.00	14.07
AS	3316.00	0.00	0.00	14.24
AS	3318.00	0.00	0.00	13.78
AS	3331.00	0.00	0.00	15.37
AS	3342.00	0.00	0.00	15.35
AS	3352.00	0.00	0.00	15.37
AS	3354.00	0.00	0.00	15.37
AS	3380.00	0.00	0.00	15.37
AS	3382.00	0.00	0.00	15.37
AS	3386.00	0.00	0.00	15.37

AS	3416.00	0.00	0.00	15.37
AS	3430.00	0.00	0.00	15.37
AS	3438.00	0.00	0.00	15.37
AS	3444.00	0.00	0.00	15.37
AS	3470.00	0.00	0.00	15.37
AS	3506.00	0.00	0.00	15.37
AS	3534.00	0.00	0.00	15.37
AS	3548.00	0.00	0.00	15.37
AS	3564.00	0.00	0.00	15.37
AS	3578.00	0.00	0.00	15.37
AS	3632.00	0.00	0.00	15.37
AS	3656.00	0.00	0.00	15.37

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

BETWEEN	222.00	AND	225.00
BETWEEN	225.00	AND	240.00
BETWEEN	240.00	AND	258.00
BETWEEN	258.00	AND	274.00
BETWEEN	274.00	AND	294.00
BETWEEN	294.00	AND	320.00
BETWEEN	320.00	AND	338.00
BETWEEN	338.00	AND	346.00
BETWEEN	346.00	AND	371.00
BETWEEN	3226.00	AND	3240.00
BETWEEN	3240.00	AND	3248.00
BETWEEN	3248.00	AND	3254.00

BETWEEN	3254.00	AND	3262.00
BETWEEN	3262.00	AND	3266.00
BETWEEN	3266.00	AND	3274.00
BETWEEN	3274.00	AND	3280.00
BETWEEN	3280.00	AND	3290.00
BETWEEN	3290.00	AND	3304.00
BETWEEN	3304.00	AND	3316.00
BETWEEN	3316.00	AND	3318.00
BETWEEN	3318.00	AND	3331.00
BETWEEN	3331.00	AND	3342.00
BETWEEN	3342.00	AND	3352.00
BETWEEN	3352.00	AND	3354.00
BETWEEN	3354.00	AND	3380.00
BETWEEN	3380.00	AND	3382.00
BETWEEN	3382.00	AND	3386.00
BETWEEN	3386.00	AND	3416.00
BETWEEN	3416.00	AND	3430.00
BETWEEN	3430.00	AND	3438.00
BETWEEN	3438.00	AND	3444.00
BETWEEN	3444.00	AND	3470.00
BETWEEN	3470.00	AND	3506.00
BETWEEN	3506.00	AND	3534.00
BETWEEN	3534.00	AND	3548.00
BETWEEN	3548.00	AND	3564.00
BETWEEN	3564.00	AND	3578.00

BETWEEN 3578.00 AND 3632.00

BETWEEN 3632.00 AND 3656.00

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
410.00	0.00	14.49
526.00	0.00	14.23
578.00	0.00	14.12
628.00	0.00	14.02
638.00	0.00	13.99
644.00	0.00	13.98
662.00	0.00	13.94
672.00	0.00	13.92
676.00	0.00	13.91
684.00	0.00	13.89
694.00	0.00	13.87
730.00	0.00	13.79
780.00	0.00	13.69
794.00	0.00	13.66
802.00	0.00	13.64
806.00	0.00	13.63
810.00	0.00	13.62
812.00	0.00	13.62
846.00	0.00	13.54
1238.00	0.00	12.70
1246.00	0.00	12.68

1280.00	0.00	12.61
1284.00	0.00	12.60
1298.00	0.00	12.57
1316.00	0.00	12.53
1320.00	0.00	12.52
1330.00	0.00	12.50
1344.00	0.00	12.47
1406.00	0.00	12.33
1462.00	0.00	12.21
1480.00	0.00	12.17
1492.00	0.00	12.15
1494.00	0.00	12.14
1894.00	0.00	11.28
1896.00	0.00	11.27
1932.00	0.00	11.20
1934.00	0.00	11.19
1936.00	0.00	11.19
1938.00	0.00	11.18
2156.00	0.00	10.71
2160.00	0.00	10.70
2166.00	0.00	10.69
2168.00	0.00	10.69
2172.00	0.00	10.68
3212.00	0.00	8.43
3226.00	0.00	8.40

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
216.50	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
0.00	22.22		
		V30 EL=22	200
12.80	21.50		
		V30 EL=21	200
28.71	20.50		
		V30 EL=20	200
43.37	19.50		
		V30 EL=19	200
76.65	18.50		
		V30 EL=18	200
100.07	17.50		
		V30 EL=17	200
216.50	16.67		
		A22 EL=17	120
216.96	16.50		
		A22 EL=16	120
219.65	15.50		
		A22 EL=15	120

222.00	14.63			
225.00	15.37			
240.00	15.37			
258.00	15.37			
274.00	15.37			
294.00	15.37			
320.00	15.37			
338.00	15.37			
346.00	15.37			
371.00	15.37			
		A22	EL=15	120
409.38	14.50			
		A22	EL=14	120
410.00	14.49			
		A22	EL=14	120
526.00	14.23			
		A22	EL=14	120
578.00	14.12			
		A22	EL=14	120
628.00	14.02			
		A22	EL=14	120

638.00	13.99			
		A22	EL=14	120
644.00	13.98			
		A22	EL=14	120
662.00	13.94			
		A22	EL=14	120
672.00	13.92			
		A22	EL=14	120
676.00	13.91			
		A22	EL=14	120
684.00	13.89			
		A22	EL=14	120
694.00	13.87			
		A22	EL=14	120
730.00	13.79			
		A22	EL=14	120
780.00	13.69			
		A22	EL=14	120
794.00	13.66			
		A22	EL=14	120
802.00	13.64			
		A22	EL=14	120
806.00	13.63			
		A22	EL=14	120
810.00	13.65			
		A22	EL=14	120

812.00	13.65			
		A22	EL=14	120
846.00	13.67			
		A22	EL=14	120
1062.80	13.50			
		A22	EL=13	120
1238.00	13.30			
		A22	EL=13	120
1246.00	13.29			
		A22	EL=13	120
1280.00	12.91			
		A22	EL=13	120
1284.00	12.75			
		A22	EL=13	120
1298.00	12.64			
		A22	EL=13	120
1316.00	12.57			
		A22	EL=13	120
1320.00	12.54			
		A22	EL=13	120
1330.00	12.51			
		A22	EL=13	120
1332.66	12.50			
		A22	EL=12	120
1344.00	12.47			

		A22	EL=12	120
1406.00	12.34			
		A22	EL=12	120
1462.00	12.21			
		A22	EL=12	120
1480.00	12.17			
		A22	EL=12	120
1492.00	12.15			
		A22	EL=12	120
1494.00	12.20			
		A22	EL=12	120
1894.00	12.12			
		A22	EL=12	120
1896.00	12.12			
		A22	EL=12	120
1932.00	12.07			
		A22	EL=12	120
1934.00	12.07			
		A22	EL=12	120
1936.00	12.07			
		A22	EL=12	120
1938.00	12.07			
		A22	EL=12	120
2156.00	11.78			
		A22	EL=12	120
2160.00	11.78			

		A22	EL=12	120
2166.00	11.77			
		A22	EL=12	120
2168.00	11.77			
		A22	EL=12	120
2172.00	11.76			
		A22	EL=12	120
2351.44	11.50			
		A22	EL=11	120
2932.73	10.50			
		A22	EL=10	120
3212.00	9.90			
		A22	EL=10	120
3219.42	9.50			
		A22	EL= 9	120
3226.00	9.15			
3240.00	9.60			
3248.00	9.93			
3254.00	11.09			
3262.00	11.10			
3266.00	11.67			
3274.00	11.47			

3280.00	12.47
3290.00	12.84
3304.00	14.07
3316.00	14.24
3318.00	13.78
3331.00	15.37
3342.00	15.35
3352.00	15.37
3354.00	15.37
3380.00	15.37
3382.00	15.37
3386.00	15.37
3416.00	15.37
3430.00	15.37
3438.00	15.37
3444.00	15.37
3470.00	15.37

3506.00	15.37
3534.00	15.37
3548.00	15.37
3564.00	15.37
3578.00	15.37
3632.00	15.37
3656.00	15.37

ZONE TERMINATED AT END OF TRANSECT

PART 7 POSTSCRIPT NOTES

2013-0127

PL-057-DISF

50.0

-38.6	-2269.	1.
-4.7	-60.	1.
9.3	102.	1.
6.3	196.	1.
8.8	216.	1.
23.9	258.	1.
12.7	410.	1.
10.6	672.	1.
6.7	794.	1.
.	846.	1.
.	1238.	1.
7.9	1330.	1.
.	1932.	1.
4.3	1938.	1.
4.3	3212.	1.
11.1	3254.	1.
15.5	3332.	1.
1	27.6	3656. 1.
9.5	18.5	8.6
9.5	18.5	9.1
9.5	18.5	9.5
9.5	19.5	8.6
9.5	19.5	9.1
9.5	19.5	9.5
9.5	20.4	8.6
9.5	20.4	9.1
9.5	20.4	9.5

CLIENT-
PROJECT-
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** WAVE RUNUP-VERSION 2.0 **

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JOB 2013-0127
RUN PL-0 PAGE

*

CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2269.0	-38.0		
			66.34	1.00
2	-60.0	-4.7		
			11.57	1.00
3	102.0	9.3		
			-31.33	1.00
4	196.0	6.3		
			8.00	1.00
5	216.0	8.8		
			2.78	1.00
6	258.0	23.9		
			-13.57	1.00
7	410.0	12.7		
			-124.76	1.00
8	672.0	10.6		
			-31.28	1.00
9	794.0	6.7		
			-7.76	1.00
10	846.0	.0		
			FLAT	1.00
11	1238.0	.0		
			11.65	1.00
12	1330.0	7.9		
			-76.20	1.00
13	1932.0	.0		
			1.40	1.00
14	1938.0	4.3		
			FLAT	1.00
15	3212.0	4.3		
			6.18	1.00
16	3254.0	11.1		
			17.73	1.00

17	3332.0	15.5			
			26.78	1.00	
18	3656.0	27.6			
		LAST SLOPE	50.00	LAST ROUGHNESS	1.00

CLIENT-
PROJECT-
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** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

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OUTPUT TABLE

INPUT PARAMETERS

RUNUP RESULTS

WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	1	5	2.22	27.69
9.50	18.50	9.10	1	5	2.04	28.09
9.50	18.50	9.50	1	5	2.04	28.41
9.50	19.50	8.60	1	5	2.14	29.00
9.50	19.50	9.10	1	5	2.14	29.41
9.50	19.50	9.50	1	5	2.14	29.74
9.50	20.40	8.60	1	5	2.24	30.17
9.50	20.40	9.10	1	5	2.24	30.60
9.50	20.40	9.50	1	5	2.24	30.93

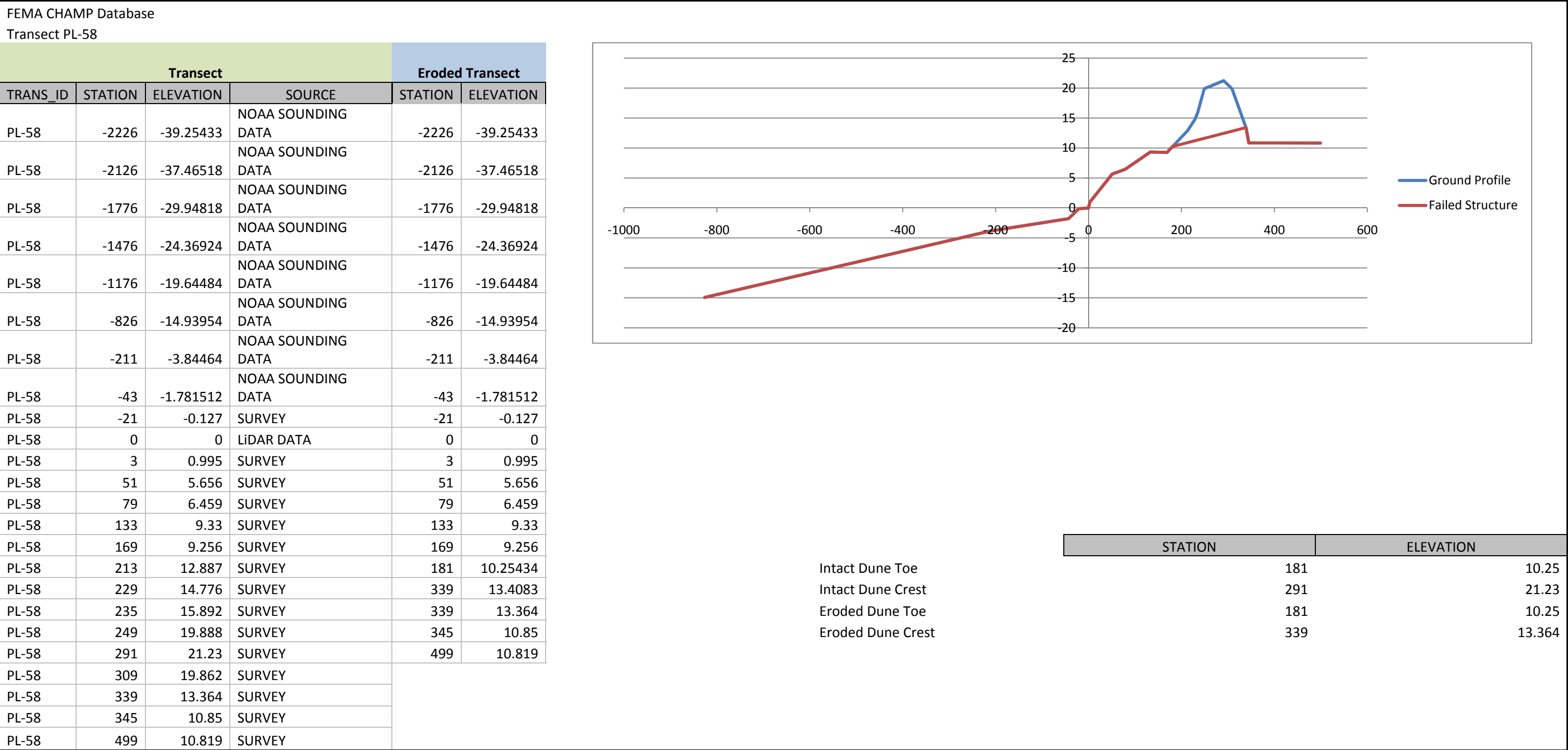
ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-058

Interpolation for Toe and Top/SWEL Stations – Eroded Profile

Eroded Profile		Interpolation for Station @			
STATION	ELEVATION				
-2226	-39.25433				
-2126	-37.46518	-1476	-24.3692	4.7244	rise
-1776	-29.94818			300	run
-1476	-24.36924	-1176	-19.6448	0.015748	slope
-1176	-19.64484			-1363.65	STATION
-826	-14.93954				
-211	-3.84464				
-43	-1.781512				
-21	-0.127				
0	0				
3	0.995				
51	5.656	169	9.256	0.99834	rise
79	6.459			12	run
133	9.33	181	10.25434	0.083195	slope
169	9.256			171.9329	STATION
181	10.25434				
339	13.4083				
339	13.364				

Transect Data Used to Represent Eroded Dune



Engineering Calculations

Transect PL-058		
Plymouth County		
Marshfield		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1363.65	
Top/SWEL Station	171.933	
Average Transect Slope, m	0.020881	
1:ON	47.89055	
Average Shore Slope		
Average Beach Slope	0.055254	
1:ON	18.09821	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.12	4.15
Toe Structure Elevation (ft)		
Depth at Toe of Structure (ft)		
Pre-calculation for H _b		
Pre-calculation for h _d		
h/H _d		
R multiplier		
Setup with Structure (ft)		
Total Water Level		13.62243
Wave Runup (Intact & Eroded)		
Runup 2% (ft)	4.91	
Method	Runup	

Overtopped	2.0 Yes	AO (1 ft)
Freeboard	1.01	
Structure		
Does Structure Exist	No	
Type of Structure		
Toe Station		
Top Station		
Armor Depth (ft)		
Failed Structure Data		
Failed Structure Top Station		
Failed Structure Top Elev (ft)		
Failed Structure Toe Station		
Failed Structure Toe Elev (ft)		
Avearge Transect Slope, m		
Wave Setup Calculations (Failed Structures)		Comparison with FEMA Values
Depth at Toe of Structure (ft)		
Pre-calculation for Hb		
Pre-calculation for hd		
h/Hd		
R multiplier		
Setup with Failed Structure (ft)		
Wave Runup (Failed Strucutre)		
Runup 2% (ft)		
Method		
Overtopped		
Freeboard		

WHAFIS and RUNUP 2.0 FILES

0.00

0.00

AS	3141	10.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3171	11.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3183	11.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3187	11.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3193	10.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3221	11.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3237	10.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3241	11.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3249	10.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3259	11.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3267	10.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3287	10.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3301	11.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3345	10.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BU	3365	7.77	0.75	2	0.00	0.00	0.00	0.00	0.00
BU	3385	6.37	0.75	2	0.00	0.00	0.00	0.00	0.00
BU	3395	6.41	0.75	2	0.00	0.00	0.00	0.00	0.00
BU	3397	5.85	0.75	2	0.00	0.00	0.00	0.00	0.00
IF	3417	5.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3425	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3453	6.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3465	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3481	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3487	5.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3497	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3509	7.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3529	6.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3539	6.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3555	5.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3565	6.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3567	5.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3573	5.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3577	6.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3583	6.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3591	5.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3607	6.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3617	6.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3623	6.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3633	5.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3643	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3651	6.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3677	5.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3749	8.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3777	8.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3821	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3841	10.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3849	10.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3859	10.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3879	10.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3913	10.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3951	9.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VE	4011	7.30	0.5	15	10	0.00	0.00	0.00	0.00
VE	4013	6.94	0.5	15	10	0.00	0.00	0.00	0.00
VE	4015	7.24	0.5	15	10	0.00	0.00	8.4	0.00
VE	4019	6.56	0.5	15	10	0.00	0.00	0.00	0.00
VE	4029	6.18	0.5	15	10	0.00	0.00	0.00	0.00
VE	4037	5.03	0.5	15	10	0.00	0.00	0.00	0.00
VH	4039	5.03	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
VH	4525	6.06	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00

VE	4535	6.16	0.5	15	10	0.00	0.00	0.00	0.00
VE	4545	6.50	0.5	15	10	0.00	0.00	0.00	0.00
VH	4555	6.22	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
VH	4673	7.03	1	0.00	1	2	0.00	0.00	0.00
MG	SALM	0.00	0.00	1.39	45	0.0184	0.0184	0.0184	0.00
MG	SPAT	0.00	0.00	1.03	409	0.0025	0.0025	0.0025	0.00
VE	4687	6.48	0.5	15	10	0.00	0.00	0.00	0.00
VE	4691	6.28	0.5	15	10	0.00	0.00	0.00	0.00
VE	4741	7.04	0.5	15	10	0.00	0.00	0.00	0.00
VE	4745	6.74	0.5	15	10	0.00	0.00	0.00	0.00
VE	4763	6.84	0.5	15	10	0.00	0.00	0.00	0.00
VE	4769	7.27	0.5	15	10	0.00	0.00	0.00	0.00
VE	4795	7.36	0.5	15	10	0.00	0.00	0.00	0.00
VE	4799	7.86	0.5	15	10	0.00	0.00	0.00	0.00
VE	4805	7.77	0.5	15	10	0.00	0.00	0.00	0.00
VE	4809	8.18	0.5	15	10	0.00	0.00	0.00	0.00
VE	4819	8.14	0.5	15	10	0.00	0.00	0.00	0.00
VE	4825	7.68	0.5	15	10	0.00	0.00	0.00	0.00
AS	4831	8.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4843	8.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4853	8.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4857	8.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4861	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4869	8.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4879	10.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4885	9.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4889	9.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4903	9.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4911	10.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4915	10.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4919	10.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4923	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4935	9.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4939	11.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4943	12.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4964	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	4987	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5001	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5007	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5019	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5067	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5075	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5089	14.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5113	12.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5145	11.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5161	11.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VE	5197	4.50	0.5	15	10	0.00	0.00	8.4	0.00
VE	5207	7.03	0.5	15	10	0.00	0.00	0.00	0.00
VE	5211	7.63	0.5	15	10	0.00	0.00	0.00	0.00
VE	5215	7.52	0.5	15	10	0.00	0.00	0.00	0.00
VE	5219	8.38	0.5	15	10	0.00	0.00	0.00	0.00
AS	5227	9.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5249	9.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5263	9.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5267	9.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5295	9.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VE	5313	7.00	0.5	15	10	0.00	0.00	0.00	0.00
VE	5357	8.05	0.5	15	10	0.00	0.00	0.00	0.00
VE	5365	7.51	0.5	15	10	0.00	0.00	0.00	0.00
VE	5381	7.50	0.5	15	10	0.00	0.00	0.00	0.00
VE	5389	6.95	0.5	15	10	0.00	0.00	0.00	0.00

[illegible]

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)

Executed on: Mon Oct 14 21:32:44 2013

Input file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-058-DISE.dat

Output file: C:\Marshfield_CHAMP\Marshfield_WHG\wPL-058-DISE.out

- Transect: PL-058-DISE Date: 10/14/2013

THIS IS A 100-YEAR CASE

PART1 INPUT

IE	0.000	0.000	0.000	0.000	13.620	49.800	10.650	0.000	0.333	0.000
IF	3.000	1.000	0.000	13.620	0.000	0.000	0.000	0.000	0.111	0.000
IF	51.000	5.660	0.000	13.620	0.000	0.000	0.000	0.000	0.072	0.000
IF	79.000	6.460	0.000	13.620	0.000	0.000	0.000	0.000	0.045	0.000
IF	133.000	9.330	0.000	13.620	0.000	0.000	0.000	0.000	0.031	0.000
IF	169.000	9.260	0.000	13.620	0.000	0.000	0.000	0.000	0.019	0.000
DU	181.000	10.250	0.000	0.000	13.620	0.000	0.000	0.000	0.024	0.000
DU	339.000	13.360	0.000	0.000	13.620	0.000	0.000	0.000	0.004	0.000
IF	345.000	10.850	0.000	13.620	0.000	0.000	0.000	0.000	-0.016	0.000
IF	499.000	10.820	0.000	13.620	0.000	0.000	0.000	0.000	-0.004	0.000
IF	559.000	9.950	0.000	13.620	0.000	0.000	0.000	0.000	0.010	0.000
IF	563.000	11.440	0.000	13.620	0.000	0.000	0.000	0.000	0.009	0.000
DU	679.000	11.070	0.000	0.000	13.620	0.000	0.000	0.000	-0.010	0.000
DU	759.000	9.520	0.000	0.000	13.620	0.000	0.000	0.000	-0.007	0.000
DU	805.000	10.170	0.000	0.000	13.620	0.000	0.000	0.000	-0.056	0.000
DU	849.000	4.480	0.000	0.000	13.620	0.000	0.000	0.000	-0.097	0.000
DU	865.000	4.360	0.000	0.000	13.620	0.000	0.000	0.000	0.079	0.000
DU	907.000	9.070	0.000	0.000	13.620	0.000	0.000	0.000	0.051	0.000
DU	923.000	7.330	0.000	0.000	13.620	0.000	0.000	0.000	-0.032	0.000
DU	933.000	8.230	0.000	0.000	13.620	0.000	0.000	0.000	-0.046	0.000
DU	981.000	4.650	0.000	0.000	13.620	0.000	0.000	0.000	-0.046	0.000
DU	1017.000	4.340	0.000	0.000	13.620	0.000	0.000	0.000	0.055	0.000
DU	1065.000	9.260	0.000	0.000	13.620	0.000	0.000	0.000	0.028	0.000
DU	1085.000	6.240	0.000	0.000	13.620	0.000	0.000	0.000	-0.078	0.000
DU	1115.000	5.380	0.000	0.000	13.620	0.000	0.000	0.000	0.072	0.000
DU	1147.000	10.670	0.000	0.000	13.620	0.000	0.000	0.000	-0.002	0.000
DU	1237.000	5.130	0.000	0.000	8.400	0.000	0.000	0.000	-0.057	0.000
VH	1259.000	4.290	1.000	0.000	1.000	2.000	0.000	8.400	-0.033	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	1363.000	0.930	1.000	0.000	1.000	2.000	0.000	8.400	-0.040	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	1367.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	-0.007	0.000
IF	1501.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	0.000	0.000
IF	1739.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000
VH	1741.000	0.400	1.000	0.000	1.000	2.000	0.000	8.400	0.000	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

VH	2517.000	0.040	1.000	0.000	1.000	2.000	0.000	8.400	-0.001	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	2541.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	-0.001	0.000
IF	2551.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	0.004	0.000
IF	2553.000	0.050	0.000	8.400	0.000	0.000	0.000	0.000	0.319	0.000
IF	2561.000	3.190	0.000	8.400	0.000	0.000	0.000	0.000	0.358	0.000
IF	2563.000	3.630	0.000	8.400	0.000	0.000	0.000	0.000	-0.033	0.000
VH	2573.000	2.790	1.000	0.000	1.000	2.000	0.000	8.400	0.009	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	2989.000	7.250	1.000	0.000	1.000	2.000	0.000	8.400	0.010	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VE	2999.000	7.230	0.500	15.000	10.000	0.000	0.000	8.400	0.002	0.000
VE	3023.000	7.310	0.500	15.000	10.000	0.000	0.000	8.400	0.017	0.000
VE	3041.000	7.940	0.500	15.000	10.000	0.000	0.000	8.400	0.035	0.000
AS	3055.000	8.890	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3089.000	8.770	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3103.000	9.540	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3109.000	10.330	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3111.000	10.030	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3135.000	10.770	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3141.000	10.460	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3171.000	11.410	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3183.000	11.090	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3187.000	11.320	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3193.000	10.840	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3221.000	11.320	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3237.000	10.940	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3241.000	11.360	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3249.000	10.780	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3259.000	11.070	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3267.000	10.650	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3287.000	10.620	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3301.000	11.390	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	3345.000	10.160	0.000	8.400	0.000	0.000	0.000	0.000	-0.119	0.000
BU	3365.000	7.770	0.750	2.000	0.000	8.400	0.000	0.000	-0.095	0.000
BU	3385.000	6.370	0.750	2.000	0.000	8.400	0.000	0.000	-0.045	0.000
BU	3395.000	6.410	0.750	2.000	0.000	8.400	0.000	0.000	-0.043	0.000
BU	3397.000	5.850	0.750	2.000	0.000	8.400	0.000	0.000	-0.036	0.000
IF	3417.000	5.620	0.000	8.400	0.000	0.000	0.000	0.000	-0.011	0.000
IF	3425.000	5.540	0.000	8.400	0.000	0.000	0.000	0.000	0.019	0.000
IF	3453.000	6.310	0.000	8.400	0.000	0.000	0.000	0.000	-0.005	0.000
IF	3465.000	5.330	0.000	8.400	0.000	0.000	0.000	0.000	-0.023	0.000
IF	3481.000	5.680	0.000	8.400	0.000	0.000	0.000	0.000	-0.009	0.000
IF	3487.000	5.130	0.000	8.400	0.000	0.000	0.000	0.000	-0.003	0.000
IF	3497.000	5.630	0.000	8.400	0.000	0.000	0.000	0.000	0.087	0.000
IF	3509.000	7.050	0.000	8.400	0.000	0.000	0.000	0.000	0.013	0.000
IF	3529.000	6.050	0.000	8.400	0.000	0.000	0.000	0.000	-0.021	0.000
IF	3539.000	6.420	0.000	8.400	0.000	0.000	0.000	0.000	-0.008	0.000

IF	3555.000	5.840	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
IF	3565.000	6.070	0.000	8.400	0.000	0.000	0.000	0.000	-0.018	0.000
IF	3567.000	5.630	0.000	8.400	0.000	0.000	0.000	0.000	-0.064	0.000
IF	3573.000	5.560	0.000	8.400	0.000	0.000	0.000	0.000	0.046	0.000
IF	3577.000	6.090	0.000	8.400	0.000	0.000	0.000	0.000	0.070	0.000
IF	3583.000	6.260	0.000	8.400	0.000	0.000	0.000	0.000	-0.027	0.000
IF	3591.000	5.710	0.000	8.400	0.000	0.000	0.000	0.000	0.004	0.000
IF	3607.000	6.360	0.000	8.400	0.000	0.000	0.000	0.000	0.012	0.000
IF	3617.000	6.010	0.000	8.400	0.000	0.000	0.000	0.000	-0.003	0.000
IF	3623.000	6.310	0.000	8.400	0.000	0.000	0.000	0.000	-0.026	0.000
IF	3633.000	5.590	0.000	8.400	0.000	0.000	0.000	0.000	-0.016	0.000
IF	3643.000	5.980	0.000	8.400	0.000	0.000	0.000	0.000	0.064	0.000
IF	3651.000	6.750	0.000	8.400	0.000	0.000	0.000	0.000	-0.002	0.000
IF	3677.000	5.930	0.000	8.400	0.000	0.000	0.000	0.000	0.017	0.000
IF	3749.000	8.390	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3777.000	8.720	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3821.000	10.370	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3841.000	10.200	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3849.000	10.630	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3859.000	10.250	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3879.000	10.180	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3913.000	10.320	0.000	8.400	0.000	0.000	0.000	0.000	0.034	0.000
AS	3951.000	9.470	0.000	8.400	0.000	0.000	0.000	0.000	-0.036	0.000
VE	4011.000	7.300	0.500	15.000	10.000	0.000	0.000	8.400	-0.041	0.000
VE	4013.000	6.940	0.500	15.000	10.000	0.000	0.000	8.400	-0.015	0.000
VE	4015.000	7.240	0.500	15.000	10.000	0.000	0.000	8.400	-0.063	0.000
VE	4019.000	6.560	0.500	15.000	10.000	0.000	0.000	8.400	-0.076	0.000
VE	4029.000	6.180	0.500	15.000	10.000	0.000	0.000	8.400	-0.085	0.000
VE	4037.000	5.030	0.500	15.000	10.000	0.000	0.000	8.400	-0.115	0.000
VH	4039.000	5.030	1.000	0.000	1.000	2.000	0.000	8.400	0.002	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	4525.000	6.060	1.000	0.000	1.000	2.000	0.000	8.400	0.002	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VE	4535.000	6.160	0.500	15.000	10.000	0.000	0.000	8.400	0.022	0.000
VE	4545.000	6.500	0.500	15.000	10.000	0.000	0.000	8.400	0.003	0.000
VH	4555.000	6.220	1.000	0.000	1.000	2.000	0.000	8.400	0.004	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	4673.000	7.030	1.000	0.000	1.000	2.000	0.000	8.400	0.002	0.000
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VE	4687.000	6.480	0.500	15.000	10.000	0.000	0.000	8.400	-0.042	0.000
VE	4691.000	6.280	0.500	15.000	10.000	0.000	0.000	8.400	0.010	0.000
VE	4741.000	7.040	0.500	15.000	10.000	0.000	0.000	8.400	0.009	0.000
VE	4745.000	6.740	0.500	15.000	10.000	0.000	0.000	8.400	-0.009	0.000
VE	4763.000	6.840	0.500	15.000	10.000	0.000	0.000	8.400	0.022	0.000
VE	4769.000	7.270	0.500	15.000	10.000	0.000	0.000	8.400	0.016	0.000
VE	4795.000	7.360	0.500	15.000	10.000	0.000	0.000	8.400	0.020	0.000
VE	4799.000	7.860	0.500	15.000	10.000	0.000	0.000	8.400	0.041	0.000

VE	4805.000	7.770	0.500	15.000	10.000	0.000	0.000	8.400	0.032	0.000
VE	4809.000	8.180	0.500	15.000	10.000	0.000	0.000	8.400	0.026	0.000
VE	4819.000	8.140	0.500	15.000	10.000	0.000	0.000	8.400	-0.031	0.000
VE	4825.000	7.680	0.500	15.000	10.000	0.000	0.000	8.400	-0.077	0.000
AS	4831.000	8.510	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4843.000	8.800	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4853.000	8.880	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4857.000	8.490	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4861.000	9.000	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4869.000	8.850	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4879.000	10.110	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4885.000	9.380	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4889.000	9.330	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4903.000	9.890	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4911.000	10.810	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4915.000	10.420	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4919.000	10.490	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4923.000	10.570	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4935.000	9.460	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4939.000	11.660	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4943.000	12.490	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4964.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	4987.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5001.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5007.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5019.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5067.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5075.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5089.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5113.000	12.270	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5145.000	11.790	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
AS	5161.000	11.490	0.000	8.400	0.000	0.000	0.000	0.000	-0.194	0.000
VE	5197.000	4.500	0.500	15.000	10.000	0.000	0.000	8.400	-0.097	0.000
VE	5207.000	7.030	0.500	15.000	10.000	0.000	0.000	8.400	0.224	0.000
VE	5211.000	7.630	0.500	15.000	10.000	0.000	0.000	8.400	0.061	0.000
VE	5215.000	7.520	0.500	15.000	10.000	0.000	0.000	8.400	0.094	0.000
VE	5219.000	8.380	0.500	15.000	10.000	0.000	0.000	8.400	0.215	0.000
AS	5227.000	9.080	0.000	8.400	0.000	0.000	0.000	0.000	0.215	0.000
AS	5249.000	9.620	0.000	8.400	0.000	0.000	0.000	0.000	0.215	0.000
AS	5263.000	9.330	0.000	8.400	0.000	0.000	0.000	0.000	0.215	0.000
AS	5267.000	9.670	0.000	8.400	0.000	0.000	0.000	0.000	0.215	0.000
AS	5295.000	9.030	0.000	8.400	0.000	0.000	0.000	0.000	-0.113	0.000
VE	5313.000	7.000	0.500	15.000	10.000	0.000	0.000	8.400	-0.016	0.000
VE	5357.000	8.050	0.500	15.000	10.000	0.000	0.000	8.400	0.010	0.000
VE	5365.000	7.510	0.500	15.000	10.000	0.000	0.000	8.400	-0.023	0.000
VE	5381.000	7.500	0.500	15.000	10.000	0.000	0.000	8.400	-0.023	0.000
VE	5389.000	6.950	0.500	15.000	10.000	0.000	0.000	8.400	-0.107	0.000
VE	5393.000	6.220	0.500	15.000	10.000	0.000	0.000	8.400	-0.004	0.000
VE	5405.000	6.880	0.500	15.000	10.000	0.000	0.000	8.400	0.023	0.000
VE	5419.000	6.830	0.500	15.000	10.000	0.000	0.000	8.400	0.024	0.000
IF	5423.000	7.310	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000

IF	5431.000	6.850	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000
IF	5435.000	7.340	0.000	8.400	0.000	0.000	0.000	0.000	0.015	0.000
IF	5447.000	7.090	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000
IF	5455.000	7.390	0.000	8.400	0.000	0.000	0.000	0.000	-0.053	0.000
IF	5469.000	5.920	0.000	8.400	0.000	0.000	0.000	0.000	-0.070	0.000
IF	5471.000	6.270	0.000	8.400	0.000	0.000	0.000	0.000	0.023	0.000
IF	5477.000	6.100	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5499.000	9.050	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5501.000	9.080	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5503.000	8.940	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5511.000	9.860	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5529.000	10.770	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5559.000	10.900	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5567.000	10.520	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5571.000	10.970	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5575.000	10.910	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5587.000	10.630	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5595.000	9.430	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5601.000	9.260	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5607.000	9.310	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5615.000	10.480	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5629.000	11.220	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5637.000	11.030	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5643.000	11.370	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5645.000	11.070	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5663.000	11.960	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5675.000	11.690	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5681.000	12.190	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5693.000	11.750	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5699.000	12.430	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5707.000	12.670	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5725.000	12.180	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5741.000	13.690	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5743.000	13.410	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5751.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5781.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	5787.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	END	END	FETCH	SURGE	ELEV	SURGE	ELEV	INITIAL	INITIAL		BOTTOM	AVERAGE
IE	STATION	ELEVATION	LENGTH	10-YEAR	100-YEAR	WAVE	HEIGHT	W. PERIOD			SLOPE	A-ZONES
	0.000	0.000	0.000	0.000	13.620	49.800		10.650	0.000		0.333	0.000
	END	END	NEW SURGE	NEW SURGE							BOTTOM	AVERAGE
IF	STATION	ELEVATION	10-YEAR	100-YEAR							SLOPE	A-ZONES
	3.000	1.000	0.000	13.620	0.000	0.000	0.000	0.000	0.000		0.111	0.000

IF	END STATION 51.000	END ELEVATION 5.660	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.072	AVERAGE A-ZONES 0.000
IF	END STATION 79.000	END ELEVATION 6.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.045	AVERAGE A-ZONES 0.000
IF	END STATION 133.000	END ELEVATION 9.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.031	AVERAGE A-ZONES 0.000
IF	END STATION 169.000	END ELEVATION 9.260	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.019	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 181.000	DUNE CREST ELEVATION 10.250	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	BOTTOM SLOPE 0.024	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 339.000	DUNE CREST ELEVATION 13.360	DUNE OR SEAWALL 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	BOTTOM SLOPE 0.004	AVERAGE A-ZONES 0.000
IF	END STATION 345.000	END ELEVATION 10.850	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.016	AVERAGE A-ZONES 0.000
IF	END STATION 499.000	END ELEVATION 10.820	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.004	AVERAGE A-ZONES 0.000
IF	END STATION 559.000	END ELEVATION 9.950	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.010	AVERAGE A-ZONES 0.000
IF	END STATION 563.000	END ELEVATION 11.440	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 13.620	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.009	AVERAGE A-ZONES 0.000
	DUNE CREST	DUNE CREST	DUNE OR	NEW SURGE	NEW SURGE				BOTTOM	AVERAGE

DU	STATION	ELEVATION	SEAWALL	10-YEAR	100-YEAR				SLOPE	A-ZONES
	679.000	11.070	0.000	0.000	13.620	0.000	0.000	0.000	-0.010	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	759.000	9.520	0.000	0.000	13.620	0.000	0.000	0.000	-0.007	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	805.000	10.170	0.000	0.000	13.620	0.000	0.000	0.000	-0.056	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	849.000	4.480	0.000	0.000	13.620	0.000	0.000	0.000	-0.097	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	865.000	4.360	0.000	0.000	13.620	0.000	0.000	0.000	0.079	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	907.000	9.070	0.000	0.000	13.620	0.000	0.000	0.000	0.051	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	923.000	7.330	0.000	0.000	13.620	0.000	0.000	0.000	-0.032	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	933.000	8.230	0.000	0.000	13.620	0.000	0.000	0.000	-0.046	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	981.000	4.650	0.000	0.000	13.620	0.000	0.000	0.000	-0.046	0.000
DU	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
	1017.000	4.340	0.000	0.000	13.620	0.000	0.000	0.000	0.055	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES

DU	1065.000	9.260	0.000	0.000	13.620	0.000	0.000	0.000	0.028	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
DU	1085.000	6.240	0.000	0.000	13.620	0.000	0.000	0.000	-0.078	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
DU	1115.000	5.380	0.000	0.000	13.620	0.000	0.000	0.000	0.072	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
DU	1147.000	10.670	0.000	0.000	13.620	0.000	0.000	0.000	-0.002	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
DU	1237.000	5.130	0.000	0.000	8.400	0.000	0.000	0.000	-0.057	0.000
	DUNE CREST STATION	DUNE CREST ELEVATION	DUNE OR SEAWALL	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR				BOTTOM SLOPE	AVERAGE A-ZONES
VH	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	1259.000	4.290	1.000	0.000	1.000	2.000	0.000	8.400	-0.033	0.000
MG	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	0.000
	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000
MG	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	0.000
	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590
PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE -0.040	AVERAGE A-ZONES 0.000
VH	1363.000	0.930								

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	1367.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	-0.007	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	1501.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	0.000	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	1739.000	0.000	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1741.000	0.400	1.000	0.000	1.000	2.000	0.000	8.400	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2517.000	0.040	1.000	0.000	1.000	2.000	0.000	8.400	-0.001	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590	
	PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380	

IF	END STATION 2541.000	END ELEVATION 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.001	AVERAGE A-ZONES 0.000
IF	END STATION 2551.000	END ELEVATION 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.004	AVERAGE A-ZONES 0.000
IF	END STATION 2553.000	END ELEVATION 0.050	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.319	AVERAGE A-ZONES 0.000
IF	END STATION 2561.000	END ELEVATION 3.190	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.358	AVERAGE A-ZONES 0.000
IF	END STATION 2563.000	END ELEVATION 3.630	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.033	AVERAGE A-ZONES 0.000
VH	END STATION 2573.000	END ELEVATION 2.790	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.009	AVERAGE A-ZONES 0.000
MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	2989.000	7.250	1.000	0.000	1.000	2.000	0.000	8.400	0.010	0.000

MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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VE	END STATION 2999.000	END ELEVATION 7.230	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.002	AVERAGE A-ZONES 0.000
VE	END STATION 3023.000	END ELEVATION 7.310	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.017	AVERAGE A-ZONES 0.000
VE	END STATION 3041.000	END ELEVATION 7.940	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3055.000	END ELEVATION 8.890	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3089.000	END ELEVATION 8.770	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3103.000	END ELEVATION 9.540	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3109.000	END ELEVATION 10.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3111.000	END ELEVATION 10.030	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3135.000	END ELEVATION 10.770	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
AS	END STATION 3141.000	END ELEVATION 10.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.035	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	3171.000	11.410	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3183.000	11.090	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3187.000	11.320	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3193.000	10.840	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3221.000	11.320	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3237.000	10.940	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3241.000	11.360	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3249.000	10.780	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3259.000	11.070	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3267.000	10.650	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	3287.000	10.620	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3301.000	11.390	0.000	8.400	0.000	0.000	0.000	0.000	0.035	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	3345.000	10.160	0.000	8.400	0.000	0.000	0.000	0.000	-0.119	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
BU	3365.000	7.770	0.750	2.000	0.000	8.400	0.000	0.000	-0.095	0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
BU	3385.000	6.370	0.750	2.000	0.000	8.400	0.000	0.000	-0.045	0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
BU	3395.000	6.410	0.750	2.000	0.000	8.400	0.000	0.000	-0.043	0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
BU	3397.000	5.850	0.750	2.000	0.000	8.400	0.000	0.000	-0.036	0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
IF	3417.000	5.620	0.000	8.400	0.000	0.000	0.000	0.000	-0.011	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	3425.000	5.540	0.000	8.400	0.000	0.000	0.000	0.000	0.019	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	3453.000	6.310	0.000	8.400	0.000	0.000	0.000	0.000	-0.005	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	3465.000	5.330	0.000	8.400	0.000	0.000	0.000	0.000	-0.023	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3481.000	5.680	0.000	8.400	0.000	0.000	0.000	0.000	-0.009	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3487.000	5.130	0.000	8.400	0.000	0.000	0.000	0.000	-0.003	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3497.000	5.630	0.000	8.400	0.000	0.000	0.000	0.000	0.087	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3509.000	7.050	0.000	8.400	0.000	0.000	0.000	0.000	0.013	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3529.000	6.050	0.000	8.400	0.000	0.000	0.000	0.000	-0.021	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3539.000	6.420	0.000	8.400	0.000	0.000	0.000	0.000	-0.008	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3555.000	5.840	0.000	8.400	0.000	0.000	0.000	0.000	-0.014	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3565.000	6.070	0.000	8.400	0.000	0.000	0.000	0.000	-0.018	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3567.000	5.630	0.000	8.400	0.000	0.000	0.000	0.000	-0.064	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	3573.000	5.560	0.000	8.400	0.000	0.000	0.000	0.000	0.046	0.000

IF	END STATION 3577.000	END ELEVATION 6.090	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.070	AVERAGE A-ZONES 0.000
IF	END STATION 3583.000	END ELEVATION 6.260	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.027	AVERAGE A-ZONES 0.000
IF	END STATION 3591.000	END ELEVATION 5.710	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.004	AVERAGE A-ZONES 0.000
IF	END STATION 3607.000	END ELEVATION 6.360	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.012	AVERAGE A-ZONES 0.000
IF	END STATION 3617.000	END ELEVATION 6.010	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.003	AVERAGE A-ZONES 0.000
IF	END STATION 3623.000	END ELEVATION 6.310	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.026	AVERAGE A-ZONES 0.000
IF	END STATION 3633.000	END ELEVATION 5.590	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.016	AVERAGE A-ZONES 0.000
IF	END STATION 3643.000	END ELEVATION 5.980	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.064	AVERAGE A-ZONES 0.000
IF	END STATION 3651.000	END ELEVATION 6.750	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.002	AVERAGE A-ZONES 0.000
IF	END STATION 3677.000	END ELEVATION 5.930	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.017	AVERAGE A-ZONES 0.000

IF	END STATION 3749.000	END ELEVATION 8.390	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3777.000	END ELEVATION 8.720	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3821.000	END ELEVATION 10.370	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3841.000	END ELEVATION 10.200	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3849.000	END ELEVATION 10.630	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3859.000	END ELEVATION 10.250	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3879.000	END ELEVATION 10.180	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3913.000	END ELEVATION 10.320	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.034	AVERAGE A-ZONES 0.000
AS	END STATION 3951.000	END ELEVATION 9.470	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.036	AVERAGE A-ZONES 0.000
VE	END STATION 4011.000	END ELEVATION 7.300	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE -0.041	AVERAGE A-ZONES 0.000
	END	END	AVERAGE	AVERAGE	AVERAGE	DRAG	NEW SURGE	NEW SURGE	BOTTOM	AVERAGE

VE	STATION	ELEVATION	DIAMETER	HEIGHT	SPACING	COEFF.	10-YEAR	100-YEAR	SLOPE	A-ZONES
	4013.000	6.940	0.500	15.000	10.000	0.000	0.000	8.400	-0.015	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	4015.000	7.240	0.500	15.000	10.000	0.000	0.000	8.400	-0.063	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	4019.000	6.560	0.500	15.000	10.000	0.000	0.000	8.400	-0.076	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	4029.000	6.180	0.500	15.000	10.000	0.000	0.000	8.400	-0.085	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	4037.000	5.030	0.500	15.000	10.000	0.000	0.000	8.400	-0.115	0.000
VH	END STATION	END ELEVATION	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.002	AVERAGE A-ZONES 0.000
MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	4525.000	6.060	1.000	0.000	1.000	2.000	0.000	8.400	0.002	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALM	0.000	0.000	1.390	45.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.000	0.000	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALM	0.100	0.500	1.390	45.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4535.000	6.160	0.500	15.000	10.000	0.000	0.000	8.400	0.022	0.000

	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4545.000	6.500	0.500	15.000	10.000	0.000	0.000	8.400	0.003	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	4555.000	6.220	1.000	0.000	1.000	2.000	0.000	8.400	0.004	0.000

MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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VH	END STATION 4673.000	END ELEVATION 7.030	REGION 1 1.000	REGION 1 WEIGHT 0.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.002	AVERAGE A-ZONES 0.000
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MG	PLANT TYPE SALM	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.000	COVERAGE RATIO 0.000	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALM	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.390	NUMBER DENSITY 45.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT		DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380	

VE	END STATION 4687.000	END ELEVATION 6.480	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE -0.042	AVERAGE A-ZONES 0.000
VE	END STATION 4691.000	END ELEVATION 6.280	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.010	AVERAGE A-ZONES 0.000
VE	END STATION 4741.000	END ELEVATION 7.040	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.009	AVERAGE A-ZONES 0.000
VE	END STATION 4745.000	END ELEVATION 6.740	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE -0.009	AVERAGE A-ZONES 0.000
VE	END STATION 4763.000	END ELEVATION 6.840	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.022	AVERAGE A-ZONES 0.000
VE	END STATION 4769.000	END ELEVATION 7.270	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.016	AVERAGE A-ZONES 0.000
VE	END STATION 4795.000	END ELEVATION 7.360	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.020	AVERAGE A-ZONES 0.000
VE	END STATION 4799.000	END ELEVATION 7.860	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.041	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES

VE	4805.000	7.770	0.500	15.000	10.000	0.000	0.000	8.400	0.032	0.000
	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4809.000	8.180	0.500	15.000	10.000	0.000	0.000	8.400	0.026	0.000
	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4819.000	8.140	0.500	15.000	10.000	0.000	0.000	8.400	-0.031	0.000
	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4825.000	7.680	0.500	15.000	10.000	0.000	0.000	8.400	-0.077	0.000
	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
AS	4831.000	8.510	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4843.000	8.800	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4853.000	8.880	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4857.000	8.490	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4861.000	9.000	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4869.000	8.850	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	4879.000	10.110	0.000	8.400	0.000	0.000	0.000	0.000	-0.077	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	END STATION 4885.000	END ELEVATION 9.380	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4889.000	END ELEVATION 9.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4903.000	END ELEVATION 9.890	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4911.000	END ELEVATION 10.810	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4915.000	END ELEVATION 10.420	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4919.000	END ELEVATION 10.490	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4923.000	END ELEVATION 10.570	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4935.000	END ELEVATION 9.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4939.000	END ELEVATION 11.660	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4943.000	END ELEVATION 12.490	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000

AS	END STATION 4964.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 4987.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5001.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5007.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5019.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5067.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5075.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5089.000	END ELEVATION 14.610	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5113.000	END ELEVATION 12.270	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000
AS	END STATION 5145.000	END ELEVATION 11.790	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.077	AVERAGE A-ZONES 0.000

AS	END STATION 5161.000	END ELEVATION 11.490	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.194	AVERAGE A-ZONES 0.000
VE	END STATION 5197.000	END ELEVATION 4.500	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE -0.097	AVERAGE A-ZONES 0.000
VE	END STATION 5207.000	END ELEVATION 7.030	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.224	AVERAGE A-ZONES 0.000
VE	END STATION 5211.000	END ELEVATION 7.630	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.061	AVERAGE A-ZONES 0.000
VE	END STATION 5215.000	END ELEVATION 7.520	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.094	AVERAGE A-ZONES 0.000
VE	END STATION 5219.000	END ELEVATION 8.380	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAG COEFF. 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	BOTTOM SLOPE 0.215	AVERAGE A-ZONES 0.000
AS	END STATION 5227.000	END ELEVATION 9.080	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.215	AVERAGE A-ZONES 0.000
AS	END STATION 5249.000	END ELEVATION 9.620	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.215	AVERAGE A-ZONES 0.000
AS	END STATION 5263.000	END ELEVATION 9.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.215	AVERAGE A-ZONES 0.000
AS	END STATION 5267.000	END ELEVATION 9.670	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.215	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	5295.000	9.030	0.000	8.400	0.000	0.000	0.000	0.000	-0.113	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5313.000	7.000	0.500	15.000	10.000	0.000	0.000	8.400	-0.016	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5357.000	8.050	0.500	15.000	10.000	0.000	0.000	8.400	0.010	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5365.000	7.510	0.500	15.000	10.000	0.000	0.000	8.400	-0.023	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5381.000	7.500	0.500	15.000	10.000	0.000	0.000	8.400	-0.023	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5389.000	6.950	0.500	15.000	10.000	0.000	0.000	8.400	-0.107	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5393.000	6.220	0.500	15.000	10.000	0.000	0.000	8.400	-0.004	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5405.000	6.880	0.500	15.000	10.000	0.000	0.000	8.400	0.023	0.000
VE	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
	5419.000	6.830	0.500	15.000	10.000	0.000	0.000	8.400	0.024	0.000
IF	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5423.000	7.310	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

IF	5431.000	6.850	0.000	8.400	0.000	0.000	0.000	0.000	0.002	0.000
IF	END STATION 5435.000	END ELEVATION 7.340	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.015	AVERAGE A-ZONES 0.000
IF	END STATION 5447.000	END ELEVATION 7.090	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.002	AVERAGE A-ZONES 0.000
IF	END STATION 5455.000	END ELEVATION 7.390	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.053	AVERAGE A-ZONES 0.000
IF	END STATION 5469.000	END ELEVATION 5.920	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.070	AVERAGE A-ZONES 0.000
IF	END STATION 5471.000	END ELEVATION 6.270	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.023	AVERAGE A-ZONES 0.000
IF	END STATION 5477.000	END ELEVATION 6.100	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.028	AVERAGE A-ZONES 0.000
AS	END STATION 5499.000	END ELEVATION 9.050	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.028	AVERAGE A-ZONES 0.000
AS	END STATION 5501.000	END ELEVATION 9.080	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.028	AVERAGE A-ZONES 0.000
AS	END STATION 5503.000	END ELEVATION 8.940	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.028	AVERAGE A-ZONES 0.000
AS	END STATION 5511.000	END ELEVATION 9.860	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.400	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.028	AVERAGE A-ZONES 0.000

AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5529.000	10.770	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5559.000	10.900	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5567.000	10.520	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5571.000	10.970	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5575.000	10.910	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5587.000	10.630	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5595.000	9.430	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5601.000	9.260	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5607.000	9.310	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5615.000	10.480	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000

AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5629.000	11.220	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5637.000	11.030	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5643.000	11.370	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5645.000	11.070	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5663.000	11.960	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5675.000	11.690	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5681.000	12.190	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5693.000	11.750	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5699.000	12.430	0.000	8.400					-0.028	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	5707.000	12.670	0.000	8.400					-0.028	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5725.000	12.180	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5741.000	13.690	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5743.000	13.410	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5751.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5781.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
AS	5787.000	14.610	0.000	8.400	0.000	0.000	0.000	0.000	-0.028	0.000

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

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

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

	LOCATION	CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
	IE 0.00	10.24	10.65	20.79
	IF 3.00	9.52	10.65	20.28
	IF 51.00	6.08	10.65	17.87

IF	79.00	5.48	10.65	17.45
IF	133.00	3.31	10.65	15.94
IF	169.00	3.33	10.65	15.95
DU	181.00	2.60	10.65	15.44
DU	339.00	0.20	10.65	13.76
IF	345.00	0.24	10.65	13.79
	452.80	1.07	10.65	14.37
IF	499.00	1.26	10.65	14.50
IF	559.00	1.32	10.65	14.54
IF	563.00	1.37	10.65	14.58
DU	679.00	1.37	10.65	14.58
DU	759.00	1.37	10.65	14.58
DU	805.00	1.37	10.65	14.58
DU	849.00	1.37	10.65	14.58
DU	865.00	1.37	10.65	14.58
DU	907.00	1.37	10.65	14.58
DU	923.00	1.37	10.65	14.58
DU	933.00	1.37	10.65	14.58
DU	981.00	1.37	10.65	14.58
DU	1017.00	1.37	10.65	14.58
DU	1065.00	1.37	10.65	14.58
DU	1085.00	1.37	10.65	14.58
DU	1115.00	1.37	10.65	14.58
DU	1147.00	1.37	10.65	14.58
DU	1237.00	1.37	10.65	9.36

VH	1259.00	1.25	10.65	9.27
VH	1363.00	1.16	10.65	9.21
IF	1367.00	1.11	10.65	9.18
IF	1501.00	1.43	10.65	9.40
	1667.60	1.73	10.65	9.61
IF	1739.00	1.85	10.65	9.69
VH	1741.00	1.89	10.65	9.72
	1891.00	2.08	10.65	9.86
	2051.00	2.25	10.65	9.98
	2211.00	2.40	10.65	10.08
	2371.00	2.54	10.65	10.18
VH	2517.00	2.65	10.65	10.25
IF	2541.00	2.67	10.65	10.27
IF	2551.00	2.68	10.65	10.27
IF	2553.00	2.69	10.65	10.28
IF	2561.00	3.09	10.65	10.56
IF	2563.00	3.02	10.65	10.51
VH	2573.00	3.12	10.65	10.58
	2723.00	2.59	10.65	10.21
	2883.00	1.77	10.65	9.64
	2983.00	0.94	10.65	9.06
VH	2989.00	0.89	10.65	9.03
VE	2999.00	0.89	10.65	9.02
VE	3023.00	0.85	10.65	8.99
VE	3041.00	0.36	10.65	8.65
AS	3055.00	0.00	0.00	8.89

AS	3089.00	0.00	0.00	8.77
AS	3103.00	0.00	0.00	9.54
AS	3109.00	0.00	0.00	10.33
AS	3111.00	0.00	0.00	10.03
AS	3135.00	0.00	0.00	10.77
AS	3141.00	0.00	0.00	10.46
AS	3171.00	0.00	0.00	11.41
AS	3183.00	0.00	0.00	11.09
AS	3187.00	0.00	0.00	11.32
AS	3193.00	0.00	0.00	10.84
AS	3221.00	0.00	0.00	11.32
AS	3237.00	0.00	0.00	10.94
AS	3241.00	0.00	0.00	11.36
AS	3249.00	0.00	0.00	10.78
AS	3259.00	0.00	0.00	11.07
AS	3267.00	0.00	0.00	10.65
AS	3287.00	0.00	0.00	10.62
AS	3301.00	0.00	0.00	11.39
AS	3345.00	0.00	0.00	10.16
BU	3365.00	0.00	0.00	8.40
BU	3385.00	0.00	0.00	8.40
BU	3395.00	0.00	0.00	8.40
BU	3397.00	0.00	0.00	8.40
IF	3417.00	0.11	0.39	8.48
IF	3425.00	0.14	0.44	8.50

IF	3453.00	0.22	0.55	8.56
IF	3465.00	0.25	0.59	8.58
IF	3481.00	0.29	0.63	8.60
IF	3487.00	0.31	0.65	8.61
IF	3497.00	0.33	0.67	8.63
IF	3509.00	0.35	0.69	8.65
IF	3529.00	0.39	0.73	8.68
IF	3539.00	0.41	0.75	8.69
IF	3555.00	0.44	0.78	8.71
IF	3565.00	0.46	0.80	8.72
IF	3567.00	0.47	0.80	8.73
IF	3573.00	0.48	0.81	8.73
IF	3577.00	0.48	0.81	8.74
IF	3583.00	0.49	0.82	8.75
IF	3591.00	0.51	0.83	8.76
IF	3607.00	0.53	0.86	8.77
IF	3617.00	0.55	0.87	8.79
IF	3623.00	0.56	0.88	8.79
IF	3633.00	0.58	0.89	8.81
IF	3643.00	0.59	0.90	8.82
IF	3651.00	0.59	0.91	8.81
IF	3677.00	0.65	0.94	8.85
IF	3749.00	0.01	1.02	8.41
AS	3777.00	0.00	0.00	8.72
AS	3821.00	0.00	0.00	10.37
AS	3841.00	0.00	0.00	10.20

AS	3849.00	0.00	0.00	10.63
AS	3859.00	0.00	0.00	10.25
AS	3879.00	0.00	0.00	10.18
AS	3913.00	0.00	0.00	10.32
AS	3951.00	0.00	0.00	9.47
VE	4011.00	0.00	0.00	8.40
VE	4013.00	0.00	0.00	8.40
VE	4015.00	0.00	0.00	8.40
VE	4019.00	0.00	0.00	8.40
VE	4029.00	0.00	0.00	8.40
VE	4037.00	0.00	0.00	8.40
VH	4039.00	0.03	0.19	8.42
	4149.00	0.35	0.70	8.65
	4269.00	0.57	0.89	8.80
	4429.00	0.80	1.05	8.96
VH	4525.00	0.89	1.13	9.02
VE	4535.00	0.88	1.13	9.02
VE	4545.00	0.85	1.13	8.99
VH	4555.00	0.89	1.14	9.02
VH	4673.00	0.78	1.22	8.95
VE	4687.00	0.78	1.22	8.95
VE	4691.00	0.78	1.22	8.95
VE	4741.00	0.77	1.22	8.94
VE	4745.00	0.77	1.22	8.94
VE	4763.00	0.77	1.22	8.94

VE	4769.00	0.69	1.22	8.88
VE	4795.00	0.65	1.22	8.85
VE	4799.00	0.38	1.22	8.66
VE	4805.00	0.38	1.22	8.66
VE	4809.00	0.16	1.22	8.51
VE	4819.00	0.16	1.22	8.51
VE	4825.00	0.16	1.22	8.51
AS	4831.00	0.00	0.00	8.51
AS	4843.00	0.00	0.00	8.80
AS	4853.00	0.00	0.00	8.88
AS	4857.00	0.00	0.00	8.49
AS	4861.00	0.00	0.00	9.00
AS	4869.00	0.00	0.00	8.85
AS	4879.00	0.00	0.00	10.11
AS	4885.00	0.00	0.00	9.38
AS	4889.00	0.00	0.00	9.33
AS	4903.00	0.00	0.00	9.89
AS	4911.00	0.00	0.00	10.81
AS	4915.00	0.00	0.00	10.42
AS	4919.00	0.00	0.00	10.49
AS	4923.00	0.00	0.00	10.57
AS	4935.00	0.00	0.00	9.46
AS	4939.00	0.00	0.00	11.66
AS	4943.00	0.00	0.00	12.49
AS	4964.00	0.00	0.00	14.61
AS	4987.00	0.00	0.00	14.61

AS	5001.00	0.00	0.00	14.61
AS	5007.00	0.00	0.00	14.61
AS	5019.00	0.00	0.00	14.61
AS	5067.00	0.00	0.00	14.61
AS	5075.00	0.00	0.00	14.61
AS	5089.00	0.00	0.00	14.61
AS	5113.00	0.00	0.00	12.27
AS	5145.00	0.00	0.00	11.79
AS	5161.00	0.00	0.00	11.49
VE	5197.00	0.00	0.00	8.40
VE	5207.00	0.00	0.00	8.40
VE	5211.00	0.00	0.00	8.40
VE	5215.00	0.00	0.00	8.40
VE	5219.00	0.00	0.00	8.40
AS	5227.00	0.00	0.00	9.08
AS	5249.00	0.00	0.00	9.62
AS	5263.00	0.00	0.00	9.33
AS	5267.00	0.00	0.00	9.67
AS	5295.00	0.00	0.00	9.03
VE	5313.00	0.00	0.00	8.40
VE	5357.00	0.00	0.00	8.40
VE	5365.00	0.00	0.00	8.40
VE	5381.00	0.00	0.00	8.40
VE	5389.00	0.00	0.00	8.40
VE	5393.00	0.00	0.00	8.40

VE	5405.00	0.00	0.00	8.40
VE	5419.00	0.00	0.00	8.40
IF	5423.00	0.04	0.23	8.43
IF	5431.00	0.08	0.33	8.46
IF	5435.00	0.10	0.37	8.47
IF	5447.00	0.14	0.44	8.50
IF	5455.00	0.17	0.48	8.52
IF	5469.00	0.21	0.53	8.54
IF	5471.00	0.21	0.54	8.55
IF	5477.00	0.23	0.56	8.56
AS	5499.00	0.00	0.00	9.05
AS	5501.00	0.00	0.00	9.08
AS	5503.00	0.00	0.00	8.94
AS	5511.00	0.00	0.00	9.86
AS	5529.00	0.00	0.00	10.77
AS	5559.00	0.00	0.00	10.90
AS	5567.00	0.00	0.00	10.52
AS	5571.00	0.00	0.00	10.97
AS	5575.00	0.00	0.00	10.91
AS	5587.00	0.00	0.00	10.63
AS	5595.00	0.00	0.00	9.43
AS	5601.00	0.00	0.00	9.26
AS	5607.00	0.00	0.00	9.31
AS	5615.00	0.00	0.00	10.48
AS	5629.00	0.00	0.00	11.22
AS	5637.00	0.00	0.00	11.03

AS	5643.00	0.00	0.00	11.37
AS	5645.00	0.00	0.00	11.07
AS	5663.00	0.00	0.00	11.96
AS	5675.00	0.00	0.00	11.69
AS	5681.00	0.00	0.00	12.19
AS	5693.00	0.00	0.00	11.75
AS	5699.00	0.00	0.00	12.43
AS	5707.00	0.00	0.00	12.67
AS	5725.00	0.00	0.00	12.18
AS	5741.00	0.00	0.00	13.69
AS	5743.00	0.00	0.00	13.41
AS	5751.00	0.00	0.00	14.61
AS	5781.00	0.00	0.00	14.61
AS	5787.00	0.00	0.00	14.61

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

BETWEEN	3041.00	AND	3055.00
BETWEEN	3055.00	AND	3089.00
BETWEEN	3089.00	AND	3103.00
BETWEEN	3103.00	AND	3109.00
BETWEEN	3109.00	AND	3111.00
BETWEEN	3111.00	AND	3135.00
BETWEEN	3135.00	AND	3141.00
BETWEEN	3141.00	AND	3171.00
BETWEEN	3171.00	AND	3183.00

BETWEEN	3183.00	AND	3187.00
BETWEEN	3187.00	AND	3193.00
BETWEEN	3193.00	AND	3221.00
BETWEEN	3221.00	AND	3237.00
BETWEEN	3237.00	AND	3241.00
BETWEEN	3241.00	AND	3249.00
BETWEEN	3249.00	AND	3259.00
BETWEEN	3259.00	AND	3267.00
BETWEEN	3267.00	AND	3287.00
BETWEEN	3287.00	AND	3301.00
BETWEEN	3301.00	AND	3345.00
BETWEEN	3749.00	AND	3777.00
BETWEEN	3777.00	AND	3821.00
BETWEEN	3821.00	AND	3841.00
BETWEEN	3841.00	AND	3849.00
BETWEEN	3849.00	AND	3859.00
BETWEEN	3859.00	AND	3879.00
BETWEEN	3879.00	AND	3913.00
BETWEEN	3913.00	AND	3951.00
BETWEEN	4825.00	AND	4831.00
BETWEEN	4831.00	AND	4843.00
BETWEEN	4843.00	AND	4853.00
BETWEEN	4853.00	AND	4857.00
BETWEEN	4857.00	AND	4861.00
BETWEEN	4861.00	AND	4869.00
BETWEEN	4869.00	AND	4879.00

BETWEEN	4879.00	AND	4885.00
BETWEEN	4885.00	AND	4889.00
BETWEEN	4889.00	AND	4903.00
BETWEEN	4903.00	AND	4911.00
BETWEEN	4911.00	AND	4915.00
BETWEEN	4915.00	AND	4919.00
BETWEEN	4919.00	AND	4923.00
BETWEEN	4923.00	AND	4935.00
BETWEEN	4935.00	AND	4939.00
BETWEEN	4939.00	AND	4943.00
BETWEEN	4943.00	AND	4964.00
BETWEEN	4964.00	AND	4987.00
BETWEEN	4987.00	AND	5001.00
BETWEEN	5001.00	AND	5007.00
BETWEEN	5007.00	AND	5019.00
BETWEEN	5019.00	AND	5067.00
BETWEEN	5067.00	AND	5075.00
BETWEEN	5075.00	AND	5089.00
BETWEEN	5089.00	AND	5113.00
BETWEEN	5113.00	AND	5145.00
BETWEEN	5145.00	AND	5161.00
BETWEEN	5219.00	AND	5227.00
BETWEEN	5227.00	AND	5249.00
BETWEEN	5249.00	AND	5263.00
BETWEEN	5263.00	AND	5267.00

BETWEEN	5267.00	AND	5295.00
BETWEEN	5477.00	AND	5499.00
BETWEEN	5499.00	AND	5501.00
BETWEEN	5501.00	AND	5503.00
BETWEEN	5503.00	AND	5511.00
BETWEEN	5511.00	AND	5529.00
BETWEEN	5529.00	AND	5559.00
BETWEEN	5559.00	AND	5567.00
BETWEEN	5567.00	AND	5571.00
BETWEEN	5571.00	AND	5575.00
BETWEEN	5575.00	AND	5587.00
BETWEEN	5587.00	AND	5595.00
BETWEEN	5595.00	AND	5601.00
BETWEEN	5601.00	AND	5607.00
BETWEEN	5607.00	AND	5615.00
BETWEEN	5615.00	AND	5629.00
BETWEEN	5629.00	AND	5637.00
BETWEEN	5637.00	AND	5643.00
BETWEEN	5643.00	AND	5645.00
BETWEEN	5645.00	AND	5663.00
BETWEEN	5663.00	AND	5675.00
BETWEEN	5675.00	AND	5681.00
BETWEEN	5681.00	AND	5693.00
BETWEEN	5693.00	AND	5699.00
BETWEEN	5699.00	AND	5707.00
BETWEEN	5707.00	AND	5725.00

BETWEEN	5725.00	AND	5741.00
BETWEEN	5741.00	AND	5743.00
BETWEEN	5743.00	AND	5751.00
BETWEEN	5751.00	AND	5781.00
BETWEEN	5781.00	AND	5787.00

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
1237.00	0.00	8.40

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
174.46	WINDWARD
2559.29	LEEWARD
2606.39	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
0.00	20.79		
		V30 EL=21	200
1.71	20.50		
		V30 EL=20	200
18.59	19.50		
		V30 EL=19	200
38.52	18.50		

		V30	EL=18	200
75.98	17.50			
		V30	EL=17	200
112.93	16.50			
		V30	EL=16	200
174.46	15.72			
		A22	EL=16	120
179.66	15.50			
		A22	EL=15	120
269.64	14.50			
		A22	EL=14	120
499.69	14.50			
		A22	EL=15	120
1147.00	14.58			
		A22	EL=15	120
1148.32	14.50			
		A22	EL=14	120
1165.56	13.50			
		A22	EL=13	120
1182.80	12.50			
		A22	EL=12	120
1200.04	11.50			
		A22	EL=11	120
1217.29	10.50			
		A22	EL=10	120

1234.53	9.50			
		A22	EL= 9	120
1237.00	9.36			
		A22	EL= 9	120
1580.30	9.50			
		A22	EL=10	120
2559.29	10.50			
		V23	EL=11	130
2559.29	10.50			
		V23	EL=11	130
2606.39	10.50			
		V23	EL=11	130
2606.39	10.50			
		A18	EL=10	90
2907.26	9.50			
		A18	EL= 9	90
3041.00	8.65			
3055.00	8.89			
3089.00	8.77			
3103.00	9.54			
3109.00	10.33			
3111.00	10.03			
3135.00	10.77			

3141.00	10.46			
3171.00	11.41			
3183.00	11.09			
3187.00	11.32			
3193.00	10.84			
3221.00	11.32			
3237.00	10.94			
3241.00	11.36			
3249.00	10.78			
3259.00	11.07			
3267.00	10.65			
3287.00	10.62			
3301.00	11.39			
3345.00	8.40			
		A18	EL=10	90
3352.50	9.50			
		A18	EL= 9	90
3363.86	8.50			

		A18	EL= 8	90
3425.55	8.50			
		A18	EL= 9	90
3733.74	8.50			
		A18	EL= 8	90
3749.00	8.41			
3777.00	8.72			
3821.00	10.37			
3841.00	10.20			
3849.00	10.63			
3859.00	10.25			
3879.00	10.18			
3913.00	10.32			
3951.00	8.40			
		A18	EL= 9	90
4005.39	8.50			
		A18	EL= 8	90
4078.06	8.50			
		A18	EL= 9	90
4825.00	8.51			
4831.00	8.51			

4843.00	8.80
4853.00	8.88
4857.00	8.49
4861.00	9.00
4869.00	8.85
4879.00	10.11
4885.00	9.38
4889.00	9.33
4903.00	9.89
4911.00	10.81
4915.00	10.42
4919.00	10.49
4923.00	10.57
4935.00	9.46
4939.00	11.66
4943.00	12.49
4964.00	14.61

4987.00	14.61			
5001.00	14.61			
5007.00	14.61			
5019.00	14.61			
5067.00	14.61			
5075.00	14.61			
5089.00	14.61			
5113.00	12.27			
5145.00	11.79			
5161.00	8.40			
		A18	EL=11	90
5172.53	10.50			
		A18	EL=10	90
5184.18	9.50			
		A18	EL= 9	90
5195.83	8.50			
		A18	EL= 8	90
5219.00	8.40			
5227.00	9.08			
5249.00	9.62			

5263.00	9.33			
5267.00	9.67			
5295.00	8.40			
		A18	EL= 9	90
5310.14	8.50			
		A18	EL= 8	90
5447.51	8.50			
		A18	EL= 9	90
5477.00	8.56			
5499.00	9.05			
5501.00	9.08			
5503.00	8.94			
5511.00	9.86			
5529.00	10.77			
5559.00	10.90			
5567.00	10.52			
5571.00	10.97			
5575.00	10.91			
5587.00	10.63			

5595.00	9.43
5601.00	9.26
5607.00	9.31
5615.00	10.48
5629.00	11.22
5637.00	11.03
5643.00	11.37
5645.00	11.07
5663.00	11.96
5675.00	11.69
5681.00	12.19
5693.00	11.75
5699.00	12.43
5707.00	12.67
5725.00	12.18
5741.00	13.69
5743.00	13.41

5751.00	14.61
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5781.00	14.61
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5787.00	14.61
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ZONE TERMINATED AT END OF TRANSECT

PART 7 POSTSCRIPT NOTES

2013-0127

PL-058-DISE

50.0

-39.3	-2226.	1.
-1.8	-43.	1.
21.2	291.	1.
10.9	345.	1.
10.2	805.	1.
4.4	865.	1.
10.7	1147.	1.
.	1367.	1.
3.6	2563.	1.
11.4	3171.	1.
5.1	3487.	1.
10.6	3849.	1.
5.	4037.	1.
6.3	4691.	1.
9.5	4935.	1.
17.4	5019.	1.
6.2	5193.	1.
5.9	5469.	1.
1	17.7	5787.
9.5	18.5	8.6
9.5	18.5	9.1
9.5	18.5	9.5
9.5	19.5	8.6
9.5	19.5	9.1
9.5	19.5	9.5
9.5	20.4	8.6
9.5	20.4	9.1
9.5	20.4	9.5

CLIENT-
PROJECT-
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** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

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*

CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2226.0	-39.0		
			58.68	1.00
2	-43.0	-1.8		
			14.52	1.00
3	291.0	21.2		
			-5.24	1.00
4	345.0	10.9		
			-657.14	1.00
5	805.0	10.2		
			-10.34	1.00
6	865.0	4.4		
			44.76	1.00
7	1147.0	10.7		
			-20.56	1.00
8	1367.0	.0		
			332.22	1.00
9	2563.0	3.6		
			77.95	1.00
10	3171.0	11.4		
			-50.16	1.00
11	3487.0	5.1		
			65.82	1.00
12	3849.0	10.6		
			-33.57	1.00
13	4037.0	5.0		
			503.08	1.00
14	4691.0	6.3		
			76.25	1.00
15	4935.0	9.5		
			10.63	1.00
16	5019.0	17.4		
			-15.54	1.00

17	5193.0	6.2	-920.00	1.00
18	5469.0	5.9	26.95	1.00
19	5787.0	17.7		
	LAST SLOPE	50.00	LAST ROUGHNESS	1.00

CLIENT-
PROJECT-
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** WAVE RUNUP-VERSION 2.0 **

ENGINEERED BY

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RUN PL-0 PAGE

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OUTPUT TABLE

INPUT PARAMETERS

RUNUP RESULTS

WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	1	2	2.22	27.69
9.50	18.50	9.10	1	2	2.22	28.09
9.50	18.50	9.50	1	2	2.22	28.41
9.50	19.50	8.60	1	2	2.14	29.00
9.50	19.50	9.10	1	2	2.14	29.41
9.50	19.50	9.50	1	2	2.14	29.74
9.50	20.40	8.60	1	2	2.24	30.17
9.50	20.40	9.10	1	2	2.24	30.60
9.50	20.40	9.50	1	2	2.24	30.93

ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-059

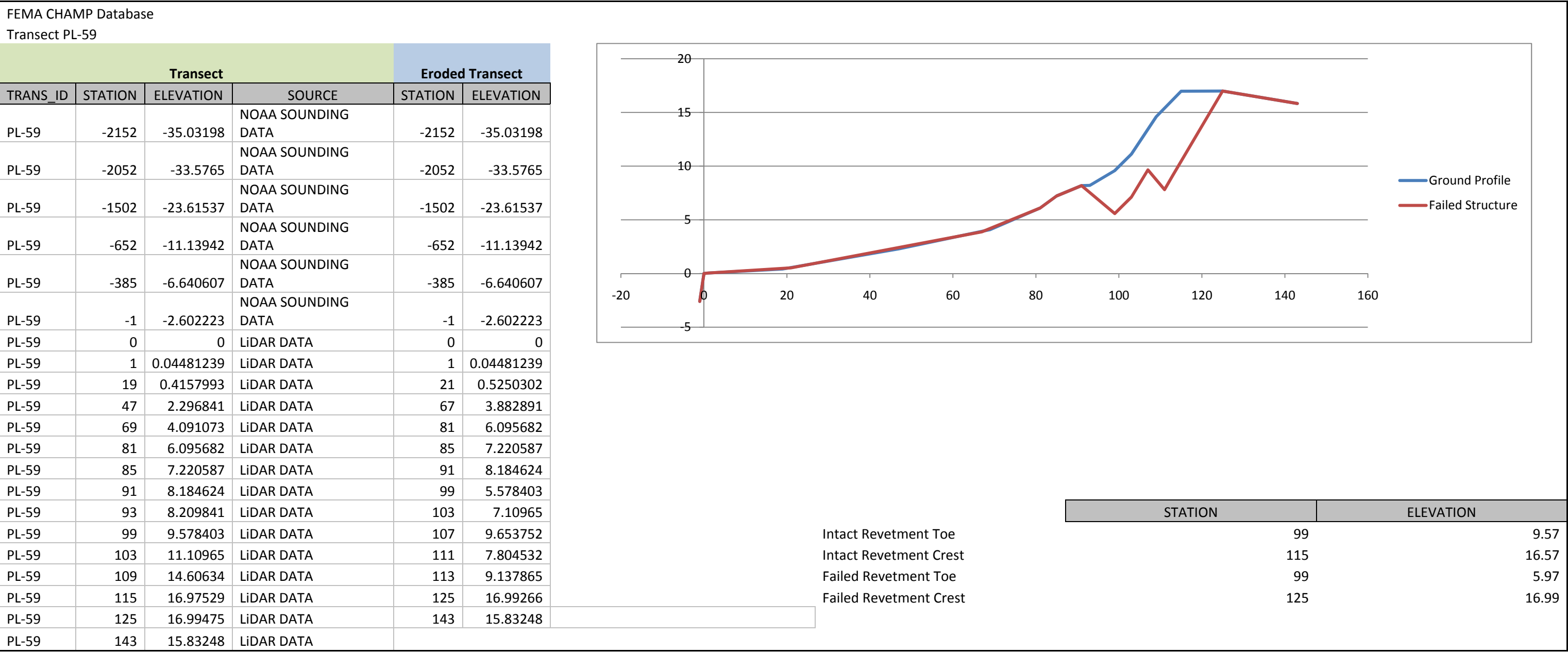
Interpolation for Toe and Top/SWEL Stations – Intact Structure

Intact Profile		Interpolation for Station @			
STATION	ELEVATION	-22.6			
-2152	-35.03198	9.5			
-2052	-33.5765	-1502	-23.6154	12.47595	rise
-1502	-23.61537	-22.6			
-652	-11.13942	-652	-11.1394	850	run
-385	-6.640607	0.014678			
-1	-2.602223	-1432.82			
0	0	STATION			
1	0.04481239				
19	0.4157993				
47	2.296841				
69	4.091073				
81	6.095682	93	8.209841	1.368562	rise
85	7.220587	9.5			
91	8.184624	99	9.578403	6	run
93	8.209841	0.228094			
99	9.578403	98.65627			
103	11.10965	STATION			
109	14.60634				
115	16.97529				
125	16.99475				

Interpolation for Toe and Top/SWEL Stations – Failed Structure

		Interpolation for Station @			
		-22.6			
Failed Profile		9.5			
STATION	ELEVATION				
-2152	-35.03198				
-2052	-33.5765	-1502	-23.6154	12.47595	rise
-1502	-23.61537	-22.6		850	run
-652	-11.13942	-652	-11.1394	0.014678	slope
-385	-6.640607			-1432.82	STATION
-1	-2.602223				
0	0				
1	0.04481239				
21	0.5250302				
67	3.882891				
81	6.095682				
85	7.220587	103	7.10965	2.544102	rise
91	8.184624	9.5		4	run
99	5.578403	107	9.653752	0.636026	slope
103	7.10965			106.7583	STATION
107	9.653752				
111	7.804532				
113	9.137865				
125	16.99266				

Transect Data Used to Represent Failed Structure



Engineering Calculations

Transect PL-059		
Plymouth County		
Marshfield		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1432.82	
Top/SWEL Station	98.65627	
Average Transect Slope, m	0.020937	
1:ON	47.76247	
Average Shore Slope		
Average Beach Slope	0.096294	
1:ON	10.38487	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.12	4.15
Toe Structure Elevation (ft)	9.57	
Depth at Toe of Structure (ft)	0	
Pre-calculation for H _b	29.68913	
Pre-calculation for h _d	39.87573	
h/H _d	0	
R multiplier	1	
Setup with Structure (ft)	4.74	4.83
Total Water Level		14.24334
Wave Runup (Intact & Eroded)		
Runup 2% (ft)		
Method		

Overtopped		
Freeboard		
Structure		
Does Structure Exist	Yes	
Type of Structure	Revetment	
Toe Station	99.43	
Top Station	115.43	
Armor Depth (ft)	4	
Failed Structure Data		
Failed Structure Top Station	125.21	
Failed Structure Top Elev (ft)	16.99	
Failed Structure Toe Station	99	
Failed Structure Toe Elev (ft)	5.97	
Average Transect Slope, m	0.42045	
Wave Setup Calculations (Failed Structures)		Comparison with FEMA Values
Depth at Toe of Structure (ft)	3.53	
Pre-calculation for Hb	29.68913	
Pre-calculation for hd	39.87573	
h/Hd	0.088525	
R multiplier	0.92918	
Setup with Failed Structure (ft)	4.94	5.09
Wave Runup (Failed Structure)		
Runup 2% (ft)	4.91	
Method	Runup 2.0	
Overtopped	No	
Freeboard	0	

WHAFIS and RUNUP 2.0 FILES

0.00

0.00

[illegible]

AS	1763	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	1771	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	1781	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	1787	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	1791	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	1816	15.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BU	1833	14.28	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1861	13.50	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1919	8.97	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1923	9.23	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1935	8.59	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1939	8.94	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1945	7.86	0.6	25	0.00	8.4	0.00	0.00	0.00
BU	1947	6.99	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1949	6.68	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1953	6.75	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1955	7.38	0.6	25	0.00	0.00	0.00	0.00	0.00
BU	1965	5.64	0.6	25	0.00	0.00	0.00	0.00	0.00
VH	1977	4.52	1	1	1	2	0.00	0.00	0.00
MG	SALT	0.1	0.5	1.86	37	0.0175	0.0175	0.0175	0.00
MG	SPAT	0.1	0.5	1.03	409	0.0025	0.0025	0.0025	0.00
VH	3053	0.00	1	1	1	2	0.00	0.00	0.00
MG	SALT	0.1	0.5	1.86	37	0.0175	0.0175	0.0175	0.00
MG	SPAT	0.1	0.5	1.03	409	0.0025	0.0025	0.0025	0.00
IF	3059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3227	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VH	3231	2.32	1	1	1	2	0.00	0.00	0.00
MG	SALT	0.1	0.5	1.86	37	0.0175	0.0175	0.0175	0.00
MG	SPAT	0.1	0.5	1.03	409	0.0025	0.0025	0.0025	0.00
VH	4905	4.33	1	1	1	2	0.00	0.00	0.00
MG	SALT	0.1	0.5	1.86	37	0.0175	0.0175	0.0175	0.00
MG	SPAT	0.1	0.5	1.03	409	0.0025	0.0025	0.0025	0.00
VE	4917	4.72	0.5	15	10	1	0.00	0.00	0.00
VE	4931	5.41	0.5	15	10	1	0.00	0.00	0.00
VE	4943	5.30	0.5	15	10	1	0.00	0.00	0.00
VE	4947	5.90	0.5	15	10	1	0.00	0.00	0.00
VE	4963	6.16	0.5	15	10	1	0.00	7.56	0.00
VE	4987	7.52	0.5	15	10	1	0.00	0.00	0.00
VE	4991	7.03	0.5	15	10	1	0.00	0.00	0.00
AS	5033	8.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5091	7.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5111	8.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5127	8.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5129	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5135	9.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5141	9.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	5143	8.94	0.00	0.00					

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
 Executed on: Fri Oct 11 12:19:25 2013
 Input file: C:\Marshfield_CHAMP\Marshfield_WHG\WPL-059-DISF.dat
 Output file: C:\Marshfield_CHAMP\Marshfield_WHG\WPL-059-DISF.out

- Transect: PL-059-DISF Date: 10/11/2013
 THIS IS A 100-YEAR CASE

PART1 INPUT

IE	0.000	0.000	0.000	0.000	14.440	49.800	10.650	0.000	0.040	0.000
IF	1.000	0.040	0.000	14.440	0.000	0.000	0.000	0.000	0.025	0.000
IF	21.000	0.530	0.000	14.440	0.000	0.000	0.000	0.000	0.058	0.000
IF	67.000	3.880	0.000	14.440	0.000	0.000	0.000	0.000	0.093	0.000
IF	81.000	6.100	0.000	14.440	0.000	0.000	0.000	0.000	0.186	0.000
IF	85.000	7.220	0.000	14.440	0.000	0.000	0.000	0.000	0.208	0.000
DU	91.000	8.180	1.000	0.000	14.440	0.000	0.000	0.000	-0.117	0.000
DU	99.000	5.580	1.000	0.000	14.440	0.000	0.000	0.000	-0.089	0.000
DU	103.000	7.110	1.000	0.000	14.440	0.000	0.000	0.000	0.509	0.000
DU	107.000	9.650	1.000	0.000	14.440	0.000	0.000	0.000	0.086	0.000
DU	111.000	7.800	1.000	0.000	14.440	0.000	0.000	0.000	-0.085	0.000
IF	113.000	9.140	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	125.000	16.990	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	143.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	179.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	183.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	193.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	199.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	207.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	209.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	213.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	215.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	237.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	241.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	249.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.670	0.000
AS	257.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	-0.287	0.000
BU	261.000	14.400	0.600	25.000	0.000	14.440	0.000	0.000	-0.220	0.000
BU	263.000	14.230	0.600	25.000	0.000	14.440	0.000	0.000	-0.029	0.000
BU	301.000	13.240	0.600	25.000	0.000	14.440	0.000	0.000	-0.023	0.000
BU	309.000	13.190	0.600	25.000	0.000	14.440	0.000	0.000	0.041	0.000
BU	313.000	13.730	0.600	25.000	0.000	14.440	0.000	0.000	0.135	0.000
AS	329.000	14.460	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	333.000	15.030	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	339.000	14.670	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	349.000	15.300	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	357.000	14.730	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	407.000	14.840	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	409.000	15.020	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	411.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000

[illegible]

AS	1263.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1265.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1271.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1297.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1303.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1347.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1373.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1381.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1393.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1409.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1427.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1439.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1449.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1463.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1491.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1493.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1499.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1505.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1523.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1541.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1567.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1575.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1585.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1591.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1609.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1623.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1641.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1675.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1683.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1687.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1689.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1699.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1705.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1729.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1747.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1763.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1771.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1781.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1787.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1791.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	1816.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	-0.075	0.000
BU	1833.000	14.280	0.600	25.000	0.000	14.440	0.000	0.000	-0.046	0.000
BU	1861.000	13.500	0.600	25.000	0.000	13.660	0.000	0.000	-0.062	0.000
BU	1919.000	8.970	0.600	25.000	0.000	9.802	0.000	0.000	-0.069	0.000
BU	1923.000	9.230	0.600	25.000	0.000	9.586	0.000	0.000	-0.024	0.000
BU	1935.000	8.590	0.600	25.000	0.000	8.939	0.000	0.000	-0.018	0.000
BU	1939.000	8.940	0.600	25.000	0.000	9.100	0.000	0.000	-0.073	0.000
BU	1945.000	7.860	0.600	25.000	0.000	8.400	0.000	0.000	-0.244	0.000
BU	1947.000	6.990	0.600	25.000	0.000	8.399	0.000	0.000	-0.295	0.000
BU	1949.000	6.680	0.600	25.000	0.000	8.399	0.000	0.000	-0.040	0.000
BU	1953.000	6.750	0.600	25.000	0.000	8.398	0.000	0.000	0.117	0.000

BU	1955.000	7.380	0.600	25.000	0.000	8.397	0.000	0.000	-0.093	0.000
BU	1965.000	5.640	0.600	25.000	0.000	8.394	0.000	0.000	-0.130	0.000
VH	1977.000	4.520	1.000	1.000	1.000	2.000	0.000	8.391	-0.005	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	3053.000	0.000	1.000	1.000	1.000	2.000	0.000	8.092	-0.004	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
IF	3059.000	0.000	0.000	8.090	0.000	0.000	0.000	0.000	0.000	0.000
IF	3227.000	0.000	0.000	8.043	0.000	0.000	0.000	0.000	0.014	0.000
VH	3231.000	2.320	1.000	1.000	1.000	2.000	0.000	8.042	0.003	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VH	4905.000	4.330	1.000	1.000	1.000	2.000	0.000	7.576	0.001	0.000
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000
VE	4917.000	4.720	0.500	15.000	10.000	1.000	0.000	7.573	0.041	0.000
VE	4931.000	5.410	0.500	15.000	10.000	1.000	0.000	7.569	0.022	0.000
VE	4943.000	5.300	0.500	15.000	10.000	1.000	0.000	7.566	0.031	0.000
VE	4947.000	5.900	0.500	15.000	10.000	1.000	0.000	7.564	0.043	0.000
VE	4963.000	6.160	0.500	15.000	10.000	1.000	0.000	7.560	0.041	0.000
VE	4987.000	7.520	0.500	15.000	10.000	1.000	0.000	7.560	0.031	0.000
VE	4991.000	7.030	0.500	15.000	10.000	1.000	0.000	7.560	-0.123	0.000
AS	5033.000	8.010	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5091.000	7.790	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5111.000	8.420	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5127.000	8.280	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5129.000	8.330	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5135.000	9.120	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5141.000	9.260	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5143.000	8.940	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5173.000	9.310	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5207.000	8.730	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5231.000	9.690	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5253.000	9.870	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5267.000	8.930	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5291.000	8.300	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5437.000	8.870	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5443.000	7.800	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5445.000	7.870	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5447.000	8.490	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5449.000	8.420	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5451.000	9.120	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5469.000	12.440	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5485.000	13.330	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5507.000	13.360	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5523.000	11.820	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	5549.000	11.410	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
ET	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IE	END STATION 0.000	END ELEVATION 0.000	FETCH LENGTH 0.000	SURGE ELEV 10-YEAR 0.000	SURGE ELEV 100-YEAR 14.440	INITIAL WAVE HEIGHT 49.800	INITIAL W. PERIOD 10.650	0.000	BOTTOM SLOPE 0.040	AVERAGE A-ZONES 0.000
IF	END STATION 1.000	END ELEVATION 0.040	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.025	AVERAGE A-ZONES 0.000
IF	END STATION 21.000	END ELEVATION 0.530	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.058	AVERAGE A-ZONES 0.000
IF	END STATION 67.000	END ELEVATION 3.880	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.093	AVERAGE A-ZONES 0.000
IF	END STATION 81.000	END ELEVATION 6.100	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.186	AVERAGE A-ZONES 0.000
IF	END STATION 85.000	END ELEVATION 7.220	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.208	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 91.000	DUNE CREST ELEVATION 8.180	DUNE OR SEAWALL 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	BOTTOM SLOPE -0.117	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 99.000	DUNE CREST ELEVATION 5.580	DUNE OR SEAWALL 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	BOTTOM SLOPE -0.089	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 103.000	DUNE CREST ELEVATION 7.110	DUNE OR SEAWALL 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	BOTTOM SLOPE 0.509	AVERAGE A-ZONES 0.000
DU	DUNE CREST STATION 107.000	DUNE CREST ELEVATION 9.650	DUNE OR SEAWALL 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	BOTTOM SLOPE 0.086	AVERAGE A-ZONES 0.000

DU	DUNE CREST STATION 111.000	DUNE CREST ELEVATION 7.800	DUNE OR SEAWALL 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	BOTTOM SLOPE -0.085	AVERAGE A-ZONES 0.000
IF	END STATION 113.000	END ELEVATION 9.140	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 125.000	END ELEVATION 16.990	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 143.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 179.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 183.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 193.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 199.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 207.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 209.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION 213.000	ELEVATION 15.550	10-YEAR 0.000	100-YEAR 14.440	0.000	0.000	0.000	0.000	SLOPE 0.670	A-ZONES 0.000
AS	END STATION 215.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 237.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 241.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 249.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.670	AVERAGE A-ZONES 0.000
AS	END STATION 257.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.287	AVERAGE A-ZONES 0.000
BU	END STATION 261.000	END ELEVATION 14.400	OPEN SPACE RATIO 0.600	NO. OF ROWS 25.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	BOTTOM SLOPE -0.220	AVERAGE A-ZONES 0.000
BU	END STATION 263.000	END ELEVATION 14.230	OPEN SPACE RATIO 0.600	NO. OF ROWS 25.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	BOTTOM SLOPE -0.029	AVERAGE A-ZONES 0.000
BU	END STATION 301.000	END ELEVATION 13.240	OPEN SPACE RATIO 0.600	NO. OF ROWS 25.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	BOTTOM SLOPE -0.023	AVERAGE A-ZONES 0.000
BU	END STATION 309.000	END ELEVATION 13.190	OPEN SPACE RATIO 0.600	NO. OF ROWS 25.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	BOTTOM SLOPE 0.041	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES

BU	313.000	13.730	0.600	25.000	0.000	14.440	0.000	0.000	0.135	0.000
AS	END STATION 329.000	END ELEVATION 14.460	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 333.000	END ELEVATION 15.030	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 339.000	END ELEVATION 14.670	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 349.000	END ELEVATION 15.300	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 357.000	END ELEVATION 14.730	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 407.000	END ELEVATION 14.840	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 409.000	END ELEVATION 15.020	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 411.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 425.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 437.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000

AS	END STATION 477.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 499.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 509.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 513.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 519.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 549.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 553.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 563.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 579.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 589.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000

AS	END STATION 617.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 625.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 643.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 653.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 683.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 695.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 707.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 743.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 749.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 767.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000

AS	END STATION 793.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 807.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 817.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 827.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 841.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 861.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 877.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 885.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 895.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 907.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION 937.000	ELEVATION 15.550	10-YEAR 0.000	100-YEAR 14.440	0.000	0.000	0.000	0.000	SLOPE 0.135	A-ZONES 0.000
AS	END STATION 953.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 989.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 999.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1021.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1031.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1059.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1089.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1105.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1113.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES

AS	1123.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1161.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1195.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1201.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1205.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1215.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1219.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1243.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1255.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1263.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE
	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
AS	1265.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000

AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1271.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1297.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1303.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1347.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1373.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1381.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1393.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1409.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1427.000	15.550	0.000	14.440					0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	0.000	0.000	0.000	0.000	BOTTOM SLOPE	AVERAGE A-ZONES
	1439.000	15.550	0.000	14.440					0.135	0.000

AS	END STATION 1449.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1463.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1491.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1493.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1499.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1505.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1523.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1541.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1567.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1575.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000

AS	END STATION 1585.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1591.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1609.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1623.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1641.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1675.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1683.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1687.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1689.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
AS	END STATION 1699.000	END ELEVATION 15.550	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 14.440	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.135	AVERAGE A-ZONES 0.000
	END	END	NEW SURGE	NEW SURGE					BOTTOM	AVERAGE

AS	STATION	ELEVATION	10-YEAR	100-YEAR					SLOPE	A-ZONES
	1705.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1729.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1747.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1763.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1771.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1781.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1787.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1791.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	0.135	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	1816.000	15.550	0.000	14.440	0.000	0.000	0.000	0.000	-0.075	0.000
BU	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES
	1833.000	14.280	0.600	25.000	0.000	14.440	0.000	0.000	-0.046	0.000
	END STATION	END ELEVATION	OPEN SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR			BOTTOM SLOPE	AVERAGE A-ZONES

BU	1861.000	13.500	0.600	25.000	0.000	13.660	0.000	0.000	-0.062	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1919.000	8.970	0.600	25.000	0.000	9.802	0.000	0.000	-0.069	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1923.000	9.230	0.600	25.000	0.000	9.586	0.000	0.000	-0.024	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1935.000	8.590	0.600	25.000	0.000	8.939	0.000	0.000	-0.018	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1939.000	8.940	0.600	25.000	0.000	9.100	0.000	0.000	-0.073	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1945.000	7.860	0.600	25.000	0.000	8.400	0.000	0.000	-0.244	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1947.000	6.990	0.600	25.000	0.000	8.399	0.000	0.000	-0.295	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1949.000	6.680	0.600	25.000	0.000	8.399	0.000	0.000	-0.040	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1953.000	6.750	0.600	25.000	0.000	8.398	0.000	0.000	0.117	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1955.000	7.380	0.600	25.000	0.000	8.397	0.000	0.000	-0.093	0.000
	END STATION	END ELEVATION	OPEN	SPACE RATIO	NO. OF ROWS	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR		BOTTOM SLOPE	AVERAGE A-ZONES
BU	1965.000	5.640	0.600	25.000	0.000	8.394	0.000	0.000	-0.130	0.000

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	1977.000	4.520	1.000	1.000	1.000	2.000	0.000	8.391	-0.005	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	REGION 1	REGION 1 WEIGHT	REGION 2	NO. OF PLANT TYPES	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VH	3053.000	0.000	1.000	1.000	1.000	2.000	0.000	8.092	-0.004	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.030	MID STEM DIAMETER 0.015	TOP STEM DIAMETER 0.015	LEAF-STEM AREA RATIO 1.380
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IF	END STATION 3059.000	END ELEVATION 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.090	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.000	AVERAGE A-ZONES 0.000
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IF	END STATION 3227.000	END ELEVATION 0.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.043	0.000	0.000	0.000	0.000	BOTTOM SLOPE 0.014	AVERAGE A-ZONES 0.000
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VH	END STATION 3231.000	END ELEVATION 2.320	REGION 1 1.000	REGION 1 WEIGHT 1.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 8.042	BOTTOM SLOPE 0.003	AVERAGE A-ZONES 0.000
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MG	PLANT TYPE SALT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 0.000	0.000
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MG	PLANT TYPE SPAT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.030	NUMBER DENSITY 409.000	BASE STEM DIAMETER 0.000	MID STEM DIAMETER 0.000	TOP STEM DIAMETER 0.000	LEAF-STEM AREA RATIO 0.000	0.000
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PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

PLANT TYPE SALT	DRAG COEFF. 0.100	COVERAGE RATIO 0.500	AVG. STEM HEIGHT 1.860	NUMBER DENSITY 37.000	BASE STEM DIAMETER 0.020	MID STEM DIAMETER 0.020	TOP STEM DIAMETER 0.020	LEAF-STEM AREA RATIO 1.590
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PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
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SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380
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	END STATION	END ELEVATION	REGION 1 1.000	REGION 1 WEIGHT 1.000	REGION 2 1.000	NO. OF PLANT TYPES 2.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.576	BOTTOM SLOPE 0.001	AVERAGE A-ZONES 0.000
VH	4905.000	4.330								

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	0.000	0.000

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO	
MG	SPAT	0.100	0.500	1.030	409.000	0.000	0.000	0.000	0.000	0.000

PLANT CHARACTERISTICS INCLUDING VALUES SUPPLIED BY THE PROGRAM

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SALT	0.100	0.500	1.860	37.000	0.020	0.020	0.020	1.590

	PLANT TYPE	DRAG COEFF.	COVERAGE RATIO	AVG. STEM HEIGHT	NUMBER DENSITY	BASE STEM DIAMETER	MID STEM DIAMETER	TOP STEM DIAMETER	LEAF-STEM AREA RATIO
	SPAT	0.100	0.500	1.030	409.000	0.030	0.015	0.015	1.380

	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4917.000	4.720	0.500	15.000	10.000	1.000	0.000	7.573	0.041	0.000

	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4931.000	5.410	0.500	15.000	10.000	1.000	0.000	7.569	0.022	0.000

	END STATION	END ELEVATION	AVERAGE DIAMETER	AVERAGE HEIGHT	AVERAGE SPACING	DRAG COEFF.	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR	BOTTOM SLOPE	AVERAGE A-ZONES
VE	4943.000	5.300	0.500	15.000	10.000	1.000	0.000	7.566	0.031	0.000

VE	END STATION 4947.000	END ELEVATION 5.900	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.564	BOTTOM SLOPE 0.043	AVERAGE A-ZONES 0.000
VE	END STATION 4963.000	END ELEVATION 6.160	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	BOTTOM SLOPE 0.041	AVERAGE A-ZONES 0.000
VE	END STATION 4987.000	END ELEVATION 7.520	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	BOTTOM SLOPE 0.031	AVERAGE A-ZONES 0.000
VE	END STATION 4991.000	END ELEVATION 7.030	AVERAGE DIAMETER 0.500	AVERAGE HEIGHT 15.000	AVERAGE SPACING 10.000	DRAW COEFF. 1.000	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5033.000	END ELEVATION 8.010	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5091.000	END ELEVATION 7.790	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5111.000	END ELEVATION 8.420	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5127.000	END ELEVATION 8.280	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5129.000	END ELEVATION 8.330	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5135.000	END ELEVATION 9.120	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000

AS	END STATION 5141.000	END ELEVATION 9.260	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5143.000	END ELEVATION 8.940	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5173.000	END ELEVATION 9.310	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5207.000	END ELEVATION 8.730	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5231.000	END ELEVATION 9.690	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5253.000	END ELEVATION 9.870	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5267.000	END ELEVATION 8.930	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5291.000	END ELEVATION 8.300	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5437.000	END ELEVATION 8.870	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000
AS	END STATION 5443.000	END ELEVATION 7.800	NEW SURGE 10-YEAR 0.000	NEW SURGE 100-YEAR 7.560	0.000	0.000	0.000	0.000	BOTTOM SLOPE -0.123	AVERAGE A-ZONES 0.000

AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5445.000	7.870	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5447.000	8.490	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5449.000	8.420	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5451.000	9.120	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5469.000	12.440	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5485.000	13.330	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5507.000	13.360	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5523.000	11.820	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000
AS	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
	5549.000	11.410	0.000	7.560	0.000	0.000	0.000	0.000	-0.123	0.000

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

NOTE:

SURGE ELEVATION INCLUDES CONTRIBUTIONS FROM ASTRONOMICAL AND STORM TIDES.

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

LOCATION		CONTROLLING WAVE HEIGHT	SPECTRAL PEAK WAVE PERIOD	WAVE CREST ELEVATION
IE	0.00	10.84	10.65	22.03
IF	1.00	10.81	10.65	22.01
IF	21.00	10.45	10.65	21.76
IF	67.00	8.01	10.65	20.04
IF	81.00	6.36	10.65	18.89
IF	85.00	5.52	10.65	18.31
DU	91.00	5.16	10.65	18.05
DU	99.00	5.16	10.65	18.05
DU	103.00	5.16	10.65	18.05
DU	107.00	4.43	10.65	17.54
DU	111.00	4.43	10.65	17.54
IF	113.00	4.08	10.65	17.29
AS	125.00	0.00	0.00	16.99
AS	143.00	0.00	0.00	15.55
AS	179.00	0.00	0.00	15.55
AS	183.00	0.00	0.00	15.55
AS	193.00	0.00	0.00	15.55
AS	199.00	0.00	0.00	15.55
AS	207.00	0.00	0.00	15.55
AS	209.00	0.00	0.00	15.55
AS	213.00	0.00	0.00	15.55

AS	215.00	0.00	0.00	15.55
AS	237.00	0.00	0.00	15.55
AS	241.00	0.00	0.00	15.55
AS	249.00	0.00	0.00	15.55
AS	257.00	0.00	0.00	15.55
BU	261.00	0.00	0.00	14.44
BU	263.00	0.00	0.00	14.44
BU	301.00	0.00	0.00	14.44
BU	309.00	0.00	0.00	14.44
BU	313.00	0.00	0.00	14.44
AS	329.00	0.00	0.00	14.46
AS	333.00	0.00	0.00	15.03
AS	339.00	0.00	0.00	14.67
AS	349.00	0.00	0.00	15.30
AS	357.00	0.00	0.00	14.73
AS	407.00	0.00	0.00	14.84
AS	409.00	0.00	0.00	15.02
AS	411.00	0.00	0.00	15.55
AS	425.00	0.00	0.00	15.55
AS	437.00	0.00	0.00	15.55
AS	477.00	0.00	0.00	15.55
AS	499.00	0.00	0.00	15.55
AS	509.00	0.00	0.00	15.55
AS	513.00	0.00	0.00	15.55
AS	519.00	0.00	0.00	15.55

AS	549.00	0.00	0.00	15.55
AS	553.00	0.00	0.00	15.55
AS	563.00	0.00	0.00	15.55
AS	579.00	0.00	0.00	15.55
AS	589.00	0.00	0.00	15.55
AS	617.00	0.00	0.00	15.55
AS	625.00	0.00	0.00	15.55
AS	643.00	0.00	0.00	15.55
AS	653.00	0.00	0.00	15.55
AS	683.00	0.00	0.00	15.55
AS	695.00	0.00	0.00	15.55
AS	707.00	0.00	0.00	15.55
AS	743.00	0.00	0.00	15.55
AS	749.00	0.00	0.00	15.55
AS	767.00	0.00	0.00	15.55
AS	793.00	0.00	0.00	15.55
AS	807.00	0.00	0.00	15.55
AS	817.00	0.00	0.00	15.55
AS	827.00	0.00	0.00	15.55
AS	841.00	0.00	0.00	15.55
AS	861.00	0.00	0.00	15.55
AS	877.00	0.00	0.00	15.55
AS	885.00	0.00	0.00	15.55
AS	895.00	0.00	0.00	15.55
AS	907.00	0.00	0.00	15.55
AS	937.00	0.00	0.00	15.55

AS	953.00	0.00	0.00	15.55
AS	989.00	0.00	0.00	15.55
AS	999.00	0.00	0.00	15.55
AS	1021.00	0.00	0.00	15.55
AS	1031.00	0.00	0.00	15.55
AS	1059.00	0.00	0.00	15.55
AS	1089.00	0.00	0.00	15.55
AS	1105.00	0.00	0.00	15.55
AS	1113.00	0.00	0.00	15.55
AS	1123.00	0.00	0.00	15.55
AS	1161.00	0.00	0.00	15.55
AS	1195.00	0.00	0.00	15.55
AS	1201.00	0.00	0.00	15.55
AS	1205.00	0.00	0.00	15.55
AS	1215.00	0.00	0.00	15.55
AS	1219.00	0.00	0.00	15.55
AS	1243.00	0.00	0.00	15.55
AS	1255.00	0.00	0.00	15.55
AS	1263.00	0.00	0.00	15.55
AS	1265.00	0.00	0.00	15.55
AS	1271.00	0.00	0.00	15.55
AS	1297.00	0.00	0.00	15.55
AS	1303.00	0.00	0.00	15.55
AS	1347.00	0.00	0.00	15.55
AS	1373.00	0.00	0.00	15.55

AS	1381.00	0.00	0.00	15.55
AS	1393.00	0.00	0.00	15.55
AS	1409.00	0.00	0.00	15.55
AS	1427.00	0.00	0.00	15.55
AS	1439.00	0.00	0.00	15.55
AS	1449.00	0.00	0.00	15.55
AS	1463.00	0.00	0.00	15.55
AS	1491.00	0.00	0.00	15.55
AS	1493.00	0.00	0.00	15.55
AS	1499.00	0.00	0.00	15.55
AS	1505.00	0.00	0.00	15.55
AS	1523.00	0.00	0.00	15.55
AS	1541.00	0.00	0.00	15.55
AS	1567.00	0.00	0.00	15.55
AS	1575.00	0.00	0.00	15.55
AS	1585.00	0.00	0.00	15.55
AS	1591.00	0.00	0.00	15.55
AS	1609.00	0.00	0.00	15.55
AS	1623.00	0.00	0.00	15.55
AS	1641.00	0.00	0.00	15.55
AS	1675.00	0.00	0.00	15.55
AS	1683.00	0.00	0.00	15.55
AS	1687.00	0.00	0.00	15.55
AS	1689.00	0.00	0.00	15.55
AS	1699.00	0.00	0.00	15.55
AS	1705.00	0.00	0.00	15.55

AS	1729.00	0.00	0.00	15.55
AS	1747.00	0.00	0.00	15.55
AS	1763.00	0.00	0.00	15.55
AS	1771.00	0.00	0.00	15.55
AS	1781.00	0.00	0.00	15.55
AS	1787.00	0.00	0.00	15.55
AS	1791.00	0.00	0.00	15.55
AS	1816.00	0.00	0.00	15.55
BU	1833.00	0.00	0.00	14.44
BU	1861.00	0.00	0.00	13.66
BU	1919.00	0.00	0.00	9.80
BU	1923.00	0.00	0.00	9.59
BU	1935.00	0.00	0.00	8.94
BU	1939.00	0.00	0.00	9.10
BU	1945.00	0.00	0.00	8.40
BU	1947.00	0.00	0.00	8.40
BU	1949.00	0.00	0.00	8.40
BU	1953.00	0.00	0.00	8.40
BU	1955.00	0.00	0.00	8.40
BU	1965.00	0.00	0.00	8.39
VH	1977.00	0.08	0.33	8.45
	2087.00	0.37	0.72	8.62
	2207.00	0.59	0.90	8.74
	2367.00	0.83	1.06	8.86
	2527.00	1.03	1.19	8.96

	2687.00	1.22	1.29	9.05
	2847.00	1.39	1.38	9.12
	3007.00	1.55	1.46	9.19
VH	3053.00	1.60	1.48	9.21
IF	3059.00	1.61	1.48	9.21
	3176.60	1.72	1.53	9.26
IF	3227.00	1.76	1.55	9.28
VH	3231.00	1.74	1.55	9.26
	3381.00	1.85	1.61	9.30
	3541.00	1.95	1.67	9.32
	3701.00	2.03	1.72	9.33
	3861.00	2.08	1.77	9.32
	4181.00	2.14	1.86	9.28
	4821.00	2.00	2.02	9.00
VH	4905.00	1.96	2.04	8.95
VE	4917.00	1.78	2.04	8.82
VE	4931.00	1.43	2.04	8.57
VE	4943.00	1.43	2.04	8.57
VE	4947.00	1.15	2.04	8.37
VE	4963.00	0.99	2.04	8.25
VE	4987.00	0.03	2.04	7.58
VE	4991.00	0.03	2.04	7.58
AS	5033.00	0.00	0.00	8.01
AS	5091.00	0.00	0.00	7.79
AS	5111.00	0.00	0.00	8.42
AS	5127.00	0.00	0.00	8.28

AS	5129.00	0.00	0.00	8.33
AS	5135.00	0.00	0.00	9.12
AS	5141.00	0.00	0.00	9.26
AS	5143.00	0.00	0.00	8.94
AS	5173.00	0.00	0.00	9.31
AS	5207.00	0.00	0.00	8.73
AS	5231.00	0.00	0.00	9.69
AS	5253.00	0.00	0.00	9.87
AS	5267.00	0.00	0.00	8.93
AS	5291.00	0.00	0.00	8.30
AS	5437.00	0.00	0.00	8.87
AS	5443.00	0.00	0.00	7.80
AS	5445.00	0.00	0.00	7.87
AS	5447.00	0.00	0.00	8.49
AS	5449.00	0.00	0.00	8.42
AS	5451.00	0.00	0.00	9.12
AS	5469.00	0.00	0.00	12.44
AS	5485.00	0.00	0.00	13.33
AS	5507.00	0.00	0.00	13.36
AS	5523.00	0.00	0.00	11.82
AS	5549.00	0.00	0.00	11.41

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

BETWEEN 113.00 AND 125.00

BETWEEN 125.00 AND 143.00

BETWEEN	143.00 AND	179.00
BETWEEN	179.00 AND	183.00
BETWEEN	183.00 AND	193.00
BETWEEN	193.00 AND	199.00
BETWEEN	199.00 AND	207.00
BETWEEN	207.00 AND	209.00
BETWEEN	209.00 AND	213.00
BETWEEN	213.00 AND	215.00
BETWEEN	215.00 AND	237.00
BETWEEN	237.00 AND	241.00
BETWEEN	241.00 AND	249.00
BETWEEN	249.00 AND	257.00
BETWEEN	313.00 AND	329.00
BETWEEN	329.00 AND	333.00
BETWEEN	333.00 AND	339.00
BETWEEN	339.00 AND	349.00
BETWEEN	349.00 AND	357.00
BETWEEN	357.00 AND	407.00
BETWEEN	407.00 AND	409.00
BETWEEN	409.00 AND	411.00
BETWEEN	411.00 AND	425.00
BETWEEN	425.00 AND	437.00
BETWEEN	437.00 AND	477.00
BETWEEN	477.00 AND	499.00
BETWEEN	499.00 AND	509.00
BETWEEN	509.00 AND	513.00

BETWEEN	513.00	AND	519.00
BETWEEN	519.00	AND	549.00
BETWEEN	549.00	AND	553.00
BETWEEN	553.00	AND	563.00
BETWEEN	563.00	AND	579.00
BETWEEN	579.00	AND	589.00
BETWEEN	589.00	AND	617.00
BETWEEN	617.00	AND	625.00
BETWEEN	625.00	AND	643.00
BETWEEN	643.00	AND	653.00
BETWEEN	653.00	AND	683.00
BETWEEN	683.00	AND	695.00
BETWEEN	695.00	AND	707.00
BETWEEN	707.00	AND	743.00
BETWEEN	743.00	AND	749.00
BETWEEN	749.00	AND	767.00
BETWEEN	767.00	AND	793.00
BETWEEN	793.00	AND	807.00
BETWEEN	807.00	AND	817.00
BETWEEN	817.00	AND	827.00
BETWEEN	827.00	AND	841.00
BETWEEN	841.00	AND	861.00
BETWEEN	861.00	AND	877.00
BETWEEN	877.00	AND	885.00
BETWEEN	885.00	AND	895.00

BETWEEN	895.00	AND	907.00
BETWEEN	907.00	AND	937.00
BETWEEN	937.00	AND	953.00
BETWEEN	953.00	AND	989.00
BETWEEN	989.00	AND	999.00
BETWEEN	999.00	AND	1021.00
BETWEEN	1021.00	AND	1031.00
BETWEEN	1031.00	AND	1059.00
BETWEEN	1059.00	AND	1089.00
BETWEEN	1089.00	AND	1105.00
BETWEEN	1105.00	AND	1113.00
BETWEEN	1113.00	AND	1123.00
BETWEEN	1123.00	AND	1161.00
BETWEEN	1161.00	AND	1195.00
BETWEEN	1195.00	AND	1201.00
BETWEEN	1201.00	AND	1205.00
BETWEEN	1205.00	AND	1215.00
BETWEEN	1215.00	AND	1219.00
BETWEEN	1219.00	AND	1243.00
BETWEEN	1243.00	AND	1255.00
BETWEEN	1255.00	AND	1263.00
BETWEEN	1263.00	AND	1265.00
BETWEEN	1265.00	AND	1271.00
BETWEEN	1271.00	AND	1297.00
BETWEEN	1297.00	AND	1303.00
BETWEEN	1303.00	AND	1347.00

BETWEEN	1347.00	AND	1373.00
BETWEEN	1373.00	AND	1381.00
BETWEEN	1381.00	AND	1393.00
BETWEEN	1393.00	AND	1409.00
BETWEEN	1409.00	AND	1427.00
BETWEEN	1427.00	AND	1439.00
BETWEEN	1439.00	AND	1449.00
BETWEEN	1449.00	AND	1463.00
BETWEEN	1463.00	AND	1491.00
BETWEEN	1491.00	AND	1493.00
BETWEEN	1493.00	AND	1499.00
BETWEEN	1499.00	AND	1505.00
BETWEEN	1505.00	AND	1523.00
BETWEEN	1523.00	AND	1541.00
BETWEEN	1541.00	AND	1567.00
BETWEEN	1567.00	AND	1575.00
BETWEEN	1575.00	AND	1585.00
BETWEEN	1585.00	AND	1591.00
BETWEEN	1591.00	AND	1609.00
BETWEEN	1609.00	AND	1623.00
BETWEEN	1623.00	AND	1641.00
BETWEEN	1641.00	AND	1675.00
BETWEEN	1675.00	AND	1683.00
BETWEEN	1683.00	AND	1687.00
BETWEEN	1687.00	AND	1689.00

BETWEEN	1689.00	AND	1699.00
BETWEEN	1699.00	AND	1705.00
BETWEEN	1705.00	AND	1729.00
BETWEEN	1729.00	AND	1747.00
BETWEEN	1747.00	AND	1763.00
BETWEEN	1763.00	AND	1771.00
BETWEEN	1771.00	AND	1781.00
BETWEEN	1781.00	AND	1787.00
BETWEEN	1787.00	AND	1791.00
BETWEEN	1791.00	AND	1816.00
BETWEEN	4991.00	AND	5033.00
BETWEEN	5033.00	AND	5091.00
BETWEEN	5091.00	AND	5111.00
BETWEEN	5111.00	AND	5127.00
BETWEEN	5127.00	AND	5129.00
BETWEEN	5129.00	AND	5135.00
BETWEEN	5135.00	AND	5141.00
BETWEEN	5141.00	AND	5143.00
BETWEEN	5143.00	AND	5173.00
BETWEEN	5173.00	AND	5207.00
BETWEEN	5207.00	AND	5231.00
BETWEEN	5231.00	AND	5253.00
BETWEEN	5253.00	AND	5267.00
BETWEEN	5267.00	AND	5291.00
BETWEEN	5291.00	AND	5437.00
BETWEEN	5437.00	AND	5443.00

BETWEEN	5443.00	AND	5445.00
BETWEEN	5445.00	AND	5447.00
BETWEEN	5447.00	AND	5449.00
BETWEEN	5449.00	AND	5451.00
BETWEEN	5451.00	AND	5469.00
BETWEEN	5469.00	AND	5485.00
BETWEEN	5485.00	AND	5507.00
BETWEEN	5507.00	AND	5523.00
BETWEEN	5523.00	AND	5549.00

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
1861.00	0.00	13.66
1919.00	0.00	9.80
1923.00	0.00	9.59
1935.00	0.00	8.94
1939.00	0.00	9.10
1945.00	0.00	8.40
1947.00	0.00	8.40
1953.00	0.00	8.40
1955.00	0.00	8.40
1965.00	0.00	8.39
1977.00	0.00	8.39
3053.00	0.00	8.09
3059.00	0.00	8.09

3227.00	0.00	8.04
3231.00	0.00	8.04
4905.00	0.00	7.58
4917.00	0.00	7.57
4931.00	0.00	7.57
4943.00	0.00	7.57
4947.00	0.00	7.56
4963.00	0.00	7.56

PART5 LOCATION OF V ZONES

STATION OF GUTTER	LOCATION OF ZONE
116.17	WINDWARD

PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION	FHF
0.00	22.03		
		V30 EL=22	200
27.93	21.50		
		V30 EL=21	200
54.78	20.50		
		V30 EL=20	200
73.62	19.50		
		V30 EL=19	200
83.68	18.50		
		V30 EL=18	200

111.31	17.50			
		V30	EL=17	200
113.00	17.29			
125.00	16.99			
143.00	15.55			
179.00	15.55			
183.00	15.55			
193.00	15.55			
199.00	15.55			
207.00	15.55			
209.00	15.55			
213.00	15.55			
215.00	15.55			
237.00	15.55			
241.00	15.55			
249.00	15.55			
257.00	14.44			
		A19	EL=16	95
257.18	15.50			

		A19	EL=15	95
260.78	14.50			
		A19	EL=14	95
313.00	14.44			
329.00	14.46			
333.00	15.03			
339.00	14.67			
349.00	15.30			
357.00	14.73			
407.00	14.84			
409.00	15.02			
411.00	15.55			
425.00	15.55			
437.00	15.55			
477.00	15.55			
499.00	15.55			
509.00	15.55			
513.00	15.55			

519.00	15.55
549.00	15.55
553.00	15.55
563.00	15.55
579.00	15.55
589.00	15.55
617.00	15.55
625.00	15.55
643.00	15.55
653.00	15.55
683.00	15.55
695.00	15.55
707.00	15.55
743.00	15.55
749.00	15.55
767.00	15.55
793.00	15.55

807.00	15.55
817.00	15.55
827.00	15.55
841.00	15.55
861.00	15.55
877.00	15.55
885.00	15.55
895.00	15.55
907.00	15.55
937.00	15.55
953.00	15.55
989.00	15.55
999.00	15.55
1021.00	15.55
1031.00	15.55
1059.00	15.55
1089.00	15.55

1105.00	15.55
1113.00	15.55
1123.00	15.55
1161.00	15.55
1195.00	15.55
1201.00	15.55
1205.00	15.55
1215.00	15.55
1219.00	15.55
1243.00	15.55
1255.00	15.55
1263.00	15.55
1265.00	15.55
1271.00	15.55
1297.00	15.55
1303.00	15.55
1347.00	15.55

1373.00	15.55
1381.00	15.55
1393.00	15.55
1409.00	15.55
1427.00	15.55
1439.00	15.55
1449.00	15.55
1463.00	15.55
1491.00	15.55
1493.00	15.55
1499.00	15.55
1505.00	15.55
1523.00	15.55
1541.00	15.55
1567.00	15.55
1575.00	15.55
1585.00	15.55

1591.00	15.55
1609.00	15.55
1623.00	15.55
1641.00	15.55
1675.00	15.55
1683.00	15.55
1687.00	15.55
1689.00	15.55
1699.00	15.55
1705.00	15.55
1729.00	15.55
1747.00	15.55
1763.00	15.55
1771.00	15.55
1781.00	15.55
1787.00	15.55
1791.00	15.55

1816.00	14.44	A19	EL=16	95
1816.77	15.50	A19	EL=15	95
1832.08	14.50	A19	EL=14	95
1833.00	14.44	A19	EL=14	95
1861.00	13.66	A19	EL=14	95
1863.41	13.50	A19	EL=13	95
1878.44	12.50	A19	EL=12	95
1893.47	11.50	A19	EL=11	95
1908.51	10.50	A19	EL=10	95
1919.00	9.80	A19	EL=10	95
1923.00	9.59	A19	EL=10	95
1924.60	9.50	A19	EL= 9	95
1935.00	8.94			

		A19	EL= 9	95
1939.00	9.10			
		A19	EL= 9	95
1944.14	8.50			
		A19	EL= 8	95
1945.00	8.40			
		A19	EL= 8	95
1947.00	8.40			
		A19	EL= 8	95
1949.00	8.40			
		A19	EL= 8	95
1953.00	8.40			
		A19	EL= 8	95
1955.00	8.40			
		A19	EL= 8	95
1965.00	8.39			
		A19	EL= 8	95
1977.00	8.45			
		A19	EL= 8	95
2009.86	8.50			
		A19	EL= 9	95
3053.00	9.21			
		A19	EL= 9	95
3059.00	9.21			
		A19	EL= 9	95
3227.00	9.28			

		A19	EL= 9	95
3231.00	9.26			
		A19	EL= 9	95
4905.00	8.95			
		A19	EL= 9	95
4917.00	8.82			
		A19	EL= 9	95
4931.00	8.57			
		A19	EL= 9	95
4943.00	8.57			
		A19	EL= 9	95
4944.32	8.50			
		A19	EL= 8	95
4947.00	8.37			
		A19	EL= 8	95
4963.00	8.25			
		A19	EL= 8	95
4991.00	7.58			
5033.00	8.01			
5091.00	7.79			
5111.00	8.42			
5127.00	8.28			
5129.00	8.33			

5135.00	9.12
5141.00	9.26
5143.00	8.94
5173.00	9.31
5207.00	8.73
5231.00	9.69
5253.00	9.87
5267.00	8.93
5291.00	8.30
5437.00	8.87
5443.00	7.80
5445.00	7.87
5447.00	8.49
5449.00	8.42
5451.00	9.12
5469.00	12.44
5485.00	13.33

5507.00	13.36
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5523.00	11.82
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5549.00	11.41
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ZONE TERMINATED AT END OF TRANSECT

PART 7 POSTSCRIPT NOTES

2013-0127

PL-059-DISF

50.0

-35.	-2152.	1.
-2.6	-1.	1.
8.2	91.	1.
5.6	99.	1.
7.8	111.	1.
17.	125.	1.
14.8	407.	1.
30.	617.	1.
35.8	1059.	1.
51.3	1297.	1.
51.	1373.	1.
35.1	1505.	1.
23.6	1747.	1.
16.7	1791.	1.
4.5	1977.	1.
.	3227.	1.
4.3	4905.	1.
1	11.4	5549. 1.
9.5	18.5	8.6
9.5	18.5	9.1
9.5	18.5	9.5
9.5	19.5	8.6
9.5	19.5	9.1
9.5	19.5	9.5
9.5	20.4	8.6
9.5	20.4	9.1
9.5	20.4	9.5

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CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2152.0	-35.0		
			66.39	1.00
2	-1.0	-2.6		
			8.52	1.00
3	91.0	8.2		
			-3.08	1.00
4	99.0	5.6		
			5.45	1.00
5	111.0	7.8		
			1.52	1.00
6	125.0	17.0		
			-128.18	1.00
7	407.0	14.8		
			13.82	1.00
8	617.0	30.0		
			76.21	1.00
9	1059.0	35.8		
			15.35	1.00
10	1297.0	51.3		
			-253.33	1.00
11	1373.0	51.0		
			-8.30	1.00
12	1505.0	35.1		
			-21.04	1.00
13	1747.0	23.6		
			-6.38	1.00
14	1791.0	16.7		
			-15.25	1.00
15	1977.0	4.5		
			-277.78	1.00
16	3227.0	.0		
			390.23	1.00

17	4905.0	4.3			
			90.70	1.00	
18	5549.0	11.4			
	LAST SLOPE	50.00	LAST ROUGHNESS	1.00	

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OUTPUT TABLE

INPUT PARAMETERS

RUNUP RESULTS

WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	1	5	2.22	27.69
9.50	18.50	9.10	1	5	2.22	28.09
9.50	18.50	9.50	1	5	2.22	28.41
9.50	19.50	8.60	1	5	2.14	29.00
9.50	19.50	9.10	1	5	2.14	29.41
9.50	19.50	9.50	1	5	2.14	29.74
9.50	20.40	8.60	1	5	2.24	30.17
9.50	20.40	9.10	1	5	2.24	30.60
9.50	20.40	9.50	1	5	2.24	30.93

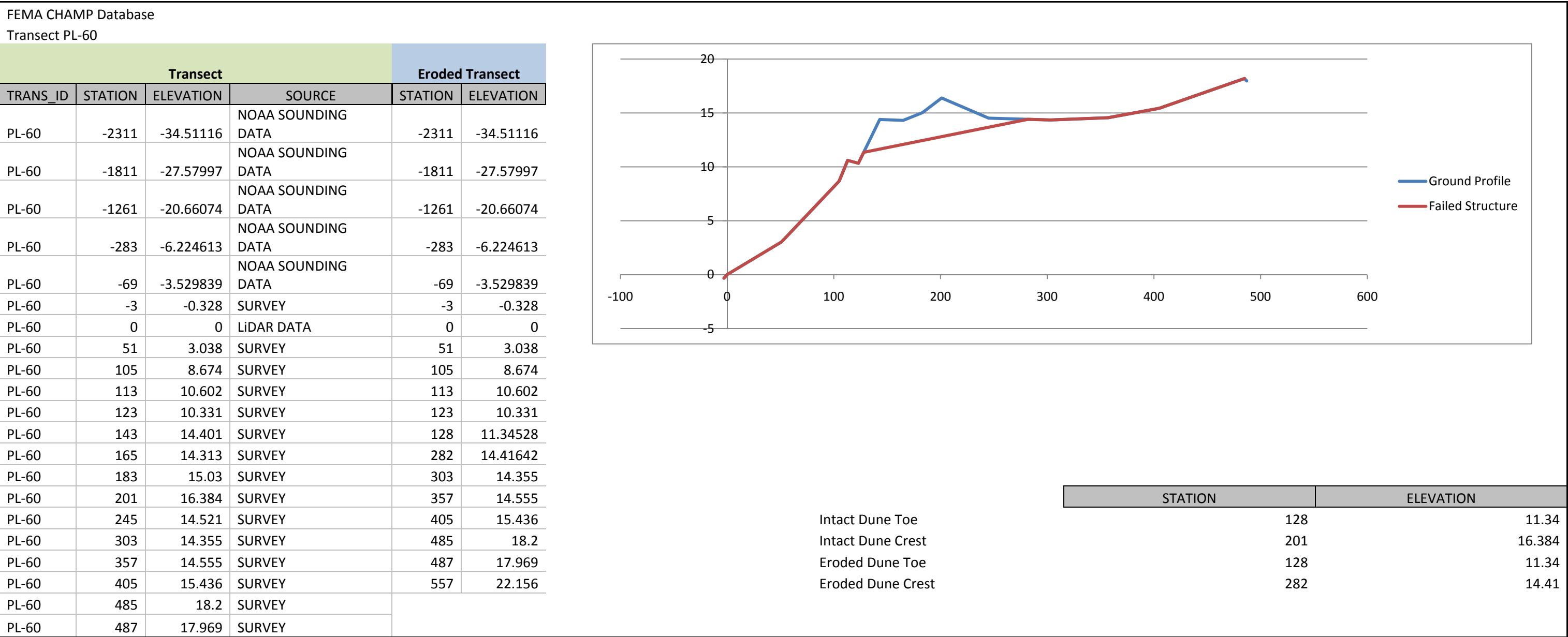
ENGINEERING CALCULATIONS & MODELING FILES

Transect PL-060

Interpolation for Toe and Top/SWEL Stations – Eroded Dune

Eroded Profile		Interpolation for Station @		
STATION	ELEVATION	-22.6		
-2311	-34.51116	9.5		
-1811	-27.57997	-1811	-27.58	6.91923 rise
-1261	-20.66074	-22.6		550 run
-283	-6.224613	-1261	20.6607	0.01258 slope
-69	-3.529839	-1415.15 STATION		
-3	-0.328			
0	0			
51	3.038			
105	8.674			
113	10.602			
123	10.331			
128	11.34528	105	8.674	1.928 rise
282	14.41642	9.5		8 run
303	14.355	113	10.602	0.241 slope
357	14.555	108.4274 STATION		
405	15.436			
485	18.2			
487	17.969			
557	22.156			

Transect Data Used to Represent Eroded Dune



Engineering Calculations

Transect PL-060 Plymouth County Marshfield		
SWEL & Wave Conditions		
SWEL (ft, NAVD88)	9.5	
Wave Height (ft)	31.1	
Wave Period (sec)	10.65	
Wave Length	581.2664	
H/L	0.053504	
H _b	25.01	
d _b	32.06	
Average Transect Slope		
Toe/Breaking Wave Height El (ft)	-22.56	
Top/SWEL Elevation (ft)	9.5	
Toe Station	-1415.15	
Top/SWEL Station	108.4274	
Average Transect Slope, m	0.021045	
1:ON	47.51613	
Average Shore Slope		
Average Beach Slope	0.087616	
1:ON	11.41341	
Wave Setup Calculations (Open Coast/Structures)		Comparison with FEMA Values
Open Coast Setup DIM (ft)	4.13	4.16
Toe Structure Elevation (ft)		
Depth at Toe of Structure (ft)		
Pre-calculation for H _b		
Pre-calculation for h _d		
h/H _d		
R multiplier		
Setup with Structure (ft)		
Total Water Level		13.62891
Wave Runup (Intact & Eroded)		
Runup 2% (ft)	4.4	
Method	Runup	

Overtopped Freeboard	2.0 No
Structure	
Does Structure Exist	No
Type of Structure	
Toe Station	
Top Station	
Armor Depth (ft)	
Failed Structure Data	
Failed Structure Top Station	
Failed Structure Top Elev (ft)	
Failed Structure Toe Station	
Failed Structure Toe Elev (ft)	
Avearge Transect Slope, m	
Wave Setup Calculations (Failed Structures)	
Comparison with FEMA Values	
Depth at Toe of Structure (ft)	
Pre-calculation for Hb	
Pre-calculation for hd	
h/Hd	
R multiplier	
Setup with Failed Structure (ft)	
Wave Runup (Failed Strucutre)	
Runup 2% (ft)	
Method	
Overtopped	
Freeboard	

WHAFIS and RUNUP 2.0 FILES

0.00

0.00

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AS	3357	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3371	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3387	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3391	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3411	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3417	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3437	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3467	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3493	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3501	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3533	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3541	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3547	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3555	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3561	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3571	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3579	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3589	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3607	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3609	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3617	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3625	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3629	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3643	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3655	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3675	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AS	3699	14.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BU	3717	13.45	0.75	32	0.00	0.00	0.00	0.00	0.00
BU	3721	12.54	0.75	32	0.00	0.00	0.00	0.00	0.00
BU	3729	9.68	0.75	32	0.00	0.00	0.00	0.00	0.00
BU	3737	8.40	0.75	32	0.00	8.4	0.00	0.00	0.00
BU	3745	8.35	0.75	32	0.00	0.00	0.00	0.00	0.00
BU	3759	7.23	0.75	32	0.00	0.00	0.00	0.00	0.00
VE	3767	7.19	0.5	20	10	0.00	0.00	0.00	0.00
VE	3775	6.96	0.5	20	10	0.00	0.00	0.00	0.00
VE	3799	7.51	0.5	20	10	0.00	0.00	0.00	0.00
VE	3803	7.07	0.5	20	10	0.00	0.00	0.00	0.00
VE	3807	6.03	0.5	20	10	0.00	0.00	0.00	0.00
VE	3817	5.53	0.5	20	10	0.00	0.00	0.00	0.00
VE	3829	5.79	0.5	20	10	0.00	0.00	0.00	0.00
VE	3847	5.24	0.5	20	10	0.00	0.00	0.00	0.00
VE	3851	5.68	0.5	20	10	0.00	0.00	0.00	0.00
VE	3859	5.80	0.5	20	10	0.00	0.00	0.00	0.00
VE	3875	5.24	0.5	20	10	0.00	0.00	0.00	0.00
VE	3883	5.48	0.5	20	10	0.00	0.00	0.00	0.00
VE	3887	5.01	0.5	20	10	0.00	0.00	0.00	0.00
IF	3905	5.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3911	5.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3915	4.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3941	4.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3959	5.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3963	5.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3965	7.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3971	6.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3973	5.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3975	3.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3981	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3985	3.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3989	4.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	3991	5.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	4005	6.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IF	4023	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VE	4027	6.26	0.5	20	10	0.00	0.00	0.00	0.00

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CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2311.0	-34.0		
			73.51	1.00
2	-69.0	-3.5		
			13.11	1.00
3	129.0	11.6		
			51.07	1.00
4	272.0	14.4		
			59.72	1.00
5	487.0	18.0		
			16.44	1.00
6	985.0	48.3		
			24.21	1.00
7	1261.0	59.7		
			-58.64	1.00
8	1865.0	49.4		
			21.99	1.00
9	2659.0	85.5		
			-193.33	1.00
10	2891.0	84.3		
			-20.18	1.00
11	3119.0	73.0		
			-7.34	1.00
12	3177.0	65.1		
			-2.97	1.00
13	3229.0	47.6		
			-19.43	1.00
14	3501.0	33.6		
			-6.92	1.00
15	3629.0	15.1		
			-19.58	1.00
16	3817.0	5.5		

LAST SLOPE 50.00 LAST ROUGHNESS 1.00

CLIENT-
PROJECT-
2

** WAVE RUNUP-VERSION 2.0 **

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RUN PL-0 PAGE

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OUTPUT TABLE

INPUT PARAMETERS

RUNUP RESULTS

WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
9.50	18.50	8.60	1	2	2.04	27.69
9.50	18.50	9.10	1	2	1.85	28.09
9.50	18.50	9.50	1	2	1.85	28.41
9.50	19.50	8.60	1	2	1.95	29.00
9.50	19.50	9.10	1	2	1.95	29.41
9.50	19.50	9.50	1	2	1.95	29.74
9.50	20.40	8.60	1	2	2.04	30.17
9.50	20.40	9.10	1	2	2.04	30.60
9.50	20.40	9.50	1	2	2.04	30.93

2013-0127

PL-060-DISE

50.0

-34.5-2311. 1.

-3.5 -69. 1.

11.6 129. 1.

14.4 272. 1.

18. 487. 1.

48.3 985. 1.

59.7 1261. 1.

49.4 1865. 1.

85.5 2659. 1.

84.3 2891. 1.

73. 3119. 1.

65.1 3177. 1.

47.6 3229. 1.

33.6 3501. 1.

15.1 3629. 1.

1 5.5 3817. 1.

9.5 18.5 8.6

9.5 18.5 9.1

9.5 18.5 9.5

9.5 19.5 8.6

9.5 19.5 9.1

9.5 19.5 9.5

9.5 20.4 8.6

9.5 20.4 9.1

9.5 20.4 9.5

CLIENT-
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1

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CROSS SECTION PROFILE

	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-2311.0	-34.0		
			73.51	1.00
2	-69.0	-3.5		
			13.11	1.00
3	129.0	11.6		
			51.07	1.00
4	272.0	14.4		
			59.72	1.00
5	487.0	18.0		
			16.44	1.00
6	985.0	48.3		
			24.21	1.00
7	1261.0	59.7		
			-58.64	1.00
8	1865.0	49.4		
			21.99	1.00
9	2659.0	85.5		
			-193.33	1.00
10	2891.0	84.3		
			-20.18	1.00
11	3119.0	73.0		
			-7.34	1.00
12	3177.0	65.1		
			-2.97	1.00
13	3229.0	47.6		
			-19.43	1.00
14	3501.0	33.6		
			-6.92	1.00
15	3629.0	15.1		
			-19.58	1.00
16	3817.0	5.5		

LAST SLOPE 50.00 LAST ROUGHNESS 1.00

CLIENT-
PROJECT-
2

** WAVE RUNUP-VERSION 2.0 **

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RUN PL-0 PAGE

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WATER LEVEL ABOVE DATUM (FT.)	DEEP WATER WAVE HEIGHT (FT.)	WAVE PERIOD (SEC.)	BREAKING SLOPE NUMBER	RUNUP SLOPE NUMBER	RUNUP ABOVE WATER LEVEL (FT.)	BREAKER DEPTH (FT.)
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9.50	19.50	9.10	1	2	1.95	29.41
9.50	19.50	9.50	1	2	1.95	29.74
9.50	20.40	8.60	1	2	2.04	30.17
9.50	20.40	9.10	1	2	2.04	30.60
9.50	20.40	9.50	1	2	2.04	30.93