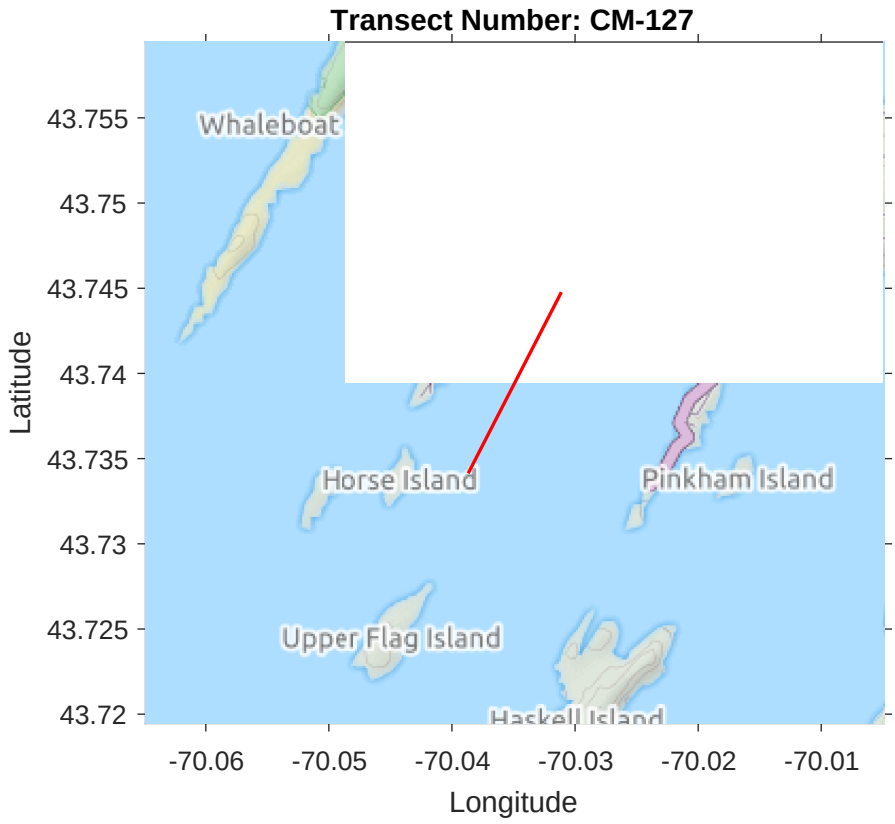
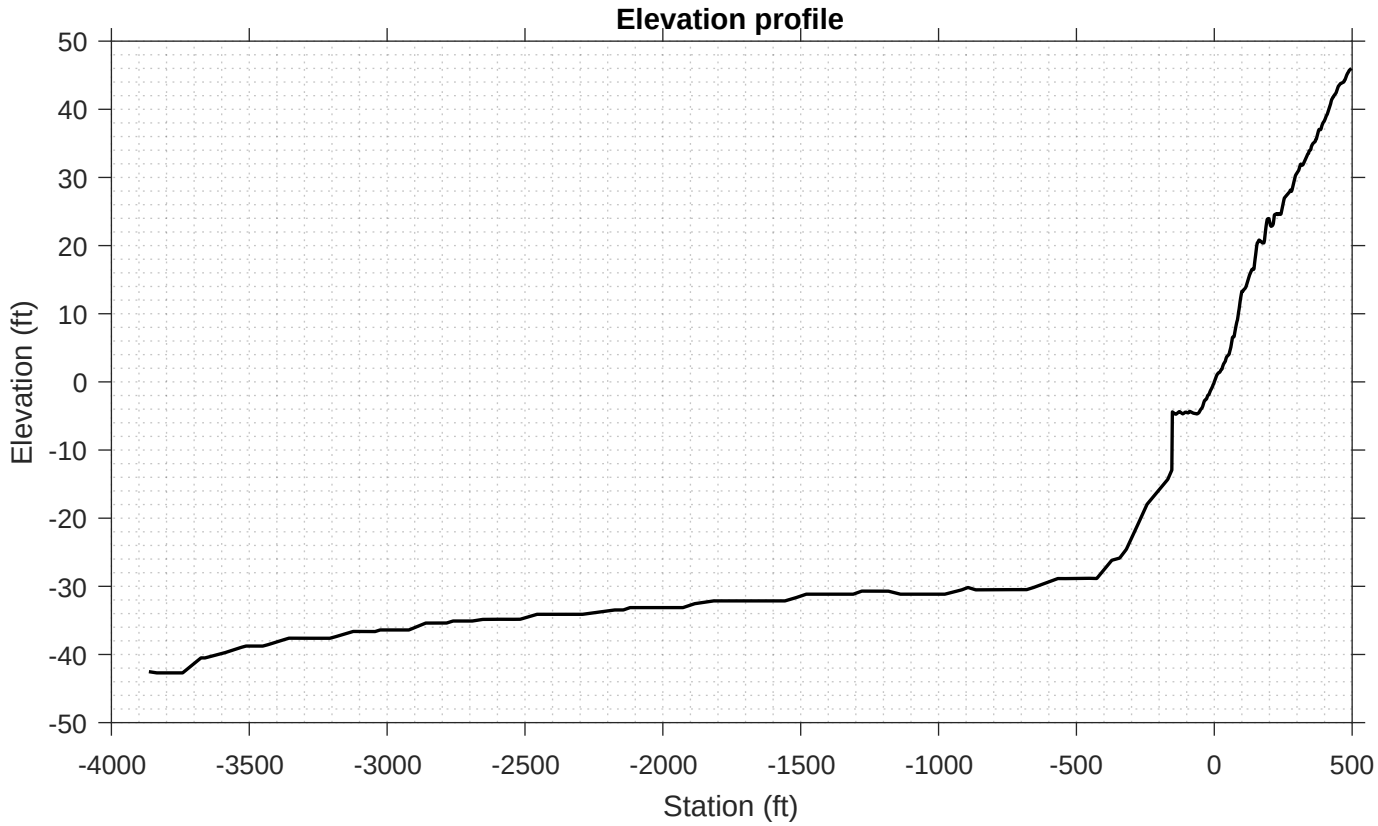

Transect Number: CM-127
Whaleboat
Horse Island
Pinkham Island
Upper Flag Island
Haskell Island
43.755
43.75
43.745
43.74
43.735
43.73
43.725
43.72
Latitude
-70.06
-70.05
-70.04
-70.03
-70.02
-70.01
Longitude


Elevation profile
50
40
30
20
10
0
-10
-20
-30
-40
-50
Elevation (ft)
-4000
-3500
-3000
-2500
-2000
-1500
-1000
-500
0
500
Station (ft)

DATA LOG FOR TRANSECT ID: CM-127

PART 1: USER INPUT

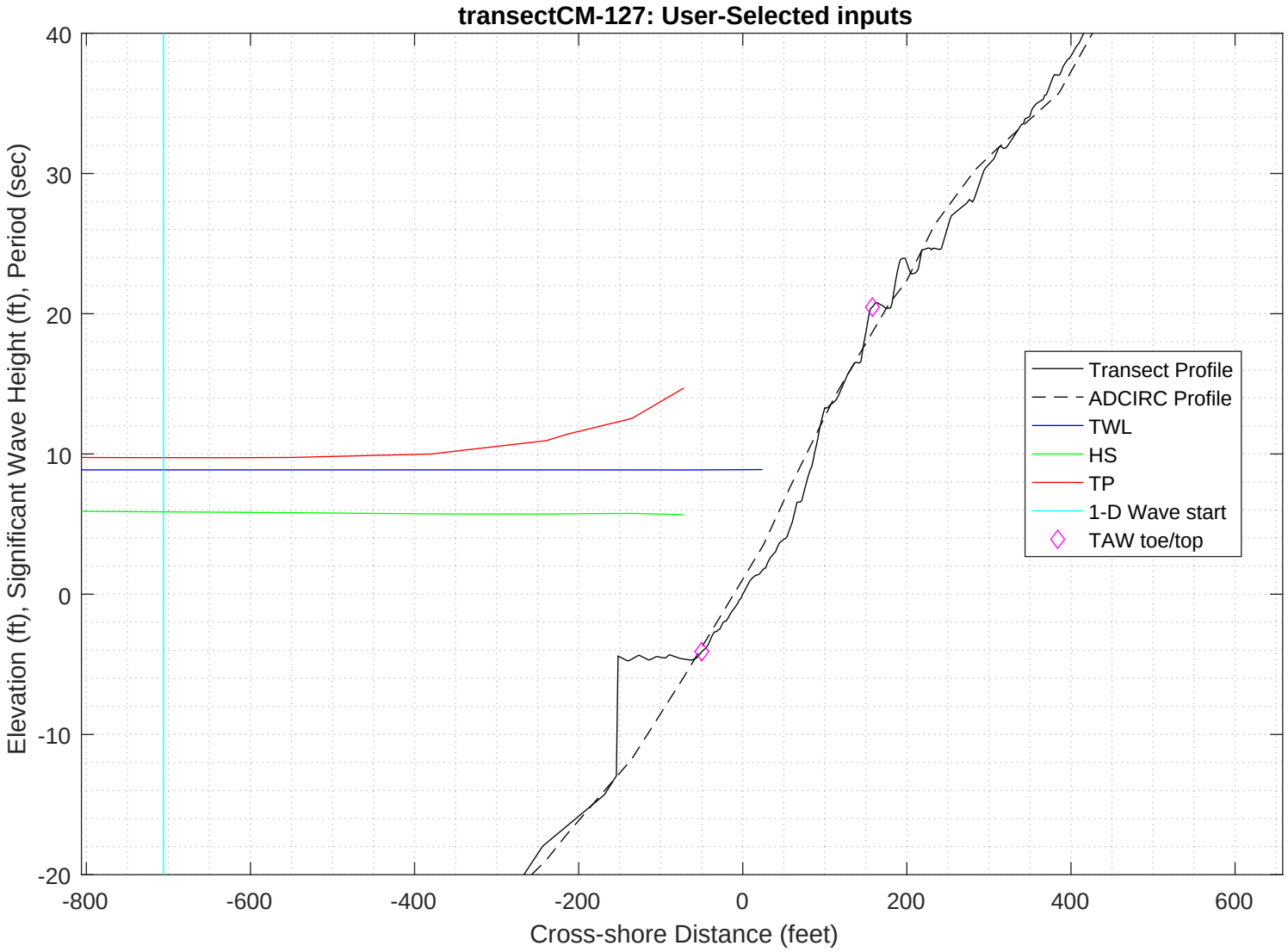
SWAN 1-D / WHAFIS input

station: -706 ft
LON: -70.0332 deg E
LAT: 43.7418 deg N
Bottom ELEV: -30.4846 ft-NAVD88
TWL: 8.8651 ft-NAVD88
HS: 5.8716 ft
TP: 9.7366 sec
Wave Direction bin: 45 deg CCW from East (90 deg sector)
Transect Direction: 54.5573 deg CCW from East

TAW/RUNUP input

toe sta: -50 ft
toe elev: -4.0921 ft-NAVD88
top sta: 158 ft
top elev: 20.4731 ft-NAVD88
Wave and water level conditions at toe to be calculated in SWAN 1-D

PART 1 COMPLETE


transectCM-127: User-Selected inputs
Elevation (ft), Significant Wave Height (ft), Period (sec)
Cross-shore Distance (feet)
40
30
20
10
0
-10
-20
-800
-600
-400
-200
0
200
400
600
Transect Profile
ADCIRC Profile
TWL
HS
TP
1-D Wave start
TAW toe/top

_____
PART 2: SWAN 1-D

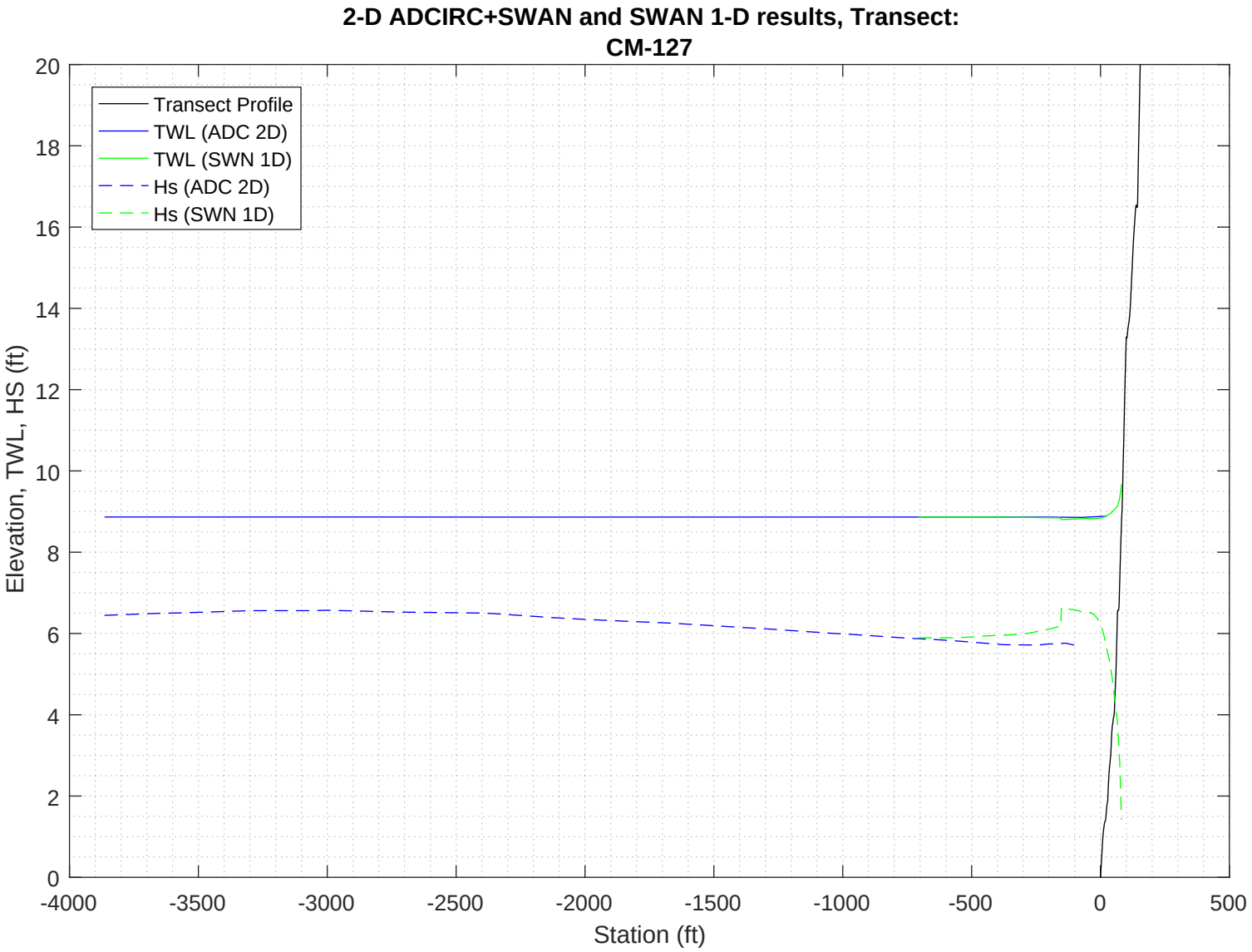
swan input grid name: 2_swan/gridfiles/CM-127zmeters_xmeters.grd
swan file name: 2_swan/swanfiles/CM-127.swn
swan output name: 2_swan/swanfiles/CM-127.dat

Boundary Conditions:
    TWL- 2.7021 meters
    HS- 1.7897 meters
    PER- 9.7366 seconds

Batch File: 2_swan/swanfiles/runswan.dat

SWAN maximum additional wave setup: 0.81296 feet
SWAN output at toe:
    SETUP- -0.037592 feet
    HS-   6.5053 feet
    PER-   9.8292 seconds

PART 2 COMPLETE_____


2-D ADCIRC+SWAN and SWAN 1-D results, Transect:
CM-127
Transect Profile
TWL (ADC 2D)
TWL (SWN 1D)
Hs (ADC 2D)
Hs (SWN 1D)
Elevation, TWL, HS (ft)
Station (ft)
20
18
16
14
12
10
8
6
4
2
0
-4000
-3500
-3000
-2500
-2000
-1500
-1000
-500
0
500

1

```
                    Execution started at 20200220.141921


                    ---------------------------------------
                                    SWAN
                    SIMULATION OF WAVES IN NEAR SHORE AREAS
                             VERSION NUMBER 41.20A
                    ---------------------------------------


 PROJECT '2018FemaAppeal' '1'
    '100-year Wind and Wave conditions'
 ! -- SET commands ------------------------------------------------------
  SET DEPMIN=0.01 MAXMES=999 MAXERR=3 PWTAIL=4
  SET LEVEL 0
  SET CARTESIAN
 ! -- MODE commands -----------------------------------------------------
  MODE STATIONARY ONED
 !-- COORDINATES commands-----------------------------------------------
 COORDINATES CART
 !
 !  --  computational (CGRID) grid commands -------------------------------------
 !                                   xlenc=length of grid in meters
 !  mxc = number of mesh cells (one less than number of grid points)
 !CGRID REGular [xpc]  [ypc]  [alpc]  [xlenc]   [ylenc]  [mxc]  [myc] &
 !      [ CIRcle|SECtor[dir1] [dir2] ] [mdc] [flow] [fhigh] [msc]
  CGRID REGULAR   0      0       0      240       0.   240     0    &
        CIRCLE                          36    0.03    0.8     30
 Resolution in sigma-space: df/f =  0.1157
 ! -- READgrid ---- not used in 1-D mode ----------------------------------
 ! -- INPgrid commands  -------------------------------------------------------
 !INPgrid BOTtom REGular [xpinp] [ypinp] [alpinp] [mxinp] [myinp] [dxinp] [dyinp]
 !
  INPGRID BOTTOM REGULAR    0       0        0      240   0      1       1
 !READinp BOTtom [fac]  'fname1'  [idla]  [nhedf]  [FREe|FORmat[form]|UNFormatted]
  READ    BOTTOM   -1. '../gridfiles/CM-127zmeters_xmeters.grd'    1      0       FREE
 !-------------------------------------------------------------------------
 ! -- WIND [vel] [dir]
 WIND      25.1  0
 ! -- BOUnd SHAPespec
 BOUND SHAPE JONSWAP 3.3  PEAK DSPR POWER
 ! -- BOUndspec
 ! BOU SIDE W CCW CON FILE 'swanspec.txt' 1
 BOUN SIDE W CCW CONSTANT PAR   1.7897     9.7366     0  2
 !-- BOUndnest1  - optional for boundary from parent run
 !-- BOUndnest2
 !-- BOUndnest3
 !-- INITial -- usest to specify initial values
 !
```

```
!---------------- P H Y S I C S ------------------------
!-- GEN1 [cf10] [cf20] [cf30] [cf40] [edm1pm] [cdrag] [umin] [cfpm]
!-- GEN2 [cf10] [cf20] [cf30] [cf40] [cf50] [cf60] [edm1pm] [cdrag] [umin] [cfpm]
    GEN3 KOMEN
!   whitecapping ( on by default)
!-- WCAPping KOMen [cds2] [stpm] [powst] [delta] [powk]
    WCAP KOM
!   quadruplet wave interactions
!-- QUADrupl [iquad] [lambda] [Cn14] [Csh1] [Csh2]
! -- BREaking CONstant [alpha] [gamma]
     BREAK    CON       1.      0.73
!-- FRICtion JONswap CONstant [cfjon]
    FRIC     JONSWAP CON       0.038
!-- TRIad [itriad] [trfac] [cutfr]   [a]  [b]  [urcrit] [urslim]
! TRIAD        1      0.65    2.5    0.95 -0.75  0.2       0.01
  TRIAD
!-- VEGEtation [height] [diamtr] [nstems] [drag]
!-- MUD [layer] [rhom] [viscm]
!- LIMiter [ursell] [qb] deactivates quadruplets with Ursell number exceeds ursell
!-- OBSTacle -- not in 1-D
!-- SETUP [supcor]
   SETUP    0
!
! ----------------- N U M E R I C S -----------------------------
!
!-- PROP  can use BBST or GSE instead of default
! -- NUMeric -- lots of options
!     NUM ACCUR npnts=100. stat 30
     NUMeric STOPC
!
! -------------------O U T P U T ------------------------------
!
!OUTPut OPTIons "comment' (TABLE [field]) (BLOck [ndec] [len]) (SPEC [ndec])
 OUTPUT OPTIONS '%' TABLE 16
 $BLOCK 9 1000 SPEC 8
!CURve 'sname' [xp1] [yp1] <[int]   [xp]   [yp] >
 CURVE 'curve' 0     0      240  240    0
!TABLe 'sname' < HEADer|NOHEADer|INDexed > 'fname' <output parameters> (output time)
 Table 'curve'   HEADER 'CM-127.dat' XP YP HSIGN TPS RTP TMM10 DIR &
 DSPR DEPTH SETUP
!QUANTITY XP hexp=99999
!
!-----------------------------------------------
COMPUTE STATIONARY
-------------------------------------------------------------
                 COMPUTATIONAL PART OF SWAN
-------------------------------------------------------------
```

```
One-dimensional mode of SWAN is activated
Gridresolution       : MXC             241 MYC              1
                     : MCGRD           242
                     : MSC              31 MDC             36
                     : MTC               1
                     : NSTATC            0 ITERMX          50
Propagation flags    : ITFRE             1 IREFR            1
Source term flags    : IBOT              1 ISURF            1
                     : IWCAP             1 IWIND            3
                     : ITRIAD            1 IQUAD            2
                     : IVEG              0 ITURBV           0
                     : IMUD              0
Spatial step         : DX       0.1000E+01 DY      0.1000E+01
Spectral bin         : df/f     0.1157E+00 DDIR    0.1000E+02
Physical constants   : GRAV     0.9810E+01 RHO     0.1025E+04
Wind input           : WSPEED   0.2510E+02 DIR     0.0000E+00
Tail parameters      : E(f)     0.4000E+01 E(k)    0.2500E+01
                     : A(f)     0.5000E+01 A(k)    0.3000E+01
Accuracy parameters  : DREL     0.1000E-01 NPNTS   0.9950E+02
                     : DHABS    0.0000E+00 CURVAT  0.5000E-02
                     : GRWMX    0.1000E+00
Drying/flooding      : LEVEL    0.0000E+00 DEPMIN  0.1000E-01
The Cartesian convention for wind and wave directions is used
Scheme for geographic propagation is SORDUP
Scheme geogr. space  : PROPSC            2 ICMAX            7
Scheme spectral space: CSS      0.5000E+00 CDD     0.5000E+00
Current is off
Quadruplets          : IQUAD             2
                     : LAMBDA   0.2500E+00 CNL4    0.3000E+08
                     : CSH1     0.5500E+01 CSH2    0.8330E+00
                     : CSH3    -0.1250E+01
Maximum Ursell nr for Snl4 :    0.1000E+02
Triads               : ITRIAD            1 TRFAC   0.8000E+00
                     : CUTFR    0.2500E+01 URCRI   0.2000E+00
Minimum Ursell nr for Snl3 :    0.1000E-01
JONSWAP (‘73)        : GAMMA    0.3800E-01
Vegetation is off
Turbulence is off
Fluid mud is off
W-cap Komen (‘84)    : EMPCOF (CDS2):   0.2360E-04
W-cap Komen (‘84)    : APM (STPM)   :   0.3020E-02
W-cap Komen (‘84)    : POWST        :   0.2000E+01
W-cap Komen (‘84)    : DELTA        :   0.1000E+01
W-cap Komen (‘84)    : POWK         :   0.1000E+01
Wind drag is fit
Snyder/Komen wind input
Battjes&Janssen (‘78): ALPHA    0.1000E+01 GAMMA   0.7300E+00
Set-up               : SUPCOR   0.0000E+00
Diffraction is off
Janssen (‘89,‘90)    : ALPHA    0.1000E-01 KAPPA   0.4100E+00
Janssen (‘89,‘90)    : RHOA     0.1280E+01 RHOW    0.1025E+04

1st and 2nd gen. wind: CF10     0.1880E+03 CF20    0.5900E+00
                     : CF30     0.1200E+00 CF40    0.2500E+03
                     : CF50     0.2300E-02 CF60   -0.2230E+00
                     : CF70     0.0000E+00 CF80   -0.5600E+00
                     : RHOAW    0.1249E-02 EDMLPM  0.3600E-02
                     : CDRAG    0.1230E-02 UMIN    0.1000E+01
                     : LIM_PM   0.1300E+00

 ---------------------------------------------------------------
 First guess by 2nd generation model flags for first iteration:
 ITER       1 GRWMX      0.1000E+23 ALFA       0.0000E+00
 IWIND      2 IWCAP      0 IQUAD      0
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    1; sweep 1
iteration    1; sweep 2
iteration    1; sweep 3
iteration    1; sweep 4
not possible to compute, first iteration

 ---------------------------------------------------------------
 Options given by user are activated for proceeding calculation:
 ITER       2 GRWMX      0.1000E+00 ALFA       0.0000E+00
 IWIND      3 IWCAP      1 IQUAD      2
 ITRIAD     1 IBOT       1 ISURF      1
 IVEG       0 ITURBV     0 IMUD       0
 ---------------------------------------------------------------
iteration    2; sweep 1
iteration    2; sweep 2
iteration    2; sweep 3
iteration    2; sweep 4
accuracy OK in  72.20 % of wet grid points ( 99.50 % required)

iteration    3; sweep 1
iteration    3; sweep 2
iteration    3; sweep 3
```

```
iteration    3; sweep 4
accuracy OK in   0.42 % of wet grid points ( 99.50 % required)

iteration    4; sweep 1
iteration    4; sweep 2
iteration    4; sweep 3
iteration    4; sweep 4
accuracy OK in  71.79 % of wet grid points ( 99.50 % required)

iteration    5; sweep 1
iteration    5; sweep 2
iteration    5; sweep 3
iteration    5; sweep 4
accuracy OK in  88.39 % of wet grid points ( 99.50 % required)

iteration    6; sweep 1
iteration    6; sweep 2
iteration    6; sweep 3
iteration    6; sweep 4
accuracy OK in  98.76 % of wet grid points ( 99.50 % required)

iteration    7; sweep 1
iteration    7; sweep 2
iteration    7; sweep 3
iteration    7; sweep 4
accuracy OK in  99.18 % of wet grid points ( 99.50 % required)

iteration    8; sweep 1
iteration    8; sweep 2
iteration    8; sweep 3
iteration    8; sweep 4
accuracy OK in 100.00 % of wet grid points ( 99.50 % required)


STOP
```

%
%
% Run:1 Table:curve SWAN version:41.20A
%
% Xp Yp Hsig TPsmoo RTpeak Tm_10 Dir Dspr Depth Setup
% [m] [m] [m] [sec] [sec] [sec] [degr] [degr] [m] [m]
%

0.	0.	1.79572	9.7696	10.0005	8.7954	0.023	31.6263	11.9900	0.000000
1.	0.	1.79581	9.7696	10.0005	8.7948	0.024	31.6267	11.9900	-0.000001
2.	0.	1.79591	9.7696	10.0005	8.7943	0.024	31.6272	11.9900	-0.000002
3.	0.	1.79600	9.7696	10.0005	8.7938	0.024	31.6276	11.9900	-0.000002
4.	0.	1.79609	9.7696	10.0005	8.7932	0.024	31.6281	11.9900	-0.000003
5.	0.	1.79619	9.7696	10.0005	8.7927	0.024	31.6286	11.9900	-0.000004
6.	0.	1.79628	9.7696	10.0005	8.7921	0.024	31.6290	11.9900	-0.000005
7.	0.	1.79638	9.7696	10.0005	8.7916	0.024	31.6295	11.9900	-0.000006
8.	0.	1.79640	9.7696	10.0005	8.7910	0.024	31.6230	11.9900	-0.000006
9.	0.	1.79645	9.7696	10.0005	8.7906	0.025	31.6071	11.9800	-0.000013
10.	0.	1.79639	9.7696	10.0005	8.7901	0.025	31.5812	11.9700	-0.000019
11.	0.	1.79642	9.7696	10.0005	8.7898	0.025	31.5520	11.9500	-0.000032
12.	0.	1.79639	9.7696	10.0005	8.7893	0.025	31.5288	11.9400	-0.000039
13.	0.	1.79638	9.7697	10.0005	8.7888	0.025	31.5076	11.9300	-0.000045
14.	0.	1.79632	9.7697	10.0005	8.7883	0.025	31.4802	11.9199	-0.000052
15.	0.	1.79635	9.7697	10.0005	8.7880	0.025	31.4509	11.8999	-0.000064
16.	0.	1.79625	9.7697	10.0005	8.7875	0.026	31.4210	11.8899	-0.000071
17.	0.	1.79628	9.7697	10.0005	8.7872	0.026	31.3910	11.8699	-0.000084
18.	0.	1.79619	9.7698	10.0005	8.7867	0.026	31.3611	11.8599	-0.000090
19.	0.	1.79622	9.7698	10.0005	8.7863	0.026	31.3313	11.8399	-0.000103
20.	0.	1.79614	9.7698	10.0005	8.7858	0.026	31.3016	11.8299	-0.000110
21.	0.	1.79618	9.7698	10.0005	8.7855	0.026	31.2721	11.8099	-0.000123
22.	0.	1.79617	9.7699	10.0005	8.7850	0.027	31.2496	11.7999	-0.000130
23.	0.	1.79611	9.7699	10.0005	8.7844	0.027	31.2243	11.7899	-0.000137
24.	0.	1.79616	9.7699	10.0005	8.7841	0.027	31.2003	11.7699	-0.000149
25.	0.	1.79609	9.7699	10.0005	8.7835	0.027	31.1771	11.7598	-0.000155
26.	0.	1.79615	9.7700	10.0005	8.7832	0.027	31.1542	11.7398	-0.000168
27.	0.	1.79608	9.7700	10.0005	8.7826	0.027	31.1317	11.7298	-0.000174
28.	0.	1.79614	9.7700	10.0005	8.7823	0.028	31.1094	11.7098	-0.000186
29.	0.	1.79608	9.7700	10.0005	8.7817	0.028	31.0871	11.6998	-0.000192
30.	0.	1.79614	9.7701	10.0005	8.7813	0.028	31.0651	11.6798	-0.000205
31.	0.	1.79608	9.7701	10.0005	8.7807	0.028	31.0431	11.6698	-0.000211
32.	0.	1.79614	9.7701	10.0005	8.7803	0.028	31.0211	11.6498	-0.000224
33.	0.	1.79609	9.7701	10.0005	8.7797	0.028	30.9992	11.6398	-0.000230
34.	0.	1.79619	9.7702	10.0005	8.7791	0.029	30.9767	11.6198	-0.000243
35.	0.	1.79619	9.7702	10.0005	8.7780	0.029	30.9542	11.6097	-0.000249
36.	0.	1.79633	9.7702	10.0005	8.7770	0.029	30.9315	11.5897	-0.000263
37.	0.	1.79636	9.7702	10.0005	8.7758	0.029	30.9088	11.5797	-0.000269
38.	0.	1.79653	9.7703	10.0005	8.7746	0.029	30.8860	11.5597	-0.000282
39.	0.	1.79659	9.7703	10.0005	8.7730	0.030	30.8631	11.5497	-0.000289
40.	0.	1.79679	9.7703	10.0005	8.7716	0.030	30.8401	11.5297	-0.000303
41.	0.	1.79686	9.7703	10.0005	8.7699	0.030	30.8173	11.5197	-0.000309
42.	0.	1.79713	9.7704	10.0005	8.7686	0.030	30.7995	11.4997	-0.000323
43.	0.	1.79729	9.7704	10.0005	8.7667	0.031	30.7939	11.4997	-0.000324
44.	0.	1.79753	9.7704	10.0005	8.7647	0.031	30.7923	11.4997	-0.000325
45.	0.	1.79776	9.7704	10.0005	8.7629	0.032	30.7922	11.4997	-0.000326
46.	0.	1.79800	9.7703	10.0005	8.7611	0.033	30.7928	11.4997	-0.000328
47.	0.	1.79824	9.7703	10.0005	8.7593	0.033	30.7936	11.4997	-0.000329
48.	0.	1.79848	9.7703	10.0005	8.7574	0.034	30.7945	11.4997	-0.000330
49.	0.	1.79872	9.7703	10.0005	8.7556	0.034	30.7955	11.4997	-0.000331
50.	0.	1.79896	9.7703	10.0005	8.7538	0.035	30.7965	11.4997	-0.000332
51.	0.	1.79922	9.7703	10.0005	8.7518	0.035	30.7978	11.4997	-0.000334
52.	0.	1.79950	9.7703	10.0005	8.7497	0.036	30.7992	11.4997	-0.000335
53.	0.	1.79979	9.7703	10.0005	8.7475	0.036	30.8006	11.4997	-0.000337
54.	0.	1.80008	9.7703	10.0005	8.7452	0.037	30.8020	11.4997	-0.000338
55.	0.	1.80038	9.7703	10.0005	8.7429	0.037	30.8034	11.4997	-0.000339
56.	0.	1.80069	9.7703	10.0005	8.7405	0.037	30.8048	11.4997	-0.000341
57.	0.	1.80101	9.7703	10.0005	8.7380	0.038	30.8063	11.4997	-0.000343
58.	0.	1.80133	9.7703	10.0005	8.7355	0.039	30.8078	11.4997	-0.000344
59.	0.	1.80166	9.7703	10.0005	8.7330	0.039	30.8093	11.4997	-0.000346

60.	0.	1.80201	9.7703	10.0005	8.7303	0.040	30.8109	11.4997	-0.000348
61.	0.	1.80230	9.7703	10.0005	8.7275	0.041	30.8076	11.4997	-0.000349
62.	0.	1.80271	9.7703	10.0005	8.7249	0.041	30.8027	11.4896	-0.000357
63.	0.	1.80306	9.7703	10.0005	8.7219	0.042	30.8027	11.4896	-0.000359
64.	0.	1.80345	9.7703	10.0005	8.7187	0.042	30.8047	11.4896	-0.000361
65.	0.	1.80386	9.7703	10.0005	8.7154	0.043	30.8074	11.4896	-0.000363
66.	0.	1.80428	9.7703	10.0005	8.7121	0.044	30.8105	11.4896	-0.000365
67.	0.	1.80472	9.7702	10.0005	8.7086	0.046	30.8138	11.4896	-0.000366
68.	0.	1.80517	9.7702	10.0005	8.7051	0.047	30.8174	11.4896	-0.000368
69.	0.	1.80563	9.7702	10.0005	8.7014	0.048	30.8213	11.4896	-0.000370
70.	0.	1.80611	9.7702	10.0005	8.6976	0.049	30.8254	11.4896	-0.000373
71.	0.	1.80655	9.7702	10.0005	8.6941	0.051	30.8307	11.4896	-0.000375
72.	0.	1.80697	9.7702	10.0005	8.6908	0.053	30.8369	11.4896	-0.000377
73.	0.	1.80737	9.7702	10.0005	8.6877	0.055	30.8438	11.4896	-0.000378
74.	0.	1.80776	9.7702	10.0005	8.6848	0.058	30.8515	11.4896	-0.000380
75.	0.	1.80816	9.7702	10.0005	8.6817	0.061	30.8596	11.4896	-0.000382
76.	0.	1.80857	9.7702	10.0005	8.6785	0.064	30.8683	11.4896	-0.000384
77.	0.	1.80900	9.7702	10.0005	8.6752	0.067	30.8776	11.4896	-0.000386
78.	0.	1.80943	9.7702	10.0005	8.6719	0.070	30.8874	11.4896	-0.000388
79.	0.	1.80985	9.7702	10.0005	8.6686	0.073	30.8979	11.4896	-0.000390
80.	0.	1.81028	9.7702	10.0005	8.6654	0.076	30.9089	11.4896	-0.000392
81.	0.	1.81069	9.7702	10.0005	8.6622	0.079	30.9203	11.4896	-0.000394
82.	0.	1.81111	9.7702	10.0005	8.6590	0.082	30.9322	11.4896	-0.000396
83.	0.	1.81154	9.7702	10.0005	8.6557	0.086	30.9448	11.4896	-0.000398
84.	0.	1.81199	9.7701	10.0005	8.6523	0.090	30.9577	11.4896	-0.000400
85.	0.	1.81225	9.7701	10.0005	8.6487	0.094	30.9563	11.4896	-0.000402
86.	0.	1.81254	9.7702	10.0005	8.6456	0.097	30.9251	11.4596	-0.000422
87.	0.	1.81284	9.7703	10.0005	8.6430	0.100	30.8742	11.4095	-0.000456
88.	0.	1.81308	9.7704	10.0005	8.6402	0.102	30.8171	11.3595	-0.000490
89.	0.	1.81328	9.7705	10.0005	8.6377	0.103	30.7554	11.3095	-0.000524
90.	0.	1.81349	9.7706	10.0005	8.6352	0.103	30.6932	11.2594	-0.000558
91.	0.	1.81378	9.7707	10.0005	8.6326	0.103	30.6358	11.2094	-0.000594
92.	0.	1.81397	9.7708	10.0005	8.6298	0.103	30.5803	11.1694	-0.000623
93.	0.	1.81425	9.7709	10.0005	8.6274	0.103	30.5204	11.1193	-0.000659
94.	0.	1.81453	9.7710	10.0005	8.6250	0.103	30.4587	11.0693	-0.000696
95.	0.	1.81478	9.7711	10.0005	8.6228	0.101	30.3945	11.0193	-0.000733
96.	0.	1.81503	9.7713	10.0005	8.6209	0.101	30.3280	10.9692	-0.000771
97.	0.	1.81529	9.7714	10.0005	8.6190	0.100	30.2615	10.9192	-0.000809
98.	0.	1.81556	9.7715	10.0005	8.6172	0.100	30.1948	10.8692	-0.000848
99.	0.	1.81585	9.7716	10.0005	8.6154	0.100	30.1281	10.8191	-0.000888
100.	0.	1.81616	9.7717	10.0005	8.6136	0.099	30.0613	10.7691	-0.000928
101.	0.	1.81654	9.7718	10.0005	8.6119	0.099	29.9991	10.7190	-0.000969
102.	0.	1.81699	9.7719	10.0005	8.6101	0.100	29.9573	10.6790	-0.001003
103.	0.	1.81720	9.7719	10.0005	8.6079	0.100	29.9366	10.6690	-0.001013
104.	0.	1.81747	9.7720	10.0005	8.6058	0.099	29.9222	10.6590	-0.001023
105.	0.	1.81772	9.7720	10.0005	8.6037	0.099	29.9050	10.6490	-0.001033
106.	0.	1.81812	9.7720	10.0005	8.6019	0.098	29.8866	10.6289	-0.001051
107.	0.	1.81841	9.7720	10.0005	8.5998	0.098	29.8730	10.6189	-0.001062
108.	0.	1.81872	9.7721	10.0005	8.5978	0.097	29.8609	10.6089	-0.001072
109.	0.	1.81903	9.7721	10.0005	8.5959	0.096	29.8491	10.5989	-0.001083
110.	0.	1.81923	9.7721	10.0005	8.5939	0.096	29.8274	10.5889	-0.001093
111.	0.	1.81950	9.7722	10.0005	8.5924	0.096	29.7824	10.5589	-0.001120
112.	0.	1.81986	9.7723	10.0005	8.5914	0.095	29.7144	10.5088	-0.001163
113.	0.	1.82032	9.7724	10.0005	8.5907	0.095	29.6384	10.4488	-0.001216
114.	0.	1.82065	9.7726	10.0005	8.5897	0.095	29.5646	10.3987	-0.001261
115.	0.	1.82101	9.7727	10.0005	8.5888	0.094	29.4914	10.3487	-0.001307
116.	0.	1.82133	9.7728	10.0005	8.5879	0.094	29.4133	10.2986	-0.001353
117.	0.	1.82178	9.7730	10.0005	8.5873	0.093	29.3282	10.2386	-0.001409
118.	0.	1.82214	9.7731	10.0005	8.5867	0.093	29.2315	10.1785	-0.001466
119.	0.	1.82270	9.7733	10.0005	8.5865	0.092	29.1184	10.0985	-0.001542
120.	0.	1.82341	9.7735	10.0005	8.5867	0.091	29.0045	10.0084	-0.001629
121.	0.	1.82396	9.7737	10.0005	8.5866	0.091	28.8930	9.9283	-0.001707
122.	0.	1.82467	9.7739	10.0005	8.5869	0.090	28.7764	9.8382	-0.001796
123.	0.	1.82540	9.7742	10.0005	8.5872	0.089	28.6580	9.7481	-0.001888
124.	0.	1.82621	9.7744	10.0005	8.5875	0.088	28.5432	9.6580	-0.001981
125.	0.	1.82687	9.7746	10.0005	8.5877	0.086	28.4295	9.5779	-0.002067
126.	0.	1.82773	9.7748	10.0005	8.5881	0.085	28.3103	9.4878	-0.002165

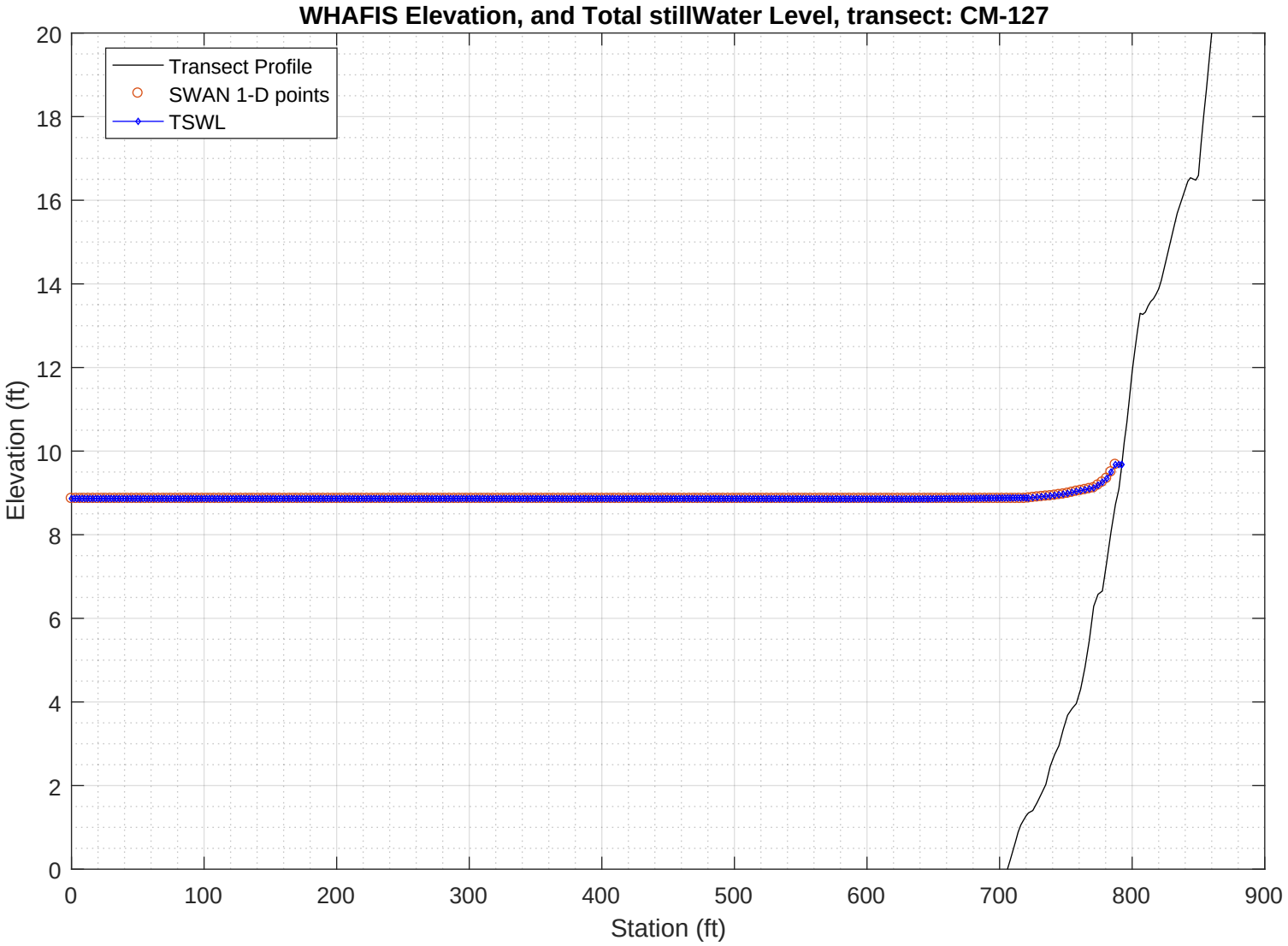
127.	0.	1.82864	9.7751	10.0005	8.5888	0.083	28.1931	9.3977	-0.002265
128.	0.	1.82938	9.7753	10.0005	8.5892	0.081	28.0756	9.3176	-0.002357
129.	0.	1.83033	9.7755	10.0005	8.5900	0.079	27.9527	9.2275	-0.002463
130.	0.	1.83131	9.7757	10.0005	8.5908	0.077	27.8272	9.1374	-0.002571
131.	0.	1.83233	9.7760	10.0005	8.5917	0.076	27.7004	9.0473	-0.002682
132.	0.	1.83344	9.7762	10.0005	8.5926	0.074	27.5776	8.9572	-0.002796
133.	0.	1.83438	9.7764	10.0005	8.5931	0.073	27.4555	8.8771	-0.002900
134.	0.	1.83555	9.7767	10.0005	8.5940	0.071	27.3278	8.7870	-0.003020
135.	0.	1.83677	9.7769	10.0005	8.5949	0.070	27.1975	8.6969	-0.003143
136.	0.	1.83803	9.7772	10.0005	8.5957	0.069	27.0653	8.6067	-0.003270
137.	0.	1.83935	9.7774	10.0005	8.5965	0.067	26.9311	8.5166	-0.003400
138.	0.	1.84073	9.7777	10.0005	8.5973	0.066	26.7956	8.4265	-0.003533
139.	0.	1.84217	9.7780	10.0005	8.5979	0.065	26.6594	8.3363	-0.003671
140.	0.	1.84372	9.7782	10.0005	8.5984	0.064	26.5270	8.2462	-0.003812
141.	0.	1.84525	9.7785	10.0005	8.5985	0.063	26.4151	8.1661	-0.003941
142.	0.	1.84620	9.7786	10.0005	8.5973	0.062	26.3254	8.1160	-0.004024
143.	0.	1.84724	9.7788	10.0005	8.5960	0.062	26.2432	8.0659	-0.004109
144.	0.	1.84838	9.7790	10.0005	8.5945	0.062	26.1687	8.0158	-0.004195
145.	0.	1.84929	9.7792	10.0005	8.5925	0.062	26.0970	7.9757	-0.004266
146.	0.	1.85049	9.7793	10.0005	8.5906	0.062	26.0212	7.9256	-0.004354
147.	0.	1.85171	9.7795	10.0005	8.5885	0.062	25.9440	7.8756	-0.004444
148.	0.	1.85296	9.7797	10.0005	8.5862	0.063	25.8662	7.8255	-0.004535
149.	0.	1.85425	9.7799	10.0005	8.5837	0.063	25.7882	7.7754	-0.004628
150.	0.	1.85557	9.7801	10.0005	8.5809	0.063	25.7110	7.7253	-0.004722
151.	0.	1.85697	9.7804	10.0005	8.5780	0.063	25.6378	7.6752	-0.004818
152.	0.	1.85811	9.7805	10.0005	8.5745	0.062	25.5680	7.6351	-0.004895
153.	0.	1.85955	9.7808	10.0005	8.5711	0.061	25.4940	7.5850	-0.004993
154.	0.	1.86102	9.7810	10.0005	8.5675	0.060	25.4180	7.5349	-0.005092
155.	0.	1.86252	9.7812	10.0005	8.5637	0.059	25.3428	7.4848	-0.005193
156.	0.	1.86407	9.7815	10.0005	8.5595	0.058	25.2693	7.4347	-0.005295
157.	0.	1.86568	9.7817	10.0005	8.5549	0.058	25.1961	7.3846	-0.005399
158.	0.	1.86733	9.7820	10.0005	8.5500	0.057	25.1224	7.3345	-0.005504
159.	0.	1.86906	9.7822	10.0005	8.5448	0.056	25.0528	7.2844	-0.005611
160.	0.	1.87050	9.7825	10.0005	8.5390	0.056	24.9829	7.2443	-0.005699
161.	0.	1.87228	9.7827	10.0005	8.5334	0.057	24.9076	7.1942	-0.005810
162.	0.	1.87408	9.7830	10.0005	8.5274	0.056	24.8307	7.1441	-0.005923
163.	0.	1.87588	9.7833	10.0005	8.5211	0.056	24.7475	7.0940	-0.006038
164.	0.	1.87791	9.7836	10.0005	8.5149	0.056	24.6427	7.0338	-0.006178
165.	0.	1.88088	9.7841	10.0005	8.5094	0.056	24.5142	6.9436	-0.006393
166.	0.	1.88389	9.7845	10.0005	8.5032	0.056	24.3713	6.8534	-0.006614
167.	0.	1.88738	9.7850	10.0005	8.4965	0.055	24.2212	6.7531	-0.006870
168.	0.	1.88063	9.7856	10.0005	8.4871	0.054	22.7556	6.6628	-0.007171
169.	0.	2.02379	9.7956	10.0005	8.5329	0.042	20.5048	4.0304	-0.019650
170.	0.	2.01952	9.7991	10.0005	8.4118	0.036	19.8647	4.0609	-0.019141
171.	0.	2.01752	9.8024	10.0005	8.3018	0.028	19.6702	4.0914	-0.018574
172.	0.	2.01440	9.8053	10.0005	8.2105	0.030	19.6229	4.1221	-0.017916
173.	0.	2.01362	9.8081	10.0005	8.1306	0.021	19.5678	4.1224	-0.017552
174.	0.	2.01403	9.8106	10.0005	8.0613	0.004	19.4995	4.0926	-0.017390
175.	0.	2.01462	9.8130	10.0005	7.9952	359.985	19.4121	4.0627	-0.017266
176.	0.	2.01638	9.8152	10.0005	7.9322	359.974	19.3362	4.0227	-0.017260
177.	0.	2.01560	9.8171	10.0005	7.8695	359.969	19.3213	4.0231	-0.016923
178.	0.	2.01301	9.8186	10.0005	7.8094	359.967	19.3571	4.0536	-0.016353
179.	0.	2.01055	9.8200	10.0005	7.7552	359.966	19.4019	4.0842	-0.015816
180.	0.	2.00864	9.8211	10.0005	7.7071	359.967	19.4240	4.1046	-0.015387
181.	0.	2.00771	9.8221	10.0005	7.6650	359.967	19.4009	4.1049	-0.015136
182.	0.	2.00835	9.8232	10.0005	7.6286	359.967	19.3420	4.0749	-0.015127
183.	0.	2.00884	9.8241	10.0005	7.5940	359.967	19.2978	4.0449	-0.015108
184.	0.	2.00667	9.8248	10.0005	7.5575	359.968	19.2936	4.0553	-0.014747
185.	0.	2.00453	9.8254	10.0005	7.5236	359.969	19.3026	4.0656	-0.014394
186.	0.	2.00207	9.8259	10.0005	7.4926	359.970	19.2872	4.0760	-0.014047
187.	0.	2.00181	9.8265	10.0005	7.4677	359.969	19.2281	4.0460	-0.014029
188.	0.	2.00215	9.8270	10.0005	7.4444	359.968	19.1865	4.0059	-0.014081
189.	0.	1.99930	9.8273	10.0005	7.4128	359.962	19.2018	4.0264	-0.013636
190.	0.	1.99705	9.8276	10.0005	7.3802	359.957	19.2389	4.0468	-0.013208
191.	0.	1.99474	9.8278	10.0005	7.3495	359.955	19.2867	4.0672	-0.012777
192.	0.	1.99227	9.8279	10.0005	7.3211	359.954	19.3312	4.0876	-0.012353
193.	0.	1.99027	9.8281	10.0005	7.2960	359.952	19.3660	4.0980	-0.012017

194.	0.	1.98789	9.8282	10.0005	7.2738	359.949	19.4005	4.1083	-0.011678
195.	0.	1.98546	9.8283	10.0005	7.2528	359.945	19.4257	4.1187	-0.011349
196.	0.	1.98347	9.8284	10.0005	7.2339	359.938	19.4252	4.1189	-0.011104
197.	0.	1.98242	9.8286	10.0005	7.2180	359.930	19.4020	4.0990	-0.011011
198.	0.	1.98101	9.8287	10.0005	7.2023	359.921	19.3397	4.0791	-0.010914
199.	0.	1.98206	9.8290	10.0005	7.1923	359.915	19.2295	4.0088	-0.011196
200.	0.	1.98282	9.8292	10.0005	7.1811	359.910	19.1147	3.9385	-0.011458
201.	0.	1.98205	9.8295	10.0005	7.1661	359.904	18.9993	3.8885	-0.011527
202.	0.	1.98189	9.8298	10.0005	7.1526	359.898	18.8352	3.8183	-0.011741
203.	0.	1.98402	9.8302	10.0005	7.1436	359.891	18.6088	3.6976	-0.012368
204.	0.	1.98597	9.8307	10.0005	7.1334	359.884	18.3981	3.5670	-0.013027
205.	0.	1.98231	9.8311	10.0005	7.1121	359.876	18.2634	3.5071	-0.012873
206.	0.	1.97659	9.8314	10.0005	7.0875	359.869	18.1533	3.4676	-0.012436
207.	0.	1.97117	9.8318	10.0005	7.0661	359.861	18.0054	3.4079	-0.012144
208.	0.	1.96847	9.8324	10.0005	7.0496	359.855	17.8556	3.2977	-0.012311
209.	0.	1.95863	9.8328	10.0005	7.0208	359.849	17.7263	3.2686	-0.011433
210.	0.	1.95224	9.8333	10.0005	6.9997	359.852	17.5459	3.1788	-0.011188
211.	0.	1.94485	9.8339	10.0005	6.9789	359.863	17.3498	3.0791	-0.010906
212.	0.	1.93440	9.8344	10.0005	6.9527	359.884	17.1605	2.9998	-0.010202
213.	0.	1.92360	9.8348	10.0005	6.9183	359.928	16.9439	2.9206	-0.009386
214.	0.	1.91217	9.8351	10.0005	6.8916	359.983	16.7077	2.8113	-0.008730
215.	0.	1.89586	9.8354	10.0005	6.8618	0.035	16.4537	2.7225	-0.007451
216.	0.	1.88203	9.8356	10.0005	6.8245	0.095	16.1809	2.6035	-0.006502
217.	0.	1.86492	9.8357	10.0005	6.7821	0.177	15.9133	2.4949	-0.005106
218.	0.	1.84546	9.8359	10.0005	6.7310	0.273	15.6785	2.3967	-0.003252
219.	0.	1.82048	9.8365	10.0005	6.6670	0.390	15.5071	2.3397	-0.000269
220.	0.	1.79273	9.8369	10.0005	6.6030	0.510	15.3973	2.2931	0.003149
221.	0.	1.76107	9.8368	10.0005	6.5364	0.635	15.3220	2.2772	0.007231
222.	0.	1.73213	9.8371	10.0005	6.4840	0.777	15.2122	2.2306	0.010604
223.	0.	1.70456	9.8376	10.0005	6.4376	0.926	15.0635	2.1636	0.013610
224.	0.	1.67479	9.8380	10.0005	6.3933	1.069	14.8554	2.0968	0.016849
225.	0.	1.64939	9.8378	10.0005	6.3633	1.229	14.5884	1.9690	0.019034
226.	0.	1.61345	9.8381	10.0005	6.3156	1.384	14.3687	1.8932	0.023204
227.	0.	1.57391	9.8386	10.0005	6.2623	1.528	14.1330	1.8280	0.028019
228.	0.	1.53759	9.8397	10.0005	6.2178	1.692	13.8491	1.7120	0.032012
229.	0.	1.49342	9.8405	10.0005	6.1651	1.854	13.6207	1.6175	0.037520
230.	0.	1.44071	9.8409	10.0005	6.0995	2.016	13.4903	1.5749	0.044908
231.	0.	1.38708	9.8411	10.0005	6.0412	2.162	13.3375	1.5423	0.052327
232.	0.	1.33931	9.8414	10.0005	6.0101	2.290	13.0104	1.4481	0.058110
233.	0.	1.28439	9.8421	10.0005	6.0316	2.280	12.4790	1.2943	0.064309
234.	0.	1.22567	9.8439	10.0005	6.0715	2.121	11.7742	1.1013	0.071333
235.	0.	1.17626	9.8476	10.0005	6.0883	1.928	11.0750	0.8676	0.077587
236.	0.	1.08383	9.8517	10.0005	6.0597	1.788	10.7457	0.7973	0.097285
237.	0.	0.98219	9.8553	10.0005	6.0282	1.669	10.3411	0.7891	0.119068
238.	0.	0.84379	9.8513	10.0005	6.2786	0.440	9.9713	0.6065	0.146509
239.	0.	0.64380	9.8737	10.0005	6.7256	357.929	9.1856	0.4334	0.193370
240.	0.	0.43328	9.8848	10.0005	7.5457	357.954	10.1553	0.2878	0.247791

PART 3: WHAFIS

WHAFIS input: CM-127.dat
WHAFIS output: CM-127.out

PART 3 COMPLETE


WHAFIS Elevation, and Total stillWater Level, transect: CM-127
Transect Profile
SWAN 1-D points
TSWL
Elevation (ft)
Station (ft)
0
2
4
6
8
10
12
14
16
18
20
0
100
200
300
400
500
600
700
800
900

WAVE HEIGHT COMPUTATIONS FOR FLOOD INSURANCE STUDIES (WHAFIS VERSION 4.0G, 08_2007)
Executed on: Thu Feb 20 14:57:36 2020
Input file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-127.dat
Output file: C:\FEMA-TransectAnalysis\LOMR-TransectAnalysis-Harpswell\3_whafis\whafis4\CM-127.out

header

THIS IS A 100-YEAR CASE
THE FOLLOWING NON-DEFAULT WIND SPEEDS ARE BEING USED
WINDIF 56.14 WINDOF 56.14 WINDVH 60.00

PART1 INPUT

IE	0.000	-30.484	1.000	1.000	8.865	9.395	9.737	56.140	0.000	0.000
OF	2.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	4.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	6.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	8.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	10.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	12.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	14.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	16.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	18.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	20.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	22.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	24.000	-30.484	0.000	8.865	0.000	0.000	0.000	0.000	0.002	0.000
OF	26.000	-30.478	0.000	8.865	0.000	0.000	0.000	0.000	0.008	0.000
OF	28.000	-30.452	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	30.000	-30.427	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	32.000	-30.402	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	34.000	-30.377	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	36.000	-30.352	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	38.000	-30.327	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	40.000	-30.302	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	42.000	-30.277	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	44.000	-30.252	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	46.000	-30.227	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	48.000	-30.202	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
OF	50.000	-30.177	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
OF	52.000	-30.148	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
OF	54.000	-30.119	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	56.000	-30.089	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	58.000	-30.059	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	60.000	-30.029	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	62.000	-30.000	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	64.000	-29.970	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	66.000	-29.940	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	68.000	-29.910	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	70.000	-29.880	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	72.000	-29.851	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	74.000	-29.821	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	76.000	-29.791	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	78.000	-29.761	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	80.000	-29.732	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	82.000	-29.702	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	84.000	-29.672	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	86.000	-29.642	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	88.000	-29.613	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	90.000	-29.583	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	92.000	-29.553	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	94.000	-29.523	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	96.000	-29.493	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	98.000	-29.464	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	100.000	-29.434	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	102.000	-29.404	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	104.000	-29.374	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	106.000	-29.345	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	108.000	-29.315	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	110.000	-29.285	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	112.000	-29.255	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	114.000	-29.226	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	116.000	-29.196	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	118.000	-29.166	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	120.000	-29.136	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	122.000	-29.106	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	124.000	-29.077	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	126.000	-29.047	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	128.000	-29.017	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	130.000	-28.987	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	132.000	-28.958	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	134.000	-28.928	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	136.000	-28.898	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
OF	138.000	-28.868	0.000	8.865	0.000	0.000	0.000	0.000	0.010	0.000
OF	140.000	-28.858	0.000	8.865	0.000	0.000	0.000	0.000	0.002	0.000
OF	142.000	-28.859	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	144.000	-28.859	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	146.000	-28.860	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	148.000	-28.860	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	150.000	-28.861	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	152.000	-28.861	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	154.000	-28.862	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	156.000	-28.862	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	158.000	-28.863	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	160.000	-28.863	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	162.000	-28.864	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	164.000	-28.864	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	166.000	-28.865	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	168.000	-28.864	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	170.000	-28.863	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	172.000	-28.862	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	174.000	-28.861	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	176.000	-28.860	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	178.000	-28.859	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	180.000	-28.858	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	182.000	-28.857	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	184.000	-28.856	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000

OF	186.000	-28.855	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	188.000	-28.854	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	190.000	-28.853	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	192.000	-28.852	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	194.000	-28.851	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	196.000	-28.850	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	198.000	-28.849	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	200.000	-28.848	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	202.000	-28.847	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	204.000	-28.846	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	206.000	-28.845	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	208.000	-28.844	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	210.000	-28.843	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	212.000	-28.842	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	214.000	-28.841	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	216.000	-28.840	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	218.000	-28.839	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	220.000	-28.838	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	222.000	-28.837	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	224.000	-28.836	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	226.000	-28.835	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	228.000	-28.834	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	230.000	-28.833	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	232.000	-28.832	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	234.000	-28.831	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	236.000	-28.830	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	238.000	-28.829	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	240.000	-28.828	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	242.000	-28.827	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	244.000	-28.826	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	246.000	-28.825	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	248.000	-28.824	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	250.000	-28.823	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
OF	252.000	-28.822	0.000	8.865	0.000	0.000	0.000	0.000	0.000	0.000
OF	254.000	-28.823	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	256.000	-28.825	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	258.000	-28.827	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	260.000	-28.829	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	262.000	-28.832	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	264.000	-28.834	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	266.000	-28.836	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	268.000	-28.838	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	270.000	-28.841	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	272.000	-28.843	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	274.000	-28.845	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	276.000	-28.847	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
OF	278.000	-28.850	0.000	8.865	0.000	0.000	0.000	0.000	0.003	0.000
OF	280.000	-28.836	0.000	8.865	0.000	0.000	0.000	0.000	0.028	0.000
OF	282.000	-28.738	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	284.000	-28.640	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	286.000	-28.542	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	288.000	-28.444	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	290.000	-28.346	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	292.000	-28.248	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	294.000	-28.150	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	296.000	-28.052	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	298.000	-27.954	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	300.000	-27.857	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	302.000	-27.759	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	304.000	-27.661	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	306.000	-27.563	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	308.000	-27.465	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	310.000	-27.367	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	312.000	-27.269	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	314.000	-27.171	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	316.000	-27.073	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	318.000	-26.975	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	320.000	-26.877	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	322.000	-26.779	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	324.000	-26.681	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	326.000	-26.583	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	328.000	-26.485	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	330.000	-26.387	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	332.000	-26.289	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
OF	334.000	-26.191	0.000	8.865	0.000	0.000	0.000	0.000	0.034	0.000
OF	336.000	-26.155	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
OF	338.000	-26.133	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	340.000	-26.110	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	342.000	-26.088	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	344.000	-26.065	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	346.000	-26.043	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	348.000	-26.020	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	350.000	-25.998	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	352.000	-25.976	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	354.000	-25.953	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	356.000	-25.931	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	358.000	-25.908	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	360.000	-25.886	0.000	8.865	0.000	0.000	0.000	0.000	0.011	0.000
OF	362.000	-25.863	0.000	8.865	0.000	0.000	0.000	0.000	0.024	0.000
OF	364.000	-25.790	0.000	8.865	0.000	0.000	0.000	0.000	0.045	0.000
OF	366.000	-25.684	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	368.000	-25.578	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	370.000	-25.472	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	372.000	-25.366	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	374.000	-25.260	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	376.000	-25.154	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	378.000	-25.048	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	380.000	-24.942	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	382.000	-24.836	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	384.000	-24.730	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
OF	386.000	-24.624	0.000	8.865	0.000	0.000	0.000	0.000	0.062	0.000
OF	388.000	-24.483	0.000	8.865	0.000	0.000	0.000	0.000	0.079	0.000

OF	390.000	-24.308	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	392.000	-24.134	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	394.000	-23.960	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	396.000	-23.785	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	398.000	-23.611	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	400.000	-23.437	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	402.000	-23.262	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	404.000	-23.088	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	406.000	-22.914	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	408.000	-22.739	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	410.000	-22.565	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	412.000	-22.391	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	414.000	-22.216	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	416.000	-22.042	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	418.000	-21.868	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	420.000	-21.693	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	422.000	-21.519	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	424.000	-21.345	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	426.000	-21.170	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	428.000	-20.996	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
OF	430.000	-20.820	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	432.000	-20.642	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	434.000	-20.464	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	436.000	-20.287	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	438.000	-20.109	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	440.000	-19.931	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	442.000	-19.754	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	444.000	-19.576	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	446.000	-19.399	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	448.000	-19.221	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	450.000	-19.043	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	452.000	-18.866	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	454.000	-18.688	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
OF	456.000	-18.511	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
OF	458.000	-18.333	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
OF	460.000	-18.155	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
OF	462.000	-17.978	0.000	8.864	0.000	0.000	0.000	0.000	0.070	0.000
OF	464.000	-17.874	0.000	8.864	0.000	0.000	0.000	0.000	0.050	0.000
OF	466.000	-17.777	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	468.000	-17.679	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	470.000	-17.582	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	472.000	-17.484	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	474.000	-17.387	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	476.000	-17.290	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	478.000	-17.192	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	480.000	-17.095	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	482.000	-16.997	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	484.000	-16.900	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	486.000	-16.803	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	488.000	-16.705	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	490.000	-16.608	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
OF	492.000	-16.510	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	494.000	-16.413	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	496.000	-16.316	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	498.000	-16.218	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	500.000	-16.121	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	502.000	-16.023	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	504.000	-15.926	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	506.000	-15.829	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	508.000	-15.731	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	510.000	-15.634	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	512.000	-15.537	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	514.000	-15.439	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	516.000	-15.342	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
OF	518.000	-15.244	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	520.000	-15.147	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	522.000	-15.050	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	524.000	-14.952	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	526.000	-14.855	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	528.000	-14.757	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	530.000	-14.660	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	532.000	-14.563	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	534.000	-14.465	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	536.000	-14.368	0.000	8.862	0.000	0.000	0.000	0.000	0.055	0.000
OF	538.000	-14.244	0.000	8.862	0.000	0.000	0.000	0.000	0.078	0.000
OF	540.000	-14.058	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	542.000	-13.872	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	544.000	-13.686	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	546.000	-13.500	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	548.000	-13.314	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	550.000	-13.128	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
OF	552.000	-12.943	0.000	8.861	0.000	0.000	0.000	0.000	2.181	0.000
OF	554.000	-4.402	0.000	8.861	0.000	0.000	0.000	0.000	2.120	0.000
OF	556.000	-4.464	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
OF	558.000	-4.526	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
OF	560.000	-4.588	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
OF	562.000	-4.650	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
OF	564.000	-4.712	0.000	8.861	0.000	0.000	0.000	0.000	-0.026	0.000
OF	566.000	-4.754	0.000	8.860	0.000	0.000	0.000	0.000	-0.001	0.000
OF	568.000	-4.717	0.000	8.860	0.000	0.000	0.000	0.000	0.024	0.000
OF	570.000	-4.658	0.000	8.860	0.000	0.000	0.000	0.000	0.032	0.000
OF	572.000	-4.590	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
OF	574.000	-4.522	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
OF	576.000	-4.454	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
OF	578.000	-4.386	0.000	8.860	0.000	0.000	0.000	0.000	0.024	0.000
OF	580.000	-4.359	0.000	8.860	0.000	0.000	0.000	0.000	-0.008	0.000
OF	582.000	-4.418	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
OF	584.000	-4.477	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
OF	586.000	-4.536	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
OF	588.000	-4.595	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
OF	590.000	-4.654	0.000	8.859	0.000	0.000	0.000	0.000	-0.024	0.000
OF	592.000	-4.693	0.000	8.859	0.000	0.000	0.000	0.000	0.003	0.000

OF	594.000	-4.641	0.000	8.859	0.000	0.000	0.000	0.000	0.026	0.000
OF	596.000	-4.590	0.000	8.859	0.000	0.000	0.000	0.000	0.028	0.000
OF	598.000	-4.531	0.000	8.859	0.000	0.000	0.000	0.000	0.032	0.000
OF	600.000	-4.464	0.000	8.859	0.000	0.000	0.000	0.000	0.022	0.000
OF	602.000	-4.441	0.000	8.858	0.000	0.000	0.000	0.000	-0.004	0.000
OF	604.000	-4.480	0.000	8.858	0.000	0.000	0.000	0.000	-0.015	0.000
OF	606.000	-4.500	0.000	8.858	0.000	0.000	0.000	0.000	-0.010	0.000
OF	608.000	-4.520	0.000	8.858	0.000	0.000	0.000	0.000	-0.010	0.000
OF	610.000	-4.540	0.000	8.858	0.000	0.000	0.000	0.000	-0.007	0.000
OF	612.000	-4.547	0.000	8.858	0.000	0.000	0.000	0.000	0.025	0.000
OF	614.000	-4.441	0.000	8.858	0.000	0.000	0.000	0.000	0.053	0.000
OF	616.000	-4.334	0.000	8.858	0.000	0.000	0.000	0.000	0.026	0.000
OF	618.000	-4.338	0.000	8.858	0.000	0.000	0.000	0.000	-0.013	0.000
OF	620.000	-4.384	0.000	8.858	0.000	0.000	0.000	0.000	-0.022	0.000
OF	622.000	-4.425	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
OF	624.000	-4.466	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
OF	626.000	-4.507	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
OF	628.000	-4.548	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
OF	630.000	-4.589	0.000	8.857	0.000	0.000	0.000	0.000	-0.014	0.000
OF	632.000	-4.605	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
OF	634.000	-4.622	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
OF	636.000	-4.638	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
OF	638.000	-4.655	0.000	8.858	0.000	0.000	0.000	0.000	-0.008	0.000
OF	640.000	-4.671	0.000	8.858	0.000	0.000	0.000	0.000	-0.008	0.000
OF	642.000	-4.688	0.000	8.859	0.000	0.000	0.000	0.000	-0.008	0.000
OF	644.000	-4.703	0.000	8.860	0.000	0.000	0.000	0.000	0.012	0.000
OF	646.000	-4.642	0.000	8.860	0.000	0.000	0.000	0.000	0.029	0.000
OF	648.000	-4.588	0.000	8.861	0.000	0.000	0.000	0.000	0.027	0.000
OF	650.000	-4.533	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
OF	652.000	-4.390	0.000	8.862	0.000	0.000	0.000	0.000	0.072	0.000
OF	654.000	-4.246	0.000	8.863	0.000	0.000	0.000	0.000	0.074	0.000
OF	656.000	-4.092	0.000	8.863	0.000	0.000	0.000	0.000	0.063	0.000
OF	658.000	-3.993	0.000	8.864	0.000	0.000	0.000	0.000	0.051	0.000
OF	660.000	-3.888	0.000	8.865	0.000	0.000	0.000	0.000	0.056	0.000
OF	662.000	-3.769	0.000	8.865	0.000	0.000	0.000	0.000	0.076	0.000
OF	664.000	-3.585	0.000	8.866	0.000	0.000	0.000	0.000	0.113	0.000
OF	666.000	-3.318	0.000	8.866	0.000	0.000	0.000	0.000	0.136	0.000
OF	668.000	-3.039	0.000	8.867	0.000	0.000	0.000	0.000	0.128	0.000
OF	670.000	-2.804	0.000	8.868	0.000	0.000	0.000	0.000	0.091	0.000
OF	672.000	-2.677	0.000	8.868	0.000	0.000	0.000	0.000	0.034	0.000
OF	674.000	-2.667	0.000	8.869	0.000	0.000	0.000	0.000	0.032	0.000
OF	676.000	-2.549	0.000	8.870	0.000	0.000	0.000	0.000	0.043	0.000
OF	678.000	-2.497	0.000	8.870	0.000	0.000	0.000	0.000	0.073	0.000
OF	680.000	-2.257	0.000	8.871	0.000	0.000	0.000	0.000	0.124	0.000
OF	682.000	-2.003	0.000	8.872	0.000	0.000	0.000	0.000	0.079	0.000
OF	684.000	-1.939	0.000	8.872	0.000	0.000	0.000	0.000	0.026	0.000
OF	686.000	-1.896	0.000	8.873	0.000	0.000	0.000	0.000	0.057	0.000
OF	688.000	-1.713	0.000	8.873	0.000	0.000	0.000	0.000	0.101	0.000
OF	690.000	-1.492	0.000	8.874	0.000	0.000	0.000	0.000	0.107	0.000
OF	692.000	-1.286	0.000	8.875	0.000	0.000	0.000	0.000	0.090	0.000
OF	694.000	-1.133	0.000	8.875	0.000	0.000	0.000	0.000	0.077	0.000
OF	696.000	-0.978	0.000	8.876	0.000	0.000	0.000	0.000	0.082	0.000
OF	698.000	-0.804	0.000	8.876	0.000	0.000	0.000	0.000	0.085	0.000
OF	700.000	-0.636	0.000	8.877	0.000	0.000	0.000	0.000	0.104	0.000
OF	702.000	-0.386	0.000	8.878	0.000	0.000	0.000	0.000	0.089	0.000
OF	704.000	-0.280	0.000	8.878	0.000	0.000	0.000	0.000	0.098	0.000
IF	706.000	0.007	0.000	8.879	0.000	0.000	0.000	0.000	0.124	0.000
IF	708.000	0.216	0.000	8.880	0.000	0.000	0.000	0.000	0.107	0.000
IF	710.000	0.436	0.000	8.880	0.000	0.000	0.000	0.000	0.110	0.000
IF	712.000	0.655	0.000	8.881	0.000	0.000	0.000	0.000	0.113	0.000
IF	714.000	0.887	0.000	8.881	0.000	0.000	0.000	0.000	0.100	0.000
IF	716.000	1.056	0.000	8.882	0.000	0.000	0.000	0.000	0.071	0.000
IF	718.000	1.169	0.000	8.883	0.000	0.000	0.000	0.000	0.055	0.000
IF	720.000	1.275	0.000	8.883	0.000	0.000	0.000	0.000	0.047	0.000
IF	721.800	1.346	0.000	8.875	0.000	0.000	0.000	0.000	0.025	0.000
IF	725.100	1.403	0.000	8.889	0.000	0.000	0.000	0.000	0.038	0.000
IF	728.300	1.595	0.000	8.900	0.000	0.000	0.000	0.000	0.063	0.000
IF	731.600	1.809	0.000	8.910	0.000	0.000	0.000	0.000	0.065	0.000
IF	734.900	2.028	0.000	8.920	0.000	0.000	0.000	0.000	0.098	0.000
IF	738.200	2.458	0.000	8.927	0.000	0.000	0.000	0.000	0.107	0.000
IF	741.500	2.736	0.000	8.941	0.000	0.000	0.000	0.000	0.076	0.000
IF	744.700	2.952	0.000	8.957	0.000	0.000	0.000	0.000	0.093	0.000
IF	748.000	3.342	0.000	8.970	0.000	0.000	0.000	0.000	0.111	0.000
IF	751.300	3.684	0.000	8.988	0.000	0.000	0.000	0.000	0.075	0.000
IF	754.600	3.838	0.000	9.012	0.000	0.000	0.000	0.000	0.042	0.000
IF	757.900	3.961	0.000	9.037	0.000	0.000	0.000	0.000	0.071	0.000
IF	761.200	4.307	0.000	9.056	0.000	0.000	0.000	0.000	0.133	0.000
IF	764.400	4.828	0.000	9.076	0.000	0.000	0.000	0.000	0.180	0.000
IF	767.700	5.477	0.000	9.099	0.000	0.000	0.000	0.000	0.221	0.000
IF	771.000	6.288	0.000	9.120	0.000	0.000	0.000	0.000	0.166	0.000
IF	774.300	6.575	0.000	9.184	0.000	0.000	0.000	0.000	0.056	0.000
IF	777.600	6.655	0.000	9.256	0.000	0.000	0.000	0.000	0.119	0.000
IF	780.800	7.352	0.000	9.346	0.000	0.000	0.000	0.000	0.220	0.000
IF	784.100	8.081	0.000	9.500	0.000	0.000	0.000	0.000	0.208	0.000
IF	787.400	8.724	0.000	9.678	0.000	0.000	0.000	0.000	0.171	0.000
IF	790.000	9.093	0.000	9.678	0.000	0.000	0.000	0.000	0.193	0.000
IF	792.000	9.611	0.000	9.678	0.000	0.000	0.000	0.000	0.266	0.000
IF	792.200	9.678	0.000	9.678	0.000	0.000	0.000	0.000	0.335	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 ELEV 10-YEAR	SURGE ELEV 100-YEAR	INITIAL WAVE HEIGHT	INITIAL W. PERIOD		BOTTOM SLOPE	AVERAGE A-ZONES
IE	0.000	-30.484	1.000	1.000	8.865	9.395	9.737	56.140	0.000	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	2.000	-30.484	0.000	8.865	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
OF	4.000	-30.484	0.000	8.865	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
OF	6.000	-30.484	0.000	8.865	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
OF	8.000	-30.484	0.000	8.865	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
OF	10.000	-30.484	0.000	8.865	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
OF	12.000	-30.484	0.000	8.865	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
OF	14.000	-30.484	0.000	8.865	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
OF	16.000	-30.484	0.000	8.865	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
OF	18.000	-30.484	0.000	8.865	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
OF	20.000	-30.484	0.000	8.865	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
OF	22.000	-30.484	0.000	8.865	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
OF	24.000	-30.484	0.000	8.865	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
OF	26.000	-30.478	0.000	8.865	0.000	0.000	0.000	0.000	0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	28.000	-30.452	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	30.000	-30.427	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	32.000	-30.402	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	34.000	-30.377	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	36.000	-30.352	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	38.000	-30.327	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	40.000	-30.302	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	42.000	-30.277	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	44.000	-30.252	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	46.000	-30.227	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	48.000	-30.202	0.000	8.865	0.000	0.000	0.000	0.000	0.013	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	50.000	-30.177	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	52.000	-30.148	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	54.000	-30.119	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	56.000	-30.089	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	58.000	-30.059	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	60.000	-30.029	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	62.000	-30.000	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	64.000	-29.970	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	66.000	-29.940	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	68.000	-29.910	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	70.000	-29.880	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	72.000	-29.851	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	74.000	-29.821	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	76.000	-29.791	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	78.000	-29.761	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	80.000	-29.732	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	82.000	-29.702	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	84.000	-29.672	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	86.000	-29.642	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	88.000	-29.613	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	90.000	-29.583	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	92.000	-29.553	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	94.000	-29.523	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	96.000	-29.493	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	98.000	-29.464	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	100.000	-29.434	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	102.000	-29.404	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	104.000	-29.374	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	106.000	-29.345	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	108.000	-29.315	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	110.000	-29.285	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	112.000	-29.255	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	114.000	-29.226	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	116.000	-29.196	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	118.000	-29.166	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	120.000	-29.136	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	122.000	-29.106	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	124.000	-29.077	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	126.000	-29.047	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	128.000	-29.017	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	130.000	-28.987	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	132.000	-28.958	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	134.000	-28.928	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	136.000	-28.898	0.000	8.865	0.000	0.000	0.000	0.000	0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	138.000	-28.868	0.000	8.865	0.000	0.000	0.000	0.000	0.010	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	140.000	-28.858	0.000	8.865	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
OF	142.000	-28.859	0.000	8.865	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
OF	144.000	-28.859	0.000	8.865	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
OF	146.000	-28.860	0.000	8.865	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
OF	148.000	-28.860	0.000	8.865	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
OF	150.000	-28.861	0.000	8.865	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
OF	152.000	-28.861	0.000	8.865	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
OF	154.000	-28.862	0.000	8.865	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
OF	156.000	-28.862	0.000	8.865	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
OF	158.000	-28.863	0.000	8.865	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
OF	160.000	-28.863	0.000	8.865	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
OF	162.000	-28.864	0.000	8.865	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
OF	164.000	-28.864	0.000	8.865	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
OF	166.000	-28.865	0.000	8.865	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
OF	168.000	-28.864	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	170.000	-28.863	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	172.000	-28.862	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	174.000	-28.861	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	176.000	-28.860	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	178.000	-28.859	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	180.000	-28.858	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	182.000	-28.857	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	184.000	-28.856	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	186.000	-28.855	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	188.000	-28.854	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	190.000	-28.853	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	192.000	-28.852	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	194.000	-28.851	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	196.000	-28.850	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	198.000	-28.849	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	200.000	-28.848	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	202.000	-28.847	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	204.000	-28.846	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	206.000	-28.845	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	208.000	-28.844	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	210.000	-28.843	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	212.000	-28.842	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	214.000	-28.841	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	216.000	-28.840	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	218.000	-28.839	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	220.000	-28.838	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	222.000	-28.837	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	224.000	-28.836	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	226.000	-28.835	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	228.000	-28.834	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	230.000	-28.833	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	232.000	-28.832	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	234.000	-28.831	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	236.000	-28.830	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	238.000	-28.829	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	240.000	-28.828	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	242.000	-28.827	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	244.000	-28.826	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	246.000	-28.825	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	248.000	-28.824	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	250.000	-28.823	0.000	8.865	0.000	0.000	0.000	0.000	0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	252.000	-28.822	0.000	8.865	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
OF	254.000	-28.823	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	256.000	-28.825	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	258.000	-28.827	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	260.000	-28.829	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	262.000	-28.832	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	264.000	-28.834	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	266.000	-28.836	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	268.000	-28.838	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	270.000	-28.841	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	272.000	-28.843	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	274.000	-28.845	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	276.000	-28.847	0.000	8.865	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	278.000	-28.850	0.000	8.865	0.000	0.000	0.000	0.000	0.003	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	280.000	-28.836	0.000	8.865	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
OF	282.000	-28.738	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	284.000	-28.640	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	286.000	-28.542	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	288.000	-28.444	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	290.000	-28.346	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	292.000	-28.248	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	294.000	-28.150	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	296.000	-28.052	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	298.000	-27.954	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	300.000	-27.857	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	302.000	-27.759	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	304.000	-27.661	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	306.000	-27.563	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	308.000	-27.465	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	310.000	-27.367	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	312.000	-27.269	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	314.000	-27.171	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	316.000	-27.073	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	318.000	-26.975	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	320.000	-26.877	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	322.000	-26.779	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	324.000	-26.681	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	326.000	-26.583	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	328.000	-26.485	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	330.000	-26.387	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	332.000	-26.289	0.000	8.865	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	334.000	-26.191	0.000	8.865	0.000	0.000	0.000	0.000	0.034	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	336.000	-26.155	0.000	8.865	0.000	0.000	0.000	0.000	0.014	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	338.000	-26.133	0.000	8.865	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
OF	340.000	-26.110	0.000	8.865	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
OF	342.000	-26.088	0.000	8.865	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
OF	344.000	-26.065	0.000	8.865	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
OF	346.000	-26.043	0.000	8.865	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
OF	348.000	-26.020	0.000	8.865	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
OF	350.000	-25.998	0.000	8.865	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
OF	352.000	-25.976	0.000	8.865	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
OF	354.000	-25.953	0.000	8.865	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
OF	356.000	-25.931	0.000	8.865	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
OF	358.000	-25.908	0.000	8.865	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
OF	360.000	-25.886	0.000	8.865	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
OF	362.000	-25.863	0.000	8.865	0.000	0.000	0.000	0.000	0.024	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	364.000	-25.790	0.000	8.865	0.000	0.000	0.000	0.000	0.045	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	366.000	-25.684	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	368.000	-25.578	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	370.000	-25.472	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	372.000	-25.366	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	374.000	-25.260	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	376.000	-25.154	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	378.000	-25.048	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	380.000	-24.942	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	382.000	-24.836	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	384.000	-24.730	0.000	8.865	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	386.000	-24.624	0.000	8.865	0.000	0.000	0.000	0.000	0.062	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	388.000	-24.483	0.000	8.865	0.000	0.000	0.000	0.000	0.079	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	390.000	-24.308	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	392.000	-24.134	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	394.000	-23.960	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	396.000	-23.785	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	398.000	-23.611	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	400.000	-23.437	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	402.000	-23.262	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	404.000	-23.088	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	406.000	-22.914	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	408.000	-22.739	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	410.000	-22.565	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	412.000	-22.391	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	414.000	-22.216	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	416.000	-22.042	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	418.000	-21.868	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	420.000	-21.693	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	422.000	-21.519	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	424.000	-21.345	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	426.000	-21.170	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	428.000	-20.996	0.000	8.865	0.000	0.000	0.000	0.000	0.087	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	430.000	-20.820	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	432.000	-20.642	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	434.000	-20.464	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	436.000	-20.287	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	438.000	-20.109	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	440.000	-19.931	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	442.000	-19.754	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	444.000	-19.576	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	446.000	-19.399	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	448.000	-19.221	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	450.000	-19.043	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	452.000	-18.866	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	454.000	-18.688	0.000	8.865	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	456.000	-18.511	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	458.000	-18.333	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	460.000	-18.155	0.000	8.864	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	462.000	-17.978	0.000	8.864	0.000	0.000	0.000	0.000	0.070	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	464.000	-17.874	0.000	8.864	0.000	0.000	0.000	0.000	0.050	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	466.000	-17.777	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	468.000	-17.679	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	470.000	-17.582	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	472.000	-17.484	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	474.000	-17.387	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	476.000	-17.290	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	478.000	-17.192	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	480.000	-17.095	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	482.000	-16.997	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	484.000	-16.900	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	486.000	-16.803	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	488.000	-16.705	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	490.000	-16.608	0.000	8.864	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	492.000	-16.510	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	494.000	-16.413	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	496.000	-16.316	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	498.000	-16.218	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	500.000	-16.121	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	502.000	-16.023	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	504.000	-15.926	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	506.000	-15.829	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	508.000	-15.731	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	510.000	-15.634	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	512.000	-15.537	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	514.000	-15.439	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	516.000	-15.342	0.000	8.863	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	518.000	-15.244	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	520.000	-15.147	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	522.000	-15.050	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	524.000	-14.952	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	526.000	-14.855	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	528.000	-14.757	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	530.000	-14.660	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	532.000	-14.563	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	534.000	-14.465	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	536.000	-14.368	0.000	8.862	0.000	0.000	0.000	0.000	0.055	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	538.000	-14.244	0.000	8.862	0.000	0.000	0.000	0.000	0.078	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	540.000	-14.058	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	542.000	-13.872	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	544.000	-13.686	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	546.000	-13.500	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	548.000	-13.314	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	550.000	-13.128	0.000	8.861	0.000	0.000	0.000	0.000	0.093	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	552.000	-12.943	0.000	8.861	0.000	0.000	0.000	0.000	2.181	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	554.000	-4.402	0.000	8.861	0.000	0.000	0.000	0.000	2.120	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	556.000	-4.464	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	558.000	-4.526	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	560.000	-4.588	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	562.000	-4.650	0.000	8.861	0.000	0.000	0.000	0.000	-0.031	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	564.000	-4.712	0.000	8.861	0.000	0.000	0.000	0.000	-0.026	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	566.000	-4.754	0.000	8.860	0.000	0.000	0.000	0.000	-0.001	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	568.000	-4.717	0.000	8.860	0.000	0.000	0.000	0.000	0.024	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	570.000	-4.658	0.000	8.860	0.000	0.000	0.000	0.000	0.032	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	572.000	-4.590	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	574.000	-4.522	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	576.000	-4.454	0.000	8.860	0.000	0.000	0.000	0.000	0.034	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	578.000	-4.386	0.000	8.860	0.000	0.000	0.000	0.000	0.024	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	580.000	-4.359	0.000	8.860	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	582.000	-4.418	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	584.000	-4.477	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	586.000	-4.536	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	588.000	-4.595	0.000	8.859	0.000	0.000	0.000	0.000	-0.030	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	590.000	-4.654	0.000	8.859	0.000	0.000	0.000	0.000	-0.024	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	592.000	-4.693	0.000	8.859	0.000	0.000	0.000	0.000	0.003	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	594.000	-4.641	0.000	8.859	0.000	0.000	0.000	0.000	0.026	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	596.000	-4.590	0.000	8.859	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
OF	598.000	-4.531	0.000	8.859	0.000	0.000	0.000	0.000	0.032	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	600.000	-4.464	0.000	8.859	0.000	0.000	0.000	0.000	0.022	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	602.000	-4.441	0.000	8.858	0.000	0.000	0.000	0.000	-0.004	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	604.000	-4.480	0.000	8.858	0.000	0.000	0.000	0.000	-0.015	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	606.000	-4.500	0.000	8.858	0.000	0.000	0.000	0.000	-0.010	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	608.000	-4.520	0.000	8.858	0.000	0.000	0.000	0.000	-0.010	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	610.000	-4.540	0.000	8.858	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
OF	612.000	-4.547	0.000	8.858	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	614.000	-4.441	0.000	8.858	0.000	0.000	0.000	0.000	0.053	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	616.000	-4.334	0.000	8.858	0.000	0.000	0.000	0.000	0.026	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	618.000	-4.338	0.000	8.858	0.000	0.000	0.000	0.000	-0.013	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	620.000	-4.384	0.000	8.858	0.000	0.000	0.000	0.000	-0.022	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	622.000	-4.425	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	624.000	-4.466	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	626.000	-4.507	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	628.000	-4.548	0.000	8.857	0.000	0.000	0.000	0.000	-0.020	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	630.000	-4.589	0.000	8.857	0.000	0.000	0.000	0.000	-0.014	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	632.000	-4.605	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	634.000	-4.622	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	636.000	-4.638	0.000	8.857	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	638.000	-4.655	0.000	8.858	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	640.000	-4.671	0.000	8.858	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	642.000	-4.688	0.000	8.859	0.000	0.000	0.000	0.000	-0.008	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	644.000	-4.703	0.000	8.860	0.000	0.000	0.000	0.000	0.012	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	646.000	-4.642	0.000	8.860	0.000	0.000	0.000	0.000	0.029	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	648.000	-4.588	0.000	8.861	0.000	0.000	0.000	0.000	0.027	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	650.000	-4.533	0.000	8.862	0.000	0.000	0.000	0.000	0.049	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	652.000	-4.390	0.000	8.862	0.000	0.000	0.000	0.000	0.072	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	654.000	-4.246	0.000	8.863	0.000	0.000	0.000	0.000	0.074	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	656.000	-4.092	0.000	8.863	0.000	0.000	0.000	0.000	0.063	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	658.000	-3.993	0.000	8.864	0.000	0.000	0.000	0.000	0.051	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	660.000	-3.888	0.000	8.865	0.000	0.000	0.000	0.000	0.056	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	662.000	-3.769	0.000	8.865	0.000	0.000	0.000	0.000	0.076	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	664.000	-3.585	0.000	8.866	0.000	0.000	0.000	0.000	0.113	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	666.000	-3.318	0.000	8.866	0.000	0.000	0.000	0.000	0.136	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	668.000	-3.039	0.000	8.867	0.000	0.000	0.000	0.000	0.128	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	670.000	-2.804	0.000	8.868	0.000	0.000	0.000	0.000	0.091	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	672.000	-2.677	0.000	8.868	0.000	0.000	0.000	0.000	0.034	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	674.000	-2.667	0.000	8.869	0.000	0.000	0.000	0.000	0.032	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	676.000	-2.549	0.000	8.870	0.000	0.000	0.000	0.000	0.043	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	678.000	-2.497	0.000	8.870	0.000	0.000	0.000	0.000	0.073	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	680.000	-2.257	0.000	8.871	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	682.000	-2.003	0.000	8.872	0.000	0.000	0.000	0.000	0.079	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	684.000	-1.939	0.000	8.872	0.000	0.000	0.000	0.000	0.026	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	686.000	-1.896	0.000	8.873	0.000	0.000	0.000	0.000	0.057	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	688.000	-1.713	0.000	8.873	0.000	0.000	0.000	0.000	0.101	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	690.000	-1.492	0.000	8.874	0.000	0.000	0.000	0.000	0.107	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	692.000	-1.286	0.000	8.875	0.000	0.000	0.000	0.000	0.090	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	694.000	-1.133	0.000	8.875	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
OF	696.000	-0.978	0.000	8.876	0.000	0.000	0.000	0.000	0.082	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	698.000	-0.804	0.000	8.876	0.000	0.000	0.000	0.000	0.085	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	700.000	-0.636	0.000	8.877	0.000	0.000	0.000	0.000	0.104	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	702.000	-0.386	0.000	8.878	0.000	0.000	0.000	0.000	0.089	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
OF	704.000	-0.280	0.000	8.878	0.000	0.000	0.000	0.000	0.098	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	706.000	0.007	0.000	8.879	0.000	0.000	0.000	0.000	0.124	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	708.000	0.216	0.000	8.880	0.000	0.000	0.000	0.000	0.107	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	710.000	0.436	0.000	8.880	0.000	0.000	0.000	0.000	0.110	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	712.000	0.655	0.000	8.881	0.000	0.000	0.000	0.000	0.113	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	714.000	0.887	0.000	8.881	0.000	0.000	0.000	0.000	0.100	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	716.000	1.056	0.000	8.882	0.000	0.000	0.000	0.000	0.071	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	718.000	1.169	0.000	8.883	0.000	0.000	0.000	0.000	0.055	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	720.000	1.275	0.000	8.883	0.000	0.000	0.000	0.000	0.047	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	721.800	1.346	0.000	8.875	0.000	0.000	0.000	0.000	0.025	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	725.100	1.403	0.000	8.889	0.000	0.000	0.000	0.000	0.038	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	728.300	1.595	0.000	8.900	0.000	0.000	0.000	0.000	0.063	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	731.600	1.809	0.000	8.910	0.000	0.000	0.000	0.000	0.065	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	734.900	2.028	0.000	8.920	0.000	0.000	0.000	0.000	0.098	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	738.200	2.458	0.000	8.927	0.000	0.000	0.000	0.000	0.107	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	741.500	2.736	0.000	8.941	0.000	0.000	0.000	0.000	0.076	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	744.700	2.952	0.000	8.957	0.000	0.000	0.000	0.000	0.093	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	748.000	3.342	0.000	8.970	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	751.300	3.684	0.000	8.988	0.000	0.000	0.000	0.000	0.075	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	754.600	3.838	0.000	9.012	0.000	0.000	0.000	0.000	0.042	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	757.900	3.961	0.000	9.037	0.000	0.000	0.000	0.000	0.071	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	761.200	4.307	0.000	9.056	0.000	0.000	0.000	0.000	0.133	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	764.400	4.828	0.000	9.076	0.000	0.000	0.000	0.000	0.180	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	767.700	5.477	0.000	9.099	0.000	0.000	0.000	0.000	0.221	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	771.000	6.288	0.000	9.120	0.000	0.000	0.000	0.000	0.166	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	774.300	6.575	0.000	9.184	0.000	0.000	0.000	0.000	0.056	0.000

	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	777.600	6.655	0.000	9.256	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
IF	780.800	7.352	0.000	9.346	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	784.100	8.081	0.000	9.500	0.000	0.000	0.000	0.000	0.208	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	787.400	8.724	0.000	9.678	0.000	0.000	0.000	0.000	0.171	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	790.000	9.093	0.000	9.678	0.000	0.000	0.000	0.000	0.193	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	792.000	9.611	0.000	9.678	0.000	0.000	0.000	0.000	0.266	0.000
	END STATION	END ELEVATION	NEW SURGE 10-YEAR	NEW SURGE 100-YEAR					BOTTOM SLOPE	AVERAGE A-ZONES
IF	792.200	9.678	0.000	9.678	0.000	0.000	0.000	0.000	0.335	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	9.40	9.74	15.44
OF	2.00	9.40	9.74	15.44
OF	4.00	9.40	9.74	15.44
OF	6.00	9.40	9.74	15.44
OF	8.00	9.40	9.74	15.44
OF	10.00	9.40	9.74	15.44
OF	12.00	9.40	9.74	15.44
OF	14.00	9.40	9.74	15.44
OF	16.00	9.40	9.74	15.44
OF	18.00	9.40	9.74	15.44
OF	20.00	9.40	9.74	15.44
OF	22.00	9.40	9.74	15.44
OF	24.00	9.40	9.74	15.44
OF	26.00	9.40	9.74	15.44
OF	28.00	9.40	9.74	15.45
OF	30.00	9.40	9.74	15.45
OF	32.00	9.40	9.74	15.45
OF	34.00	9.40	9.74	15.45
OF	36.00	9.41	9.74	15.45
OF	38.00	9.41	9.74	15.45
OF	40.00	9.41	9.74	15.45
OF	42.00	9.41	9.74	15.45
OF	44.00	9.41	9.74	15.45
OF	46.00	9.41	9.74	15.45
OF	48.00	9.41	9.74	15.46
OF	50.00	9.42	9.74	15.46
OF	52.00	9.42	9.74	15.46
OF	54.00	9.42	9.74	15.46
OF	56.00	9.42	9.74	15.46
OF	58.00	9.42	9.74	15.46
OF	60.00	9.42	9.74	15.46
OF	62.00	9.43	9.74	15.46
OF	64.00	9.43	9.74	15.46
OF	66.00	9.43	9.74	15.47
OF	68.00	9.43	9.74	15.47
OF	70.00	9.43	9.74	15.47
OF	72.00	9.43	9.74	15.47
OF	74.00	9.44	9.74	15.47
OF	76.00	9.44	9.74	15.47
OF	78.00	9.44	9.74	15.47
OF	80.00	9.44	9.74	15.47
OF	82.00	9.44	9.74	15.47
OF	84.00	9.44	9.74	15.48
OF	86.00	9.45	9.74	15.48
OF	88.00	9.45	9.74	15.48
OF	90.00	9.45	9.74	15.48
OF	92.00	9.45	9.74	15.48
OF	94.00	9.45	9.74	15.48
OF	96.00	9.45	9.74	15.48
OF	98.00	9.46	9.74	15.48
OF	100.00	9.46	9.74	15.49
OF	102.00	9.46	9.74	15.49
OF	104.00	9.46	9.74	15.49
OF	106.00	9.46	9.74	15.49
OF	108.00	9.46	9.74	15.49
OF	110.00	9.47	9.74	15.49
OF	112.00	9.47	9.74	15.49
OF	114.00	9.47	9.74	15.49
OF	116.00	9.47	9.74	15.50
OF	118.00	9.47	9.74	15.50
OF	120.00	9.48	9.74	15.50
OF	122.00	9.48	9.74	15.50
OF	124.00	9.48	9.74	15.50
OF	126.00	9.48	9.74	15.50
OF	128.00	9.48	9.74	15.50
OF	130.00	9.48	9.74	15.50
OF	132.00	9.49	9.74	15.50
OF	134.00	9.49	9.74	15.51
OF	136.00	9.49	9.74	15.51
OF	138.00	9.49	9.74	15.51
OF	140.00	9.49	9.74	15.51
OF	142.00	9.49	9.74	15.51
OF	144.00	9.49	9.74	15.51

OF	146.00	9.49	9.74	15.51
OF	148.00	9.49	9.74	15.51
OF	150.00	9.49	9.74	15.51
OF	152.00	9.49	9.74	15.51
OF	154.00	9.49	9.74	15.51
OF	156.00	9.49	9.74	15.51
OF	158.00	9.49	9.74	15.51
OF	160.00	9.49	9.74	15.51
OF	162.00	9.49	9.74	15.51
OF	164.00	9.49	9.74	15.51
OF	166.00	9.49	9.74	15.51
OF	168.00	9.49	9.74	15.51
OF	170.00	9.50	9.74	15.51
OF	172.00	9.50	9.74	15.51
OF	174.00	9.50	9.74	15.51
OF	176.00	9.50	9.74	15.51
OF	178.00	9.50	9.74	15.51
OF	180.00	9.50	9.74	15.51
OF	182.00	9.50	9.74	15.51
OF	184.00	9.50	9.74	15.51
OF	186.00	9.50	9.74	15.51
OF	188.00	9.50	9.74	15.51
OF	190.00	9.50	9.74	15.51
OF	192.00	9.50	9.74	15.51
OF	194.00	9.50	9.74	15.51
OF	196.00	9.50	9.74	15.51
OF	198.00	9.50	9.74	15.51
OF	200.00	9.50	9.74	15.52
OF	202.00	9.50	9.74	15.52
OF	204.00	9.50	9.74	15.52
OF	206.00	9.50	9.74	15.52
OF	208.00	9.50	9.74	15.52
OF	210.00	9.50	9.74	15.52
OF	212.00	9.50	9.74	15.52
OF	214.00	9.50	9.74	15.52
OF	216.00	9.50	9.74	15.52
OF	218.00	9.50	9.74	15.52
OF	220.00	9.50	9.74	15.52
OF	222.00	9.50	9.74	15.52
OF	224.00	9.50	9.74	15.52
OF	226.00	9.50	9.74	15.52
OF	228.00	9.50	9.74	15.52
OF	230.00	9.50	9.74	15.52
OF	232.00	9.51	9.74	15.52
OF	234.00	9.51	9.74	15.52
OF	236.00	9.51	9.74	15.52
OF	238.00	9.51	9.74	15.52
OF	240.00	9.51	9.74	15.52
OF	242.00	9.51	9.74	15.52
OF	244.00	9.51	9.74	15.52
OF	246.00	9.51	9.74	15.52
OF	248.00	9.51	9.74	15.52
OF	250.00	9.51	9.74	15.52
OF	252.00	9.51	9.74	15.52
OF	254.00	9.51	9.74	15.52
OF	256.00	9.51	9.74	15.52
OF	258.00	9.51	9.74	15.52
OF	260.00	9.51	9.74	15.52
OF	262.00	9.51	9.74	15.52
OF	264.00	9.51	9.74	15.52
OF	266.00	9.51	9.74	15.52
OF	268.00	9.51	9.74	15.52
OF	270.00	9.51	9.74	15.52
OF	272.00	9.51	9.74	15.52
OF	274.00	9.51	9.74	15.52
OF	276.00	9.51	9.74	15.52
OF	278.00	9.51	9.74	15.52
OF	280.00	9.51	9.74	15.52
OF	282.00	9.52	9.74	15.53
OF	284.00	9.52	9.74	15.53
OF	286.00	9.53	9.74	15.53
OF	288.00	9.53	9.74	15.54
OF	290.00	9.54	9.74	15.54
OF	292.00	9.54	9.74	15.54
OF	294.00	9.55	9.74	15.55
OF	296.00	9.55	9.74	15.55
OF	298.00	9.56	9.74	15.56
OF	300.00	9.56	9.74	15.56
OF	302.00	9.57	9.74	15.56
OF	304.00	9.58	9.74	15.57
OF	306.00	9.58	9.74	15.57
OF	308.00	9.59	9.74	15.58
OF	310.00	9.59	9.74	15.58
OF	312.00	9.60	9.74	15.58
OF	314.00	9.60	9.74	15.59
OF	316.00	9.61	9.74	15.59
OF	318.00	9.61	9.74	15.60
OF	320.00	9.62	9.74	15.60
OF	322.00	9.63	9.74	15.60
OF	324.00	9.63	9.74	15.61
OF	326.00	9.64	9.74	15.61
OF	328.00	9.64	9.74	15.62
OF	330.00	9.65	9.74	15.62
OF	332.00	9.66	9.74	15.62
OF	334.00	9.66	9.74	15.63
OF	336.00	9.66	9.74	15.63
OF	338.00	9.66	9.74	15.63
OF	340.00	9.67	9.74	15.63
OF	342.00	9.67	9.74	15.63
OF	344.00	9.67	9.74	15.63
OF	346.00	9.67	9.74	15.63
OF	348.00	9.67	9.74	15.64

OF	350.00	9.67	9.74	15.64
OF	352.00	9.68	9.74	15.64
OF	354.00	9.68	9.74	15.64
OF	356.00	9.68	9.74	15.64
OF	358.00	9.68	9.74	15.64
OF	360.00	9.68	9.74	15.64
OF	362.00	9.68	9.74	15.64
OF	364.00	9.69	9.74	15.65
OF	366.00	9.69	9.74	15.65
OF	368.00	9.70	9.74	15.66
OF	370.00	9.71	9.74	15.66
OF	372.00	9.71	9.74	15.67
OF	374.00	9.72	9.74	15.67
OF	376.00	9.73	9.74	15.67
OF	378.00	9.74	9.74	15.68
OF	380.00	9.74	9.74	15.68
OF	382.00	9.75	9.74	15.69
OF	384.00	9.76	9.74	15.69
OF	386.00	9.76	9.74	15.70
OF	388.00	9.77	9.74	15.71
OF	390.00	9.78	9.74	15.71
OF	392.00	9.80	9.74	15.72
OF	394.00	9.81	9.74	15.73
OF	396.00	9.82	9.74	15.74
OF	398.00	9.83	9.74	15.75
OF	400.00	9.84	9.74	15.76
OF	402.00	9.86	9.74	15.76
OF	404.00	9.87	9.74	15.77
OF	406.00	9.88	9.74	15.78
OF	408.00	9.89	9.74	15.79
OF	410.00	9.91	9.74	15.80
OF	412.00	9.92	9.74	15.81
OF	414.00	9.93	9.74	15.82
OF	416.00	9.94	9.74	15.83
OF	418.00	9.96	9.74	15.84
OF	420.00	9.97	9.74	15.85
OF	422.00	9.99	9.74	15.85
OF	424.00	10.00	9.74	15.86
OF	426.00	10.01	9.74	15.87
OF	428.00	10.03	9.74	15.88
OF	430.00	10.04	9.74	15.89
OF	432.00	10.06	9.74	15.90
OF	434.00	10.07	9.74	15.91
OF	436.00	10.09	9.74	15.92
OF	438.00	10.10	9.74	15.94
OF	440.00	10.12	9.74	15.95
OF	442.00	10.13	9.74	15.96
OF	444.00	10.15	9.74	15.97
OF	446.00	10.16	9.74	15.98
OF	448.00	10.18	9.74	15.99
OF	450.00	10.20	9.74	16.00
OF	452.00	10.21	9.74	16.01
OF	454.00	10.23	9.74	16.02
OF	456.00	10.24	9.74	16.04
OF	458.00	10.26	9.74	16.05
OF	460.00	10.28	9.74	16.06
OF	462.00	10.30	9.74	16.07
OF	464.00	10.31	9.74	16.08
OF	466.00	10.32	9.74	16.09
OF	468.00	10.33	9.74	16.09
OF	470.00	10.34	9.74	16.10
OF	472.00	10.35	9.74	16.11
OF	474.00	10.36	9.74	16.11
OF	476.00	10.37	9.74	16.12
OF	478.00	10.38	9.74	16.13
OF	480.00	10.39	9.74	16.13
OF	482.00	10.40	9.74	16.14
OF	484.00	10.41	9.74	16.15
OF	486.00	10.42	9.74	16.16
OF	488.00	10.43	9.74	16.16
OF	490.00	10.44	9.74	16.17
OF	492.00	10.45	9.74	16.18
OF	494.00	10.46	9.74	16.19
OF	496.00	10.47	9.74	16.19
OF	498.00	10.48	9.74	16.20
OF	500.00	10.49	9.74	16.21
OF	502.00	10.50	9.74	16.22
OF	504.00	10.51	9.74	16.22
OF	506.00	10.53	9.74	16.23
OF	508.00	10.54	9.74	16.24
OF	510.00	10.55	9.74	16.25
OF	512.00	10.56	9.74	16.25
OF	514.00	10.57	9.74	16.26
OF	516.00	10.58	9.74	16.27
OF	518.00	10.59	9.74	16.28
OF	520.00	10.61	9.74	16.29
OF	522.00	10.62	9.74	16.29
OF	524.00	10.63	9.74	16.30
OF	526.00	10.64	9.74	16.31
OF	528.00	10.65	9.74	16.32
OF	530.00	10.67	9.74	16.33
OF	532.00	10.68	9.74	16.34
OF	534.00	10.69	9.74	16.35
OF	536.00	10.70	9.74	16.35
OF	538.00	10.72	9.74	16.36
OF	540.00	10.74	9.74	16.38
OF	542.00	10.77	9.74	16.40
OF	544.00	10.79	9.74	16.42
OF	546.00	10.82	9.74	16.43
OF	548.00	10.84	9.74	16.45
OF	550.00	10.87	9.74	16.47
OF	552.00	10.89	9.74	16.49

OF	554.00	9.92	9.74	15.80
OF	556.00	9.91	9.74	15.80
OF	558.00	9.90	9.74	15.79
OF	560.00	9.89	9.74	15.78
OF	562.00	9.89	9.74	15.78
OF	564.00	9.90	9.74	15.79
OF	566.00	9.91	9.74	15.80
OF	568.00	9.91	9.74	15.79
OF	570.00	9.90	9.74	15.79
OF	572.00	9.90	9.74	15.79
OF	574.00	9.91	9.74	15.80
OF	576.00	9.93	9.74	15.81
OF	578.00	9.90	9.74	15.79
OF	580.00	9.89	9.74	15.78
OF	582.00	9.88	9.74	15.77
OF	584.00	9.87	9.74	15.77
OF	586.00	9.86	9.74	15.76
OF	588.00	9.85	9.74	15.76
OF	590.00	9.87	9.74	15.77
OF	592.00	9.88	9.74	15.77
OF	594.00	9.87	9.74	15.77
OF	596.00	9.86	9.74	15.76
OF	598.00	9.87	9.74	15.77
OF	600.00	9.88	9.74	15.78
OF	602.00	9.89	9.74	15.78
OF	604.00	9.88	9.74	15.77
OF	606.00	9.88	9.74	15.77
OF	608.00	9.87	9.74	15.77
OF	610.00	9.87	9.74	15.77
OF	612.00	9.87	9.74	15.77
OF	614.00	9.88	9.74	15.78
OF	616.00	9.87	9.74	15.76
OF	618.00	9.86	9.74	15.76
OF	620.00	9.86	9.74	15.76
OF	622.00	9.85	9.74	15.75
OF	624.00	9.84	9.74	15.75
OF	626.00	9.84	9.74	15.74
OF	628.00	9.83	9.74	15.74
OF	630.00	9.84	9.74	15.74
OF	632.00	9.84	9.74	15.75
OF	634.00	9.85	9.74	15.75
OF	636.00	9.85	9.74	15.75
OF	638.00	9.86	9.74	15.76
OF	640.00	9.86	9.74	15.76
OF	642.00	9.87	9.74	15.77
OF	644.00	9.88	9.74	15.77
OF	646.00	9.87	9.74	15.77
OF	648.00	9.86	9.74	15.76
OF	650.00	9.87	9.74	15.77
OF	652.00	9.89	9.74	15.78
OF	654.00	9.81	9.74	15.73
OF	656.00	9.70	9.74	15.65
OF	658.00	9.63	9.74	15.60
OF	660.00	9.55	9.74	15.55
OF	662.00	9.47	9.74	15.49
OF	664.00	9.33	9.74	15.40
OF	666.00	9.14	9.74	15.26
OF	668.00	8.94	9.74	15.13
OF	670.00	8.77	9.74	15.01
OF	672.00	8.68	9.74	14.94
OF	674.00	8.67	9.74	14.94
OF	676.00	8.59	9.74	14.88
OF	678.00	8.55	9.74	14.86
OF	680.00	8.38	9.74	14.73
OF	682.00	8.19	9.74	14.61
OF	684.00	8.15	9.74	14.57
OF	686.00	8.12	9.74	14.55
OF	688.00	7.98	9.74	14.46
OF	690.00	7.82	9.74	14.35
OF	692.00	7.67	9.74	14.25
OF	694.00	7.56	9.74	14.17
OF	696.00	7.45	9.74	14.09
OF	698.00	7.32	9.74	14.00
OF	700.00	7.20	9.74	13.92
OF	702.00	7.01	9.74	13.79
OF	704.00	6.94	9.74	13.73
IF	706.00	6.73	9.74	13.59
IF	708.00	6.57	9.74	13.48
IF	710.00	6.41	9.74	13.37
IF	712.00	6.25	9.74	13.26
IF	714.00	6.08	9.74	13.14
IF	716.00	5.95	9.74	13.05
IF	718.00	5.87	9.74	12.99
IF	720.00	5.79	9.74	12.94
IF	721.80	5.73	9.74	12.89
IF	725.10	5.70	9.74	12.88
IF	728.30	5.57	9.74	12.80
IF	731.60	5.41	9.74	12.70
IF	734.90	5.26	9.74	12.60
IF	738.20	4.94	9.74	12.39
IF	741.50	4.74	9.74	12.26
IF	744.70	4.59	9.74	12.17
IF	748.00	4.31	9.74	11.99
IF	751.30	4.07	9.74	11.83
IF	754.60	3.97	9.74	11.79
IF	757.90	3.90	9.74	11.76
IF	761.20	3.65	9.74	11.61
IF	764.40	3.27	9.74	11.36
IF	767.70	2.79	9.74	11.05
IF	771.00	2.19	9.74	10.65
IF	774.30	2.02	9.74	10.60
IF	777.60	2.01	9.74	10.66

IF	780.80	1.55	9.74	10.43
IF	784.10	1.10	9.74	10.27
IF	787.40	0.74	9.74	10.20
IF	790.00	0.46	9.74	10.00
IF	792.00	0.05	9.74	9.71
IF	792.20	0.01	9.74	9.68

PART3 LOCATION OF AREAS ABOVE 100-YEAR SURGE

NO AREAS ABOVE 100-YEAR SURGE IN THIS TRANSECT

PART4 LOCATION OF SURGE CHANGES

STATION	10-YEAR SURGE	100-YEAR SURGE
456.00	1.00	8.86
492.00	1.00	8.86
518.00	1.00	8.86
540.00	1.00	8.86
566.00	1.00	8.86
582.00	1.00	8.86
602.00	1.00	8.86
622.00	1.00	8.86
638.00	1.00	8.86
642.00	1.00	8.86
644.00	1.00	8.86
648.00	1.00	8.86
650.00	1.00	8.86
654.00	1.00	8.86
658.00	1.00	8.86
660.00	1.00	8.86
664.00	1.00	8.87
668.00	1.00	8.87
670.00	1.00	8.87
674.00	1.00	8.87
676.00	1.00	8.87
680.00	1.00	8.87
682.00	1.00	8.87
686.00	1.00	8.87
690.00	1.00	8.87
692.00	1.00	8.88
696.00	1.00	8.88
700.00	1.00	8.88
702.00	1.00	8.88
706.00	1.00	8.88
708.00	1.00	8.88
712.00	1.00	8.88
716.00	1.00	8.88
718.00	1.00	8.88
721.80	1.00	8.88
725.10	1.00	8.89
728.30	1.00	8.90
731.60	1.00	8.91
734.90	1.00	8.92
738.20	1.00	8.93
741.50	1.00	8.94
744.70	1.00	8.96
748.00	1.00	8.97
751.30	1.00	8.99
754.60	1.00	9.01
757.90	1.00	9.04
761.20	1.00	9.06
764.40	1.00	9.08
767.70	1.00	9.10
771.00	1.00	9.12
774.30	1.00	9.18
777.60	1.00	9.26
780.80	1.00	9.35
784.10	1.00	9.50
787.40	1.00	9.68

PART5 LOCATION OF V ZONES

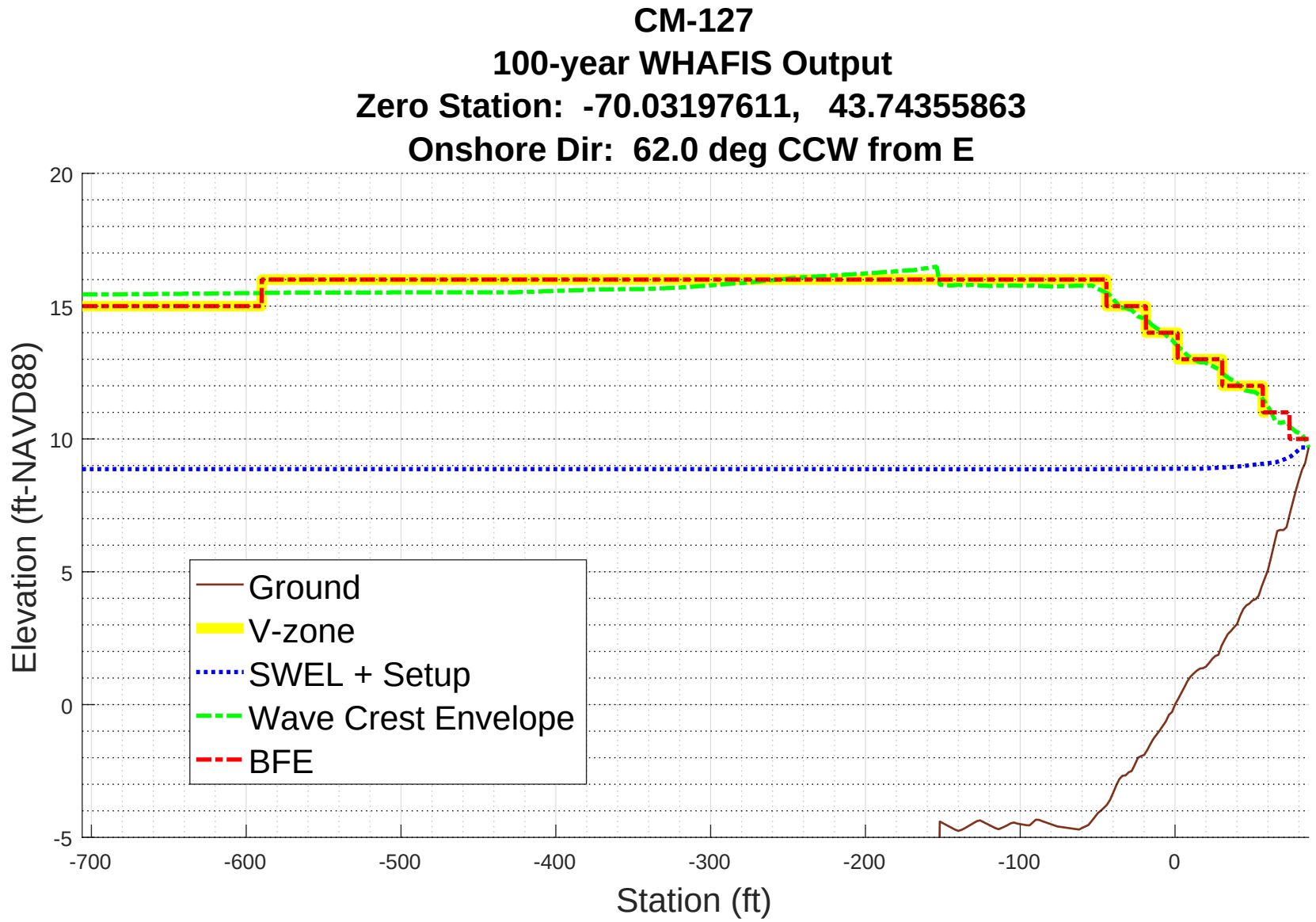
STATION OF GUTTER	LOCATION OF ZONE
766.26	WINDWARD

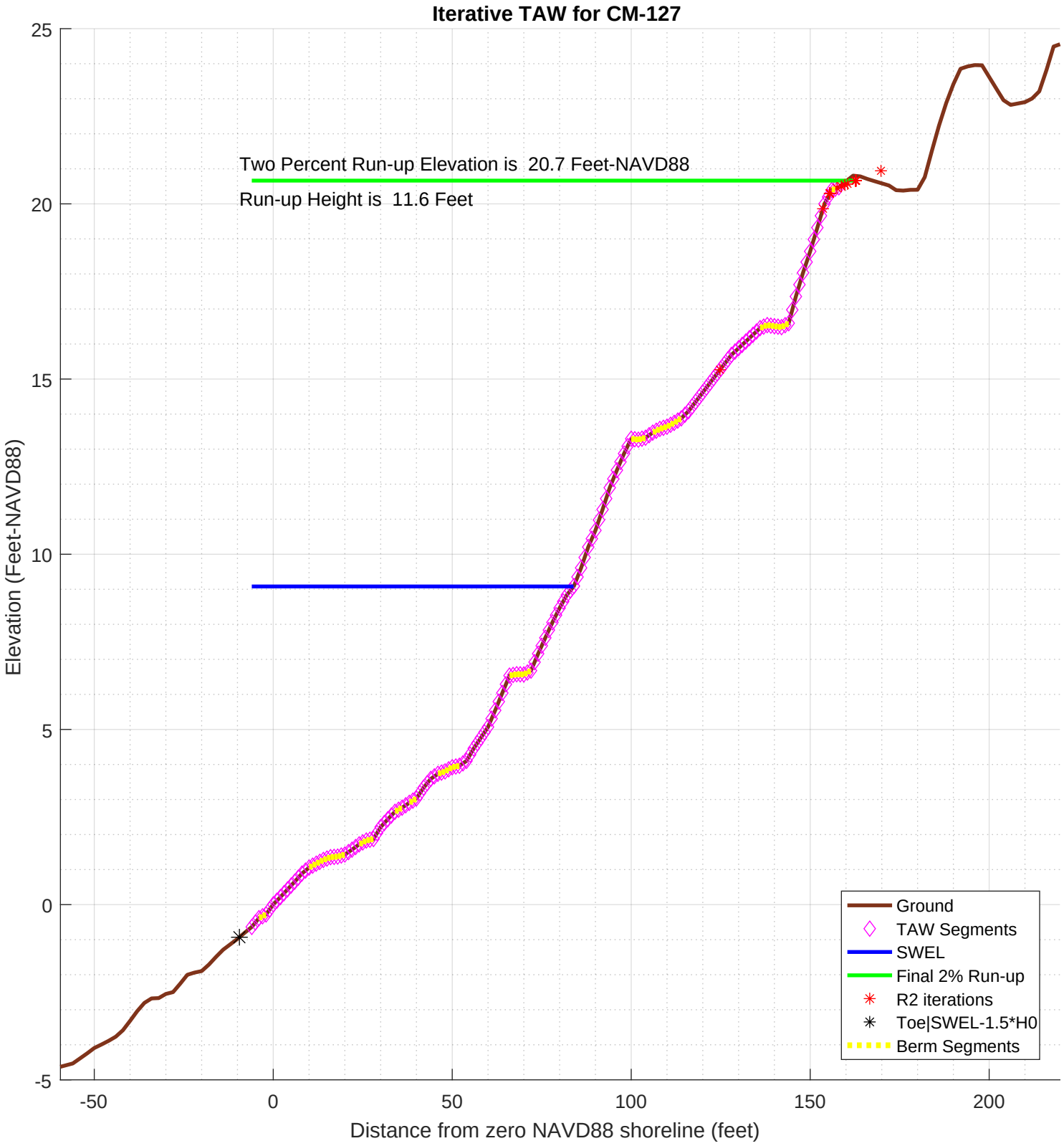
PART6 NUMBERED A ZONES AND V ZONES

STATION OF GUTTER	ELEVATION	ZONE DESIGNATION		FHF
0.00	15.44			
		V22	EL=15	120
124.11	15.50			
		V22	EL=16	120
454.00	16.02			
		V22	EL=16	120
456.00	16.04			
		V22	EL=16	120
490.00	16.17			
		V22	EL=16	120
492.00	16.18			
		V22	EL=16	120
516.00	16.27			
		V22	EL=16	120
518.00	16.28			
		V22	EL=16	120
538.00	16.36			
		V22	EL=16	120
540.00	16.38			
		V22	EL=16	120
564.00	15.79			
		V22	EL=16	120
566.00	15.80			
		V22	EL=16	120
580.00	15.78			
		V22	EL=16	120
582.00	15.77			
		V22	EL=16	120
600.00	15.78			
		V22	EL=16	120
602.00	15.78			
		V22	EL=16	120

620.00	15.76			
622.00	15.75	V22	EL=16	120
636.00	15.75	V22	EL=16	120
638.00	15.76	V22	EL=16	120
640.00	15.76	V22	EL=16	120
642.00	15.77	V22	EL=16	120
644.00	15.77	V22	EL=16	120
646.00	15.77	V22	EL=16	120
648.00	15.76	V22	EL=16	120
650.00	15.77	V22	EL=16	120
652.00	15.78	V22	EL=16	120
654.00	15.73	V22	EL=16	120
656.00	15.65	V22	EL=16	120
658.00	15.60	V22	EL=16	120
660.00	15.55	V22	EL=16	120
661.69	15.50	V22	EL=15	120
662.00	15.49	V22	EL=15	120
664.00	15.40	V22	EL=15	120
666.00	15.26	V22	EL=15	120
668.00	15.13	V22	EL=15	120
670.00	15.01	V22	EL=15	120
672.00	14.94	V22	EL=15	120
674.00	14.94	V22	EL=15	120
676.00	14.88	V22	EL=15	120
678.00	14.86	V22	EL=15	120
680.00	14.73	V22	EL=15	120
682.00	14.61	V22	EL=15	120
684.00	14.57	V22	EL=15	120
686.00	14.55	V22	EL=15	120
687.16	14.50	V22	EL=14	120
688.00	14.46	V22	EL=14	120
690.00	14.35	V22	EL=14	120
692.00	14.25	V22	EL=14	120
694.00	14.17	V22	EL=14	120
696.00	14.09	V22	EL=14	120
698.00	14.00	V22	EL=14	120
700.00	13.92	V22	EL=14	120
702.00	13.79	V22	EL=14	120
704.00	13.73	V22	EL=14	120
706.00	13.59	V22	EL=14	120
707.64	13.50	V22	EL=13	120
708.00	13.48	V22	EL=13	120
710.00	13.37	V22	EL=13	120
712.00	13.26	V22	EL=13	120
714.00	13.14	V22	EL=13	120
716.00	13.05	V22	EL=13	120
718.00	12.99	V22	EL=13	120
720.00	12.94	V22	EL=13	120
721.80	12.89	V22	EL=13	120
725.10	12.88	V22	EL=13	120
728.30	12.80	V22	EL=13	120

```
                                731.60          12.70
                                                                V22  EL=13     120
                                734.90          12.60
                                                                V22  EL=13     120
                                736.45          12.50
                                                                V22  EL=12     120
                                738.20          12.39
                                                                V22  EL=12     120
                                741.50          12.26
                                                                V22  EL=12     120
                                744.70          12.17
                                                                V22  EL=12     120
                                748.00          11.99
                                                                V22  EL=12     120
                                751.30          11.83
                                                                V22  EL=12     120
                                754.60          11.79
                                                                V22  EL=12     120
                                757.90          11.76
                                                                V22  EL=12     120
                                761.20          11.61
                                                                V23  EL=12     130
                                762.63          11.50
                                                                V23  EL=11     130
                                764.40          11.36
                                                                V23  EL=11     130
                                766.26          11.19
                                                                A19  EL=11      95
                                767.70          11.05
                                                                A19  EL=11      95
                                771.00          10.65
                                                                A19  EL=11      95
                                774.30          10.60
                                                                A19  EL=11      95
                                777.60          10.66
                                                                A19  EL=11      95
                                779.82          10.50
                                                                A19  EL=10      95
                                780.80          10.43
                                                                A19  EL=10      95
                                784.10          10.27
                                                                A19  EL=10      95
                                787.40          10.20
                                                                A19  EL=10      95
                                792.20           9.68
                                     ZONE TERMINATED AT END OF TRANSECT
                                     PART 7   POSTSCRIPT NOTES
                           PS#  1   START(416805.4383,4843718.5612)
                           PS#  2   END(416941.1095,4843973.5881)
-1.000000e+00
```


CM-127
100-year WHAFIS Output
Zero Station: -70.03197611, 43.74355863
Onshore Dir: 62.0 deg CCW from E
Elevation (ft-NAVD88)
Station (ft)
20
15
10
5
0
-5
-700
-600
-500
-400
-300
-200
-100
0
Ground
V-zone
SWEL + Setup
Wave Crest Envelope
BFE


Iterative TAW for CM-127
Two Percent Run-up Elevation is 20.7 Feet-NAVD88
Run-up Height is 11.6 Feet
Elevation (Feet-NAVD88)
Distance from zero NAVD88 shoreline (feet)
25
20
15
10
5
0
-5
-50
0
50
100
150
200
Ground
TAW Segments
SWEL
Final 2% Run-up
R2 iterations
Toe|SWEL-1.5*H0
Berm Segments

```
diary on         % begin recording

% FEMA appeal for The Town of Harpswell, Cumberland county, Maine
% TRANSECT ID: CM-127
% calculation by SJH, Ransom Consulting, Inc. 20-Feb-2020
% 100-year wave runup using TAW methodology
% including berm and weighted average with foreshore if necessary
%
% chk nld 20200220
%
% This script assumes that the incident wave conditions provided
% as input in the configuration section below are the
% appropriate values located at the end of the foreshore
% or toe of the slope on which the run-up is being calculated
% the script does not attempt to apply a depth limit or any other
% transformation to the incident wave conditions other than
% conversion of the peak wave period to the spectral mean wave
% as recommended in the references below
%
% references:
%
% Van der Meer, J.W., 2002. Technical Report Wave Run-up and
% Wave Overtopping at Dikes. TAW Technical Advisory Committee on
% Flood Defence, The Netherlands.
%
% FEMA. 2007,  Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update
%
%
%

%-------------------------------------------------------------------------
% CONFIG
%-------------------------------------------------------------------------
fname='inpfiles/CM-127sta_ele_include.csv';   % file with station, elevation, include
                                      % third colunm is 0 for excluded points
imgname='logfiles/CM-127-runup';
SWEL=8.8651;  % 100-yr still water level including wave setup.
H0=6.5053;    % significant wave height at toe of structure
Tp=9.8292;    % peak period, 1/fma,
T0=Tp/1.1;

gamma_berm=0.83689;   % this may get changed automatically below
gamma_rough=0.8;
gamma_beta=1;
gamma_perm=1;

setupAtToe=-0.037592;
maxSetup=0.81296;   % only used in case of berm/shallow foreshore weighted average

plotTitle='Iterative TAW for CM-127'

plotTitle =

Iterative TAW for CM-127



% END CONFIG
%------------------------------

SWEL=SWEL+setupAtToe

SWEL =

                  8.827508

SWEL_fore=SWEL+maxSetup

SWEL_fore =

                  9.640468



% FIND WAVELENGTH USING DEEPWATER DISPERSION RELATION
% using English units
L0=32.15/(2*pi)*T0^2

L0 =

          408.556460652322


% Find Hb (Munk, 1949)
%Hb=H0/(3.3*(H0/L0)^(1/3))
%Db=-Hb/.78+SWEL;  % depth at breaking

% The toe elevation here is only used to determine the average
% structure slope, it is not used to depth limit the wave height.
% Any depth limiting or other modification of the wave height
```

```
% to make it consitent with TAW guidance should be performed
% prior to the input of the significant wave height given above.
Ztoe=SWEL-1.5*H0

Ztoe =

        -0.930442000000001


% read the transect
[sta,dep,inc] = textread(fname,'%n%n%n%*[^\n]','delimiter',',','headerlines',0);

% remove unselected points
k=find(inc==0);
sta(k)=[];
dep(k)=[];

sta_org=sta;  % used for plotting purposes
dep_org=dep;


% initial guess at maximum run-up elevation to estimate slope
Z2=SWEL+1.5*H0

Z2 =

                18.585458


% determine station at the max runup and -1.5*H0 (i.e. the toe)
top_sta=-999;
toe_sta=-999;
for kk=1:length(sta)-1
    if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
       top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
    end
    if  ((Ztoe > dep(kk)) & (Ztoe <= dep(kk+1)))    % here is the intersection of Ztoe with profile
       toe_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Ztoe)
    end
end

toe_sta =

         -9.45764232317425


top_sta =

          149.805595413595

% check to make sure we got them, if not extend the end slopes outward
S=diff(dep)./diff(sta);
if toe_sta==-999
   dy=dep(1)-Ztoe;
   toe_sta=sta(1)-dy/S(1)
end
if top_sta==-999
   dy=Z2-dep(end);
   top_sta=sta(end)+dy/S(end)
end

% just so the reader can tell the values aren't -999 anymore
top_sta

top_sta =

          149.805595413595

toe_sta

toe_sta =

         -9.45764232317425




% check for case where the toe of slope is below SWL-1.5*H0
% in this case interpolate setup from the setupAtToe(really setup as first station), and the max setup
% also un-include points seaward of SWL-1.5*H0
if Ztoe > dep(1)
   dd=SWEL_fore-dep;
   k=find(dd<0,1); % k is index of first land point
   staAtSWL=interp1(dep(k-1:k),sta(k-1:k),SWEL_fore);
   dsta=staAtSWL-sta(1);
   dsetup=maxSetup-setupAtToe;
   dsetdsta=dsetup/dsta;
   setup=setupAtToe+dsetdsta*(toe_sta-sta(1));
   sprintf('-!!- Location of SWEL-1.5*H0 is %4.1f ft landward of toe of slope',dsta)
   sprintf('-!!- Setup is interpolated between setup at toe of slope and max setup')
```

```
   sprintf('-!!-       setup is adjusted to %4.2f feet',setup)
   SWEL=SWEL-setupAtToe+setup;
   sprintf('-!!-       SWEL is adjusted to %4.2f feet',SWEL)
   k=find(dep < SWEL-1.5*H0)
   sta(k)=[];
   dep(k)=[];
else
   sprintf('-!!- The User has selected a starting point that is %4.2f feet above the elevation of SWEL-1.5H0\n',dep(1
   sprintf('-!!- This may be reasonable for some cases.  However the user may want to consider:\n')
   sprintf('-!!-   1) Selecting a starting point that is at or below %4.2f feet elevation, or\n', Ztoe)
   sprintf('-!!-   2) Reducing the incident wave height to a depth limited condition.\n')
end

ans =

-!!- Location of SWEL-1.5*H0 is 136.1 ft landward of toe of slope


ans =

-!!- Setup is interpolated between setup at toe of slope and max setup


ans =

-!!-       setup is adjusted to 0.22 feet


ans =

-!!-       SWEL is adjusted to 9.08 feet


k =

     1
     2
     3
     4
     5
     6
     7
     8
     9
    10
    11
    12
    13
    14
    15
    16
    17
    18
    19
    20
    21
    22
    23
    24
    25
    26
    27
    28
    29
    30
    31
    32
    33
    34
    35
    36
    37
    38
    39
    40
    41
    42
    43
    44



% now iterate converge on a runup elevation
tol=0.01;  % convergence criteria
R2del=999;
R2_new=3*H0; %initial guess
R2=R2_new;
iter=0;
R2_all=[];
```

```
topStaAll=[];
Berm_Segs=[];
TAW_ALWAYS_VALID=1;
while(abs(R2del) > tol && iter <= 25)
    iter=iter+1;
    sprintf ('!----------------- STARTING ITERATION %d -----------------!',iter)
    % elevation of toe of slope
    Ztoe
    % station of toe slope (relative to 0-NAVD88 shoreline
    toe_sta
    % station of top of slope/extent of 2% run-up
    top_sta
    % elevation of top of slope/extent of 2% run-up
    Z2
    % incident significant wave height
    H0
    % incident spectral peak wave period
    Tp
    % incident spectral mean wave period
    T0

    R2=R2_new
    Z2=R2+SWEL
    % determine slope for this iteration
    top_sta=-999;
    for kk=1:length(sta)-1
       if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
          top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
          break;
       end
    end
    if top_sta==-999
       dy=Z2-dep(end);
       top_sta=sta(end)+dy/S(end)
    end

    % get the length of the slope (not accounting for berm)
    Lslope=top_sta-toe_sta

    % loop over profile segments to determine berm factor
    % re-calculate influence of depth of berm based on this run-up elevation
    % check for berm, berm width, berm height
    berm_width=0;
    rdh_sum=0;
    Berm_Segs=[];
    Berm_Heights=[];
    for kk=1:length(sta)-1
       ddep=dep(kk+1)-dep(kk);
       dsta=sta(kk+1)-sta(kk);
       s=ddep/dsta;
       if  (s < 1/15)     % count it as a berm if slope is flatter than 1:15 (see TAW manual)
          sprintf ('Berm Factor Calculation: Iteration %d, Profile Segment: %d',iter,kk)
          berm_width=berm_width+dsta;   % tally the width of all berm segments
          % compute the rdh for this segment and weight it by the segment length
          dh=SWEL-(dep(kk)+dep(kk+1))/2
          if  dh < 0
              chi=R2;
          else
              chi=2* H0;
          end
          if (dh <= R2 & dh >=-2*H0)
             rdh=(0.5-0.5*cos(3.14159*dh/chi)) ;
          else
             rdh=1;
          end
          rdh_sum=rdh_sum + rdh * dsta
          Berm_Segs=[Berm_Segs, kk];
          Berm_Heights=[Berm_Heights, (dep(kk)+dep(kk+1))/2];
       end
       if dep(kk) >= Z2  % jump out of loop if we reached limit of run-up for this iteration
          break
       end
    end
    sprintf ('!------- End Berm Factor Calculation, Iter: %d ---------!',iter)
    berm_width
    rB=berm_width/Lslope
    if (berm_width > 0)
       rdh_mean=rdh_sum/berm_width
    else
       rdh_mean=1
    end
    gamma_berm=1- rB * (1-rdh_mean)
    if gamma_berm > 1
       gamma_berm=1
    end
    if gamma_berm < 0.6
       gamma_berm =0.6
    end
    % Iribarren number
    slope=(Z2-Ztoe)/(Lslope-berm_width)
```

```
    Irb=(slope/(sqrt(H0/L0)))
    % runup height
    gamma_berm
    gamma_perm
    gamma_beta
    gamma_rough
    gamma=gamma_berm*gamma_perm*gamma_beta*gamma_rough

    % check validity
    TAW_VALID=1;
    if (Irb*gamma_berm < 0.5 | Irb*gamma_berm > 10 )
       sprintf('!!! - - Iribaren number: %6.2f is outside the valid range (0.5-10), TAW NOT VALID - - !!!\n', Irb*gam
       TAW_VALID=0;
    else
       sprintf('!!! - - Iribaren number: %6.2f is in the valid range (0.5-10), TAW RECOMMENDED - - !!!\n', Irb*gamma_
    end
    islope=1/slope;
    if (slope < 1/8 | slope > 1)
       sprintf('!!! - - slope: 1:%3.1f V:H is outside the valid range (1:8 - 1:1), TAW NOT VALID - - !!!\n', islope)
       TAW_VALID=0;
    else
       sprintf('!!! - - slope: 1:%3.1f V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!\n', islope)
    end
    if TAW_VALID == 0
       TAW_ALWAYS_VALID=0;
    end

    if (Irb*gamma_berm < 1.8)
       R2_new=gamma*H0*1.77*Irb
    else
       R2_new=gamma*H0*(4.3-(1.6/sqrt(Irb)))
    end


    % check to see if we need to evaluate a shallow foreshore
    if berm_width > 0.25 * L0;
       disp ('!   Berm_width is greater than 1/4 wave length')
       disp ('!   Runup will be weighted average with foreshore calculation assuming depth limited wave height on ber
       % do the foreshore calculation
       fore_H0=0.78*(SWEL_fore-min(Berm_Heights))
       % get upper slope
       fore_toe_sta=-999;
       fore_toe_dep=-999;
       for kk=length(dep)-1:-1:1
          ddep=dep(kk+1)-dep(kk);
          dsta=sta(kk+1)-sta(kk);
          s=ddep/dsta;
          if s < 1/15
             break
          end
          fore_toe_sta=sta(kk);
          fore_toe_dep=dep(kk);
          upper_slope=(Z2-fore_toe_dep)/(top_sta-fore_toe_sta)
       end
       fore_Irb=upper_slope/(sqrt(fore_H0/L0));
       fore_gamma=gamma_perm*gamma_beta*gamma_rough;
       if (fore_Irb < 1.8)
          fore_R2=fore_gamma*fore_H0*1.77*fore_Irb;
       else
          fore_R2=fore_gamma*fore_H0*(4.3-(1.6/sqrt(fore_Irb)));
       end
       if berm_width >= L0
          R2_new=fore_R2
          disp ('berm is wider than one wavelength, use full shallow foreshore solution');
       else
          w2=(berm_width-0.25*L0)/(0.75*L0)
          w1=1-w2
          R2_new=w2*fore_R2 + w1*R2_new
       end
    end % end berm width check
    % convergence criterion
    R2del=abs(R2-R2_new)
    R2_all(iter)=R2_new;
    % get the new top station (for plot purposes)
    Z2=R2_new+SWEL
    top_sta=-999;
    for kk=1:length(sta)-1
       if ((Z2 > dep(kk)) & (Z2 <= dep(kk+1)))    % here is the intersection of z2 with profile
          top_sta=interp1(dep(kk:kk+1),sta(kk:kk+1),Z2)
          break;
       end
    end
    if top_sta==-999
       dy=Z2-dep(end);
       top_sta=sta(end)+dy/S(end);
    end
    topStaAll(iter)=top_sta;
end
ans =
!----------------- STARTING ITERATION 1 -----------------!
```

```
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          149.805595413595
Z2 =
                 18.585458
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
                   19.5159
Z2 =
          28.5967779401772
top_sta =
          361.346131168404
Lslope =
          370.803773491578
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 26
```

```
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 73
```

```
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.1462325755941
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.2559582483991
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.3660476937943
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          15.4775670944337
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          15.5986748381405
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          15.7226090055733
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          15.8488209676365
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          15.9767485433809
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          16.1070078501464
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 118
```

```
dh =
         -4.64202205982277
rdh_sum =
          16.2402288320947
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
           16.376715817469
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          16.5167812632805
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          16.8310680619736
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
           17.148565182543
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          17.4671006016458
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
            17.78449656466
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          18.1008121798042
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          18.4161064019807
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          18.7329948342644
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          19.0541036284047
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          19.6794668731463
ans =
Berm Factor Calculation: Iteration 1, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          20.3079402887076
ans =
!------- End Berm Factor Calculation, Iter: 1 ---------!
berm_width =
    54
rB =
         0.145629585943862
rdh_mean =
           0.3760729683094
gamma_berm =
         0.909137764715715
slope =
        0.0932034982246263
Irb =
         0.738625997842251
```

```
gamma_berm =
         0.909137764715715
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.727310211772572
ans =
!!! - - Iribaren number:   0.67 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:10.7 V:H is outside the valid range (1:8 - 1:1), TAW NOT VALID - - !!!
R2_new =
          6.18564327581155
R2del =
          13.3302567241884
Z2 =
          15.2665212159888
top_sta =
          124.812820975708
ans =
!----------------- STARTING ITERATION 2 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          124.812820975708
Z2 =
          15.2665212159888
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          6.18564327581155
Z2 =
          15.2665212159888
top_sta =
          124.812820975708
Lslope =
          134.270463298882
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
     1
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
     2
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
     3
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
     4
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
     5
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
     6
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
     7
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 22
```

```
dh =
          7.74610294017723
rdh_sum =
     8
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
     9
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
    10
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
    11
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
    12
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
    13
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
    14
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
    15
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
    16
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
    17
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
    18
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          18.4565247588379
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          18.9054955501608
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
           19.265496025516
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          19.6214969809812
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 55
```

```
dh =
          5.24855294017723
rdh_sum =
          19.9720848652396
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          20.3158617560769
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          20.6550242080359
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          20.9917481816943
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          21.0825455443531
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          21.1719532426698
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
          21.2607658761737
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          21.3497709355901
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          21.4370185661772
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          21.5206117745003
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          22.2890301479243
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
           23.054474578732
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          23.8214720463875
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          24.5945178744379
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          25.4058211634087
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 114
```

```
dh =
         -4.46964705982277
rdh_sum =
          26.2276493926574
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          27.0577141563349
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          27.8938390301499
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          28.7380039310993
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          29.5920571767312
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          30.4565987118181
ans =
Berm Factor Calculation: Iteration 2, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          31.3321362762641
ans =
!------- End Berm Factor Calculation, Iter: 2 ---------!
berm_width =
    44
rB =
         0.327696791378885
rdh_mean =
          0.71209400627873
gamma_berm =
          0.90565412963879
slope =
          0.17942705314762
Irb =
          1.42193682313995
gamma_berm =
          0.90565412963879
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.724523303711032
ans =
!!! - - Iribaren number:   1.29 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.6 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.8624188802036
R2del =
          5.67677560439208
Z2 =
          20.9432968203809
ans =
!----------------- STARTING ITERATION 3 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
           169.76963255021
Z2 =
          20.9432968203809
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
```

```
R2 =
          11.8624188802036
Z2 =
          20.9432968203809
top_sta =
           169.76963255021
Lslope =
          179.227274873384
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 32
dh =
          7.27870294017723
```

```
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 75
dh =
          2.50647794017723
```

```
rdh_sum =
          14.775963205213
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3155345291782
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.5936150187626
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.8725532356446
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.1548588962555
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
           16.459571029915
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.7708303244617
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.0873467359115
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.4078114329187
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.7336267164816
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.0662121215204
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.4062295384534
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 120
dh =
         -4.76582205982277
```

```
rdh_sum =
          18.7543492283314
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.4432358704796
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
           20.137369978627
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          20.8331928803111
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.5271622367467
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.2193696469857
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          22.9099071901045
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.6030493630042
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
           24.303040196009
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.2981204035075
ans =
Berm Factor Calculation: Iteration 3, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.2939131668359
ans =
!------- End Berm Factor Calculation, Iter: 3 ---------!
berm_width =
    54
rB =
         0.301293427789651
rdh_mean =
         0.486924317904369
gamma_berm =
         0.845413669025894
slope =
          0.17467232152498
Irb =
          1.38425617320576
gamma_berm =
         0.845413669025894
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.676330935220715
ans =
!!! - - Iribaren number:   1.17 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.7 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
```

```
R2_new =
          10.7799393422366
R2del =
          1.08247953796703
Z2 =
          19.8608172824138
top_sta =
          153.591839558156
ans =
!----------------- STARTING ITERATION 4 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          153.591839558156
Z2 =
          19.8608172824138
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          10.7799393422366
Z2 =
          19.8608172824138
top_sta =
          153.591839558156
Lslope =
          163.049481881331
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 24
dh =
          7.71425294017723
```

```
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 57
dh =
          5.14900294017723
```

```
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3670458773957
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6963843162342
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          16.0267126968149
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.3609258373212
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.7209151741386
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          17.0884121060058
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.4619292731135
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 116
dh =
         -4.54442205982277
```

```
rdh_sum =
          17.8399630847931
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.2241111195512
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
           18.615984547484
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          19.0163243926049
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.4258769763084
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          20.2015695400962
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.9824554556807
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.7650086766383
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.5457318298934
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          23.3247131299112
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          24.1020416192087
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.8819472909924
ans =
Berm Factor Calculation: Iteration 4, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.6686067923263
ans =
!-------- End Berm Factor Calculation, Iter: 4 ---------!
berm_width =
    52
rB =
         0.318921589937012
rdh_mean =
         0.493627053698583
gamma_berm =
         0.838506734864463
slope =
         0.187225180434716
Irb =
          1.48373600083659
gamma_berm =
         0.838506734864463
```

```
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
          0.67080538789157
ans =
!!! - - Iribaren number:   1.24 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
           11.460241573081
R2del =
         0.680302230844443
Z2 =
          20.5411195132583
ans =
!----------------- STARTING ITERATION 5 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          159.702616101584
Z2 =
          20.5411195132583
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
           11.460241573081
Z2 =
          20.5411195132583
top_sta =
          159.702616101584
Lslope =
          169.160258424758
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
```

```
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
```

```
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3332556193151
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6289679991326
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9255846436153
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2257509016191
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5495136665508
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8801639310132
```

```
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.2163421239624
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5566705333358
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.9026211654577
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.2556822679911
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.6165446410581
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9859065709968
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.7061358348019
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
           20.431628722443
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.1588143142481
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
           21.884142034815
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.6077029926143
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.3295888895247
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.0540872504826
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
           24.785447695085
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.7851401448986
```

```
ans =
Berm Factor Calculation: Iteration 5, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.7849946535581
ans =
!------- End Berm Factor Calculation, Iter: 5 ---------!
berm_width =
    54
rB =
         0.319223915255598
rdh_mean =
         0.496018419510335
gamma_berm =
         0.839117026659385
slope =
          0.18644940370021
Irb =
          1.47758806781324
gamma_berm =
         0.839117026659385
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.671293621327508
ans =
!!! - - Iribaren number:   1.24 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.4 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.4210620644284
R2del =
        0.0391795086526443
Z2 =
          20.5019400046056
ans =
!----------------- STARTING ITERATION 6 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          158.721902493257
Z2 =
          20.5019400046056
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
         8.93563636363636
R2 =
          11.4210620644284
Z2 =
          20.5019400046056
top_sta =
          158.721902493257
Lslope =
          168.179544816431
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 19
```

```
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 46
```

```
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3350664140048
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6325805911305
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 109
```

```
dh =
         -4.20197205982277
rdh_sum =
          15.9310037272582
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
           16.232994848103
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5587022928219
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8913314379112
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.2295157032165
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5718704472138
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.9198746522327
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.2750234252914
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.6380104224463
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.0095366854678
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.7328818072899
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
           20.461490141789
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.1917909095429
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.9202340997579
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.6469107306933
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 148
```

```
dh =
         -7.40744705982277
rdh_sum =
          23.3719124259974
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.0995263612888
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.8340010199059
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.8338519525977
ans =
Berm Factor Calculation: Iteration 6, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.8338068607725
ans =
!------- End Berm Factor Calculation, Iter: 6 ---------!
berm_width =
    54
rB =
          0.32108542129152
rdh_mean =
         0.496922349273565
gamma_berm =
         0.838469100574154
slope =
         0.187707719793969
Irb =
          1.48756006455218
gamma_berm =
         0.838469100574154
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.670775280459323
ans =
!!! - - Iribaren number:   1.25 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.4892626023798
R2del =
        0.0682005379514177
Z2 =
           20.570140542557
ans =
!----------------- STARTING ITERATION 7 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          160.429049876272
Z2 =
          20.570140542557
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.4892626023798
Z2 =
          20.570140542557
top_sta =
          160.429049876272
Lslope =
          169.886692199446
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 3
dh =
          9.44047794017723
```

```
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 4
dh =
           9.38707794017723
rdh_sum =
           1.64595486277061
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 17
dh =
           7.99657794017723
rdh_sum =
           2.32213336207064
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 18
dh =
           7.94017794017723
rdh_sum =
           2.99192314833066
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 19
dh =
           7.88545294017723
rdh_sum =
           3.65548384530095
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 20
dh =
           7.83240294017723
rdh_sum =
           4.31297883818023
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 21
dh =
           7.78595294017723
rdh_sum =
           4.96514151294615
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 22
dh =
           7.74610294017723
rdh_sum =
           5.61271424888236
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 23
dh =
           7.72220294017723
rdh_sum =
           6.25752759133528
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 24
dh =
           7.71425294017723
rdh_sum =
           6.90142198673567
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 25
dh =
           7.69510294017723
rdh_sum =
           7.54310064739652
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 26
dh =
           7.66475294017723
rdh_sum =
           8.18126150062113
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 31
dh =
           7.33335294017723
rdh_sum =
           8.78056850432131
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 32
dh =
           7.27870294017723
rdh_sum =
           9.37340049557242
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 33
dh =
           7.24027794017723
rdh_sum =
           9.96167009073367
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 34
dh =
           7.21807794017723
```

```
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 77
dh =
          2.48360294017723
```

```
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
           15.331924316717
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6263120228535
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9216005350794
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2204251251883
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5427579193963
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8719529998236
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.2066559599377
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5454941952474
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8899345657982
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.2414602569257
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.6007599573662
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9685299147591
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6864580868926
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 144
dh =
         -7.43687205982277
```

```
rdh_sum =
          20.4096499417306
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.1345346207733
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.8575612994805
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.5788211479229
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.2984059208161
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.0206032015489
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.7496632436369
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.7492027216383
ans =
Berm Factor Calculation: Iteration 7, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.7489467588782
ans =
!------- End Berm Factor Calculation, Iter: 7 ---------!
berm_width =
    54
rB =
         0.317858917028088
rdh_mean =
         0.495350865905153
gamma_berm =
         0.839592772757449
slope =
         0.185531074660011
Irb =
          1.47031042570124
gamma_berm =
         0.839592772757449
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
          0.67167421820596
ans =
!!! - - Iribaren number:   1.23 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.4 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.3712527040836
R2del =
         0.118009898296215
Z2 =
          20.4521306442608
top_sta =
          157.475109994013
ans =
!----------------- STARTING ITERATION 8 -----------------!
Ztoe =
        -0.930442000000001
```

```
toe_sta =
         -9.45764232317425
top_sta =
          157.475109994013
Z2 =
          20.4521306442608
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.3712527040836
Z2 =
          20.4521306442608
top_sta =
          157.475109994013
Lslope =
          166.932752317187
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 26
dh =
          7.66475294017723
```

```
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 73
dh =
          2.53522794017723
```

```
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3373911051265
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6372184548742
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9379607734028
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2422945944932
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5704980689547
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9056669922475
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.2464258122062
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5913810212775
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.9420205172376
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 118
dh =
         -4.64202205982277
```

```
rdh_sum =
          18.2998481686285
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
           18.665561271006
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
           19.0398643738467
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
           19.7671859201133
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
           20.4997695921599
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
           21.2340451679367
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
           21.9664637426389
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
           22.6971162078693
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
           23.4260940761047
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
           24.1576836189264
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
           24.8961313983067
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
           25.8961024266641
ans =
Berm Factor Calculation: Iteration 8, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
           26.8961024081597
ans =
!------- End Berm Factor Calculation, Iter: 8 ---------!
berm_width =
    54
rB =
         0.323483554008593
rdh_mean =
         0.498075970521475
gamma_berm =
         0.837635831101973
slope =
         0.189338984533069
Irb =
           1.50048763238615
gamma_berm =
         0.837635831101973
```

```
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.670108664881578
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5775922344067
R2del =
         0.206339530323083
Z2 =
          20.6584701745839
ans =
!----------------- STARTING ITERATION 9 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.640054432639
Z2 =
          20.6584701745839
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.5775922344067
Z2 =
          20.6584701745839
top_sta =
          162.640054432639
Lslope =
          172.097696755813
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
```

```
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
```

```
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3279238912468
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6183311622572
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9096288097176
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2044217142711
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5224564004983
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8472772604736
```

```
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1775454643075
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5119038212868
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8518036385443
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1987127915594
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
           18.553313565145
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9162960153111
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6272571917296
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3434809854905
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0613975602945
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7774561900044
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
           22.491748205668
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.2043654968813
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9195948103295
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6416872760808
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6405800028538
```

```
ans =
Berm Factor Calculation: Iteration 9, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.639803933544
ans =
!------- End Berm Factor Calculation, Iter: 9 ---------!
berm_width =
    54
rB =
           0.3137752626441
rdh_mean =
          0.493329702473036
gamma_berm =
          0.841019394319513
slope =
          0.182805531078414
Irb =
           1.44871083570767
gamma_berm =
          0.841019394319513
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                        0.8
gamma =
          0.67281551545561
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
           11.223241346488
R2del =
          0.354350887918635
Z2 =
           20.3041192866653
top_sta =
           155.548043057662
ans =
!----------------- STARTING ITERATION 10 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
          -9.45764232317425
top_sta =
           155.548043057662
Z2 =
           20.3041192866653
H0 =
                     6.5053
Tp =
                     9.8292
T0 =
           8.93563636363636
R2 =
           11.223241346488
Z2 =
           20.3041192866653
top_sta =
           155.548043057662
Lslope =
           165.005685380837
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 3
dh =
           9.44047794017723
rdh_sum =
          0.825438151688443
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 4
dh =
           9.38707794017723
rdh_sum =
           1.64595486277061
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 17
dh =
           7.99657794017723
rdh_sum =
           2.32213336207064
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 18
dh =
           7.94017794017723
rdh_sum =
           2.99192314833066
```

```
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
```

```
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3444516122057
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
           15.651304709407
```

```
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9590909116611
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2705395793764
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6063201836077
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9491980097711
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.2977704382731
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6506172418258
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0092531164873
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3752082327618
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7491907534065
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
            19.13191567569
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8711506093915
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6156405198205
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3618194749892
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1061445523307
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8487061842152
```

```
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5895954716198
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.3330928046294
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0834357261181
ans =
Berm Factor Calculation: Iteration 10, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0832028150996
ans =
!------- End Berm Factor Calculation, Iter: 10 ---------!
berm_width =
    53
rB =
         0.321201053634454
rdh_mean =
          0.49213590217169
gamma_berm =
         0.836873516674435
slope =
         0.189584673442821
Irb =
          1.50243468608672
gamma_berm =
         0.836873516674435
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.669498813339548
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5820652886969
R2del =
         0.358823942208806
Z2 =
          20.6629432288741
ans =
!----------------- STARTING ITERATION 11 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.752020747787
Z2 =
          20.6629432288741
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
         8.93563636363636
R2 =
          11.5820652886969
Z2 =
          20.6629432288741
top_sta =
          162.752020747787
Lslope =
          172.209663070961
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 4
```

```
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 41
```

```
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 78
```

```
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277233511795
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
           15.617931087033
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090286750462
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2036194680076
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214386443814
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
           16.846040165262
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760859838887
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5102196848373
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
           17.849891792077
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965694097454
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
           18.550934499287
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136768037443
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6242866572225
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3401590255371
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 145
```

```
dh =
         -7.45072205982277
rdh_sum =
          21.0577241567673
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7734313631895
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4873719829674
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.1996379115136
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9145158135569
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6362568224582
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6351097013295
ans =
Berm Factor Calculation: Iteration 11, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
           26.634300089778
ans =
!------- End Berm Factor Calculation, Iter: 11 ---------!
berm_width =
    54
rB =
         0.313571253999542
rdh_mean =
         0.493227779440333
gamma_berm =
         0.841090799306973
slope =
         0.182670220588579
Irb =
          1.44763851709863
gamma_berm =
         0.841090799306973
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.672872639445578
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2158862165661
R2del =
         0.366179072130757
Z2 =
          20.2967641567433
top_sta =
          155.510726315288
ans =
!----------------- STARTING ITERATION 12 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          155.510726315288
```

```
Z2 =
          20.2967641567433
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.2158862165661
Z2 =
          20.2967641567433
top_sta =
          155.510726315288
Lslope =
          164.968368638463
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 31
```

```
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 74
```

```
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448085347306
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520168062965
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601590950572
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
           16.271967417906
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081309097404
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9513982407548
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3003654303654
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536109089052
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0126507159133
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3790163391291
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 119
```

```
dh =
         -4.70142205982277
rdh_sum =
          18.7534164831795
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1365666652346
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8763972898172
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6214823761818
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
           21.368256312855
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1131765843464
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8563335968394
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5978184275641
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.3419110441567
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0928484065504
ans =
Berm Factor Calculation: Iteration 12, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0925826710735
ans =
!------- End Berm Factor Calculation, Iter: 12 ---------!
berm_width =
    53
rB =
         0.321273711060043
rdh_mean =
         0.492312880586293
gamma_berm =
         0.836893475088575
slope =
         0.189582168739855
Irb =
          1.50241483663083
gamma_berm =
         0.836893475088575
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
          0.66951478007086
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
```

```
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821884864346
R2del =
         0.366302269868545
Z2 =
          20.6630664266119
ans =
!----------------- STARTING ITERATION 13 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.755104545979
Z2 =
          20.6630664266119
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.5821884864346
Z2 =
          20.6630664266119
top_sta =
          162.755104545979
Lslope =
          172.212746869154
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 24
dh =
          7.71425294017723
```

```
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 57
dh =
          5.14900294017723
```

```
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277178306299
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179200736012
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090121542973
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035973834414
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214106271078
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460061098496
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760458064673
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 116
dh =
         -4.54442205982277
```

```
rdh_sum =
          17.5101733228828
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498391615013
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965104052214
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508690065827
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136047000085
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6242048793318
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400675706032
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576230242697
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733205537102
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872514972832
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
            23.19950775056
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9143759759593
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6361073068777
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6349590787338
ans =
Berm Factor Calculation: Iteration 13, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.6341485336929
ans =
!------- End Berm Factor Calculation, Iter: 13 ---------!
berm_width =
    54
```

```
rB =
         0.313565638907258
rdh_mean =
         0.493224972846165
gamma_berm =
         0.841092764828265
slope =
         0.182666497467596
Irb =
          1.44760901183324
gamma_berm =
         0.841092764828265
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.672874211862612
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156838278222
R2del =
         0.366504658612428
Z2 =
          20.2965617679994
top_sta =
          155.509699482493
ans =
!----------------- STARTING ITERATION 14 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
          -9.45764232317425
top_sta =
          155.509699482493
Z2 =
          20.2965617679994
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.2156838278222
Z2 =
          20.2965617679994
top_sta =
          155.509699482493
Lslope =
          164.967341805668
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 20
dh =
          7.83240294017723
```

```
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 53
dh =
          5.33000294017723
```

```
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448183642845
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520364172727
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601885125694
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 110
dh =
         -4.23027205982277
```

```
rdh_sum =
          16.2720067402078
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081807764609
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514588340708
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3004368949825
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536933525718
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0127442833614
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791212113502
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535328560777
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366947490208
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765417698377
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216432380463
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
           21.368433551141
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1133702049846
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565436050353
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5980448278651
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 149
dh =
         -7.42874705982277
```

```
rdh_sum =
          24.342153829306
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0931075530643
ans =
Berm Factor Calculation: Iteration 14, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0928408831662
ans =
!------- End Berm Factor Calculation, Iter: 14 ---------!
berm_width =
    53
rB =
         0.321275710815746
rdh_mean =
          0.49231775251257
gamma_berm =
          0.83689402506994
slope =
         0.189582099795147
Irb =
          1.50241429025269
gamma_berm =
          0.83689402506994
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.669515220055952
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821918858444
R2del =
         0.366508058022148
Z2 =
          20.6630698260216
ans =
!----------------- STARTING ITERATION 15 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.755189637587
Z2 =
          20.6630698260216
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.5821918858444
Z2 =
          20.6630698260216
top_sta =
          162.755189637587
Lslope =
          172.212831960761
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
```

```
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
```

```
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176783028
```

```
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179197697105
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090116984446
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967740678
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214098540345
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051701674
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446978621
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720436292
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498377092793
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965087771245
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671994591
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136027104683
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
           19.624202622853
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400650471061
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
            21.05762023374
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733174961639
```

```
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872481727417
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.1995041590492
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9143721174413
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6361031813154
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 163
dh =
        -11.3322970598228
rdh_sum =
          25.6349549226183
ans =
Berm Factor Calculation: Iteration 15, Profile Segment: 164
dh =
        -11.3722470598228
rdh_sum =
          26.6341443518122
ans =
!------- End Berm Factor Calculation, Iter: 15 ---------!
berm_width =
    54
rB =
         0.313565483972204
rdh_mean =
         0.493224895403929
gamma_berm =
         0.841092819062269
slope =
         0.182666394737834
Irb =
          1.44760819771279
gamma_berm =
         0.841092819062269
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.672874255249815
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156782434282
R2del =
         0.366513642416136
Z2 =
          20.2965561836055
top_sta =
          155.509671149698
ans =
!----------------- STARTING ITERATION 16 -----------------!
Ztoe =
       -0.930442000000001
toe_sta =
          -9.45764232317425
top_sta =
          155.509671149698
Z2 =
          20.2965561836055
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
         8.93563636363636
R2 =
          11.2156782434282
```

```
Z2 =
          20.2965561836055
top_sta =
          155.509671149698
Lslope =
          164.967313472872
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
```

```
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
```

```
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448186355119
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369583994
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601893242883
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
            16.27200782523
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081821524356
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514605060248
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3004388669087
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956274432
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0127468651715
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791241050931
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
           18.753536067159
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366982832407
```

```
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765457564729
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216476766996
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3684384416627
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1133755475384
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565493997649
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5980510748961
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
           24.342160528438
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0931147036491
ans =
Berm Factor Calculation: Iteration 16, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0928480079444
ans =
!------- End Berm Factor Calculation, Iter: 16 ---------!
berm_width =
    53
rB =
         0.321275765994186
rdh_mean =
         0.492317886942346
gamma_berm =
         0.836894040245855
slope =
         0.189582097892778
Irb =
          1.50241427517666
gamma_berm =
         0.836894040245855
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.669515232196684
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821919796494
R2del =
         0.366513736221201
Z2 =
          20.6630699198267
ans =
!----------------- STARTING ITERATION 17 -----------------!
```

```
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.755191985649
Z2 =
          20.6630699198267
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.5821919796494
Z2 =
          20.6630699198267
top_sta =
          162.755191985649
Lslope =
          172.212834308823
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 26
```

```
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 73
```

```
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176740994
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179197613247
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090116858656
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967572524
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214098327019
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051442373
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446672706
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720083289
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498376692059
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 118
```

```
dh =
         -4.64202205982277
rdh_sum =
          18.196508732198
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671495924
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136026555679
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6242025605866
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400649774714
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576201567367
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733174117925
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872480810026
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.1995040599432
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9143720109674
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6361030674726
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6349548079324
ans =
Berm Factor Calculation: Iteration 17, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.6341442364152
ans =
!------- End Berm Factor Calculation, Iter: 17 ---------!
berm_width =
    54
rB =
         0.313565479696849
rdh_mean =
         0.493224893266948
gamma_berm =
         0.841092820558829
slope =
         0.182666391903057
Irb =
          1.44760817524755
```

```
gamma_berm =
         0.841092820558829
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.672874256447063
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156780893297
R2del =
         0.366513890319741
Z2 =
          20.2965560295069
top_sta =
          155.509670367869
ans =
!----------------- STARTING ITERATION 18 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          155.509670367869
Z2 =
          20.2965560295069
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.2156780893297
Z2 =
          20.2965560295069
top_sta =
          155.509670367869
Lslope =
          164.967312691043
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 22
```

```
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 55
```

```
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448186429963
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369733315
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601893466873
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2720078551707
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
           16.608182190405
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 114
```

```
dh =
         -4.46964705982277
rdh_sum =
          16.9514605521616
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
           17.300438921323
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956902171
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0127469364153
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791241849445
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535361557672
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366983807657
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765458664821
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216477991821
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3684385766142
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1133756949636
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565495596676
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5980512472799
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.3421607132972
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
           25.093114900966
ans =
Berm Factor Calculation: Iteration 18, Profile Segment: 163
```

```
dh =
        -11.3322970598228
rdh_sum =
         26.0928482045491
ans =
!------- End Berm Factor Calculation, Iter: 18 ---------!
berm_width =
    53
rB =
         0.321275767516808
rdh_mean =
         0.492317890651869
gamma_berm =
         0.836894040664627
slope =
         0.189582097840284
Irb =
          1.50241427476064
gamma_berm =
         0.836894040664627
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.669515232531702
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821919822379
R2del =
         0.366513892908252
Z2 =
          20.6630699224152
ans =
!----------------- STARTING ITERATION 19 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.755192050442
Z2 =
          20.6630699224152
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
         8.93563636363636
R2 =
          11.5821919822379
Z2 =
          20.6630699224152
top_sta =
          162.755192050442
Lslope =
          172.212834373617
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 19
dh =
          7.88545294017723
```

```
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 46
dh =
          6.08190294017723
```

```
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176739834
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179197610933
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 109
dh =
         -4.20197205982277
```

```
rdh_sum =
          15.9090116855184
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967567884
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214098321133
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051435218
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446664265
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720073548
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498376681001
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965087309583
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671482163
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136026540529
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6242025588684
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400649755499
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576201546118
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733174094643
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872480784711
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 148
dh =
         -7.40744705982277
```

```
rdh_sum =
         23.1995040572085
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 149
dh =
        -7.42874705982277
rdh_sum =
         23.9143720080293
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 150
dh =
        -7.48499705982277
rdh_sum =
         24.6361030643311
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 163
dh =
        -11.3322970598228
rdh_sum =
         25.6349548047676
ans =
Berm Factor Calculation: Iteration 19, Profile Segment: 164
dh =
        -11.3722470598228
rdh_sum =
         26.6341442332309
ans =
!------- End Berm Factor Calculation, Iter: 19 ---------!
berm_width =
    54
rB =
        0.313565479578872
rdh_mean =
        0.493224893207979
gamma_berm =
        0.841092820600126
slope =
        0.182666391824833
Irb =
         1.44760817462763
gamma_berm =
        0.841092820600126
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
        0.672874256480101
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
         11.2156780850774
R2del =
        0.366513897160534
Z2 =
         20.2965560252546
top_sta =
         155.509670346294
ans =
!----------------- STARTING ITERATION 20 -----------------!
Ztoe =
       -0.930442000000001
toe_sta =
        -9.45764232317425
top_sta =
         155.509670346294
Z2 =
         20.2965560252546
H0 =
                  6.5053
Tp =
                  9.8292
T0 =
        8.93563636363636
R2 =
         11.2156780850774
Z2 =
         20.2965560252546
top_sta =
         155.509670346294
Lslope =
         164.967312669469
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 3
dh =
         9.44047794017723
```

```
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 4
dh =
           9.38707794017723
rdh_sum =
           1.64595486277061
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 17
dh =
           7.99657794017723
rdh_sum =
           2.32213336207064
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 18
dh =
           7.94017794017723
rdh_sum =
           2.99192314833066
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 19
dh =
           7.88545294017723
rdh_sum =
           3.65548384530095
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 20
dh =
           7.83240294017723
rdh_sum =
           4.31297883818023
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 21
dh =
           7.78595294017723
rdh_sum =
           4.96514151294615
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 22
dh =
           7.74610294017723
rdh_sum =
           5.61271424888236
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 23
dh =
           7.72220294017723
rdh_sum =
           6.25752759133528
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 24
dh =
           7.71425294017723
rdh_sum =
           6.90142198673567
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 25
dh =
           7.69510294017723
rdh_sum =
           7.54310064739652
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 26
dh =
           7.66475294017723
rdh_sum =
           8.18126150062113
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 31
dh =
           7.33335294017723
rdh_sum =
           8.78056850432131
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 32
dh =
           7.27870294017723
rdh_sum =
           9.37340049557242
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 33
dh =
           7.24027794017723
rdh_sum =
           9.96167009073367
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 34
dh =
           7.21807794017723
```

```
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 77
dh =
          2.48360294017723
```

```
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448186432028
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369737435
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601893473054
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2720078559969
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081821914527
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514605534347
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3004389228245
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956919494
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0127469383813
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
           18.379124187148
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535361582123
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366983834569
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765458695178
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 144
dh =
         -7.43687205982277
```

```
rdh_sum =
         20.6216478025619
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
         21.3684385803381
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
         22.1133756990317
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
           22.85654956408
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
         23.5980512520367
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
         24.3421607183983
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
         25.0931149064108
ans =
Berm Factor Calculation: Iteration 20, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
         26.0928482099743
ans =
!------- End Berm Factor Calculation, Iter: 20 ---------!
berm_width =
    53
rB =
         0.321275767558824
rdh_mean =
         0.492317890754232
gamma_berm =
         0.836894040676183
slope =
         0.189582097838835
Irb =
          1.50241427474916
gamma_berm =
         0.836894040676183
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.669515232540947
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
         11.5821919823094
R2del =
         0.366513897231959
Z2 =
         20.6630699224866
ans =
!----------------- STARTING ITERATION 21 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
         162.75519205223
Z2 =
         20.6630699224866
H0 =
                   6.5053
```

```
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.5821919823094
Z2 =
          20.6630699224866
top_sta =
           162.75519205223
Lslope =
          172.212834375405
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
```

```
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
```

```
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176739802
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
           15.617919761087
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090116855089
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967567756
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
           16.521409832097
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051435021
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446664032
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720073279
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498376680696
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965087309241
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671481783
```

```
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          18.9136026540111
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
           19.624202558821
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400649754969
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576201545532
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
             21.7733174094
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872480784013
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
           23.199504057133
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9143720079482
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          24.6361030642444
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6349548046803
ans =
Berm Factor Calculation: Iteration 21, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
           26.634144233143
ans =
!------- End Berm Factor Calculation, Iter: 21 ---------!
berm_width =
    54
rB =
         0.313565479575617
rdh_mean =
         0.493224893206352
gamma_berm =
         0.841092820601265
slope =
         0.182666391822675
Irb =
          1.44760817461053
gamma_berm =
         0.841092820601265
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.672874256481012
```

```
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156780849601
R2del =
         0.366513897349293
Z2 =
          20.2965560251373
top_sta =
          155.509670345699
ans =
!----------------- STARTING ITERATION 22 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          155.509670345699
Z2 =
          20.2965560251373
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.2156780849601
Z2 =
          20.2965560251373
top_sta =
          155.509670345699
Lslope =
          164.967312668873
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
```

```
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
```

```
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448186432085
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369737549
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601893473225
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2720078560197
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081821914816
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514605534698
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
           17.300438922866
```

```
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956919972
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          18.0127469384355
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791241872088
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535361582798
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366983835312
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765458696015
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216478026552
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3684385804409
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
           22.113375699144
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565495642018
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
           23.598051252168
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.3421607185391
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0931149065611
ans =
Berm Factor Calculation: Iteration 22, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
           26.092848210124
ans =
!------- End Berm Factor Calculation, Iter: 22 ---------!
berm_width =
    53
rB =
         0.321275767559983
```

```
rdh_mean =
         0.492317890757056
gamma_berm =
         0.836894040676502
slope =
         0.189582097838795
Irb =
          1.50241427474885
gamma_berm =
         0.836894040676502
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.669515232541202
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821919823113
R2del =
         0.366513897351266
Z2 =
          20.6630699224886
ans =
!----------------- STARTING ITERATION 23 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
           162.75519205228
Z2 =
         20.6630699224886
H0 =
                  6.5053
Tp =
                  9.8292
T0 =
         8.93563636363636
R2 =
         11.5821919823113
Z2 =
         20.6630699224886
top_sta =
          162.75519205228
Lslope =
         172.212834375454
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 3
dh =
         9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 4
dh =
         9.38707794017723
rdh_sum =
         1.64595486277061
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 17
dh =
         7.99657794017723
rdh_sum =
         2.32213336207064
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 18
dh =
         7.94017794017723
rdh_sum =
         2.99192314833066
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 19
dh =
         7.88545294017723
rdh_sum =
         3.65548384530095
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 20
dh =
         7.83240294017723
rdh_sum =
         4.31297883818023
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 21
```

```
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 54
```

```
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176739801
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179197610868
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090116855086
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967567752
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 113
```

```
dh =
         -4.41609705982277
rdh_sum =
          16.5214098320966
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051435015
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446664026
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720073271
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498376680687
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965087309231
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671481773
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
            18.91360265401
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.6242025588196
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400649754954
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576201545515
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733174093982
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872480783994
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.1995040571309
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
           23.914372007946
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 150
```

```
dh =
         -7.48499705982277
rdh_sum =
          24.636103064242
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6349548046779
ans =
Berm Factor Calculation: Iteration 23, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.6341442331406
ans =
!------- End Berm Factor Calculation, Iter: 23 ---------!
berm_width =
    54
rB =
         0.313565479575527
rdh_mean =
         0.493224893206307
gamma_berm =
         0.841092820601297
slope =
         0.182666391822615
Irb =
          1.44760817461005
gamma_berm =
         0.841092820601297
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.672874256481037
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156780849568
R2del =
         0.366513897354508
Z2 =
          20.2965560251341
top_sta =
          155.509670345683
ans =
!----------------- STARTING ITERATION 24 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
          -9.45764232317425
top_sta =
          155.509670345683
Z2 =
          20.2965560251341
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
          8.93563636363636
R2 =
          11.2156780849568
Z2 =
          20.2965560251341
top_sta =
          155.509670345683
Lslope =
          164.967312668857
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 17
```

```
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 42
```

```
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 107
```

```
dh =
         -4.20859705982277
rdh_sum =
          15.3448186432086
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369737552
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9601893473229
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2720078560203
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081821914824
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514605534708
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3004389228671
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956919985
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
           18.012746938437
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791241872104
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535361582816
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366983835332
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765458696038
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216478026577
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3684385804437
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 146
```

```
dh =
         -7.43552205982277
rdh_sum =
          22.1133756991471
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565495642052
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5980512521716
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
           24.342160718543
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0931149065652
ans =
Berm Factor Calculation: Iteration 24, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0928482101281
ans =
!------- End Berm Factor Calculation, Iter: 24 ---------!
berm_width =
    53
rB =
         0.321275767560015
rdh_mean =
         0.492317890757135
gamma_berm =
         0.836894040676511
slope =
         0.189582097838794
Irb =
          1.50241427474884
gamma_berm =
         0.836894040676511
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                      0.8
gamma =
         0.669515232541209
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821919823114
R2del =
         0.366513897354563
Z2 =
          20.6630699224886
ans =
!----------------- STARTING ITERATION 25 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
          162.755192052281
Z2 =
          20.6630699224886
H0 =
                    6.5053
Tp =
                    9.8292
T0 =
         8.93563636363636
R2 =
         11.5821919823114
Z2 =
          20.6630699224886
top_sta =
          162.755192052281
```

```
Lslope =
          172.212834375455
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 3
dh =
          9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 4
dh =
          9.38707794017723
rdh_sum =
          1.64595486277061
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 17
dh =
          7.99657794017723
rdh_sum =
          2.32213336207064
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 18
dh =
          7.94017794017723
rdh_sum =
          2.99192314833066
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 19
dh =
          7.88545294017723
rdh_sum =
          3.65548384530095
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 20
dh =
          7.83240294017723
rdh_sum =
          4.31297883818023
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 21
dh =
          7.78595294017723
rdh_sum =
          4.96514151294615
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 22
dh =
          7.74610294017723
rdh_sum =
          5.61271424888236
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 23
dh =
          7.72220294017723
rdh_sum =
          6.25752759133528
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 24
dh =
          7.71425294017723
rdh_sum =
          6.90142198673567
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 25
dh =
          7.69510294017723
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 33
dh =
          7.24027794017723
```

```
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 58
dh =
          5.12765294017723
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 76
dh =
          2.50927794017723
```

```
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3277176739801
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6179197610868
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
          15.9090116855086
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2035967567752
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.5214098320966
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.8460051435015
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.1760446664025
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.5101720073271
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 117
dh =
         -4.58762205982277
rdh_sum =
          17.8498376680687
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.1965087309231
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.5508671481773
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
            18.91360265401
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 143
dh =
         -7.39397205982277
```

```
rdh_sum =
          19.6242025588196
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.3400649754954
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.0576201545515
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          21.7733174093982
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.4872480783993
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.1995040571309
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          23.9143720079459
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
           24.636103064242
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          25.6349548046778
ans =
Berm Factor Calculation: Iteration 25, Profile Segment: 164
dh =
         -11.3722470598228
rdh_sum =
          26.6341442331405
ans =
!------- End Berm Factor Calculation, Iter: 25 ---------!
berm_width =
    54
rB =
         0.313565479575524
rdh_mean =
         0.493224893206306
gamma_berm =
         0.841092820601298
slope =
         0.182666391822613
Irb =
          1.44760817461004
gamma_berm =
         0.841092820601298
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.672874256481038
ans =
!!! - - Iribaren number:   1.22 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.5 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.2156780849567
R2del =
         0.366513897354656
Z2 =
           20.296556025134
```

```
top_sta =
         155.509670345682
ans =
!----------------- STARTING ITERATION 26 -----------------!
Ztoe =
        -0.930442000000001
toe_sta =
         -9.45764232317425
top_sta =
         155.509670345682
Z2 =
          20.296556025134
H0 =
                   6.5053
Tp =
                   9.8292
T0 =
         8.93563636363636
R2 =
         11.2156780849567
Z2 =
          20.296556025134
top_sta =
         155.509670345682
Lslope =
         164.967312668856
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 3
dh =
         9.44047794017723
rdh_sum =
         0.825438151688443
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 4
dh =
         9.38707794017723
rdh_sum =
         1.64595486277061
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 17
dh =
         7.99657794017723
rdh_sum =
         2.32213336207064
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 18
dh =
         7.94017794017723
rdh_sum =
         2.99192314833066
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 19
dh =
         7.88545294017723
rdh_sum =
         3.65548384530095
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 20
dh =
         7.83240294017723
rdh_sum =
         4.31297883818023
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 21
dh =
         7.78595294017723
rdh_sum =
         4.96514151294615
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 22
dh =
         7.74610294017723
rdh_sum =
         5.61271424888236
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 23
dh =
         7.72220294017723
rdh_sum =
         6.25752759133528
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 24
dh =
         7.71425294017723
rdh_sum =
         6.90142198673567
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 25
dh =
         7.69510294017723
```

```
rdh_sum =
          7.54310064739652
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 26
dh =
          7.66475294017723
rdh_sum =
          8.18126150062113
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 31
dh =
          7.33335294017723
rdh_sum =
          8.78056850432131
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 32
dh =
          7.27870294017723
rdh_sum =
          9.37340049557242
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 33
dh =
          7.24027794017723
rdh_sum =
          9.96167009073367
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 34
dh =
          7.21807794017723
rdh_sum =
          10.5473002782499
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 41
dh =
          6.40175294017723
rdh_sum =
          11.0347994799675
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 42
dh =
          6.34290294017723
rdh_sum =
          11.5151973290393
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 45
dh =
          6.14475294017723
rdh_sum =
          11.9717220878773
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 46
dh =
          6.08190294017723
rdh_sum =
          12.4206928792001
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 53
dh =
          5.33000294017723
rdh_sum =
          12.7806933545553
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 54
dh =
          5.29545294017723
rdh_sum =
          13.1366943100205
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 55
dh =
          5.24855294017723
rdh_sum =
          13.4872821942789
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 56
dh =
          5.18930294017723
rdh_sum =
          13.8310590851163
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 57
dh =
          5.14900294017723
rdh_sum =
          14.1702215370752
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 58
dh =
          5.12765294017723
```

```
rdh_sum =
          14.5069455107336
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 73
dh =
          2.53522794017723
rdh_sum =
          14.5977428733925
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 74
dh =
          2.51512794017723
rdh_sum =
          14.6871505717091
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 75
dh =
          2.50647794017723
rdh_sum =
           14.775963205213
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 76
dh =
          2.50927794017723
rdh_sum =
          14.8649682646294
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 77
dh =
          2.48360294017723
rdh_sum =
          14.9522158952165
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 78
dh =
          2.42945294017723
rdh_sum =
          15.0358091035397
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 107
dh =
         -4.20859705982277
rdh_sum =
          15.3448186432086
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 108
dh =
         -4.19474705982277
rdh_sum =
          15.6520369737552
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 109
dh =
         -4.20197205982277
rdh_sum =
           15.960189347323
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 110
dh =
         -4.23027205982277
rdh_sum =
          16.2720078560203
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 113
dh =
         -4.41609705982277
rdh_sum =
          16.6081821914825
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 114
dh =
         -4.46964705982277
rdh_sum =
          16.9514605534708
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 115
dh =
         -4.51242205982277
rdh_sum =
          17.3004389228672
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 116
dh =
         -4.54442205982277
rdh_sum =
          17.6536956919985
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 117
dh =
         -4.58762205982277
```

```
rdh_sum =
          18.0127469384371
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 118
dh =
         -4.64202205982277
rdh_sum =
          18.3791241872105
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 119
dh =
         -4.70142205982277
rdh_sum =
          18.7535361582817
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 120
dh =
         -4.76582205982277
rdh_sum =
          19.1366983835333
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 143
dh =
         -7.39397205982277
rdh_sum =
          19.8765458696039
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 144
dh =
         -7.43687205982277
rdh_sum =
          20.6216478026578
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 145
dh =
         -7.45072205982277
rdh_sum =
          21.3684385804438
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 146
dh =
         -7.43552205982277
rdh_sum =
          22.1133756991472
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 147
dh =
         -7.42109705982277
rdh_sum =
          22.8565495642053
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 148
dh =
         -7.40744705982277
rdh_sum =
          23.5980512521717
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 149
dh =
         -7.42874705982277
rdh_sum =
          24.3421607185431
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 150
dh =
         -7.48499705982277
rdh_sum =
          25.0931149065654
ans =
Berm Factor Calculation: Iteration 26, Profile Segment: 163
dh =
         -11.3322970598228
rdh_sum =
          26.0928482101282
ans =
!------- End Berm Factor Calculation, Iter: 26 ---------!
berm_width =
    53
rB =
         0.321275767560016
rdh_mean =
         0.492317890757137
gamma_berm =
         0.836894040676511
slope =
         0.189582097838794
Irb =
          1.50241427474884
gamma_berm =
         0.836894040676511
```

```
gamma_perm =
     1
gamma_beta =
     1
gamma_rough =
                       0.8
gamma =
         0.669515232541209
ans =
!!! - - Iribaren number:   1.26 is in the valid range (0.5-10), TAW RECOMMENDED - - !!!
ans =
!!! - - slope: 1:5.3 V:H is in the valid range (1:8 - 1:1), TAW RECOMMENDED - - !!!
R2_new =
          11.5821919823114
R2del =
         0.366513897354656
Z2 =
          20.6630699224886
% final 2% runup elevation
Z2=R2_new+SWEL
Z2 =
          20.6630699224886
diary off
-1.000000e+00
-1.000000e+00
```

PART 5: RUNUP2

for transect: CM-127

Station locations shifted by: -0.05 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-127

Incident significant wave height: 5.87 feet

Peak wave period: 9.74 seconds

Mean wave height: 3.68 feet

Local Depth below SWEL: 39.35 feet

Mean wave height deshoaled using Hunt approximation for
celerity assuming constant wave energy flux.
References: R.G. Dean and R.A. Dalrymple. 2000. Water

Wave Mechanics for Engineers and Scientists. World
Scientific Publishing Company, River Edge New Jersy

USACE (1985), Direct Methods for Calculating Wavelength, CETN-1-17
US Army Engineer Waterways Experiment Station Coastel Engineering
Research Center, Vicksburg, MS

also see Coastal Engineering Manual Part II-3
for discussion of shoaling coefficient

Depth, D = 39.35
Period, T = 8.28
Waveheight, H = 3.68
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*8.28*8.28/6.28 = 350.74
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 350.74/8.28 = 42.38
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/8.28 = 0.76
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 0.76*0.76*39.35/32.17 = 0.70
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 31.38
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(42.38/31.38) = 1.16
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 3.68/1.16 = 3.16

Deepwater mean wave height: 3.16 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-127

RUNUP2 SWEL:
8.90
8.90
8.90
8.90

8.90
8.90
8.90
8.90
8.90

RUNUP2 deepwater mean wave heights:
3.00
3.00
3.00
3.16
3.16
3.16
3.32
3.32
3.32

RUNUP2 mean wave periods:
7.86
8.28
8.69
7.86
8.28
8.69
7.86
8.28
8.69

RUNUP2 runup above SWEL:
6.46
6.79
7.15
6.60
6.98
7.36
6.69
7.14
7.54

RUNUP2 Mean runup height above SWEL: 6.97 feet

RUNUP2 2-percent runup height above SWEL: 15.33 feet

RUNUP2 2-percent runup elevation: 24.23 feet-NAVD88

RUNUP2 Messages:
Nonfatal Error, Check Output

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 5.87 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 4.43 feet

Peak wave period: 9.74 seconds

Average beach Slope: 1:16.96 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 5.85 feet

ACES Beach 2-percent runup elevation: 14.75 feet-NAVD88

ACES BEACH RUNUP is valid

_____END ACES BEACH RESULTS_____

PART 5 COMPLETE_____

```
  FEMA                                                  sjh            job 2
  RUNUP2 transect: CM-127                                                 1
4.00
  -30.48 -706.0 0.8
  -30.48 -680.0 0.8
  -28.87 -568.0 0.8
  -28.82 -426.0 0.8
  -26.19 -372.0 0.8
  -25.86 -344.0 0.8
  -24.48 -318.0 0.8
  -17.98 -244.0 0.8
  -14.37 -170.0 0.8
  -12.94 -154.0 0.8
  -4.40 -152.0 0.8
  -4.33 -54.0  0.8
  -2.50 -28.0  0.8
  1.06  10.0   0.8
  4.10  54.0   0.8
  6.68  72.0   0.8
  13.30 100.0  0.8
  13.88 114.0  0.8
  16.59 144.0  0.8
1 20.47 158.0  0.8
 8.9   3.00  7.86
 8.9   3.00  8.28
 8.9   3.00  8.69
 8.9   3.16  7.86
 8.9   3.16  8.28
 8.9   3.16  8.69
 8.9   3.32  7.86
 8.9   3.32  8.28
 8.9   3.32  8.69
```

****

CROSS SECTION PROFILE

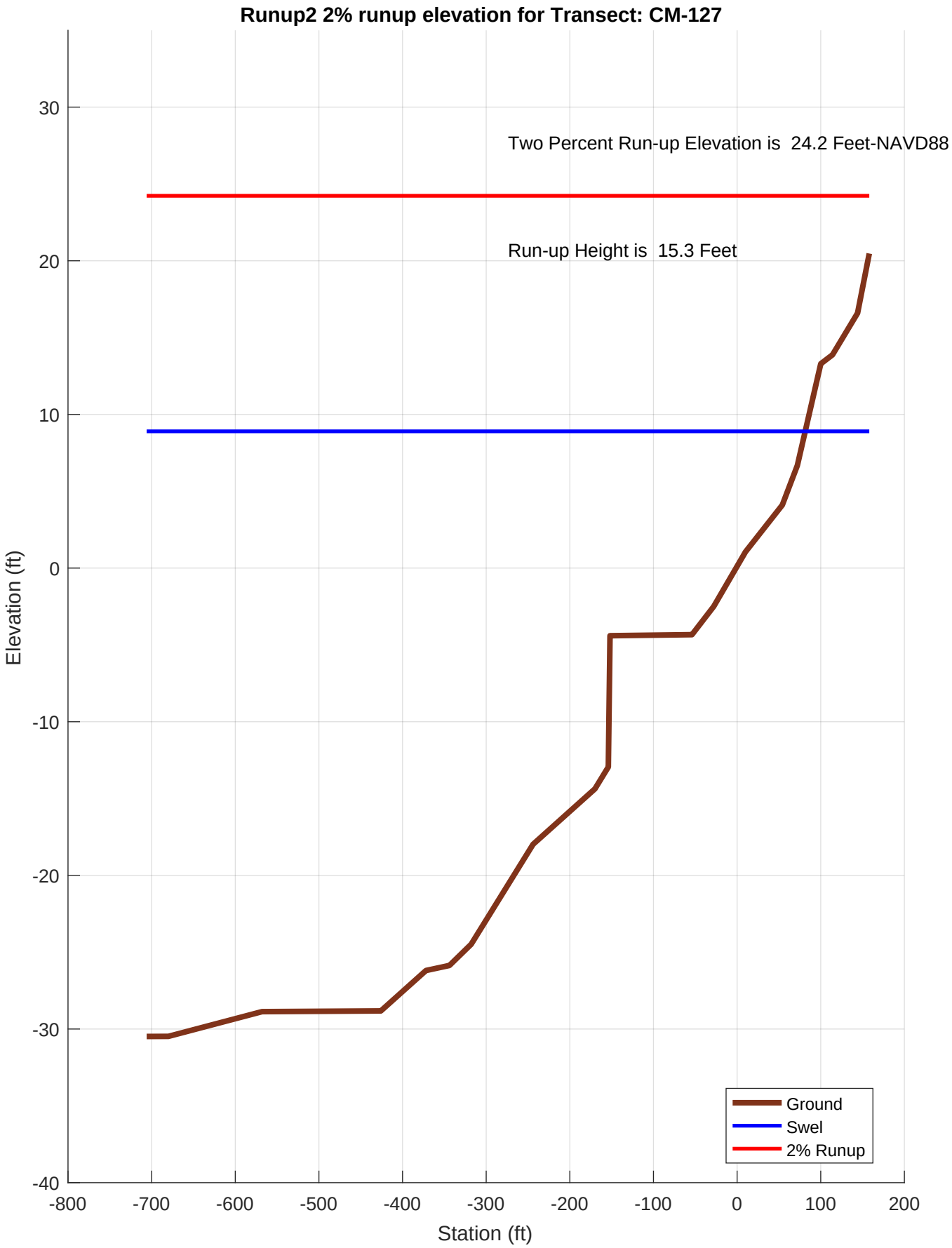
	LENGTH	ELEV.	SLOPE	ROUGHNESS
1	-706.0	-30.4		
			.00	.80
2	-680.0	-30.4		
			70.00	.80
3	-568.0	-28.8		
			FLAT	.80
4	-426.0	-28.8		
			20.00	.80
5	-372.0	-26.1		
			93.33	.80
6	-344.0	-25.8		
			18.57	.80
7	-318.0	-24.4		
			11.38	.80
8	-244.0	-17.9		
			20.56	.80
9	-170.0	-14.3		
			11.43	.80
10	-154.0	-12.9		
			.24	.80
11	-152.0	-4.4		
			FLAT	.80
12	-54.0	-4.3		
			14.21	.80
13	-28.0	-2.5		
			10.67	.80
14	10.0	1.1		
			14.47	.80
15	54.0	4.1		
			6.98	.80
16	72.0	6.7		
			4.23	.80
17	100.0	13.3		
			24.14	.80
18	114.0	13.9		
			11.07	.80
19	144.0	16.6		
			3.61	.80
20	158.0	20.5		

LAST SLOPE 4.00 LAST ROUGHNESS .80

****

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.)
8.90	3.00	7.86	11	18	6.46 4.01 SOLUTION DOES NOT CONVERGE	4.36
8.90	3.00	8.28	11	18	6.79 4.15 SOLUTION DOES NOT CONVERGE	4.44
8.90	3.00	8.69	11	18	7.15 4.27 SOLUTION DOES NOT CONVERGE	4.52
8.90	3.16	7.86	11	18	6.60 4.07 SOLUTION DOES NOT CONVERGE	4.55
8.90	3.16	8.28	11	18	6.98 4.22 SOLUTION DOES NOT CONVERGE	4.63
8.90	3.16	8.69	11	18	7.36 4.32 SOLUTION DOES NOT CONVERGE	4.72
8.90	3.32	7.86	11	18	6.69 4.12 SOLUTION DOES NOT CONVERGE	4.74
8.90	3.32	8.28	11	18	7.14 4.28 SOLUTION DOES NOT CONVERGE	4.83
8.90	3.32	8.69	11	18	7.54 4.38 SOLUTION DOES NOT CONVERGE	4.91


Runup2 2% runup elevation for Transect: CM-127
Two Percent Run-up Elevation is 24.2 Feet-NAVD88
Run-up Height is 15.3 Feet
Elevation (ft)
Station (ft)
30
20
10
0
-10
-20
-30
-40
-800
-700
-600
-500
-400
-300
-200
-100
0
100
200
Ground
Swel
2% Runup