_____
PART 5: RUNUP2

for transect: CM-124-2

Station locations shifted by: -4.86 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

_____RUNUP2 INPUT CONVERSIONS_____
for transect: CM-124-2

Incident significant wave height: 2.57 feet

Peak wave period: 3.48 seconds

Mean wave height: 1.61 feet

Local Depth below SWEL: 43.89 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 = 43.89
Period, T = 2.96
Waveheight, H = 1.61
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*2.96*2.96/6.28 = 44.83
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 44.83/2.96 = 15.15
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/2.96 = 2.12
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 2.12*2.12*43.89/32.17 = 6.15
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 15.15
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(15.15/15.15) = 1.00
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 1.61/1.00 = 1.61

Deepwater mean wave height: 1.61 feet

_____END RUNUP2 CONVERSIONS_____

_____RUNUP2 RESULTS_____
for transect: CM-124-2

RUNUP2 SWEL:
9.00
9.00
9.00
9.00

9.00
9.00
9.00
9.00
9.00

RUNUP2 deepwater mean wave heights:
1.53
1.53
1.53
1.61
1.61
1.61
1.69
1.69
1.69

RUNUP2 mean wave periods:
2.81
2.96
3.11
2.81
2.96
3.11
2.81
2.96
3.11

RUNUP2 runup above SWEL:
0.02
0.02
0.02
0.02
0.02
0.02
0.03
0.03
0.03

RUNUP2 Mean runup height above SWEL: 0.02 feet

RUNUP2 2-percent runup height above SWEL: 0.05 feet

RUNUP2 2-percent runup elevation: 9.05 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 2.57 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 2.25 feet

Peak wave period: 3.48 seconds

Average beach Slope: 1:12.71 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 2.23 feet

ACES Beach 2-percent runup elevation: 11.23 feet-NAVD88

ACES BEACH RUNUP is valid

_____________END ACES BEACH RESULTS____________________

PART 5 COMPLETE____