_____
PART 5: RUNUP2

for transect: CM-124

Station locations shifted by: -0.73 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

_____RUNUP2 INPUT CONVERSIONS_____
for transect: CM-124

Incident significant wave height: 3.89 feet

Peak wave period: 5.00 seconds

Mean wave height: 2.44 feet

Local Depth below SWEL: 28.60 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 = 28.60
Period, T = 4.25
Waveheight, H = 2.44
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*4.25*4.25/6.28 = 92.49
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 92.49/4.25 = 21.76
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/4.25 = 1.48
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 1.48*1.48*28.60/32.17 = 1.94
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 21.02
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(21.76/21.02) = 1.02
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 2.44/1.02 = 2.40

Deepwater mean wave height: 2.40 feet

_____END RUNUP2 CONVERSIONS_____

_____RUNUP2 RESULTS_____
for transect: CM-124

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:
2.28
2.28
2.28
2.40
2.40
2.40
2.52
2.52
2.52

RUNUP2 mean wave periods:
4.04
4.25
4.46
4.04
4.25
4.46
4.04
4.25
4.46

RUNUP2 runup above SWEL:
2.77
2.95
3.11
2.82
2.99
3.14
2.86
3.03
3.19

RUNUP2 Mean runup height above SWEL: 2.98 feet

RUNUP2 2-percent runup height above SWEL: 6.57 feet

RUNUP2 2-percent runup elevation: 15.57 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 3.89 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 3.35 feet

Peak wave period: 5.00 seconds

Average beach Slope: 1:16.80 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 3.07 feet

ACES Beach 2-percent runup elevation: 12.07 feet-NAVD88

ACES BEACH RUNUP is valid

_______________END ACES BEACH RESULTS_______________________

PART 5 COMPLETE____