PART 5: RUNUP2

for transect: CM-144-1

Station locations shifted by: -21.55 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-144-1

Incident significant wave height: 6.94 feet

Peak wave period: 10.00 seconds

Mean wave height: 4.35 feet

Local Depth below SWEL: 24.54 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 = 24.54
Period, T = 8.50
Waveheight, H = 4.35
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*8.50*8.50/6.28 = 369.97
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 369.97/8.50 = 43.53
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/8.50 = 0.74
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 0.74*0.74*24.54/32.17 = 0.42
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 26.15
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(43.53/26.15) = 1.29
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 4.35/1.29 = 3.37

Deepwater mean wave height: 3.37 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-144-1

RUNUP2 SWEL:
8.80
8.80
8.80
8.80

8.80
8.80
8.80
8.80
8.80

RUNUP2 deepwater mean wave heights:
3.20
3.20
3.20
3.37
3.37
3.37
3.54
3.54
3.54

RUNUP2 mean wave periods:
8.07
8.50
8.93
8.07
8.50
8.93
8.07
8.50
8.93

RUNUP2 runup above SWEL:
3.58
3.80
4.20
3.79
4.05
4.38
3.94
4.24
4.61

RUNUP2 Mean runup height above SWEL: 4.07 feet

RUNUP2 2-percent runup height above SWEL: 8.94 feet

RUNUP2 2-percent runup elevation: 17.74 feet-NAVD88

RUNUP2 Messages:
Nonfatal Error, Check Output

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 6.94 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 4.72 feet

Peak wave period: 10.00 seconds

Average beach Slope: 1:4.96 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 14.86 feet

ACES Beach 2-percent runup elevation: 23.66 feet-NAVD88

!!!ACES BEACH RUNUP is NOT valid

______________END ACES BEACH RESULTS_____________________

PART 5 COMPLETE____