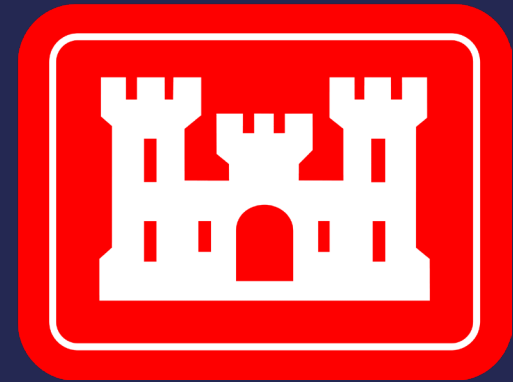


SOUTH PONTE VEDRA BEACH DUNE RESTORATION PROJECT 2021-2022 CONSTRUCTION PHASE

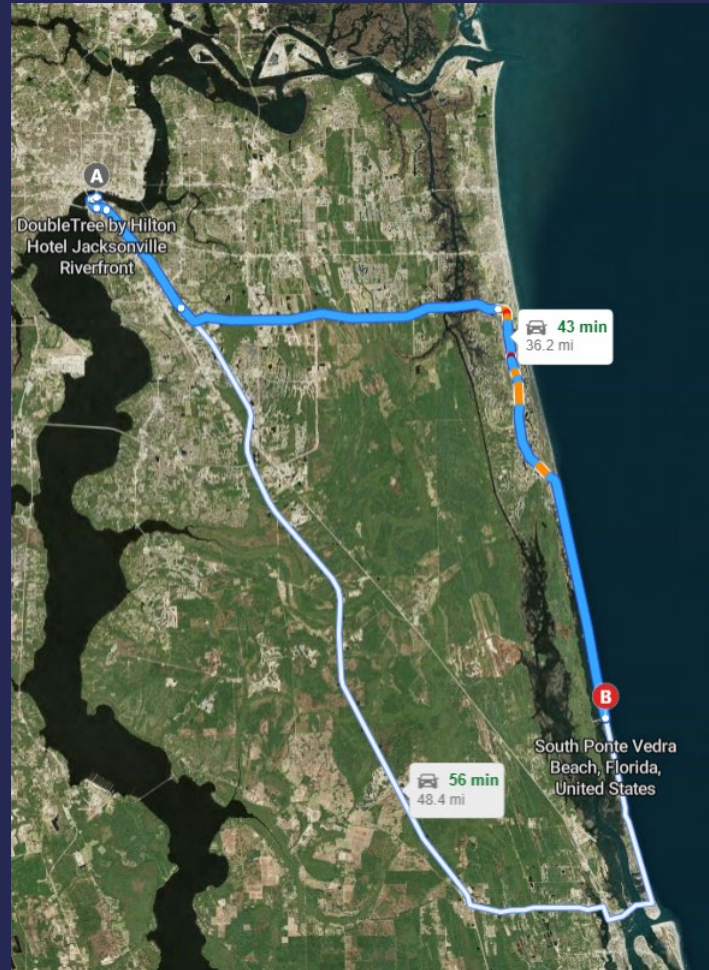
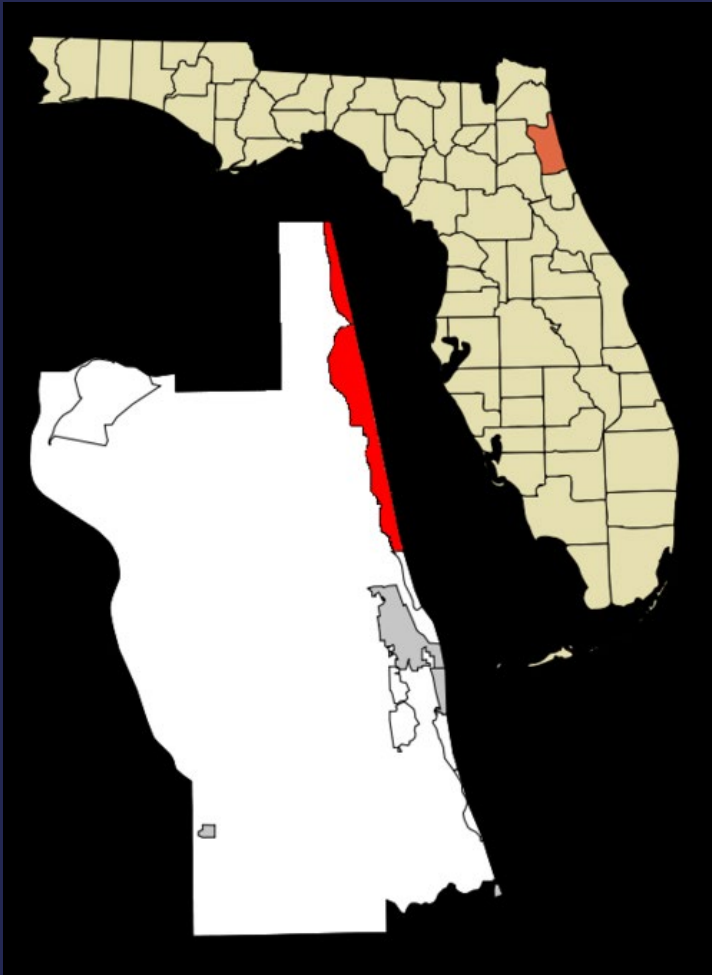
ST. JOHNS COUNTY, FL



PROJECT TEAM



SOUTH PONTE VEDRA BEACH LOCATION



- LOCATED IN ST. JOHNS COUNTY, FLORIDA
- 10 MILES NORTH FROM DOWNTOWN ST AUGUSTINE
- 90% OF COASTLINE IS MADE UP OF RESIDENTIAL PROPERTY OWNERS
- APPROXIMATELY 43 MINUTES FROM THIS HOTEL!

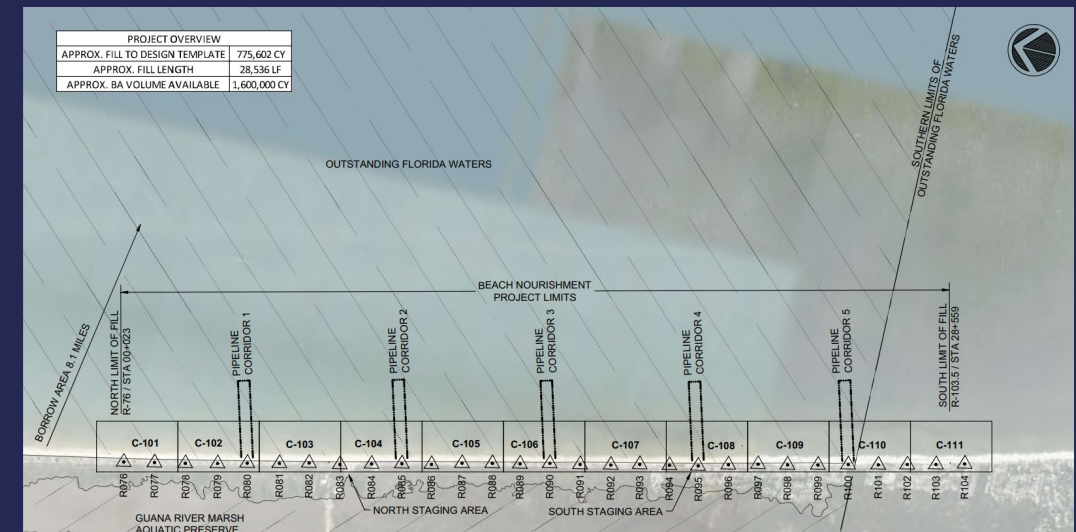
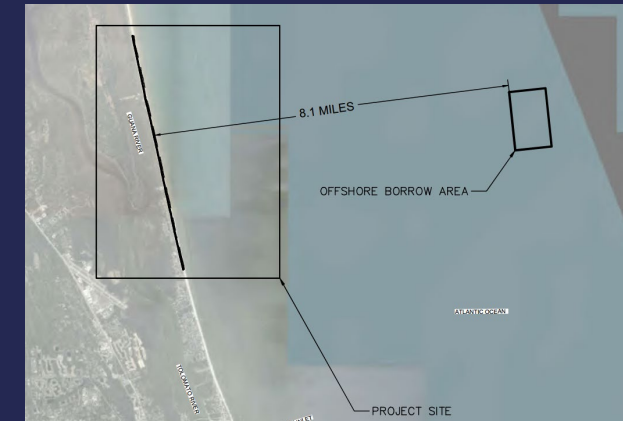
PROJECT BACKGROUND

- PROJECT CONCEPTION: DAMAGES FROM HURRICANE MATTHEW IN 2016
- FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) IDENTIFIED SOUTH PONTE VEDRA BEACH AS A CRITICALLY ERODED BEACH
- OBJECTIVE: TO PROTECT PUBLIC AND PRIVATE INFRASTRUCTURE BY NOURISHING THE DUNE AND BERM ALONG 5-MILE SECTION OF BEACH
- FUNDING: FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND LOCAL TAXES



PROJECT APPROACH

- **ATKINS TASKS:**
 - DEVELOP DRAWINGS AND TECHINCAL SPECIFICATIONS
 - BID SUPPORT THROUGH SOLICIATION PROCESS
 - ONSITE CONSTRUCTION MANGEMENT
- **PROJECT LIMITS: FDEP RANGE MONUMENTS R76 TO R103.5**
- **DREDGE FROM OFFSHORE BORROW AREA TO BE TRANSPORTED AND PUMPED ONTO THE BEACHES**
- **SAND SOURCE: BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM) OFFSHORE BORROW AREA N-3**
- **5 SUBMERGED PIPELINE CORRIDORS**
- **2 STAGING AREAS**



BEACH AND DUNE RESTORATION DESIGN

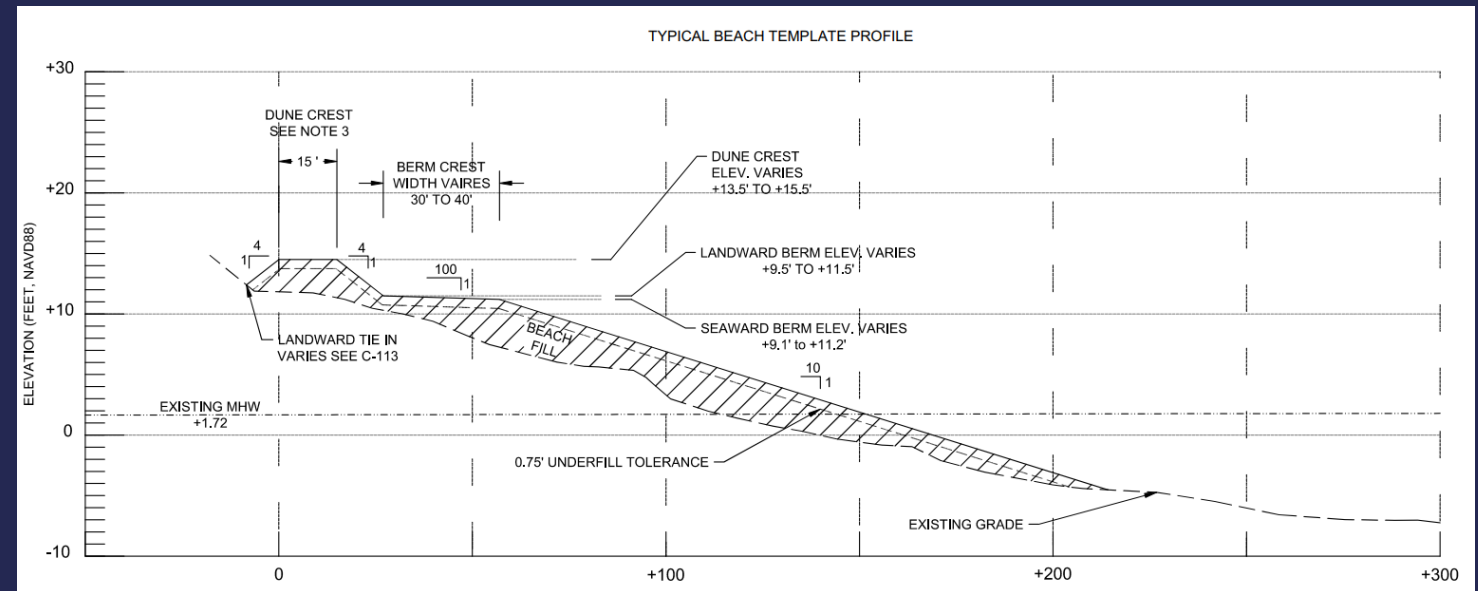
ADDITIONAL BEACH DESIGN

VOLUME:

750,000 – 800,000 CUBIC YARDS

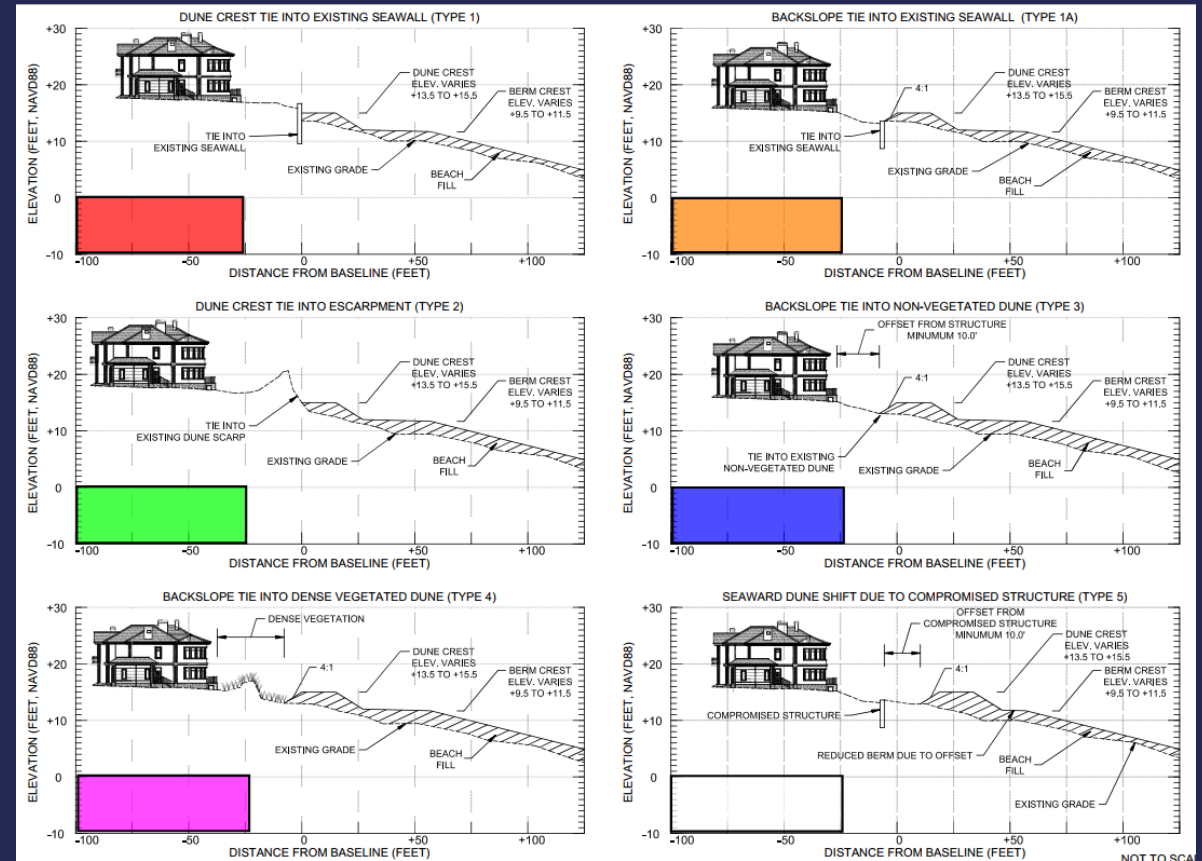
(CY)

- DESIGN SPECIFICATION
 - UNIFORM DUNE CREST ELEVATION: 13.5FT - 15.5FT
 - UNIFORM DUNE CREST WIDTH: 15FT
 - DUNE SLOPE: 4:1
 - UNIFORM BERM ELEVATION : 9.5FT - 11.5FT
 - BERM CREST WIDTH: 30FT - 40FT
 - BERM SLOPE: 10:1
 - UNDERFILL TOLERANCE: 0.75FT



LANDWARD DUNE TIE-IN CONDITIONS

- 6 TIE-IN CONDITION VARIATIONS
 - DUNE CREST TIE INTO SEAWALL
 - DUNE BACKSLOPE TIE INTO SEAWALL
 - DUNE CREST TIE INTO ESCARPMENT
 - DUNE BACKSLOPE TIE INTO NON-VEGATATED DUNE
 - DUNE BACKSLOPE TIE INTO VEGATATED DUNE
 - SEAWARD DUNE SHIFT DUE TO COMPRISED STRUCTURE
- VARYING PER PROPERTY
- ADVANCED PLANNING AND WALKTHROUGHS



TRAILING SUCTION DREDGING

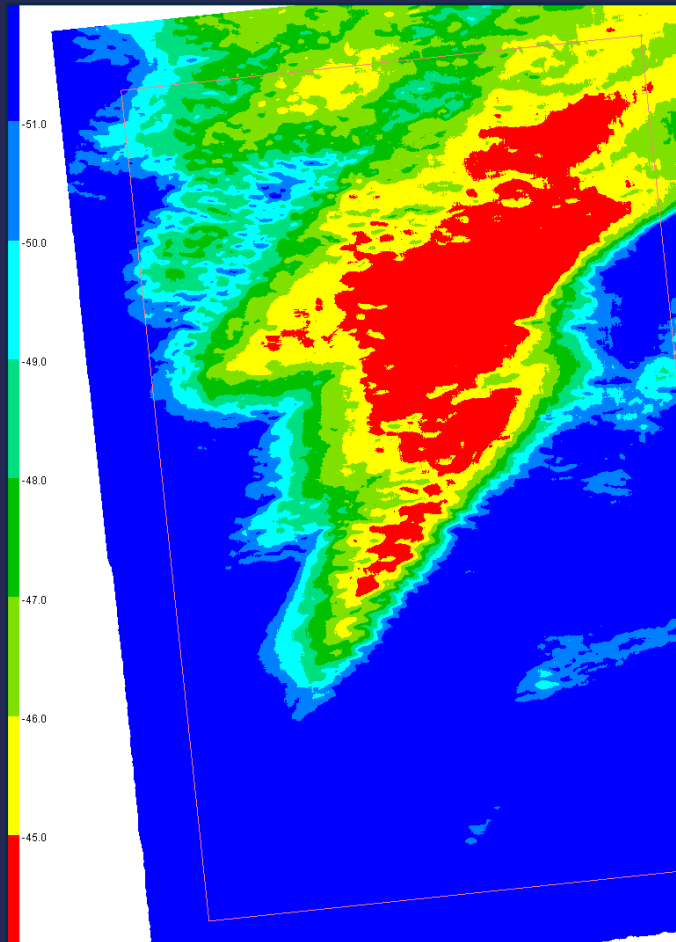
- TRAILING SUCTION HOPPER DREDGES (TSHD):
 - R.N. WEEKS
 - B.E. LINDHOLM
- 788,000 CY OF SAND WAS RELOCATED
- 363 TOTAL LOADS FROM N-3 BORROW AREA



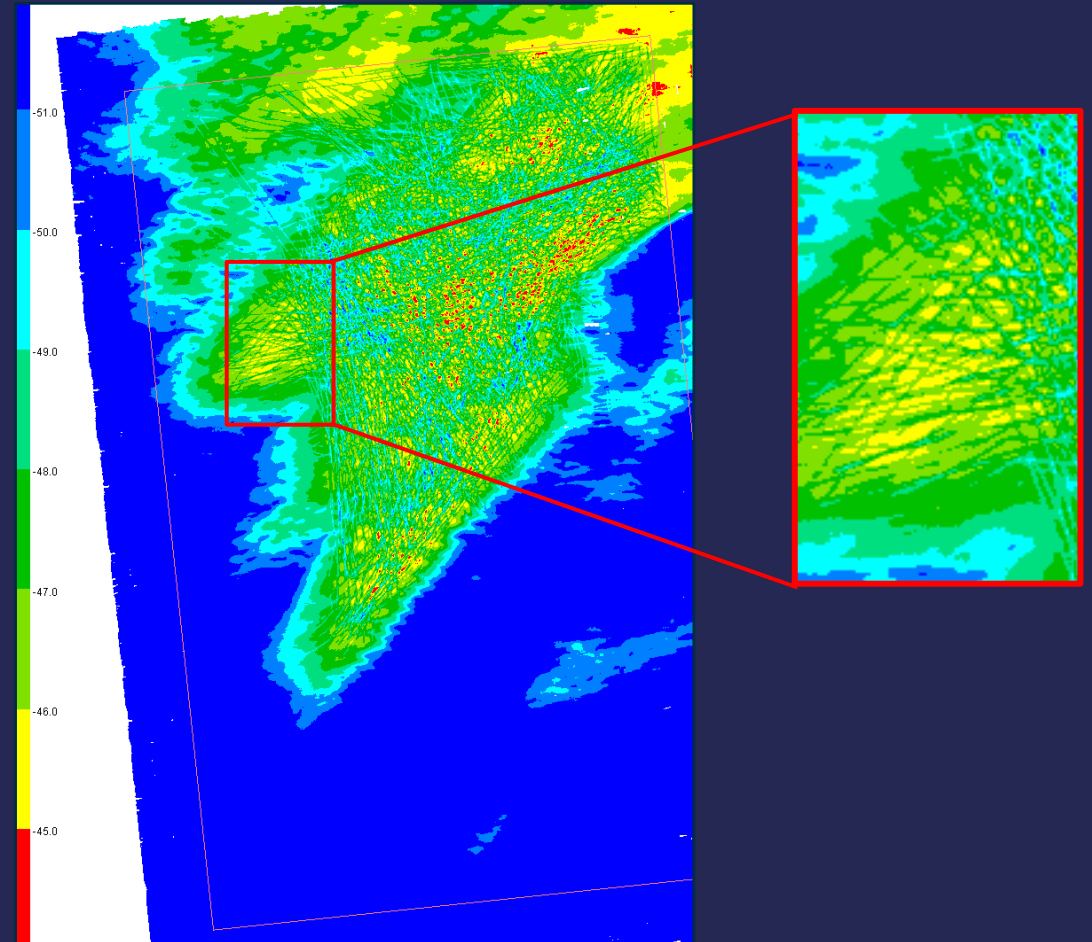
OFFSHORE BORROW AREA

Trails in the afterdredge, blow up

BEFORE DREDGING (BD)
SURVEY



AFTER DREDGING (AD)
SURVEY



BEACH AND DUNE RESTORATION CONSTRUCTION

- DREDGING START DATE:
APRIL 2022
- DREDGING END DATE:
JUNE 2022
- PROJECT END DATE:
JULY 2022
- TOTAL DREDGING DURATION:
56 DAYS
- TOTAL PROJECT DURATION:
98 DAYS



DUNE PROTECTION

- DUNE PLANTING
 - TOTAL OF 609,000 UNITS INSTALLED
- POST AND ROPE INSTALLATION
 - 2,750 FT INSTALLED TO PROTECT THE DUNES AT PUBLIC BEACH ACCESS

Plant Type	Units Installed
Sea oats (<i>Uniola paniculata</i>)	517,650
Panic grass (<i>Panicum amarum</i>)	73,080
Dune elder (<i>Iva imbricata</i>)	9,135
Dune sunflower (<i>Helianthus debilis</i>)	9,135



DEVIATIONS FROM PLAN SET

- BEACH FILL TEMPLATE
 - BEFORE DREDGE SURVEY DATA
 - INCREASED VOLUME OF MATERIAL EXISTING IN BEACH
 - ADJUSTMENT TO TEMPLATE
 - INCLUSION OF OVERFILL TOLERANCE
 - DECREASE IN UNDERFILL TOLERANCE
- EASEMENTS
 - FOR ALL BEACHFRONT PROPERTIES
 - THREE HOLD-OUTS
 - TWO SIGNED DURING CONSTRUCTION
 - ONE SIGNED AGREEMENT WITH CONTRACTOR
- POST AND ROPE

Deviation in Elevations (in feet NAVD88)				
Beach Segment		Approved Permit Drawings	Approved Construction Plans	Modifications via serial letter during construction
R76 to R79	Dune	15	14.5	15 + 0.5 O.T.
	Berm	12	11.5	12 + 0.5 O.T.
R80 to R83	Dune	15	14.5	14.5 + 0.5 O.T.
	Berm	11	10.5	10.5 + 0.5 O.T.
R84 to R101	Dune	14	13.5	14 + 0.5 O.T.
	Berm	10	9.5	10 + 0.5 O.T.
R102 to R103.5	Dune	16	15.5	16 + 0.5 O.T.
	Berm	10	9.5	10 + 0.5 O.T.

O.T. = overfill tolerance



ENVIRONMENTAL MONITORING

- **MARINE TURTLE MONITORING**
 - 151 NESTS LOCATED WITHIN PROJECT LIMITS
 - 343 FALSE CRAWLS
 - GTM RESEACH RESERVE: R076-R84
 - ECOLOGICAL ASSOCIATES INC: R084-R103.5
- **SHOREBIRD MONITORING**
- **IN-WATER OBSERVATIONS**
- **WATER QUALITY/ TURBIDITY MONITORING**
- **SEDIMENT QUALITY MONITORING**

Month	Loggerhead		Green Turtle		Leatherback		Kemp's Ridley	
	Nest	False Crawl	Nest	False Crawl	Nest	False Crawl	Nest	False Crawl
April	0	0	0	0	0	0	0	0
May	23	39	0	0	1	0	0	0
June	74	201	2	2	0	0	1	0
July	44	96	2	4	1	1	0	0
TOTAL	144	336	4	6	2	1	1	0



CONCLUSION

- RESULTS
 - 788,000 CY DREDGED FROM BORROW AREA N-3
 - 733,000 CY PLACED WITHIN THE PROJECT LIMITS
 - 609,000 UNITS OF DUNE PLANTS INSTALLED
- LESSONS LEARNED
 - LANDWARD TIE-IN CONSTIONS
 - PROPERTY EASEMENTS AND APPROVALS
- KEYS TO SUCCESS
 - CLEAR GOALS AND ROLES
 - DIRECT COMMUNICATION
 - “PLANS FOR TOMORROW WERE MADE LAST WEEK”



QUESTIONS



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