



COASTAL RESOURCES DIVISION
ONE CONSERVATION WAY • BRUNSWICK, GA 31520 • 912.264.7218
COASTALGADNR.ORG

MARK WILLIAMS
COMMISSIONER

DOUG HAYMANS
DIRECTOR

NOV 30 2017

Heath Hansell
Applied Technology & Management, Inc.
P.O. Box 20336
Charleston, SC 29413-0336

RE: Letter of Permission (LOP), Emergency Maintenance and Rehabilitation of the Existing Revetment, Jekyll Island, Glynn, Georgia

Dear Mr. Hansell:

This letter is in response to your recent information requesting authorization to perform maintenance to the existing rock revetment within the jurisdiction of the Shore Protection Act along a stretch of approximately 9,800 linear ft. from about King Avenue just north of the Villas by the Sea on Jekyll Island in Glynn County.

Activities within jurisdiction include maintenance to the existing revetment and restoration to return the revetment cross-section to the original design and crest elevation. Maintenance work will include both the repositioning of existing rock that was displaced by the recent storms and the addition of new material within the general footprint.

No materials will be stored on the beach or in the sand dunes. There are three prospective staging areas, one of which is within jurisdiction located in the paved parking lot at Oceanview Beach Park. Access to the project areas will be limited to a maximum of four locations. This includes the Driftwood Beach, Old North Picnic Area, Villas South, and Albright Lane. Any affected naturally vegetated areas within jurisdiction will be restored with native vegetation to return the area to pre-project conditions. Any road surface improvements will be made with removable materials, such as timber crane mats. If beach quality sand obtained from an upland source is required for access-ramp creation, such sand will be distributed and allowed to remain within jurisdiction at the completion of the project.

The Department authorizes the maintenance activities within jurisdiction as depicted above and the attached description and illustrations. No unauthorized equipment, materials, or debris may be placed in, disposed of, or stored in jurisdictional areas. Any incidental damage to dunes or dune vegetation will require restoration to be coordinated through this office. Work is anticipated to start on January 15, 2018 and will be completed no later than six (6) months from the date work commences.

NOV 30 2017

JIA Rock Revetment Maintenance

Page 2 of 2

Any portion of this project that occurs between May 1st and October 31st, turtle nesting season, will require that an individual with a DNR Sea Turtle Cooperators Permit survey the project site and the beach access to be used by the equipment prior to the work beginning. All sea turtle nest must be avoided and no heavy equipment may be used within 20ft. of a nest area.

This authorization does not relieve you from obtaining any other required federal, state, or local permits, permissions, or authorizations. If you have any questions you may contact Karl Burgess at (912) 264-7218.

Sincerely,



Jill Andrews

Chief, Coastal Management Section

enclosures: Project Description, Illustrations, Photos

cc: Jones Hooks, JIA
Ben Carswell, JIA
Skye Stockel, ACOE

Supplemental to Department of the Army Nationwide Permit/PCN

Project: Jekyll Island Emergency NWP-3 Revetment Maintenance

Owner: Jekyll Island Authority

Original November 6, 2017

Revised November 22, 2017

Block 18 – Nature of Activity:

Existing Site Conditions:

The existing rock revetment on Jekyll Island was constructed in the mid 1960s to 1970s, in response to erosion caused by Hurricane Dora (1964) as the so-called "Johnson Rocks". The northernmost approx. 9,800 LF of the revetment has undergone long-term general degradation due to settlement, beach erosion (profile deflation and erosion of fines), and overtopping and more direct damage during storm events. Based on site observations and comparing with available original design plans from the Jekyll Island Authority (JIA), the existing rock structures appear to have utilized undersized stone relative to potential storm wave conditions - with a notable larger percentage of small/core stone than what are considered armor stones. Historic plans from the JIA from the 1970s indicate that the revetment was built of a core and base ranging from 2" - 250 lb stone, with 300 - 1,500 lb armor stone in a 4 ft thick layer. The structure crest elevation was 14.5 ft MLW, or approximately +10.5 ft NAVD88 when adjusted to the current datum and tidal epoch. The original typical revetment structure cross section is depicted on Sheet 7 of the attached permit drawings, and includes a 1V:2H seaward slope and 1V:1.5H landward slope. According to the original drawings, the structure design section was originally constructed at or above mean high water (MHW), but erosion and structure displacement has resulted in the toe of the structure reaching 0 to -1 ft NAVD88, along most of the subject area.

The revetment fronts the Atlantic Ocean and is therefore subject to damage from storm surge and waves during severe storm events, including both seasonal nor'easters and tropical systems. The 2016 and 2017 hurricane seasons included two significant such events, Hurricanes Matthew and Irma. Both storms included measured local water levels between 10 and 10.7 ft NAVD88, high winds, and large waves, which displaced large sections of the revetment and eroded significant sections of dune and upland (including vegetation and habitat) landward of the damaged revetment. This has left homes and other infrastructure vulnerable to high water and storm events. Representative photos of the existing conditions along the revetment shoreline are attached.

A survey commission by the JIA in October 2017 (post-Irma) collected high resolution topographic and aerial orthorectified photograph data along the entire project area. The attached Table 1 summarizes the general condition of the existing revetment based on crest elevation in the various zones. Zones correspond to those shown on the NWP 3a drawing exhibits. Priority levels from Table 1 and the project description is discussed below. It is noted that MHW and Highest Astronomical Tide (HAT) are 2.6 and 5.0 ft NAVD88, respectively, so that under spring and king tide conditions (or events with storm surge), the revetment is easily overtopped by wave action and, in some areas, inundated under normal higher tide conditions. The existing revetment crest is not uniform in elevation and, while functional, does not provide the level of protection originally intended.

Project Description:

Following the revetment damage and upland erosion which has occurred during Hurricanes Matthew and Irma, the JIA is requesting to conduct maintenance and repair works under Nationwide Permit 3 to



rehabilitate the revetment and return the structure cross-section to the original design template and crest elevation.

All stone and rocks within the existing revetment footprint, within and landward of the proposed maintenance template (as shown on drawing exhibits) will be reused to the extent practical. Smaller stone will be used as fill/core stone and any available larger stone will be re-incorporated into the armor layer. Any deficient areas within the maintenance template after existing rock is re-used will be supplemented with new armor stone. All new stone and re-used existing stone will only be placed inside the maintenance footprint and no new or existing stone will be placed or moved seaward of the maintenance template. Where no rock exists landward of the maintenance template, new stone will be brought in to repair revetment sections within the maintenance template. Existing stone within the proposed maintenance template will be only moved/restacked to the extent necessary to recreate the original design template. Rock within the proposed maintenance template and below MHW will not be moved, only supplemented with new stone as needed.

As the majority of the rock placement will be landward of the MHW line, the repairs will be completed from the upland by re-using existing stone landward of the maintenance template, rearranging the smaller rock in the existing template, and supplementing with additional armor stone (anticipated to be typically 2-3 ft diameter granite boulders) to fill any voids and re-establish the original crest elevation and template. Given the observed rock size in the field, the supplemental rock boulders will be necessarily larger in weight than much of the existing rock materials for stability. The rock will be delivered to the site by flatbed and/or dump trucks. The rock will be staged upland of the revetment away from the active beach and will be brought from the upland staging area to the revetment by wheeled or tracked loaders. A long reach excavator, from the upland side of the revetment, is expected to rearrange and place rock to restore the design template. Construction staging and access to the project area will be made available by the JIA, with any disturbed upland and dune areas restored following construction. See also attached Drawing Exhibits and JIA Supplement letter to GDNR-CRD for additional information regarding staging and access.

Block 19 – Project Purpose:

The revetment at Jekyll Island has undergone degradation over the past 30+ years but experienced significant damage with loss of elevation and rock displacement during Hurricanes Matthew and Irma. This resulted in significant wave and water level overtopping of the structure and erosion of the dune and upland vegetated areas, leaving an erosion scarp and homes and infrastructure vulnerable to future high water and storm events. The project is proposed to restore the existing revetment back to the crest elevations and slopes of the original design template under Nationwide Permit 3, to reduce the future erosion threat to the dune and upland areas, including homes and infrastructure. The purpose of the existing revetment will not change, but its function will be improved by restoring it to the originally designed cross-section.

It is noted that there is no high tide dry beach within the limits of the proposed work, seaward of the revetment. Rock rehabilitation will not place any rock seaward of the existing rock footprint, and the majority of the work will take place landward of the MHW line.

The entire project length requires some level of maintenance to restore the revetment to the original design and intended purpose. Attached Table 1 provides a general overview of the varying conditions within each project zone. The priority areas for revetment maintenance are generally Zones A, C, and D



indicated on drawing exhibits, based on the highest level of revetment damage per survey and observed upland and dune erosion that occurred during Matthew and Irma. Small, localized sections of zone E are also priority.

Revetment repairs are expected to start as soon as a permit is received. Maintenance work is intended along the entire project length. However, repairs will proceed according to budget allocations, timing, and priority areas. See also attached JIA Supplement letter to GDNR-CRD for additional information regarding project area priority and timing.

Block 20 – Reason for Discharge:

Rock is proposed to be added to the existing revetment to restore the revetment template to original design conditions using like materials to the existing structure. The repaired revetment will provide erosion control for upland dunes, land, and infrastructure during future storm events. The total estimated project area (upland and below HAT), including areas of existing rock restacking is 7.8 acres. The total quantity of rock to be restacked and supplemented to restore the original template is approximately 22,000 cy, using an assumed void porosity of 25% for rock work. Seaward of the existing HAT line, the total estimated quantity is 14,000 cy with a footprint of 3.6 acres.

Block 23 – Description of Avoidance, Minimization, and Compensation:

The project was designed to minimize impacts to existing habitat by remaining within the footprint of the existing revetment or landward thereof. No work will occur seaward of the revetment on the active beach, which is generally inundated at MHW. All access and construction work will be carried out from the landward side of the existing structure. Work in project areas below MHW will be timed to occur during low tide levels to the maximum extent practical. No impacts to the active beach area or adjacent areas are expected since the current conditions do not provide for any significant quantities of sand to be exchanged with local littoral system and rehabilitation landward of the existing structure toe will not change that effect.

The project as requested meets the JIA's goals for protection of the upland and dune habitats and infrastructure. A no-action alternative will result in further degradation of the revetment and increased frequency of erosion and scarping (loss) of the upland habitat, with increased threat of damage to upland infrastructure.

Archaeological resources are known to exist in eroding upland soils landward of mean high water. These resources have been documented by the Jekyll Island Authority's historic resources staff and reported to the State Historic Preservation Office (SHPO). This documentation is attached for reference. No documented historical or archaeological sites exist seaward of mean high water in the project area. There are no known historical, cultural, or archeological resources ("resources") within the project area maintenance footprint. All staging and access areas will be located to avoid any known upland resources. Any potential required access to the project site through resource areas will only be access over subsurface resources and no disturbance to the resources will occur.

The Jekyll Island Authority operates the Georgia Sea Turtle Center, which is an active partner in the Georgia Sea Turtle Cooperative, coordinated by the Georgia Department of Natural Resources, Wildlife Resources Division, Nongame Conservation Section. The Jekyll beaches are intensively monitored for sea



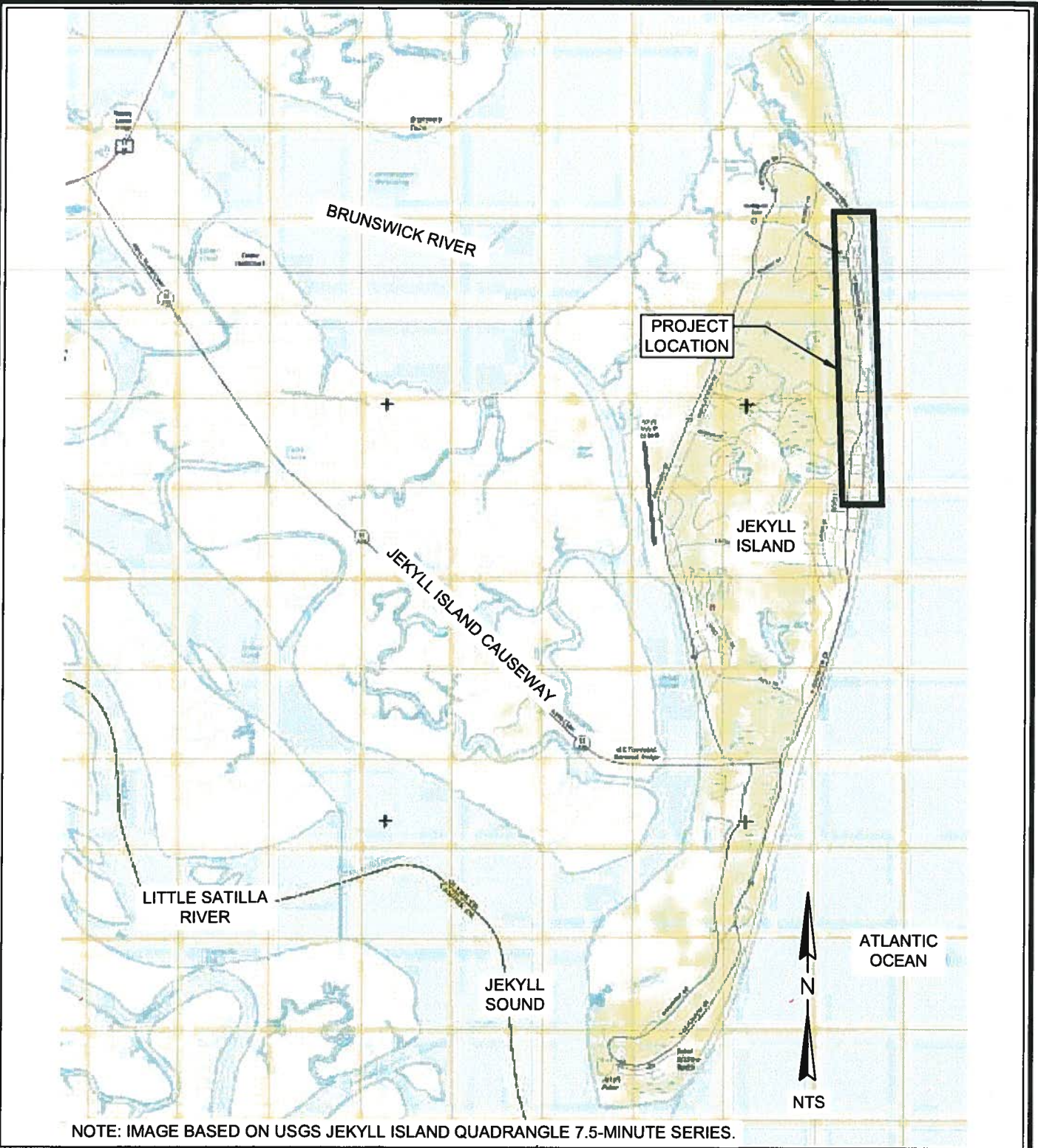
turtle nesting activity annually, but there is no viable nesting habitat in the project area due to the presence of the revetment. In the past ten years, there have been no instances of nests within the project area. In that time period, there have been a few nests outside the project area, but in close proximity to its northern end. Nests in this area are generally anticipated to be relocated due to a high likelihood of nest over-wash. False crawls are occasionally documented in the project area, more frequently towards its southern end. On one occasion, a sea turtle was discovered temporarily trapped landward of the revetment.

Similarly the JIA reports that nesting shorebirds, closely monitored annually elsewhere on the island, are not found within the project area due to a lack of potential habitat resulting from the presence of the existing revetment structure and the erosive nature of the shoreline.

No compensatory mitigation is proposed for this project.




"NWP 3 DRAWING EXHIBITS"



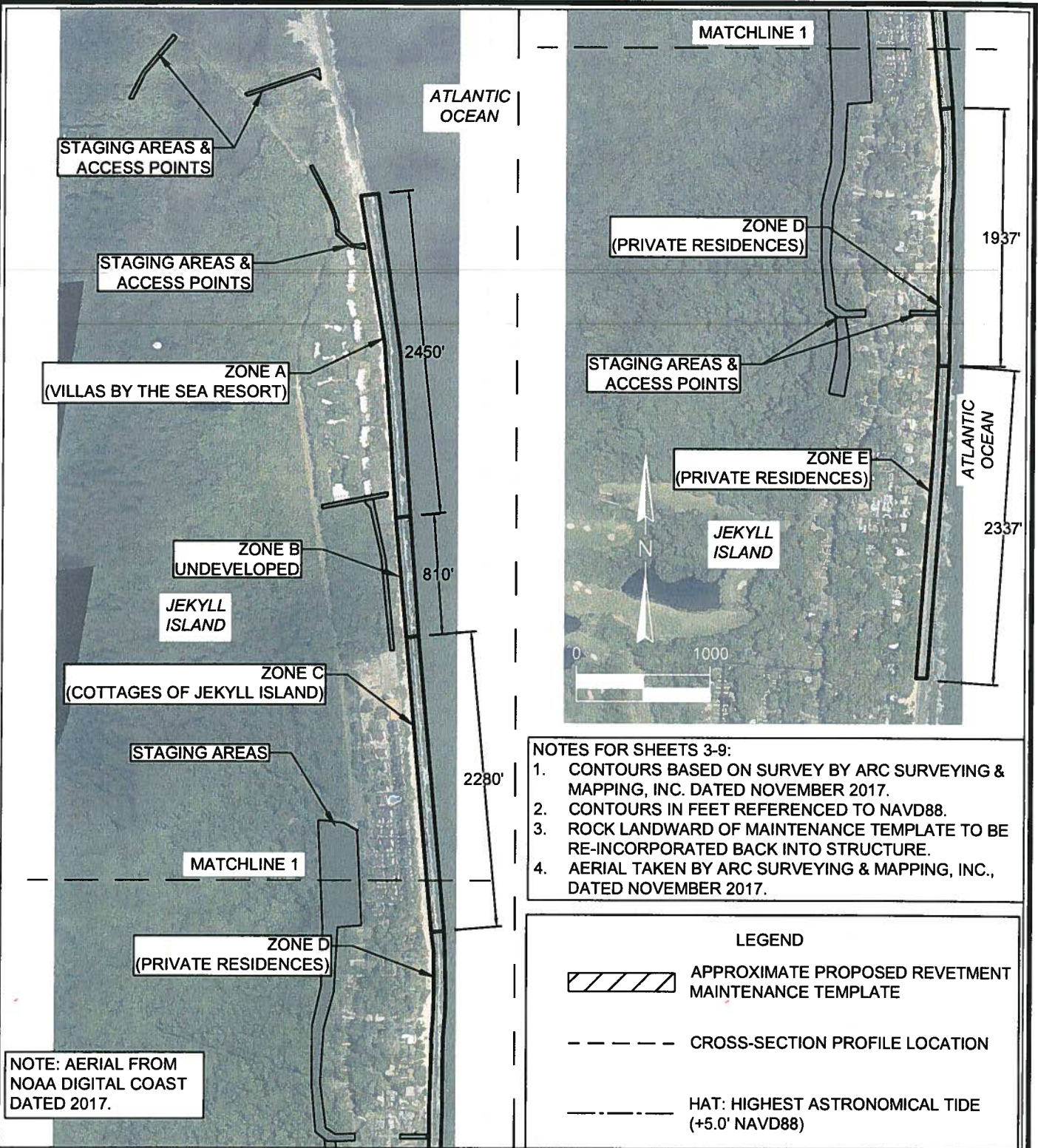
NOTE: IMAGE BASED ON USGS JEKYLL ISLAND QUADRANGLE 7.5-MINUTE SERIES.

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PROJECT: Jekyll Island Emergency NWP3 Revetment Maintenance WATERBODY: Atlantic Ocean COUNTY: Glynn STATE: Georgia LATITUDE: 31° 4'35.51"N LONGITUDE: 81°24'8.41"W	LOCATION MAP		 411 PABLO AVENUE JACKSONVILLE BEACH, FL 32250 904.249.8009 GA COA #310384 November 22, 2017 SHEET 1
	Requested by: Jekyll Island Authority		
	Project Address: Jekyll Island, GA		

"NWP 3 DRAWING EXHIBITS"

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- NOTES FOR SHEETS 3-9:**
1. CONTOURS BASED ON SURVEY BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.
 2. CONTOURS IN FEET REFERENCED TO NAVD88.
 3. ROCK LANDWARD OF MAINTENANCE TEMPLATE TO BE RE-INCORPORATED BACK INTO STRUCTURE.
 4. AERIAL TAKEN BY ARC SURVEYING & MAPPING, INC., DATED NOVEMBER 2017.

LEGEND

APPROXIMATE PROPOSED REVETMENT MAINTENANCE TEMPLATE
 CROSS-SECTION PROFILE LOCATION
 HAT: HIGHEST ASTRONOMICAL TIDE (+5.0' NAVD88)

NOTE: AERIAL FROM NOAA DIGITAL COAST DATED 2017.

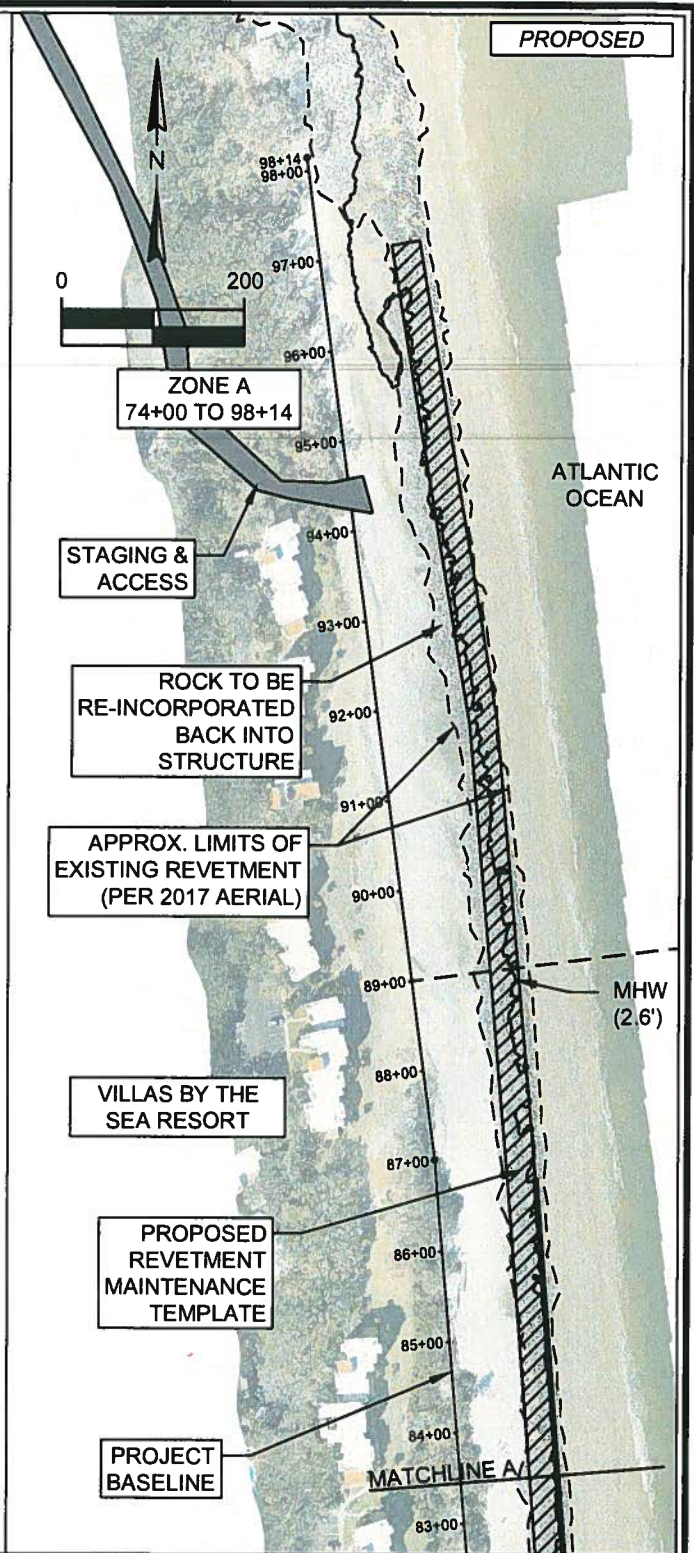
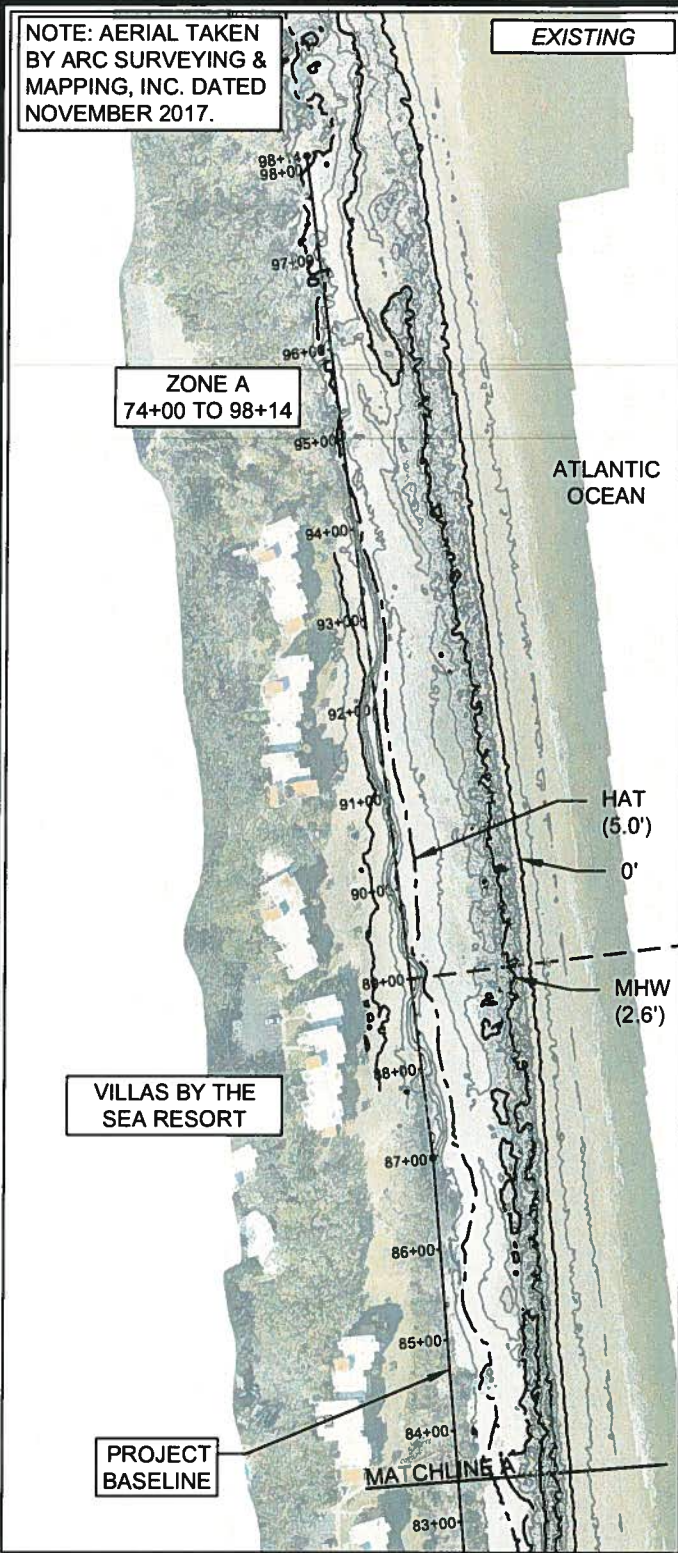
PROJECT:	Jekyll Island Emergency NWP3 Revetment Maintenance
WATERBODY:	Atlantic Ocean
COUNTY:	Glynn
STATE:	Georgia
LATITUDE:	31°05'19.16"N
LONGITUDE:	81°24'07.36"W

PROJECT SITE PLAN NWP 3 PRIORITY AREAS
Requested by: Jekyll Island Authority
Project Address: Jekyll Island, GA

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 411 PABLO AVENUE
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 GA COA #310384
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SHEET 2

"NWP 3 DRAWING EXHIBITS"

NOTE: AERIAL TAKEN BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.



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PROJECT: Jekyll Island Emergency
 NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

EXISTING-PROPOSED CONDITIONS
STATIONS 84+00 TO 98+14 (ZONE A)
 Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA

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SHEET 3

"NWP 3 DRAWING EXHIBITS"

NOTE: AERIAL TAKEN BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.

VILLAS BY THE SEA RESORT

EXISTING

MATCHLINE A

ATLANTIC OCEAN

ZONE A
74+00 TO 98+14

0'

MHW (2.6')

HAT (5.0')

PROJECT BASELINE

ZONE B
65+00 TO 74+00

MATCHLINE B

PROPOSED

VILLAS BY THE SEA RESORT

MATCHLINE A

ATLANTIC OCEAN

PROPOSED REVETMENT MAINTENANCE TEMPLATE

ZONE A
74+00 TO 98+14

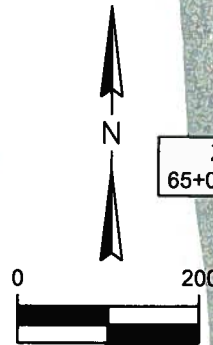
PROJECT BASELINE

APPROX. LIMITS OF EXISTING REVETMENT (PER 2017 AERIAL)

STAGING & ACCESS

ZONE B
65+00 TO 74+00

MATCHLINE B



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PROJECT: Jekyll Island Emergency
 NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

EXISTING - PROPOSED CONDITIONS
 STATIONS 69+00 TO 83+00 (ZONES A/B)

Requested by: Jekyll Island Authority

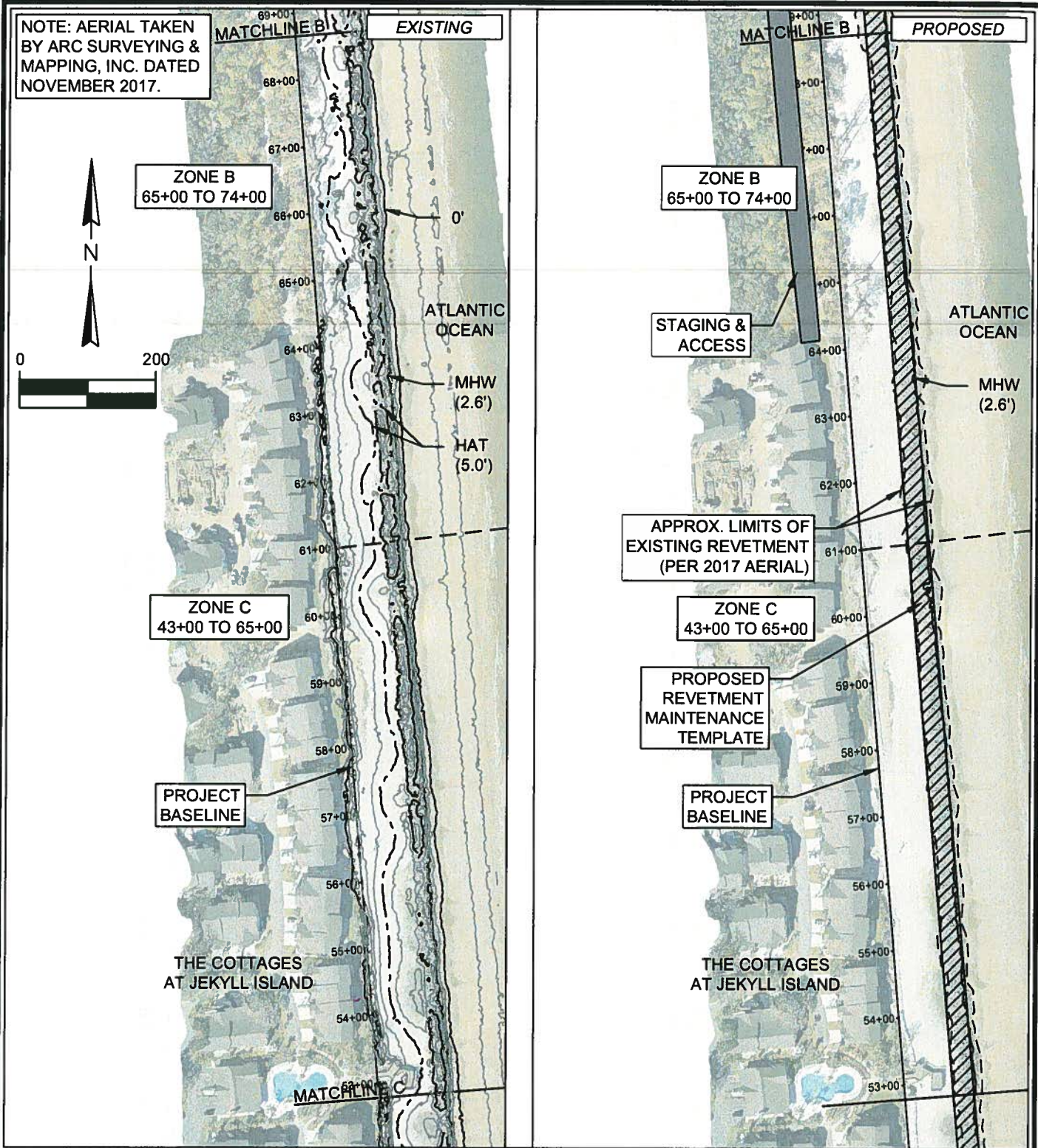
Project Address: Jekyll Island, GA

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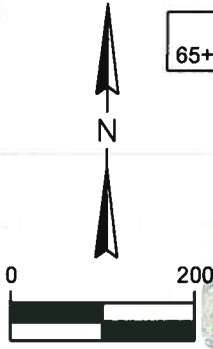
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 GA COA #310384

November 22, 2017
 SHEET 4

"NWP 3 DRAWING EXHIBITS"



NOTE: AERIAL TAKEN BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.



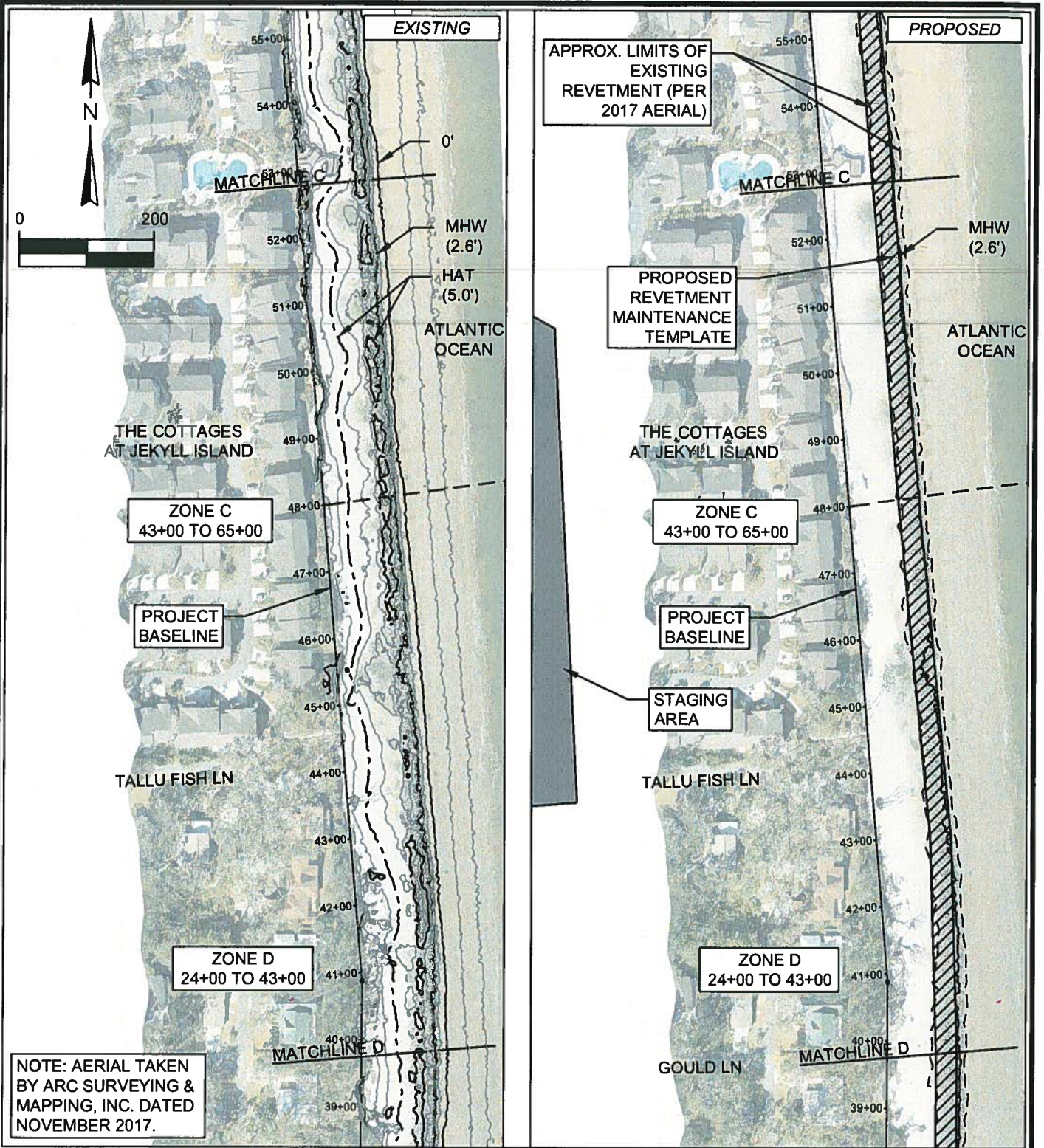
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PROJECT:	Jekyll Island Emergency NWP3 Revetment Maintenance
WATERBODY:	Atlantic Ocean
COUNTY:	Glynn
STATE:	Georgia
LATITUDE:	31°05'19.16"N
LONGITUDE:	81°24'07.36"W

EXISTING - PROPOSED CONDITIONS STATIONS 53+00 TO 68+00 (ZONES B/C)
Requested by: Jekyll Island Authority
Project Address: Jekyll Island, GA


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"NWP 3 DRAWING EXHIBITS"



NOTE: AERIAL TAKEN BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.

PROJECT: Jekyll Island Emergency NWP3 Revetment Maintenance
 WATERBODY: Atlantic Ocean
 COUNTY: Glynn
 STATE: Georgia
 LATITUDE: 31°05'19.16"N
 LONGITUDE: 81°24'07.36"W

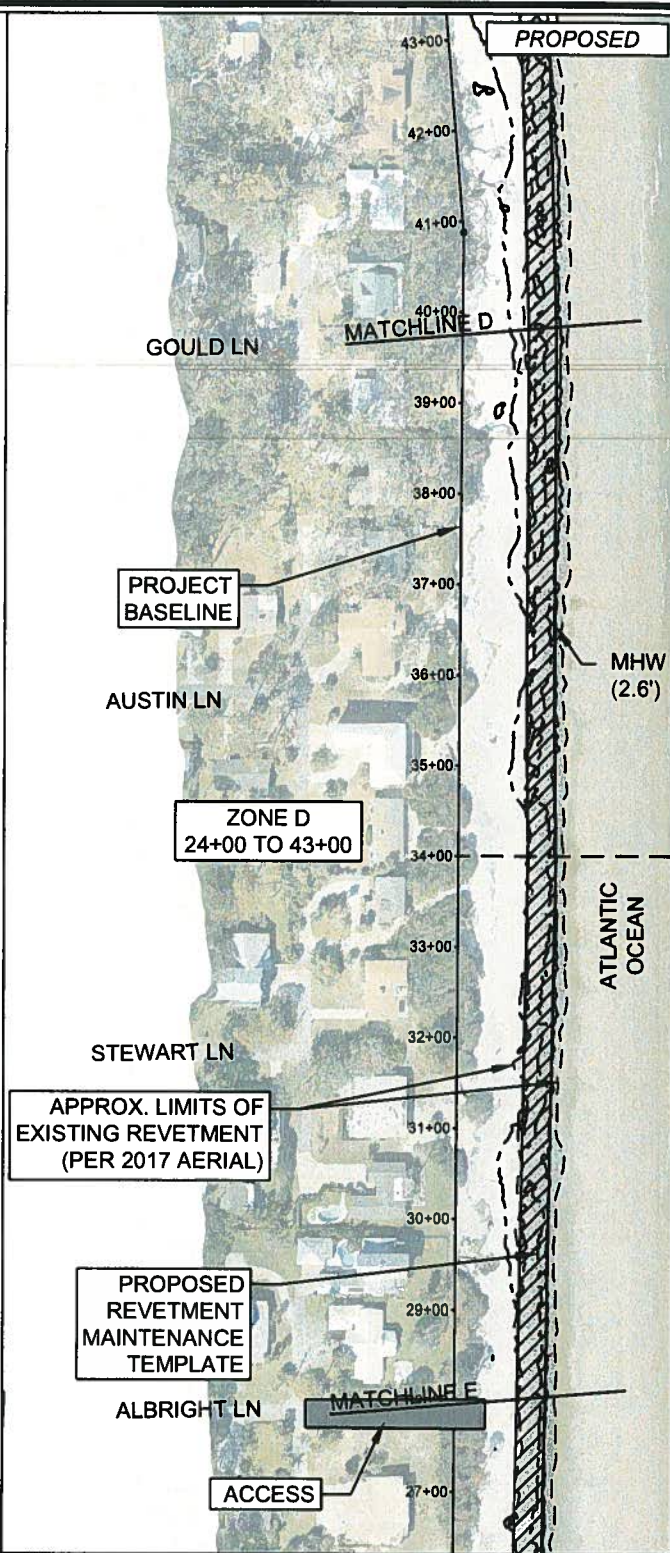
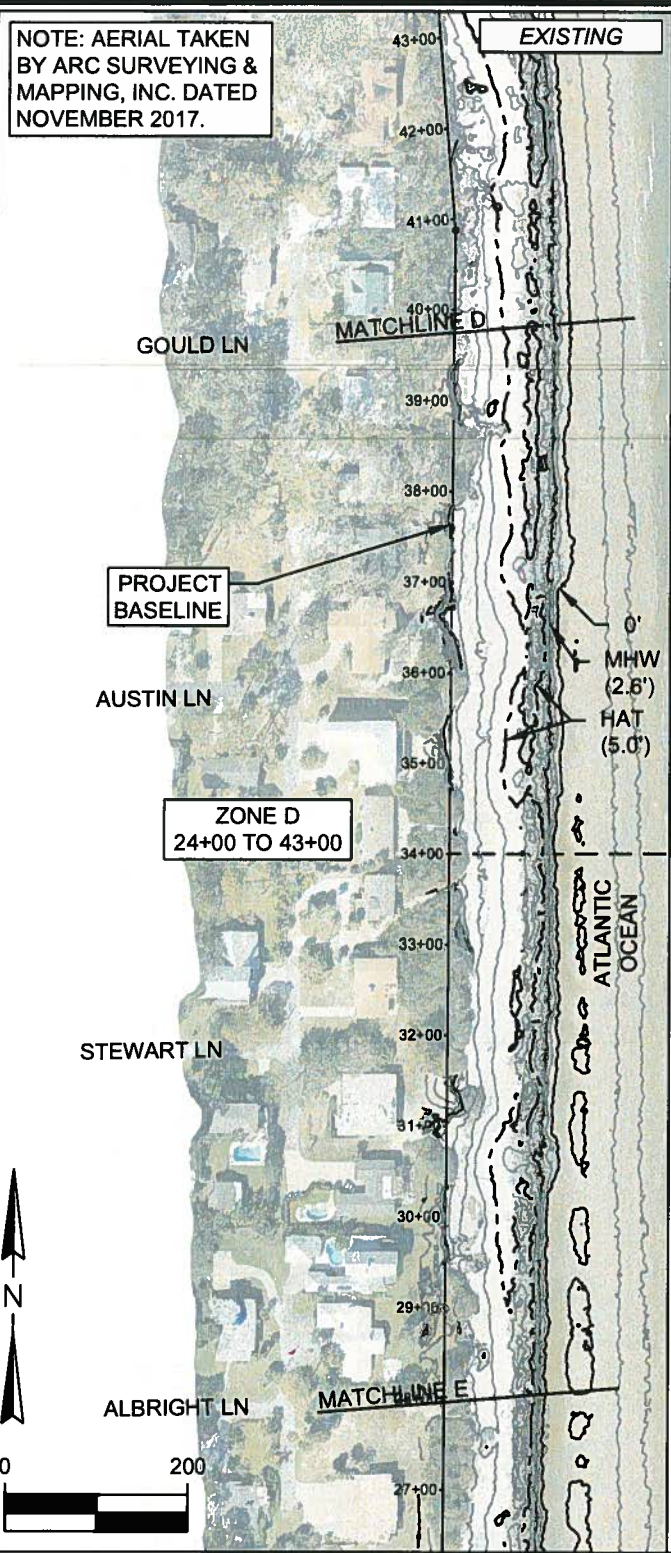
EXISTING - PROPOSED CONDITIONS
 STATIONS 40+00 TO 52+00 (ZONES C/D)
 Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA

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"NWP 3 DRAWING EXHIBITS"

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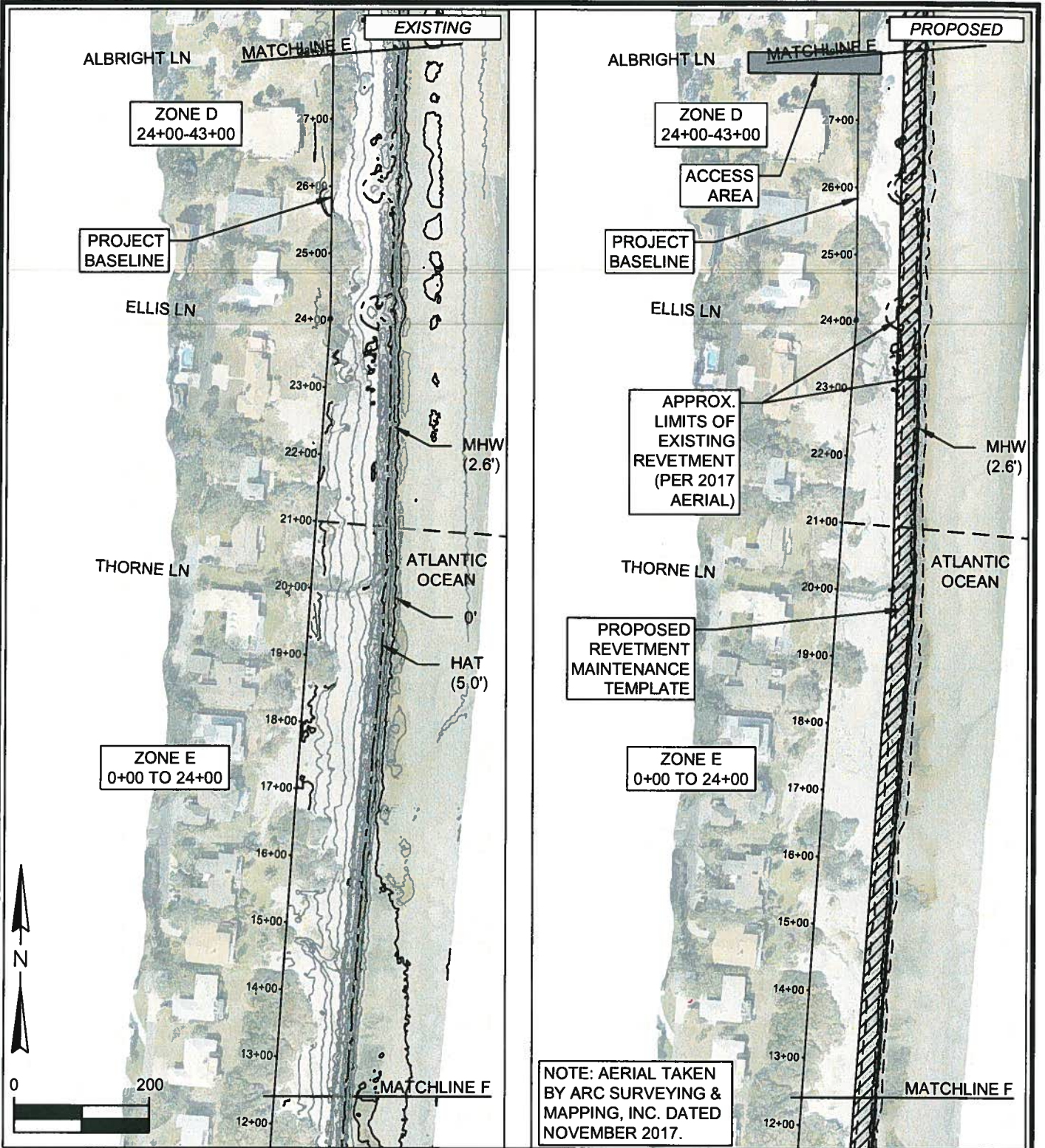
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PROJECT: Jekyll Island Emergency NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

EXISTING - PROPOSED CONDITIONS
STATIONS 28+00 TO 39+00 (ZONE D)
 Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA

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SHEET 7

"NWP 3 DRAWING EXHIBITS"



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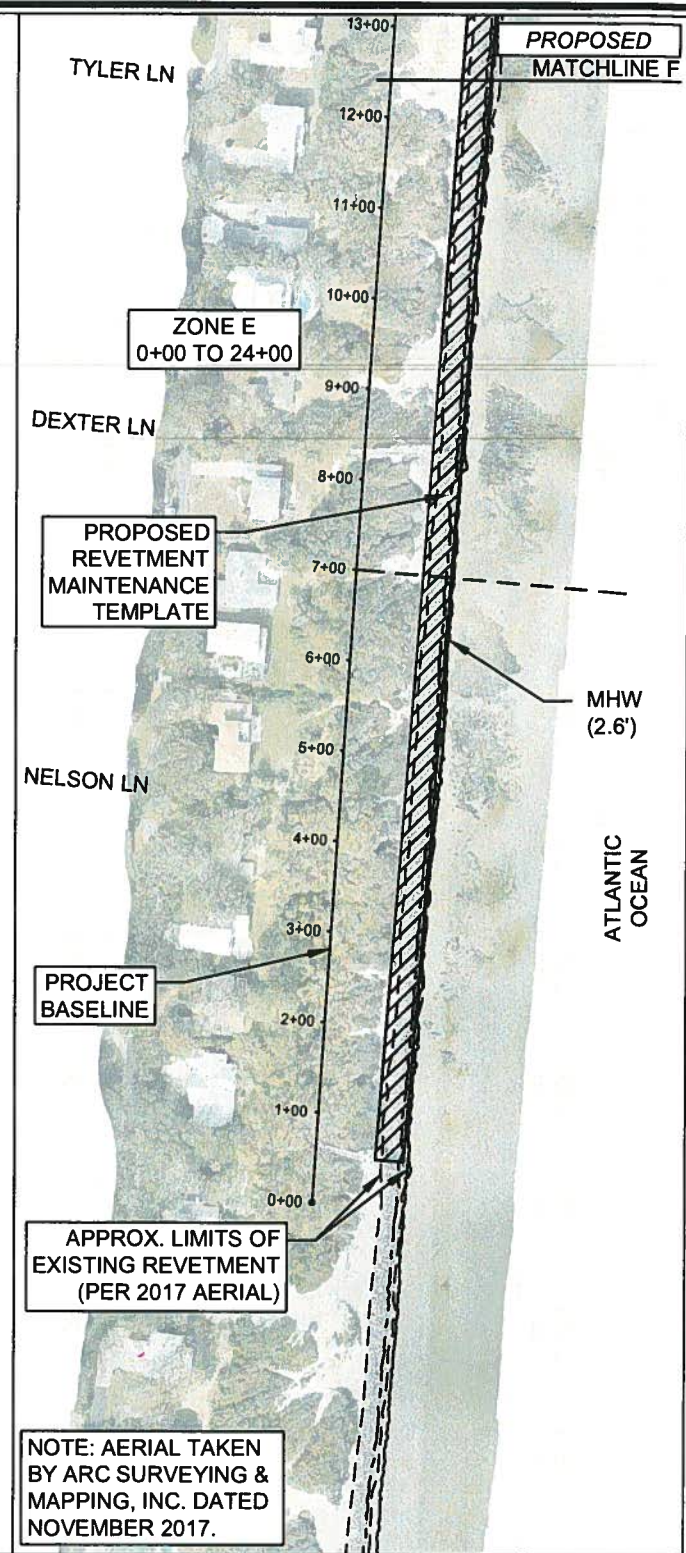
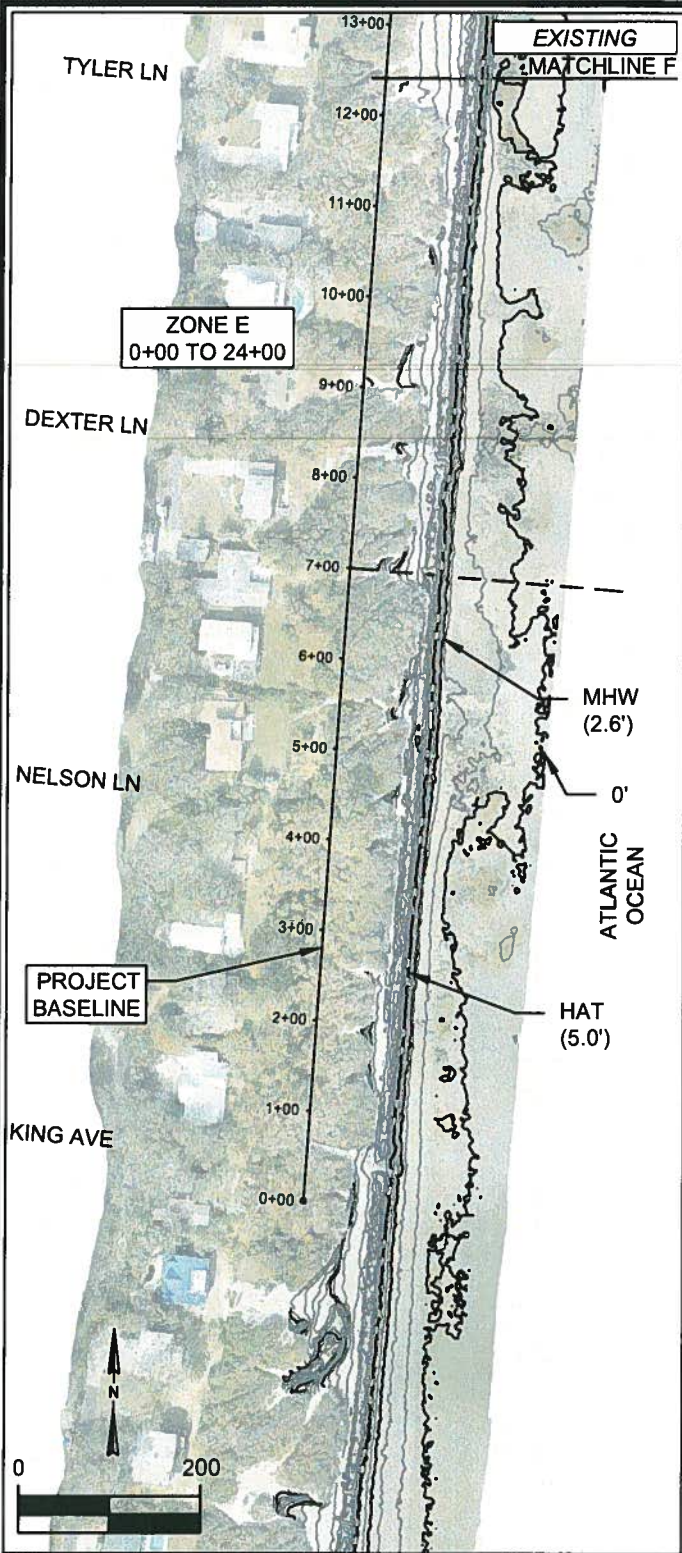
PROJECT:	Jekyll Island Emergency NWP3 Revetment Maintenance
WATERBODY:	Atlantic Ocean
COUNTY:	Glynn
STATE:	Georgia
LATITUDE:	31°05'19.16"N
LONGITUDE:	81°24'07.36"W

EXISTING - PROPOSED CONDITIONS STATIONS 13+00 TO 27+00 (ZONES D/E)
Requested by: Jekyll Island Authority
Project Address: Jekyll Island, GA

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 SHEET 8

"NWP 3 DRAWING EXHIBITS"

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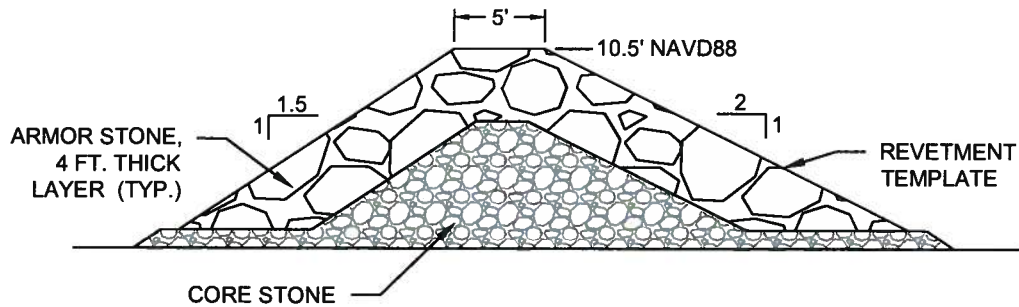
PROJECT:	Jekyll Island Emergency NWP3 Revetment Maintenance
WATERBODY:	Atlantic Ocean
COUNTY:	Glynn
STATE:	Georgia
LATITUDE:	31°05'19.16"N
LONGITUDE:	81°24'07.36"W

EXISTING - PROPOSED CONDITIONS STATIONS 0+00 TO 12+00 (ZONE E)
Requested by: Jekyll Island Authority
Project Address: Jekyll Island, GA

ATM DESIGN ENGINEERING CONSULTING
 411 PABLO AVENUE
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 GA COA #310384
 November 22, 2017
 SHEET 9

"NWP 3 DRAWING EXHIBITS"

NOAA STATION 8677344, ST. SIMONS ISLAND, GA	
DATUM	ELEV (FEET)
HAT	+5.0
MHHW	+3.0
MHW	+2.6
NAVD88	0
MLW	-4.0
MLLW	-4.2



ORIGINAL REVETMENT TEMPLATE

NOTE: ORIGINAL REVETMENT TEMPLATE BASED ON DRAWINGS BY ROGER BEEDLE DATED 1975. ELEVATIONS ADAPTED FROM ORIGINAL PLANS TO CURRENT NAVD DATUM.

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PROJECT: Jekyll Island Emergency
 NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

GENERAL NOTES & ORIGINAL REVETMENT TEMPLATE

Requested by: Jekyll Island Authority

Project Address: Jekyll Island, GA





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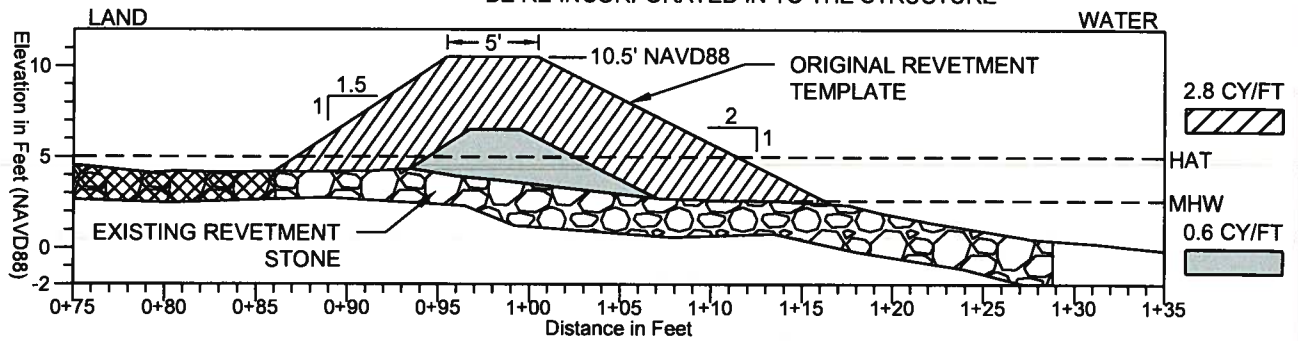
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November 22, 2017
 SHEET 10

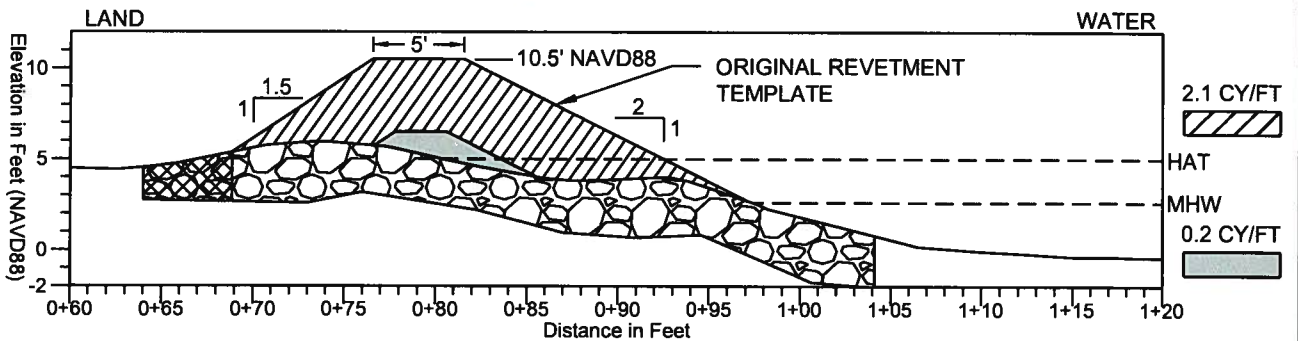
"NWP 3 DRAWING EXHIBITS"

LEGEND

-  PROPOSED ARMOR LAYER
-  PROPOSED CORE LAYER
-  EXISTING REVETMENT STONE
-  EXISTING SCATTERED REVETMENT STONE TO BE RE-INCORPORATED IN TO THE STRUCTURE



STATION 89+00 - ZONE A
TYPICAL REVET. MAINTENANCE TEMPLATE



STATION 76+00 - ZONE A
TYPICAL REVET. MAINTENANCE TEMPLATE

NOTE:

1. SCATTERED REVETMENT STONE LANDWARD OF MAINTENANCE TEMPLATE SHALL BE RE-INCORPORATED INTO REVETMENT CORE OR ARMOR LAYER BASED ON STONE SIZE.
2. ANY NEW STONE REQUIRED TO RETURN REVETMENT TO ORIGINAL TEMPLATE ELEVATIONS SHALL BE ARMOR STONE SIZE.
3. NO STONE SHALL BE MOVED OR PLACED SEAWARD OF MAINTENANCE TEMPLATE.
4. EXISTING REVETMENT STONE LIMITS BASED ON EXPOSED ROCK AT TIME OF SURVEY.
5. PROFILES BASED ON SURVEY BY ARC SURVEYING & MAPPING, INC. DATED NOVEMBER 2017.

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PROJECT: Jekyll Island Emergency
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WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

**TYPICAL REVETMENT
CROSS-SECTIONS**





Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA

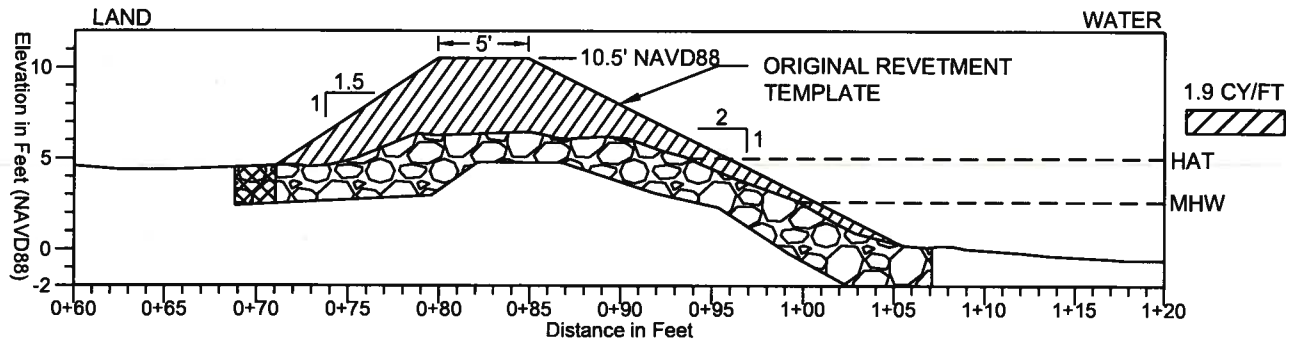

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 SHEET 11

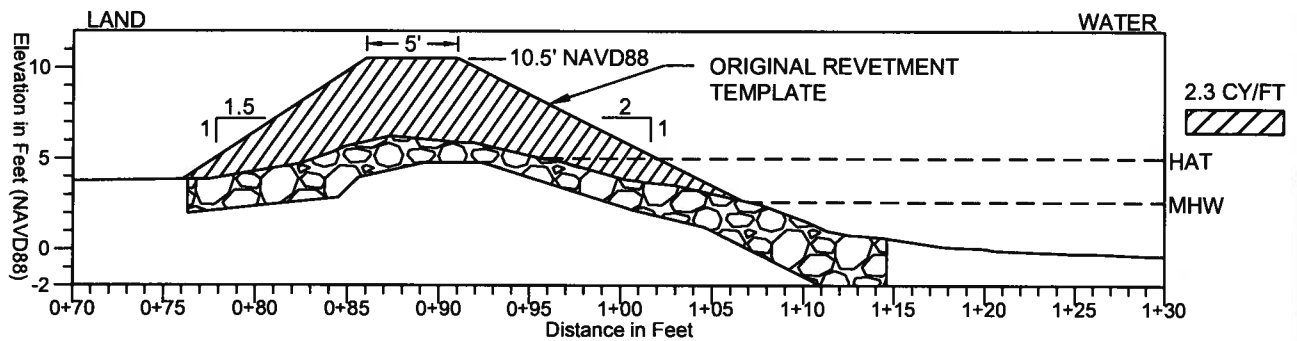
"NWP 3 DRAWING EXHIBITS"

LEGEND

-  PROPOSED ARMOR LAYER
-  PROPOSED CORE LAYER
-  EXISTING REVETMENT STONE
-  EXISTING SCATTERED REVETMENT STONE TO BE RE-INCORPORATED INTO THE STRUCTURE



STATION 61+00 - ZONE C
TYPICAL REVET. MAINTENANCE TEMPLATE



STATION 48+00 - ZONE C
TYPICAL REVET. MAINTENANCE TEMPLATE

NOTE:

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PROJECT: Jekyll Island Emergency
 NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W





**TYPICAL REVETMENT
CROSS-SECTIONS**

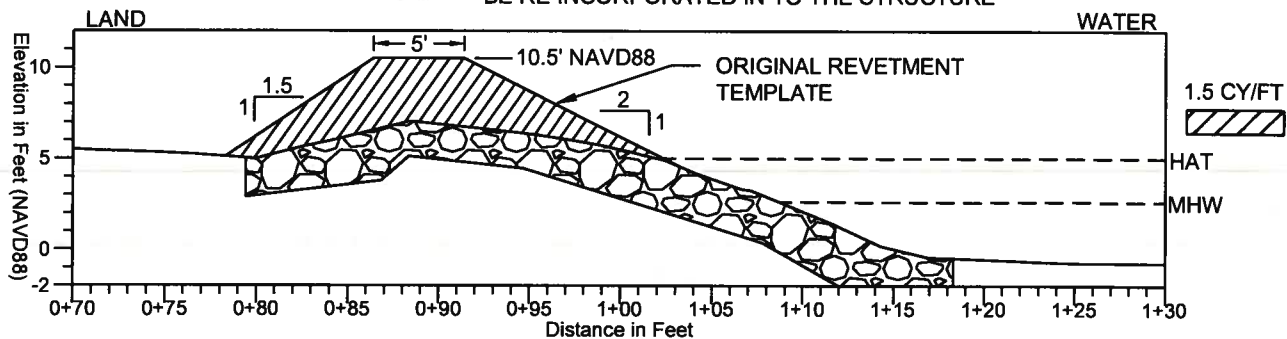
Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA


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 November 22, 2017
SHEET 12

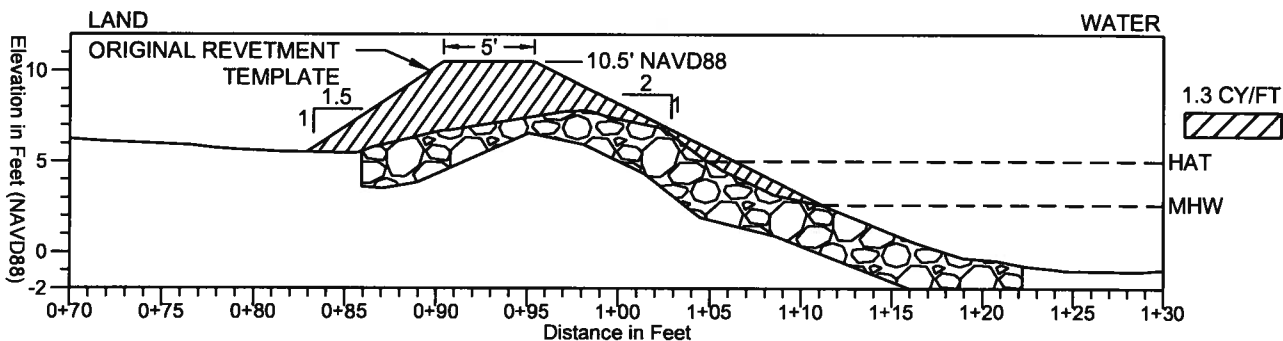
"NWP 3 DRAWING EXHIBITS"

LEGEND

-  PROPOSED ARMOR LAYER
-  PROPOSED CORE LAYER
-  EXISTING REVETMENT STONE
-  EXISTING SCATTERED REVETMENT STONE TO BE RE-INCORPORATED INTO THE STRUCTURE



STATION 34+00 - ZONE D
TYPICAL REVET. MAINTENANCE TEMPLATE



STATION 21+00 - ZONE E
TYPICAL REVET. MAINTENANCE TEMPLATE

NOTE:

1. SCATTERED REVETMENT STONE LANDWARD OF MAINTENANCE TEMPLATE SHALL BE RE-INCORPORATED INTO REVETMENT CORE OR ARMOR LAYER BASED ON STONE SIZE.
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WATERBODY: Atlantic Ocean
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**TYPICAL REVETMENT
CROSS-SECTIONS**

Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA







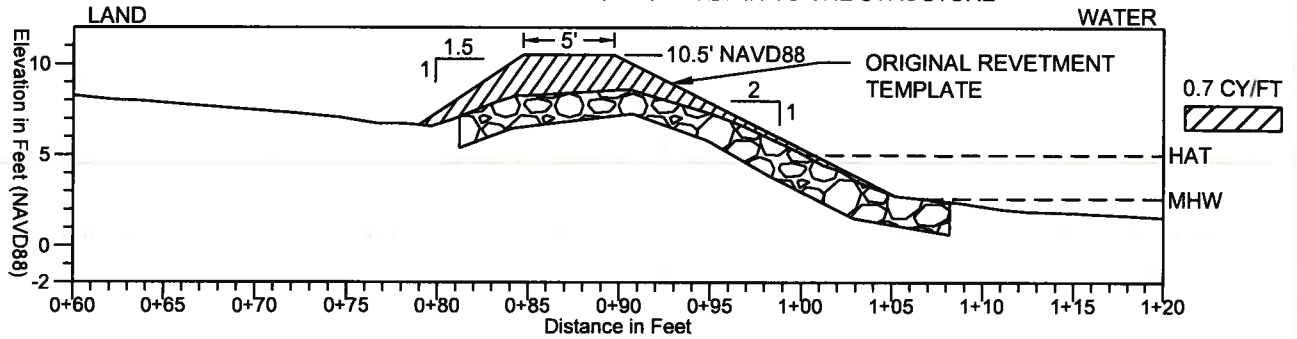
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 SHEET 13

"NWP 3 DRAWING EXHIBITS"

LEGEND

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-  PROPOSED CORE LAYER
-  EXISTING REVETMENT STONE
-  EXISTING SCATTERED REVETMENT STONE TO BE RE-INCORPORATED IN TO THE STRUCTURE



STATION 7+00 - ZONE E TYPICAL REVET. MAINTENANCE TEMPLATE

NOTE:

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PROJECT: Jekyll Island Emergency
 NWP3 Revetment Maintenance
WATERBODY: Atlantic Ocean
COUNTY: Glynn
STATE: Georgia
LATITUDE: 31°05'19.16"N
LONGITUDE: 81°24'07.36"W

TYPICAL REVETMENT CROSS-SECTIONS

Requested by: Jekyll Island Authority
 Project Address: Jekyll Island, GA

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November 22, 2017
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Table 1. Estimated Existing Revetment Conditions Along JIA NWP3 Project Shoreline

Zone	Shoreline Reach			General Revetment Conditions (Crest, ft NAVD88)	Condition
	Start	End	Approx. Linear ft.		
E	King	Dexter	800	relatively continuous 9'+	High
				localized lower 8'+ sections	
				7'+ section at Dexter	
	Dexter	Thorne	1170	relatively continuous 8'+	Low
				localized lower 7'+ sections	
				6'+ section at Thorn	
	Thorne	Ellis	390	relatively continuous 7'+	Med
				localized lower 6'+ sections	
				blowout at Ellis	
D	Ellis	Austin	1180	relatively continuous 6'+	Med
				localized higher 7'+ sections	
				multiple blowouts	
	Austin	Tallu fish	830	relatively continuous 5'+	Med
				localized lower 4'+ sections	
				localized higher 6'+ sections	
C	Cottages	2100	relatively continuous 4'+	Med	
			localized lower 3'+ sections		
			localized higher 5'+ sections		
			localized higher 6'+ sections		
B	Undeveloped	1100	relatively continuous 4'-5'	Med	
			localized higher 5'+ sections		
			localized higher 6'+ sections		
			multiple blowouts		
A	Villas by the Sea (Southern)	1100	relatively continuous 4'-5'	Med	
			localized higher 5'+ sections		
			localized higher 6'+ sections		
			multiple blowouts		
	Villas by the Sea (Northern)	1120	relatively continuous 3'+	High	
			localized lower 2'+ sections		
			localized higher 4'+ sections		
			localized higher 5'+ sections		
			multiple blowouts	High	

* Based on Engineering Estimates from November 2017 Survey Data and Aerial Imagery by ArcSurveying & Mapping

Crest Condition/Priority		
blowout	Red	High
2'	Red	High
3'	Yellow	High
4'	Yellow	Med
5'	Light Green	Med
6'	Green	Med
7'	Blue	Low
8'	Blue	Low
9'	Dark Blue	Low





November 21, 2017

Mr. Karl Burgess

Georgia Department of Natural Resources, Coastal Resources Division
One Conservation Way
Brunswick, GA 31527

Dear Mr. Burgess,

This letter is provided to serve as supplemental information regarding the Jekyll Island Revetment Rehabilitation Project efforts, proposed under Nationwide Permit 3(a). Other materials are being provided to USACE and cc'd to your office by our agents with the coastal engineering and consulting firm, Applied Technology and Management (ATM). The supplemental information provided here relates to how we propose to manage equipment access within the Shore Protection Act Jurisdictional Area, material staging areas, work prioritization within the project area, and anticipated start date for the work.

Figure 1, below, demonstrates proposed access points to the project area for vehicles and equipment as well as proposed material staging areas. Of the access routes identified, only the northernmost, is currently utilized by JIA for vehicle access to the beach. Note that it is in the Jekyll Island Authority's interest, for a variety of reasons including of course our conservation mission, to minimize impacts due to access and staging. Thus, as the bidding and contracting process proceeds for the construction work, we may not necessarily utilize all of the areas identified. For the access routes that are to be used, improvements may be required such as vegetation management, road-surface improvement, and ramp creation at the upland/shore interface. Any affected naturally vegetated areas within SPA jurisdiction will be restored with native vegetation re-planting designed to return them to pre-project conditions. Road surface improvements will be made with removable materials, such as timber crane mats. If beach quality sand is utilized for access-ramp creation, the sand would be distributed and allowed to remain within jurisdiction at the completion of the project.

We would like to plan for the ability to begin work as early as January 15th. The proposed NWP project area extends from north of Villas By The Sea Resort (VBTS) southward to King Avenue (as shown on the project drawing exhibits). The highest priority areas for the revetment repair work are the shoreline adjacent to and immediately north of VBTS and Conference Center, the revetment adjacent to The Cottages at Jekyll Island, and the revetment adjacent to residential homes from Tallu Fish Lane



southward to Thorne Lane. The latter area will for the most part require less extensive repairs than the first two. Some limited work may be called for in this area once the priority areas are satisfactorily addressed. The revetment adjacent to the undeveloped area lying between VBTS and The Cottages will be given a lower priority and only addressed after all areas adjacent to development have been satisfactorily addressed. Our USACE submission package, prepared by ATM, describes the current revetment conditions in quantitative detail. Prioritization decisions will proceed in response to these conditions as they relate to threatened properties and according to budget allocations, timing, and priority areas.

We would like to have the ability to potentially utilize a full six months from the start date to complete the revetment repair work. We understand of course that sea turtle nesting season commences May 1st. While we certainly will endeavor to have work completed before this date, we are seeking the flexibility to continue into Sea Turtle nesting season. As the operators of the Georgia Sea Turtle Center, we are very familiar with sea turtle nesting season monitoring data indicating that a nesting sea turtle “take” within the project area is extremely remote. Sea turtles have not been documented nesting within the project area vicinity for at least the past 10 years and our sea turtle monitoring efforts on Jekyll are more extensive than on any other island in coastal Georgia. False crawls do occasionally occur on the beach seaward of the revetment within the project area during nesting season. False crawls terminate at or below the seaward toe of the revetment on all but one documented occasion, believed to be extremely rare, when a sea turtle became trapped on the shoreward side of the revetment structure. To additionally mitigate the already extremely remote possibility of sea turtle interactions with this project, we propose that rock work on the seaward slope of the revetment be timed to occur with lower tides such that no seaward slope rock work would occur below water level. No night work will be conducted, between sunset and sunrise, when false-crawls are most likely to occur. While we do not think an observer is called for, and believe the cost and safety risk for deploying such a resource would be pointless given the extremely low risk of sea turtle encounter and other precautions described above, if required by regulatory authorities, an observer could be assigned to active areas of the work site and work could be stopped if a sea turtle were to be observed. If deemed necessary at all, this would perhaps only be called for within an hour of sunrise and sunset. Daytime sea turtle emergences outside of crepuscular hours are extremely rare.

If any additional supplemental information is required, please do not hesitate to request it, either of me or of our agents with ATM.

Best Regards,

Ben Carswell, Director of Conservation

Figure 1. Prospective vehicle access routes (yellow) and material staging areas (red). From left (north) to right (south), the access routes are named, Driftwood Beach, Old North Picnic Area, Villas South, and Albright Lane. Of these. The only prospective staging area that falls within SPA jurisdiction is the southernmost one, on the right side of the image at Oceanview Beach Park, where there is an existing parking lot.



Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair



Albright Lane area (Zone D) photo during a "king" tide, showing penetration of water landward of revetment where the crest is low (post-hurricane Matthew photo)

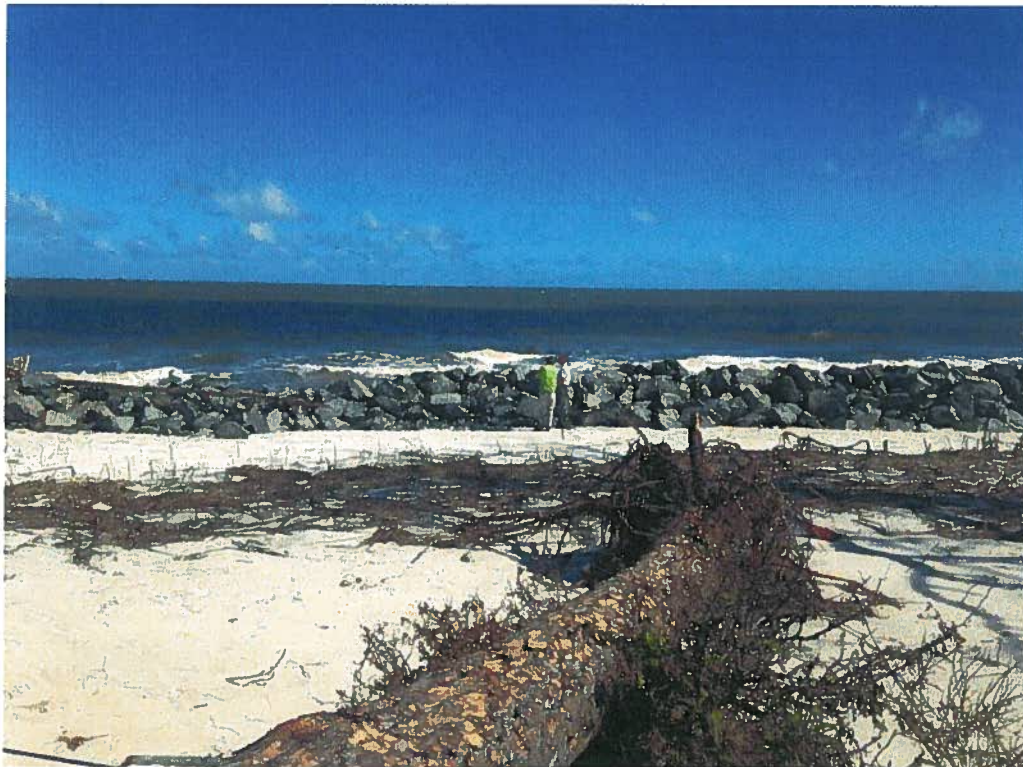


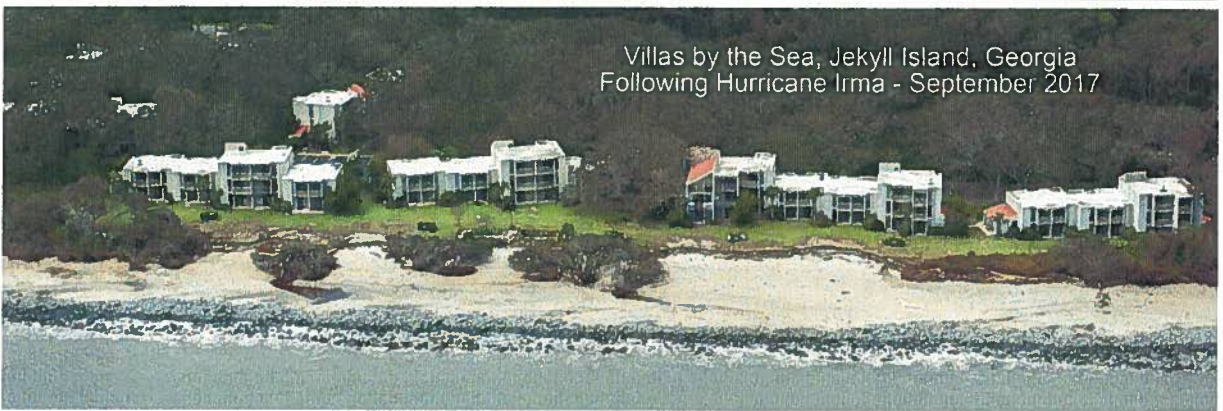
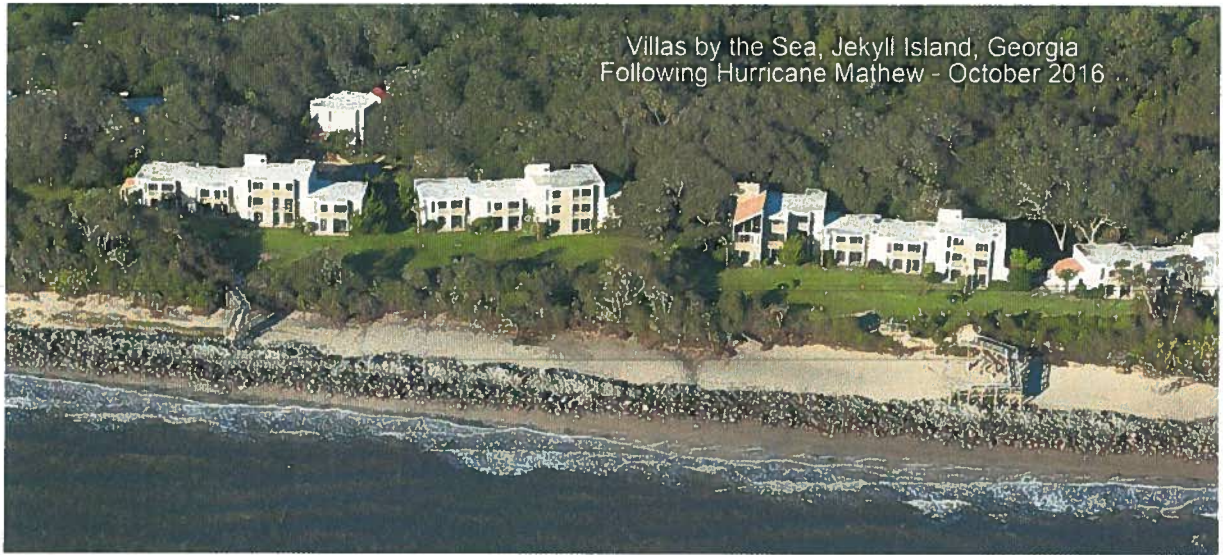
Photo showing uneven revetment crest elevation, with south (right) closer to original design versus low depression north (left)

Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair



Locally damaged revetment crest section with ponding landward of the structure (10/13/17). Water level ~ MHW (+2.6 NAVD88) at the time of the photo.

Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair



Villas By The Sea aerial comparison of Post-Matthew (top) and Post-Irma (bottom) upland erosion and dune/vegetation loss

Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair

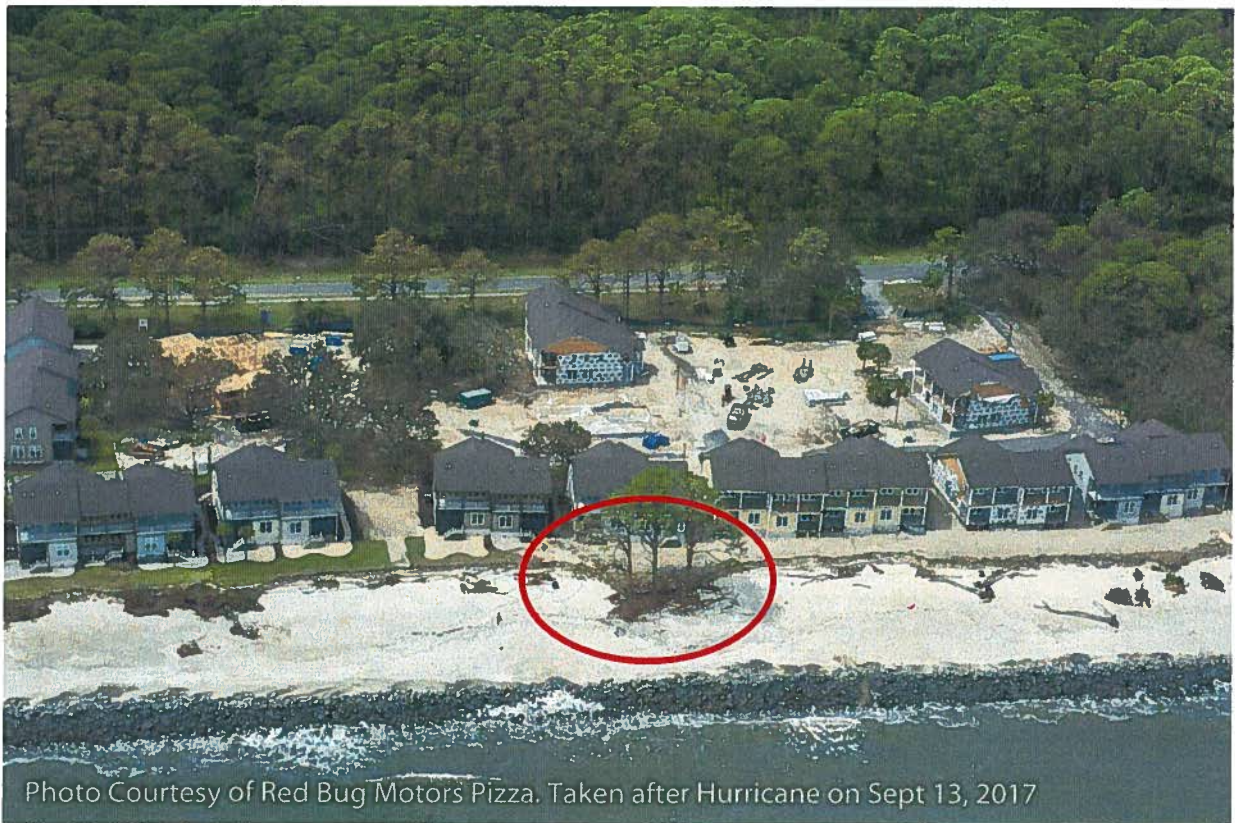
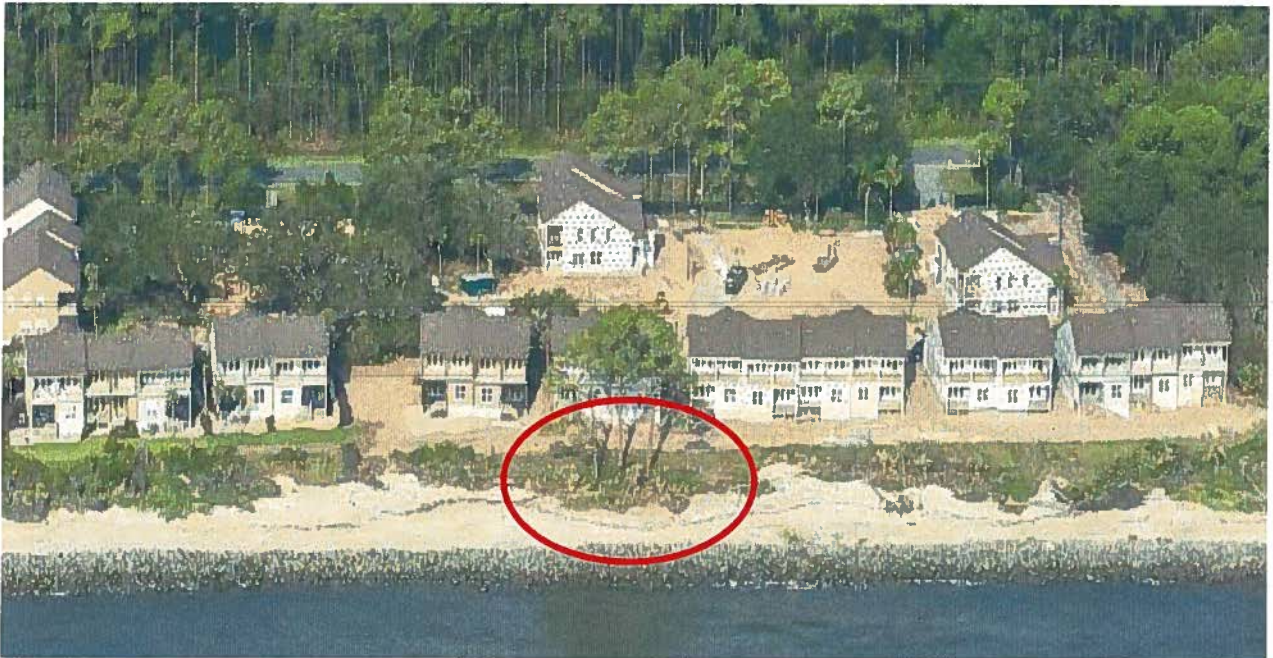


Photo Courtesy of Red Bug Motors Pizza. Taken after Hurricane on Sept 13, 2017

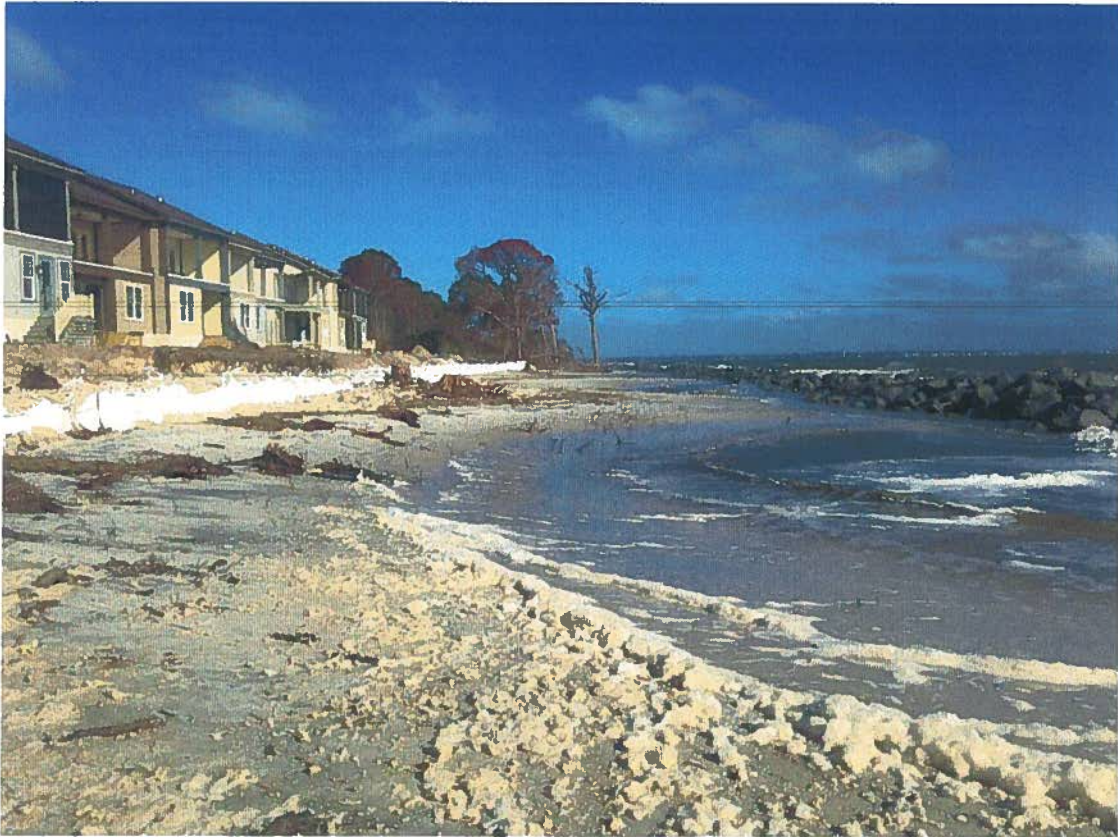
The Cottages aerial comparison of Post-Matthew (top) and Post-Irma (bottom) upland erosion and dune/vegetation loss. Note circled tree group for reference.

**Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair**



Typical revetment damage, scattered small stone, and dune/upland erosion post-Irma, Villas by the Sea (10/13/17)

**Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair**



Post-Irma conditions at The Cottages during a “king” tide (10/19/17). Erosion landward of the revetment is apparent along with temporary sandbag scarp stabilization measures.

Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair



Wave action overtopping a low section of existing revetment during a “king” tide (10/19/17). Note large percentage of small stone.

**Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair**



Photo of widely scattered small stone near north project limit (north of Villas by the Sea, south end of Driftwood Beach). Photo taken at low tide, 8/21/17

**Representative Site Photographs
Jekyll Island Revetment Maintenance and Repair**



Distribution of existing stone near north limit of revetment



Typical rock size distribution in a fair condition section of the revetment