



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
POST OFFICE BOX 4970
JACKSONVILLE, FLORIDA 32232

March 19, 2020

Regulatory Division
North Permits Branch
Jacksonville Permits Section

PUBLIC NOTICE

Permit Application Number SAJ-2012-02400 (MOD #2-TMM)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403) as described below:

APPLICANT: St. Augustine Port, Waterway, and Beach District
c/o Mrs. Elyse Kemper
3670 US 1 South, Suite 290
St. Augustine, Florida 32086

WATERWAY AND LOCATION: The proposed project site is located within portions of the Summer Haven River and between Florida Department of Environmental Protection (DEP) beach range (R) monuments R-200 and R-208.5 along the beach shoreline and in the navigable waters of the Atlantic Ocean. The beach nourishment project area is parallel to the Old State Road A1A right-of-way, within the Pedro Menendez Land Grant, in all or portions of Section 24, 30 31, 38, and 49, Township 9 South, Range 31 East, Summer Haven, St. Johns County, Florida.

Directions to the site is as follows: From north of the Project Area at the intersection of State Road (SR) 206 and A1A, drive around 6 miles south. The project lies to the east within the Summer Haven River and along the Atlantic Ocean shoreline.

APPROXIMATE CENTRAL COORDINATES: Latitude: 29.694063°
Longitude: -81.222923°

PROJECT PURPOSE:

Basic: The basic project purpose is river restoration and shoreline protection.

Overall: The overall project purpose is to restore the Summer Haven River and stabilize the shoreline along the Atlantic Ocean in Summer Haven, Florida.

EXISTING CONDITIONS: The Summer Haven River is a brackish water river that has fringes of mangroves along the banks and within sloughs bordering the river. It has

beach sand built up from beach front washouts during heavy storms creating a shallow system.

The beach ecological community found within the Project Area at Summer Haven occupies approximately 30 acres. The beach is constantly affected by wave and tidal action. No vegetation occurs apart from that which is washed ashore as part of the daily tide cycle. The material is composed of fine and coarse sand and shell fragments and is subject to wind and water erosion. This location has a history of severe erosion and is identified as “Critically Eroded Beach” in the DEP Bureau of Beaches and Coastal Systems, *Strategic Beach Management Plan for the Northeast Atlantic Coast Region* (2008).

Limited dunes are found at the site. Vegetation is found on the dunes, sparsely populated, from R-205 south to R-208. Vegetation species include sea-oats (*Uniola paniculata*), dune sunflower (*Helianthus debilis*), sea purslane (*Portulaca oleracea*), railroad vine (*Ipomoea pescaprae*), and shoreline seapurslane (*Sesuvium portulacastrum*). From R-205 north to R-202 solely sand exists on the beach front. From R-202 – R-203 there are mangroves west of the houses along the Summer Haven River.

From R-200 through R-202 there is a narrow strand of beach front with no vegetation and no homes. From R-202 through R-208.5 there are approximately 25 houses from the intersection of A1A Scenic and Historic Coastal Byway and Old A1A. Access to the houses is available by turning north on Old A1A from the intersection of A1A and Old A1A. In December 2010 the road was visible from Old A1A north to R-205. Today, the road is completely covered with beach sand. From R-205 north to R-200, the road is now completely gone.

PROJECT HISTORY: At the time the permit was issued on November 24, 2014, the Summer Haven River was full of sand washed out from the adjacent beach front. Work was scheduled to begin on November 1, 2016 to dredge the Summer Haven River and place the dredge material on the beach from R-200 to R-202. However, in October 2016, Hurricane Matthew hit the area and sand washed back into the river. Hurricane Matthew also caused a breach in the beach just south of R-204 connecting the ocean to the Summer Haven River. An emergency permit SAJ-2016-03083 was approved to install a geotube across the Summer Haven River to temporarily close off the tidal flow to the river and enable construction to remove the sand from the river, and place it back on the beach at the place of the breach. Dredging of the Summer Haven River began and the material was placed on the beach between R-200 and R-202 for renourishment and protection of the local beach front home sites. The project was nearly 100% complete when Hurricane Irma caused severe damage in early September 2017, completely leveling the berm and dune work along the beach front. Additionally, the newly placed beach sand south of R-204 at the Matthew breach location eroded into the Atlantic Ocean. The storm also caused severe damage immediately south of the permitted Summer Haven River dredge template in a new overwash area. Following Hurricane Irma, the St. Augustine Port, Waterway, and Beach District spent remaining

construction funds on excavation of as much material as possible from the authorized dredge template within the Summer Haven River channel; however, insufficient funds prohibited completion of the project. The severe overwash into the south end of the river has restricted flow into the river and has resulted in additional infilling of the channel. According to the applicant, maintenance dredging is required to maintain tidal flow such that the river does not completely close off to flow. In early September 2019, Hurricane Dorian brought winds, rain and storm surge to the northeast Florida coast pushing beach sand into the river.

PROPOSED WORK: St. Augustine Port, Waterway and Beach District has requested the following modifications to the Department of the Army permit SAJ-2012-02400:

a. **Timeframe Extension of 2 Years:** The applicant seeks authorization to extend the timeframe of the original permit by 2 years to March 1, 2022. Work would continue on dredging the Summer Haven River template per drawings from the 2016 Modification #1 (reference Figures C1-C10). It would also continue to allow placement of sand on the adjacent beach, as per the regulations in the original permit, as modified in 2016 (reference Figures C-11-C16). The timeframe extension would allow completion of the original project, which would allow dredging of 40,000-cubic-yards still remaining.

b. **Boundary Expansion:** The applicant seeks authorization to expand the dredge footprint a span of 0.26 miles to the south of the current southern boundary of the dredge template (reference Figure 2, 2019 Conditions (Con't) Summer Haven River Restoration). This area encompasses the river from 0+00 of the current boundary south to the point on the map labeled Coastal Construction Control Line (CCCL) west of the beach front between R-205 – R.205.5. Sand has overwashed into the river in this area and dredge work aims to remove 130,000-cubic-yards to continue to restore the river and some of the dredge work has already started. Dredging in this area will help water flow from the confluence of Pellicer Creek with the Intracoastal Waterway where it flows under A1A and north through the Summer Haven River. Post Hurricane Irma, the river was clogged with washout from the beach. Approximate shoal depths above template are found in Figure 2, 2019 Conditions (Con't) Summer Haven River Restoration.

c. **Maintenance Dredging:** The applicant seeks authorization to dredge on an as needed basis pending impacts from storm events. The maintenance would occur throughout the 2016 approved boundary and depths as well as the new expanded boundary to the south (reference Figure 1). The current available dredge volumes are found in figure 2019 Conditions Summer Haven River Restoration. The dredge footprint, as modified in 2016, is the Summer Haven River west of R-199, as signified with 55+00 to just south of R-205 (reference 2019 Conditions Summer Haven River Restoration Map). The maximum depths of the dredge areas range from 2-feet to 6-feet and are found in Figures C1 – C10, enclosed.

AVOIDANCE AND MINIMIZATION INFORMATION: The applicant formerly indicated that the “no action” alternative would likely result in continued beach erosion into the river, preventing the completion of the Summer Haven River restoration project. The

applicant further indicated that any reduction in the scope of work could prevent the attainment of project goals.

COMPENSATORY MITIGATION: The work would not adversely affect dune or aquatic habitats. Therefore, the applicant previously expressed an opinion that mitigation for the work proposed is not warranted.

CULTURAL RESOURCES: The Corps is not aware of any known historic properties within the beach fill template or the Summer Haven River dredge template. By copy of this public notice, the Corps is providing information for review. Our final determination relative to historic resource impacts is subject to review by and coordination with the State Historic Preservation Office and those federally recognized tribes with concerns in Florida and the permit area.

ENDANGERED SPECIES: The Corps has determined the proposed project may have the following effects on the below mentioned species or their designated critical habitat. The Corps will request U.S. Fish and Wildlife/National Marine Fisheries Service concurrence with these determinations pursuant to Section 7 of the Endangered Species Act.

Table 1. Endangered Species Determinations

Species/Critical Habitat	Status*	Agency*	Biological Opinion*	Covered Under Biological Opinion	Corps Initial Determination*
Manatee (<i>Trichechus manatus</i>)	T	USFWS	SPBO	Yes	MANLAA
Eastern Indigo Snake (<i>Drymarchon couperi</i>)	T	USFWS	Eastern Indigo Snake Key	Yes	NLAA
Florida Scrub Jay (<i>Aphelocoma coerulescens</i>)	T	USFWS	N/A	N/A	No effect
Sea Turtles Nesting:					
Loggerhead (<i>Caretta caretta</i>)	T	USFWS	SPBO	Yes	MANLAA
Green (<i>Chelonia mydas</i>)	T	USFWS	SPBO	Yes	MANLAA
Kemp's Ridley (<i>Lepidochelys kempi</i>)	E	USFWS	SPBO	Yes	MANLAA
Leatherback (<i>Dermochelys coriacea</i>)	E	USFWS	SPBO	Yes	MANLAA
Hawksbill (<i>Eretmochelys imbricata</i>)	E	USFWS	SPBO	Yes	MANLAA
Loggerhead Sea Turtle Critical terrestrial Habitat Unit LOGG-T-FL-03		USFWS	SPBO	Yes	NLAM

Piping Plover (<i>Charadrius melodus</i>)	T	USFWS	P3BO	Yes	MANLAA
Rufa Red knot (<i>Calidris canutus rufa</i>)	T	USFWS	P3BO	Yes	MANLAA
North Atlantic Right Whale	E	NMFS	SARBO	Yes	No Effect
North Atlantic Right Whale Critical Habitat Unit 2					NLAM
Sea Turtles Swimming:					
Green (<i>Chelonia mydas</i>);	T	NMFS	SARBO/ JAXBO	Yes	MANLAA
Kemp's Ridley (<i>Lepidochelys kempi</i>);	E	NMFS	SARBO/ JAXBO	Yes	MANLAA
Leatherback (<i>Dermochelys coriacea</i>);	E	NMFS	SARBO/ JAXBO	Yes	MANLAA
Loggerhead (<i>Caretta caretta</i>);	T	NMFS	SARBO/ JAXBO	Yes	MANLAA
Hawksbill (<i>Eretmochelys imbricata</i>)	E	NMFS	SARBO/ JAXBO	Yes	MANLAA
Loggerhead Sea Turtle Neritic Habitat Unit LOGG-N-15		NMFS	SARBO/ JAXBO	Yes	NLAM
Atlantic sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>)	E	NMFS	SARBO/ JAXBO	No	MANLAA
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	E	NMFS	SARBO/ JAXBO	Yes	MANLAA
Smalltooth Sawfish (<i>Pristis pectinata</i>)	E	NMFS	SARBO/ JAXBO	No	MANLAA

***Key:**

NMFS: National Marine Fisheries Service

USFWS: United States Fish and Wildlife Service

T: Federal Listing Status Threatened

E: Federal Listing Status Endangered

SPBO: Statewide Programmatic Biological Opinion 2015

SARBO: South Atlantic Region Biological Opinion 1997

P3BO: Piping Plover Programmatic Biological Opinion

MANLAA: May Affect, Not Likely to Adversely Affect

MALAA: May Affect, Likely to Adversely Affect

NLAM: Not Likely to Adversely Modify

NE: No Effect

ESSENTIAL FISH HABITAT (EFH):

This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 33.3 acres of estuarine habitats utilized by various life stages of shrimp (*Farfantepenaeus spp.*, *Penaeus spp.*, and/or *Litopenaeus spp.*), snapper (*Lutjanus spp.*), and grouper (*Mycteroperca spp.* and/or *Epinephelus*

spp.) as well as 1.58 miles of nearshore habitat within the Atlantic Ocean. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Summer Haven River. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The Corps has verified the extent of Federal jurisdiction.

AUTHORIZATION FROM OTHER AGENCIES: Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Jacksonville Permits Section within 21 days from the date of this notice. For electronic mail (preferred) submit comments to Terri.M.Mashour@usace.army.mil. For standard mail submit comments to Post Office Box 4970, Jacksonville, Florida 32232. Please reference this permit number, SAJ- 2012-02400 (MOD-TMM), on all submittals.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

QUESTIONS concerning this application should be directed to the project manager, Terri Mashour by electronic mail at Terri.M.Mashour@usace.army.mil or by telephone at (904) 570-5412.

IMPACT ON NATURAL RESOURCES: Preliminary review of this application indicates that an Environmental Impact Statement will not be required. Coordination with USFWS, Environmental Protection Agency (EPA), the NMFS, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action would have on the natural resources of the area. By means of this notice, we are soliciting comments on the potential effects of the project on threatened or endangered species or their habitat.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative

impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act of the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

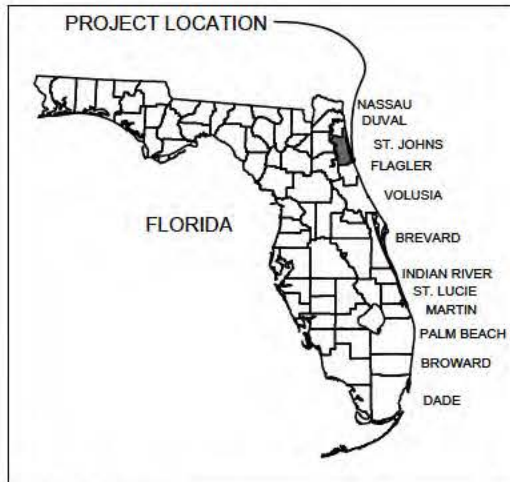
The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

COASTAL ZONE MANAGEMENT CONSISTENCY: In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board, in the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

SUMMER HAVEN RIVER RESTORATION

ST. JOHNS COUNTY, FLORIDA



LOCATION MAP
N.T.S.

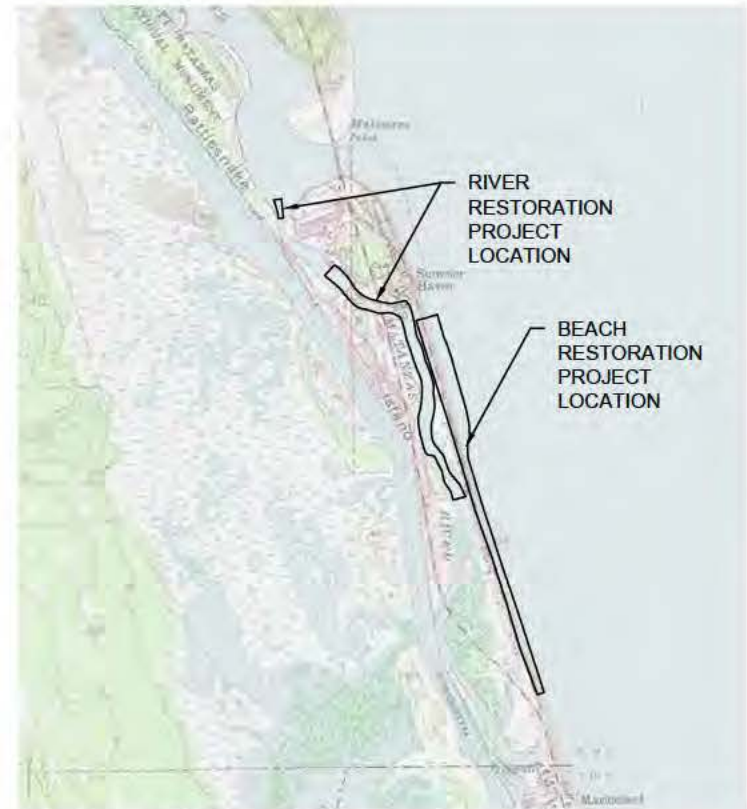
Call (2) Business Days Before you Dig. It's the Law!!!



Sunshine State
One Call of Florida, Inc.
1-800-432-4770

DRAWING INDEX

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VICINITY MAP
1" = 4,000'

REFERENCE:
USGS 7.5' QUADRANGLE MAP,
MATANZAS INLET, FLORIDA, REVISED 1992
DINNER ISLAND NE, FLORIDA, REVISED 1992



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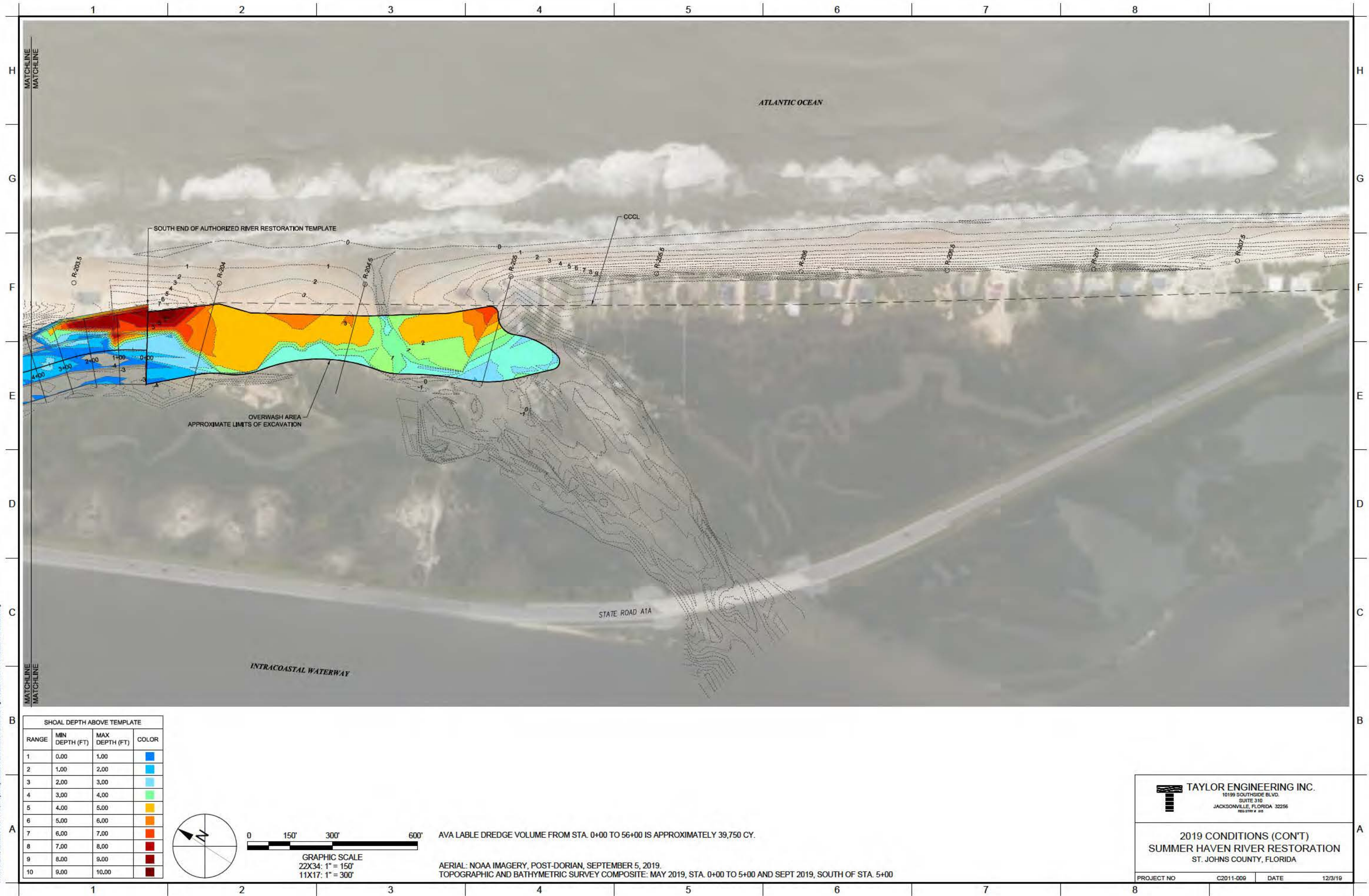
10151 DEERWOOD PARK BLVD.
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JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-1
TITLE SHEET
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

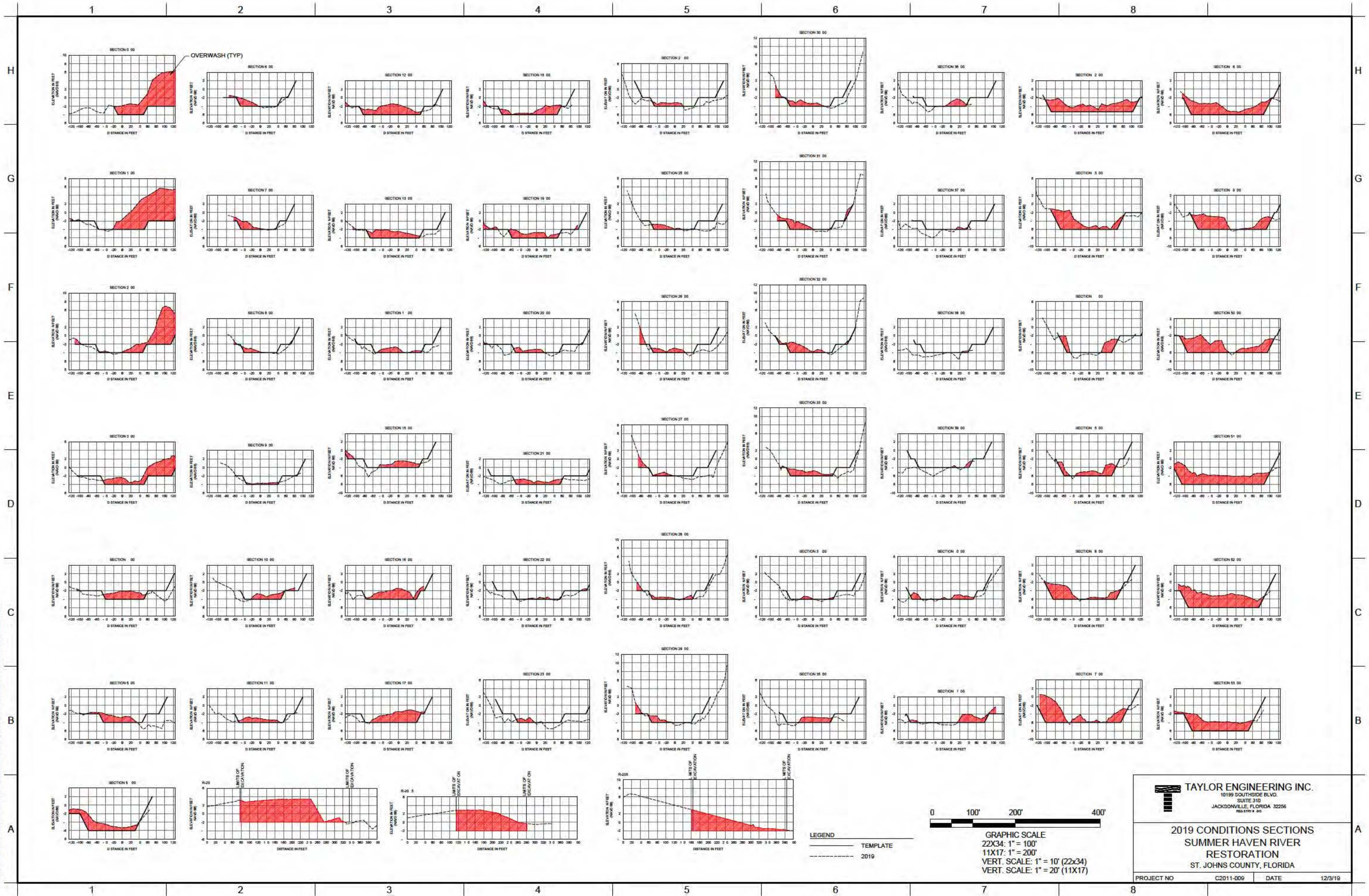
PROJECT	C2011-009
DRAWN BY	AF
SHEET	1 of 18
DATE	MAY 2016

SEAL	
MICHAEL E. TRUDNAK P.E.# 56200	DATE

CATHY SHELL, 12/2/2019 3:50:11 PM, X:\sys\Projects\2011008 Summer Haven River Figures\2011008-F-Vol June 2019 w Sections.dwg



CATHY SHELL, 12/20/2019 3:50:14 PM, X:\Projects\2019\Summer Haven River\Figures\2019\1009-F-Vol 2\2019 Sections.dwg



GENERAL NOTES - RIVER RESTORATION

1. ALL ELEVATIONS REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
2. ALL COORDINATES REFERENCE STATE PLANE FLORIDA EAST NAD 83.
3. THE CONTRACTOR WILL MINIMIZE ANY TEMPORAL IMPACT TO SALT MARSH OR OTHER NATURAL COMMUNITIES. PIPELINE ACCESS ROUTES AND STAGING AREAS WILL AVOID VEGETATION OR NATURAL AREAS TO THE MAXIMUM EXTENT POSSIBLE.



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FIGURE C-3
RIVER RESTORATION NOTES AND KEY MAP
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	3 of 18
DATE	MAY 2016

SEAL

MICHAEL E. TRUDNAK P.E.# 56200

DATE

GENERAL NOTES - BEACH RESTORATION:

1. ALL ELEVATIONS REFERENCE THE 1988 NORTH AMERICAN VERTICAL DATUM (NAVD 88).
2. ALL COORDINATES REFERENCE STATE PLANE FLORIDA EAST NAD 83.
3. EXISTING BEACH GRADE SURVEYED MARCH 2011 (BETWEEN R-200 AND R-201) AND JANUARY 2011 (R-201 TO R-202).
4. CONSTRUCTION TEMPLATE DESIGNED WITH THE FOLLOWING FEATURES

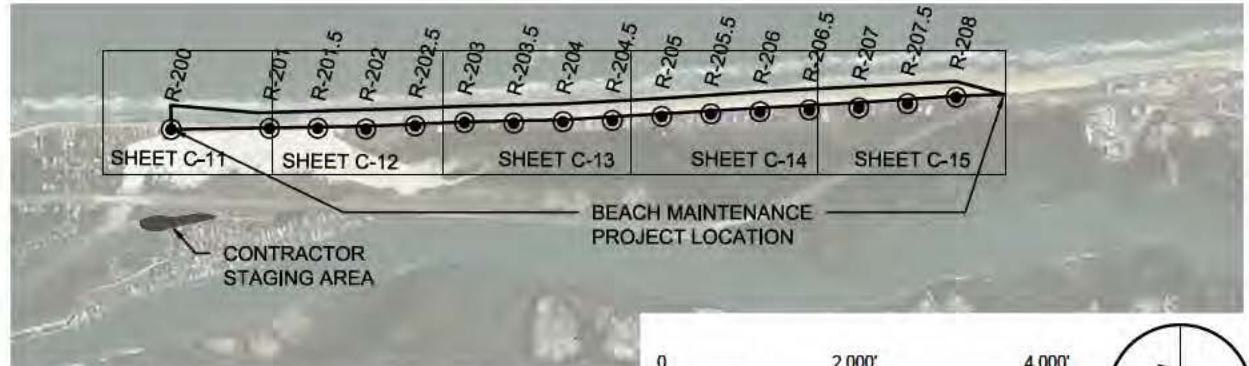
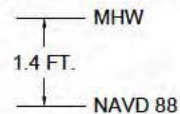
Design Feature		R-200 to R-202.5 (Northern Reach)	R-203 to R-208.5 (Southern Reach)
Dune	Elevation	12 ft NAVD	12 ft NAVD
	Crest Width	20 ft	20 ft
	Seaward Slope	1V:4H	1V:4H
	Landward Slope	1V:3H	1V:4H
Back Berm	Elevation	8 ft NAVD	N/A
	Width	R-200: 70 ft R-201: 80 ft R-202: 45 ft	N/A
	Seaward Slope	1V:10H	N/A
	Landward Slope	1V:10H	N/A
Berm	Width	110 ft	50 ft
	Slope	Flat	1V:50H
	Elevation	5.5 ft NAVD	8 ft to 7 ft NAVD
	Seaward Slope	1V:20H	1V:10H

5. DUNE RESTORATION INCLUDES ONE REACH EXTENDING FROM FDEP REFERENCE MONUMENT R-200 TO R-208.5. CONTRACTOR SHALL CONSTRUCT THE FILL FROM NORTH TO SOUTH. PLACEMENT OF FILL SOUTH OF R-204 WILL DEPEND ON THE VOLUME OF BEACH COMPATIBLE FILL MATERIAL OBTAINED FROM EXCAVATION OF SUMMER HAVEN RIVER.
6. THE CONTRACTOR WILL MINIMIZE ANY TEMPORAL IMPACT TO SALTMARSH OR OTHER NATURAL COMMUNITIES. PIPELINE ACCESS ROUTES AND STAGING AREAS WILL AVOID VEGETATION OR NATURAL AREAS TO THE MAXIMUM EXTENT POSSIBLE.

MONUMENT TABLE

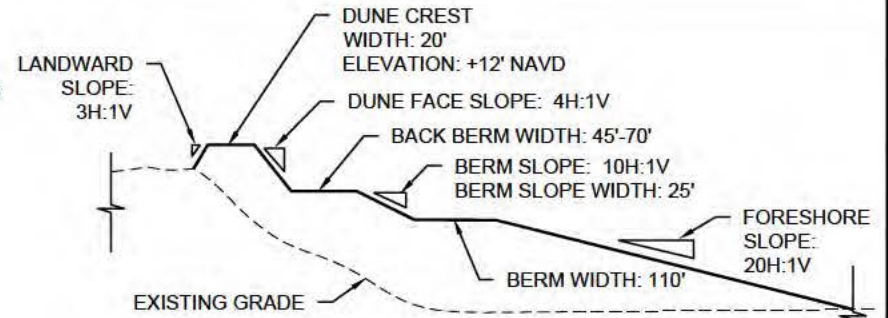
MONUMENT	EASTING	NORTHING
R-200	585423.63	1949506.53
R-201	585698.55	1948519.31
R-201.5	585830.24	1948034.41
R-202	585951.47	1947547.21
R-202.5	586117.06	1947060.17
R-203	586283.60	1946573.17
R-203.5	586410.91	1946075.90
R-204	586557.22	1945584.19
R-204.5	586702.56	1945090.82
R-205	586876.45	1944605.53
R-205.5	587034.35	1944117.03
R-206	587187.97	1943631.04
R-206.5	587341.04	1943138.24
R-207	587493.79	1942645.23
R-207.5	587668.63	1942167.28
R-208	587862.80	1941694.21

DATUM REFERENCE:



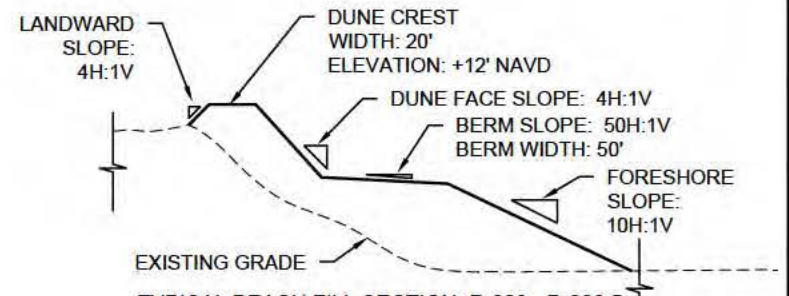
AERIAL REFERENCE:

AERIAL OBTAINED FROM GOOGLE EARTH, DATED 2014.
AERIAL REFERENCE SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



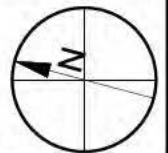
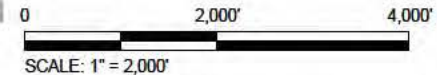
TYPICAL BEACH FILL SECTION: R-200 - R-202.5

NOT TO SCALE



TYPICAL BEACH FILL SECTION: R-203 - R-208.5

NOT TO SCALE



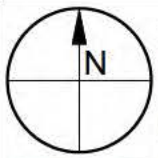
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CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-4
BEACH RESTORATION NOTES AND KEY MAP
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	4 of 18
DATE	MAY 2016

SEAL	
MICHAEL E. TRUDNAK P.E.# 58200	DATE



LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: GOOGLE EARTH, 2014

0 200' 400'

SCALE: 1" = 200'



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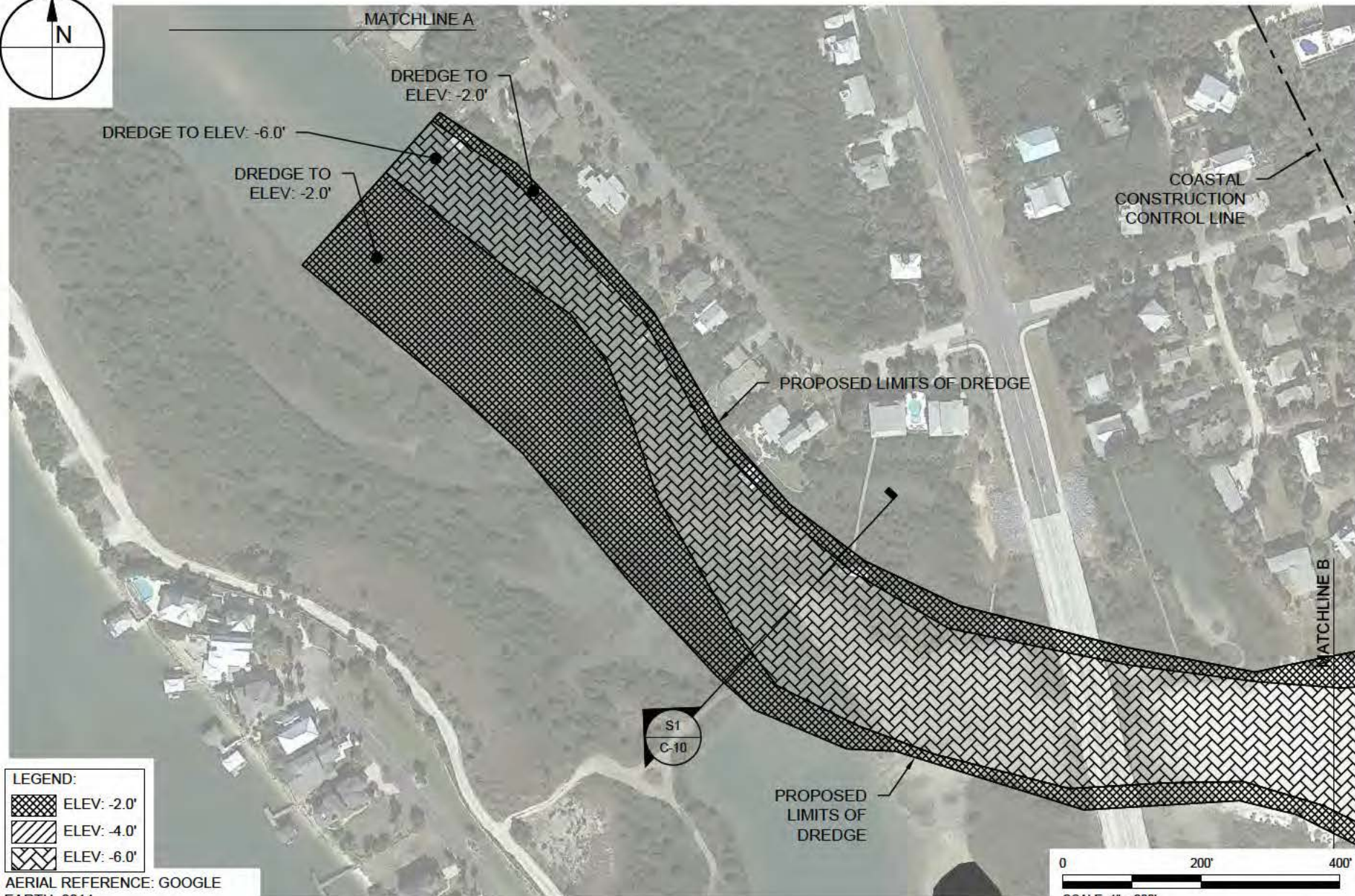
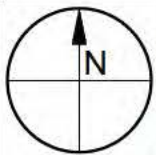
FIGURE C-5
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	5 of 18
DATE	MAY 2016

SEAL

MICHAEL E. TRUDNAK P.E.# 56200

DATE



LEGEND:

	ELEV: -2.0'
	ELEV: -4.0'
	ELEV: -6.0'

AERIAL REFERENCE: GOOGLE EARTH, 2014



TAYLOR ENGINEERING INC.

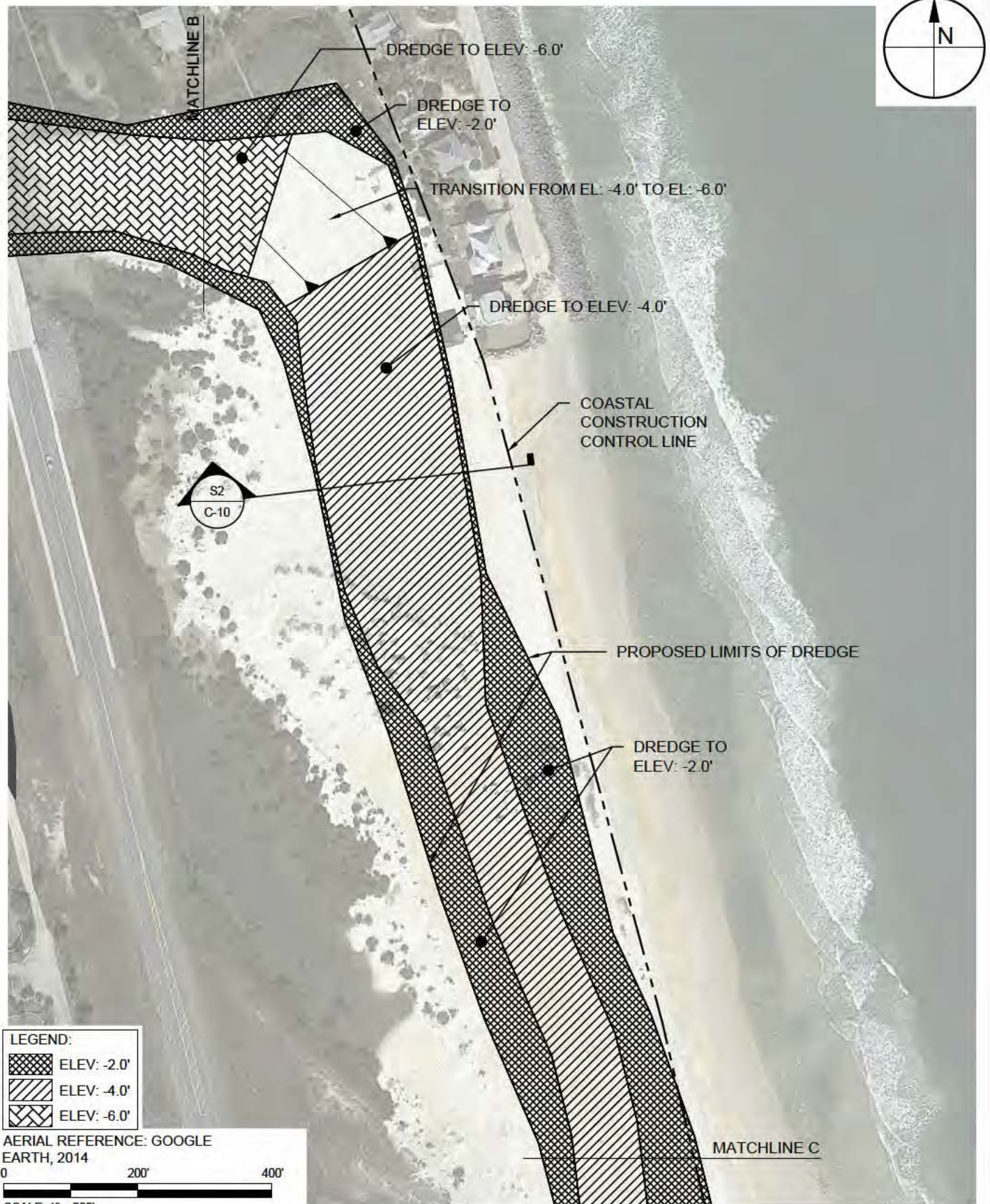
10151 DEERWOOD PARK BLVD.
BLDG. 300, SUITE 300
JACKSONVILLE, FL 32256
CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-6
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
DRAWN BY	AF
SHEET	6 of 18
DATE	MAY 2016

SEAL	
MICHAEL E. TRUDNAK P.E.# 56200	DATE

C:\HYDRO\PROJECTS\2011-009 SUMMER HAVEN RIVER RESTORATION\2011-009-F RIVER PLANS.DWG 6/15/2016 8:56:11 AM



LEGEND:

	ELEV. -2.0'
	ELEV. -4.0'
	ELEV. -6.0'

AERIAL REFERENCE: GOOGLE EARTH, 2014

0 200' 400'

SCALE: 1" = 200'



TAYLOR ENGINEERING INC.

10151 DEERWOOD PARK BLVD.

BLDG. 300, SUITE 300

JACKSONVILLE, FL 32256

CERTIFICATE OF AUTHORIZATION # 4815

FIGURE C-7
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	DRAWN BY	SHEET	DATE
C2011-009	AF	7 of 18	MAY 2016

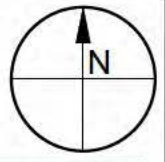
SEAL

••

MICHAEL E. TRUDNAK P.E.# 58200

DATE

PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.



MATCHLINE C



PROPOSED LIMITS OF DREDGE

COASTAL
CONSTRUCTION
CONTROL LINE

DREDGE TO
ELEV: -2.0'

DREDGE TO ELEV: -4.0'

MATCHLINE D

LEGEND:

-  ELEV: -2.0'
-  ELEV: -4.0'
-  ELEV: -6.0'

AERIAL REFERENCE: GOOGLE
EARTH, 2014

0 200' 400'

SCALE: 1" = 200'



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FIGURE C-8
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009	DRAWN BY	AF	SHEET	8 of 18	DATE	MAY 2016
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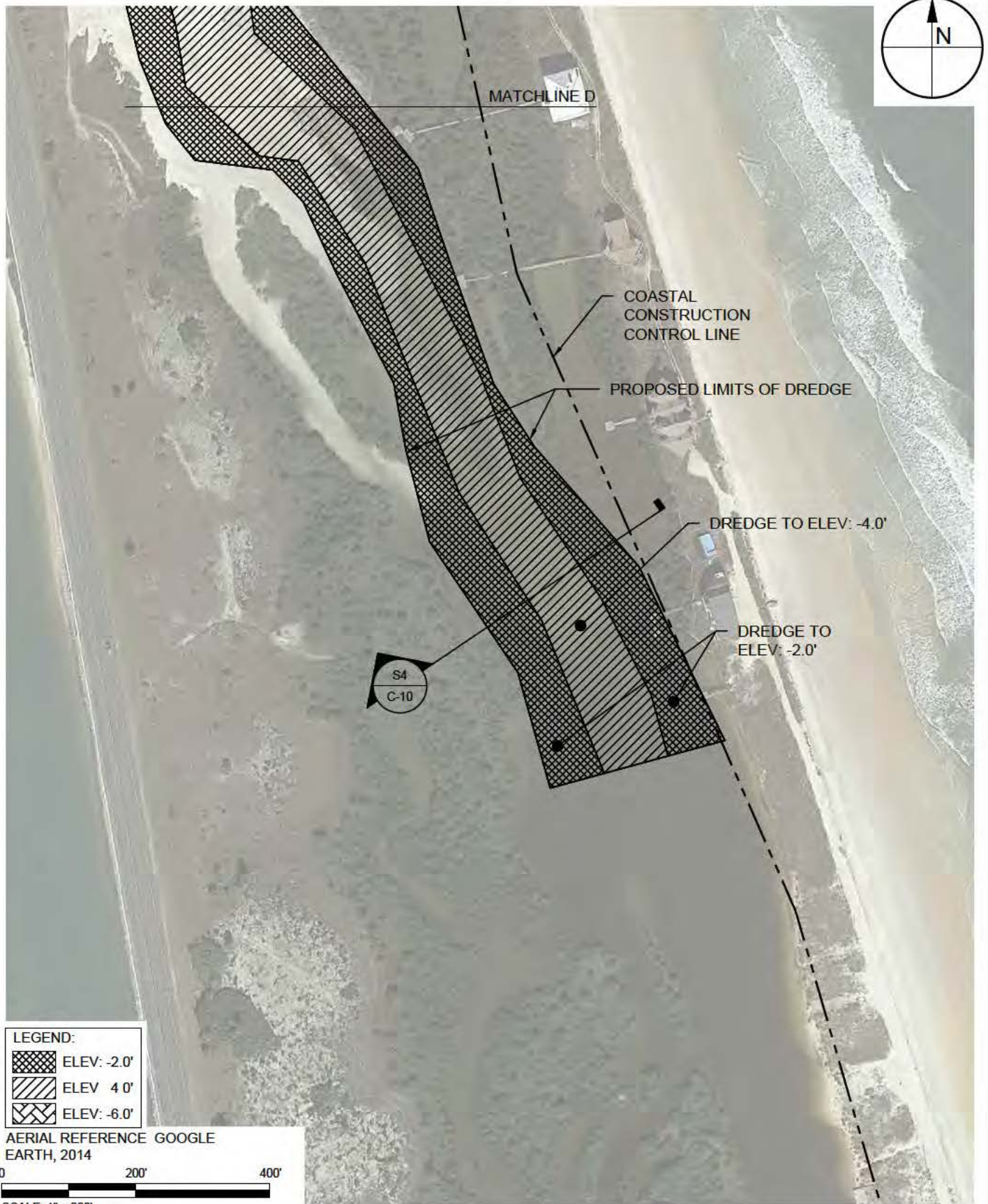
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FIGURE C-9
RIVER RESTORATION PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009	DRAWN BY	AF	SHEET	9 of 18	DATE	MAY 2016
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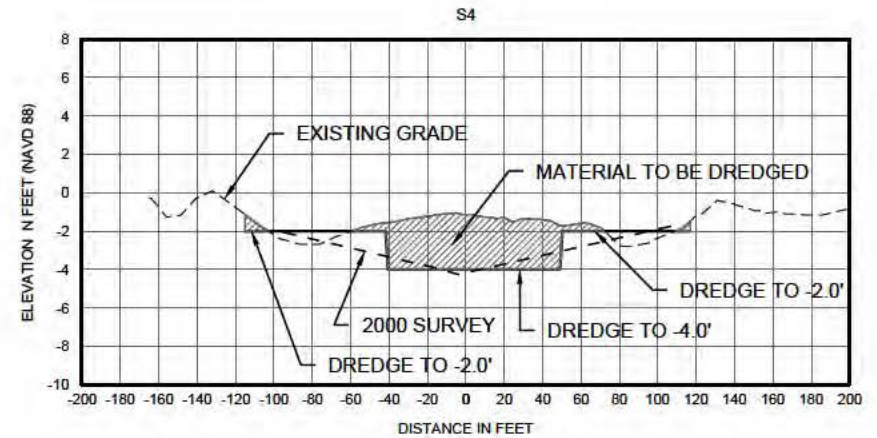
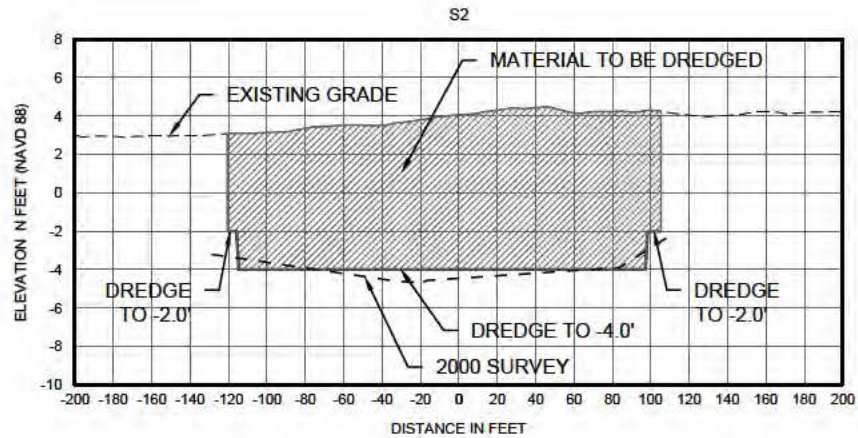
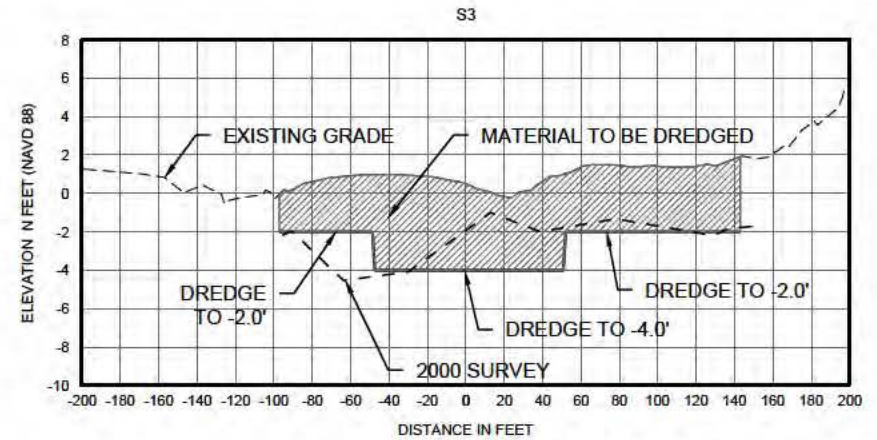
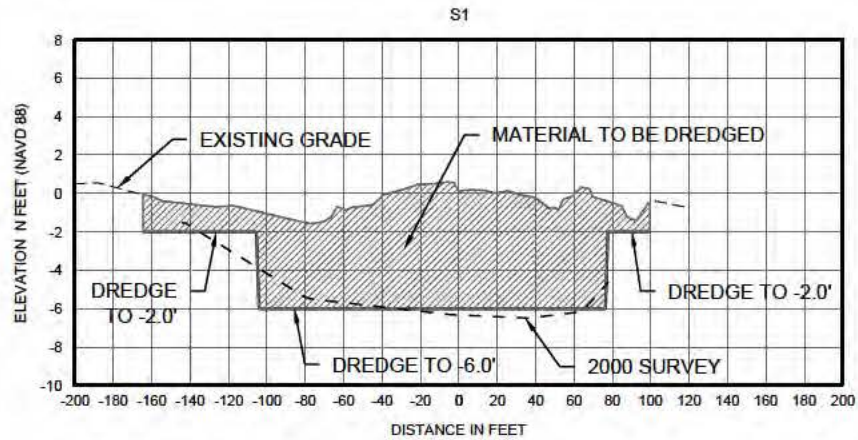
SEAL

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PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.

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PROPOSED RIVER DREDGE SECTIONS

SCALE: 1" = 100'
V-SCALE: 1" = 10'



APPROXIMATE DREDGE VOLUME: 216,443 CUBIC YARDS



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FIGURE C-10
RIVER SECTIONS
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

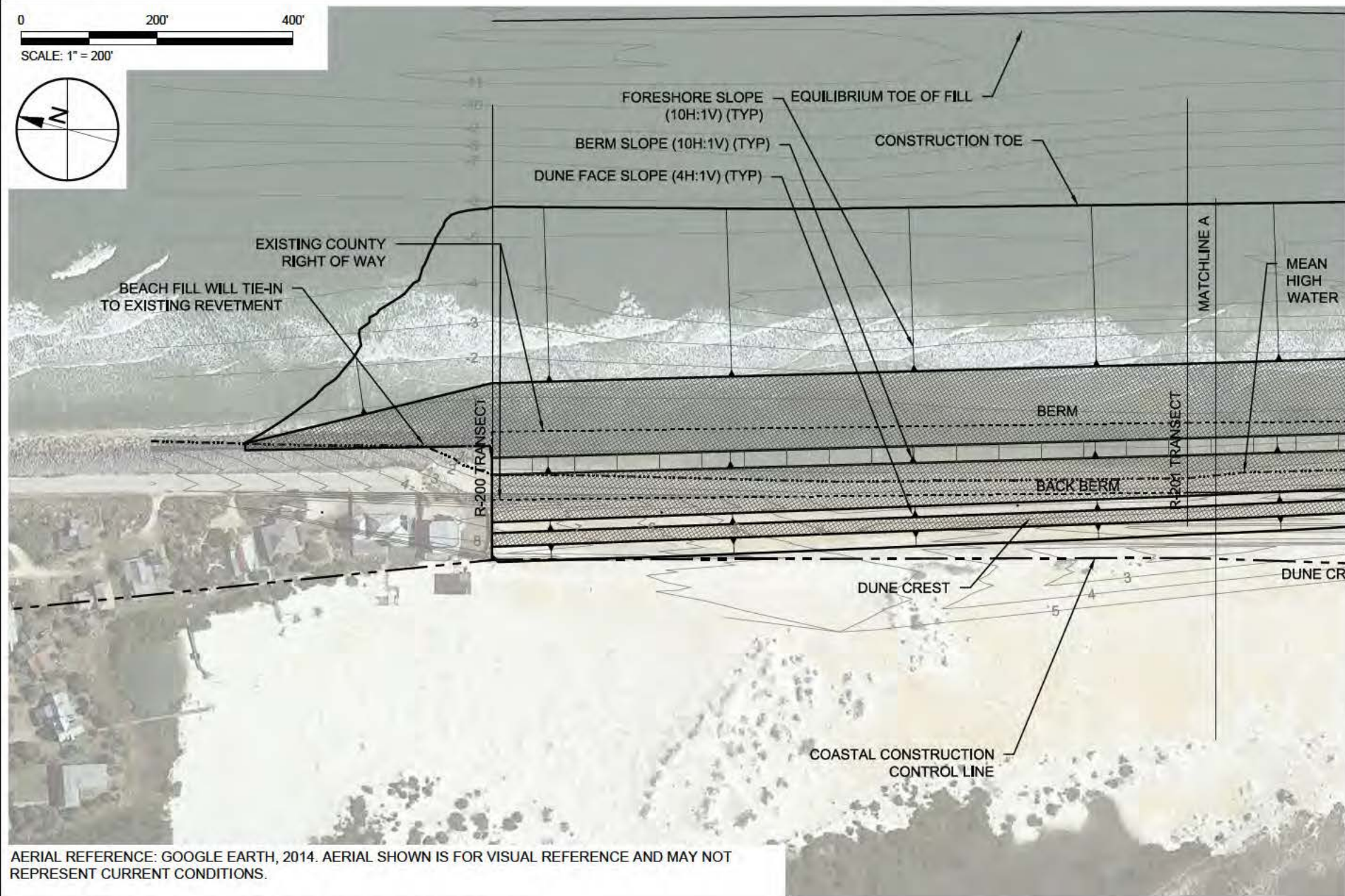
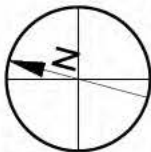
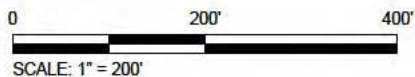
PROJECT	C2011-009
DRAWN BY	AF
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DATE	MAY 2016

SEAL

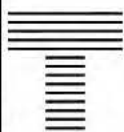
MICHAEL E. TRUDNAK P.E.# 56200

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AERIAL REFERENCE: GOOGLE EARTH, 2014. AERIAL SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



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FIGURE C-11
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
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DATE	MAY 2016

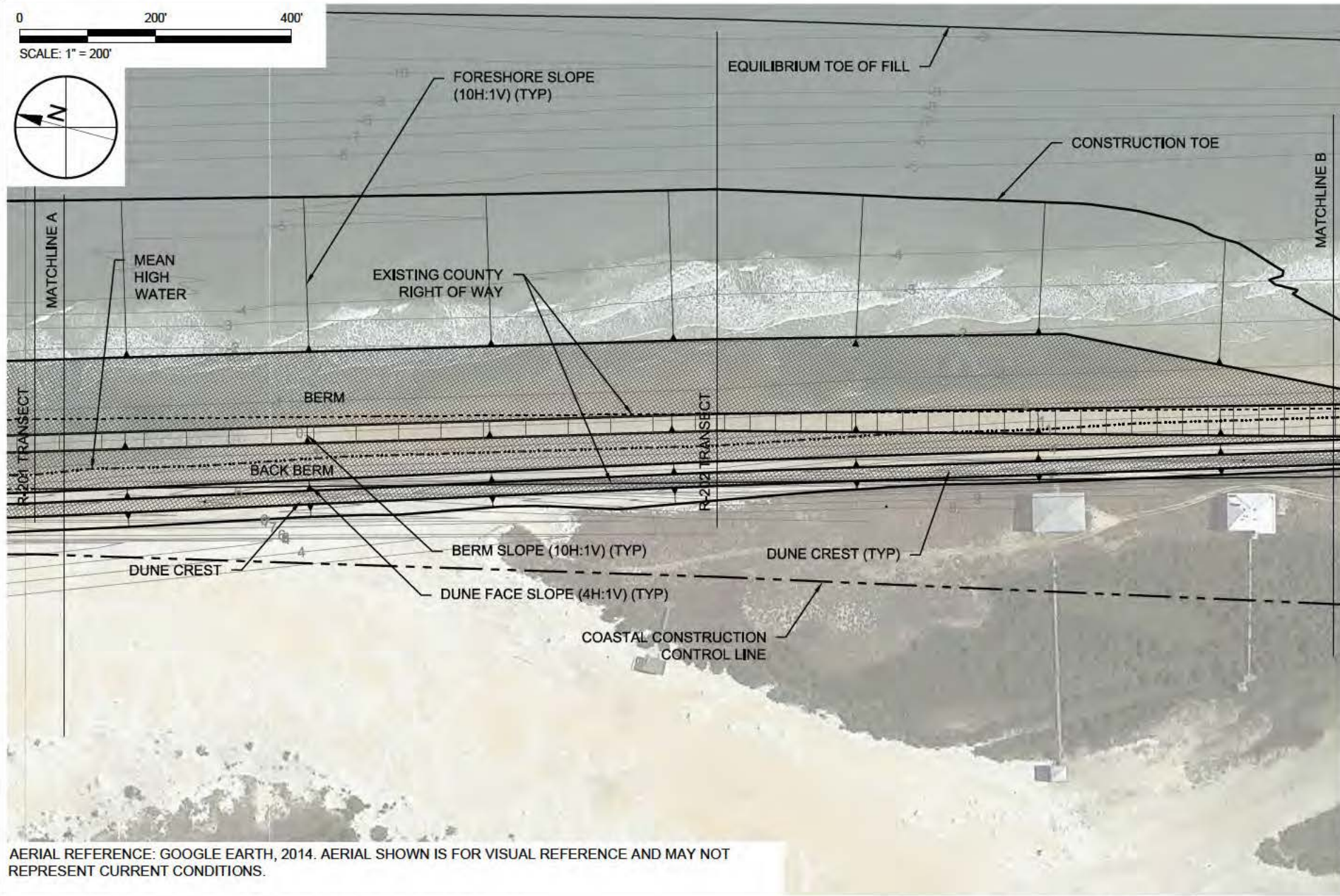
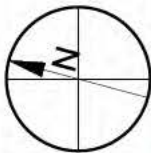
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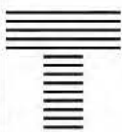
DATE

0 200' 400'

SCALE: 1" = 200'



AERIAL REFERENCE: GOOGLE EARTH, 2014. AERIAL SHOWN IS FOR VISUAL REFERENCE AND MAY NOT REPRESENT CURRENT CONDITIONS.



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FIGURE C-12
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

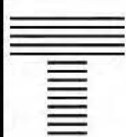
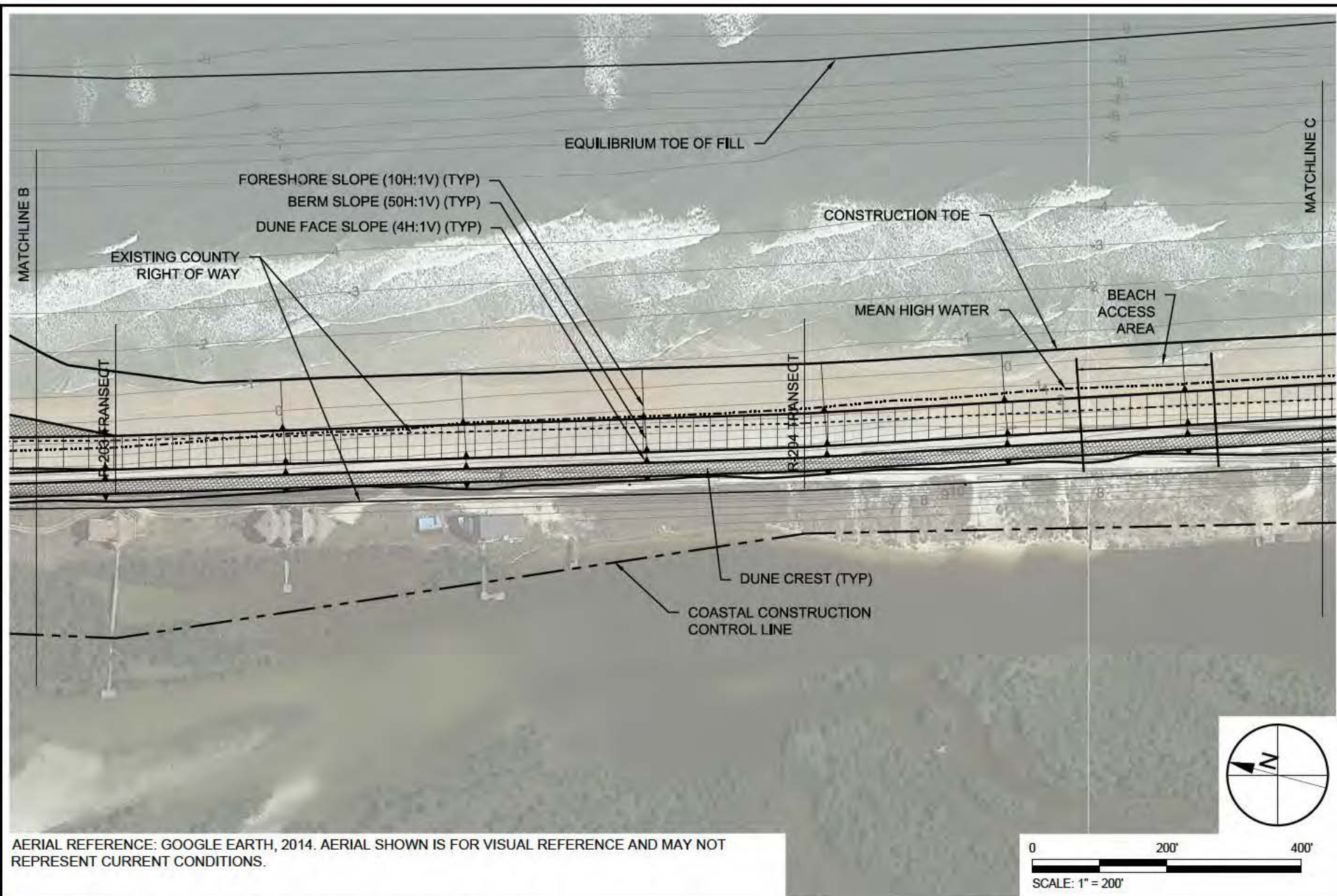
PROJECT	C2011-009
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SHEET	12 of 18
DATE	MAY 2016

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FIGURE C-13
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

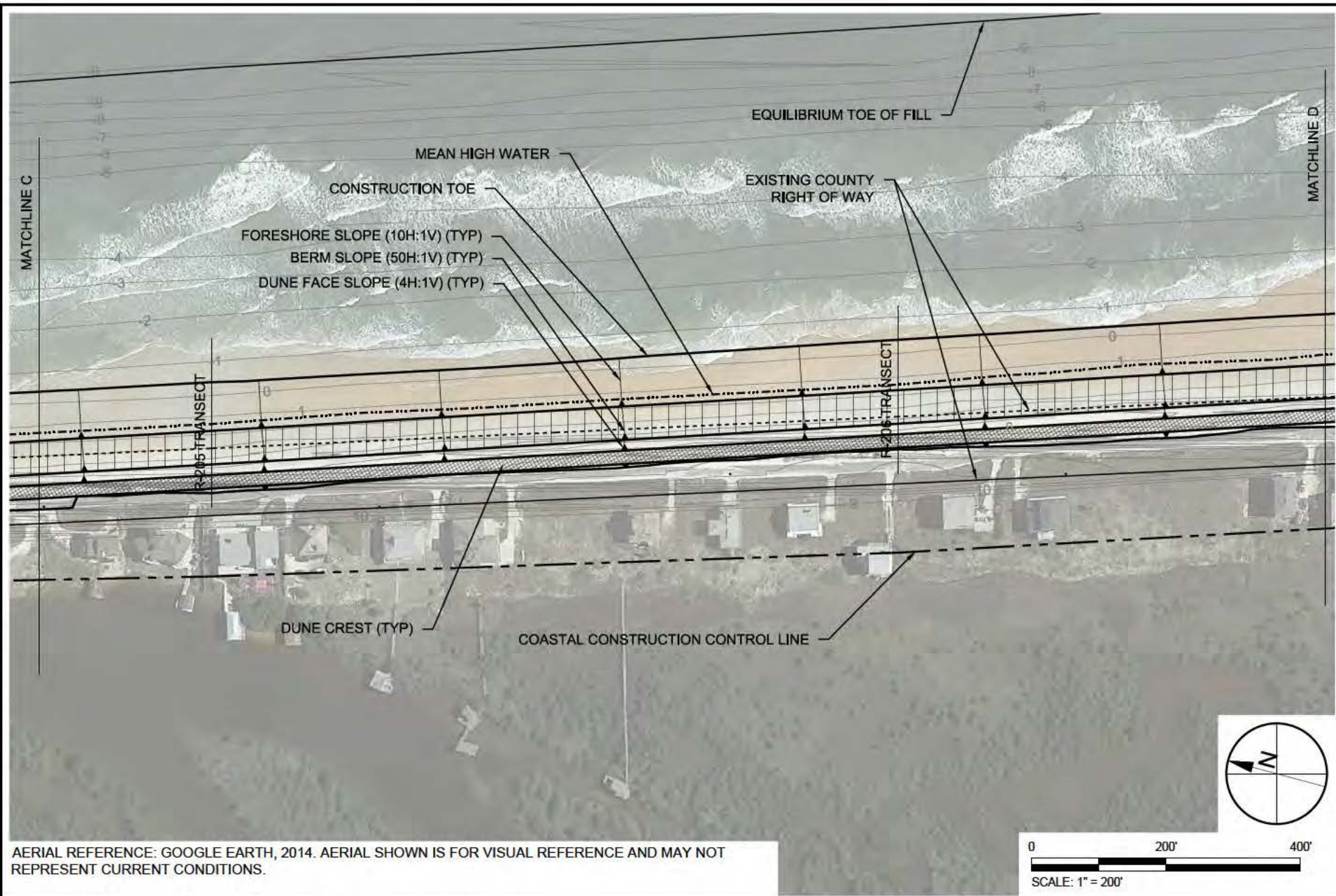
PROJECT	C2011-009
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SHEET	13 of 18
DATE	MAY 2016

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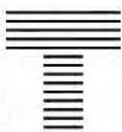
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FIGURE C-14
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

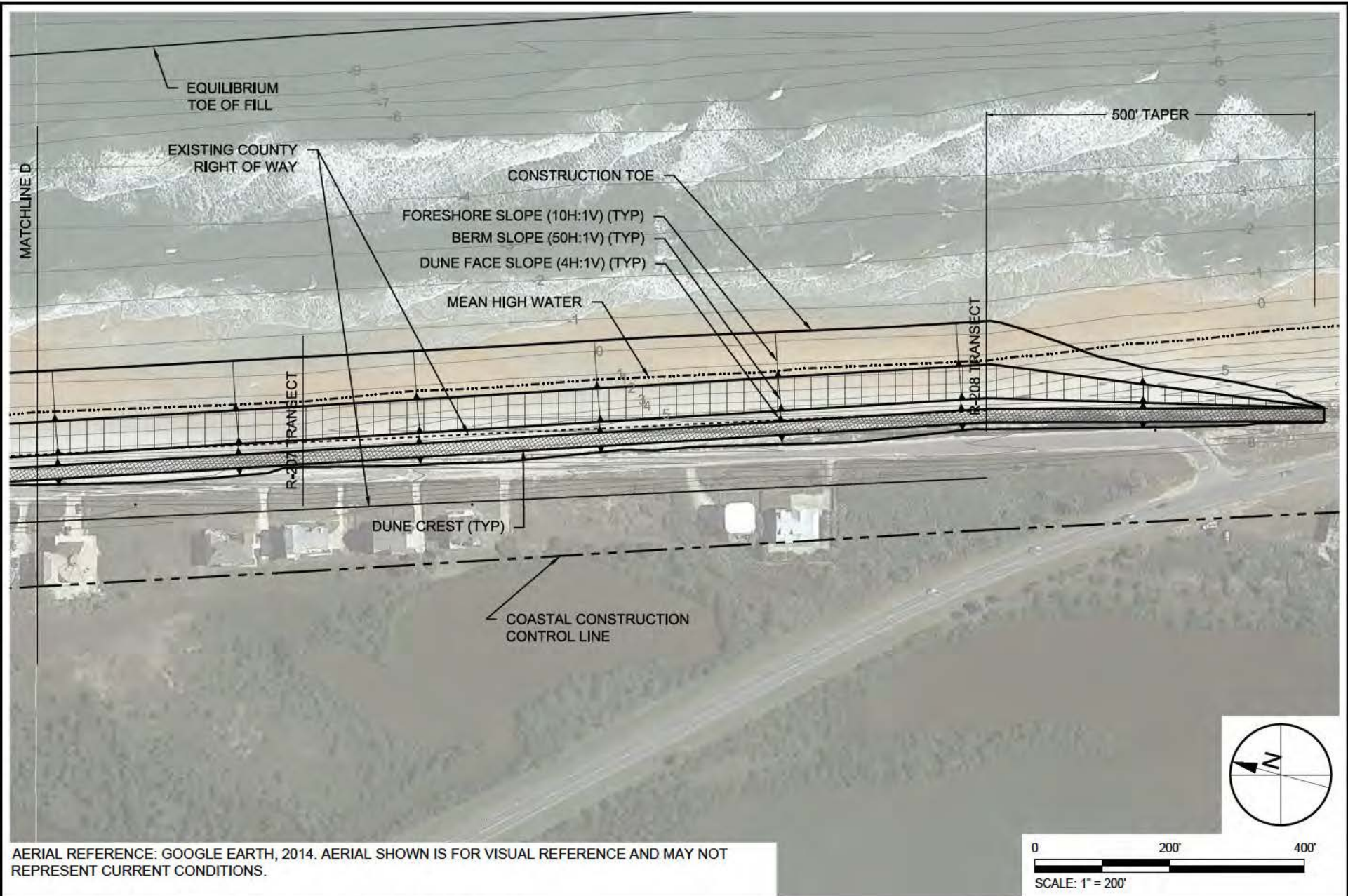
PROJECT	C2011-009
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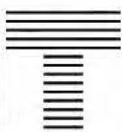
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FIGURE C-15
BEACH PLAN
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

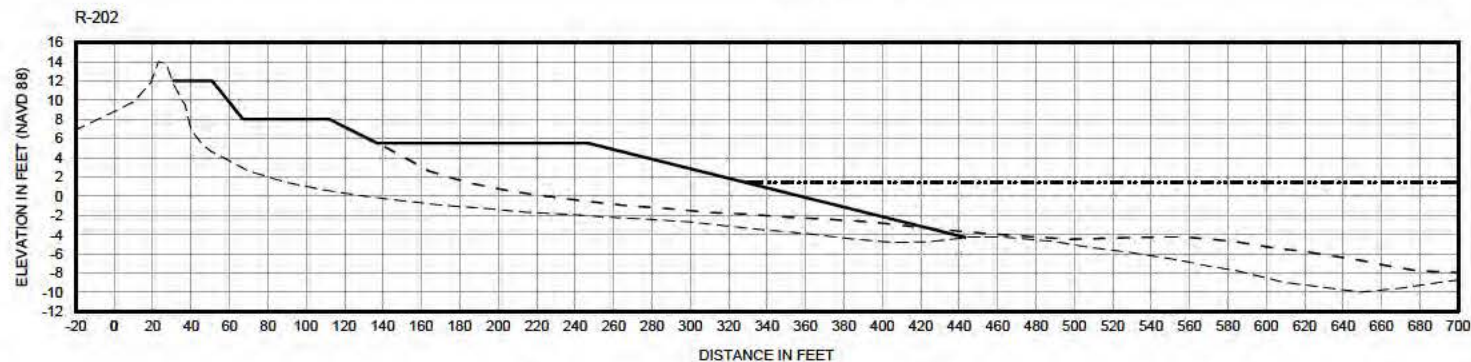
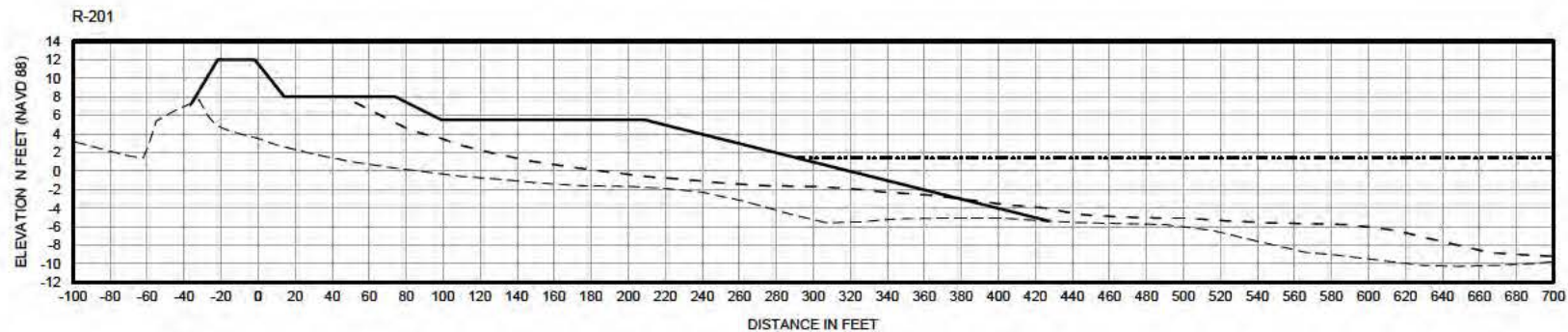
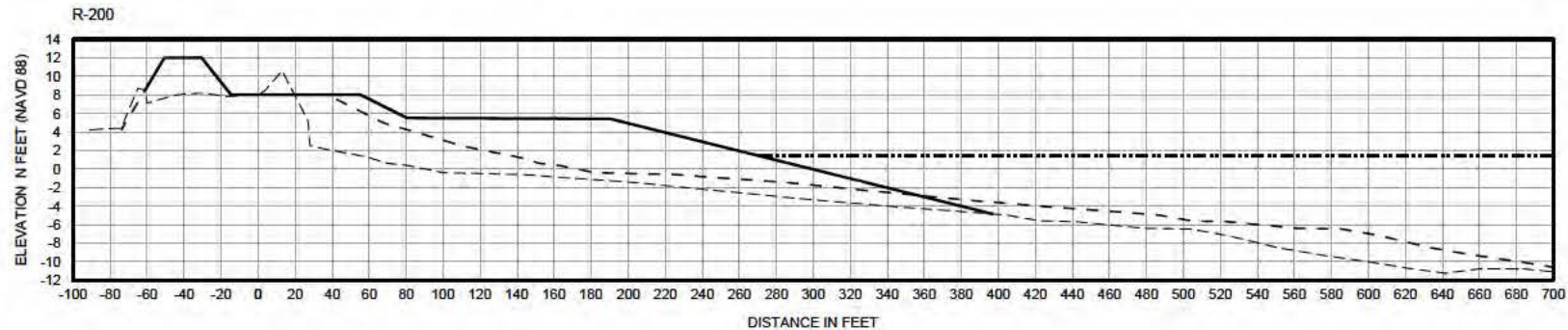
PROJECT	C2011-009
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DATE	MAY 2016

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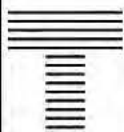
DUNE CONSTRUCTION SECTIONS

SCALE: 1" = 100'

VERTICAL EXAGGERATION: X5



LEGEND:	
----	2011 SURVEY
————	DUNE CONSTRUCTION TEMPLATE
- · - · -	MEAN HIGH WATER (+1.4' NAVD 88)
----	EQUILIBRIUM



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FIGURE C-16
BEACH SECTIONS
SUMMER HAVEN RIVER RESTORATION
ST. JOHNS COUNTY, FLORIDA

PROJECT	C2011-009
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