

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment
Glynn County, Georgia
Final Supplemental Environmental Assessment and Finding of No
Significant Impact**

Appendix D

**Clean Water Act
401 Water Quality Certification
and
404(b)1 Analysis**

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
March 2024**



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**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment**

Glynn County, Georgia

Final Supplemental Environmental Assessment and FONSI

D.1

Correspondence

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
February 2024**



Wright, Summer G CIV USARMY CESAS (USA)

From: Somerville, Eric <Somerville.Eric@epa.gov>
Sent: Wednesday, January 31, 2024 8:05 AM
To: Wright, Summer G CIV USARMY CESAS (USA)
Cc: Hill, Suzanne CIV USARMY CESAS (USA)
Subject: [Non-DoD Source] EPA 401(a)(2)- CWA 401(a)(2) Jekyll Island Shoreline Nourishment

Greetings, Summer-

Thank you for your notification of a Water Quality Certification for the Jekyll Island Shoreline Nourishment project in Glynn County, Georgia. EPA considered the potential for water quality impacts to a neighboring jurisdiction from the project as certified. The project site lies on the northwestern tip of Jekyll Island, Georgia in St. Simons Sound, approximately 28 miles north of the Georgia-Florida state line between Cumberland Island and Amelia Island. EPA will not issue a "may affect" determination for this project pursuant to CWA Section 401(a)(2).

-Eric

Eric Somerville
U.S. EPA Region 4 | Ocean, Wetlands & Streams Protection Branch
c/o LSASD (F120-6) | 980 College Station Road | Athens, GA 30605-2720
tel 706.355.8514 | somerville.eric@epa.gov

"No error is more certain than the one proceeding from a hasty & superficial view of the subject,"
-James Madison, 1822

From: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>
Sent: Monday, January 29, 2024 2:08 PM
To: Somerville, Eric <Somerville.Eric@epa.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: CWA 401(a)(2) Jekyll Island Shoreline Nourishment

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Good afternoon,

Pursuant to 40 CFR § 121.12, this email serves as written notification to the U.S. Environmental Protection Agency (EPA), Region 4 for a neighboring jurisdiction determination. Attached to this email is a copy of Agency Notification/Public Notice, the supplemental EA Appendix D with our 404(b)1 analysis and coordination with GADNR-EPD, and the water quality certification for the proposed project.

Below is the link to the SEA and appendices that detail the project:
<https://www.sas.usace.army.mil/About/Divisions-and-Offices/Planning-Division/Plans-and-Reports/> (Titled "Brunswick Harbor Navigation Project Modifications and Harbor Dredging Operations and Maintenance, Integrated Feasibility Report (IFR) and Environmental Assessment (EA) and Finding of No Significant Impact (FONSI), Glynn County, Georgia" under Brunswick Harbor Federal Project Actions).

We received no comments from neighboring jurisdictions regarding this project.

Please provide your determination regarding whether the certified project may affect the water quality in a neighboring jurisdiction within 30 days of the date of this email. If EPA does not provide a response within 30 days, the Corps will consider the neighboring jurisdiction determination process completed.

If you have any questions, feel free to contact me by email or telephone.

Thank you,

Summer Wright
Biologist, Planning Branch
USACE, Savannah District
M: (912)-222-8945

Wright, Summer G CIV USARMY CESAS (USA)

From: Wright, Summer G CIV USARMY CESAS (USA)
Sent: Monday, January 29, 2024 2:44 PM
To: Eric Somerville
Cc: Hill, Suzanne CIV USARMY CESAS (USA)
Subject: RE: CWA 401(a)(2) Jekyll Island Shoreline Nourishment

My apologies, I had a typo below. The title actually is "Brunswick Harbor Modifications Project Jekyll Island Fishing Pier Shoreline Nourishment Supplemental Environmental Assessment and Finding of No Significant Impact." It's the draft SEA, I accidentally sent you to the BHMS Final IFR/EA and FONSI.

My apologies for the mix-up.

Summer

From: Wright, Summer G CIV USARMY CESAS (USA)
Sent: Monday, January 29, 2024 2:08 PM
To: Eric Somerville <Somerville.Eric@epamail.epa.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: CWA 401(a)(2) Jekyll Island Shoreline Nourishment

Good afternoon,

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If you have any questions, feel free to contact me by email or telephone.

Thank you,

Summer Wright
Biologist, Planning Branch
USACE, Savannah District
M: (912)-222-8945

Wright, Summer G CIV USARMY CESAS (USA)

From: Patterson, Nawanna <nawanna.patterson@dnr.ga.gov>
Sent: Friday, January 26, 2024 1:17 PM
To: Wright, Summer G CIV USARMY CESAS (USA); bill_wikoff@fws.gov; Moore, Kelie; Pace.Wilber@noaa.gov; Keyes, Tim; somerville.Eric@epamail.epa.gov
Cc: Hedeem, David; Richardson, Dewey
Subject: [Non-DoD Source] BHMP Jekyll Island Fishing Pier Shoreline
Attachments: BHMP- Jekyll Isl Fishing Pier Shoreline Nourishment- 401 WQC.pdf

Good day all please see the attachment for your records. Thanks, Nawanna



ENVIRONMENTAL PROTECTION DIVISION

Nawanna L. Patterson
Administrative Assistant 2
GA EPD Watershed Protection Branch
2 Martin Luther King, Jr. Drive, Suite 1052 East
Atlanta, Georgia 30334
Email: nawanna.patterson@dnr.ga.gov
Phone: 470-845-2594
<http://epd.georgia.gov>
<http://epd.georgia.gov/watershed-protection-branch>

Wright, Summer G CIV USARMY CESAS (USA)

From: Richardson, Dewey <Dewey.Richardson@dnr.ga.gov>
Sent: Wednesday, December 20, 2023 10:44 AM
To: Wright, Summer G CIV USARMY CESAS (USA); Hedeem, David
Cc: Hill, Suzanne CIV USARMY CESAS (USA)
Subject: [Non-DoD Source] RE: Jekyll Island Shoreline Nourishment 401 WQC

Summer,

EPD concurs with the reasonable period of time (January 30, 2024) for the issuance of the 401 Water Quality Certification. At this point, I do not see the need for any special conditions. If any arise from consultation with other programs within EPD or comments from the public notice, then I will give you a “heads up”. Thanks!

Dewey Richardson
Environmental Specialist
Wetlands Unit
Watershed Protection Branch
Email: dewey.richardson@dnr.ga.gov
Mobile: 478-283-8342

From: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>
Sent: Friday, December 15, 2023 12:27 PM
To: Richardson, Dewey <Dewey.Richardson@dnr.ga.gov>; Hedeem, David <david.hedeem@dnr.ga.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: Jekyll Island Shoreline Nourishment 401 WQC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Dewey and David,

Dewey- thanks for the conversation earlier regarding the Jekyll Island shoreline nourishment and our 401 WQC request.

Sending along some additional information regarding our processes and well as the draft 404(b)1 that will be included in the draft EA and made available for public comment.

The process for issuing public notices for Civil Works include posting all documents to our Planning website, including the Draft EA/FONS, draft 404(b)1, CZMA, ESA, and EFH documentation. Once documents are posted and available for download, we publish a PN through Savannah District’s regulatory public notices, as well as email notification to project stakeholders.

Since this is a supplemental EA to the 2022 Brunswick Harbor Modification Study Integrated Feasibility Report and Environmental Assessment/Finding of No Significant Impact (IFREA/FONSI), we plan on providing a 15-day public comment period for the supplemental EA beginning on January 8, 2024. In the supplemental EA we address impacts in regards to the CWA and water quality. We are also seeking to use the 15-day public comment period for the 401 WQC request as well.

For the Jekyll Island Fishing Pier Shoreline Nourishment effort, we submitted the 401 WQC request on November 7, 2023. With the 15-day public comment period beginning on January 8, 2024, we propose as a reasonable period of time for issuance of a 401 WQC to be January 30, 2024 (provides one week for your review of any comments and writing of the certificate). Hoping that is achievable.

Our policies require us to have both the 401 WQC and the CZMA compliance completed prior to us finalizing the EA and finding of no significant impact (FONSI).

GA-DNR CRD has indicated that we either have received the 401 WQC, or have reasonable assurance that it is forthcoming before they will provide concurrence to our consistency determination under CZMA.

The Final EA/FONSI and completed compliance (CWA, ESA, CZMA, etc) will be posted to the website. The final EA will have an appendix of public comments received and responses. While there is no public comment period for the Final EA/FONSI, we do provide notification that it has been posted and is available publicly.

We are hoping to have all compliance completed by early February 2024 so that we can include the shoreline nourishment project into the construction contract.

Thank you, and I look forward to hearing back from you.

Summer Wright
Biologist, Planning Branch
USACE, Savannah District
M: (912)-222-8945

Wright, Summer G CIV USARMY CESAS (USA)

From: Wright, Summer G CIV USARMY CESAS (USA)
Sent: Thursday, November 30, 2023 3:40 PM
To: Richardson, Dewey; Hedeem, David
Cc: Hill, Suzanne CIV USARMY CESAS (USA)
Subject: RE: Request for 401 WQC_11-8-2023_BHMP Jekyll Shoreline Nourishment

Thank you so much, Dewey!

From: Richardson, Dewey <Dewey.Richardson@dnr.ga.gov>
Sent: Thursday, November 30, 2023 3:38 PM
To: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>; Hedeem, David <david.hedeem@dnr.ga.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: [Non-DoD Source] RE: Request for 401 WQC_11-8-2023_BHMP Jekyll Shoreline Nourishment

Summer,

This email serves as confirmation of the receipt of the request for 401 WQC. Thanks!

Dewey Richardson
Environmental Specialist
Wetlands Unit
Watershed Protection Branch
Email: dewey.richardson@dnr.ga.gov
Mobile: 478-283-8342

From: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>
Sent: Thursday, November 30, 2023 3:23 PM
To: Richardson, Dewey <Dewey.Richardson@dnr.ga.gov>; Hedeem, David <david.hedeem@dnr.ga.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: FW: Request for 401 WQC_11-8-2023_BHMP Jekyll Shoreline Nourishment

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Dewey and David,

My apologies with the email trouble before. The 401 WQC request I sent on November 7th had a large file attached to it that we believed prevented your receipt of the email. Please find our 401 request below for the Jekyll Shoreline Nourishment, as well as the attachments of the project area, the BHMS 401 and 404(b)1, and the BHMP BU September 14 Pre-Filing Meeting acknowledgement email that was sent on September 15.

I will also send along the sediment testing reports along shortly. Please let me know if you have any issues with the attachments to this 401 WQC request.

Thank you,

Summer Wright
Biologist, Planning Branch
USACE, Savannah District
M: 912-222-8945

From: Wright, Summer G CIV USARMY CESAS (USA) <Summer.G.Wright@usace.army.mil>
Sent: Tuesday, November 7, 2023 9:50 AM
To: Hedeem, David <david.hedeem@dnr.ga.gov>; Richardson, Dewey <dewey.richardson@dnr.ga.gov>
Cc: Hill, Suzanne CIV USARMY CESAS (USA) <Suzanne.Hill@usace.army.mil>
Subject: Request for 401 WQC_11-8-2023_BHMP Jekyll Shoreline Nourishment

Good morning Dewey and David,

I wanted to reach out to you in regards to the Brunswick Harbor Modification Project Jekyll Island shoreline nourishment project, specifically, requirements of the new Section 401 Water Quality Certification Rule. Please see items below for your file.

40 CFR 121.5 - Certification request.

(1) Identify the project proponent(s) and a point of contact;
Summer Wright
USACE, PMP
100 W Oglethorpe Ave
Savannah, GA 31401

(2) Identify the proposed project;
USACE, Savannah District (Corps) proposes place dredged material from the Cedar Hammock bend widener expansion as part of the Brunswick Harbor Modification Study (BHMS) and future operations and maintenance (O&M) material from the Brunswick Harbor Navigation Project (BHNP) into the nearshore environment of the leeward side of northern Jekyll Island along the degraded marshland. This type of placement is considered shoreline nourishment and is considered to be beneficial use of dredged material. The purpose of the shoreline nourishment is to protect the remaining saltmarsh from further erosion. The maximum placement area is approximately 30 acres.

(3) Identify the applicable federal license or permit;
401 Water Quality Certificate

(4) Identify the location and nature of any potential discharge that may result from the proposed project and the location of receiving waters;
The discharge of dredged material into the Brunswick River along the leeward side of northern Jekyll Island will occur. The BHMS material is considered clean and has undergone physical and chemical testing (will provide in separate email due to size). Future O&M material from the BHNP will be chosen based on sediment composition and 2016 Tier III testing (will provide in separate email due to size). Please see attached project map.

(5) Include a description of any methods and means proposed to monitor the discharge and the equipment or measures planned to treat, control, or manage the discharge;
The proposed action will have a minor, temporary negative impact on water quality due to the creation of turbidity plumes during the time of placement. The extent of the turbidity plumes will be limited to a few

hundred feet and is expected to occur only during time of placement. Due to the requirement to use USFWS's West Indian manatee conditions, turbidity curtains and other BMPs that may result in species entanglement will not be used.

(6) Include a list of all other federal, interstate, tribal, state, territorial, or local agency authorizations required for the proposed project, including all approvals or denials already received;

The Corps will comply with NEPA through the completion of a supplemental Environmental Assessment (SEA) for the proposed action. The public comment period for the SEA will be January 4-19, 2024. The Corps is requesting concurrence under CZMA from the GADNR-CRD and is also consulting with NMFS Protected Resource Division (PRD) and USFWS for ESA-listed species within the project area. Because the Corps self-permits under 404(b), the SEA will have a completed 404(b)1 analysis. Finally, the Corps is consulting with NMFS Habitat Conservation Division (HCD) for essential fish habitat under the MSA in the project area.

(7) Include documentation that a pre-filing meeting request (held on 14 September 2023) was submitted to the certifying authority at least 30 days prior to submitting the certification request;

Please see attached email correspondence.

(8) Contain the following statement: 'The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief'; and

The project proponent hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.

(9) Contain the following statement: 'The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.'

The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Please let me know if you have any questions or concerns. Thank you!

Summer Wright
Biologist
USACE, Savannah District
100 W Oglethorpe Ave
Savannah, GA 31401
M: 912-222-8945

Wright, Summer G CIV USARMY CESAS (USA)

From: Wright, Summer G CIV USARMY CESAS (USA)
Sent: Friday, September 15, 2023 10:47 AM
To: Hedeem, David; Richardson, Dewey
Cc: Hill, Suzanne CIV USARMY CESAS (USA)
Subject: 14 Sept 2023 BHMP BU Pre-Filing Meeting/BHMS 401 Resources
Attachments: Tetrattech-Brunswick Harbor Mod Study Env Site Investigation Report - Final Version for 401 Appendix.pdf; Tetrattech-Brunswick Geotech Data Report - Final 2-9-21.pdf; 05I.465055.BHMS.SAS.GI.AppL_401and404b1.20210801.pdf

Good morning David and Dewey,

Thank you for attending yesterday's Brunswick Harbor Modification Project (BHMP) Beneficial Use meeting. Attached is the Appendix L of the 2022 Brunswick Harbor Modification Study (BHMS) FONSI/EA, which has the 404(b)1 evaluation and the 401 WQC. Also attached is the BHMS Tetrattech Investigation report, as well as the more detailed data report from the 2021 testing. Below is the link to the EA as well as all of the appendices to the 2022 BHMS FONSI/EA.

<https://www.sas.usace.army.mil/about/divisions-and-offices/planning-division/plans-and-reports/>

As a reminder, we are considering yesterday's BHMP Beneficial Use Meeting as the pre-filing meeting in case we need to re-open the 2022 BHMS 401 WQC.

Again, thank you for attendance in yesterday's meeting, and please let us know if you need any further information.

We will keep in touch regarding this effort.

Sincerely,

Summer Wright
Biologist, Planning Branch
Savannah District
M: (912)-222-8945

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment**

Glynn County, Georgia

Final Supplemental Environmental Assessment and FONSI

D.2

401 Water Quality Certification

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
February 2024**





ENVIRONMENTAL PROTECTION DIVISION

Jeffrey W. Cown, Director

2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

Jan 26, 2024

U.S. Army Corps of Engineers Savannah District
Attn: Planning Branch/Ms. Summer Wright
100 West Oglethorpe Ave.
Savannah, GA 31401

Re: Water Quality Certification
Jekyll Island Fishing Pier Shoreline Nourishment
Cumberland-Saint Simons Watershed
Glynn County

Dear Ms. Wright:

In accordance with Section 401 of the Federal Clean Water Act, 33 U.S.C. § 1341, the State of Georgia has evaluated the Jekyll Island Fishing Pier Shoreline Nourishment project submitted by the U.S. Army Corps of Engineers, an applicant for a federal permit or license related to proposed activity in, on, or adjacent to the waters of the State of Georgia.

The State has examined the information regarding the Jekyll Island Fishing Pier Shoreline Nourishment project provided to it by the U.S. Army Corps of Engineers. In accordance with that information, the State of Georgia issues this Section 401 water quality certification to the U.S. Army Corps of Engineers. This Section 401 water quality certification is subject to the following terms and conditions:

1. To assure compliance with State water quality standards, the applicant shall conduct all activities in a manner that will assure water quality adequate or necessary to protect and maintain designated uses. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03(2)(i), (ii).
 - a. To prevent or avoid degradation of water quality downstream, the applicant shall implement Best Management Practices (BMPs) that have been approved for in-water use to the extent practical and feasible, to minimize total suspended solids (TSS) and sedimentation for any work conducted within a state water or within the delineated boundaries of wetlands. 33 U.S.C. § 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); O.C.G.A. §§ 12-7-6 to 7; Ga. Comp. R. and Regs. 391-3-6-.03(5).
 - b. In order to prevent or avoid violations of state water quality standards, the applicant must ensure that any fill placed in state waters must be clean fill that is free of solid waste, toxic, or hazardous contaminants. 33 U.S.C. §§ 1311; 1313(a)-(d); O.C.G.A. § 12-5-23(c)(2), (6), (9), (15); O.C.G.A. § 12-5-29(a); Ga. Comp. R. and Regs. 391-3-6-.03(5), (6), (11), (14)-(16).

2. Modifications to this Project may require an amendment to these conditions. Accordingly, the applicant must notify the Georgia Environmental Protection Division of any modifications to the proposed activity including, but not limited to, modifications to the construction or operation of any facility, or any new, updated, or modified applications for federal permits or licenses for the Project. 33 U.S.C. §§ 1311-1313; O.C.G.A. § 12-5-23(c)(2),(6),(9),(15); Ga. Comp. R. and Regs. 391-3-6-.03.

The Georgia Environmental Protection Division may invalidate or revoke this certification for failure to comply with any of these terms or conditions. This certification does not waive any other permit or other legal requirement applicable to this project or relieve the applicant of any obligation or responsibility for complying with the provisions of any other federal, state, or local laws, ordinances, or regulations.

It is your responsibility to submit this certification to the appropriate federal agency. If you have any questions regarding this certification, please contact David Hedeem by email at david.hedeem@dnr.ga.gov or by phone at 470-427-2730.

Sincerely,



Jeffrey W. Cown, Director
Environmental Protection Division

cc: Mr. Pace Wilber, NOAA
Mr. Eric Somerville, EPA
Mr. Bill Wikoff, FWS
Ms. Kelie Moore, CRD
Mr. Tim Keyes, WRD

**Brunswick Harbor Modification Project
Jekyll Island Fishing Pier Shoreline Nourishment**

Glynn County, Georgia

Final Supplemental Environmental Assessment and FONSI

D.3

404(b)1 Analysis

**U.S. ARMY CORPS OF ENGINEERS
SAVANNAH DISTRICT
100 WEST OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401
February 2024**



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Figure 4. June 2023 aerial imagery of the current shoreline with comparisons to the proposed placement and the historical shorelines (blue-1855, yellow-1933, white-2003). **Error! Bookmark not defined.**

Figure 5. Location of the 2021 BHMP geotechnical borings in the Cedar Hammock bend widener expansion. 16

Figure 6. (1) Red arrow is estimated turbidity plume direction during ebb tide. (2) Red arrow is estimated turbidity plume direction during flood tide. Further detail of flow is depicted by the yellow arrows from the GenCade modeling results..... 20

Figure 7. General turbidity plume directions at placement location during ebb and flood tides..... 21

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1. Introduction

The following evaluation is prepared in accordance with Section 404(b)(1) of the Clean Water Act of 1977 to evaluate the environmental effects of the shoreline nourishment activity in the Brunswick River, along the degraded saltmarsh southwest of the Jekyll Island Fishing Pier on the northern leeward side of Jekyll Island, as part of the Brunswick Harbor Modification Project (BHMP). Specific portions of the regulations (Title 40, Part 230 of the Code of Federal Regulations) are cited, and an explanation of the regulation is given as it pertains to the project.

2. Regulatory Framework of Section 404(b)(1) Evaluation

Under the Clean Water Act (CWA), pollutants are prohibited from being discharged into any waters of the U.S. except in compliance with several statutory provisions (33 United States Code [U.S.C.] § 1311; see 33 U.S.C. § 136). Under Section 404 of the CWA, the Corps has the authority to permit discharges of dredged and fill materials into waters of the U.S. (33 U.S.C. § 1342, 1344; 33, Code of Federal Regulation [C.F.R.] §§ 322.5, 323.6). A Section 404 permit is required prior to discharging dredged or fill material into waters of the United States.

Section 404(b)(1) provides that the Corps must issue such permits through the application of guidelines developed by the United States Environmental Protection Agency (USEPA) (33 C.F.R. §§ 320.2(f), 320.4(a)(1), 320.4(b)(4), 323.6(a)), which were issued in 1980 (40 C.F.R. Part 230). These guidelines, referred to as Section 404(b)(1) Guidelines, establish various criteria to be considered by the Corps in evaluating permit applications, one of which calls for evaluation of alternatives to the proposed discharge. For proposed actions to be undertaken by the Corps, the agency does not issue itself a permit but includes an evaluation designed to demonstrate compliance with the 404(b)(1) Guidelines.

To satisfy the requirements of CWA 404(b)(1), this evaluation has been prepared for the subject project.

3. Project Description

3.1. Location

3.1.1. Location Description

The Brunswick Harbor is located in the southeastern section of Glynn County, Georgia, adjacent to the City of Brunswick and includes the inner channels through St. Simons Sound, Brunswick River, Turtle River, and the East River to the Colonel's Island Terminal. The Brunswick Harbor Federal Navigation Channel is dredged annually in the inner harbor and entrance channels as part of the Brunswick Harbor Navigation Project (BHNP). Typically, dredged material is placed in either the ocean dredged material

disposal site (ODMDS) located offshore, or in the Andrews Island DMCA located to the east of Downtown Brunswick (Figure 1).

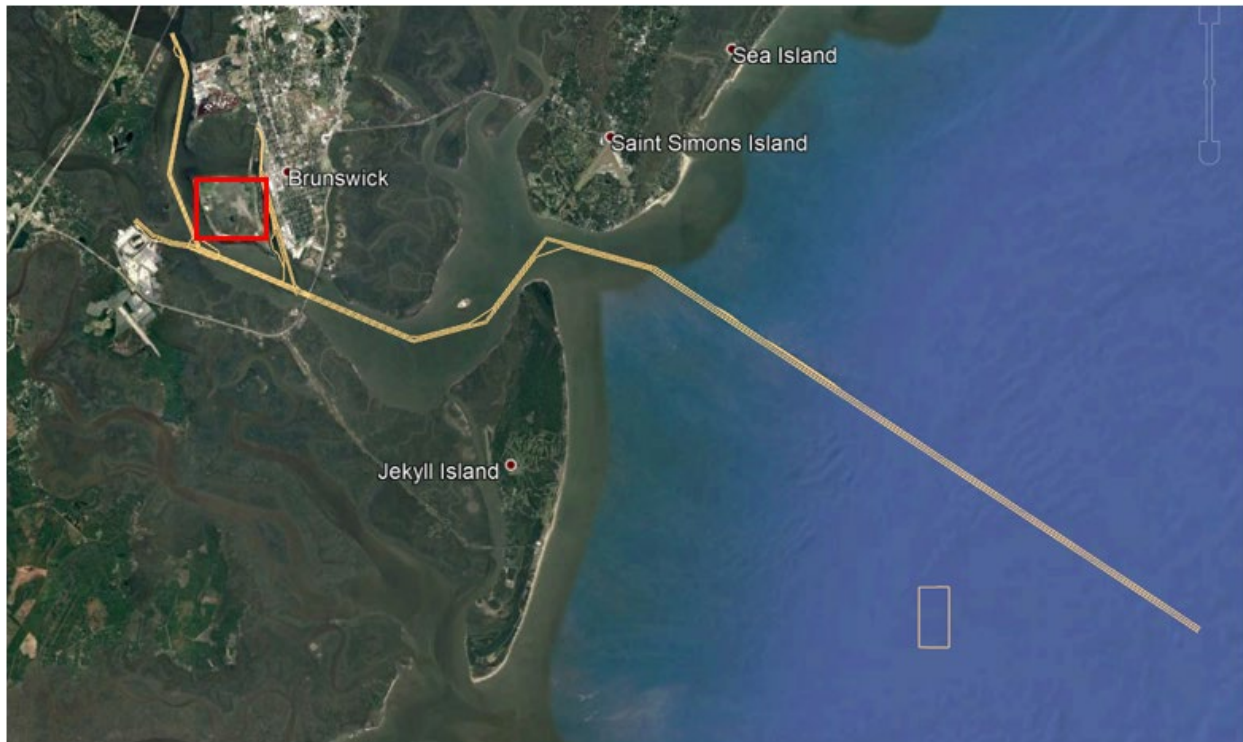


Figure 1. Brunswick Harbor Federal Navigation Channel is identified in yellow. Approved dredged material placement areas include Andrews Island DMCA (red polygon) and the ODMDS site located offshore (yellow polygon).

Jekyll Island is an important environmental, historical, and economic resource in the state of Georgia. It is a high-profile barrier island located in Glynn County, south of St. Simons Island and north of Cumberland Island. Typically, barrier islands along the South Atlantic coast were formed because of sediment transport by longshore currents that move parallel to the shore and evolved during the postglacial sea level rise (USACE, 2021a). High-profile barrier islands have more capability due to height, profile, and continuity to weather flooding and storm impacts compared to low-profile barrier islands. Jekyll Island's surface area is approximately 5700 acres, and is composed of marsh, mudflats, creeks, developed upland, well-vegetated dune ridges, and beaches. In addition, there are numerous cultural and historic resources, such as the Horton House and the National Historic Landmark District. It is well known as a sea turtle nesting habitat in the summertime, as well as nesting and foraging habitat for numerous shore and sea bird species. It has well-developed and protected dune fields, maritime forests, and natural creek habitats throughout the island.

3.1.2. Project Vicinity Map



Figure 2. Jekyll Island shoreline nourishment site (green polygon).

3.2. Authority and Purpose

3.2.1. Overall Project Purpose

The purpose of the proposed beneficial use action is to stabilize and protect the shoreline and adjacent marshland southwest of the Jekyll Island Fishing Pier. The need for the proposed action is due to the shoreline erosion that has been observed and quantified using historical aerial imagery and was identified as an area of environmental and recreational concern by the JIA. JIA has determined that the rate of erosion along the shoreline is 2 m/year, according to calculations using past aerial imagery from the Georgia Wetlands Restoration Access Portal (G-WRAP). This erosion is causing loss of saltmarsh environment, and the encroaching Brunswick River is threatening the Clam Creek Road and recreational areas located on the northern portion of Jekyll Island.

The FONSI was signed for the 2021 BHMS Integrated Feasibility Report (IFR/EA) on May 25, 2022. The BHMP was authorized for construction through the Water Resources Development Act (WRDA) of 2022 and is currently in the Pre-construction Engineering and Design (PED) phase. The 2022 IFREA/FONSI addressed the expansion of the Cedar Hammock Range bend widener and the expansion of the turning basin at Colonel's Island Terminal, and the creation of a vessel meeting area located at St. Simons Sound. The two expansions require removal of new work dredged material, and continued maintenance. The 2022 IFREA/FONSI addressed impacts to placement of the new work and O&M material of the expansions into the existing Andrews Island Dredged Material Containment Area (DMCA). In compliance with Section 125 of the WRDA of 2020, the Corps posted a public notice on July 5, 2023, calling for beneficial use sites using the BHMP dredged material. In response to the public notice, Jekyll Island Authority (JIA) proposed a shoreline nourishment site along Jekyll Island. The Corps has prepared a supplemental Environmental Assessment (SEA) to the 2022 BHMS IFREA/FONSI to evaluate both the adverse and beneficial effects of the proposed shoreline nourishment site. No other proposals were received in response to the public notice.

The Jekyll Island Authority (JIA) submitted a proposal in response to the BHMP July 2023 Public Notice (Appendix H). The beneficial use site was identified by the JIA with considerations toward environmental and recreational resources. Anticipated start date for the initial placement of dredged material at the shoreline nourishment site is estimated to occur in late 2024-early 2025, depending on contract award of the BHMP. Subsequent maintenance placements will occur based on determination of need and available suitable material from the BHMP.

3.2.2. Proposed Federal Action

The proposed federal action is to directly place approximately 205,000 cy of primarily sandy dredged material from the Cedar Hammock Bend Widener expansion onto the

degraded shoreline southwest of the Jekyll Island Fishing Pier (Figure 1). This location is on the leeward side of northern Jekyll Island. The material will be placed in shallow areas that were historically marsh and sandy mudflat habitat that has been degraded due to loss of elevation from tidal and wave-driven erosional forces (Figures 3 and 4). Placement of sediment in this area will provide valuable protection and attenuate wave energy along the adjacent shoreline.



Figure 3. 1988 aerial imagery of the proposed placement location. The proposed placement polygon is in red. The blue line is historical shoreline from 1855, and the yellow is historical shoreline from 1933 (G-WRAP, 2023).

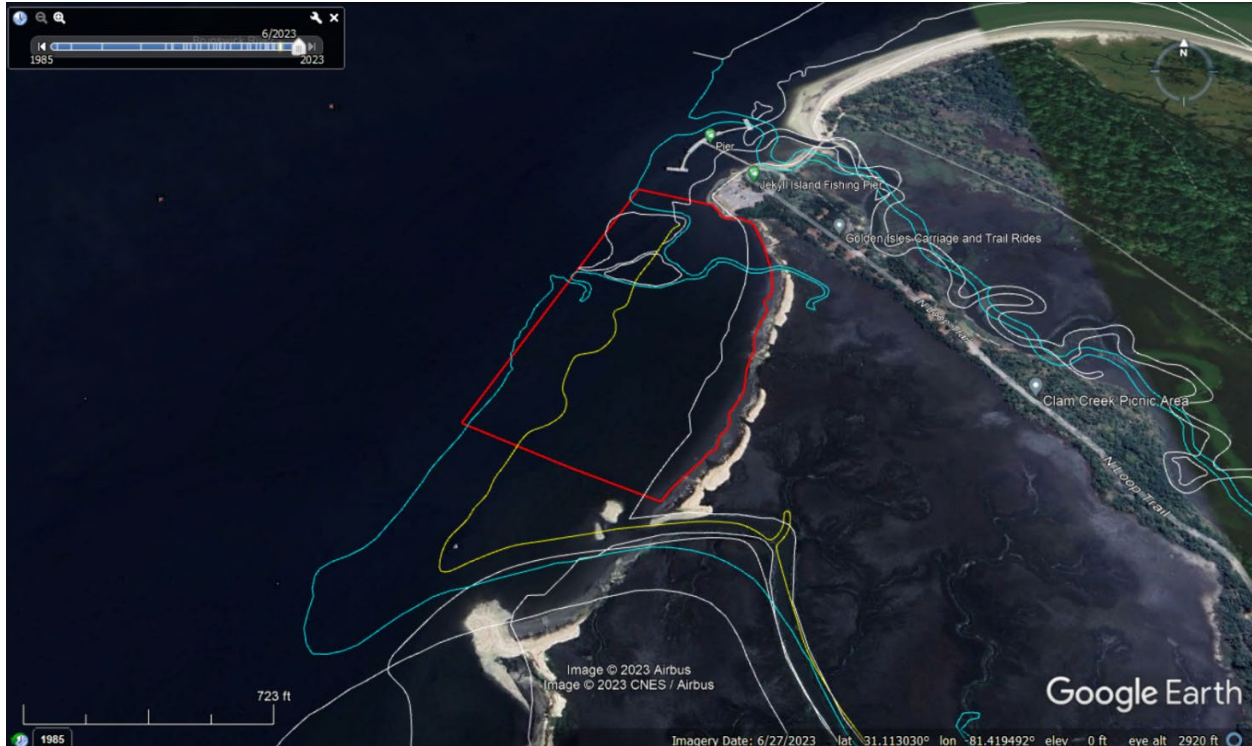


Figure 4. June 2023 aerial imagery of the current shoreline with comparisons to the proposed placement and the historical shorelines (blue-1855, yellow-1933) (GWRAP, 2023).

Initial placement will occur during dredging operations under the BHMP. This site will not receive any hardened structure after sediment placement completion; therefore, material is expected to migrate within the system over time from natural forces. The Corps may use dredged material from future O&M of the BHNP to replace sediment that has migrated from the original design template, as needed.

Maximum placement elevation at the top of the shoreline nourishment berm will be 7.0 +0.5 ft mean lower low water (MLLW) closest to the shoreline (Attachment 1; Figure 5). The slope into the subtidal zone descends by 1 ft MLLW until reaching the existing elevation. Approximately 118,000 cy is expected to be placed within the placement template. 20% of the fine-grained material is expected to winnow away with the tidal and riverine flows.

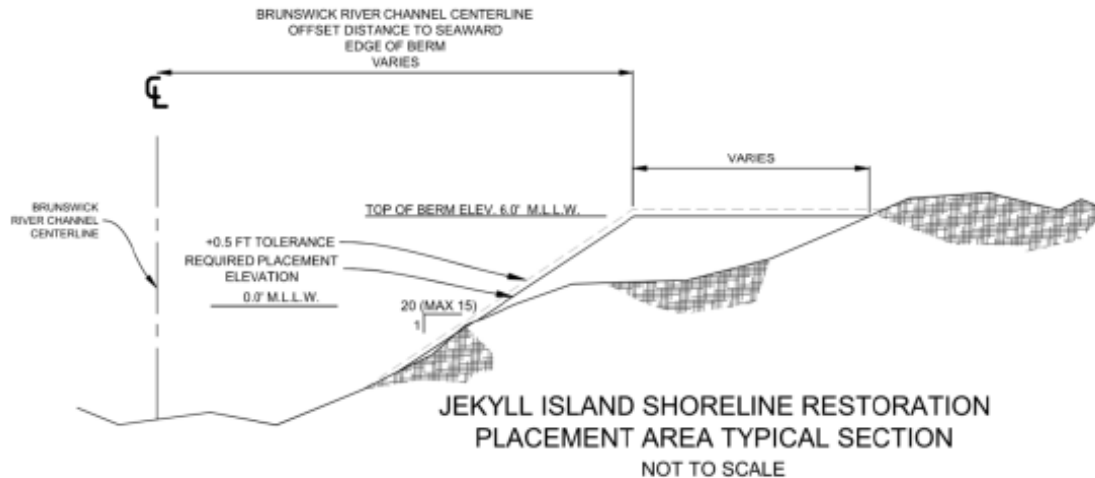


Figure 5. 60% design cross-section of the shoreline nourishment.

The design avoids any placement within the inflow/outflow points of the two adjacent tidal marsh creeks to address concerns regarding placement material migrating and impeding flow into and out of the creeks. Buffer zones were included in the 60% design (Attachment 1). The buffer zones are approximately 350 ft north to south of the inflow/outflow points of the creeks. The zone depicted by hatch marks in the 60% design (Attachment 1) will have no placement within this area. Placement around this zone will increase by 1 ft MLLW until reaching the maximum 7.0 ft MLLW elevation of the berm. Monitoring of the tidal creeks will occur during construction and afterwards for a maximum of 30 days to ensure that tidal creek flows are not inhibited by migration of the material placed. If tidal creeks do become blocked by sediment migration as a result of construction, actions will be taken to restore tidal flows. If sediment sloughing into the tidal creek buffer zones does occur, however, it is anticipated that flows will be naturally restored via tidal flows and precipitation events. More analysis can be found in Section 3.2 of the SEA.

For initial placement, hydraulic cutterhead will be the means of placing the dredged sediment into the proposed shoreline nourishment site. Pipeline will be moved around to achieve design elevation, with the use of heavy machinery to grade within design tolerances as needed. Estimated construction duration is approximately 30 days. Future O&M placement may be done with either cutterhead pipeline or hopper dredge and scows.

Design and construction restraints include the following:

- Restricted placement area within the tidal creek buffer zones.
- Avoidance of material placement on the oyster bed and shell rake located south of the placement area.

- Avoidance of material placement on the adjacent saltmarsh.
- No construction equipment on or pipeline placed on the adjacent saltmarsh.

Table 1. Placement Site and Locations

BU Placement Site	Channel Location (Source Material)	Deci-degree Location	Dimensions/Size
			(acres)
Jekyll Island Fishing Pier Shoreline Nourishment	Cedar Hammock Bend Widener; Future O&M material from Brunswick Inner Harbor or Brunswick Entrance Channel	31.112471°N, -81.419019°W	Maximum area: 30 acres

3.2.3. Authority

As a SEA to the 2022 BHMS IFREA/FONSI, the proposed action is authorized under Section 1201 of WRDA 2016. Section 125 of the WRDA of 2020 requires the Assistant Secretary of the Army, Civil Works (ASA(CW)) to maximize the beneficial use of dredged material (BUDM) obtained from construction or O&M of the USACE water resource development projects.

4. Project Alternatives

4.1. No Action Alternative

The No Action Alternative (NAA) is to place the 205,000 cy of dredged material from the Cedar Hammock Bend Widener into the approved Andrews Island DMCA. This alternative would not result in any shoreline nourishment at Jekyll Island. While the NAA would not meet the purpose and need, it is carried forward as a basis for comparison against the proposed action alternative.

4.2. Action Alternative

The proposed federal action is to directly place approximately 205,000 cy of primarily sandy dredged material from the Cedar Hammock Bend Widener expansion onto the degraded shoreline southwest of the Jekyll Island Fishing Pier (Figure 1). This location is on the leeward side of northern Jekyll Island. The material will be placed in shallow

areas that were historically marsh and sandy mudflat habitat that has been degraded due to loss of elevation from tidal and wave-driven erosional forces (Figures 3 and 4). Placement of sediment in this area will provide valuable protection and attenuate wave energy along the adjacent shoreline.

Initial placement will occur during dredging operations under the BHMP. This site will not receive any hardened structure after sediment placement completion; therefore, material is expected to migrate within the system over time from natural forces. The Corps may use dredged material from future O&M of the BHNP to replace sediment that has migrated from the original design template, as needed.

4.2.1.1 General Description and Quantities of the Placement Material

1) *General Characteristics of Material*

The source material that would be placed in the proposed shoreline nourishment site would be dredged material from the Cedar Hammock bend widener expansion of the BHMP. Sediment sampling and analysis were conducted in July 2021 using vibracore techniques to characterize the dredged material. The sediment consists largely of coarse sandy material with very little fines and organics (70% sand or greater).

Future maintenance placements will utilize mostly sandy material from the inner harbor or entrance channel. Location and exact percentage of fines will be based on shoaling and proximity to the shoreline nourishment site.

2) *Quantity of Material*

Approximately 205,000 cy of material will be used for initial placement at the site. It is expected that 118,00 cy will be placed due to lost of material expected during transport and placement. Subsequent placement volumes using O&M material in the future will be dependent on material loss and suitable material available for placement from the BHNP.

3) *Source of Material*

The dredged material used for initial placement will be sourced from the Cedar Hammock bend widener located in the Brunswick River as part of the BHMP. Subsequent placements will use O&M material from the BHNP and will be dependent on shoaling location, percent fines, and proximity to the shoreline nourishment site.

4) *Impacts to Aquatic Environment*

Direct placement of dredged material onto the proposed shoreline nourishment site will temporarily cover soft substrate/intertidal non-vegetated flats, burying some organisms while others more motile will likely avoid and survive the dispersal event. These impacts are expected to be minor in nature and are expected to quickly dissipate once construction is completed. It is expected that during construction activities mobile

aquatic species would move out of the way and find other suitable areas until construction activities are completed. Due to abundant adjacent benthic habitat, it is expected that the site would recolonize rapidly after initial placement and future maintenance placements using O&M material.

5. Evaluation for compliance with the 404(b)(1) guidelines

5.1. Restrictions on Discharge - (Section 230.10)

"(a) except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practical alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences."

The 404(b)(1) guidelines consider an alternative practicable "if it's available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." The following alternatives were thoroughly reviewed in the supplemental EA: the No Action Alternative and the Proposed Action Alternative, which includes the BU placement site. The Action Alternative is the only other action being considered apart from the No Action Alternative. The Proposed Action Alternative is expected to meet the goals of the proposed placement due to protecting the adjacent eroding saltmarsh shoreline and not impacting the navigation channel. The Proposed Action Alternative was determined feasible in respect to cost and constructability.

"(b) Discharge of dredged material shall not be permitted if it;"

"(1) Causes or contributes, after consideration of disposal dilution and dispersions, to violations of any applicable state water quality standard;"

"(2) Violates any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act."

BU placement activities will result in the temporary discharge of dredged material into the lower Brunswick River system. Placement and construction of the shoreline nourishment site is expected to have a duration of 30 days. The increase in turbidity as a result of the placement actions will be temporary in nature and is expected to dissipate quickly.

Based on sediment testing completed in November 2020 by Tetrattech Ardaman & Associates, Inc for the BHMS, the Corps has determined that the sediment testing and analysis performed in 2020 provides a sufficient basis for making a decision about whether the maintenance dredged material is suitable for beneficial use (Tetrattech, 2021). For the BHMS, five geotechnical borings were collected from the Cedar Hammock bend widener expansion area and evaluated for sediment and chemical characteristics (Figure 6). The dredge material at the bend widener consists of poorly graded sands, silty sands, and highly weathered limestone (Table 2). There were no significant levels of concern for chemicals, whole sediment bioassay, elutriate and water chemistry, or water column bioassays in any of the samples collected from the dredge units.

Table 2. Percent fines of the bend widener geotechnical borings.

Boring	Percent Fines
BW-01	82
BW-02	71
BW-03	8
BW-04	6
BW-05	8

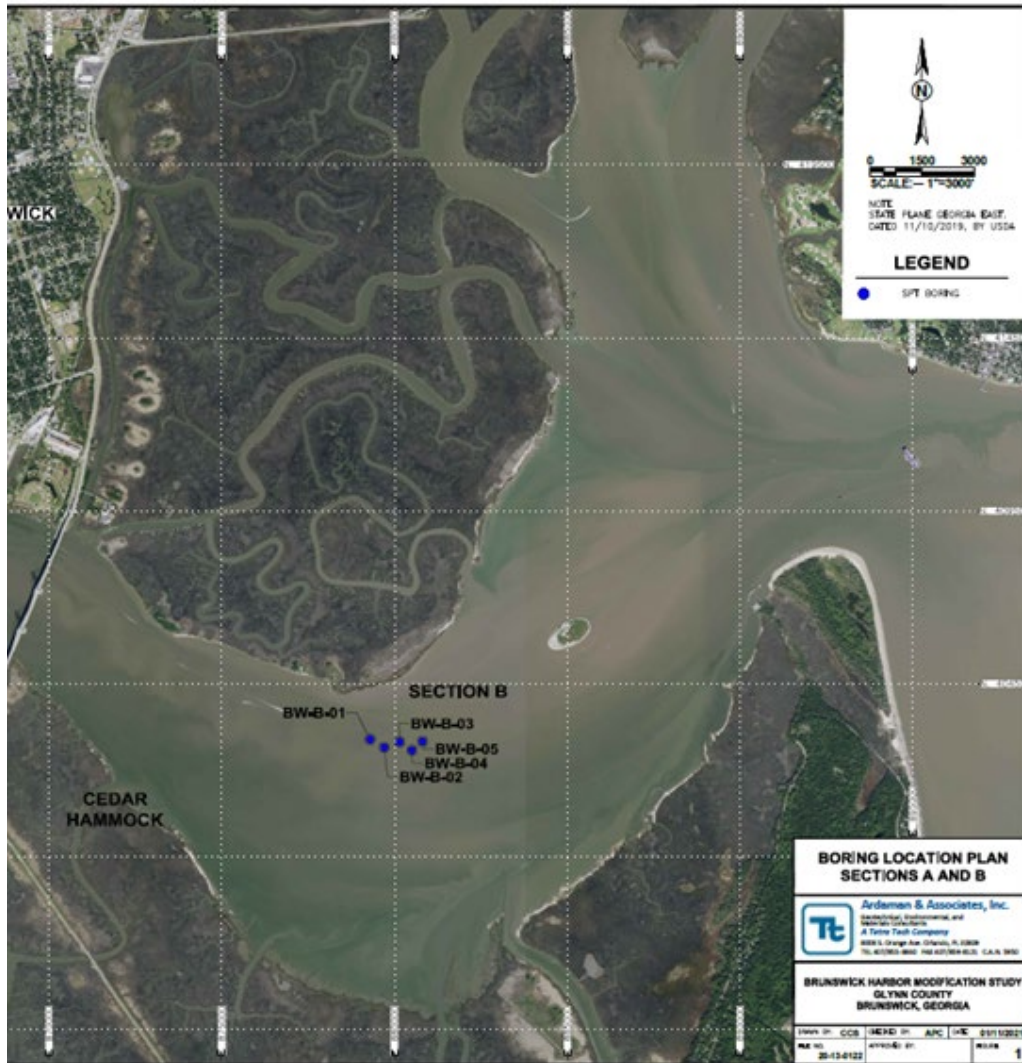


Figure 6. Location of the 2021 BHMP geotechnical borings in the Cedar Hammock bend widener expansion.

Future placements to replace eroded material within the template will use material from the BHNP. When the shoreline nourishment site is determined to need more material,

suitable O&M material will be chosen from the inner harbor or entrance channel. Anamar Environmental Consulting, Inc conducted Tier III sediment testing of the Brunswick Harbor O&M material in 2015 in accordance with MPRSA Section 103. The project sediments were divided into 8 dredge units. The results of the grain size are listed in Table 3 below. Chemical testing was also conducted as part of this testing event. There were no significant levels of concern for chemicals, whole sediment bioassay, elutriate and water chemistry, or water column bioassays in any of the samples collected from the dredge units.

Table 3. Dredging Unit Stations and Grain Size.

Dredging Unit	Dredging Sub-Units	Stations	Grain Size (approx. % sand)
Bar-CH (Cedar Hammock Range)	(none)	+12+750 to 22+000	69.9
Bar-1/2 (Bar 1 Reach & Bar 2 Reach)	(none)	0+000 to -19+000	94.4
Bar-3 (Bar 3 Reach)	(none)	-19+000 to -23+000	77.3
Bar-4A (Northern portion of Bar 4 Reach)	Bar-4A-1	-23+000 to -25+500	48.5
	Bar-4A-2	-25+500 to -28+000	53.7
Bar-4B (Southern portion of Bar 4 Reach)	Bar-4B-1	-28+000 to -30+500	64.4
	Bar-4B-2	-30+500 to -33+500	46.3
Bar-5 (Bar 5 Reach)	Bar-5A	-33+500 to -36+500	55.5
	Bar-5B	-36+500 to -56+500	39.9
WD-1 (Widener 1 [sediment trap])	(none)	14+500 to -16+600	90.0
WD-2 (Widener 2 [sediment trap])	(none)	20+000 to -29+000	68.2
ODMDS-Sed A	(none)	n/a	88.5
ODMDS-Sed B	(none)	n/a	75.2
ODMDS-Sed C	(none)	n/a	95.5
RS-BW-C (Reference)	(none)	n/a	86

"(3) Jeopardizes the continued existence of species listed as endangered and threatened under the Endangered Species Act of 1973, as amended, or results in

likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended."

The proposed action would not jeopardize the continued existence of any ESA-listed species. A full evaluation of effects to ESA-listed species under US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) jurisdiction can be found in Section 3.7 of the EA. A summary of section 7 consultation under ESA can also be found in Section 5 of the EA. For USFWS ESA-listed species, the Corps has made a "may affect, but not likely to adversely affect" determination for the West Indian manatee and wood stork. There is no designated critical habitat in the project location. The Corp has prepared a biological assessment detailing the effect analysis. The Corps received concurrence from USFWS regarding the effects determinations on December 12, 2023. The USFWS coordination and biological assessment is located in Appendix A.

For NMFS ESA-listed species, the Corps has made a determination of no effect and MANLAA for shoreline nourishment and submitted an expedited informal consultation to NMFS Protected Resource Division. Based on the analysis, the Corps has determined that the project will "not likely adversely affect" (NLAA) the following species: Kemp's Ridley sea turtle, loggerhead sea turtle, green sea turtle, Atlantic and shortnose sturgeon, and giant manta ray. The NMFS consultation and biological assessment is provided in Appendix B. NMFS completed review of the consultation on November 17, 2023. Based on the agency's knowledge, expertise, and the Corps' materials, NMFS concurred with the Corps' conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat.

"(4) Violates any requirements imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection Research and Sanctuaries Act of 1972."

No marine sanctuaries would be affected by the proposed action.

"(c) Except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States. Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by Subparts B and G of the consideration of Subparts C-F with special emphasis on the persistence and permanence of the effects contributing to significant degradation considered individually or collectively include:"

"(1) Significantly adverse effects of the discharge of pollutants on human health or welfare including, but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites."

The proposed action will not result in significant adverse effects on human health or welfare. All appropriate measures will be implemented to avoid and minimize adverse effects to the environment. The proposed BU of dredged material is expected to result in an overall benefit to wildlife, specifically migratory birds.

Special aquatic sites include wetlands. No placement will be occurring on wetlands, but in the intertidal and subtidal zones. No impacts to wetlands are anticipated.

Fish and shellfish may experience temporary impacts as a result of placement in the benthic environments. Shoreline nourishment may adversely affect bottom-dwelling organisms at the site by smothering immobile organisms or forcing mobile organisms to migrate from the area. It is expected that this direct impact will be temporary after initial placement and future maintenance placements.

5.2. Factual Determination. - (Section 230.11)

5.2.1 Physical Substrate Determinations

Consideration shall be given to the similarity in particle size, shape, and degree of compaction of the material proposed for discharge and the material constituting the substrate at the disposal site and any potential changes in substrate elevation and bottom contours.

1) Substrate Elevation and Slope

The proposed shoreline nourishment action will include placement of dredged material that will alter existing contours and elevations at the placement location; however, alteration of existing contours and elevations are necessary to shape the design. Placement of the dredged sediment will be designed to mimic the natural slope and elevation.

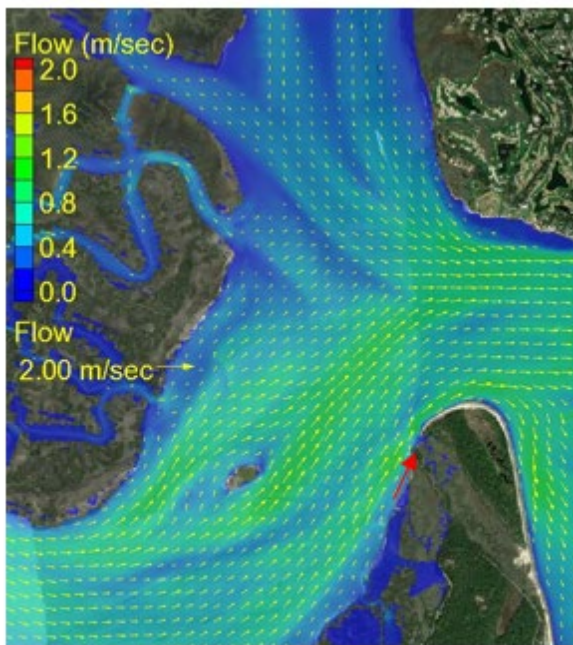
2) Sediment Type

The BHMS sediment being placed in the shoreline nourishment template will be 70% sand or greater. The dredged material is similar to the sediment at the BU locations in size and shape as well. Future maintenance dredged material is to be determined based on location of the shoal, percent fines, and proximity to the placement site.

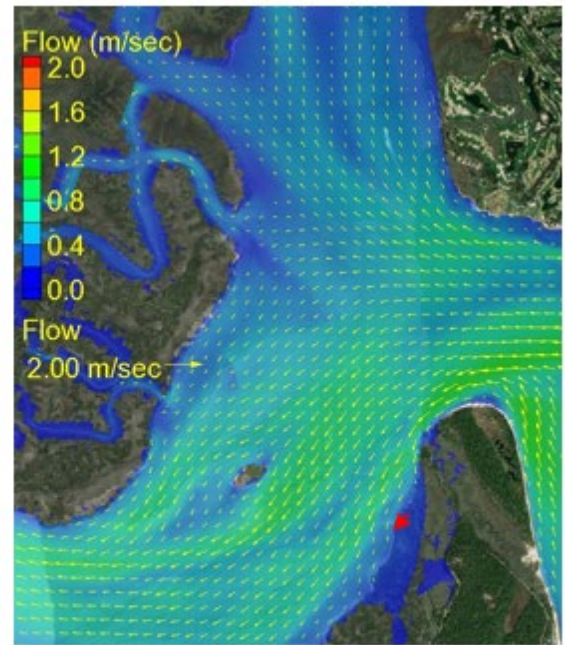
3) Dredged/Fill Material Movement

The placement material will be mainly subjected to wave refraction along the shoreline, riverine flows, and tidal activity along the lower Brunswick River. Material placement-generated turbidity plumes are limited to an area only a few hundred feet to a few thousand feet and most turbidity settles out quickly once material placement is complete (2020 SARBO, Section 3.1.1.2). Turbidity plume directions have been estimated for the placement activity. Turbidity plumes estimations were generated based on Coastal Modeling System (CMS)-Flow modeling completed by the USACE Engineering Research Development Center (ERDC) (Figure 7). CMS-Flow is a coupled hydrodynamic and sediment transport model capable of simulating depth-averaged circulation, sediment transport, and salinity and temperature due to tides, wind and

waves, and the resulting morphology change. Ebb-tidal flows and flood tidal flows were simulated using the CMS-Flow numerical model. Based on this modeling effort, the general pattern of flow in the proposed action area is north to south along the shoreline. The flow along the area appears to be up to 0.4 m/sec during the ebb and tidal flow simulations. The general sediment transport is shown with red arrows (Figure 8). It is expected that most of the material placed will remain in the template, but there may be some minor turbidity plumes generated during placement. The direction will be dependent on the tidal flows at time of construction. According to the modeling, the longshore transport south of the Jekyll Island Pier, which is primarily affected by daily tidal currents (both flood and ebb currents), is directed more southward. The cross-shore transport is also significant to cause shoreline erosion and deposit sediment away from the shoreline. Therefore, turbidity plumes are expected to primarily move southward with some moving cross-shore, but this is also dependent upon tidal flows (flood and ebb conditions). It is expected that the material placed will erode slowly over time.



(1) An ebb tidal flow simulated by CMS-flow



(2) A flood tidal flow simulated by CMS-flow

Figure 7. (1) Red arrow is estimated turbidity plume direction during ebb tide. (2) Red arrow is estimated turbidity plume direction during flood tide. Further detail of flow is depicted by the yellow arrows from the GenCade modeling results.

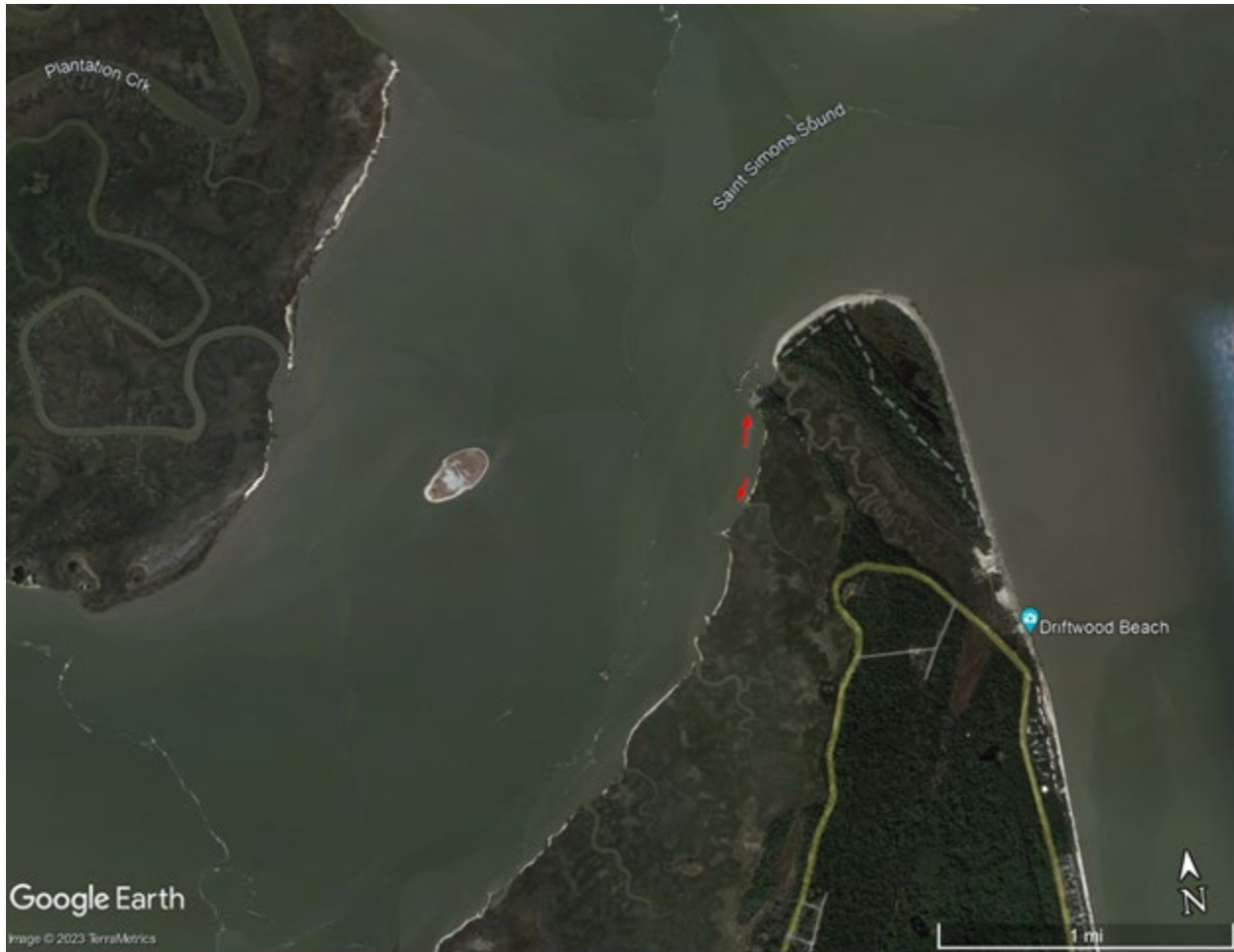


Figure 8. General turbidity plume directions at placement location during ebb and flood tides.

4) Physical Effects on Benthos

Existing benthic organisms will be adversely affected in the immediate areas of the placement; however, benthic organisms are expected to quickly rebound from the short-term impacts of material placement at the shoreline nourishment site.

5.2.2. Water Circulation, Fluctuation, and Salinity Determinations

Determine the nature and degree of effect that the proposed discharge will have individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation.

1) Water Column

- a. **Salinity:** There are no anticipated impacts expected to salinity as a result of any of BU placement.

- b. **Water Chemistry:** There are no anticipated impacts expected to water chemistry as a result of BU placement.
- c. **Clarity and Color:** There may be local and temporary increase in turbidity during placement; however, the turbidity plumes will dissipate quickly.
- d. **Odor:** Placement activities are not expected to have any effects on odor in the action areas.
- e. **Taste:** Not applicable. Water in the proposed placement area is not used as a drinking water source.
- f. **Dissolved Gas Levels:** Dissolved oxygen levels are not expected to be impacted by placement.
- g. **Nutrients:** There are no anticipated impacts expected to nutrients.

2) *Current Patterns and Circulation*

- a. **Current Patterns and Flow.** Currents in the project area are primarily tidally influenced and receive minor influence from wind-driven wave action and riverine flow. Placement for shoreline nourishment will cause effects to flow in the general location of the placement site.
- b. **Velocity:** Effects on water velocity would be minimal to non-existent for the placement site.
- c. **Stratification:** No change in stratification is anticipated.
- d. **Hydrologic Regime:** The hydrologic regime in this area is primarily tidally influenced. Therefore, the hydrologic regime would not be affected. Variable river patterns will remain the same.

3) *Normal Water Level Fluctuations and Salinity Gradients*

The BU placement activity will have no adverse impact to these characteristics and would not affect salinity gradients in the area.

5.2.3. Suspended Particulate/Turbidity Determinations

1) *Expected Changes in Suspended Particulates and Turbidity Levels in the Vicinity of the Disposal Site*

There will be temporary increases in turbidity levels in the placement area during placement activities. However, turbidity will be temporary and localized, and no significant adverse effects are expected.

2) *Effects (degree and duration) on Chemical and Physical Properties of the Water Column*

- a. **Light Penetration:** Light penetration will decrease temporarily during placement in the immediate area where dredged material is being deposited. This will be temporary and have no impact on the environment.

- b. **Dissolved Oxygen:** Dissolved oxygen levels will not be altered by BU placement. No anoxic layers of sediment will be exposed or placed.
- c. **Toxic Metals, Organics, and Pathogens:** No toxic metals, organics, or pathogens will be released or placed as a result of the placement and dredging activities. Clean dredged material will be used as determined by the 2021 Ardaman & Associates Tier III testing of the Cedar Hammock bend widener material and then 2016 Anamar Environmental Consulting, Inc. Tier III testing of the O&M material of the Brunswick Harbor.
- d. **Aesthetics:** Aesthetic quality of the specified portion of the Brunswick River side of Jekyll Island will be temporarily reduced due to placement activities while the work is occurring.

3) *Effects on Biota*

- a. **Primary Production and Photosynthesis:** In the portion of the shoreline along Jekyll Island where placement is proposed, riverine and tidal flows most likely carry photosynthetic organisms across the area. Minor impacts may occur to these organisms temporarily due to initial and future placements.
- b. **Suspension/Filter Feeders:** Placement of dredged material may contribute to the clogging of siphons or filter-feeders. This is expected to be a temporary condition. Conditions for existing filter-feeders should return to normal once as placement activities in the area are complete.
- c. **Sight Feeders:** Elevated turbidity levels will have a short-term adverse effect on sight feeder organisms. However, these organisms are highly mobile and can migrate to more favorable areas to fulfill their nutritional requirements during the short-term.

5.2.4. Contaminant Determinations

Deposited dredged material into the Proposed action area will be similar to the surrounding area and would not introduce, relocate, or increase contaminants in the proposed BU location. The Corps has conducted physical and chemical testing of the dredged material of the BHMP and O&M material and did not identify any potential contamination issues. The most recent sampling and testing of the source material occurred in 2020 (2021 Environmental Site Investigation Report for the Design Services in Support of the Brunswick Harbor Modification Study, Glynn County, Georgia), and is included as Appendix J.

5.2.5. Aquatic Ecosystem and Organism Determinations

1) *Effects on Plankton*

Decreased light transmission caused by suspended placement material may have a temporary adverse effect on plankton; however, due to the existing turbid conditions, this effect is expected to be minor and temporary.

2) *Effects on Benthos*

Existing benthic organisms may be permanently lost in the shoreline nourishment location. Elevation of the placement will be above the mean highwater (MHW) mark; therefore, repopulation of benthic organisms will not occur in the areas above the MHW mark. However, repopulation of benthic organisms will occur below the MHW mark once as placement activities have ceased due to their high fecundity and turnover rate.

3) *Effects on Nekton*

Direct impacts to mobile organisms will be minor due to their ability to avoid adverse conditions. Some larval fishes may be impacted by placement. Impacts will be temporary and minor and would not significantly affect the local fish stocks.

4) *Effect on Aquatic Food Web*

- a. **Sanctuaries and Refuges:** Not applicable. There are no special aquatic sites in the proposed placement location.
- b. **Wetlands:** Wetlands exist adjacent to the proposed BU location. Wetlands are expected to be benefitted in the long-term as a result of shoreline stabilization from the shoreline nourishment placement. Placement of dredged material will not be occurring on any wetlands.
- c. **Mud Flats:** No mudflats will be impacted as a result of BU placement and dredge activities.
- d. **Vegetated Shallows:** Not applicable; there are no species of submerged aquatic vegetation in the placement areas.
- e. **Coral Reefs:** Not applicable; there are no coral reefs in the action area.
- f. **Riffle and Pool Complexes:** Not applicable; not found in the action area.

5) *Threatened and Endangered Species*

The proposed action would not jeopardize the continued existence of any ESA-listed species. A full evaluation of effects to ESA-listed species can be found in Section 3.6 of the EA. A summary of section 7 consultation under ESA can also be found in Section 5 of the EA. Informal expedited consultation was completed with the NMFS PRD on November 17, 2023 (Appendix B). Based on the agency's knowledge, expertise, and the Corps' materials, NMFS concurred with the Corps' conclusions that the proposed action is not likely to adversely affect the NMFS ESA-listed species and/or designated critical habitat. The Corps received concurrence from USFWS regarding the MANLAA and no effects determinations on December 12, 2023. The USFWS coordination and biological assessment is located in Appendix A.

6) *Other Wildlife*

Placement of dredged material is not expected to have long-term adverse impacts on wading birds or terrestrial foraging animals. Nourishment of the shoreline nourishment is expected to have long-term benefits to shorebirds and seabirds.

5.2.6. Proposed Disposal Site Determinations

1) *Mixing Zone Determination*

Dredged material placement in the proposed area will not cause unacceptable changes in the mixing zone specific in the Water Quality Certificate in relation to depth, current, velocity, direction and variability, degree of turbulence, stratification, or ambient concentrations of constituents.

2) *Determination of Compliance with Applicable Water Quality Standards*

The project would comply with all applicable water quality standards.

3) *Potential Effects on Human Use Characteristics*

- a. **Municipal and Private Water Supply:** Not applicable; municipal drinking water is not supplied within the action area. The Corps is not aware of any private water supplies, as Jekyll Island is owned by the state and managed by the Jekyll Island Authority.
- b. **Recreational and Commercial Fisheries:** Recreational and commercial fisheries may be temporarily impacted by the placement of material during placement activities. Boaters may have to avoid the dredging vessels and the placement location but will still be able to maneuver around the vessels and placement areas.
- c. **Water Related Recreation:** The Brunswick River is used for recreational boating. During placement activities, recreational boaters may have to avoid dredge vessels and placement areas, but this will be temporary.
- d. **Aesthetics:** No long-term loss to visual aesthetics will occur; however, during construction equipment will be visible. This would be considered only a temporary and insignificant impact to aesthetics.
- e. **Parks, National and Historic Monuments, National Seashores Wilderness Areas, Research Sites, and Similar Preserves:** Jekyll Island is a Georgia state park. JIA proposed the shoreline nourishment site as it will be beneficial to protecting the island's northern shoreline southwest of the Jekyll Island Fishing Pier. Overall, the shoreline nourishment site is expected to have short-term and long-term benefits to Jekyll Island as a permanent placement site.

5.2.7. Determination of Secondary and Cumulative Effects on the Aquatic Ecosystem

The proposed placement of dredged material would have no adverse impacts that would result in degradation of the natural, cultural, or recreational resources of the project area. The project would have no incremental impacts that, when considered with past, present, and reasonably foreseeable future project, would result in major cumulative impairment of water resources, or interfere with the productivity and water quality of the existing aquatic ecosystem. The proposed BU placement activities are temporary in nature.

5.3. Actions to Minimize Adverse Effects

In efforts to avoid environmental adverse effects, a number of measures will be taken. Placement for the shoreline nourishment site will not occur on active oyster-beds. The oyster-bed areas have been identified south of the placement area, and none are within the proposed placement location. No dredged material or construction equipment will be placed on adjacent wetlands or vegetation.

5.4. Findings of Compliance or Non-Compliance with the Restrictions on Discharge (Section 230.12)

- A.** No significant adaptation of the Section 404(b) guidelines was made relative to this evaluation.
- B.** There are no practicable alternatives to the proposed beneficial use placement site that would have less adverse impact on the aquatic ecosystem.
- C.** The proposed actions described in this evaluation would not cause or contribute to violations of any known applicable state water quality standards.
- D.** The proposed action would not jeopardize the continued existence of any ESA-listed species. A full evaluation of effects to ESA-listed species can be found in Section 3.6 of the EA. A summary of section 7 consultation under ESA can also be found in Section 5 of the EA and Appendix H.
- E.** The proposed BU action will not result in significant adverse effects on human health and welfare, recreational and commercial fishing, plankton, fish, shellfish, wildlife, special aquatic sites, or overall ecosystem diversity, productivity, and stability.
- F.** The composition of the dredged material would not contribute organics or pollutants to the aquatic environment. All responsible precautions will be taken to prevent hazardous materials discharge from all activity or equipment.
- G.** Appropriate steps to minimize potential adverse impacts from the proposed action will be implemented.
- H.** On the Basis of the Guidelines, the Proposed Disposal Site(s) for the Discharge of Fill Material is specified as complying with the requirements of the Clean

Water Act Section 404(b)(1) guidelines, with the inclusion of appropriate and practical conditions to minimize adverse effects on the aquatic ecosystem.

Table 4 below is a summary of the effects on public interest factors under the CWA. The Corps concludes that the proposed BU placement types and dredging operations are in the public interest.

Table 4. Analysis of Public Interest Factors Under the CWA.

Table 4: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: The study area largely consists of open water that receive semidiurnal tidal flushing. No sanctuaries or refuges are located within the study area. Therefore, the Corps has determined that the proposed action would have no effect on conservation.	X					
2. Economics: The evaluation of impacts and benefits of the proposed action on economics has been dismissed from further analysis in the EA (Section 3.1). It has been determined that the proposed BU placement will have minor effects on economics.	X					
3. Aesthetics: The evaluation of impacts of the proposed action on aesthetics has been included for further analysis in the EA (Section X.X). During construction, equipment used for placement will be visible, resulting in a temporary change in the visual aesthetics. Placement within the BU site would mimic natural habitats in the project area. Therefore, the project would have a temporary minor effect on aesthetics.				X		
4. General Environmental Concerns: The environmental concerns for the proposed action focuses on the potential impacts on climate change, topography and soils, essential fish habitat, aquatic resources, vegetation, cultural resources, fish, wildlife, and food chain organisms. Each of these concerns was discussed in Section 3 of the EA and further described herein. No other adverse environmental impacts are anticipated. Therefore, the Corps has determined that the net effect of this action on the environmental factors, which were evaluated in the previously enumerated public interest factors, would be negligible.				X		

Table 4: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
5. Wetlands: The evaluation of impacts of the proposed action on wetlands has been analyzed in Section 3.4, Wetlands, in the EA and here this 404(b)(1) Evaluation. The Corps has determined that the proposed action would have a negligible effect on wetlands. Adjacent wetlands on Jekyll Island are expected to be benefitted from the shoreline nourishment due to protection from erosional forces.					X	
6. Historic Properties: The evaluation of impacts of the proposed action on historic properties has been analyzed in Section 3.10, Cultural Resources, in the EA. The Corps has determined that the proposed project would have a minor beneficial effect on cultural resources in accordance with the Programmatic Agreement executed between the Corps and the GA HPD (Appendix H).					X	
7. Fish and Wildlife Values: The evaluation of impacts of the proposed action on fish and wildlife values has been analyzed in Section 3.7, Protected Species and Section 3.8, Essential Fish Habitat in the EA and Appendix I, 404(b)(1) Evaluation. The Corps has determined that the proposed action would have a negligible effect on fish and wildlife values. There will be an overall benefit to birds due to providing foraging habitat as a result of the shoreline nourishment.				X		
8. Flood Hazards: The Corps has determined that the proposed action would have no effect on flood hazards.	X					
9. Floodplain Values: The Corps has determined that the proposed action would have no effect on floodplain values.	X					
10. Land Use: The proposed placement area is subject to recreational boaters, fisheries, and consists largely of riverine habitat. The proposed action would not change the present land use in the study area. Therefore, the Corps has determined that the proposed project would have no effect on land use.	X					

Table 4: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
11. Navigation: The proposed beneficial use action would have no effect to navigation. Boaters will still be able to navigate around the restored bird habitat and the nearshore linear berm. Navigation is expected to be benefited through the proposed deepened portions of the river. Navigation is included in Section 3.1, Resources Dismissed from Detailed Analysis in the EA. The Corps has determined that the proposed action would have no effect on navigation.	X					
12. Shoreline Erosion and Accretion: The proposed beneficial use area is exposed to tidal and riverine activity. The area is considered to be an erosional hotspot, with an average shoreline loss of 2 m/yr. Placement in this location is expected to reduce shoreline erosion. The Corps has determined that the proposed action would have a beneficial effect on shoreline erosion.					X	
13. Recreation: The evaluation of impacts of the proposed action on recreation has been analyzed in Section 3.10, Recreation, in the EA. Recreational boaters use the Brunswick River. It is expected that boaters will be able to navigate around dredging vessels and the placement location. Jekyll Island is a popular recreational area, and there may be minor negative impacts to recreation in the placement area.				X		
14. Water Supply and Conservation: The primary raw water source for communities located within and adjacent to the placement area is the Upper Floridan Aquifer, a limestone formation that runs under the entirety of Glynn County, GA. The Corps has determined that the proposed action would have no effect on water supply and conservation.	X					
15. Water Quality: The evaluation of impacts of the proposed action on water quality has been analyzed in Section 3.3, Water Quality, in the EA and in this 404 (b)(1) Evaluation. The Corps has determined that the proposed action would have a negligible effect on water quality due to temporary turbidity plumes generated by placement.				X		
16. Energy Needs: Energy in the form of electricity, petroleum fuels, natural gas, etc. would be used during the construction phases of the proposed action. These energy	X					

Table 4: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
sources are readily available and are expected to be available in the future. Therefore, the Corps has determined that the proposed action would have no effect on energy needs.						
17. Safety: The Corps has determined that the proposed action would have no effect on safety.	X					
18. Food and Fiber Production: The proposed action area is subject to the recreational activities. The proposed action would provide no opportunity for food or fiber production. Therefore, the Corps has determined that there would be no effect to food or fiber production.	X					
19. Mineral Needs: Construction materials associated with the disposal of sediment would be used during the construction phase of the proposed action. These materials are readily available and are expected to be available in the future. Therefore, the Corps has determined that construction of this project would have no effect on mineral needs concerns.	X					
20. Consideration of Property Ownership: Property ownership has been dismissed from further analysis in Section 3.1 of the Supplemental EA. The Corps has determined that the proposed action would have no effect on considerations of property ownership. Jekyll Island is the owner of the placement area.	X					
21. Needs and Welfare of the People: The Corps has determined that the proposed action would have no effect on needs and welfare of the people.	X					

5.5. Conclusions

At this time and based on the foregoing analysis, the proposed action alternative is consistent with applicable 404(b)(1) Guidelines and state water quality standards. Georgia Department of Natural Resources Environmental Protection Division Watershed Unit is reviewing the Corps evaluation, and this report will be updated upon receipt of their comment. The proposed shoreline nourishment activity would not cause or contribute to significant degradation of the waters of the United States. The proposed action is considered the least environmentally damaging practicable alternative (LEDPA) as it will

not result in significant adverse environmental consequences and is expected to have beneficial effects to the environment.

6. References

ANAMAR Environmental Consulting, Inc., Evaluation of Dredged Sediment from the Brunswick Harbor Navigation Project in Accordance with MPRSA Section 103, Brunswick, Georgia. May 2016.

Ardaman & Associates, Inc. 2021. Environmental Site Investigation Report for the Design Services in Support of the Brunswick Harbor Modification Study, Glynn County, Georgia. W912HN-17-D-0005.

USACE. 2022. Brunswick Harbor Navigation Project Modifications and Harbor Dredging Operations and Maintenance, Glynn County, Georgia. FINAL Integrated Feasibility Report and Environmental Assessment and Finding of No Significant Impact.

USACE. 2023. Brunswick Harbor Modifications Project Jekyll Island Fishing Pier Shoreline Nourishment Supplemental Environmental Assessment and Finding of No Significant Impacts.