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# **ENVIRONMENTAL IMPACT STATEMENT**

## **APPENDIX G: Programmatic Agreement for Cultural Resources**

**SAVANNAH HARBOR EXPANSION PROJECT**  
Chatham County, Georgia and Jasper County, South Carolina

**January 2012**

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**US Army Corps  
of Engineers**  
*Savannah District  
South Atlantic Division*

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# **PROGRAMMATIC AGREEMENT**

**AMONG THE US ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT,  
THE GEORGIA STATE HISTORIC PRESERVATION OFFICER,  
THE SOUTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,  
AND THE US NAVY NAVAL HISTORY AND HERITAGE COMMAND**

WHEREAS, the US Army Corps of Engineers, Savannah District (Savannah District), proposes to expand the Savannah Harbor Navigation Project by deepening the existing navigation channel between station 103+000 and -60+000 by up to 6 feet, extending the bar channel seaward, constructing bend wideners in selected areas along the existing channel, deepening the existing Kings Island Turning Basin, constructing passing lanes, disposing of dredged material in existing disposal areas and possible new sites, and creating fish and wildlife mitigation lands, as described in the attached letter report, and

WHEREAS, the Savannah Harbor Expansion Project lies within the States of South Carolina and Georgia, and

WHEREAS, the Savannah District recognizes that the proposed Savannah Harbor Expansion Project may have an effect upon properties included in or eligible for inclusion in the National Register of Historic Places (National Register) and has consulted with the Advisory Council on Historic Preservation (Council), the Georgia State Historic Preservation Officer (Georgia SHPO), and the South Carolina State Historic Preservation Officer (South Carolina SHPO) pursuant to regulation 36 CFR, Part 800 implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470h-2(f), and

WHEREAS, the Naval History and Heritage Command of the US Navy (US Navy) owns the National Register listed property CSS *Georgia* and has requested to be a Consulting Party for actions associated with this resource, and

WHEREAS, the definitions given in Appendix A are applicable throughout this Programmatic Agreement;

NOW THEREFORE, the Savannah District, the Consulting Parties composed of the Council, Georgia SHPO, the South Carolina SHPO, and US Navy agree that the project shall be administered in accordance with the following stipulations to satisfy Savannah District's Section 106 responsibilities for all individual aspects of the project.

## **Site Specific Stipulations**

The Savannah District, subject to receiving funds appropriated by the Congress of the United States, shall ensure that the following measures are carried out:

In consultation with the consulting parties, the Savannah District shall prepare and implement a data recovery plan to mitigate impacts of the Savannah Harbor Expansion Project upon the CSS *Georgia*. The plan shall meet all requirements contained in the General Stipulations section of this Programmatic Agreement.

## **General Stipulations**

The Savannah District, subject to receiving funds appropriated by the Congress of the United States, will ensure that the following measures are carried out:

1. The Savannah District shall ensure that archeological surveys of areas that may be affected by the proposed Savannah Harbor Expansion Project are conducted in a manner consistent with the Secretary of Interior's Standards and Guidelines for Identification (48 F.R. 44720-23) and any standards and guidelines developed by the Georgia SHPO and the South Carolina SHPO. The surveys shall be conducted in consultation with the Georgia SHPO and the South Carolina SHPO, and reports of the survey shall be submitted to the Georgia SHPO and the South Carolina SHPO for review and comment.
2. The Savannah District shall evaluate properties identified through the surveys in accordance with 36 CFR, Part 800.4. If the survey results in the identification of properties that are eligible for, or included in, the National Register of Historic Places, Savannah District shall determine the effect of the proposed project upon those resources in accordance with 36 CFR, Part 800.5.
3. The Savannah District shall identify and evaluate alternatives to avoid and/or mitigate adverse effects to properties determined eligible for inclusion, or included in, the National Register of Historic Places in accordance with 36 C.F.R. Part 800.6.
4. The Savannah District shall insure that data recovery plans are developed in consultation with the Georgia SHPO or South Carolina SHPO (as appropriate), and US Navy (as appropriate) for the recovery of archaeological data from properties determined eligible for inclusion in the National Register of Historic Places. The plans shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archeological Documentation (48 F.R. 44734-37) and take into account the Council's publication, *Treatment of Archeological Properties* (Advisory Council on Historic Preservation 1980), and any standards and guidelines set forth by the Georgia SHPO, South Carolina SHPO, and US Navy (as appropriate). The plans shall specify, at a minimum:
  - a. the property, properties, or portions of properties where data recovery is to be carried out;
  - b. any property, properties, or portions of properties that will be destroyed without data recovery;

c. the research questions to be addressed through the data recovery, with an explanation of their relevance and importance;

d. the methods to be used, with an explanation of their relevance to the research questions;

e. the methods to be used in analysis, data management, and dissemination of data, including a schedule;

f. the proposed disposition of recovered materials and records;

g. proposed methods for involving the interested public in the data recovery;

h. proposed methods for disseminating results of the work to the interested public;

i. proposed methods by which local historic sites and historic preservation agencies and individuals will be kept informed of the work and afforded the opportunity to participate; and,

j. a proposed schedule for the submission of progress reports to the Savannah District, the Georgia SHPO, South Carolina SHPO, US Navy (as appropriate), and the Council.

5. The data recovery plans shall be submitted by the Savannah District to the Georgia SHPO and/or South Carolina SHPO (as appropriate), the US Navy (as appropriate), and the Council for 45 days review. Unless the Georgia SHPO, South Carolina SHPO, the US Navy (as appropriate), or the Council objects within 45 days after receipt of a data recovery plan, the Savannah District shall ensure that it is implemented.

6. The Savannah District shall ensure that all archeological survey, testing, and data recovery work carried out pursuant to this Programmatic Agreement is carried out by or under the direct supervision of a person or persons meeting at a minimum the standards for archeologist set forth in the Secretary of the Interior's Standards and Guidelines for Archeological Documentation (48 F.R. 44716-42).

7. The Savannah District shall ensure that all materials and records resulting from survey, testing, and data recovery are curated in accordance with 36 CFR, Part 79.

8. The Savannah District shall ensure that all final archeological reports resulting from actions pursuant to this agreement will be provided to the Georgia SHPO, the South Carolina SHPO, the US Navy (as appropriate), and the Council. The Savannah District shall ensure that all such reports are responsive to the contemporary professional standards, and to the Department of Interior's Format Standards for Final Reports of Data Recovery Programs (42 F.R. 5377-79).

9. Any party to this Programmatic Agreement may request that it be amended, whereupon the parties will consult in accordance with 36 CFR, Part 800.6(c)(7) to consider amendment.

10. The Council, the Georgia SHPO, the South Carolina SHPO, and US Navy (as appropriate) may monitor activities carried out pursuant to this Programmatic Agreement, and the Council will review such activities if so requested. The Savannah District will cooperate with the Council, the Georgia SHPO, the South Carolina SHPO, and the US Navy (as appropriate) in carrying out their monitoring and review responsibilities.

11. The parties to this agreement shall consult to review implementation of the terms of this agreement and determine whether revisions are needed. If revisions are needed, the parties to this agreement will consult in accordance with 36 CFR, Part 800 to make such revisions.

12. Any party to this agreement may terminate it by providing 30 days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the Savannah District will comply with 36 CFR, Parts 800.4 through 800.6 with regard to individual undertakings covered by this Programmatic Agreement.

13. Should the Georgia SHPO, South Carolina SHPO, the US Navy (as appropriate), or the Council object within 45 days to any actions proposed pursuant to the agreement, the Savannah District shall consult with the objecting party to resolve the objection. If the Savannah District determines that the objection cannot be resolved, the Savannah District shall request further comments of the Council pursuant to 36 CFR, Part 800.7. Any Council comment provided in response to such a request will be taken into account by the Savannah District in accordance with 36 CFR, Part 800.7 with reference only to the subject of the dispute; the Savannah District's responsibility to carry out all actions under this agreement that are not the subjects of the dispute will remain unchanged.

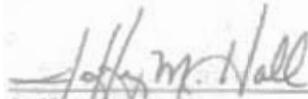
14. At any time during implementation to the measures stipulated in this agreement, should an objection to any such measure be raised by a member of the public, the Savannah District shall take the objection into account and consult as needed with the objecting party, the Georgia SHPO, the South Carolina SHPO, the US Navy (as appropriate), or the Council to resolve the objection.

15. In the event the Savannah District does not carry out the terms of the Programmatic Agreement, the Savannah District will comply with 36 CFR, Parts 800.4 through 800.6 with regard to individual undertakings covered by this Programmatic Agreement.

Execution and implementation of this Programmatic Agreement evidences that the Savannah District has satisfied its Section 106 responsibilities for all individual undertakings of the program.

16. Nothing herein shall constitute, or be deemed to constitute, an obligation of future appropriations by the United States.

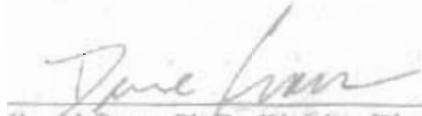
US ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT:



DATE: 4 Nov 2011

Jeffrey M. Hall  
Colonel, US Army  
Commanding

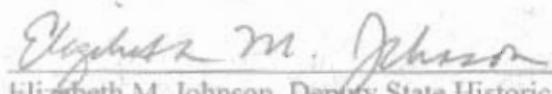
GEORGIA STATE HISTORIC PRESERVATION OFFICER:



DATE: 22 Nov. '11

David Crass, Ph.D., Division Director and Deputy State Historic Preservation Officer

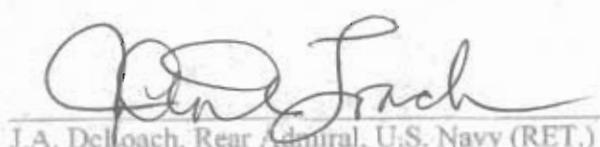
SOUTH CAROLINA STATE HISTORIC PRESERVATION OFFICER:



DATE: 11/30/2011

Elizabeth M. Johnson, Deputy State Historic Preservation Officer

US NAVY, NAVAL HISTORY AND HERITAGE COMMAND:



DATE: 2/23/12

J.A. Deloach, Rear Admiral, U.S. Navy (RET.)  
Director, Naval History and Heritage Command

## **APPENDIX A**

### **DEFINITIONS**

**Consulting Parties.** The consulting parties for the entire project include the US Army Corps of Engineers, Savannah District, the Georgia State Historic Preservation Officer, the South Carolina State Historic Preservation Officer, and the Advisory Council on Historic Preservation. The Naval History and Heritage Command of the US Navy is a Consulting Party for any actions regarding the National Register listed property *CSS Georgia*.

**CSS *Georgia*.** The *CSS Georgia* was a Confederate ironclad that was constructed in Savannah in 1862, served in the harbor during the Civil War, and was scuttled on December 21, 1864, to prevent capture. The wreck site is located on the Savannah Harbor navigation channel bottom and side slope within Chatham County, Georgia, and Jasper County, South Carolina. The site was listed in the National Register of Historic Places in 1982 at the national level of significance for its architecture, association with important historical personages and events, and for its ability to provide information important in history. The vessel is owned by the US Government and is administered by the US Navy. The Naval History and Heritage Command of the US Navy will act as a Consulting Party for actions affecting this resource.

## **Savannah Harbor Expansion Project Historic Properties**

### **I. Previous and Proposed Agreement Documents for the Savannah Harbor Navigation Project**

In 1992, Savannah District, the South Carolina and Georgia State Historic Preservation Offices, and the Advisory Council on Historic Preservation entered into a Programmatic Agreement to address impacts of the then existing Savannah Harbor Navigation Project and the then proposed harbor deepening project. This deepening project was completed in 1994. All stipulations of the agreement have been carried out.

In 1992, Savannah District, the South Carolina and Georgia State Historic Preservation Offices, and the Advisory Council on Historic Preservation entered into a Programmatic Agreement to address impacts associated with the closing of New Cut and removing the tide gate from operation in Savannah Harbor. Compliance with Stipulation 12 is continuing. All other stipulations have been carried out.

Stipulation 12 states: “In consultation with the Council, the GASHPO, and the SCSHPO, Savannah District will prepare a Memorandum of Agreement to outline procedures for identifying, evaluating, and mitigating and/or removing adverse effects of the Savannah Harbor Navigation Project upon the CSS *Georgia*, a property listed in the National Register of Historic Places.”

In 2002, Savannah District and the Georgia Ports Authority initiated studies of the CSS *Georgia* to determine the effects of past and future harbor operation and maintenance activities and the effect of the proposed Savannah Harbor Expansion Project upon this property and to identify mitigation alternatives. The reports have been coordinated with the South Carolina and Georgia State Historic Preservation Officers.

Savannah District prepared a Programmatic Agreement to address Section 106 compliance for the proposed Savannah Harbor Expansion Project. Consulting Parties include the Georgia and South Carolina State Historic Preservation Offices, the Naval History and Heritage Command of the US Navy, and Savannah District. The Advisory Council on Historic Preservation decided not to participate. All parties reviewed and commented upon the draft agreement. All issues and concerns were resolved in the revised final version. The agreement document is currently being circulated for signatures.

## **II. Project Description**

A. Deepen the existing 42-foot-deep inner harbor navigation channel by up to 6 feet between stations 0+000 and +103+000 and to a width that will not disturb existing side slopes. The present project features include an additional 2 feet of allowable over depth and up to 4 feet of advance maintenance dredging. These project features will be retained.

B. Deepen the existing 44-foot-deep bar channel by up to 6 feet from station 0+000 to station -60+000 and to a width that will not disturb existing side slopes. The present project features include an additional 2 feet of allowable over depth and up to 4 feet of advance maintenance dredging. These project features will be retained.

C. Construct bend wideners and perform full-channel-width dredging in isolated areas as necessary to facilitate ship movement.

D. Construct an approximately 38,600-foot-long extension to the 600-foot-wide bar channel to a depth of up to 50 feet plus 2 feet of allowable over depth and up to 4 feet of advance maintenance dredging.

E. Deepen the existing 42-foot-deep Kings Island Turning Basin by 6 feet. The present project features include an additional 2 feet of allowable over depth and up to 4 feet of advance maintenance dredging. These project features will be retained.

F. Construct a passing lane 100 feet wide on the north side of the channel from stations +55+000 to +60+000 and a passing lane 100 feet wide on the south side of the channel from stations +16+000 to +20+000.

G. Dispose of dredged material in existing Savannah Harbor operation and maintenance dredged material disposal areas.

H. Construct mitigation features for project impacts to environmental resources.

### **III. Alternatives Considered During Project Design in Order to Reduce the Area of Potential Effect.**

The initial project design was to deepen the full channel bottom width for the entire 165,000-foot-long navigation channel by up to 10 feet. This design would have resulted in side slope sloughing that would have impacted an area up to 50 to 80 feet wide on either side of the navigation channel. The design was subsequently modified to deepen the channel by no more than 6 feet and to dredge to a width that would not affect existing side slopes.

The initial project design also included a series of 16 bend wideners varying from 76 to 156 feet in width and with a total length of over 56,000 linear feet. The results of a ship simulation study resulted in a new design with four bend wideners with widths from 76 to 156 feet and a total length of less than 15,250 linear feet and nine areas to be dredged to the full existing channel width with a total length of less than 49,000 feet.

### **IV. Area of Potential Effect**

- A. Channel bottom and side slopes of bar channel extension.
- B. Channel bottom and side slopes of existing navigation channel.
- C. Channel bottom and side slopes of bend wideners and channel side slopes where full-channel-width dredging will occur.
- D. Channel bottom and side slopes of the Kings Island Turning Basin.
- E. Channel bottom and side slopes in proposed passing lane areas.
- F. Existing disposal sites.
- G. Environmental mitigation features.

## **V. Previously Disturbed Areas Located within the Area of Potential Effect for which No Historic Property Investigations are Proposed**

A. The existing navigation channel bottom between stations +103+000 and -52+000 has been dredged to a depth well below historic harbor depths. Historically, the deepest place in the inner harbor was a 30-foot-deep hole located near station +57+000 and the average channel depth was less than 15 feet. Any historic properties that were once located in the dredged channel bottom were removed by previous harbor deepening projects

B. That portion of the existing bar channel bottom located between stations -52+000 and -60+000 was surveyed prior to construction during the last harbor deepening project. No historic properties were located.

C. The side slopes and adjacent tops of slopes of the existing navigation channel between stations +103+000 and -60+000 were surveyed prior to construction of the last harbor deepening project. Historic properties that would be affected by construction of that project were identified and mitigated. Since much of the proposed project is to be constructed in a manner that will not alter existing channel side slopes and tops of slopes, these areas will not be investigated for historic properties, except in places where previous surveys have identified historic properties located immediately adjacent to the existing project.

D. Those portions of proposed bend widenings and the proposed passing lane that overlap existing harbor turning basins and channels that have been dredged to a depth of 38 or more feet, well below historic channel depths, will not be surveyed. Historic properties located in these areas would have been removed as part of previous dredging projects.

E. The bottom of the Kings Island Turning Basin has been dredged to a depth well below that which could have contained historic properties. This area will not be surveyed.

F. The existing Savannah Harbor dredged material disposal sites have been used for a number of years. Original land surfaces that may contain historic properties are buried under 30 or more feet of dredged material. Existing offshore disposal areas were designed to avoid impacts to any sonar targets or magnetic anomalies identified during the planning process.

## **VI. Areas Investigated or to be Investigated for Historic Properties**

- A. Channel bottom and side slopes of bar channel extension.
- B. Sides slopes of the existing navigation channel between stations +103+000 and -60+000 in areas where the full channel width must be dredged to facilitate ship movements and in areas where historic properties abut the existing navigation channel.
- C. Bottoms and side slopes of bend wideners where they do not overlap existing turning basins.
- D. Sides slopes of the Kings Island Turning Basin.
- E. Bottom and side slopes of proposed passing lanes.
- F. Lands and water bottoms proposed for enhancement for project-related impacts to environmental resources.

## **VII. Investigations Completed or in Progress.**

- A. The portion of the existing navigation project that was deepened in 1994 (stations 103+000 to -60+000 plus the Kings Island Turning Basin) was surveyed at that time and historic properties were investigated and mitigated.
- B. Remote sensing surveys were conducted of the Back River sediment basin area and portions on upper Back River were surveyed as part of the studies required under the terms of the 1992 Programmatic Agreement for the closing of New Cut and the removal of the tide gate from operation. The survey area included the Back River, from shore to shore, from the mouth of the sediment basin at its juncture with the Savannah Harbor navigation channel to Hog Island.
- C. Investigations of the CSS *Georgia* to identify past, present, and future impacts from the existing navigation project and the effects of the proposed expansion project have been conducted. The reports of these investigations have been coordinated with the Georgia and South Carolina State Historic Preservation Offices.
- D. In 2003, Savannah District contractor Panamerican Consultants, Inc., completed a survey of the first channel design.
- E. In 2005, Savannah District contractor Panamerican Consultants, Inc., conducted a survey of new design elements and conducted diver investigations of a 10 magnetic anomalies and/or sonar targets located within the area of potential effect.
- F. Savannah and Wilmington Districts conducted a study to determine the incremental effect of the proposed expansion project upon Ft. Pulaski National Monument.

G. In 1992, as part of the New Cut Closure Project studies, Savannah District contractor Tidewater Atlantic Resources, Inc., conducted low water shoreline and remote sensing surveys of the Back River from its mouth to the lower end of Hog Island in Little Back River. Thirty-one archaeological sites and 26 magnetic anomalies and/or sonar targets were recorded.

H. In 1993 and 1994, Savannah District archaeologists conducted archival research, archaeological survey, site documentation and monitoring, and diver investigations of the sites and anomalies/targets identified in Back River above the tide gate during the 1992 survey. A number of the sites were determined eligible for inclusion in the National Register of Historic Places. The report concluded that the New Cut Closure Project had caused erosion at some of the resources, but, these sites had since stabilized and the detailed research and documentation conducted by Savannah District was adequate to mitigate this effect.

I. Savannah District recovered core samples from an area of the proposed off-shore bend widener that analysis of sub-bottom profiler data indicated the presence of a Pleistocene stream channel. The cores were analyzed in and results reported by New South Associates, Inc., in 2005.

## **VIII. Resource Potential and Status of Investigations:**

### *A. Bar Channel Extension (Outside State Waters) –Stations –60+000 to –98,600--Bottom and Side Slopes.*

The project, as originally proposed, included a 25,000-foot long channel extension, Savannah District archaeologists and hydrographic surveyors conducted side scan sonar and cesium magnetometer surveys of the proposed channel extension area. The survey area was 700 feet wide, sufficient to include the 600-foot proposed channel width and side slopes. In 2005, Savannah District contracted with Panamerican Consultants, Inc., to analyze the data, identify anomalies and/or targets for further evaluation, and conduct diver investigations of potentially significant anomalies and/or targets. The contractor has completed the analyses and has investigated one magnetic anomaly/sonar target. The anomaly/target was identified as modern debris.

As part of studies to identify potential impacts to the Floridan Aquifer, Savannah District conducted sub-bottom profiler surveys of the existing bar channel area, as well as areas on the bar considered for bend wideners and channel extension. The purpose of the survey was to identify the depth and character of the aquifer's Miocene-age cap and to locate former Pleistocene stream channels that cut into the cap. Since stream banks have a higher potential for containing prehistoric archaeological sites, the results of these surveys were also examined by District archaeologists. No Pleistocene streams were found in the extension area.

Due to changes in shoals, in 2009, the bar channel extension was redesigned to be a 38,600-foot-long by 600-foot-wide channel located on a different alignment. Savannah District is contracting for a side scan sonar, magnetometer, and sub-bottom profiler, and diver investigation of the new location. In order to ensure that avoidance of impacts to potentially significant cultural resources is a viable alternative, the area being surveyed is 1100 feet wide. The survey is designed to locate shipwrecks and landforms likely to contain prehistoric sites.

### *B. Bend Wideners and Full-width Dredging Areas.*

Bend Widener (SC waters)—Stations -21+000 to -14+000, 76-foot bottom width plus side slope of 20 feet. Savannah District archaeologists and hydrographic surveyors conducted side scan sonar and magnetometer surveys of this area. The survey area was 300 feet wide. In 2005, the District contracted with Panamerican Consultants, Inc., to analyze the data, identify anomalies and/or targets for further evaluation, and conduct diver investigations of the anomalies. The contractor completed the analyses and recommended no anomalies and/or targets for evaluation.

Sub-bottom profiler surveys conducted as part of the aquifer impact studies identified a Pleistocene stream channel that bisected this area. Savannah District geologists and a contract geoarchaeologist with Brockington and Associates selected four areas from which to take core samples—three located along the banks of the stream and one located on a terrace that formed within the stream channel as sea level rose. Analysis of the cores revealed that the sediments within and adjacent to the stream channel date to the mid-Pleistocene Era and are not associated with human activity.

Full-channel-width Dredging Area (SC waters)—Stations +9+000 to +12+750—side slope impact area of ca. 20 feet. The easterly 1000 feet has been previously impacted by construction of a 36-foot-deep turning basin. The remaining area was surveyed in 2003 by Savannah District contractor Panamerican Consultants for a then-planned 76-foot-wide bend widener plus side slopes. Eight anomalies and/or targets were recommended as potentially significant. Due to project redesign, all are located over 200 feet from the revised area of potential effect. No further investigations are recommended.

Full-channel-width Dredging Area (GA waters)—Stations +9+500 to +11+500—side slope impact area of ca. 20 feet. This area was surveyed for a previous deepening project. No magnetic anomalies and/or targets were located. No further investigations are recommended.

Full-channel width Dredging Area (SC waters)—Stations +27+250 to +31+750—side slope impact area of ca. 20 feet. In 2003, an area 300 feet wide was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with a then-planned 76-foot-wide channel widener plus side slopes. Ten magnetic anomalies and/or targets were recommended as potentially significant. Due to project redesign, all are located over 100 feet from the revised area of potential effect.

Full-channel-width Dredging Area (SC waters)—Stations +41+500 to +49+500—side slope impact area of ca. 20 feet. This area was surveyed as part of a previous deepening project. The survey identified four anomalies and/or targets for further evaluation. Two of the targets, SH-R15 and SH-R19N-1 were located within that project's area of potential of effect and were investigated. Both targets were found to be generated by modern debris. The remaining two anomalies/targets, SH-R16-2 and SH-R17N-1, have not been investigated. These targets will be relocated and assessed.

Full-channel-width Dredging Area (GA waters)—Stations +31+000 to +49+500—side slope impact area of ca. 20 feet. In 2003, an area 300 feet wide was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with a then-planned 76-foot-wide channel widener plus side slopes. Seven individual or clusters of anomalies and/or targets recommended as potentially significant are located within or near to the side slope impact area. Two anomalies and/or targets clusters (cluster 7C-1, 7C-9, 7C-10 and cluster 7E-6, 7E-14, 7E-18, 7E-34, 7E-53, 7E-55) were investigated by Panamerican Consultants, Inc., in 2005 and were found to be generated by modern debris. The remaining three potentially significant individual anomalies and one cluster are recommended for evaluation. Anomaly 7B-4 and anomaly cluster 7C-5, 7C-14 appear to extend into the area of potential effect and will be investigated.

Bend Widener (GA waters)—Stations +49+500 to +53+000—156-foot bottom width plus side slope of less than 75 feet. In 2003, an area 450 feet wide was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with this widener. In 2005, Panamerican Consultants considered diving on anomalies 7A-1 and 7A-8, but, further analysis of the fathometer data and additional remote sensing data gathered as part of that investigation found that the anomalies were located in the dredged channel bottom and were generated by modern debris. Anomaly 7A-9 would be located within the side slope of the proposed bend widener and, based on limited dated, anomalies 7A-26, 7A-28, 7A-31, and 7A-32 are located sufficiently near to the area of potential effect to warrant further investigation.

Bend Widener (SC waters)—Stations +52+250 to +55+000—76-foot bottom width plus side slope of less than 100 feet. In 2003, an area 350 feet wide was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with this widener. No anomalies and/or targets were recommended for further investigation. No further investigations are proposed for this bend widener.

Full-channel-width Dredging (GA waters)—Stations +63+250 to +69+000—side slope impact area of ca. 20 feet. The westernmost 1,750 feet of this area overlaps the Fig Island Turning Basin that has been previously dredged to 38 feet. The eastern portion of this area was surveyed as part of a previous deepening project. Five anomalies and/or targets were identified, none of which were recommended for additional investigation. No further investigations are recommended for this area.

Full-channel-width Dredging (GA waters)—Stations +69+000 to +71+000—side slope impact area of ca. 20 feet. In 2003, an area 500 feet wide was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with a then-planned 76-foot-wide channel widener plus side slopes. Four anomalies located within the existing channel side slope (4-22, 4-24, 4-26, and 4-27) are recommended for further investigation.

Full-channel-width Dredging (GA waters)—Stations +76+000 to +77+500—side slope impact area of ca. 20 feet. In 2003, an area 150 feet wide (to the shoreline) was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with a then-planned 76-foot-wide channel widener plus side slopes. One anomaly (3-1) was recommended for additional investigation based on the characteristics of its magnetic signature, however, this anomaly is located at the toe of the side slope of the existing navigation channel in an area that has been dredged to 36 feet for commercial wharves. Based on the history of bottom disturbance in this area, no further investigations are recommended for this anomaly.

Full-channel-width Dredging (GA waters)—Stations +87+750 to +89+500—side slope impact area of ca. 20 feet. In 2003, an area 400 feet wide (to the shoreline) was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with a then-planned 76-foot-wide channel widener plus side slopes. No anomalies and/or targets located within the side slope impact area were recommended for further investigation. No further investigations are proposed for this area.

Bend Widener (GA waters)—Stations +101+000 to +103+000—128.6 feet plus side slope of less than 100 feet. This area was investigated by a Georgia Ports Authority archaeological contractor as part of studies conducted for proposed channel modifications associated with the construction of Container Berth 8. Section 106 compliance was completed as required by a Department of the Army Permit issued under the authority of Section 404 of the Clean Water Act of 1972. It has since been dredged. No further investigations are recommended for this area.

*C. Kings Island Turning Basin Side Slopes (GA waters)—Stations 98+500 to 100+500—side slope impact area of ca. 20 feet.*

In 2003, an area 150 feet wide (to the shoreline) was surveyed by Savannah District contractor Panamerican Consultants, Inc., in order to identify potential impacts associated with side slope changes. No anomalies and/or targets were recommended for additional investigation. Two shoreline sites that had been identified by a previous survey and determined not to be eligible for inclusion in the National Register of Historic Places were relocated. No further investigations are recommended for this area.

#### D. *Passing Lanes*

GA and SC waters—Stations +55+000 to +68+500—100 feet wide plus side slope of less than 100 feet.

In 2005, Savannah District contractor Panamerican Consultants, Inc., surveyed an area 400 feet wide to identify potential impacts associated with this passing lane. One previously identified resource, CSS *Georgia*, is located within this area and is discussed in the following section. The survey also identified a number of magnetic anomalies and sonar targets, six of which were selected for diver investigation. Three were found to be generated by modern harbor debris, one (GA waters) was generated by the remains of a steel-hulled sailing vessel dating to the late nineteenth or early twentieth century, and two (SC waters) were generated by the remains of Confederate crib obstructions.

The sailing vessel has been tentatively identified as the pilot boat *Eclipse*, which burned in this general area in 1918. The vessel is potentially eligible for inclusion in the National Register of Historic Places. It is located behind (north of) the submerged remains of the original Fig Island jetty where historical documentation indicates that the bark *Undine* was also abandoned in 1893. *Undine* was built in 1867 as a clipper ship by William Pyle of Sunderland, England. Attempts were made to redesign the passing lane to avoid impacts to these resources, however, it was found that a shorter lane would not meet the needs of the larger vessels transiting the channel.

The Confederate crib obstructions, although severely degraded, are sufficiently intact for the site to be recommended as eligible for inclusion in the National Register of Historic Places at the local level for their archaeological research potential and association with significant events.

GA waters—Stations +16+000 to +20+000—100 feet wide plus side slopes of less than 100 feet.

An area 100 feet wide was surveyed in 1994 for the previous channel deepening project. No potentially significant sonar targets or magnetic anomalies were located in this area. The remaining 100-foot-wide impact area associated with the construction of the proposed passing lane will be surveyed. Archival research has shown that this area of the harbor has the lowest potential for containing shipwreck remains.

#### E. *Fish and Wildlife Mitigation Lands (GA and SC)*

In compliance with requirements of the Clean Water Act, Savannah District is working with the US Fish and Wildlife Service, US Environmental Protection Agency, the Georgia Department of Natural Resources, and the South Carolina Department of Health and Environment identified properties to be used, and actions to be taken, for mitigation of wetland impacts. Lands being considered include wetlands, submerged river bottoms, and high ground.

Plan 6a. This plan includes the following features, McCoy Cut diversion structure, channel deepening on McCoy Cut to -4m NGVD and Upper Middle and Little Back Rivers to -3m NGVD, fill entire sediment basin to -3.85M NGVD by constructing a submerged sill, close Rifle Cut, remove tide gate abutments and piers, close lower (western) arm of McCoy Cut. Because the proposed features are designed to change the hydraulics of the Middle, Little Back, and Back Rivers, the area of effect includes the construction areas as well as any areas that will be subjected to increased erosion or deposition. In order to determine the effect of the proposed plan upon historic properties, the construction areas, as well as the entire lengths of Middle, Little Back, and Back River channels and shorelines will need to be archaeologically surveyed. These surveys will include archival research, shoreline low water survey and testing, remote sensing (magnetometer and side scan sonar) surveys of submerged areas, and diver investigation of anomalies and/or targets.

One portion of Back River has been surveyed previously. In 1992, Tidewater Atlantic Research, Inc., conducted remote sensing and low water surveys of the Back River area as part of the studies required under the terms of the 1992 Programmatic Agreement for the closing of New Cut and the removal of the tide gate from operation. The survey area included the Back River, from shore to shore, from the mouth of the sediment basin at its juncture with the Savannah Harbor navigation channel to lower end of Hog Island in Little Back River. The survey identified 31 archaeological sites. Sixteen were wrecked or abandoned vessels. One was a prehistoric archaeological site. The remaining sites were related to historic rice plantations (e.g. wharves, dikes, dams, bulkheads, canals, trunks, mills, etc.). The 1992 survey also identified 26 magnetic anomalies and/or sonar targets.

In 1993 and 1994 Savannah District archaeologists conducted archival research, archaeological survey, site monitoring, and diver investigations of sites, magnetic anomalies, and/or sonar targets in the portion of the 1992 survey area located above the tide gate. The purpose of the work was to determine the historical significance of the previously recorded resources and to assess the effect of the New Cut Closure Project upon these resources. A number of sites were determined eligible for inclusion in the National Register of Historic Places. The research concluded that the project had caused some erosion, the areas had stabilized and the extensive documentation conducted during the survey was sufficient to document the portions of the resources that were impacted. The potential impact of Plan 6a upon these resources will be evaluated.

Seven of the magnetic anomalies and/or sonar targets were located in the sediment basin area below the tide gate. More detailed evaluations of these anomalies/targets are needed to determine if they are located within the area of potential effect and their potential significance.

The remaining portions of the area of effect for Plan 6a are located within the Savannah National Wildlife Refuge. None of these areas have been previously surveyed for cultural resources.

Oxygenation Systems. Two areas have been proposed for construction of oxygenation systems. The area of effect for these systems includes the construction areas, as well as the submerged areas near the outlet pipes that would be subjected to larger increases in oxygen levels. Increases in oxygen result in increased degradation of submerged resources (e.g. wrecks, wharves, artifacts, etc.),

One system would be located on the South Carolina side of Back River at the tide gate. The terrestrial and submerged areas have been severely disturbed by tide gate construction and disposal of dredged material. The second system would be above the harbor located on Drakies Bluff in Georgia. The terrestrial portions of the area of effect will be surveyed for historic properties. The submerged portion of the area of effect includes a channel known as Drakies Cut. Historically, this was a small creek known as Canoe Cut. The creek was enlarged (drag lines and dredging) in the early 20<sup>th</sup> century and became the main navigation channel.

Other Environmental Mitigation Features. Other proposed environmental features include: constructing a boat ramp on Hutchinson Island, construct a fish passage at New Savannah Bluff Lock and Dam, stocking of striped bass, and restoring brackish marsh in existing Disposal Area 1S. Fish stocking will have no effect upon historic properties. The Hutchinson Island boat ramp would be located in Georgia within the area that was heavily disturbed during Tide Gate Construction and that has previously been determined to not contain historic properties. The fish ladder would be located in South Carolina in an area believed to have been disturbed during original lock and dam construction. Savannah District will conduct archival research and an archaeological survey during the design process to verify that the entire area has been disturbed. Disposal Area 1S (Georgia) was not surveyed prior to its use as a Savannah Harbor disposal area. While it is unlikely that any historic properties buried beneath the disposal sediments would retain sufficient integrity to be determined eligible for inclusion in the National Register of Historic Places, Savannah District will conduct archival research and coring investigations to investigate this possibility.

## **IX. Previously Identified Significant Properties Located in the Vicinity of the Area of Potential Effect Warranting Special Consideration.**

### *A. National Monuments.*

Fort Pulaski National Monument (GA)--Station -2+000 to 8+000. Constructed during the 1830s and 1840s, Fort Pulaski is operated and maintained as an historic site by the National Park Service. It is included in the National Register of Historic Places at the national level of significance for its architecture, association with significant events, association with significant people, and archaeological research potential. Erosion is an on-going problem on the channel ward side of monument property. While the fort itself is not endangered by the erosion, associated archaeological deposits may be. The shoreline is well outside the channel side slope and the erosion is unassociated with channel maintenance dredging.

The Monument has expressed concern about the incremental effect of wakes from deeper draft ships that would transit a deeper navigation channel. Savannah and Wilmington Districts conducted an engineering study to determine the nature and scope of this incremental effect. This study concluded that the proposed expansion project would result in a negligible increase in erosion. No further studies are recommended.

#### *B. National Historic Landmarks.*

Savannah National Historic Landmark District (GA)--stations +72+000 to +79+000. The Savannah National Historic Landmark District is located along the south shore of the Savannah Harbor navigation channel. The district is listed in the National Register of Historic Places at the national level for its architecture. All but one small area is protected by modern bulkheads, wharves, or rip rap. The exception is located near station +75+500 where a brick-faced wharf constructed during the last quarter of the nineteenth century forms an alcove in the modern bulkhead. This area is used for small boat mooring. Proposed channel improvements will have no effect upon the landmark district.

Fort James Jackson National Historic Landmark (GA)--station +58+000 and +59+000. Fort Jackson is located at the top of the channel side slope on the south shore of the Savannah Harbor navigation channel. It is owned by the State of Georgia and is operated and maintained as a historic site by the Coastal Heritage Society. It is listed in the National Register at the national level of significance for its architecture and association with significant events and historic figures. In 2003, in accordance with a Memorandum of Agreement between Savannah District and the Georgia State Historic Preservation Office, the District completed a bank stabilization project to protect this property from harbor operation and maintenance activities. The potential for future harbor deepening was considered in the design process. No further protection is required for this property.

#### *C. National Register Listed Sites.*

CSS Georgia (SC & GA waters)--station 58+500 to 59+000. The wreck of CSS *Georgia* is included in the National Register of Historic Places at the national level of significance for architecture, association with significant events, association with significant people, and archaeological research potential. The National Register boundary includes the channel side slope, the top of slope, and an area extending 50 feet into the authorized navigation channel. The boundary between South Carolina and Georgia runs through the wreck site. Since 1984, Savannah District has had an agreement with both states to avoid the site area during dredging by 50 horizontal feet for a distance of 1000 feet along the channel. No dredging has been conducted of any portion of the existing navigation channel located between stations +58+000 and +59+000 since 1992.

A 1992 Programmatic Agreement required Savannah District to determine past, present, and future effects of the existing Savannah Harbor Navigation Project upon this resource and to identify and evaluate alternatives to mitigate these effects. This evaluation study was conducted in 2003 in conjunction with studies to determine the incremental effect of

the proposed expansion project. The studies demonstrated that past, present, and future operation and maintenance activities have, and will continue to have, an adverse effect upon the wreck site. In addition, the proposed passing lane that would be constructed as part of the expansion project would adversely affect the site. The draft report of these investigations has been coordinated with the Georgia and South Carolina State Historic Preservation Offices. The Savannah Harbor operation and maintenance project will conduct archaeological data recovery prior to construction of the expansion project. The expansion project will be responsible for final clearance of explosive ordnance prior to deepening the channel and constructing the passing lane.

The Savannah and Ogeechee Canal (GA)--station +79+000. The river lock and northern terminus of the Savannah and Ogeechee Canal is located on the south shore adjacent to the Highway 17 Bridge. The canal was constructed during the 1830s. It is listed in the National Register of Historic Places at the state level for architecture and archaeological research potential. The proposed project will have no effect upon the canal.

*D. Properties Pending Formal Nomination to the National Register of Historic Places.*

Pennyworth Island (Back River, GA). During 1993 and 1994, Savannah District archaeologists conducted archival research, shoreline inspection, and documentation of sites along the shoreline of Pennyworth Island, in support of the New Cut Closure Project. As a result of these investigations, Savannah District recommended that Pennyworth Island was eligible for inclusion in the National Register of Historic Places at the local level for its ability to provide information on 19<sup>th</sup> century rice culture along the Savannah River. The island had a diverse history spanning the period from 1825 to the early 20<sup>th</sup> century and was one of the last active rice plantations on the river. The investigations documented all historic shoreline features, noted that shoreline erosion had been on-going for many years, and recommended that no further work be conducted for the New Cut Closure Project.

The island was in private ownership during the 1993/1994 fieldwork. Recently, it was purchased by Chatham County. The County used the 1993/1994 research to prepare a nomination to the National Register of Historic Places. The nomination is pending approval. The island may be affected by the proposed environmental mitigation measures included in the Savannah Harbor Expansion Project. Affects may include increased shoreline erosion or accretion and will be addressed in accordance with the Programmatic Agreement for the project.

*E. Properties Formally Determined Eligible for Inclusion in the National Register of Historic Places.*

Fig Island Channel Site (GA)--station +72+000 to +73+500. The Fig Island Channel Site is located on the north side slope and shore of the existing navigation channel. The site has been determined eligible for inclusion in the National Register of Historic Places at the state level for its archaeological research potential. The site area was once a channel

between Fig and Hutchinson Islands. The channel was used for disposal of wrecked and derelict vessels during the eighteenth and nineteenth centuries.

The eastern third of the site has been bulk headed and lies beneath the US Army Corps of Engineers Depot. The western two-thirds of the site has been the subject of a number of archaeological investigations. The District excavated and documented three vessels as mitigation for the effects of a 1980s channel widening project. During the 1993/94 deepening project, the District excavated and documented parts of 20 vessels. The vessels spanned the period ca. 1770 to 1900 and were located within the area of potential effect for that deepening project.

In 2000, portions of the site's 1854 pile dam wall were illegally removed. In 2003, the extreme western portion of the site was investigated as part of planning for a Chatham County project that included bulk heading the adjacent slip. One eighteenth century hull was located within the project's potential area of effect. This project requires a Department of the Army Permit that would be issued under the authority of Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972. Federal permitting and consultation under Section 106 is proceeding as part of that project. A Memorandum of Agreement has been completed identifying mitigation procedures for effects to this resource.

The remaining non-bulk headed portions of the site have been purchased by a developer who intends to bulkhead the shoreline and construct residential and commercial buildings on the site. The bulkhead would require a Department of the Army permit. The project is in an early planning stage and the owner has not applied for a permit.

The Fig Island Channel Site area will not be affected by bend widener construction or full- channel-width dredging, however, since the channel side slope has been determined eligible for inclusion in the National Register of Places, the District has conducted a slope stability analysis study to determine if incremental erosion would occur at the site. The analysis indicated that there would be no impact to the side slope.

Mansfield/Shafsbury Plantation—09CH685 (Back River, GA). Savannah District archaeologists conducted archival research and field documentation for this plantation as part of the 1993/1994 New Cut Closure Project studies. The plantation was recommended eligible for inclusion in the National Register at the local level of significance for its ability to provide information on historic rice culture along the Savannah River. No further investigations were recommended for this resource as part of the New Cut Closure Project. The site may be affected by increased shoreline erosion or accretion as part of the Savannah Harbor Expansion Project. Impacts to the site will be identified and addressed in accordance with the Programmatic Agreement.

Poplar Grove Plantation—38JA203 (Back River, SC). Savannah District archaeologists conducted archival research and field documentation for this plantation as part of the 1993/1994 New Cut Closure Project studies. The plantation was recommended eligible for inclusion in the National Register at the local level of significance for its ability to

provide information on historic rice culture along the Savannah River. No further investigations were recommended for this resource as part of the New Cut Closure Project. The site may be affected by increased shoreline erosion or accretion as part of the Savannah Harbor Expansion Project. Impacts to the site will be identified and addressed in accordance with the Programmatic Agreement.

Shubra Plantation—38JA204 (Back River, SC). Savannah District archaeologists conducted archival research and field documentation for this plantation as part of the 1993/1994 New Cut Closure Project studies. The plantation was recommended eligible for inclusion in the National Register at the local level of significance for its ability to provide information on historic rice culture along the Savannah River. No further investigations were recommended for this resource as part of the New Cut Closure Project. The site may be affected by increased shoreline erosion or accretion as part of the Savannah Harbor Expansion Project. Impacts to the site will be identified and addressed in accordance with the Programmatic Agreement.

## **X. Consultation with Native American Tribes**

The notice of availability for the 1998 draft Environmental Impact Statement for the expansion project was provided to a number of Native American Tribes. In March 2006 and November 2010, coordination letters were sent to the nineteen Federally recognized Native American Tribes who have an interest in the proposed project area informing them of the status of the project and inviting their comments. Several Tribes responded and requested that they be notified should sites with Native American components be encountered.

## **XI. Consultation with the Georgia and South Carolina Historic Preservation Offices**

The draft Programmatic Agreement (PA) and preliminary project description were coordinated with the Georgia and South Carolina Historic Preservation Offices in March 2006. Shortly after both offices reviewed and approved the agreement, it was determined that project planning would proceed for an extended period and it was likely that large, new features would be added. It was decided to hold the document until more of the new features and their potential effect on historic properties could be identified. While the agreement document itself has not been changed, the attached supporting documentation report (this document) has been updated to reflect the final proposed project. The PA and supporting documentation are being re-coordinated with the state offices.

## **XII. Consultation with the Advisory Council on Historic Preservation**

The Advisory Council on Historic Preservation was contacted in May 2006 and asked if they wished to participate in the Programmatic Agreement. They indicated that they would not participate at that time. They are being contacted to reconfirm that position.

### **XIII. Public Involvement**

A number of public involvement meetings have been held as part of the National Environmental Policy Act compliance activities. Two of these events included manned cultural resources information booths which informed the public about the cultural resources studies and potential impacts to these resources.

Savannah District conducted a media day and created brochures during studies of the CSS *Georgia*. A local television station ran a series of stories on the progress of the investigations and one former reporter is creating a documentary about the vessel. District archaeologists made presentations to a large number of groups. Among them were the Society for Georgia Archaeology, local chapters of the Sons of Confederate Veterans and the United Daughters of the Confederacy, the Coastal Georgia Archaeological Society, an honors sorority, and other groups.

The 1998 draft environmental impact statement elicited 1,588 responses from individuals supporting archaeological recovery of the CSS *Georgia* and stabilization of Fort James Jackson (since completed).