

# DRAFT



**DEPARTMENT OF THE ARMY**  
CHARLESTON DISTRICT, CORPS OF ENGINEERS  
69A HAGOOD AVENUE  
CHARLESTON, SOUTH CAROLINA 29403-5107

## **FINDING OF NO SIGNIFICANT IMPACT**

### **Operation and Maintenance Work On The Atlantic Intracoastal Waterway (AIWW) Disposal Site 1006/1027S W-C Adjacent to the Isle of Palms Connector In Charleston County, South Carolina**

July 7, 2006

The National Environmental Policy Act (NEPA) requires the U.S. Army Corps of Engineers, Charleston District (The Corps) to evaluate the effect of proposed projects on both the environment and human health and welfare. This Draft Finding of No Significant Impact (FONSI) summarizes the results of The Corps' evaluation and documents The Corps' preliminary conclusions.

The Corps is proposing the installation of a protective rock sill 70 feet offshore of disposal area 1006/1027S W-C in Charleston County, South Carolina. Dredge disposal site 1006/1027S W-C is located along the Atlantic Intracoastal Waterway (AIWW), bounded on the northeast by Route 517 (Isle of Palms Connector), to the southeast by an unnamed tributary to Swinton Creek, to the northwest by saltmarsh, and to the southeast by the AIWW and the Isle of Palms (see Figure 1). This project is being conducted under authority of the River and Harbor Act PL 14, dated 2 March 1945 (House Document 327,

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76<sup>th</sup> Congress, 1<sup>st</sup> Session), which governs and directs operation and maintenance work. The purpose of the proposed project is to protect the disposal area's dike from wind and boat wake erosion, with a secondary benefit of providing a sheltered area between the rock sill and the toe of the dike where saltmarsh could re-establish itself where it had been extirpated. Shoreline erosion is eliminating the structural stability of the dike and it will suffer a breach if left un-repaired and no longer be usable. Current repair practices normally set back the dike and restore stability for a short period of time, and storage capacity is lost each time this is done.

The proposed project consists of the placement of approximately 1,560 linear feet (broken into two segments (see Figure 2) of quarry run granite rock approximately 70 feet from the toe of the dike slope. The southern rock sill will be approximately 1,130 feet in length and the northern rock sill will be approximately 430 feet in length. The rock sills will be constructed to an elevation of 7 feet above Mean Low Water (MLW), with a top width of 5 feet and front slope of 1 foot vertical for 2.5 feet horizontal and a back slope of 1 foot vertical for 1.5 feet horizontal (see example profile in Figure 3). The total footprint of the two sill segments would be approximately 51,500 square feet. Two drain pipes will be replaced within this protected area (see Figure 4a for the plain view and 4b for the profile) and their bedding material will cover approximately 15,000 square feet of area. Construction of the project will be by water using work boats and barges. Filter fabric and rock will be placed with equipment, such as a crane or excavator with grapple bucket operating from the barge, and other equipment as necessary to achieve the desired structural dimensions and geometry. It is anticipated construction will begin in late-2006 and will require from 2 to 5 months for completion, depending on weather and varying site conditions. However, this schedule could change due to funding constraints, contractual issues, inclement weather, equipment failure, or other unforeseen difficulties.

The Corps evaluated several alternatives before development of the proposed project. These alternatives included the following:

- No Action (i.e., erosion of the dike would be allowed to continue) – this alternative was considered unacceptable because it would allow destruction of the dike and loss of disposal site capacity.
- The existing earthen dike can be set back and re-built with the appropriate volume of material and side slopes; however, expensive maintenance will continue to be necessary over the years and disposal volume will be reduced at each occurrence.
- The existing earthen dike can be rebuilt/reshaped at its present location and protected with a riprap revetment. This alternative would result in the destruction of all existing vegetation on the dike with minimal re-growth because of the rock revetment. This alternative would also not allow for the natural re-growth of saltmarsh. For these reasons, this alternative was not selected.
- The construction of the above described sill would protect the disposal site dike, reduce maintenance, preserve the existing disposal area volume, while allowing for the restoration of salt marsh in the area between the sill and dike.

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The Corps' criteria for evaluating the effect of the proposed project included the following:

- Water Quality – a short-term increase in turbidity at the construction site where rock placement and pipe replacement is occurring are the only expected adverse effects on water quality. These effects will be temporary and were determined to be acceptable.
- Cultural Resources – no effects on cultural resources are expected as a result of implementing the proposed project.
- Threatened and Endangered Species – the proposed project is not likely to adversely affect any threatened or endangered species listed under the Endangered Species Act.
- Biological Resources – the proposed project will have a negative impact on benthic marine invertebrates in the rock placement area and a temporary impact on the intertidal zone between the rock sill and the toe of the dike slope. However, given the vast acreages of benthic habitat in the area of the proposed project, this impact is small and was determined to be acceptable. The impacted benthic invertebrates are expected to recolonize the area between the sill and dike within six months of completion of the project. The proposed project is expected to have no negative effect on plant life and a positive impact on fish and wildlife species that can use the rock matrix for feeding and cover. The rock sill will also create a protected environment between the sill and the dike that will allow natural re-vegetation or restoration of saltmarsh, which will provide additional feeding and cover for fish and wildlife.
- Socio-Economic – no negative effect on socio-economic conditions are expected as a result of implementing the proposed project.
- Air Quality – only a temporary effect on air quality is expected as a result of implementing the proposed project.
- Environmental Justice – no adverse effects on minority and low-income populations are expected as a result of implementing the proposed project.
- Essential Fish Habitat – Based on information noted above, it appears that this project would not result in significant long-term harm to the ecologically diverse aquatic habitats, such as “live rock” and other stable bottoms. A portion of the intertidal zone will be converted to a rock environment and this rock will enable a positive restoration of saltmarsh to occur between the sill the shore.
- Cumulative Impacts – no significant adverse cumulative impacts are expected as a result of implementing the proposed project.
- Marine Protected Areas – no negative effects on Marine Protected Areas are expected as a result of implementing the proposed project.

The Corps' preliminary findings are that the proposed project does not significantly adversely affect the environment or human health and welfare and, therefore, preparation of an Environmental Impact Statement is not warranted. The full Environmental Assessment can be downloaded from the internet (in PDF format) at [www.sac.usace.army.mil/ea](http://www.sac.usace.army.mil/ea) or a copy may be obtained by contacting Mr. Robert

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Chappell by e-mail at *robert.chappell@usace.army.mil* or by telephone at (843) 329-8162.

Written comments supporting or disagreeing with the proposed AIWW disposal area protection project should be sent to:

Mr. Robert Chappell  
U.S. Army Corps of Engineers,  
Charleston District  
69A Hagood Ave.  
Charleston, SC 29403  
Phone: (843) 329-8166  
e-mail: *robert.chappell@usace.army.mil*

Comments received within thirty (30) days of the date of this FONSI will be evaluated before The Corps makes a final decision to proceed with the proposed AIWW disposal area protection project.

Date \_\_\_\_\_

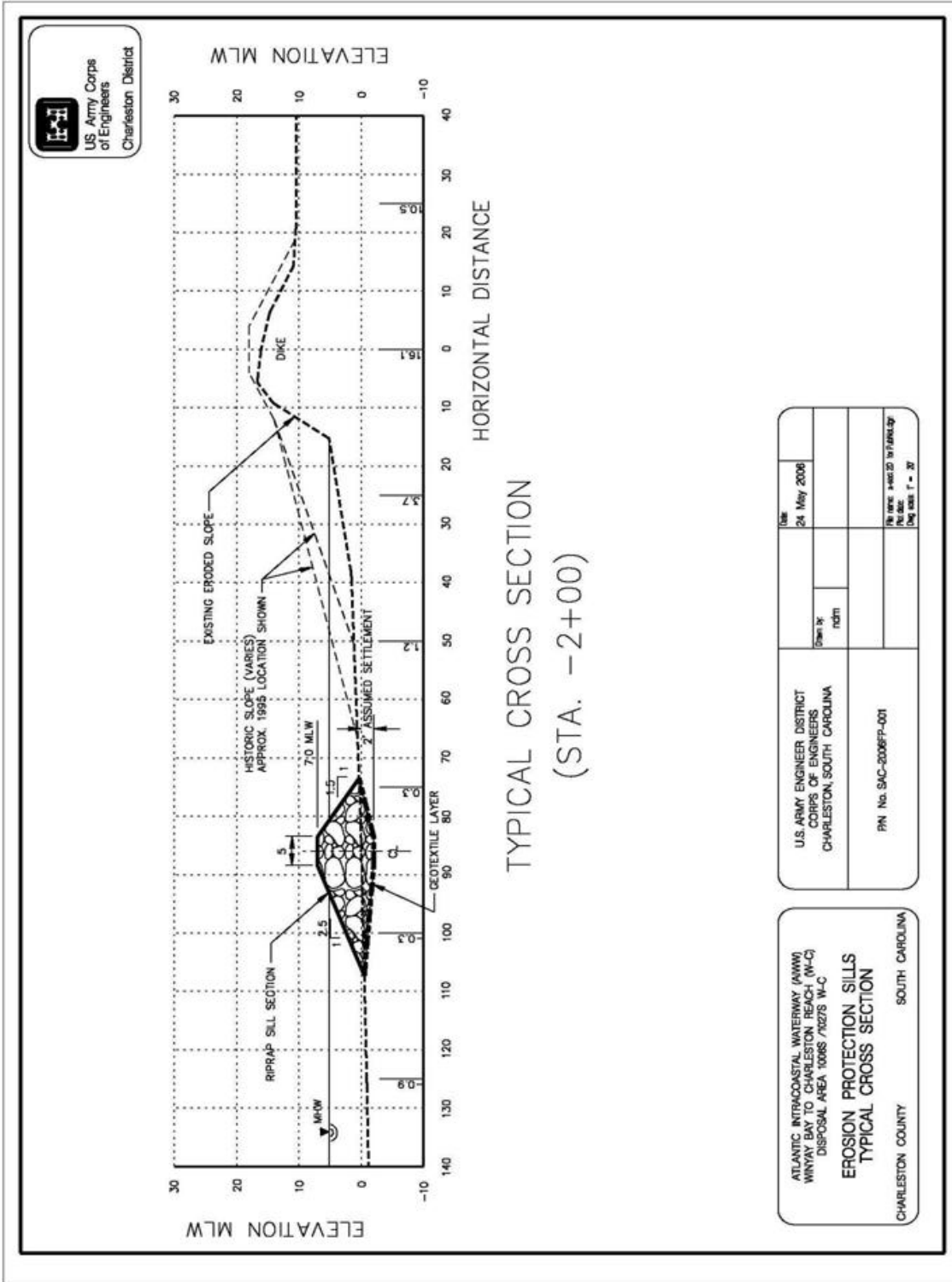
EDWARD R. FLEMING  
Lieutenant Colonel, EN  
Commander, U.S. Army Engineer District,  
Charleston



FIGURE 1



**FIGURE 2**



U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CHARLESTON, SOUTH CAROLINA		DATE 24 May 2008
PN No. SAC-2006FP-001		DESIGN BY ndm
ATLANTIC INTRACOASTAL WATERWAY (AIWW) WINYAW BAY TO CHARLESTON REACH (W-C) DISPOSAL AREA 10068 / 10275 W-C		FILE NAME: sac2008fp001.dwg PLOT DATE: 11-20-08

EROSION PROTECTION SILLS TYPICAL CROSS SECTION	SOUTH CAROLINA
CHARLESTON COUNTY	

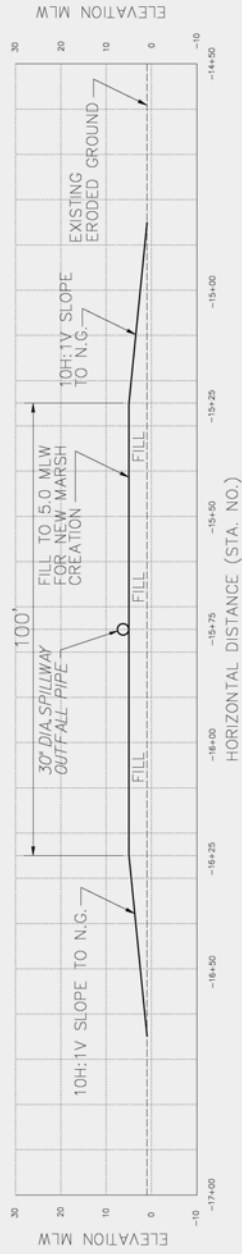
**FIGURE 3**





**FIGURE 4a**





NEW MARSH FILL (TYPICAL)  
 (CROSS SECTION PARALLEL TO SILL)

FIGURE 4b