

Sediment Basin Issue:

Questions have been raised concerning the relevance of the sediment basin to the Savannah Harbor Expansion General Reevaluation Study (GRS). The sediment basin, located on Back River, was constructed in 1977 as a separate authorized sediment control works project, and is a feature of the authorized Savannah Harbor Federal navigation project. The sediment basin is located on the lower portion of Back River and a tide gate structure is located in Back River upstream of the sediment basin. When operational, the opening and closing of the tide gate during flood and ebb tides attracted sediments from the navigation channel into the Back River sediment basin. Relocation of the sediment deposition area not only reduced shoaling in the harbor area but also resulted in dredging operations closer to available disposal areas, thereby minimizing annual maintenance costs. While navigation channel shoaling was reduced significantly, the use of the tide gate resulted in increased salinity in adjoining freshwater. Saltwater intrusion is believed to have been a major factor to the drastic reduction in the striped bass fishery in the Savannah River in the 1980's. The tide gate was permanently closed in 1991, and a study is underway to determine its final disposition.

In the absence of tide gate operations, the sediment basin continues to capture a significant amount of shoaling within the Savannah Harbor project. The sediment basin is regularly maintained to a 40' depth in conjunction with maintenance dredging of the Savannah Harbor navigation project using Savannah Harbor O&M funds. It was not deepened to 42' when the authorized channel was deepened in 1994. The sediment basin as currently constructed is a higher elevation than the navigation channel. The difference in elevation may have decreased the sediment basin's efficiency in trapping sediment (which ultimately impacts the annual costs of maintaining the channel). The non-Federal sponsor concern expressed uncertainty of their responsibility on this issue. If the sedimentation analysis indicates that channel deepening to 48' further diminishes the efficiency of the sediment basin, annual O&M costs under the with project condition may be significantly impacted.

The existing dredged material management and disposal plan (DMMP) is under revision in conjunction with the GRS. An objective of any DMMP is to identify a least-cost life-cycle dredged material management plan (consistent with sound engineering practice and meeting environmental standards). The sediment basin, regularly maintained to 40', represents a significant deposition area for channel sediment. The July 1998 Savannah Harbor Expansion Feasibility Report estimated that as much as 40 percent of the annual maintenance volumes are extracted from the sediment basin, which allows for use of less-expensive dredging and disposal methods and reduces the overall annual maintenance cost. The authorized project at Savannah Harbor includes several advanced maintenance areas, which also serve to reduce annual dredging costs. King Island Turning Basin, for example, also acts as a sediment trap and includes 6 feet of advanced maintenance.

Given the potential effectiveness of the sediment basin in reducing overall dredging costs at Savannah Harbor, consideration of sediment basin deepening is appropriate during an evaluation of the proposed channel deepening. The sedimentation analysis

conducted in support of the DMMP, and described in a separate white paper, will include an evaluation of the use and effectiveness of the sediment basin. The evaluation of the sediment basin (with and without channel deepening) and its impact on sediment deposition and dredging costs can be referenced to determine the advisability of adding advanced maintenance depth in the sediment basin.

The sedimentation analysis will evaluate the volume and deposition pattern of sediment within the existing harbor as part of the without project condition. The presently-configured sediment basin will serve as a baseline for incremental analysis of sediment deposition with the proposed channel deepening (by depth alternative). Expected changes in sediment deposition resulting from the proposed deepening alternatives will be identified. Any additional advanced maintenance needs, either in the navigation channel or in the sediment basin, that are proposed to address incremental changes in sediment deposition volumes or patterns, will be features of a channel deepening alternative.

The NED cost evaluation for the GRS will include an accounting of all costs necessary to construct, operate, and maintain the project, with and without the proposed channel deepening. The without project condition costs, including those to operate the existing sediment basin, will be allocated to the existing project and serve as the baseline for analysis of operational costs.

If the sedimentation analysis determines that additional maintenance material results from channel deepening, the annual incremental operations and maintenance cost will be components of that alternative. If advanced maintenance is recommended in the sediment basin due to impacts of channel deepening, initial construction costs of the new sediment basin advanced maintenance, attributable to the proposed channel deepening, would be features of the project alternatives and subject to cost-sharing at the rate appropriate to the depth for the navigation channel (e.g. 65% Federal/ 35% non-Federal per the 20'-45' depth channel, or 50% Federal/50% non-Federal per the >45' depth channel).

References:

ER-1130-2-520 dated 29 Nov 96

8-2, para. (7)

Advance maintenance dredging to a specified depth and/or width may be performed in critical and/or fast-shoaling areas to avoid frequent re-dredging and ensure the least overall cost of maintaining the project. MSC commanders are authorized to approve advance maintenance dredging for new work dredging and maintenance dredging of the project. Written justification is required. At a minimum, the justification for advance maintenance should describe historic shoaling rates, frequency of dredging, and cost analysis.

PGL 40, dated 19 May 1999 "Development and Financing of Dredged Material Management Studies"

2.c.(2) Management plans shall consider the full range of measures for dredged material management including measures to reduce dredging requirements, management of existing disposal sites to extend their life, and various combinations of new disposal sites involving different disposal methods, disposal area locations, and periods of use.

2.c.(3) The Federal interest in continued operations and maintenance of an existing Federal project for its navigation purpose is defined by the least cost plan for dredged material management that is consistent with sound engineering practice and meeting environmental standards.

PGL No. 42, Additional Guidance on Financing of Dredged Material Management Studies

2. This PGL provided guidance on the financing of DDMP studies where there is a feasibility study for modification of an existing Federal navigation (harbor and inland harbor) project and a need for dredged material management planning for the maintenance of the existing Federal project being modified.

3. The costs of dredged material management and disposal studies will be allocated between the existing project and the feasibility study for the project modification. Costs will be allocated first by identifying all costs that would be associated with planning for dredged material management for the existing authorized project at existing depths and widths. These costs will be allocated to the maintenance of the existing project and be funded from the Operations and Maintenance (O&M), General, appropriation at 100% Federal cost. Increments of dredged material management study costs above those required for planning for continued maintenance of the existing project, which are associated with disposal of dredged material from construction of the project modification or increments of new maintenance cost attributable to the project modification, will be shared 50-50 with the non-Federal sponsor as feasibility study costs. While the costs for the DMMP are allocated between O&M and the feasibility study, the DDMP studies will be conducted as a unified study within the context of the feasibility study.

3.a. The costs of management plan studies for continued maintenance of existing Federal navigation projects are operations and maintenance costs and shall be federally funded and reimbursable from the Harbor Maintenance Trust Fund.

3.a.(4) Studies of project modifications needing Congressional authorization, including dredged material management requirements related to the modification, will be pursued as cost-shared feasibility studies.

EP 1165-2-1, 30 Jul 99, CHAPTER 12.NAVIGATION

12-5. Cost Sharing and Project Cooperation for Navigation. For waterway projects included within the definition of the "Inland Waterway System," all requirements for project development are Federal. Federal participation in other navigation projects, based on the cost sharing provisions of WRDA 1986, as amended, is limited to sharing costs for design and construction of the general navigation features (GNF) consisting of breakwaters and jetties, entrance and primary access channels, turning basins, anchorage areas, structures designed to protect the channel from shoreline erosion, locks, and land-based and aquatic dredged material disposal areas. Non-Federal interests are responsible for and bear all costs for: provision of the necessary lands, easements, rights-of-way, and relocations (LERRs); and, local service facilities (LSF) such as terminal facilities, dredging in berthing areas and interior access channels thereto. They must agree to hold and save the United States free from damages due to project construction and maintenance.

12-5.c. Construction, Operation, and Maintenance. Sections 101, 102, and 103 of WRDA 1986, as amended, specify the cost sharing for commercial harbor, inland waterway, and recreational navigation projects, respectively.

(1) Harbors. Section 101, as amended, requires the project sponsor to bear a percentage share of harbor construction costs for project components that are cost-shared (general navigation features, mitigation), that varies according to the range of water depths where the work is done (20 feet or less, greater than 20 feet but not in excess of 45 feet, and greater than 45 feet). This variable cost share is paid during construction. In addition, Section 101 requires the sponsor to pay 10 percent of the construction costs that are cost-shared, on completion of construction or over time with interest, up to 30 years. Credit against this 10 percent contribution is allowed for the value of lands, easements, rights-of-way, relocations, and the non-Federal sponsor share of deep-draft utility relocations.

ER 1105-2-100, Appendix D, Amendment #1 dated 30 Jun 2004

D-3.e. The NED costs of outlays include the costs incurred by the responsible Federal entity and, where appropriate, contributed by other Federal or non-Federal entities to construct, operate, and maintain a project in accordance with sound engineering and environmental principles and place it in operation. These costs are remaining post-authorization planning and design costs; construction costs; construction contingency costs; administrative services costs; fish and wildlife habitat mitigation costs; relocation

costs; historical and archeological salvage costs; land, water, and mineral rights costs; and operation, maintenance, repair, rehabilitation, and replacement costs.

D-3.e.(10) Operations, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R) Costs...When the project is an addition to or an extension of an existing project for which the costs and benefits are not included or otherwise involved in the project analysis, include only the additional cost of OMRR&R necessitated by the addition or extension of the existing project. Adjustments can be made when appropriate to reflect circumstances special to the project under consideration.