

**Review Plan  
For  
Flood Risk Management Study  
Augusta-Richmond County, Georgia,  
Rocky Creek and Augusta Canal Feasibility Report  
6 February 2008**

**A. General:** The components of this peer review plan were developed pursuant to the requirements of EC 1105-2-408. The decision documents that will be the ultimate focus of the peer review process are the Feasibility Report and the Environmental Record of Decision for the Flood Risk Management Study, Augusta-Richmond County, Georgia, Rocky Creek and Augusta Canal Feasibility Report.

**Key Points of Contact**

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**B. Study Description:** The study authority is provided in Section 414 of the 1996 Water Resources Development Act (WRDA), 104th Congress, 2d Session, Public Law 104-303. This feasibility study presents the findings on two, particularly flood prone, basins. The Rocky Creek Basin is presented first, followed by the Augusta Canal Basin. The local sponsor for this project is the combined city-county government of Augusta-Richmond, Georgia.

**Rocky Creek**

The Rocky Creek basin experiences about \$1,300,000 in average annual damages due to flooding. A combination of both 'structural' and 'non-structural' Flood Risk Management measures were identified as the National Economic Development (NED) plan. These measures, when combined, reduce the average annual damages to about \$300,000. This results in a 76% reduction in annual flood damages. The local sponsor has elected to go with a Locally Preferred Plan (LPP) that includes an additional detention site near Wheless Road. The Wheless Road site was considered when formulating various plans for Flood Risk Management; however, it lacked the economic justification to be included in the NED plan. The LPP plan reduces 77% of the annual flood damages within the basin. The total project cost for the LPP plan is approximately \$11,774,000.

Features of the LPP are listed below:

- o Two detention basins to collect and retain flood waters for a slower and delayed release
  - o 1. Wheless Basin (21.5 acres with capacity of 64.7 acre-feet),
  - o 2. Rosedale Basin (14.2 acres with capacity of 94.4 acre-feet).
- o Construct a small, approximately 5 foot high, levee to protect an area upstream of Nixon Street.
- o Removal of 5, highly flood-prone houses near Kissingbower Road and construction of small recreation park in that area,
- o Elevate 4 moderately flood prone houses

- o Construct ecosystem restoration measures along about 2,500 feet of stream to restore the natural channel characteristics
- o Construct 2.6 mile long recreation trail along the south side of Rocky Creek.

Total Cost of the Rocky Creek Recommended Plan is approximately \$11,774,000. The Federal share is \$5,763,000, and Augusta-Richmond's share is \$6,011,000. The Benefit-to-Cost ratio for the project is 4.2 to 1.

### **Augusta Canal-**

The Augusta Canal is a man-made resource located next to the Savannah River in Richmond and Columbia Counties. Owned by the City of Augusta, and managed by the Augusta Canal Authority, the canal was a designated National Historic Landmark in 1977. When first built the canal's three main functions were to provide waterpower for industry, waterborne transportation for commodities (e.g., cotton), and a source of water for the community. Today, the canal continues to provide waterpower to two textile mills and powers the pumps at the city's raw water pumping station. The Augusta Canal was not, however, built to provide flood control for its adjacent lands. The average annual flood damages within the Augusta Canal basin are estimated to about \$1,426,000.

Plan formulation to reduce flood damages within the canal basin focused on modifying both physical and operation of the various flow control structures within the canal to reduce flood damages. Other features such as overflow weirs and culverts to allow flood waters to by-pass downtown Augusta and enter the Savannah River more quickly were also investigated. In the final analysis, it was a combination of these measures that comprised the NED plan. The NED plan reduces approximately 96% of the flood damages currently being experienced within the Augusta Canal basin. Specific features of the NED plan are listed below;

- o Provide for the remote control of 4 of the flood gates along the Augusta Canal and Construction of a 750 foot weir on the Canal levee opposite Rock Creek.
- o Provide for the remote control operation of 4 of the flood control gates along the Augusta Canal to prevent flood waters from entering the upper end of the Augusta Canal;
- o The construction of a 750-foot long spillway on the upper end of the Augusta Canal near Rock Creek to re-direct rising water levels (caused by the closing of the gates) into the Savannah River, rather than downtown.

Total Cost of the Augusta Canal NED plan is approximately \$5,784,000. The Federal share is \$3,760,000, and the Augusta-Richmond share is \$2,024,000. The Benefit-to-Cost ratio for the plan is 4.5 to 1.

The combined total project cost for both Rocky Creek and Augusta Canal is \$17,558,000. The Federal share is \$9,523,000, and Augusta-Richmond's share is \$8,035,000. The local sponsor understands the cost sharing requirements for the Flood Risk Management, ecosystem restoration and recreation components, along with the additional costs associated with adoption of the LPP for Rocky Creek as the Recommended Plan.

**Current Situation-** The Project Delivery Team (PDT) is currently working to update/revise the report to include HQUSACE's 'Policy Compliance Review' comments received in February 2007. While the comments received for the Augusta Canal portion of the study were relatively minor in nature and easily addressed, the comments on the Rocky Creek portion of the study will require more effort to reconcile and will require additional field work (borings/rights of entry/etc). In an effort to minimize delays and keep the process moving forward, the Augusta Canal portion of the report will be pulled from the combined report and submitted separately. Once the policy compliance review comments for the Rocky Creek portion of the report have been answered it will be submitted. At this time, the 'recommended' plans for both Rocky Creek and Augusta Canal are expected to remain essentially the same as described above. However, the PCX will be coordinated with during the preparation of the revised documents to insure consistency with Corps' ITR policy and determine if additional ITR is needed. If required, the ITR will be accomplished in close coordination with the PCX.

**C. Scientific Information:** Based on an evaluation by the PDT and with input from higher authority, it has been determined that this report does not contain influential scientific information or a highly influential scientific assessment. As a result of this determination it was concluded that no External Peer Review was required. The Independent Technical Review (ITR) for the report was conducted by a review team from the Center of Expertise for Flood Risk Management on all aspects of the study.

**D. Model Certification:** The HEC-FDA economic model was used for the economic analysis. The HEC-HMS model was used to develop stream flow data, and the HEC-RAS computer model was used to determine flood profiles. All these models are certified and were developed by U.S. Army Corps of Engineers' Hydrologic Engineering Center (HEC) in Davis, CA.

**E. Peer Review:**

1. Schedule: The latest peer review of the Draft Feasibility Report was conducted in August 2006 by the Center of Expertise for Flood Risk Management at South Pacific Division (SPD). The table below lists the type of review and date accomplished thus far.

Study Element	Type of Review	Date(s)
Feasibility Scoping Meeting Materials	FSM	Oct 02
Alternative Formulation Briefing Materials	AFB	Mar 04
Draft Feasibility Report and EA	ITR	Aug 06
Final Public Workshop	Public	TBD
Final ITR (if required)- Augusta Canal	PCX	TBD
Rocky Creek	PCX	TBD

2. Number of Reviewers: The ITR for the Draft Feasibility Report was coordinated with PCX and conducted by personnel from the South West Division (SWD) in 2006. While the actual number of people who reviewed the draft feasibility report may have been greater, comments were received from seven reviewers.

3. Review Disciplines: The following disciplines participated in the independent technical review. As earlier stated, the ITR was conducted by the Center of Expertise for Flood Risk Management in SPD, who subsequently (due to resource limitations) forwarded the report on to SWD for the ITR.

- (1) Plan Formulation
- (2) Economics (The FDA economic model was used for the economic analysis).
- (3) Environmental (Ecosystem Restoration)
- (4) Hydraulics and Hydrology (The HEC-HMS and HEC-RAS computer models were used to develop flows and determine backwater profiles).
- (5) Cost Engineering
- (6) Engineering/Geotechnical

4. Selection of Peer Reviewers: The peer reviewers selected for the ITR were from SWD and had never worked on the study and were free from conflicts of interest related to the proposed project.

**F. External Peer Review Process:** No External Peer Review is anticipated at this time. Further, the project does not include any of the following:

- (1) No novel subject matter will be produced by the report,
- (2) Controversial subject matter is minor with team consensus,
- (3) Subject matter is not precedent-setting,
- (4) Interagency interest has not been unusually significant, and
- (5) There are no unusually significant environmental or social effects to the nation.

**G. Public Comment:** The draft feasibility report was coordinated with regulatory agencies prior to finalizing the draft report in 2006. The state and federal agencies are supportive of the recommended plan.

The final report document for Augusta Canal is expected to be available for public review and comment in Fiscal Year 2008 the exact dates of which are not known at this time. The expected public review of the Rocky Creek portion of the study has yet to be determined.

The dates for Public Review of both the Augusta Canal and Rocky Creek components will be included in this PRP once their respective schedules are finalized.

The PDT will consider all public comments in preparing the final report.

**H. Public Input to the Peer Review Process:** Public input will be sought and the appropriate documentation made available through the Mobile District's internet site. Links to the report and background documents are available at the Mobile District's web site.