



DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS
ROOM 10M15, 60 FORSYTH ST., S.W.
ATLANTA, GA 30303-8801

REPLY TO
ATTENTION OF:
CESAD-RBT

19 September 2011

MEMORANDUM FOR COMMANDER, MOBILE DISTRICT (CESAM-EN/
DOUGLAS C. OTTO)

SUBJECT: Approval of Review Plan for Section 206 Project, Flat Creek Aquatic Ecosystem Restoration, Hall County, Georgia

1. References:

- a. Memorandum, CESAM-EN, 7 September 2011, Subject: Review Plan - Section 206 of Water Resources Development Act of 1996, As Amended, Flat Creek Aquatic Ecosystem Restoration, Hall County (Enclosure).
- b. Memorandum, CECW-P, 19 January 2011, Director of Civil Works' Policy Memorandum # 1, Subject Continuing Authority Program Planning Process Improvements.
- c. EC 1165-2-209, Civil Works Review Policy, 31 January 2010.
- d. WRDA 2007 H. R. 1495 Public Law 110-114, 8 November 2007.

2. The Review Plan for the for Design Plans and Specifications and Design Documentation Report for the Flat Creek Aquatic Ecosystem Restoration Project, Hall County, Georgia dated September 2011 submitted by reference 1.a has been reviewed by this office and is approved in accordance with reference 1.c above. A copy of the approved Review Plan is enclosed.

3. We concur with the conclusion of the District Chief of Engineering that a Safety Assurance Review, also known as a Type II Independent External Peer Review (Type II IEPR), is not required for this Continuing Authority Program (CAP) Section 206 Environmental Protection and Restoration, Aquatic Ecosystem Restoration Project. This project does not have the factors stipulated in Section 2035 Safety Assurance Review, WRDA 2007 H. R. 1495 Public Law 110-114 that need addressing to assure public health, safety, and welfare. The primary basis for the concurrence that a Type II IEPR is not required is the determination that the failure of this Section 206 Flat Creek Aquatic Ecosystem Restoration Project does not pose a significant threat to human life.

4. The District should take steps to post the Review Plan to its web site and provide a link to CESAD-RBT. Before posting to the web site, "DRAFT" and the names of Corps/Army employees should be removed.

CESAD-RBT

19 September 2011

SUBJECT: Approval of Review Plan for Section 206 Project, Flat Creek Aquatic Ecosystem Restoration, Hall County, Georgia

5. The SAD point of contact is Mr. James Truelove, CESAD-RBT, 404-562-5121.

FOR THE COMMANDER:

Encl

A handwritten signature in black ink, appearing to read 'Chris Smith', with a stylized flourish at the end.

CHRISTOPHER T. SMITH, P.E.
Chief, Business Technical Division



DEPARTMENT OF THE ARMY
MOBILE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

REPLY TO
ATTENTION OF

CESAM-EN (1105)

7 September 2011

MEMORANDUM FOR CDR, SOUTH ATLANTIC DIVISION: CESAD-RBT
(MR. CHRISTOPHER SMITH)

SUBJECT: Review Plan – Section 206 of the Water Resources Development Act of 1996, As Amended, Flat Creek Aquatic Ecosystem Restoration, Hall County Georgia.

1. A copy of the subject Review Plan (RP) is enclosed for your review and approval.
2. The RP describes the technical review process to address the proposed plan of restoring 2,500 linear feet of stream restoration to Flat Creek Watershed located in Hall County, Georgia. The non-Federal sponsor is Hall County, Georgia.
3. If you have any questions, please call Mr. Dean Trawick, Project Manager at (251) 690-3254 or Ms. Kerry Gates, Plan Formulator at (251) 694-3809.

FOR THE COMMANDER:

Encl


DOUGLAS C. OTTO, JR., P.E.
Chief, Engineering Division

REVIEW PLAN

FLAT CREEK AQUATIC ECOSYSTEM RESTORATION PROJECT HALL COUNTY, GEORGIA

MOBILE DISTRICT

September 2011

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, MOBILE DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.



**US Army Corps
of Engineers®**

REVIEW PLAN

FLAT CREEK AQUATIC ECOSYSTEM RESTORATION PROJECT HALL COUNTY, GEORGIA

TABLE OF CONTENTS

1.	PURPOSE.....	1
2.	DESCRIPTION OF PROJECT	1
3.	DESCRIPTION OF WORK FOR REVIEW	1
4.	BACKGROUND	3
5.	PROJECT DELIVERY TEAM	4
6.	LEVELS OF REVIEW	4
7.	DISTRICT QUALITY CONTROL/QUALITY ASSURANCE (DQC/QA)	4
8.	AGENCY TECHNICAL REVIEW.....	4
9.	INDEPENDENT EXTERNAL PEER REVIEW	5
10.	REVIEW MANAGEMENT ORGANIZATION.....	6
11.	POLICY AND LEGAL COMPLIANCE	6
12.	REVIEW SCHEDULE AND COSTS	7
13.	PUBLIC PARTICIPATION	7
14.	MAJOR SUBORDINATE COMMAND (MSC) APPROVAL	7

LIST OF FIGURES

FIGURE NO.	DESCRIPTION	
1	Aerial Map	2
2	Tentatively Selected Plan Vicinity Map	3

LIST OF ATTACHMENTS

ATTACHMENT 1	Team Roster
ATTACHMENT 2	Acronyms and Abbreviations
ATTACHMENT 3	Statement of Technical Review

REVIEW PLAN

Flat Creek, Aquatic Ecosystem Restoration Project Hall County, Georgia

1. PURPOSE

The purpose of this Review Plan (RP) is to describe the technical review process for the Flat Creek Aquatic Ecosystem Restoration Project in Hall County, Georgia. Like the Project Management Plan (PMP), the RP is a living document and may change as the project progresses.

a. U.S. Army Corps of Engineers (Corps) review guidance for studies and projects conducted under the continuing authority of Section 206 of the Water Resources Development Act (WRDA) of 1996, as amended. This project is in the design portion of the Design and Implementation Phase. Resulting documents will be the Plans and Specifications and Design Documentation Report (DDR). Required review components for this work will consist of District Quality Control/Quality Assurance (DQC/QA), and Agency Technical Review (ATR).

b. References

- (1) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (2) ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (3) WRDA 2007 H. R. 1495 Public Law 110-114, 8 Nov 2007
- (4) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (5) EC 1105-2-412, Assuring Quality of Planning Models, 14 May 2010
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (7) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007

2. DESCRIPTION OF PROJECT

The project involves restoring the aquatic ecosystem and aquatic habitat to the Flat Creek Watershed, which is within the Chattahoochee River Basin in Hall County, Georgia, upstream of Lake Sidney Lanier (Figure 1). The study area was chosen based on degraded habitat conditions that are compromising the development and maintenance of diverse and robust biological communities. Riparian and instream habitats have been affected by changes to the natural stream hydrology that have led to a scarcity of riffle/pool habitat, limited availability of woody debris and shade, and increased stream sedimentation and substrate embeddedness.

3. DESCRIPTION OF WORK FOR REVIEW

The proposed aquatic ecosystem restoration project consists of 2,500 linear feet of stream restoration to add high quality instream habitat in extremely degraded parts of upper Flat Creek. The alternative includes 700 feet of stream restoration along the mainstem of Flat Creek just downstream of Highland Terrace and 1,800 feet of stream restoration between Atlanta Highway

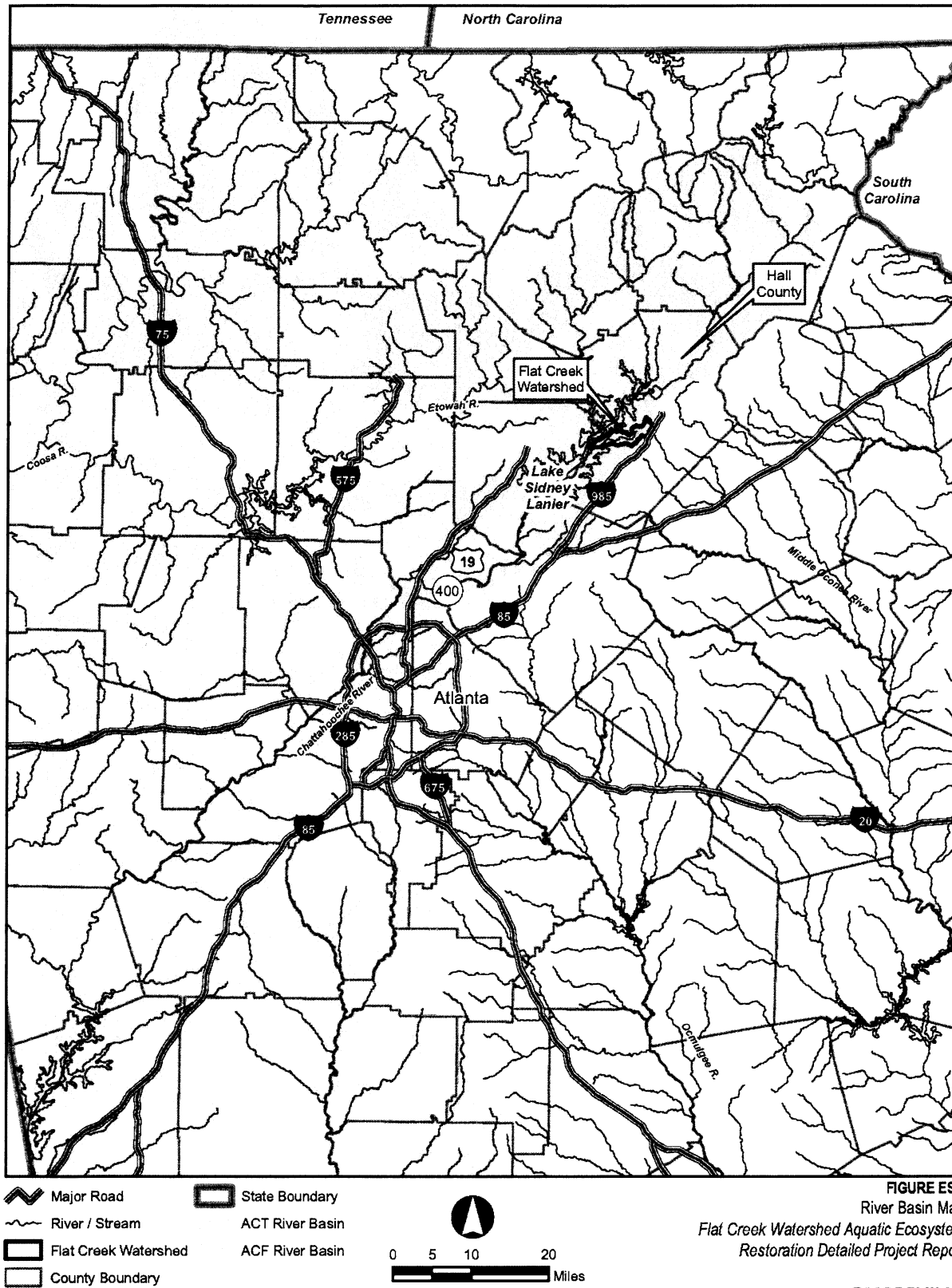


Figure 1. Aerial Map

and Dorsey Street, in a residential/commercial area (Figure 2). To address channel widening and bank erosion, engineered riffles, boulders, bank stabilization matting, and longitudinal peaked stone toe protection would be used to deflect flow from eroded banks, restore eroded banks, and protect the streambanks from continued degradation. Boulders, engineered riffles, rootwads, and streambank plantings will also provide habitat for biological communities. Bank reshaping will provide stream channel protection. The riparian planting measures would be used to enhance vegetative protection along segments of the ecosystem affected by clearing and development to address fast and flashy streamflows.

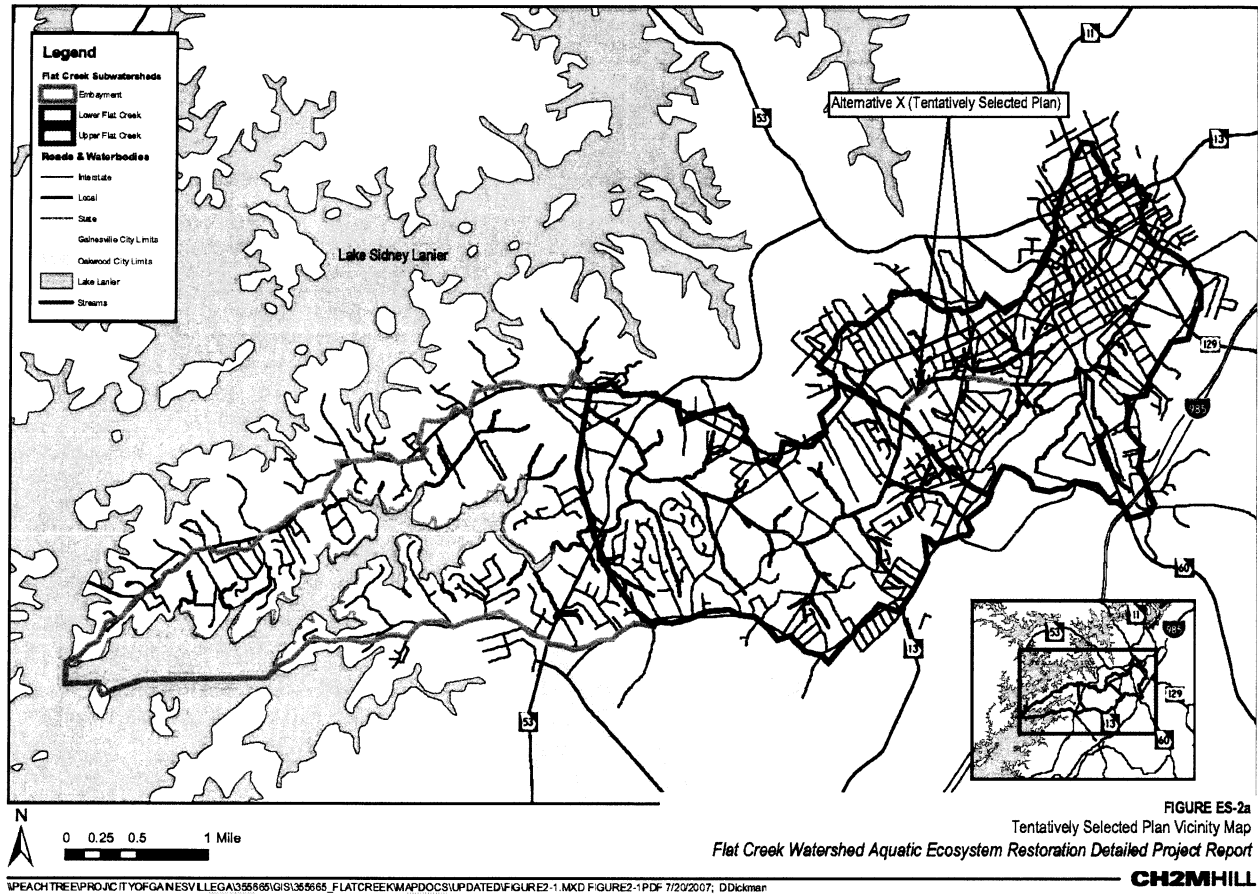


Figure 2. Tentatively Selected Plan Vicinity Map

4. BACKGROUND

The continuing authority of Section 206 of WRDA 1996, as amended, provides authority for the Corps to restore degraded aquatic ecosystems. A restoration project is adopted for construction only after investigation shows that the restoration will improve the environment, is in the public interest, and is cost-effective. Each project is limited to a Federal cost of not more than \$5 million. This Federal limitation includes all project-related costs for feasibility studies, planning, engineering, construction, supervision, and administration. This project was initiated by a study request from the City of Gainesville, Georgia and Hall County, Georgia. The study resulted in

an Environmental Restoration Report completed in 2011 that recommended the construction of this project. The non-Federal sponsor for the proposed project will be Hall County, Georgia

5. PROJECT DELIVERY TEAM

The Project Delivery Team (PDT) is comprised of those individuals involved directly in the development of the implementation documents. The individual contact information and disciplines of the Mobile District PDT are included in Attachment A of this document.

6. LEVELS OF REVIEW

This RP describes the levels of review and the anticipated review process for the various documents to be produced. This RP is a component of the PMP. The levels of review included in this RP are District Quality Control/ Quality Assurance (DQC/QA) and Agency Technical Review (ATR), Type I Independent External Peer Review (IEPR) and Type II IEPR. Per EC 1165-2-209, IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of the USACE is warranted. Type I IEPR is conducted on project studies. Type II IEPR is conducted on design and construction activities where there is a potential threat to human life. Neither Type I or Type II IEPR are required for this project; this will be discussed in subsequent sections. DrChecks review software will be used to document all comments, responses, and associated resolutions accomplished throughout the review process. Comments have been limited to those that are required to ensure adequacy of the product.

7. DISTRICT QUALITY CONTROL/QUALITY ASSURANCE (DQC/QA)

All documents to be produced will undergo District Quality Control/Quality Assurance (DQC/QA). DQC/QA is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. Major Subordinate Command (MSC) and District quality management plans address the conduct and documentation of this fundamental level of review. DQC/QA will be managed by Mobile District in accordance with ER 1110-1-12, Engineering & Design Quality Management, EC-1165-2-209 and the District Quality Management Plan. The DQC/QA will include quality checks and reviews, supervisory reviews, PDT reviews, and Biddability, Constructability, Operability and Environmental Review (BCOE) reviews required by ER 1110-1-12. Additionally, the PDT is responsible to assure the overall integrity of the documents produced. The DQC/QA review will be completed prior to submitting documents for ATR.

8. AGENCY TECHNICAL REVIEW

All documents produced as part of this effort will undergo ATR to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published Corps guidance, that design plans and specifications and supporting analysis are clear, constructible, environmentally sustainable, operable and maintainable.

The ATR team will consist of the individuals that represent the significant disciplines involved in the accomplishment of the work. ATR will be managed within the Corps and conducted by

senior Corps personnel outside of the Mobile District that are not involved in the day-to-day production of the project. The ATR leader will be from outside the MSC, and must complete a statement of technical review for all final products and final documents. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. The documents to be reviewed are the DDR, and technical plans and specifications. Comments will be evaluated in DrChecks and materials will be revised as necessary. By signing the ATR certification, the district leadership certifies policy compliance of the document and also that the DQC/QA activities were sufficient and documented.

Disciplines Required for Review. At a minimum, the following disciplines should be represented on the ATR team:

Discipline	Required Experience
Hydraulic Engineer	Five (5) years of experience in hydrology and hydraulics; experience in stream restoration/modification also desirable.
Cost Engineer	Five (5) years of experience in estimating costs on civil works projects.
Environmental Engineer	Three (3) years of experience in civil works projects.
Geotechnical Engineer	Three (3) years of experience in civil works projects, desired to have dealt with streambeds and banks.
Civil Engineer (Construction)	Three (3) years of experience in civil works projects, desired to have dealt with streambeds and banks.
Real Estate	Three (3) years of experience in civil works projects.
ATR Leader	Team member should have minimum expertise such as having led prior ATRs, etc. The ATR lead may also have been a senior ATR reviewer on a similar type projects within the past five years. ATR Team Leader can also serve as one of the review disciplines in addition to team leader duties.

9. INDEPENDENT EXTERNAL PEER REVIEW

Independent External Peer Review (IEPR) is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of the Corps is warranted. There are variations in the scope and procedures for IEPR, depending on the phase and purposes of the project under review. For clarity, IEPR is divided into two types, a Type I IEPR is generally for decision documents developed during the feasibility phase and a Type II IEPR is generally conducted when needed

during the design and implementation phase. Because this project is: 1) in the design and implementation phase; and, 2) this project does not contain any of the mandatory triggers contained in EC1165-2-209, a Type 1 IEPR is not required.

A Type II IEPR Safety Assurance Review (SAR) is appropriate on design and construction activities for hurricane and storm risk management and flood risk management projects, as well as other projects where potential hazards pose a significant threat to human life. This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities.

The District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR SAR for this project. The project purpose is not hurricane and storm risk management or flood risk management, and the project does not have potential hazards that pose a significant threat to human life. Innovative materials or novel engineering methods will not be used. Redundancy, resiliency, or robustness is not required for design. Also, the project has no unique construction sequencing, or a reduced or overlapping design construction schedule. Therefore, a Type II IEPR of implementation documents will not be undertaken. If the project scope is changed, this determination will be reevaluated.

10. REVIEW MANAGEMENT ORGANIZATION

It is the responsibility of the Review Management Organization (RMO) to assign the ATR team and to ensure that lead is outside the home MSC; to manage the ATR and develop and prepare a “charge” to the ATR team. The RMO for this project is the South Atlantic Division (SAD) as the MSC for this region. Mobile District will assist SAD with management of the ATR and development of the “charge”.

11. POLICY AND LEGAL COMPLIANCE

In addition to the technical reviews described above, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level determination that the report recommendations and supporting coordination comply with law and policy and warrant approval of further recommendation to higher authority by the Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. The technical review efforts addressed in this Circular are to augment and compliment the policy review processes by addressing compliance with published Army policies pertinent to planning products, particularly policies on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy. Counsel will generally not participate on ATR teams, but may at the discretion of the District or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the district will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100.

The National Environmental Policy Act (NEPA) compliance is required for the construction of this project. This will include consideration of no adverse impacts to the environment. NEPA documentation will be prepared and coordinated by Mobile District in parallel with the preparation of construction plans and specifications. The Corps will ensure compliance as part of the design review and project coordination process and no construction will occur prior to the completion of the NEPA process, BCOE certification, state water quality certification, and the satisfaction of other applicable local permit requirements. All contract documents and supporting environmental documents shall be

reviewed by the Mobile District Office of Counsel prior to final contract award. NEPA and environmental documents shall be submitted to the ATR team with the DDR and Technical Plans and Specifications to aid in ATR review.

12. REVIEW SCHEDULE AND COSTS

The cost for DQC/QA and ATR is estimated to be approximately \$10,000.00 and \$20,000.00 respectively. The documents to be reviewed and scheduled dates for review are as follows:

Milestone	Review	Schedule Dates
50% Unreviewed P&S and DDR	DQC/QA	May 2012
100% Unreviewed P&S and DDR	DQC/QA	June 2012
Final P&S and DDR	ATR	July 2012

13. PUBLIC PARTICIPATION

The RP will be made accessible to the public through the Mobile District website link <http://www.sam.usace.army.mil/>. Public review of the RP can begin as soon as it is approved by the Division Commander and posted by the Mobile District. Comments made by the public will be available to the review team. Public and interagency review for the Environmental Assessment (EA) will be conducted in accordance with NEPA, as outlined in ER 1105-2-100.

14. MAJOR SUBORDINATE COMMAND (MSC) APPROVAL

The MSC is responsible for approving the RP as prepared by the Mobile District. Approval is provided by the MSC Commander. The Commander's approval should reflect team input as to the appropriate scope and level of review for the decision document. Like the PMP, the RP is a living document and may change as the project progresses. Changes in the RP should be approved by following the process used for initially approving the RP. In all cases the MSC will review decisions on the level of review and any changes made in updates to the project.

ATTACHMENT 1 – TEAM ROSTER

Project Delivery Team

Project Manager	CESAM-PM-C
Plan Formulator	CESAM-PD-FP
Project Architect/Engineer (PAE)	CESAM-EN-HH
Environmental Engineer	CESAM-PD-EI
Cultural Resources	CESAS-PD-EM
Contractor	CH2M HILL
Sponsor	Hall County, GA

DQC/QA Team Members

Office	Discipline
Hydraulics	CESAM-EN-HH
Cost	CESAM-EN-E
Geotechnical	CESAM-EN-GG
Environmental Compliance	CESAM-PD-EI
Real Estate	CESAM-RE-P

ATR Team Members

Office	Discipline
Hydraulics	TBD
Cost	TBD
Environmental	TBD
Construction	TBD
ATR Lead	TBD

ATTACHMENT 2 - ACRONYMS AND ABBREVIATIONS

Term	Definition
ATR	Agency Technical Review
BCOE	Biddability, Constructability, Operability and Environmental Review
CORPS	U.S. Army Corps of Engineers
DDR	Design Documentation Report
DQC	District Quality Control
DQC/QA	District Quality Control/Quality Assurance
EA	Environmental Assessment
EC	Engineer Circular
EIS	Environmental Impact Statement
ER	Engineer Regulation
HQUSACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
ITR	Independent Technical Review
MSC	Major Subordinate Command
NEPA	National Environmental Policy Act
OMB	Office of Management and Budget
PDT	Project Delivery Team
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
RMO	Review Management Organization
RP	Review Plan
SAR	Safety Assurance Review
TR	Technical Review
WRDA	Water Resources Development Act