



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, US ARMY CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
BROOKLYN, NEW YORK 11252-6700

DEC 5 2012

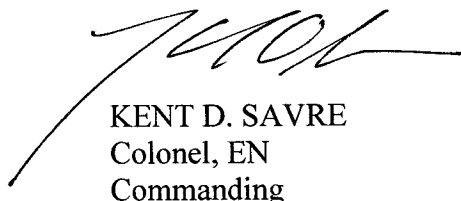
CENAD-PD-PP

MEMORANDUM FOR Commander, Baltimore District, ATTN: CENAB-PL

SUBJECT: Review Plan Approval for Paul S Barnes Ecosystem Restoration Project at Poplar Island, Talbot County, Maryland

1. The attached Review Plan for the subject study has been prepared in accordance with EC 1165-2-209, Civil Works Review Policy.
2. The Review Plan has been coordinated with the Ecosystem Planning Center of Expertise of the Mississippi Valley Division, which is the lead office to execute this plan. For further information, contact Ms. Jodi Creswell at 309-794-5448. The Review Plan does not include independent external peer review, as it was deemed not applicable by Headquarters, US Army Corps of Engineers.
3. I hereby approve this Review Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

Encl


KENT D. SAVRE
Colonel, EN
Commanding

**Ecosystem Restoration Project at Poplar Island
Talbot County, Maryland**

Part 1: Construction Implementation Documents

Part 2: Limited Reevaluation Report (LRR)

**Ecosystem Restoration Project at Poplar Island
Talbot County, Maryland**

Part 1: Construction Implementation Documents

**REVIEW PLAN FOR THE PAUL S. SARBANES ECOSYSTEM RESTORATION
PROJECT AT POPLAR ISLAND, TALBOT COUNTY, MARYLAND**

BALTIMORE DISTRICT

MSC Approval Date:

1. PURPOSE AND REQUIREMENT

- a. **Purpose:** The purpose of this review plan is to identify the requirements and plan of action for the review of the products for the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island (Poplar Island). Since the project is in construction, the products being generated are implementation documents necessary for construction such as plans and specifications and the cost estimate.
- b. **References:**
 - EC 1165-2-209, Civil Works Review Policy, 31 Jan 2012
 - ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
 - ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006 as revised through 31 March 2011
 - WRDA 2007 H.R. 1495 Public Law 110-114, 8 Nov 2007
- c. **Requirements:** This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for all Civil Works projects from initial planning through design, construction, operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC's outline includes three levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review and Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

- d. **Review Management Organization (RMO):** The RMO responsible for managing the overall peer review effort described in this review plan is the North Atlantic Division (MSC), Mr. Alan Huntley, P.E., Business Technical Division, Regional Technical Directorate.

2. PROJECT INFORMATION

- a. **Project Description:** The project is focused on restoring/expanding remote island habitat to provide hundreds of acres of wetland and terrestrial habitat for fish, shellfish, reptiles, amphibians, birds, and mammals through the beneficial use of approximately 68 million cubic yards (MCY) of dredged material from the approach channels of the Baltimore Harbor and Channels navigation project. The project develops a long-term strategy for providing viable placement alternatives that meet the dredging needs of the Port of Baltimore while maximizing the use of dredged materials as a beneficial resource. The dredged material will restore 1,715 acres of remote island habitat consisting of 840 acres of upland habitat at an elevation up to +25 feet, 737 acres of wetland habitat that would be further divided into low marsh and high marsh, and approximately 138 acres of open water embayment. This will provide direct benefits of improved health, richness, and sustainability to aquatic and wildlife species. The project will support two supporting strategies of Executive Order 13508 by expanding citizen stewardship and strengthening science.

Restoration of island habitat is necessary and valuable to the Chesapeake Bay ecosystem. In the last 150 years, it has been estimated that 10,500 acres have been lost in the middle-eastern portion of Chesapeake Bay. This remote island habitat is valuable as resting and nesting sites for migratory and shore birds.

Construction on the project began in 1998 and the project is forecasted to be an active construction project until 2041.

In 2005 a General Reevaluation Report was completed which addressed expansion of the project from that which was authorized in WRDA 1996. The project was subsequently authorized in Section 3087 of WRDA 2007.

A Limited Reevaluation Report (LRR) is currently being prepared to address an increase in the total project cost estimate. This is scheduled to be submitted to the MSC in December 2012 and has a separate review plan which was endorsed by

the National Ecosystem Restoration Planning Center on 27 Apr 2012 and pending approval by NAD.

- b. **Implementation Documents:** This review plan has been prepared for the plans and specifications and supporting cost estimates for the construction elements that remain on the Poplar Island project.

3. DISTRICT QUALITY CONTROL (DQC)

All implementation documents shall undergo DQC fulfilling the project quality requirements defined in the Project Management Plan (PMP) and ER 1110-2-1150. DQC will be documented through the use of DrChecks and a DQC report, which will be signed by all reviewers. Products that will undergo DQC include the plans and specifications and the supporting cost estimates. DQC will be performed by staff at the Baltimore District that have not been involved in the preparation of the documents as well as by the State of Maryland acting through the Maryland Port Administration (MPA) or their consultants. The MPA is the cost sharing partner for the Poplar Island project and they take an active role in the review of all documents related to the construction of the project.

4. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all implementation documents. The objective of ATR is 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 USACE guidance, and that the document explains the analyses and results in a reasonable clear manner. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home District that is not involved with the day-to-day production of the project. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR lead should be a senior professional with experience in preparing Civil Works implementation documents and conducting ATR. The lead should have the necessary skills and experience to lead a virtual team. The ATR lead may also serve as a reviewer for a specific discipline. Additional ATR team members should be experts in the respective fields that the implementation report is addressing, for instance if an Engineering Documentation Report was required to address a substantive change in the design then the appropriate Civil, Geotechnical, Hydrology and Hydraulics, Cost, etc. engineering experts would be required as a part of the ATR team. All comments from an ATR will be captured in DrChecks so that a record of the comment and response can be formally documented.

Products to Undergo ATR. ATR will occur prior to major decision points in the planning process so that the technical results can be relied upon in setting the course for further study. It is not anticipated that there will be any key technical products for which interim review will be required; however, as circumstances warrant it may be determined that ATR will be necessary for read-ahead materials or other products. All ATR will be coordinated with the Eco-PCX. The ATR will be accomplished by an independent entity outside the Baltimore District, within USACE, as designated by the PCX. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices of all project decision documents. The intent is for an ATR to not only ensure technical analyses are correct, but also ensure compliance with all pertinent USACE guidance early in the study prior to MSC review. As discussed in paragraph 2.a. above, a LRR is currently being prepared and already has an approved review plan. Aside from this, no further implementation documents are anticipated to be prepared for this project.

Required ATR Team Expertise.

ATR Team Members/Disciplines	Expertise Required
Civil Engineering	The Civil Engineering reviewer should have experience with dredged material placement and habitat restoration.
Cost Engineering	The Cost Engineering reviewer should have experience in dredged material placement and habitat restoration.
Environmental Resources	The Environmental Resources reviewer should be a senior biologist/ecologist with experience evaluating environmental benefits and effects of beneficial use of dredged material projects.

Documentation of ATR. DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components,

- efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date.

5. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

Under certain circumstances, an IEPR may be required for implementation documents. 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 USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPRs are managed outside USACE and are conducted on project studies. Type I panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analyses, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
- Type II IEPR. Type II IEPRs, or Safety Assurance Review), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

Type I IEPR is not applicable as per ER 1165-2-209 since the Polar Island project is in the Construction Phase. Type II IEPR is also not applicable since the Poplar Island is an environmental restoration project and life safety is not an issue.

6. POLICY AND LEGAL COMPLIANCY REVIEW

All implementation documents will be reviewed for their compliance with law and policy. DQC and ATR facilitate the policy review processes by addressing compliance with pertinent

published Army policies, particular policies on analytical methods and the presentation of results in implementation documents.

7. COST ENGINEERING DIRECTORATE OF EXPERTISE (DX) REVIEW AND CERTIFICATION

Any cost estimate updates shall be coordinated with the Cost Engineering DX which is located in the Walla Walla District. The DX will assist in determining the expertise required for an ATR and in the development of the associated review charges. The DX will provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

8. REVIEW PLAN APPROVAL AND UPDATES

The Baltimore District Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

9. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

Kevin Brennan, Project Manager, Programs and Project Management Division, Baltimore District (410) 962-6113

Daniel Bierly, Acting Chief, Civil Projects Development Branch, Planning Division, Baltimore District (410) 962-6139

Alan Huntley, P.E., Business Technical Division, North Atlantic Division, (347) 370-4664.

**ATTACHMENT 1: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR
DECISION DOCUMENTS**

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name

ATR Team Leader

Office Symbol/Company

Date

SIGNATURE

Name

Project Manager

Office Symbol

Date

SIGNATURE

Name

Date

Architect Engineer Project Manager¹

Company, location

SIGNATURE

Name

Date

Review Management Office Representative

Office Symbol

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name

Date

Chief, Engineering Division

Office Symbol

SIGNATURE

Name

Date

Chief, Planning Division

Office Symbol

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 2: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 3: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
			Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSD	Major Subordinate Command	WRDA	Water Resources Development Act

**Ecosystem Restoration Project at Poplar Island
Talbot County, Maryland**

Part 2: Limited Reevaluation Report (LRR)

REVIEW PLAN

**Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island
Beneficial Use of Dredged Material Project
Talbot County, Maryland
Limited Reevaluation Report**

Baltimore District

**MSC Approval Date: TBD
Last Revision Date: TBD**



**US Army Corps
of Engineers®**

REVIEW PLAN

Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island Limited Reevaluation Report

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS.....	1
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION.....	1
3. STUDY INFORMATION.....	1
4. DISTRICT QUALITY CONTROL (DQC).....	3
5. AGENCY TECHNICAL REVIEW (ATR).....	3
6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).....	6
7. POLICY AND LEGAL COMPLIANCE REVIEW.....	7
8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION ..	7
9. MODEL CERTIFICATION AND APPROVAL.....	8
10. REVIEW SCHEDULES AND COSTS.....	9
11. PUBLIC PARTICIPATION.....	9
12. REVIEW PLAN APPROVAL AND UPDATES.....	9
13. REVIEW PLAN POINTS OF CONTACT.....	10
ATTACHMENT 1: TEAM ROSTERS.....	Error! Bookmark not defined.
ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS.....	12
ATTACHMENT 3: REVIEW PLAN REVISIONS.....	14
ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS.....	15
ATTACHMENT 5: PROJECT AREA.....	18

1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island Limited Reevaluation Report (LRR).

b. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) PMP for the Poplar Island LRR
- (6) Planning Division, Civil Project Development Branch, Quality Management Plan, 7 October 2009

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is Ecosystem Restoration Planning Center of Expertise (ECO-PCX).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies, if necessary.

3. STUDY INFORMATION

a. **Decision Document.** This LRR will be the decision document for re-authorization of the Paul S. Sarbanes Ecosystem Restoration project at Poplar Island. Re-authorization is required by Congress for any project when the Section 902 cost limit is going to be exceeded. This re-evaluation report will require approval from the MSC before being provided to HQUSACE and the Assistant Secretary of the Army for Civil Works for submission to OMB and Congress.

b. **Study/Project Description.** Poplar Island, recently on the verge of disappearing, is today a national model for habitat restoration and the beneficial use of dredged material. The U.S. Army Corps of Engineers, Baltimore District has teamed with the Maryland Port Administration (MPA) and other Federal and State agencies to restore Poplar Island using dredged material from the Baltimore Harbor and Channels Federal navigation projects (only approach channels). Just off the Chesapeake Bay

coastline, about 34 miles south of Baltimore in Talbot County, MD, Poplar Island is being returned to its former size and important ecological function while helping to ensure the economic vitality of the region. Ultimately, the site will be approximately 1,715 acres in size and will have received 68 million cubic yards of dredged material. The project is planned to provide approximately 737 acres of inter-tidal wetland habitat, 840 acres of upland forest habitat, and 138 acres of an open-water embayment. By the end of 2012, approximately 176 acres of wetlands will be completed on Poplar Island. Due to the shortfall of potential dredged material placement sites to meet the needs of the annual dredging needed to keep the Port of Baltimore operations functional, it is expected that the Poplar Island expansion would need to be available for dredged material placement no later than 2018. This means construction to create the expansion would have to start no later than 2015.

The Planning Guidance Notebook (PGN), and other policy, indicates that a post-authorization change (PAC) document must be completed in order for the USACE and the Administration to determine whether or not to recommend re-authorization of a project to Congress when the Section 902 project cost limit is going to be exceeded. The Poplar Island project was authorized by WRDA 1996 at a first cost of \$307 million. So far, about 20 million cubic yards of dredged material has been placed on the existing project and over 176 acres of wetland habitat have been restored creating valuable habitat for a variety of animal species including diamondback terrapins, muskrats, and over 120 different species of birds. Subsequently, a study was conducted to expand the project an additional 575 acres. The expansion was authorized by WRDA 2007 as part of the Poplar Island project at an increased cost of around \$260 million and has yet to be built. Given the age of the original, a new cost estimate was recently completed for both the project under construction and the expansion. This estimate used different assumptions based not just on designs, but rather on lessons learned over the course of more than a decade of actual construction. This estimate underwent the USACE cost-risk analysis and has been certified based on the latest quality control guidance. It has been determined that both the existing project and the proposed expansion will exceed their 902 limits.

The authorized project cost in WRDA 1996 for the existing project was \$307,000,000, with a maximum project cost limited by Section 902 as of October 2010 being \$559,154,000. The current cost estimate has been revised from past estimates based on actual construction costs that have been observed during the more than ten years that this project has been under construction. Assumptions made during the original project cost estimate have been revised based on observed experience. The actual costs of the site and habitat development have been significantly higher than expected. In addition, in the past five years there has been a significant spike in the cost of transporting the dredged material and offloading that material onto the island. These cost increases are due to a rise in the price of fuel and the bidding climate of the contractors. Increased costs for crust management, wetland cell development (tidal inlets, planting) and daily operations have also been observed and are the basis for the current projections in the revised cost estimate. As a result, the new cost estimate for the existing project is estimated to be \$759,937,000 as of May 2011. A similar situation is true for the proposed expansion. The authorized project cost in WRDA 2007 for the proposed expansion was \$260,000,000, with a maximum project cost limited by Section 902 as of October 2010 being \$423,660,000. The cost estimate for the proposed expansion was also revisited and revised just like what was done with the existing project. Based on 10 years of construction experience working on the existing project, and looking at assumptions previously made, the new cost estimate for the proposed expansion is estimated to be \$663,687,000 as of May 2011. For that reason, the Baltimore District submitted information per Appendix G-16 of the PGN and recommended that a LRR be conducted as a decision document for re-authorization of the project. Higher authority has concurred with this recommendation as documented in a memorandum from North Atlantic Division (NAD), dated 11 August 2011.

- c. **Factors Affecting the Scope and Level of Review.** Given the nature of the project and the reasons behind why a LRR is needed, it is expected that the biggest factor affecting the scope and level of review will be justifying why the cost of the project increased beyond the projected amount. There are likely little to no threats to human life or safety directly resulting from the LRR. It is not expected that the study will be likely to involve significant public dispute as to the size, nature, or effects of the project because the dimensions of the project are not going to change, it is just the overall cost that is changing. The project team will be looking at existing environmental monitoring data that has been collected over a span of about ten years to reaffirm the benefits of the project to support the cost increase. Since the assumptions about how the project will be constructed have not changed, and different construction alternatives are not being considered, the use of models would not be appropriate for our analysis. The purpose of the LRR is to explain why the cost of the project is higher than what we had projected, and to support the continuation of the project by reaffirming all the environmental benefits of the project seen so far, and what we will see when the project is completed. There might be some interest from the public as to why both the existing project and the proposed expansion will exceed the 902 limit originally set for Poplar Island. As discussed in Section 5, ATR is appropriate for this document.
- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to appropriate review. It is not anticipated that there will be any in-kind products and analyses provided by the non-Federal sponsor. The LRR will include an in-depth assessment of the project cost estimate and the use of existing monitoring data.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC. Disciplines on the DQC team will include a Baltimore District senior planner, a senior biologist, a civil engineer and a cost engineer, each of whom are not part of the Project Delivery Team (PDT) for the LRR.

- a. **Documentation of DQC.** DQC is documented in a Quality Control Review Report (QCRR), which summarizes the reviewed product, review process, and major issues and their resolution. This QCRR, signed by the PDT and DQC team, will be provided to the ATR team at each review. The DQC process is outlined in the "Planning Division, Civil Project Development Branch, Quality Management Plan" from Baltimore District dated 7 October, 2009.
- b. **Products to Undergo DQC.** The draft and final LRR and technical appendices will undergo DQC, as outlined in the Baltimore District Planning Division Quality Management Plan of 2009. Also, any interim products, such as project cost updates, read-ahead materials (if needed) and manipulation of monitoring data will undergo DQC.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is 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 USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE

by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC; however, due to the long term nature of the project and the knowing the peculiarities of Poplar Island, technical reviewers can be within the home MSC.

a. Products to Undergo ATR. ATR will occur prior to major decision points in the planning process so that the technical results can be relied upon in setting the course for further study. An in-depth review of the Limited Re-Evaluation Report will be coordinated and documented by the PDT study manager prior to MSC review. It is not anticipated that there will be any key technical products for which interim review will be required; however, as circumstances warrant it may be determined that ATR will be necessary for read-ahead materials or other products. All ATR will be coordinated with the Eco-PCX. The ATR will be accomplished by an independent entity outside the Baltimore District, within USACE, as designated by the PCX. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices of all project decision documents. The intent is for an ATR to not only ensure technical analyses are correct, but also ensure compliance with all pertinent USACE guidance early in the study prior to MSC review. ATR will be completed on the following documentation:

- Draft LRR including any appendices
- Final Limited Re-evaluation Report

Additional In-Progress Reviews (IPRs) may be required throughout the study if significant policy issues arise. If these require documentation for major decision making, then additional ATR of this documentation may be required; however, only one IPR is expected at this time. This quality control will occur prior to the decision event so that a firm technical basis for making decisions will be established. As a result, the decision event is free to address critical outstanding issues and set the direction for the next step of the study.

b. Required ATR Team Expertise

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as economics, environmental resources, etc) to lower the review costs.
Plan Formulation	The Planning reviewer should be a senior water resources planner with experience in beneficial use of dredged material project and ecosystem restoration. The focus of the plan formulation person will be review appropriate LRR methods and processes used to complete the report.
Economist	The Economist reviewer should have experience and/or familiarity calculation 902 limits.
Civil Engineering	The Civil Engineering reviewer should have experience with dredged material placement and habitat restoration.
Cost Engineering	The Cost Engineering reviewer should have experience in dredged material placement and habitat restoration.
Environmental Resources	The Environmental Resources reviewer should be a senior biologist/ecologist with experience evaluating environmental benefits and effects of beneficial use of dredged material projects.

c. **Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. 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 USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
 - **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.
- a. Decision on IEPR.** The District has determined that there is no IEPR requirement for this LRR. Due to the limited scope and impact of the LRR, the report would not benefit from Type I IEPR. No new NEPA documentation will be generated for this LRR.

EC 1165-2-209 states that “Meeting the specific conditions identified for possible exclusions is not, in or of itself, sufficient grounds for recommending an exclusion. A deliberate, risk-informed recommendation whether to undertake IEPR shall be made and documented by the project delivery team (PDT).” The PDT has performed a risk assessment for this study and for the following reasons it is recommended that the requirement for IEPR be waived:

- (1) No design will be done in this study.
- (2) Alternatives will not be evaluated as part of the study.
- (3) The LRR will not include a recommendation, but rather explain why the costs for the Poplar Island restoration project have exceeded the 902 limit.
- (4) The LRR will include a formal cost estimate that has undergone the appropriate cost-risk assessment and an explanation of why costs have changed compared to what was authorized.
- (5) No NEPA documentation will be included with this LRR.
- (6) The LRR is not expected to impact a structure or feature of a structure whose performance involves potential life safety risks.
- (7) The LRR will document that if Poplar Island was no longer used for dredged material placement, it would result in a deficit of adequate placement capacity for the Port of

Baltimore. This could lead to insufficient maintenance of the navigation channels which could lead to inefficient ship operations and increased safety concerns.

- (8) The LRR will likely support the continuation of the Poplar Island restoration project in spite of the increase in cost to construct it. The total investment is significant.
- (9) The LRR will support continuation of the Poplar Island project, and therefore continued budget requests
- (10) The LRR is not likely to change the operation of the project. The focus of the report is to explain that there is an increase in cost, why there is that increase of costs, and to demonstrate the environmental benefits of the project.
- (11) The LRR will not involve ground disturbances beyond what has already been authorized based on previous decision documents.
- (12) The LRR will likely result in a recommendation for the continuation of the Poplar Island restoration project, but would not directly affect any special features such as cultural resources, historic properties, survey markers, etc. Individual project components, which would be studied separately, may affect special features as listed above and would be evaluated for particular project impacts.
- (13) The LRR will likely result in a recommendation for the continuation of the Poplar Island restoration project despite the increase in costs and will not directly involve activities that trigger regulatory permitting. Individual plan components, which would be studied separately, may involve regulatory permitting activities.
- (14) The LRR will not involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos.
- (15) The LRR will not reference the use of or be reliant on manufacturers' engineers and specifications.
- (16) The LRR will not involve inspection/certification of utility systems.
- (17) At this time there is not expected to be any controversy with the limited re-evaluation for the Poplar Island restoration project. If controversy were to arise during the development of the LRR, the decision on IEPR will be revisited.

b. Products to Undergo Type I IEPR. N/A. Headquarters, U.S. Army Corps of Engineers determined that no IEPR is required.

c. Required Type I IEPR Panel Expertise. N/A

d. Documentation of Type I IEPR. N/A

7. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents. The LRR will be reviewed by district counsel who will determine the level and documentation of their review.

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

- a. **Planning Models.** For the Poplar Island LRR report, confirmation must be given that the anticipated environmental benefits of the Poplar Island project are being realized. The environmental benefits of the Poplar Island project have been widely recognized. Dozens of articles have been written about the Poplar Island project and the tremendous habitat the project is providing for a variety of species of birds, diamondback terrapins, muskrats, etc. In addition to these articles, there are over 10 years worth of monitoring data from USFWS, NOAA, University of Maryland, Center for Environmental Sciences (UMCES), etc that have been keeping track of the wildlife, plants/vegetation, and fish out on Poplar Island. In the LRR, the goal is to use the monitoring data and the published articles to document the environmental value of the Poplar Island project. The monitoring data will be summarized to communicate the numbers of species that have been attracted to Poplar Island and identify how (foraging, nesting, shelter, etc.) the island is being used. A list of species by guild or community will be identified. New species and uses that have been identified since the project began will be clearly discussed. The quantities of each habitat type will be documented. Particular focus will be given to species or habitats that have been designated either as rare, threatened, or endangered (Federal) or as a State species of concern. The articles will be used to demonstrate how the value of Poplar Island has been recognized in the region. The PDT anticipates using this monitoring data from the last 10 years of ongoing construction at the site, and then comparing that information to the projected benefits that were previously derived from models as part of the project studies that were the basis for the authorizations. This method will likely need to undergo Agency Technical Review. Therefore, due to the limited nature of the report, and how the main focus of the report will be to explain the change in cost, and since our project design has not altered in anyway, it is anticipated that planning models will not be needed for the LRR.

- b. Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document: None are expected to be used.

10. REVIEW SCHEDULES AND COSTS

- a. ATR Schedule and Cost.** The cost and schedule of ATR will be negotiated between the Baltimore District and the ECO-PCX. It is assumed that documents to be reviewed will be transmitted electronically to the assigned ATR members. Comments will be recorded using Dr. Checks software if technical in nature; otherwise another suitable format will be coordinated with the ATR member. All comments will be provided electronically to the Baltimore District study manager. It is assumed that the ATR team will be working virtually. The ATR team may be asked to participate in IPR meetings via conference calls or video-conference.

ACTION	Start Date	Finish Date
<i>Planning to send out read ahead material for ATR team</i>	10-Oct-2012	24-Oct-2012
<i>ATR team will put comments into Dr. Checks</i>	24-Oct-2012	31-Oct-2012
<i>Planning will respond to comments</i>	31-Oct-2012	7-Nov-2012
<i>ATR team will close out comments and ATR Certification</i>	7-Nov-2012	21-Nov-2012

The total cost for the ATR effort is anticipated to be \$25,000 for the Poplar Island LRR.

- b. Type I IEPR Schedule and Cost.** Not applicable
- c. Model Certification/Approval Schedule and Cost.** Not applicable

11. PUBLIC PARTICIPATION

If no NEPA updates are required, then it is assumed that no public review will be needed. However, the magnitude of the cost increase may necessitate some sort of public notification. Therefore, it is assumed for this scope of work that a public notice will be generated and distributed to all interested parties for comment upon completion of the draft report. Comments, including any responses from resources agencies, will be reflected in the final document.

12. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Robin Armetta, Study Manager, Baltimore District
410-962-6100, Robin.E.Armetta@usace.army.mil
- Joseph Vietri, Chief, Planning and Policy Division, North Atlantic Division
718-765-7070, Joseph.R.Vietri@usace.army.mil
- Sue Ferguson, NAD Account Manager for Eco-PCX, 615-736-7192,
sue.l.ferguson@usace.army.mil

ATTACHMENT 1: TEAM ROSTERS

PDT

Discipline	Name	Email	Phone Number
Project Manager	Kevin Brennan	Kevin.M.Brennan@usace.army.mil	410-962-6113
Lead Plan Formulator	Dan Bierly	Daniel.M.Bierly@usace.army.mil	410-962-6139
Study Manager	Robin Armetta	Robin.E.Armetta@usace.army.mil	410-962-6100

ATR

Discipline	Name	Email	Phone Number	Credentials	Years of Exp.
ATR Lead	Not Assigned	TBD	TBD	TBD	TBD
Economist	Not Assigned	TBD	TBD	TBD	TBD
Environmental Resources	Not Assigned	TBD	TBD	TBD	TBD
Civil Engineering	Not Assigned	TBD	TBD	TBD	TBD
Cost Engineering	Not Assigned	TBD	TBD	TBD	TBD

Vertical Team

Title	Name	Email	Phone Number
District Planning Coordinator	Not Assigned	TBD	TBD
Program Manager, Eco-PCX	Not Assigned	TBD	TBD
RIT Lead	Not Assigned	TBD	TBD
NAD Division Planning Chief	Not Assigned	TBD	TBD

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the <type of product> for <project name and location>. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

Name
ATR Team Leader
Office Symbol/Company

Date

SIGNATURE

Name
Project Manager
Office Symbol

Date

SIGNATURE

Name
Architect Engineer Project Manager¹
Company, location

Date

SIGNATURE

Name
Review Management Office Representative
Office Symbol

Date

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows: Describe the major technical concerns and their resolution.

As noted above, all concerns resulting from the ATR of the project have been fully resolved.

SIGNATURE

Name
Chief, Engineering Division
Office Symbol

Date

SIGNATURE

Name

Chief, Planning Division

Office Symbol

Date

¹ Only needed if some portion of the ATR was contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act

ATTACHMENT 5: PROJECT AREA

