



DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, CORPS OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
GENERAL LEE AVENUE, BLDG 301
BROOKLYN, NY 11252-6700

REPLY TO
ATTENTION OF:

CENAD-RBT

DEC 14 2012

MEMORANDUM FOR Commander, New England District, ATTN: CENAE-EP (Mr. Mackos),
696 Virginia Road, Concord, MA 01742-2751

SUBJECT: Review Plan Approval for Muddy River Flood Risk Management & Environmental
Restoration Project, Boston & Brookline, MA

1. References:

a. E-Mail, CENAE-PP-P (Mr. Keegan), 30 Nov 12, subject: Muddy River Review Plan

b. EC 1165-2-209 Change 1, Water Resources Policies and Authorities – Civil Works
Review Policy, 31 Jan 12

2. The enclosed Review Plan for Muddy River Flood Risk Management & Environmental Restoration Project, Boston & Brookline, MA has been prepared in accordance with Reference 1.b. The project's objective is to provide flood risk management, reduce potential flood stages and enhance aquatic habitat to a section of Muddy River in Brookline and Boston, MA. The objectives of the project are to reduce potential flood stages and enhance aquatic habitat within the Muddy River by dredging accumulated sediment, eliminating restrictive drainage culverts, day lighting sections of the river currently contained within culverts, removing nuisance vegetation, that restricts conveyance of flows, improving fisheries/wildlife habitat and water quality, bank stabilization and promoting and enhancing recreational use of Emerald Necklace parklands. The project is being implemented in two phases; the first phase is currently under construction, and the second phase will be designed in FY13.

3. NAD Business Technical Division is the Review Management Organization (RMO) for the Agency Technical Review (ATR). Initial analysis indicates that Independent External Peer Review is not required since the project does not involve potential hazards which pose a significant threat to human life. However, a more detailed risk assessment needs to be completed to verify the determination.

4. The enclosed Review Plan for Muddy River Flood Risk Management & Environmental Restoration Project, Boston & Brookline, MA is approved. The Review Plan is subject to change as 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.

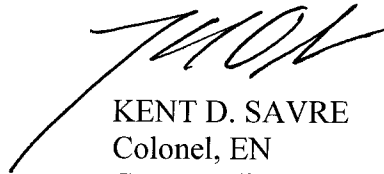
CENAD-RBT

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5. In accordance with Reference 1.b, Appendix B, Paragraph 5, this approved Review Plan shall be posted on your district website for public review and comment. The plan will also be posted on NAD's website for review and comment.

6. The Point of Contact in Business Technical Division for this action is Alan Huntley, 347-370-4664 or Alan.Huntley@usace.army.mil.

Encl
as



KENT D. SAVRE
Colonel, EN
Commanding

CF (w/ encl):
CEMP-NAD (C. Shuman)
CENAE-PP-P (M. Keegan)
CENAD-PD-X (L. Cocchieri)

REVIEW PLAN

***Muddy River Flood Risk Management & Environmental Restoration Project
Boston & Brookline, Massachusetts
Design and Construction Phases***

New England District

30 November 2012



**US Army Corps
of Engineers** ®

REVIEW PLAN
Muddy River Flood Risk Management & Environmental Restoration Project
Boston & Brookline, Massachusetts

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1. PURPOSE AND REQUIREMENTS

Purpose. This Review Plan defines the scope and level of peer review for the Muddy River Flood Risk Management & Environmental Restoration Project, Boston & Brookline, Massachusetts . The project is being implemented in two phases. The first Phase which is located between the Riverway and Louis Pasteur Avenue in Boston, MA involves the installation of two culverts and the daylighting of approximately 700 feet of river. Phase 1 is currently under construction. The second phase which involves environmental dredging of the river for flow conveyance will occur both up and downstream of the Phase 1 footprint. The products that will need to be reviewed include the DDR, plans and specifications and the cost estimate.

a. 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 2010
- (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 Long Island Sound Dredged Material Management Plan
- (6) MSC and/or District Quality Management Plan(s)

b. 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 responsible for managing the overall peer review effort described in this Review Plan is North Atlantic Division (MSC), (per EC 1165-2-209), Mr. Alan Huntley, P.E., Business Technical Division, Regional Technical Directorate, Telephone number 347-370-4664. 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.

3. STUDY INFORMATION

- a. **Decision Document.** The Muddy River Flood Risk Management and Environmental Restoration Project, Boston and Brookline, Massachusetts is a Congressional authorized project. The project is being implemented in two phases. The first phase is currently under construction. The second phase will be entering the design phase later in FY 2013. The design phase will develop plans and specifications, a DDR and cost estimates.
- b. **Study/Project Description.** The project's objective is to provide flood risk management, reduce potential flood stages and enhance aquatic habitat to a section of Muddy River in Brookline and Boston, Mass. The objectives of the plan are to reduce potential flood stages and enhance aquatic habitat within the Muddy River by dredging accumulated sediment, eliminating restrictive drainage culverts, day lighting sections of the river currently contained within culverts, removing nuisance vegetation, that restricts conveyance of flows, improving fisheries/wildlife habitat and water quality, bank stabilization and promoting and enhancing recreational use of Emerald Necklace parklands. The figure below illustrates the project area and what measures are proposed as part of the plan.

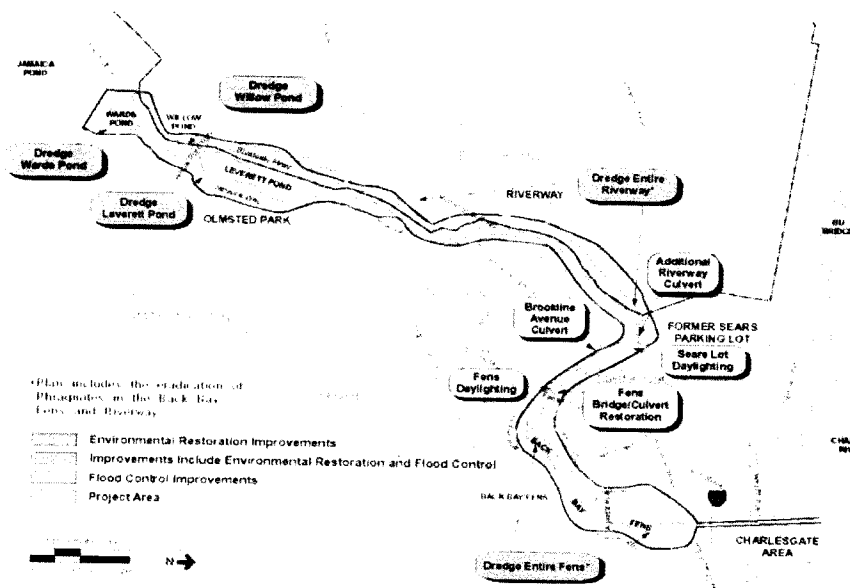


Figure 2: Recommended Plan

c. **Factors Affecting the Scope and Level of Review.** The Muddy River project is supported by all of the sponsors as well as the various local citizen organizations. The scope of the project has been identified and clear. There is little risk in the design effort and no public opposition is anticipated. The design will be reviewed in the District using its DQP. An ATR will be conducted on the plans and specifications and the cost estimate. The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the design and costs presented are technically correct and comply with published USACE guidance. 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.

- **Purpose:** Ensure the quality and credibility of the government's scientific information and verify compliance with National Environmental Policy Act (NEPA) and other environmental compliance documents
- **Managed by:** ATR Leader
- **Performed by:** Senior Technical Team Members, preferably recognized subject matter experts (Outside New England District)
- **Required for:** Plans and specification and project cost estimates
- **Documentation:** D. rChecks and Review Report
- **Review Management Organization:** MSC

d. **In-Kind Contributions.** There are no in-kind contributions

4. DISTRICT QUALITY CONTROL (DQC)

Initial Quality Control (QC) review of feasibility study products is handled within the Section or Branch at New England District performing the work and by contractors submitting the results of specific field investigations and reports. Additional QC will be performed by the multi-Agency project delivery team (PDT) during the course of the feasibility plan formulation and evaluation process, and during preparation and assembling the draft and final DMMP documents. These District level internal checks of engineering, technical, and scientific methodology applied, computations, and assessment are standard operating procedure and normally conducted by Section Chiefs and Team Leaders.

- Documentation of DQC.** DQC will be documented through the use of Dr. Checks and a DQC report, which will be signed by all reviewers.
- Products to Undergo DQC.** Products that will undergo DQC include the plans and specifications and Cost Estimates.
- Required DQC Expertise.** DQC will be performed by Section Chiefs and Team Leaders in NAE that are not directly involved in the study. The required disciplines for review will vary by

product. The DQC supplements the reviews provided by the Project Delivery Team during the course of completing these products.

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.

a. Products to Undergo ATR. The products that will undergo ATR are Plans and Specifications and Cost Estimates.

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 planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in dredging
Geotechnical	The Geotechnical reviewer should be a senior professional with experience in the environmental dredging and processing of dedged material with a filter press.
Civil Engineering	The Civil Engineering reviewer should be a senior professional with experience in dredging and civil layout.
Cost Engineering	The Cost Engineering reviewer should be an experienced cost engineer. The Walla Walla PCX will be assigned the cost review on this project.

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 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, for the AFB, draft report, and final report.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR) – Not Applicable

- a. **Decision on IEPR.** The project documents will not result in implementation or project authorizations and therefore does not require an IEPR.
- b. **Products to Undergo Type I IEPR.** N/A
- 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. 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 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.

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

The DMMP cost estimates 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 assignment of the appropriate ATR member. 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 – N/A

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document: N/A
- b. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document: N/A

10. REVIEW SCHEDULES AND COSTS

- a. **ATR Schedule and Cost.** It is anticipated that the 5 ATR reviewers will require a combined \$25,000 to conduct the ATR of the DMMP and PEIS. The anticipated start of the ATR would be March 2014.
- b. **Type I IEPR Schedule and Cost.** N/A.
- c. **Model Certification/Approval Schedule and Cost.** N/A

11. PUBLIC PARTICIPATION

The public has been engaged in this project throughout the design of Phase 1 and is anticipated to be during the Phase 1 construction and Phase 2 design. Public meetings are held periodically throughout the project to gather and provide feedback from the public, formulate a consensus, and generally keep interested parties informed. A project web site was formed to inform the public of construction activities and “email blasts” will be used to notify area citizens of unexpected issues that arise during the construction period.

12. REVIEW PLAN APPROVAL AND UPDATES

The North Atlantic Division Commander is responsible for approving this Review Plan. The Commander’s approval reflects appropriate 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 will be documented. Significant changes to the Review Plan (such as changes to the scope and/or level of review) would 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, will 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:

- Mike Keegan, Project Manager, michael.f.keegan@usace.army.mil, 978-318-8087.
- Moses Fins, moses.d.fins@usace.army.mil, 347-370-4559
- Alan Huntley, RMO, Alan.Huntley@usace.army.mil, 347-370-4664