QUALITY CONTROL (QC) AND
INDEPENDENT TECHNICAL REVIEW (ITR) PLAN

1.0 PURPOSE

This review plan presents the process that assures quality products for the Hudson-Raritan Estuary (HRE) Lower Passaic River, NJ, ecosystem restoration feasibility study. This QC and ITR plan defines the responsibilities and roles of each member on the study and technical review team.

The product to be reviewed by the technical review team is the Hudson-Raritan Estuary (HRE) Lower Passaic River, NJ Feasibility Report. Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, as detailed in EC1105-2-408 dated May 31, 2005, the ITR will be conducted by specialists from organizations outside of the district responsible for the study. ITR will be conducted for all decision documents and will be independent of the technical production of the project. This QC and ITR plan is, by reference, a part of the project management plan for this master plan.

2.0 APPLICABILITY

This document provides the quality control plan for the Hudson-Raritan Estuary (HRE) Lower Passaic River, NJ Feasibility Report. It identifies quality control processes and independent technical review for all work to be conducted under this study authority, including in-house, sponsor and contract work.

3.0 REFERENCES

EC 1105-2-408 “Peer Review of Decision Documents” (May 31, 2005)
EC 1105-2-407 “Planning Models Improvement Program: Model Certification” (May 31, 2005)
EC 1105-2-409 “Planning in a Collaborative Environment” (May 31, 2005)
ER 1105-2-100 “Planning Guidance Notebook and Appendices”

4.0 GENERAL PROJECT DESCRIPTION

The study area is broadly situated within the Hudson Raritan Estuary, an estuary of national significance. The Study Area for the Lower Passaic River, NJ, is located in the New Jersey counties of Essex, Bergen, Hudson, and Passaic. The nearly eighteen-mile study area is bounded to the south by Newark Bay and to the north by the Dundee Dam. The Lower Passaic River is a federally regulated waterway; however it has not always been maintained to the authorized depth, but has been maintained to depth appropriate to usage. The authorized project depth varies with river mile. From river mile 0.0 to 2.5, the authorized and constructed depth is 30 feet. From river mile 2.5 to river mile 4.6, the authorized and constructed depth is 20 feet. From river mile 4.6 to river mile 7.1, the authorized depth is 20 feet but is only constructed to 16 feet. From river mile 7.1 to river mile 8.1, the authorized and constructed depth is 16 feet.

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The study area's has experienced extensive habitat loss as a result of elevated levels of chemical contaminants in surface waters and sediments, particularly Dioxins, PCB's, PAH's, and mercury. The historic industrial uses from Paterson, the cradle of the industrial revolution, to modern-day Newark have resulted in discharges of waste products with significant deposition of these hazardous materials on the bottom, with detrimental changes to existing habitat. This material poses a serious risk to human health and loss of ecosystem services. The degradation of the river has discouraged private sector investment in the area.

A reconnaissance study was authorized by a resolution of the Committee on Transportation and Infrastructure of the United States House of Representatives, adopted 15 April 1999, to determine the feasibility of environmental restoration and protection related to water resources and sediment quality within the New York and New Jersey Port District, including but not limited to creation, enhancement, and restoration of aquatic, wetland, and adjacent upland habitats. Engineering solutions are available to meet ecosystem restoration goals and objectives, such as improvements in fish, wildlife, and benthic habitat values.

The FCSA was signed in June 2003, with the New Jersey Department of Transportation – Office of Maritime Resources, the non-Federal sponsor. Significant work has already been completed for existing conditions assessments based on navigation usage studies, pilot study of environmental dredging, bathymetric surveys, physical-chemical and human ecological field sampling, aerial photography, GIS mapping, and other data gathering. Currently, the Corps and the non-Federal sponsor are working in partnership with the EPA under WRDA and CERCLA Superfund authority, and trustees NJDEP, USFWS, and NOAA, as well as NGO's, other resource agencies, and local stakeholders to develop a plan of improvement. This area has been designated an Urban River Restoration Initiative (URRI) pilot project.

Early action remediation alternatives have been developed for comparison and evaluation by the EPA. A draft Focused Feasibility study was released for partner agency review in June 2007 to review six potential alternatives as well as the no action alternative.

5.0 REVIEW REQUIREMENTS

Initial Quality Control (QC) review will be handled within the Section or Branch performing the work. Additional QC will be performed by the Project Delivery Team (PDT) during the course of completing the integrated Feasibility Study. The detailed checks of computations and methodology should be performed at the District level, and the processes for this level of review are well established. Pursuant to EC 1105-2-408, item 2 c (2), Models used in the preparation of decision documents covered by this Circular will be reviewed in accordance with EC 1105-2-407, Planning Models Improvement Program: Model Certification. The uses and applications of models in individual studies that lead to the preparation of decision documents covered by this Circular will be reviewed in accordance with the requirements of this Circular. At this point a decision has not been made concerning the assessment tool or model, but consideration is being given to such tools as IBI, modified HEP, etc.

Pursuant to EC 1105-2-408, the Feasibility Report and EIS will need an ITR team endorsed by the Planning Center of Expertise (PCX) for Environmental Restoration (National Ecosystem Planning) Projects. Dr. David Vigh (CEMVD-RB-T) will validate the assignment of this team. An external ITR will be necessary in accord with guidance and based upon the initial Risk Screening Process conducted by the PDT noted in Section 9.

The applicability of External Peer Review is not clear at this time. The external ITR review process will focus on:

- Review of the planning process and criteria applied.
- Review of the applicability of Section 312 in conjunction with restoration
- Review of the methods of preliminary analysis and design.
- Compliance with authority and NEPA requirements under WRDA and integration with CERCLA.
- Completeness of preliminary support documents.
- Spot checks for interdisciplinary coordination.

6.0 REVIEW PROCESS

It is anticipated that the ITR review process will begin after the ITR team has been assigned, and will cover key formulation and benefit and cost assessment areas. Major review process milestones are listed below:

- Preliminary Alternatives Development for remediation/restoration
- Lower Passaic Draft Comprehensive Restoration Plan
- Model/Tool Selection for evaluations
- Alternative Formulation Briefing
- Draft Feasibility Report & EIS Review
- Final Feasibility Report & EIS Review

7.0 REVIEW COST

The cost of the ITR and EPR are to be determined between the team and the PCX. It is assumed that documents to be reviewed will be transmitted electronically via the ftp site. Comments will be made and addressed in Dr. Checks. It is also assumed that the external ITR team will be working virtually. Only under extreme circumstances should the external ITR team, or a representative of that team, be required to physically attend team or milestone meetings. The team should participate in all remaining milestone meetings; however, this may occur via conference call or video teleconference as warranted to improve efficiency.

8.0 REVIEW SCHEDULE

Note that since the commencement of this study preceded the requirement for PCX involvement and development of this review plan, the review schedule below is tailored to work remaining to be completed:

TASK	START DATE	FINISH DATE
*Develop ITR Plan and post to Web Site, PCX	Aug 2007	
*Identify Regional ITR resources and Recommend ITR Plan to PCX	Aug 2007	
*PCX Approves or Assigns ITR Team	Sep 2007	
*Sponsor Approves QC/ITR Plan	Sep 2007	
*Preliminary Alternatives	TBD	
*Draft CRP	TBD	
*Review of Model/Certification	TBD	
*Alternative Formulation Briefing	TBD	
*AFB → External Peer Review	TBD	
*Review Draft FR/EIS	TBD	
*Review of Final FR/EIS	TBD	

9.0 PROJECT RISK

The PDT has completed an initial risk assessment associated with this project based upon five factors and rated the project quantitatively among five levels of project risk of failure ranging from low to high (risk score class). The PDT scored each Project Risk Item in the Review Plan Score Guide (Table 9.1) and calculated an overall Average Project Risk Assessment Score. The exact value of the scores were not as important as compared to what risk score class (low, medium or high) the Average Project Risk Assessment Score was classified. Based upon the PDT analysis, the project is moderate to high in risk due to its scale and complexity.

The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating. The Project Schedule and Cost were assessed as a low degree of risk if they both remained flexible and a high degree of risk if the Project schedule and cost was fixed. Staff Technical Experience was assessed as a low degree of risk if the staff had a high level of ecosystem restoration experience and a high degree of risk if the staff had a low level of ecosystem restoration experience. The results of the evaluation are tabulated as follows:

Table 9.1 Review Plan Score Guide

Project Risk Item	**Risk Assessment Score (Low Degree to High Degree)**					**Score**
	Low		Medium		High	
Project Complexity	1	2	3	4	5	5
Customer Expectations	1	2	3	4	5	5
Product Schedule/Cost	1	2	3	4	5	4
Staff Technical Experience	1	2	3	4	5	3
Failure Impact and Consequences	1	2	3	4	5	3
Average Project Risk Assessment Score						**4.0 (Medium-High)**

10.0 REVIEW PLAN

The components of the review plan were developed pursuant to the requirements of EC1105-2-408.

10.1 Team Information

The decision document that will be the ultimate focus of the review process is the Hudson-Raritan Estuary (HRE) Lower Passaic River, NJ Feasibility Report. The purpose of the decision document and associated EIS will be to develop an appropriate restoration/remediation plan in this part of the Hudson-Raritan Estuary. The project team is listed below. This list provides the points of contact of NAN team members who are available to answer specific technical questions as part of the review process. The list also provides the names and organization of participating outside entities.

District Project Team Members:

MAIN REPORT PRODUCT	STUDY TEAM MEMBERS	REVIEW TEAM MEMBER
Feasibility Report Main Text	Project Planner CENAN-PL-F	All review team members will review this document internally External ITR: TBD
NEPA Documentation	CENAN-PL-E	All review team members will review this document internally External ITR: TBD

Sections	STUDY TEAM MEMBER	REVIEW TEAM MEMBER
Plan Formulation	CENAN-PL-F	TBD – PCX
Economics	CENAN-PL-F	TBD – PCX
Environmental	CENAN-PL-E	TBD – PCX
Cultural Resources	CENAN-PL-E	TBD – PCX
Real Estate	CENAN-RE	TBD – PCX
Hydrology and Hydraulics	CENAN-EN-H	TBD – PCX
HTRW	CENAN-PL-E	TBD – PCX
Geotechnical	CENAN-EN-D	TBD – PCX
GIS	CENAN-PL-E	TBD – PCX
Cost	CENAN-EN-C	TBD – PCX (NWW)
Counsel	CENAN-OC	TBD – PCX

10.2 Scientific Information
Based upon the self evaluation by the project team, it is possible that the USACE report to be disseminated may contain influential scientific information. Influential scientific information is defined by the Office of Management Budget as scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions. The environmental restoration measures that were identified will be evaluated using standard and innovative biological and economic measurement processes.

10.3 Timing
The ITR process will begin with an assessment of the Preliminary Alternatives. It is anticipated that work would start upon sponsor approval.

10.4 External Peer Review Process
Based on the range of alternatives, the complexity, scale, and potential for influential or innovative analyses, it is anticipated that external peer review would be required.

10.5 Public Comment
Public involvement is anticipated during the integration phase of the Remedial Investigation by EPA and the development of a Comprehensive Restoration Plan. There will also be a focused public outreach period between the draft and final Feasibility Report. Further public involvement activities have not been scheduled at this time.

10.6 ITR Reviewers [This will be updated based on project team and MVD negotiations.]
It is anticipated that at least eleven reviewers total should be available in the following disciplines: hydraulics, water/sediment quality, cultural resources, legal, GIS, real estate, HTRW, economics, ecology, planning, and cost estimating. The reviewer contact information should be stated in Section 10.1 of this review plan. Cost Estimating - as required by HQUSACE, the review will be conducted by Cost Estimating Center of Expertise (NWW).

10.7 External Peer Review Selection
This will be determined conclusively in conjunction with the PCX and vertical team.