

CECW-CP, 30 March 2007, subject: Peer Review Process



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

JAN 29 2008

CENAD-PSD-P

MEMORANDUM FOR Commander, Philadelphia District, ATTN: CENAP-PL

SUBJECT: Review Plan Approval for Schuylkill River, Wissahickon Creek Restoration Feasibility Study

1. Reference:

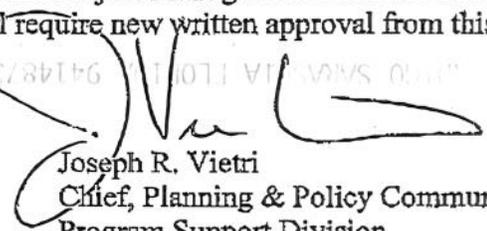
- a. EC 1105-2-408, Peer Review of Decision Documents, 31 May 2005.
- b. Memorandum, CECW-CP, 30 March 2007, subject: Peer Review Process.

2. The enclosed Review Plan for the Schuylkill River, Wissahickon Creek Restoration Feasibility Study has been prepared in accordance with the referenced guidance.

3. The Plan has been made available for public comment, and any comments received have been incorporated. It is being coordinated with the Ecosystem Restoration Planning Center of Expertise of Mississippi Valley Division, which is the lead office to execute this plan. The Plan currently does not include external peer review.

4. I hereby approve this Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Plan or its execution will require new written approval from this office.

Encl

  
Joseph R. Vietri  
Chief, Planning & Policy Community of Practice  
Program Support Division  
Programs Directorate

# **SCHUYLKILL RIVER, WISSAHICKON CREEK RESTORATION FEASIBILITY STUDY**

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

### **1.0 PURPOSE**

This Review Plan presents the process that assures quality products for the Schuylkill River, Wissahickon Creek Restoration Feasibility Study, General Investigation (GI) Feasibility Study. This QC and ITR Plan define the responsibilities and roles of each member on the study and technical review team.

Because the FCSA was signed in April 2004, it was expected that the study would be grandfathered under the implementation guidance for EC1105-2-408 dated 31 May 2005. However, revised guidance received in March 2007 has revised the grandfathering conditions. Therefore, an ITR is now required. This QC and ITR plan will document existing ITR processes and identify future actions to make the study compliant with existing policy.

Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, the ITR will be conducted by specialists from organizations outside of the district responsible for the study. Independent Technical Review will be conducted for all decision documents requiring headquarters approval and will be independent of the technical production of the project.

### **2.0 APPLICABILITY**

This document provides the Quality Control Plan for the Feasibility Study. 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**

EC1105-2-408 "Peer Review of Decision Documents" dated 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 & Appendices"

### **4.0 GENERAL PROJECT DESCRIPTION**

The Corps of Engineers was given the authority to conduct an expedited reconnaissance study and any ensuing feasibility level investigations by the U.S. House of Representatives, Committee on Public Works and Infrastructure Resolution #2298 – Schuylkill River Basin, Pennsylvania, adopted March 15, 1988. The study resolution reads as follows:

(#2298) "Resolved by the Committee on Public Works and Transportation of the United States House of Representatives, that the Board of Engineers for Rivers and

Harbors is hereby requested to review the report of the Chief of Engineers on the Schuylkill River, Pennsylvania, published as House Document Numbered 529, 89<sup>th</sup> Congress, the report on the Delaware River, published as House Document Numbered 522, 87<sup>th</sup> Congress, Second Session, as it relates to the Schuylkill River, and other pertinent reports, with a view to determining whether any modifications of recommendations contained therein are advisable at the present time, in the interest of flood control, water supply, recreation, water quality and other water and related land resource problems.”

In response to this study resolution, the Corps of Engineers Philadelphia District conducted the Schuylkill River, Wissahickon expedited reconnaissance study and, in accordance with Section 905(b) of the Water Resources Development Act of 1986 (WRDA 86), completed a study fact sheet in 2001. A limited reconnaissance study of the Schuylkill River Basin, completed in 1990, recommended further studies for flood damage reduction and protection measures along Wissahickon Creek. The findings of the expedited reconnaissance study indicated that there was Federal interest in further investigations of issues relating to stream flow variability, aquatic habitat degradation and poor water quality, flooding in some areas, and overall ecosystem imbalances. To address these concerns, riparian buffer, streambank, and channel restoration, construction of fish passages, wetland creation and restoration, structural flood damage reduction measures, surface and/or groundwater discharge and recharge studies, and other actions are being evaluated for the watershed.

## **5.0 REVIEW REQUIREMENTS**

Initial Quality Control (QC) review will be handled within the Section or Branch performing the work or by staff in the corresponding Sponsor Department when it involves In-Kind Services. Additional QC will be performed by the 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, and are not subject to the requirements of this Circular. 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.

Pursuant to EC 1105-2-408, the integrated Feasibility Report will need an ITR team assigned by the PCX for Environmental Restoration (National Ecosystem Planning) Projects. Coordination is ongoing to finalize the PCX. It is recommended that the ITR be handled entirely within USACE, as the scope and technical complexity do not warrant an External Peer Review (EPR), based upon the initial Risk Screening Process conducted by the Project Development Team (PDT) noted in Section 9. It is anticipated that while this study will be challenging and beneficial, it will not be novel, controversial or precedent setting, nor have significant national importance. As a result, the ITR will focus on:

- Review of the planning process and criteria applied.
- Review of the methods of preliminary analysis and design.
- Compliance with USACE authority and NEPA requirements.
- Completeness of preliminary design and support documents.
- Spot checks for interdisciplinary coordination.

## 6.0 REVIEW PROCESS

It is anticipated that the ITR Team Review Process will begin after the ITR Team has been assigned, and will cover the feasibility study and associated products developed to date. As alternative plans are formulated, the Review Process will focus on data, assumptions and the engineering, scientific, economic, social & environmental analysis process. Major Review Process milestones are listed below:

- Approval of Review Plan by NAD
- ITR team assigned by PCX
- P-8 Milestone – AFB RAM
- AFB
- Draft Report Review
- Final Report Review

## 7.0 REVIEW COST

It is anticipated that documents to be reviewed will be transmitted electronically. Comments will be made and addressed in Dr. Checks, a computer program applied to aggregate comments. It is also assumed that the ITR team will be working virtually. The ITR team, or a representative of that team, will be required to physically attend significant team or milestone meetings. The team should participate in all P milestone meetings; however, via conference call or video teleconference.

## 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 does not match the major review process milestone list above.

TASK	START DATE	FINISH DATE
Develop ITR Plan & post to Web Site, PCX		Aug 07
Identify Regional ITR resources & Recommend ITR Plan to PCX		Aug 07
PCX Approves or Assigns ITR Team	TBD	
Review of Draft Feasibility Report	TBD	
Review Final Feasibility Report	TBD Based on HQ comments and Public review	

## 9.0 PROJECT RISK

The PDT members were asked to rate their assessment of the risk associated with this project based upon several factors and rate the project quantitatively among the defined levels of project risk of failure ranging from low to high. Based upon this analysis by the PDT, the project is projected to be low to medium in risk. The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating, so it is likely that the risk level would have been lower if the team were to have compared the risk of this project to a large ecosystem restoration project. The Project Delivery Team (PDT) scored each item in the QCP Score Guide (Table 9.1) to get an average score. 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 score for the risk items were summed and the average value of the Assessment Score was used to determine the overall level of project risk. The results of the evaluation are tabulated as follows:

**Table 9.1 Quality Control/Review Plan Score Guide**

Project Risk Item	Assessment Score (Low Degree to High Degree)					Score
	Low		Medium		High	
Potential for Failure	1	2	3	4	5	2
Uncertainties of Predictions	1	2	3	4	5	3
Long Term Cumulative Effects/Customer Expectations	1	2	3	4	5	3
Staff Technical Experience	1	2	3	4	5	3
Failure Impact and Consequences	1	2	3	4	5	2
<b>Average Project Risk Assessment Score</b>						<b>2.6</b>
Project Magnitude Item						
Product Schedule/Cost	1	2	3	4	5	4
Project Complexity	1	2	3	4	5	3
Project Benefits	1	2	3	4	5	3
Project Scale	1	2	3	4	5	3
<b>Average Project Magnitude Assessment Score</b>						<b>3.25</b>

## 10.0 REVIEW PLAN

The components of the Review Plan (external ITR only) were developed pursuant to the requirements of EC1105-2-408.

### 10.1 Team Information

The decision documents that will be the ultimate focus of the peer review process are the integrated Feasibility Report, the Division Commander's Public Notice, and the Environmental Record of Decision (ROD). The purpose of the decision documents will be to begin the approval process leading to the authorization to begin Plans & Specifications. The PDT is listed as follows.

#### District PDT Members:

Project Manager	Hydraulic Engineer
Environmental Specialist	Civil/Structural Engineer
GIS Specialist	Geologist
Economist	Real Estate Specialist

#### Non-District PDT Members:

Philadelphia Water Department

#### Independent Technical Review Team:

Planning  
Economics  
Environmental  
Real Estate  
Engineering:  
- Hydraulics & Hydrology  
- Civil Structural  
- Geotechnical

### 10.2 Scientific Information

Based upon the self-evaluation by the PDT, it is unlikely that the USACE report to be disseminated will contain influential scientific information. The environmental restoration measures will be identified using standard engineering and economic methods. It is unlikely that this study will create new and untested methods or unique scientific information; however, it will benefit from ongoing research by others and from practical lessons learned during the course of the restoration program.

Economic and planning processes will additionally consider the Collaborative Planning EC. This EC describes all the economic accounts that can be used to describe economic benefits. The four main economic accounts are national economic development (NED), national ecosystem restoration (NER), regional economic development (RED), and the other social effects (OSE).

### **10.3 Timing**

The ITR process is envisioned to begin with an assessment of the evaluation and comparison of alternative plans in this feasibility study. The estimated schedule is noted in Part 8 of this QCP.

### **10.4 External Peer Review Process**

No External Peer Review process is envisioned at this time. This assessment is supported by the evaluation of the PDT and tabulated as shown in Section 9 of this QCP.

### **10.5 Public Comment**

Public involvement is anticipated throughout the remainder of the Feasibility Study. The Public Involvement meeting dates have not been scheduled at this time.

It is anticipated that minutes of Public Involvement Meetings will be disseminated to the Peer Review Team. This will allow the public response to be available to the ITR team for their review.

### **10.6 ITR Reviewers**

It is anticipated that reviewers should be available in the following disciplines: Planning, Economics, Environmental, Real Estate, Engineering. The reviewer contact information should be stated in Section 10.1 of this QCP.

The expertise that should be brought to the review team includes the following:

- 1) Planning – The reviewer should have recent experience in reviewing Plan Formulation processes for ecosystem restoration studies and be able to draw on “lessons learned” in advising the PDT of best practices.
- 2) Economics – The reviewer should have a solid understanding of economic models including incremental cost analysis.
- 3) Environmental – The reviewer should have a solid background in natural stream restoration techniques, and related restoration issues.
- 4) Real Estate - the reviewer should have a solid background in real estate requirements and the use of easements for environmental restoration.
- 5) Engineering - The reviewer should be familiar with low tech design techniques and ecological methods used for stream restoration.

### **10.7 External Peer Review Selection**

Because an External Peer Review is not anticipated for this study, there is no EPR selection.