
**PEER REVIEW PLAN
FOR
FEASIBILITY STUDY
OF
ELLIOTT BAY SEAWALL, WASHINGTON**

Peer Review Plan

December 28, 2007

DRAFT

1. INTRODUCTION

The study area is along the Elliott Bay shoreline, within the central business district of the City of Seattle, Washington. Seattle is a major port city for trans-Pacific and European trade. The Port of Seattle is the fifth largest (in dollar value) container port in the United States handling \$32 billion worth of products each year. The seawall extends for a distance of approximately 7,900 feet. The southern terminus of the wall abuts the Port of Seattle bulkheads and falls in the vicinity of Pier 48. The northern terminus of the seawall ends at the southern end of Myrtle Edwards Park, where it abuts natural slopes that have been armored with heavy rip-rap. The wall is interrupted in places by fill, so that the total length of wall structure is actually somewhat less than 7,900 feet.

2. PROJECT BACKGROUND

Following the Nisqually earthquake of February 2001, the City of Seattle, Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) inspected both the seawall and the Alaska Way Viaduct for earthquake damage. The inspection revealed that the earthquake had damaged the viaduct but not the seawall. However, marine borers had caused severe deterioration of the seawall. Both structures are now considered to be at or near the ends of their design lives.

In 2001, the City and their partner agencies formed a team that began planning the replacement of the viaduct and the seawall. The SR 99 Alaskan Way Viaduct and Seawall Replacement Project (AWVSRP) partners, are comprised of the U.S. Department of Transportation Federal Highway Administration (FHWA), Washington State Department of Transportation (WSDOT), and City of Seattle. The AWVSRP included the evaluation of the rebuilding or replacement of the Elliott Bay seawall because the seawall is essential to the transportation function of SR99.

3. STUDY PURPOSE

This study is authorized by the Committee on Transportation and Infrastructure, U.S. House of Representatives, House Resolution 2704, September 25, 2002, which reads as follows:

*Resolved by the Committee on Transportation and Infrastructure of the United States House of Representatives, That the Secretary of the Army is requested to review the Comprehensive Study of Water and Related Land Resources for Puget Sound and Adjacent Waters, State of Washington, dated 1971, and other pertinent reports to determine whether modification and recommendations contained therein are advisable at the present time in the interest of storm damage prevention, shoreline protection, environmental restoration and protection, and related purposes in **Elliott Bay, Washington**, including the rehabilitation of the Alaskan Way seawall.*

PEER REVIEW PLAN
FOR FEASIBILITY STUDY
OF ELLIOT BAY SEAWALL, WASHINGTON

The purpose of the feasibility phase of project development is to formulate a plan to address the storm damage risk associated with the seriously deteriorated seawall along Elliott Bay in Seattle. The sponsor's objective is a long-term solution to storm damage that will protect public infrastructure and economic activity in the project area. The recommended plan that will be set forth in the feasibility report must be both a technically viable and an implementable solution to the storm damage problem.

The feasibility study is to investigate and identify solutions to identified water resources problems and recommend either for or against Corps of Engineers authorization of a storm damage reduction project. The final feasibility report will provide a complete presentation of the study analyses and results, including those developed in the reconnaissance report. The feasibility report will also document compliance with all applicable guidance, statutes, Executive Orders and Administration policy. The feasibility report will thus be the basis for decision on Corps of Engineers authorization.

The purpose of the peer review plan is to assign the appropriate level and review independence, establish the procedures, and assign responsibilities for conducting the independent technical reviews (ITRs) of all applicable decision documents to ensure the quality and credibility of all decision documents developed during the GI. This plan is compliant with EC 1105-2-408 *Peer Review of Decision Documents*, 31 May 2005, section 6, parts a. through j. This plan also is compliant with the 20 April 2007 USACE Northwestern Division memorandum *Peer Review Process*.

The project delivery team is presented in Table 1. The project manager, Tim Shaw, is the main point of contact at Seattle District for more information about this project and the peer review plan.

4. PROJECT SIGNIFICANCE

The GI Feasibility Report (FR)/ Environmental Impact Statement (EIS) could recommend construction of a project of significance. The study is considering the replacement of the seawall along 7900 feet of the central Seattle waterfront, a corridor for tourism, traffic, and utilities. The total project cost may be on the order of \$1 billion. Therefore, it is recommended that the draft final feasibility report/EIS is reviewed by an external peer review panel of experts in the fields of economics, structural and geotechnical engineering, cost estimating, and construction scheduling prior to final approval. The composition of the technical review panel will be led by the Planning Center of Expertise for Coastal Storm Damage Reduction (PCX-CSDR) with any necessary feedback from the public and agencies provided by the Seattle District, prior to the Alternative Formulation Briefing.

Interim documents for the GI study (Without Project Condition Report, With Project Condition Report) will receive internal technical review. Environmental documents will have extensive public and agency review as part of the scoping process for the GI.

Internal technical and external peer reviewers will be selected in accordance with recommendations from the Flood Damage Reduction Center of Expertise.

5. REVIEW SCHEDULE

ITRs will be conducted for all major GI phase documents (i.e. without project report, feasibility scoping documents, and Draft EIS/FR) and major engineering and scientific documents products (e.g., cultural resources overview, sediment management plan, and programmatic biological assessment). The review schedule is in P2, under project number 118322, and will be updated the study progresses. PCX-CSDR will lead the ITR for the draft EIS/FR.

The documents will be complete and ready for review on this schedule:

Without project report: November 2008

Feasibility scoping documents: August 2009

Draft EIS/FR: April 2010

6. EXTERNAL PEER REVIEW

An external peer review (EPR) is recommended for the draft final feasibility report and EIS. This is due to the high construction cost of the project, and the high impact of the construction on the downtown area of Seattle. PCX-CSDR will lead the EPR for the draft EIS/FR.

The draft final feasibility report and EIS will be available for review in April, 2010.

7. PUBLIC REVIEW OPPORTUNITIES

The public was invited to comment on the project directly to the PDT through public scoping meetings, held in April, 2006. Also, a public review period is programmed into the feasibility schedule. The public review period is currently scheduled to begin on October 26, 2009.

8. AVAILABILITY OF PUBLIC COMMENTS TO ITR TEAM

Public input from the NEPA workshops and the public scoping meetings will be available to the ITR members to ensure that public comments have been considered in the development of the without project conditions report, the sediment management report, and the draft FR/EIS. However, the draft FR/EIS will be independently reviewed prior to the conclusion of the public comment period, and, therefore, these comments will not be available to the ITR members. In the event that the final FR/EIS is significantly revised

from the draft, another ITR will be scheduled and public comment on the draft will be available to the reviewers.

9. ANTICIPATED NUMBER OF REVIEWERS

The current ITR plan is to include at least 10 independent reviewers. This number is based on the disciplines required to develop the feasibility products and the draft and final FR/EIS.

10. PRIMARY DISCIPLINES AND EXPERTISE NEEDED FOR THE ITR

The disciplines and expertise required for the ITR team are presented in Table 2.

**TABLE 1.
INDEPENDENT TECHNICAL REVIEW TEAM**

Discipline	Office / Agency
Review Team Leader	PCX-CSDR
Economics	CESPL-PD-WE
Plan Formulation	CESPL-PD-WE
Environmental Resources	CENWO-PM-AE
Soils and Geotechnical Engineering	CENWP-EC-HG
Grout methods/design	CELRL-ED-T-G
Real Estate Civil Engineer	
Cost Engineer	Walla Walla DX for Cost Estimating
Structural Engineer	

This information will be updated as the study progresses.

Policy Review. Policy review of the feasibility report/EIS will be conducted primarily at the Division and Headquarters levels, with input from the Center of Expertise. External peer review is for the technical matters only, and does not entail policy review.

Quality Control. Will be maintained by the Resource Managers for the separate Seattle Direct Offices. The PDT and the sponsor will also review products for technical excellence.

Independent Technical Review Team. The remaining Independent Technical Review Team members, including ITR team leader, will be selected by PCX-CSDR on the basis of having the proper knowledge, skills, and experience necessary to perform the task and their lack of affiliation with the development of the feasibility report/EIS and associated appendixes. Funding their participation may include travel to Seattle District for the review conference. All ITRs will be completed through DRCHECKS where comments and comment resolution are captured. In addition, the ITR leader will provide a QC report to document the ITR, which will be available to the public.

Technical review. will use appropriate analytical methods for each technical area. Technical review will rely on periodic technical review team meetings to discuss critical plan formulation or other project decisions, and on the review of the written feasibility report documentation and files. Independent technical review will ensure that:

- Technically feasible from an engineering standpoint (i.e., sound engineering design).
- Economically justified and functionally complete.
- Concepts, features, analytical methods, analyses, and details are appropriate, fully coordinated, and correct.
- Problems/issues are properly defined and scoped
- Conclusions and recommendations are reasonable and justified.
- Supported by the project sponsor and stakeholders, and environmentally acceptable.

11. EXTERNAL PEER REVIEWERS

External Peer Review is conducted by nationally recognized technical experts outside of the Corps of Engineers. They may be from the National Academy of Sciences, universities, or other scientific institutions. Peer review is required when projects utilize new scientific methods, have high risk, are large in scale, or have significant controversy. A panel of Peer Reviewers will be selected by an external entity (procured by the PCX-CSDR) with any necessary input from other Corps Centers of Expertise, stakeholders, and the sponsor. External Peer review will use appropriate analytical methods for each technical area. The Peer Review Panel will meet with the study PDT and the public to determine areas of controversy in the feasibility report, and will review the written feasibility report documentation files, including the technical appendixes. The panel will tour study area and interview participants as needed. The External Peer Review team will ensure:

- Scientific data used in the study was accurate and complete.
- Modeling methods used were pertinent to the type of study results required, and sound modeling methodology was used.

PEER REVIEW PLAN
FOR FEASIBILITY STUDY
OF ELLIOT BAY SEAWALL, WASHINGTON

- The analysis contained clearly justified and valid assumptions.
- Concepts, features, analytical methods, analyses, and detail are appropriate.
- Problems/issues are properly defined and scoped.
- Conclusions and recommendations are reasonable and justified.

Table 2 presents the expected disciplines for the external peer review.

**TABLE 2.
PROPOSED EXTERNAL PEER REVIEW TEAM**

Discipline	Reviewer	Office / Agency
Economics		
Structural Engineering		
Geotechnical Engineering		
Environmental Resources		
Cost Estimating		
Construction Scheduling		

12. Public Availability of EPR documentation

The PCX-CSDR will provide a report summarizing the EPR conducted. This will be accessible to the public by PCX-CSDR and Seattle District public websites. It can also be included as an appendix to the feasibility report.