REVIEW PLAN

USING THE NWD MODEL REVIEW PLAN

for

Continuing Authorities Program

Section 14, 107, 111, 204, 206, 208, 1135 and projects directed by guidance to use CAP procedures

Yakima River at Union Gap, WA Ecosystem Restoration Project

Section *1135* Project

Seattle District

MSC Approval Date: *Pending*

Last Revision Date: *N/A*

US Army Corps of Engineers ®

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Yakima River at Union Gap, WA Ecosystem Restoration Project
Section *1135* Project

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS 1
2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION 3
3. PROJECT INFORMATION 3
4. DISTRICT QUALITY CONTROL (DQC) 3
5. AGENCY TECHNICAL REVIEW (ATR) 3
6. POLICY AND LEGAL COMPLIANCE REVIEW 5
7. COST ENGINEERING Directory of Expertise (DX) REVIEW AND CERTIFICATION 5
8. MODEL CERTIFICATION AND APPROVAL 5
9. REVIEW SCHEDULES AND COSTS 6
10. PUBLIC PARTICIPATION 6
11. REVIEW PLAN APPROVAL AND UPDATES 7
12. REVIEW PLAN POINTS OF CONTACT 7

ATTACHMENT 1: TEAM ROSTERS 8
ATTACHMENT 2: REVIEW PLAN REVISIONS 9

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the *Yakima River at Union Gap, WA Ecosystem Restoration Project*, Section *1135* project.

Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, provides the authority to modify existing Corps projects to restore the environment and construct new projects to restore areas degraded by Corps projects with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. This authority is a part of the Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. CAP is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F Amendment #2.

b. Applicability. This review plan is based on the NWD Model Review Plan for Section 14, 107, 111, 204, 206, 208, 1135 and authorities directed by guidance to follow CAP procedures, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in EC 1165-2-214 Civil Works Review Policy.

c. References

(1) Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
(2) EC 1105-2-412, Model Certification, 31 March 2011
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
(5) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
(6) Continuing Authority Program Planning Process Improvements, Director of Civil Works' Policy Memorandum #1, 19 Jan 2011
(7) *Project Management Plan for the Yakima River at Union Gap, WA Ecosystem Restoration Project*
(8) *Seattle District Program Management Plan for the Continuing Authorities Program*

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 Section *1135* projects is the home MSC. The MSC will coordinate and approve the review plan and manage the Agency Technical Review (ATR). The home District will post the approved review plan on its public website and provide the appropriate NWD District Support Planner with the link. A copy of the approved review plan (and any updates) will be provided to the *ECO-PCX* to keep the PCX apprised of requirements and review schedules.

3. **PROJECT INFORMATION**

a. **Decision Document.** The *Yakima River at Union Gap, WA Ecosystem Restoration Project* decision document will be prepared in accordance with ER 1105-2-100, Appendix F. The approval level of the decision document (if policy compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.

b. **Study/Project Description.** *Severe flooding in 1933 prompted the authorization and construction of a Federal levee system along the Yakima River near the City of Yakima, WA. The Corps of Engineers constructed nearly 7 miles of levees that, along with a handful of non-Corps levees make up the existing system. The Corps of Engineers and Yakima County have repaired portions of the levee system as recently as 2009 and 2012.*

The extent and function of this reach of the Yakima River and its floodplain have been reduced by the levee system and infrastructure adjacent to the area. The levee system has effectively channelized the reach through the study area, leading to localized sediment aggradation/degradation and increased erosion which in turn impact in-stream habitat and levee integrity. Natural processes such as channel migration, development of side channels, and large woody debris recruitment can no longer take place within the study area due to channel constraints which limit channel-floodplain interaction.

The goal of the study is to evaluate alternatives to restore the quantity, quality, and complexity of aquatic habitat within the study area as well as natural ecosystem processes lost as a result of prior Federal project implementation. The objectives may be achieved through channel modification, levee setbacks, wetland restoration, or any combination thereof. Additional measures will be developed and evaluated during the planning process. The recommended alternative is expected to fall within the limits of the Section 1135 authority and have the full support of Federal, state, and local resource agencies, and the Yakama Nation.

One potential risk and challenging item has been identified to date: portions of the floodplain being considered for reconnection with the main channel include old gravel pits. Reconnecting these portions to the main channel will necessitate careful analysis and design to adequately manage the risk of the gravel pits acting as sediment sinks, resulting in headcutting that could undermine portions of the remaining levee system. As currently assessed, risks do not warrant IEPR during feasibility. The review plan for the Design and Implementation phase will address Type II IEPR/SAR requirements.

The project report is not likely to contain influential scientific information or be a highly influential scientific assessment. The project is not likely to have significant interagency interest. T*he project will not likely involve significant threat to human life. The project is not expected to be highly controversial. The information in the decision document will not likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.*

c. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC) and ATR, similar to any products developed by USACE. *The sponsor is providing in-kind services that will be incorporated into the analyses and evaluations*

for the study. Those products will be reviewed at all appropriate levels to ensure quality products have been submitted. The PDT will incorporate work in-kind products into the Corps' evaluation of the project, impacts, benefits, and designs. Products include:

- *Bathymetry and data collection*
- *NHC hydraulic modeling and risk analysis for portions of the study area*
- *GIS data collection and inventorying for Real Estate Plan*
- *Environmental data collection and monitoring well placement*
- *Site survey of selected alternative footprint*

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC prior to ATR. The home district shall manage DQC.

5. AGENCY TECHNICAL REVIEW (ATR)

One ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.), however additional ATRs may be performed if deemed warranted. 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. The ATR team lead will be from within the home MSC.

a. Required ATR Team Expertise. *The ATR will be scalable to the complexity of the project and that of CAP as a whole. Where possible, an ATR team member may fill multiple roles, such as team lead and plan formulator. The ATR team should have experience in aquatic habitat restoration projects and with CAP projects to ensure efficient and accurate reviews. Provided below is a list of ATR team members that will likely be included in the ATR of the draft DPR and EA and the experience required.*

ATR Team Members/Disciplines	***Expertise Required***
ATR Lead – Plan Formulation	*The ATR lead should be a senior plan formulator preferably with experience in preparing ecosystem restoration decision documents and conducting ATR. The lead should also have the necessary skills and expertise to lead a virtual team through the CAP ATR process. The ATR lead MUST be from outside the Seattle District. The ATR lead should also have experience with CAP decision documents to ensure appropriate scalability of the review.*
Economics	*The economics reviewer needs to be proficient in the use of IWR Plan software to conduct CE/IC and familiar with the level of detail generally required for CAP projects.*
Environmental Resources	*The environmental reviewer should be a senior professional with experience in preparing CAP decision documents/NEPA coordination. The reviewer should have a general knowledge of ecosystems in the Pacific Northwest. The reviewer should have experience applying habitat models to generate numeric scores for use in CE/ICA.*
Hydraulic Engineering	*The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of channel*

	development for fish habitat and restoration in a flood control zone. The reviewer should be well versed in levee design and alignments.
Geotechnical Engineering	*The geotechnical reviewer should be an expert in levee geometry, reliability, and risk analysis, preferably with experience related to creating and restoring aquatic habitat and preferably with experience in the Pacific Northwest.*
Cost Engineering	*The cost engineer reviewer should have experience estimating habitat restoration/creation projects including channel restoration and creation, in addition to having experience estimating and building levee segments.*
Real Estate	*The real estate reviewer should have a proven track record preparing real estate plans for CAP-scale projects.*
Cultural Resources	*The cultural resources reviewer should be an experienced Corps Cultural Resources specialist with experience successfully coordinating management of impacts to cultural resources from CAP-scale projects.*

b. Charge Document. The RMO (NWD) will prepare the charge document which clearly identifies the review requirements. This document must be completed prior to requesting an ATR team.

c. Documentation of ATR. *DrChecks revie*w 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. *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.

6. 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.

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

For CAP projects, ATR of the costs may be conducted by pre-certified district cost personnel within the region or by the Walla Walla Cost DX. The pre-certified list of cost personnel has been established and is maintained by the Cost DX. The cost ATR member will coordinate with the Cost DX for execution of cost ATR and cost certification. The Cost DX will be responsible for final cost certification and may be delegated at the discretion of the Cost DX.

8. MODEL CERTIFICATION AND APPROVAL

Approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. ATR will be used to ensure that models and analyses are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports.

a. **EC 1105-2-412.** This EC 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 and ATR.

b. **Planning and Engineering Models.** The following models are anticipated to be used in the development of the decision document: *An environmental model will be used to evaluate alternatives, benefits, and to help support selection of a recommended plan. Different environmental models are being considered based on the complexity of the study area and feedback from resources agencies. It is expected that the final model used will be a tool previously implemented on Corps projects in the region. Once a model is identified, the review plan will be updated and resubmitted to NWD.*

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Status
MCACES MII	Micro-Computer Aided Cost Estimating System	Approved
HEC-RAS	Hydraulic Model	Approved
TBD	Environmental benefits model	TBD
IWR Planning Suite	Cost Effectiveness and Incremental Cost Analysis Model	Approved

9. REVIEW SCHEDULES AND COSTS

ATR Schedule and Cost.

Products to Undergo ATR	*Schedule*	*Estimated Cost*
Integrated DPR/EA	FY 2015	$18,000

10. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. *The public and other agencies will be permitted to provide feedback on the proposed project during the public comment period for the*

Environmental Assessment. Comments received will be addressed and documented as required under the National Environmental Protection Act and other applicable Federal laws.

11. REVIEW PLAN APPROVAL AND UPDATES

The NWD Commander has been delegated responsibility for approving this review plan and ensuring that use of the NWD Model Review Plan is appropriate for the specific project covered by the plan. 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 NWD Commander approval are documented in Attachment 2. Significant changes to the review plan (such as changes to the scope and/or level of review) should be re-approved by the NWD Commander following the process used for initially approving the plan. Significant changes may result in the NWD Commander determining that use of the NWD Model Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-214. The latest version of the review plan, along with the Commander's approval memorandum, will be posted on the home district's webpage.

12. REVIEW PLAN POINTS OF CONTACT