

## NWD CAP REVIEW PLAN

November 2019

**Project Name:** Lake Ballinger Ecosystem Restoration Project, Mountlake Terrace, Washington

**P2 Number:** 442929

**Decision Document Type:** Integrated Feasibility Report/Environmental Assessment (EA)

**CAP Authority:** Section 206 Aquatic Ecosystem Restoration

**District:** NWS Seattle District

**District Contact:** Project Manager                      Jeff Dillion                      206-764-6174

**Major Subordinate Command (MSC):** Northwestern Division (NWD)

**MSC Contact:** Tim Fleegeer, District Support Planner 503-808-3851

**Review Management Organization (RMO):** NWD

**RMO Contact :** Tim Fleegeer, NWD District Support Planner, 503-808-3851

### **Key Review Plan Dates**

**Date of RMO Endorsement of Review Plan:** December 17, 2019

**Date of MSC Approval of Review Plan:** December 17, 2019

**Date of IEPR Exclusion Approval:** N/A

**Has the Review Plan changed since RMO Endorsement?** *N/A – this is the initial Review Plan*

**Date of Last Review Plan Revision:** *None – this is the initial Review Plan*

**Date of Review Plan Web Posting:** *Pending – initial Review Plan*

**Date of Congressional Notifications:** N/A

### **Milestone Schedule**

	<b><u>Scheduled</u></b>	<b><u>Actual</u></b>	<b><u>Complete</u></b>
<b><u>FIDR Approval:</u></b>	02/01/2018	02/01/2018	Yes
<b><u>Alternatives IPR:</u></b>	05/31/2019	05/31/2019	Yes
<b><u>MSC Decision Milestone:</u></b>	06/21/2019	07/10/2019	Yes
<b><u>Release Draft Report to Public:</u></b>	04/01/2020	(enter date)	No
<b><u>Final Report Transmittal:</u></b>	06/25/2020	(enter date)	No
<b><u>Final Report Approval:</u></b>	07/17/2020	(enter date)	No
<b><u>ROD/FONSI Signature:</u></b>	08/17/2020	(enter date)	No

**Project Fact Sheet**  
November 2019

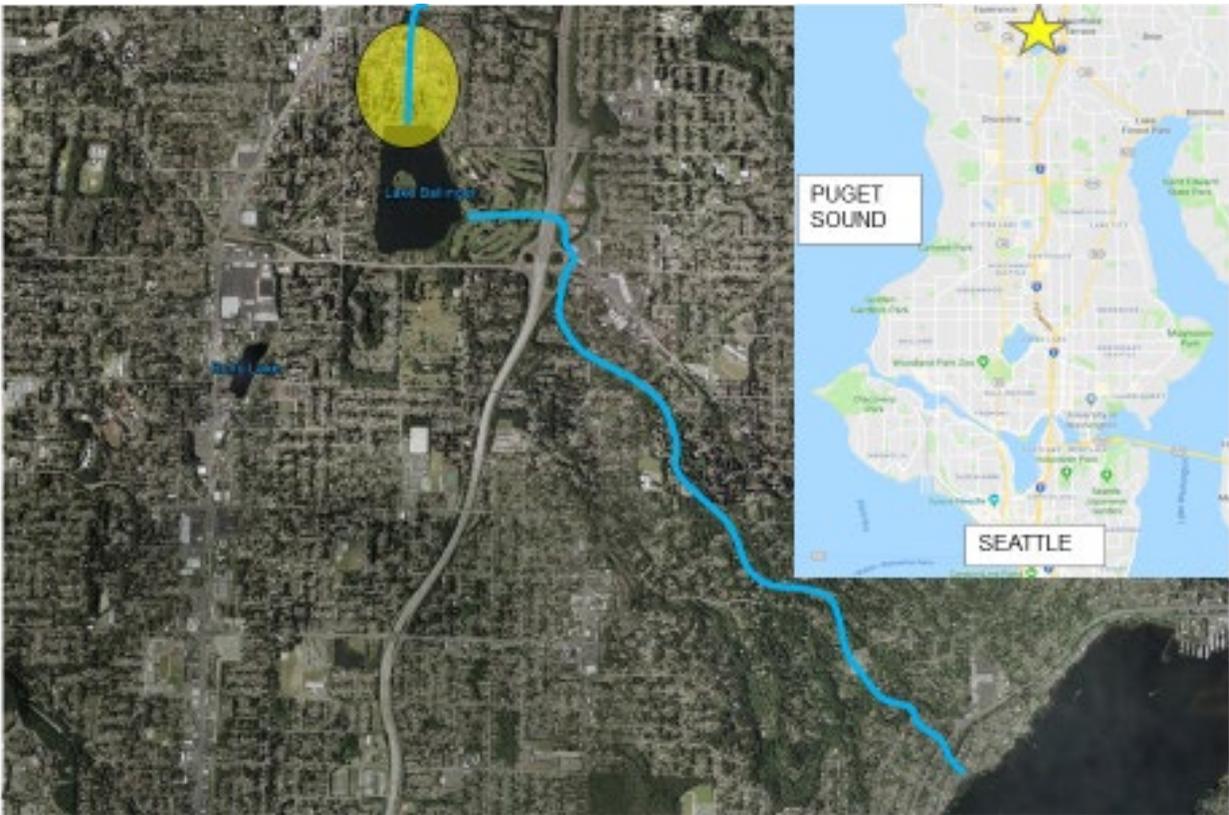
**Project Name:** Lake Ballinger Ecosystem Restoration Project Mountlake Terrace, Washington

**Location:** Mountlake Terrace, King County, Washington

**Authority:** Continuing Authorities Program (CAP) Section 206 Aquatic Ecosystem Restoration

**Sponsor:** City of Mountlake Terrace

**Project Area:** The study area is located in the city of Mountlake Terrace, Washington, approximately 14 miles northeast of downtown Seattle, Washington. (figure 1) The specific areas of focus for this study are Hall Creek, which runs north-south, and Ballinger Park (figure 2), which are located in the Lake Ballinger/McAlee/Hall Creek Watershed.



**Figure 1 Study Area**



**Figure 2 Project Location**

**Problem Statement:** This CAP Section 206 Ecosystem Restoration Project identifies and evaluates alternatives for restoring degraded ecosystem structures, functions and processes in Ballinger Park, Mountlake Terrace, Washington. The U.S. Army Corps of Engineers (USACE) is undertaking this action in partnership with the City of Mountlake Terrace. The primary concern this study addresses is ecosystem degradation in Lake Ballinger Park. Alteration of the environment and encroachment on the floodplain by human-made structures have degraded and continue to affect natural ecosystem

structures, functions, and processes necessary to support fish and wildlife habitat throughout the park. With the challenges of Hall Creek and the health of Lake Ballinger, the study has the opportunity to reimagine the creek's path and purpose on the site to enhance its ecological function. Water could be slowed, spread and improve habitat.

This project has a rare opportunity to create and preserve critical habitat in a rapidly developing urban area. The project would create habitat for species of concern (e.g. amphibians) and provide significant habitat for migrating birds and many species of waterfowl on the Pacific Flyway. This project also represents an important opportunity to restore valuable wetlands in an area with tremendous visibility. The local community is actively engaged and motivated to move forward with this restoration opportunity. Downstream habitats are the subject of future restoration actions separate from this study, with the intent to establish safe long-term connectivity to the site for Endangered Species Act listed fish species.

**Federal Interest:** Section 206 of the Water Resources Development Act of 1996, as amended, provides authority for the Secretary of the Army to carry out an aquatic ecosystem restoration project. According to Engineering Pamphlet 1105-2-58, the purpose of section 206 of the Continuing Authorities Program is to:

*“Develop aquatic ecosystem restoration projects that improve the quality of the environment, are in the public interest, and are cost effective consistent with the current policies and procedures governing projects of the same type which are specifically authorized by Congress.”*

USACE proposes aquatic ecosystem restoration of Hall Creek and associated habitats within Lake Ballinger Park. The proposed Federal action area is focused on the Lake Ballinger Park area which is consistent with the City of Mountlake Terrace Master Plan. This is a unique opportunity to address problems in the proposed project footprint as well as to restore habitat in a rapidly developing urban area.

**Risk Identification:** As the project is an ecosystem restoration project, there is no expected change in the conditions now or in the future that would pose significant threat to human life or the environment.

## 1. FACTORS AFFECTING THE LEVELS OF REVIEW

### Scope of Review

CAP projects are excluded from Type I IEPR except those conducted under Sections 205 and 103, those projects that include an EIS, or meet the mandatory triggers for Type I IEPR, which include: a significant threat to human life; a request by the governor of an affected State; a determination by the Chief of Engineers that the project study is controversial; significant public dispute as to size, nature, or effects of the project; significant public dispute as to the economic or environmental cost or benefit of the project; cases where information is based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices; or any other circumstance that leads the Chief of Engineers to determine a Type I IEPR is warranted. No CAP projects should approach the cost trigger of \$200 million.

- Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks. There are no expected risks with a project of this magnitude with the ecosystem restoration measures being developed.
- Is the study or project likely to involve significant life safety issues? No. The Seattle District Chief of Engineering does not foresee that there will be significant threat to human life. The project will not be justified by life safety and does not involve significant threat to human life/safety assurance. The recommended plan is likely to involve traditional construction methods for the restoration of part of the creekbed and construction of a new channel within the project area.
- Has the Governor of an affected state requested a peer review by independent experts? No, the Governor of Washington has not requested peer review by independent experts.
- Will the project likely involve significant public dispute as to the project's size, nature, or effects? No, from the initial public meetings, comments received show that the project study is not expected to be controversial.
- Is the project/study likely to involve significant public dispute as to the economic or environmental cost or benefit of the project? No, this project is not expected to generate significant public dispute as most comments received have shown large public support.
- Is the information in the decision document or anticipated project design likely to be based on novel methods, involve innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices? No, the final Feasibility Report/Environmental Assessment (FR/EA) document and supporting documentation will contain standard engineering, economic, and environmental analyses and information. Information in the FR/EA is unlikely to be based on novel methods, involve the use of innovative material or techniques, contain precedent setting method or models, or present conclusions that are likely to change prevailing practices. The project does not contain influential scientific information and will not include any highly influential scientific assessments. This project would be for an activity for which there is ample experience within USACE.

- Does the project design require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design/construction schedule? No, this is an ecosystem restoration project evaluating structural and non structural measures to implement the recommended plan.
- Will an Environmental Impact Statement be prepared as part of the study? No. There are no significant effects expected. The National Environmental Policy Act (NEPA) document is an EA.
- Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources? No. Current information indicates that the project is not expected to have an adverse impact on unique tribal, cultural, or historic resources. At this time, no unique tribal resources have been identified.
- Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures? No. Preliminary analysis indicates that impacts to fish and wildlife, including their habitat, will be improved by this project and there is no expected mitigation for the ecosystem restoration.
- Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat? No, preliminary analysis indicates that there are no adverse impacts to threatened or endangered species, or their designated critical habitat. There are no ESA species located within the project area.

## 2. REVIEW EXECUTION PLAN

This section describes each level of review to be conducted. Based upon the factors discussed in Section 1, this study will undergo the following types of reviews:

**District Quality Control.** All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC. This internal review process covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan.

**Agency Technical Review.** ATR is performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. These teams will be comprised of certified USACE personnel. The ATR team lead will be from outside the home MSC, unless the RP justifies an exception and is explicitly approved by the MSC commander. If significant life safety issues are involved in a study or project a safety assurance review should be conducted during ATR.

**Cost Engineering Review.** All decision documents shall be coordinated with the Cost Engineering Mandatory of Expertise (MCX). The MCX will assist in determining the expertise needed on the ATR and IEPR teams. The MCX will provide the Cost Engineering certification. The RMO is responsible for coordinating with the MCX for the reviews. These reviews typically occur as part of ATR.

**Policy and Legal Review.** All decision documents will be reviewed for compliance with law and policy. ER 1105-2-100, Appendix F provides guidance on policy and legal compliance reviews for CAP studies. These reviews culminate in determinations that report recommendations and the supporting analyses and coordination comply with law and policy.

Table 1 provides the schedules and costs for reviews. The specific expertise required for the teams are identified in later subsections covering each review. These subsections also identify requirements, special reporting provisions, and sources of more information.

**Table 1: Levels of Review** (Include a table listing each product, the review type, and review schedule, cost and if the review is complete.)  
(Update this table at each IPR and CAP Milestone and present it to the MSC.)

<b>Product(s) to undergo Review</b>	<b>Review Level</b>	<b>Start Date</b>	<b>End Date</b>	<b>Cost</b>	<b>Complete</b>
Draft Feasibility Report and EA	District Quality Control	12 Dec 2019	10 Jan 2020	\$25,000	No
Draft Feasibility Report and EA	Agency Technical Review, Policy and Legal Compliance Review	13 Jan 2020	14 Feb 2020	\$25,000	No
Draft Feasibility Report and EA	Type I IEPR	N/A	N/A	N/A	N/A
Final Feasibility Report and EA	Policy and Legal Review	13 Mar 2020	31 Mar 2020	N/A	No
List any In-kind Products (use separate lines for multiple products if applicable)	ID review levels (DQC, ATR, IEPR)	N/A	N/A	N/A	N/A

NOTE: This table may also be used to identify future review work in follow-on phases of a project. This may include products prepared during the pre-construction engineering and design phase or products prepared as part of planning for the Operations and Maintenance phase of a project.

**a. DISTRICT QUALITY CONTROL**

The home district shall manage DQC and will appoint a DQC Lead to manage the local review (see EC 1165-2-217, section 8.a.1). The DQC Lead should prepare a DQC Plan and provide it to the RMO and MSC prior to starting DQC reviews. Table 2 identifies the required expertise for the DQC team.

**Table 2: Required DQC Expertise**

<b>DQC Team Disciplines</b>	<b>Expertise Required</b>
DQC Lead	A senior professional with extensive experience preparing Civil Works decision documents and conducting DQC. The 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 with environmental restoration studies, Section 206 study requirements, and feasibility reports.
Economics	The Economics reviewer needs to be proficient in the use of IWR Plan software to conduct cost effectiveness/incremental cost analysis (CE/ICA) and familiar with the level of detail generally required for CAP projects.
Environmental Resources	The Environmental Resources reviewer should be a senior professional with experience in preparing CAP decision documents and NEPA compliance. 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..
Cultural Resources	The Cultural Resources reviewer should be an experienced USACE Cultural Resources specialist with experience successfully coordinating management of impacts to cultural resources from CAP-scale projects.
Hydrology & Hydraulic (H&H) Engineering	The H&H Engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of channel development for fish habitat, stream resoration techniques and restoration. The reviewer should be conversant with HEC-RAS 5.0.7 2D capabilities. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise.
Civil Engineering	The Civil Engineering reviewer will be an expert in the field of civil engineering and have a thorough understanding of channel development for fish habitat, stream resoration techniques and restoration. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise.
Hazardous, Toxic, and Radioactive Waste (HTRW)	The HTRW reviewer should have experience with HTRW materials and habitat restoration/creation projects including channel restoration and creation, in addition to having experience estimating and building levee segments.
Geotechnical	The Geotechnical reviewer should be an expert in civil site development, reliability, and risk analysis, preferably with experience related to creating and restoring aquatic habitat and preferably with experience in the Pacific Northwest. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise.
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 experience preparing real estate plans for CAP-scale projects.
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**Documentation of DQC.** Quality Control will be performed continuously throughout the study. A specific certification of DQC completion is required at the draft and final report stages. Documentation of DQC will follow the District Quality Manual and the MSC Quality Management Plan. DrChecks software will be used to document DQC review comments, responses, and issue resolution.

Documentation of completed DQC will be provided to the MSC, RMO and ATR Team leader prior to initiating an ATR. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort. Missing or inadequate DQC documentation can result in delays to the start of other reviews (see EC 1165-2-217, section 9).

**b. AGENCY TECHNICAL REVIEW**

The ATR will assess whether the analyses are technically correct and comply with guidance, and that documents explain the analyses and results in a clear manner. An RMO manages ATR. The review is conducted by an ATR Team whose members are certified to perform reviews. Lists of certified reviewers are maintained by the various technical Communities of Practice (see EC 1165-2-217, section 9(h)(1)). Table 3 identifies the disciplines and required expertise for this ATR Team.

**Table 3: Required ATR Team Expertise**

<b>ATR Team Disciplines</b>	<b>Expertise Required</b>
ATR Lead	A senior professional with extensive experience preparing Civil Works decision documents and conducting ATR. The lead should have the skills to manage a virtual team through an ATR. The lead may serve as a reviewer for a specific discipline (such as planning).
Planning	The Planning reviewer should be a certified plan formulation ATR reviewer and senior water resources planner with experience with environmental restoration studies, Section 206 study requirements and feasibility reports.
Economics	The Economics reviewer needs to be certified for ATR of Ecosystem Restoration economics, proficient in the use of IWR Plan software to conduct CE/ICA, and familiar with the level of detail generally required for CAP projects.
Environmental Resources	The Environmental Resources reviewer should be a senior professional with experience in preparing CAP decision documents and NEPA compliance. 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 and should be certified by the Environmental Sub-CoP for Ecosystem Restoration and Environmental Compliance.
Cultural Resources	The Cultural Resources reviewer should be an experienced USACE Cultural Resources specialist with experience successfully coordinating management of impacts to cultural resources from CAP-scale projects.
Hydrology & Hydraulic Engineering	The H&H 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 conversant w HEC-RAS 5.0.7 2D capabilities. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise with geomorphic processes.
Civil Engineering	The Civil Engineering reviewer will be an expert in the field of civil engineering and have a thorough understanding of channel development for fish habitat, stream resoration techniques and restoration. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise.
Geotechnical,	The Geotechnical reviewer should be an expert in Civil Site development, reliability, and risk analysis, preferably with experience related to creating and restoring aquatic habitat and preferably with experience in the Pacific Northwest. It is possible that one engineer could cover multiple engineering disciplines, depending on the breadth of their expertise.
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.
HTRW	The HTRW reviewer should have experience with HTRW materials and habitat restoration/creation projects including channel restoration and creation, in addition to having experience estimating and building levee segments.

**Documentation of ATR.** DrChecks will be used to document all ATR comments, responses and resolutions. Comments should be limited to those needed to ensure product adequacy. If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team for resolution using the EC 1165-2-217 issue resolution process. Concerns can be closed in DrChecks by noting the concern has been elevated for resolution. The ATR Lead will prepare a Statement of Technical Review (see EC 1165-2-217, Section 9), for the draft and final reports, certifying that review issues have been resolved or elevated. ATR may be certified when all concerns are resolved or referred to the vertical team and the ATR documentation is complete.

**c. INDEPENDENT EXTERNAL PEER REVIEW**  
**(i) Type I IEPR.**

Type I IEPR is managed outside of the USACE and conducted on studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study.

**Decision on Type I IEPR.** Not required. This is a CAP Section 206 study and, based on the evaluation of the factors affecting the scope of review documented in Section 1 of this Review Plan, no Type I IEPR is required.

**(ii) Type II IEPR.**

The second kind of IEPR is Type II IEPR. These Safety Assurance Reviews are managed outside of the USACE and are conducted on design and construction for hurricane, storm and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. A Type II IEPR Panel will be convened to review the design and construction activities before construction begins, and until construction activities are completed, and periodically thereafter on a regular schedule.

**Decision on Type II IEPR.** Type II IEPR is not required. This is a CAP Section 206 study and, based on the evaluation of the factors affecting the scope of review documented in Section 1 of this Review Plan, no Type II IEPR is required.

**d. MODEL REVIEW**

Director of Civil Works Policy Memorandum #1 (Continuing Authority Program Planning Process Improvements, 19-Jan-2011) states that approval of planning models is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. On CAP studies, ATR will be used to ensure that planning models and analyses are compliant with USACE policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports. However, districts are encouraged to use certified planning models for CAP studies whenever possible.

**Table 5: Planning Models.** The following models may be used to develop the decision document:

<b>Model Name and Version</b>	<b>Brief Model Description and How It Will Be Used in the Study</b>	<b>Model Status (Certified, Approved, Pending, Not Approved)</b>
IWR Planning Suite version 2.0.9.1	Cost Effectiveness and Incremental Cost Analysis Model	Certified
HEP HSIs: Yellow Warbler	Used to estimate environmental benefits for cost-effectiveness and incremental cost analyses	Approved for Use
HEP HSIs Marsh Wren	Used to estimate environmental benefits for cost-effectiveness and incremental cost analyses	Approved for Use
HEP HSIs Cutthroat Trout	Used to estimate environmental benefits for cost-effectiveness and incremental cost analyses	Approved for Use

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when 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, ATR, and IEPR.

**Table 6: Engineering Models.** These models may be used to develop the decision document:

<b>Model Name and Version</b>	<b>Brief Model Description and How It Will Be Used in the Study</b>	<b>Approval Status</b>
HEC-RAS 5.0.X (River Analysis System)	The software performs 1-D steady and unsteady flow river hydraulics calculations and has capability for 2-D (and combined 1-D/2-D) unsteady flow calculations. It will be used for steady flow analysis to evaluate the future without-project and future with-project conditions.	HH&C CoP Preferred Model
Hydrological Simulation Program - FORTRAN (HSPF)	This model simulates basin scale watershed hydrology. It is the only comprehensive model of watershed hydrology and water quality that allows the integrated simulation of land and soil contaminant runoff processes with In-stream hydraulic and sediment-chemical interactions.	Approved Model
Microcomputer Aided Cost Engineering System (MCACES), MII	Microcomputer Aided Cost Engineering System (MCACES) is the cost estimating software program tools used by cost engineering to develop and prepare Class 3 Civil Works cost estimates.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory
Abbreviated Risk Analysis, Cost Schedule Risk Analysis	Cost risk analyses identify the amount of contingency that must be added to a project cost estimate and define the high risk drivers. The analyses will include a narrative identifying the risks or uncertainties. During the alternatives evaluation, the PDT will assist the cost engineer in defining confidence/risk levels associated with the project features.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory
Total Project Cost Summary (TPCS)	The TPCS is the required cost estimate document that will be submitted for either division or Headquarters, U.S. Army Corps of Engineers (HQUSACE) approval. The Total Project Cost for each Civil Works project includes all Federal and authorized non-Federal costs represented by the Civil Works Work Breakdown Structure features and respective estimates and schedules, including the lands and damages, relocations, project construction costs, construction schedules, construction contingencies, planning and engineering costs, design contingencies, construction management costs, and management contingencies.	Civil Works Cost Engineering and Agency Technical Review MCX mandatory

**e. POLICY AND LEGAL REVIEW**

Policy and legal compliance reviews for draft and final planning decision documents are delegated to the MSC (see Director’s Policy Memorandum 2018-05, paragraph 9).

**(i) Policy Review.**

The policy review team is identified by the MSC Chief of Planning and Policy. The team is identified in Attachment 1 of this Review Plan. The makeup of the Policy Review team will be primarily MSC staff, but may include other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of decision documents including Milestone meetings.
- The input from the Policy Review team should be documented in a Memorandum for the Record (MFR) produced for each engagement with the team. The MFR should be distributed to all meeting participants.
- In addition, teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

**(ii) Legal Review.**

Representatives from the Office of Counsel will be assigned to participate in reviews. Members may participate from the District, MSC and HQUSACE. The MSC Chief of Planning and Policy will coordinate membership and participation with the office chiefs.

- In some cases legal review input may be captured in the MFR for the particular meeting or milestone. In other cases, a separate legal memorandum may be used to document the input from the Office of Counsel.

Each participating Office of Counsel will determine how to document legal review input.