REVIEW PLAN

MALIBU CREEK ECOSYSTEM RESTORATION FEASIBILITY STUDY
MALIBU, CALIFORNIA
LOS ANGELES DISTRICT

MSC Approval Date: December 2012
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US Army Corps
of Engineers ®

REVIEW PLAN

Malibu Creek Ecosystem Restoration Feasibility Study,
Malibu, California
Feasibility Report

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Malibu Creek Ecosystem Restoration (Malibu Creek) Feasibility Study.

b. References

(1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
(2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
(3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
(5) Malibu Creek Environmental Restoration (Malibu Creek) Feasibility Study Project Management Plan, January 2010
(6) District Quality Management Plan

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

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 decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is Ecosystem Restoration Planning Center of Expertise (ECO-PCX).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. The lead PCX for the study is the Ecosystem Restoration PCX. Environmental and Economics team members of the ECO- PCX will be involved with the study.

3. STUDY INFORMATION

a. Decision Document. The Malibu Creek Ecosystem Restoration Feasibility Study is located in Malibu, California. A draft integrated feasibility report and environmental impact statement/environmental impact report (integrated report) for the study will be published. The integrated report is a decision document. The document is prepared for the purpose of obtaining Congressional authorization. All USACE decision documents are subject to review.

b. Study/Project Description. The Malibu Creek study area is located along an approximate 10-mile length of creek between Malibou Dam to Malibu Lagoon and the Pacific Ocean, specifically, the area immediately upstream and downstream of an obsolete water supply dam on Malibu Creek known as Rindge Dam. The lower portions of several tributaries to Malibu Creek above Rindge Dam (Cold Creek, Las Virgenes Creek) are also included in the study area with several additional aquatic habitat barriers that will be further investigated during ongoing studies. Malibu Creek is located approximately 30 miles (mi) west of downtown Los Angeles, California. Approximately two-thirds of the watershed is located in northwestern Los Angeles County and the remaining one-third is in southeastern Ventura County. The drainage area covers approximately 110 square miles (mi^2) of the Santa Monica Mountains and Simi Hills. Elevations in the watershed range from over 3,100 ft (ft) at Sandstone Peak in Ventura County to sea level at Santa Monica Bay.

c. Factors Affecting the Scope and Level of Review. The decision documents prepared for the *Malibu Creek Ecosystem Restoration Feasibility Study* will be subject to seven types of review: District Quality Control (DQC), Agency Technical Review (ATR), legal review, Independent External Peer Review (IEPR), public review, Washington-level policy and compliance reviews, and state and agency review (SAR).

DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP Quality Control Plan. DQC will be managed in the Los Angeles District (SPL). DQC applies the tools outlined in the quality management plans for SPL and the South Pacific Division (SPD), the District's Major Subordinate Command (MSC). Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander.

ATR is an in-depth review that ensures the proper application of clearly established criteria, regulations, laws, codes, principles, and professional practices. ATR also assures that all work products coherently fit together. ATR will be managed within USACE and conducted by a qualified team from outside of the home district. The lead Corps Planning Center of Expertise (PCX) for the study, the Ecosystem Restoration PCX (ECO-PCX), will identify the ATR team leader and members. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. The ATR team leader shall be outside of SPD. Candidates may be nominated by the home district.

Legal review is a collaborative effort that ensures that feasibility study documentation contains the necessary information and processes to be in compliance with laws, policies and regulations. The role of Counsel in the planning process is summarized in a 14 January 2013 memorandum signed by the Chief Counsel at USACE Headquarters. District Counsels are responsible for identifying and addressing legal issues as soon as possible, including elevating issues to MSC and HQ Counsel, as appropriate. Division Counsel advises MSC Commanders on whether feasibility studies comply with all legal requirements. HQ Counsel is responsible for providing final legal review regarding legal sufficiency of reports to be submitted for State and Agency review, and for recommendation of a plan for transmission to Congress for authorization.

IEPR addresses all planning, engineering, economics, and environmental analyses in the feasibility study. This review evaluates the assumptions that support the analyses, as well as the soundness of models, surveys, investigations, and methods. IEPR will be coordinated through the ECO-PCX. The ECO-PCX will select an outside eligible organization (OEO) to manage the IEPR. The OEO will assemble a panel of independent experts to conduct IEPR.

IEPR is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. The criteria for application of IEPR are:

(1) The total project cost exceeds $45 million
(2) There is a significant threat to human life
(3) It is requested by a State Governor of an affected state
(4) It is requested by the head of a Federal or state agency charged with reviewing the project if he/she determines the project is likely to have a significant adverse impact on resources under the jurisdiction of his/her agency after implementation of proposed mitigation (the Chief has the discretion to add IEPR under this circumstance)
(5) There is significant public dispute regarding the size, nature, effects of the project
(6) There is significant public dispute regarding the economic or environmental cost or benefit of the project
(7) 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
(8) Any other circumstance where the Chief of Engineers determines IEPR is warranted.

IEPR and SAR may be appropriate for feasibility studies; reevaluation studies; reports or project studies requiring a Chiefs Report, authorization by Congress, or an EIS; and large programmatic efforts and their component projects. IEPR is managed by an outside eligible organization (OEO) that is described in Internal Revenue Code Section 501(c)(3), is exempt from Federal tax under section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project.

Release of the draft document for public review will occur after issuance of the AFB policy guidance memo and concurrence by HQUSACE. A public meeting will be held where oral presentations on scientific issues can be made to the reviewers by interested members of the public. ATR and IEPR reviewers will be provided with all public comments. Public review of this document will occur after the completion of the ATR process and issuance of the HQUSACE policy guidance memo. The public review period will last 45 days.

A formal State and Agency review will occur after the release of the final report is approved by the Civil Works Review Board. However, intensive coordination with these agencies will occur concurrently with the planning process. There may be possible coordinating parties' regarding this project but no specific issues have been raised to date. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A summary of the comments and resolutions will be included in the document.

Washington-level Policy and Compliance Reviews determine whether 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 Chief of Engineers. Washington-level policy and compliance review is completed before the draft feasibility integrated report and appendices are released for public review and again before the Chief of Engineers signs his report. The review is conducted by personnel working for USACE headquarters (HQUSACE). Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. The technical review efforts addressed in this Circular are to augment and complement the policy review processes by addressing compliance with published Army policies pertinent to planning products, particularly policies on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy.

d. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The in-kind products and analyses to be provided by the non-Federal sponsor are specified in the PMP**.**

Sponsors are responsible for quality control of In-Kind contributions. The responsible technical PDT member will be responsible for DQC of the Sponsors In-kind work products via seamless single and product reviews. Upon completion of the In-kind work products, the Sponsors shall request credit, for which the Los Angeles District will then determine the reasonableness, allocation amounts and allowance for inclusion in accordance with the PMP and FCSA.

In-Kind Credit will be issued for project management, public involvement and meeting coordination. The sponsor is responsible for hosting all TAC (Technical Advisory Committee) Meeting, public meetings, and any outreach meetings. The sponsor will also participate in weekly meetings with the PDT and assist in the development of project deliverables, as needed.

4. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. Documentation of DQC. DQC will be managed in the Los Angeles District (SPL) with assistance from Sacramento District (SPK). DQC applies the tools outlined in the quality management plans for SPL and the South Pacific Division (SPD), the district's Major Subordinate Command (MSC). Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander.

Procedures for DQC for the Malibu Creek Ecosystem Restoration Study are outlined in the:

- *South Pacific Division Quality Management Plan*, CESPD R 1110-1-8 (December 30, 2002):
    - Appendix C, *Quality Management of Planning Products* (September 20, 2004);

- *Los Angeles District Quality Management Plan*, CESPL OM 1105-1-2, (January 25, 2000):
  - Appendix A, *Planning Subplan* (January 25, 2000); and

The quality control objectives for the study include ensuring that feasibility phase products and analyses:

- meet customer (Federal and non-Federal sponsor) requirements;
- comply with applicable laws, regulations, policies, and sound technical practices of the disciplines involved;
- are of adequate scope and level of detail;
- are consistent, logical, accurate, and comprehensive;
- are based on convincing and consistent assumptions, especially those related to the probable/most likely future with and without-project conditions;
- adequately describe the problems and opportunities, planning objectives and constraints, existing conditions, future without-project conditions, and future with-project conditions to support recommendations;
- tell a coherent planning story; and
- address outstanding action items from milestone conferences, issue resolution conferences, and other reviews.

The PDT and each team member's supervisors will be responsible for DQC.

Design checks and other internal reviews will be carried out as routine management practices in technical divisions. This includes checking work to assure basic assumptions and calculations are error-free. These checks will be performed by staff responsible for the work.

Supervisory review will be managed by section chiefs and branch chiefs to ensure that appropriate criteria is established, correct methodology is followed, appropriate data is used, and computations are accurate.

Additionally, PDT members will be responsible for assuring the overall integrity of the integrated report, technical appendices, and recommendations before approval by the District Commander.

The Los Angeles District's Office of Counsel is responsible for the legal review of the feasibility integrated report. Legal review involves a critical examination of the documents to ensure compliance with applicable laws, policies, and regulations.

b. Products to Undergo DQC. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP Quality Control Plan. Any decision document for *Malibu Creek Ecosystem Restoration Feasibility Study* will be subject to DQC.

<u>DQC of Products Developed Under Contract</u>

Previous drafts of the EIS/EIR were developed under a contract managed by the Los Angeles District. DQC has been applied in accordance with the Los Angeles District Quality Control Plan. Contractors are responsible for the quality control of products developed under contract. The responsible function chief and PDT members at the Los Angeles District provided feedback to the contractor in May 2013 regarding quality concerns of the AFB draft EIS/EIR product. Updates were provided

accordingly. The PDT has assumed responsibility for preparation of final drafts of EIS/EIR documentation contained in the integrated report. No further contract actions are in-place.

DQC will also include single discipline seamless peer review and multi-discipline product review. These are forms of ATR, described in the next section.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. 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 and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.

a. Products to Undergo ATR. ATR of the draft and final integrated report and technical appendices will be conducted for the Draft Report (including NEPA and supporting documentation) and Final Report (including NEPA and supporting documentation). Recommendations and comments will be provided by the ATR team. ATR of these products will occur before they are released for public comment and review.

b. Required ATR Team Expertise. Twelve reviewers have been assigned to the ATR of the *Malibu Creek Ecosystem Restoration Feasibility Study*, based on the disciplines required to develop the integrated report and technical appendices. General expertise of reviewers is described below. Names of reviewers are available at the District and the Ecosystem Restoration PCX.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR 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 in western coastal watershed planning and ecosystem restoration planning.
Economics	The economic reviewer should be a senior economist with experience with ecosystem restoration studies and cost effectiveness/incremental cost analysis reports.
Environmental Resources	The Environmental Resource reviewer should be a senior biologist with expertise in watershed management and marine biologist experience, focused on the western region. Another

	reviewer should have experience in habitat evaluation methodologies.
Hydrology, Hydraulic, and Sediment Transport Engineering	The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of dams, and flood proofing, etc and/or computer modeling techniques that are used, such as HEC-RAS and HEC-6t.
Geotechnical Engineering	The geotechnical reviewer should have civil works experience with emphasis watershed studies and ecosystem restoration studies.
Civil Engineering	The reviewer should have civil works experience with emphasis on dam safety and deconstruction activities.
Coastal Engineering	The reviewer should have coastal engineering experience with emphasis on coastal process and nearshore dynamics of sediment transport.
Cost Engineering	The Cost Engineering reviewer should be a technical expert in cost with experience, cost effectiveness/incremental cost analysis reports, in ecosystem restoration feasibility studies.
Real Estate	The Real Estate reviewer should have civil works experience with emphasis on ecosystem restoration feasibility studies.
Structural Engineering	The reviewer should have expertise in dam removal techniques and design of levees and floodwalls.
Cultural Resources	The reviewer should have knowledge of working with Tribal communities and documentation and avoidance methods for cultural resources in the Southwestern U.S.

c. Documentation of ATR. DrChecks review 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. The four key parts of a quality review comment will normally include:

(1) The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
(2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
(3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
(4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution.

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.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for the AFB, draft report, and final report.

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

IEPR may be required for decision documents under certain circumstances. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:

- Type I IEPR. Type I IEPR reviews are managed outside the USACE and are conducted on project 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. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk

management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

a. Decision on IEPR. The Los Angeles District is complying with IEPR Type I and the Chief of Engineering Division and Los Angeles District will assess if there is a significant threat to life safety, environmental considerations, or if the State of California's Governor has requested IEPR Type II after the Chief report is approved. If conditions warrant, IEPR Type II will be required in subsequent project phases. Type II IEPR is not needed for this study.

IEPR Type I is necessary due to the following applicable trigger factors:

- Cost – The total project cost exceed $45 Million. Current estimated implementation costs range from $118M to $210M. Cost refinements for the tentatively selected plan (TSP) will be made as the study progresses.
- Environmental Impact Statement – The NEPA compliance document will include preparation of an integrated report that includes all sections required for an EIS and will also comply with state of California (California Environmental Quality Act - CEQA) requirements for preparation of an Environmental Impact Report (EIR).
- The project has significant interagency interest. Agencies including US Fish and Wildlife (USFWS), California Department of Fish and Wildlife (CDFW), The National Marine Fisheries Service (NMFS) Local and State agencies along with several other agencies have actively participated in the Technical Advisory Committee (TAC) meetings to discuss project alternatives and have provided general support for the final array of alternatives.
- Some local residents have expressed concern that the final array of alternatives (all include Rindge Dam removal) would increase the flood risk below the dam in the lower two miles of Malibu Creek, including the Malibu city center and surrounding Serra Retreat community. This area currently experiences flooding in portions of reaches downstream of Rindge Dam. This problem and planning constraint is included in the overall study, however the primary focus of the study remains ecosystem restoration with minimization of downstream flood risk impacts to local communities.

b. Products to Undergo Type I IEPR. IEPR of the public draft feasibility integrated report and technical appendices (including NEPA and supporting documentation). Recommendations and comments will be provided by the ATR team. IEPR of these products will occur concurrent with the release for public comment and review.

c. Required Type I IEPR Panel Expertise. The ECO-PCX will contract with an outside eligible organization (OEO) to manage IEPR. The OEO will select IEPR panel members using the National Academy of Science's policy for selecting reviewers. The IEPR panel will consist of recognized independent experts from outside of USACE, with disciplines appropriate for the type of review being conducted. The ECO-PCX will make the final decision regarding the disciplines and number of panel members.

The PDT anticipates that the following disciplines or expertise will be needed for IEPR:

IEPR Panel Members/Disciplines	Expertise Required
Economics	The Economics Panel Member should have experience in ecosystem restoration.
Environmental	The Environmental Panel Member should have experience in watershed management and riparian habitat restoration. This member should also have knowledge of steelhead and steelhead habitat.
Engineering	The Engineering Panel Member should have experience in dam removal and dam safety.
Hydrologist	The hydrologist Panel Member should have experience in coastal watersheds and dam/reservoir with special emphasis on dam removal projects.
Coastal Engineering	The Coastal Engineering Panel Member should have coastal engineering experience with emphasis on coastal process and nearshore dynamics of sediment transport.
Planner	The Planner Panel Member should have experience in water resource and ecosystem restoration.
Geologist	The geologist panel members should have experience in geology with special focus on watersheds within the western region.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-209, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

7. 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.

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

All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.

9. MODEL CERTIFICATION AND APPROVAL

EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, are defined as any models and analytical tools that planners use to define water resources management problems and opportunities, to formulate potential alternatives to address the problems and take advantage of the opportunities, to evaluate potential effects of alternatives and to support decision making. The use of a certified/approved planning model does not constitute technical review of the planning product. 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 (if required).

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 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, ATR, and IEPR (if required).

a. Planning Models. The following planning models are used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
HEC-FFA	Flood Frequency Analysis (HEC-FFA) computer program was used to prepare a discharge-frequency analysis. The HEC-FFA program is based on the "Guidelines For Determining Flood Flow Frequency, Bulletin, 17B", by the Hydrology Subcommittee, revised September 1981. The techniques presented in Bulletin 17B have been adopted for all Federal planning involving water and related land resources.	Certified

Habitat Evaluation	The habitat evaluation is a model being used by the PDT and TAC (Technical Advisory Committee) that was developed specifically for this watershed. It is used to evaluate current habitat condition and compare to projected habitat conditions post ecosystem restoration. A score in generated to determine economic benefits of the ecosystem restoration project.	One-time approval for use 23 Sep 14

b. Engineering Models. The following engineering models are used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS (River Analysis System)	The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for steady flow analysis to evaluate the future without- and with-project conditions along the Wild River and its tributaries. [For a particular study the model could be used for unsteady flow analysis or both steady and unsteady flow analysis. The review plan should indicate how the model will be used for a particular study.]	HH&C CoP Preferred Model

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

The budgeted total costs for ATR are as follows:

Activity	Budget	Start	Finish
ATR of Public Draft Report	$30,000	Jan-17	Apr-17
ATR of Final Report	$20,000	Nov-17	Dec-17

b. Type I IEPR Schedule and Cost.

The budgeted total costs for IEPR are as follows:

Activity	Budget	Start	Finish
Independent External Peer Review of Draft Report	$100,000	Dec-16	Jun-17
PDT Responses to IEPR of Draft Report	$15,000	May-17	Jun-17
Sponsor Responses to IEPR of Draft Report	$10,000	May-17	Jun-17

c. Model Certification/Approval Schedule and Cost.

Review Certifications

Draft and final decision documents submitted to higher authority should be accompanied by review documentation and certifications that technical, legal and policy compliance review have been completed.

The completion of DQC will be certified by the Planning Division Chief and the District Commander.

The legal sufficiency of decision documents will be certified by the SPL Office of Counsel.

For products developed in whole or part by a contractor, a principal of the contractor will sign a quality control certification. The responsible function chief will then sign a quality assurance certification, and recommend to the District Commander that a certification that quality control and quality assurance are complete be signed and that any significant technical concerns have been considered and resolved.

The SPL Quality Management Plan (CESPL OM 1105-1-2), Appendix A, Attachment I contains example certifications for DQC, legal review, and contractor quality control/quality assurance.

The completion of ATR for interim work products may be certified by the responsible function chief. The completion of ATR for the final decision documents will be certified by the Planning Division Chief and the District Commander. The ATR certification should note, and reference the location of, any unresolved concerns in the review documentation.

The Engineering Division Chief will certify that the total project cost estimate submitted with the final decision documents is in accordance with current guidance and has been coordinated with and reviewed by the Cost Engineering DX. The review of real estate costs should be certified as well.

The SPD Quality Management Plan (CESPD R 1110-1-8), Appendix I, contains examples of ATR and cost estimate certifications.

The Los Angeles District will attach a certification of IEPR to the IEPR documentation.

The Project Manager is responsible for ensuring that certification requirements are met prior to approval of the project by the District Commander or transmittal of the project to SPD or HQUSACE.

The project summary accompanying the final feasibility study integrated report and appendices will:

- present the dates of the certifications of the technical and legal adequacy of the final report;
- describe the involvement of the ECO-PCX;
- summarize the involvement of the Cost Engineering DX in the approval of the total project cost estimate; and
- summarize the review and approval of real estate cost estimates.

HQUSACE is responsible for confirming the technical, policy, and legal compliance of planning products; supporting the resolution of issues requiring HQUSACE, ASA(CW) or OMB decisions; continuously evaluating the overall project development process, including the review and policy compliance processes; and recommending appropriate changes when warranted.

Model Certifications

The Habitat Evaluation model for a one-time certification to be utilized for this study was approved on 23 September 2014. See EC 1105-2-412, *Assuring Quality of Planning Models* (March 31, 2011).

11. PUBLIC PARTICIPATION

The Los Angeles District and sponsor will work together to ensure that all interested organizations and members of the public are kept informed of the study progress and results. Individuals and organizations will be notified in advance of the release of key documents and public meetings.

12. REVIEW PLAN APPROVAL AND UPDATES

The Los Angeles District Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, 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. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC. No significant changes to the review plan have occurred since the last update posted on the MSC website in 2014.

13. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

This Review Plan for the *Malibu Creek Ecosystem Restoration Feasibility Study* will be posted on the Los Angeles District's public webpage for the study:

http://www.spl.usace.army.mil/Missions/CivilWorks/ReviewPlans.aspx

The public will be able to submit their comments on the Review Plan via the webpage. For inquiries about this Review Plan, the points of contact are:

Los Angeles District:
Project Manager (213) 452-3789
Lead Planner (213) 452-3826

Ecosystem PCX:
PCX Project Team Member 309-794-5448

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM MEMBERS

Discipline	Office/Agency	Name
Project Manager	CESPL-PM-C	Susie Ming
Budget / Programs Analyst	CESPL-RM	Dan Culhane
Planning Lead	CESPL-PD-WW	Jim Hutchison
Environmental Coordinator	CESPL-PD-R	Jesse Ray
Cultural Resources	CESPL-PD-RL	Meg McDonald
Biological Analysis	CESPL-PD-RQ	Larry Smith
Civil Design	CESPL-ED-DA	Frank Mallette
Geotechnical	CESPL-ED-GG	Mark Chatman
Soils	CESPL-ED-GD	Chris Spitzer
Hydraulics & Hydrology	CESPL-ED-HH	Moosub Eom
Economic Evaluation	CESPL-PD-WE	Mike Hallisy
Cost Engineering	CESPL-ED-DS	Juan Dominguez
Real Estate	CESPL-RE	Lisa Sandoval
Public Affairs Office	CESPL-PA	Greg Fuderer
Office of Counsel	CESPL-OC	Elizabeth Moriarty
Sponsor	CA Dept of Parks & Rec	Suzanne Goode
Sponsor	CA Dept of Parks & Rec	Jamie King

Note: Team members may change during course of project; however, review/certification of the review plan will not be required.

ATTACHMENT 2: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSC	The District or MSC responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WRDA	Water Resources Development Act