
**PEER REVIEW PLAN
SUN VALLEY WATERSHED ENVIRONMENTAL RESTORATION FEASIBILITY
STUDY
LOS ANGELES DISTRICT**

April 2011



**US Army Corps
of Engineers** ®
Los Angeles District

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TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS	2
2. PROJECT DESCRIPTION	6
3. AGENCY TECHNICAL REVIEW (ATR)	9
4. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).....	12
5. MODEL CERTIFICATION AND APPROVAL.....	16
6. REVIEW SCHEDULES AND COSTS.....	18
7. PUBLIC AND AGENCY REVIEW.....	20
8. MODEL CERTIFICATION	20
9. COST ENGINEERING PCX COORDINATION.....	22
10. ECO PCX COORDINATION	22
11. MSC APPROVAL	23
ATTACHMENT 1: TEAM ROSTERS.....	24
ATTACHMENT 2: CERTIFICATION OF AGENCY TECHNICAL REVIEW	26
ATTACHMENT 3: LOCATION MAPS FOR THE STUDY AREA.....	27
ATTACHMENT 3: ACRONYMS AND ABBREVIATIONS	28

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1. PURPOSE AND REQUIREMENTS

A. Purpose. This Review Plan (RP) outlines the scope and level of peer review for the Sun Valley Watershed Environmental Restoration Feasibility Study. This study was authorized through utilization of the Los Angeles Drainage Area (LACDA) Review flood control study, Senate Resolution approved 25 June 1969, which directed the Corps of Engineers to review "...the report of the Chief of Engineers on the Los Angeles and San Gabriel Rivers and Ballona Creek, California, published as House Document Number 838, Seventy-sixth Congress, and other pertinent reports, with a view to determining whether any modifications contained therein are advisable at the present time, in the resources in the Los Angeles County Drainage Area."

This RP is a component of the Sun Valley Watershed Environmental Restoration Feasibility Study Project Management Plan (PMP). It will be referenced as an appendix to any updates to the Sun Valley Watershed Environmental Restoration Feasibility Study PMP dated September 2006. Engineer Circular (EC) 1165-2-209 (EC 209) dated 31 Jan 2010 "Civil Works Review Policy" provides the procedures for improving the quality and credibility of U.S. Army Corps of Engineers (USACE) decision documents through an independent review process. It complies with Section 515 of Public Law 106-554 (referred to as the "Data Quality Act"); and the Final Information Quality Bulletin for Peer Review by the Office of Management and Budget (referred to as the "OMB Bulletin"). It also provides guidance for the implementation of Section 2034 of WRDA 2007 (P.L. 110-114). EC 209 also presents a framework for establishing the appropriate level and independence of review and detailed requirements of review documentation and dissemination.

B. References

- (1) Engineering Circular (EC) 1165-2-209, "Civil Works Review Policy", 31 Jan 2010
- (2) EC 1105-2-410, Review of Decision Documents, 22 Aug 2008 (superseded by EC 1165-2-209)
- (3) EC 1105-2-407, Planning Models Improvement Program: Model Certification, 31 May 2005
- (4) Engineering Regulation (ER) 1110-2-12, Quality Management, 30 Sep 2006

C. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision documents through independent review. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review. In addition to these three levels of review, decision documents are subject to policy and legal compliance review and, if applicable, safety assurance review and model certification/approval.

All decision documents and their supporting analyses will undergo District Quality Control (DQC) and Agency Technical Review (ATR) and may also require IEPR, to "ensure the quality and credibility of the government's scientific information", in accordance with this circular and the quality management procedures of the responsible command. The Circular addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate Center. The Circular also requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR and IEPR comments, responses, and associated resolution accomplished.

The types of technical review are provided below and have been redefined and renamed for consistency with recent legislation and to establish a more comprehensive lexicon. This Circular uses the terms "home district" or "home MSC" to refer to the office that has been assigned responsibility for a study or project and whose commander will sign any recommendations or decision document. Where studies are conducted by non-Federal interests, the "home district" will be the district which has the area of responsibility that contains the proposed project.

(1) **District Quality Control (DQC)**. DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted and in-kind work that is being reviewed. In-kind products are all subject to DQC and will be incorporated into the report and technical appendixes as appropriate. Products provided in the past have been reviewed and incorporated already. In-kind products remaining to be completed include assessment of cultural resources for the EIS. 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 appendixes and the recommendations before approval by the District Commander. It is expected that the MSC/District quality management plans address the conduct and documentation of this fundamental level of review. DCQ is not covered by this Review Plan.

(2) **Agency Technical Review (ATR)**. ATR (which replaces the level of review formerly known as Independent Technical Review [ITR]) is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC.

(3) **Independent External Peer Review (IEPR)**.

As stated in EC 1165-2-209, 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. Any work product may be required to undergo IEPR. A case specific, risk-informed decision is made and documented as to whether IEPR (either Type I, Type II, both or neither) is appropriate. Type I IEPR is generally conducted on most studies, while Type II IEPR, involving a Safety Assurance Review (SAR), is generally for implementation documents. The Water Resources Development Act of 2007 under Section 2034 requires independent peer review of project studies under certain conditions. This study may warrant exclusion as it is refined considering that none of the triggers are met from any of the guidances that would otherwise require IEPR. These triggers as well as the other criteria considered in determining the appropriateness of IEPR are discussed later.

IEPR 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.

(4) Policy and Legal Compliance Reviews In addition to the technical reviews described above, decision documents will be reviewed throughout the study process for their compliance with law and policy. These reviews culminate in Washington-level 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 Chief of Engineers. Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100, Planning Guidance Notebook. When policy and/or legal concerns arise during DQC or ATR that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration policies, nor are they expected to address such concerns. The home district Office of Counsel is responsible for the legal review of each decision document and signing a certification of legal sufficiency.

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.

(5) Planning Center of Expertise (PCX) Coordination. The Circular outlines PCX coordination in conjunction with preparation of the review plan. Districts should prepare the plans in coordination with the appropriate PCX and appropriate consultation with the allied Communities of Practice. The MSC Commander's approval of the review plan is required to assure that the plan is in compliance with the principles of this Circular and the MSC Quality Management Plan (ER 5-1-11). The review plans must anticipate and define the appropriate level of review. All reviews are expected to be completed and documented before the District Commander signs the report. HQUSACE policy review will be completed before the draft decision and NEPA documents are released for public review and again before the Chief of Engineers signs his report. To the maximum extent practicable, reviews shall be scheduled and conducted in a manner to avoid or minimize delays in study or project completion.

(6) Safety Assurance Review. In accordance with Section 2035 of Water Resources Development Act (WRDA) of 2007, EC 1165-2-209 requires that all projects addressing flooding or storm damage reduction undergo a safety assurance review of the design and construction activities prior to initiation of physical construction and periodically thereafter until construction activities are completed on a regular schedule sufficient to inform the Chief of Engineers on the adequacy, appropriateness, and acceptability of the design and construction activities for the purpose of assuring public health, safety, and welfare. Engineering Regulation provides a more comprehensive Civil Works Review Policy that addresses the review process for the entire life cycle of a Civil Works project. That document addresses the requirements for a safety assurance review for the Pre-Construction Engineering Phase, the Construction Phase, and the Operations & Maintenance Phase. The decision document phase is the initial design phase; therefore, EC 1165-2-209 requires that safety assurance factors be considered in all reviews for decision document phase studies.

No Safety Assurance Review (SAR) will be conducted for the Type I IEPR during the feasibility phase since there is not a significant threat to human life associated with the preliminary tentatively recommended plan.

The Type II IEPR, Safety Assurance Review, is required to insure public health, safety, and welfare and is conducted on design and construction activities for any hurricane, storm, and flood risk management projects, as well as other projects where existing and potential hazards pose a significant threat to human life. Other factors to consider for conducting a SAR include: project involves use of innovative materials or techniques, project design requires redundancy resiliency, and robustness, or the project has unique construction sequencing or a reduced/overlapping construction schedule. The Type II IEPR is undertaken prior to initiation of physical construction and periodically thereafter until construction activities are completed. SAR oversight is the responsibility of the MSC, Chief, Business Technical Division in coordination with District Chiefs of Construction and Operations and the PM. Decision documents that meet the criteria should incorporate the SAR into their Type I IEPR. For Type II IEPRs, the RMO is the RMC. SAR should be considered at certain milestones, including: at the record of final design in the Design Documentation Report, at the completion of Plans, Specifications, and the Cost Estimate, at the midpoint of a construction contract, prior to final inspection, and at any critical design or construction milestones. The intent of the SAR is to compliment and not duplicate the ATR. Review Plans shall include the SAR or provide an explanation as to why a SAR is not required. After receiving a SAR Report, the host District Chief of Engineering shall consider all comments contained in the report, prepare a written response, note agreement/action or disagreement/ explanation, submit the report and responses to the MSC for final approval, followed by posting on the District's web site for public information.

A Type II IEPR will not be conducted for this feasibility study but will be included as part of the design (PED) phase of the project, if applicable. An SAR will be included in a future design phase for this project. It is not known what the costs will be for the SAR at this time, but cost estimates will be developed at the completion of the feasibility study to include in RP updates for the PED phase of the project. The SAR will likely be conducted between the 60% and 90% Plans & Specs submittal and cost approximately \$100,000-\$150,000.

Model Certification/Approval. EC 1105-2-407 requires certification (for Corps models) or approval (for non-Corps models) of planning models used for all planning activities. The EC defines planning models 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 EC does not cover engineering models used in planning. Engineering software is being address under the Engineering and Construction (E&C) Science and Engineering Technology (SET) initiative. Until an appropriate process that documents the quality of commonly used engineering software is developed through the SET initiative, engineering activities in support of planning studies shall proceed as in the past. 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.

D. Factors Affecting the Scope and Level of Review. The Study will evaluate different sites within the Watershed for ecosystem restoration before choosing a recommended plan for the restoration. Regarding the potential ecosystem restoration opportunities, some potential sites may be considered too heavily urbanized or contaminated to justify economically, although they could potentially be locally preferred. Due to intense existing infrastructure and industries such as mining, landfills, freeways, train tracks, utilities, buildings and homes, acquisition of these sites for restoration may prove to be cost-prohibitive. A challenge is to provide habitat connectivity and adequate ecosystem restoration in a heavily built-out Watershed.

Sun Valley Feasibility Study will analyze ecosystem restoration possibilities at an abandoned gravel pit, called Strathern Pit. Strathern Pit was acquired by our local sponsor, Los Angeles County, for ecosystem restoration project, at a price tag of \$22 million dollars in beginning of 2010. Sun Valley Watershed is a

completely built-out urban area with no open space. The upper Watershed is heavy industrial, dotted with landfills, gravel pits and machine recycling centers. The lower Watershed is mostly residential, with 70% immigrant working-class population. The ecosystem restoration project will not only provide habitat and connectivity to the San Gabriel mountains in the north and Santa Monica mountains in the south, but will also provide incidental recreational open-space benefits to the surrounding community. The gravel pit ecosystem restoration will also provide other incidental benefits of possible flood risk minimization and groundwater recharge. Due to expensive real estate market in the Los Angeles region, the acquisition of further gravel pits to provide continuous habitat connectivity may prove to be an unforeseen and exorbitant expense. But as such, Los Angeles County, our local sponsor, has expressed no desire to do so.

The Feasibility Report (FR)/Environmental Assessment (EA) is not likely to develop or contain influential scientific information and are not expected to be an influential scientific assessment. The report also will not involve a significant threat to human life, or have the potential to be highly controversial with the public. As the alternatives in the study are developed and studied, life safety issues will be looked at rigorously to determine if there will be concern regarding the formation of wetlands. The alternatives and measures we are studying do not pose a life safety concern. The document does not contain any information that is based on novel methods, nor does it have complex challenges for interpretation, or present conclusions that are likely to change prevailing practices or result in significant interagency interest.

2. PROJECT DESCRIPTION

A. Decision Document. The purpose of the Sun Valley Watershed Environmental Restoration Feasibility Study is to present the results of a feasibility study undertaken to examine opportunities for environmental restoration in the small Sun Valley watershed (a sub-watershed of the Los Angeles River). This watershed is almost entirely urbanized. The study is cost shared with the non-Federal Sponsor, the Los Angeles Flood Control District, a subdivision of the Los Angeles County Department of Public Works: The document will provide planning, engineering, and implementation details of the recommended restoration plan to allow final design and construction to proceed subsequent to South Pacific Division and HQUSACE approval, and Congressional authorization of the recommended plan.

B. General Site Description. The Sun Valley watershed study area is located in the Upper Los Angeles River Basin, within the City of Los Angeles in the Los Angeles County. The Los Angeles River ultimately drains into the Pacific Ocean at Long Beach, California. Please see Figure 1 and Figure 2.

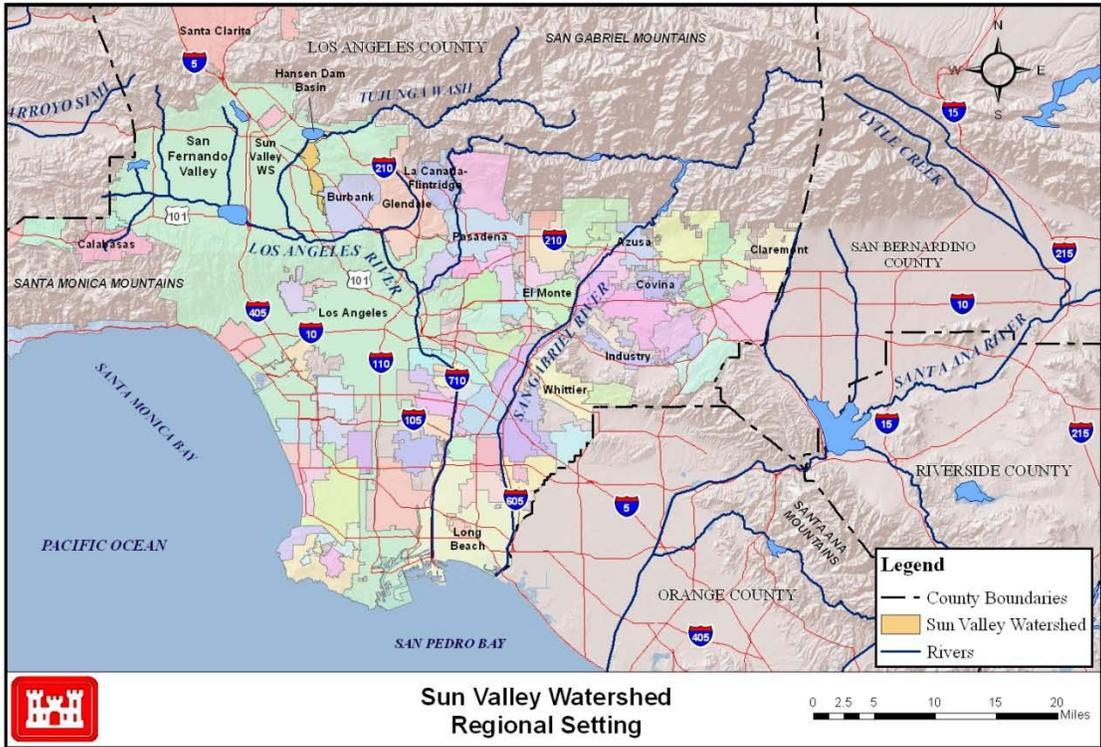


Fig. 1: Sun Valley Watershed Regional Setting

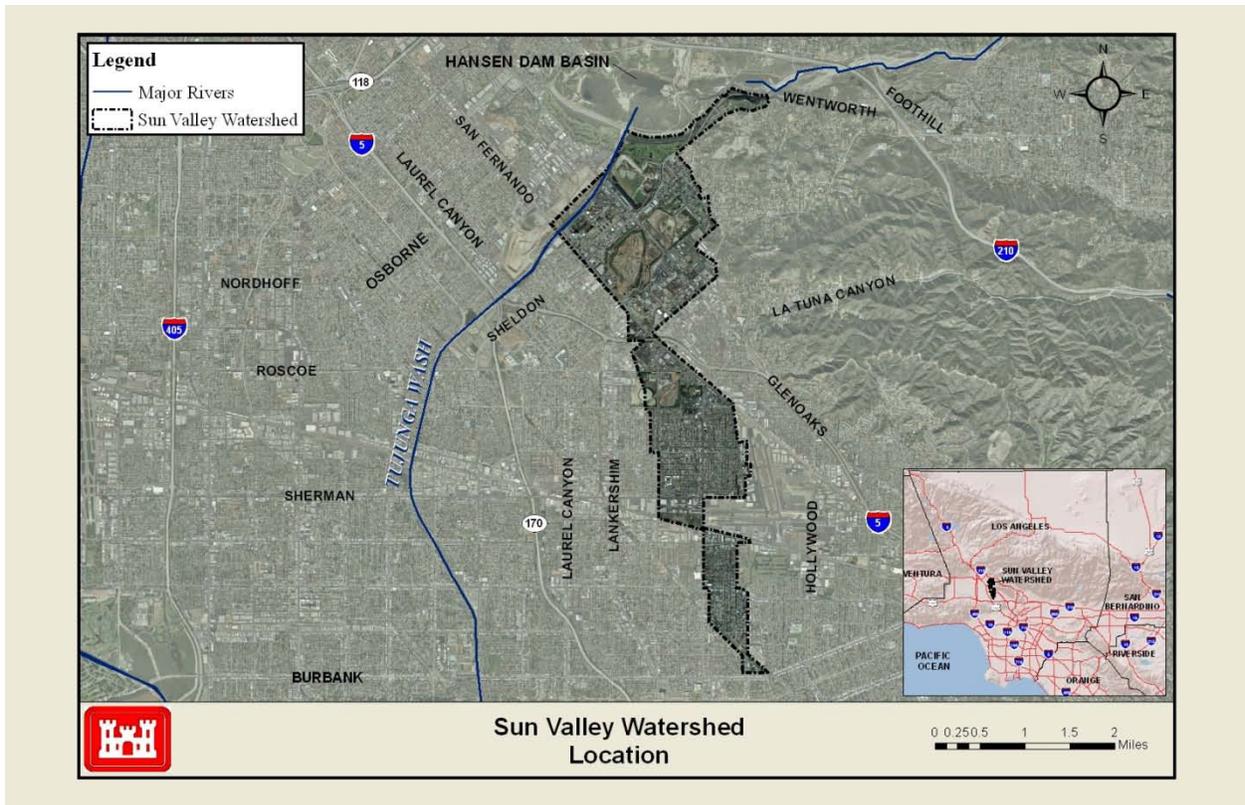


Fig. 2: Sun Valley Watershed

C. Project Scope. The study area watershed is 4.4 square miles in size, and is generally considered an interior drainage zone encapsulated by the overall Los Angeles River drainage area. The entire drainage area is located within the City of Los Angeles, in the northeastern San Fernando Valley. Restoration alternatives will consider a range of habitat types, including riparian, upland and wetlands. It is anticipated that the Recommended Plan may include a combination of types. Some of the alternatives that the Project Delivery Team is looking at are possible restoration of existing gravel pits and adjacent lands. The gravel pits offer a range of ecosystem restoration possibilities: fresh water marshes, vernal pools – perhaps interconnected by meandering channels with riparian fringe. Alluvial fan scrub would be the transitional vegetation zone between the wetland vegetation and the upland vegetation planted on site. Islands and micro-topography within the islands will attract a diversity of species because of varying soil and water levels.

D. Problems and Opportunities. The primary ecosystem problem within the study is severe degradation and loss of virtually all types of native habitat, particularly riparian habitat. Most of this has occurred within the second half of the 20th century. Within the study area there exists three gravel extraction pits of various remaining viability, as well as two power transmission corridors that may offer potential as sources of habitat improvement. Opportunities to reduce flooding and erosion damages, construct groundwater recharge features, and provide recreation opportunities are also being evaluated.

There are no likely potential listed threatened and endangered species or any undisturbed cultural resource sites within the study area; status will be confirmed in the accompanying EIS/EIR.

The Sun Valley watershed also has regular localized flooding due to the interior drainage problem. The *challenge* faced by the Sun Valley Watershed Environmental Restoration Feasibility Study would be to restore an ecosystem in a highly degraded and urbanized environment, and to develop potential project alternatives that do not adversely impact downstream flood control operations. The Sun Valley watershed could be evaluated for the use of existing open spaces, such as Sun Valley Park, Sun Valley Middle School, the gravel pits and the Sun Valley power plant as a detention site for storm water to reduce the amount of water flowing downstream.

The report also will not involve a significant threat to human life, or have the potential to be highly controversial with the public. The document will not contain any information that is based on novel methods, nor will it have complex challenges for interpretation, or present conclusion that are likely to change prevailing practices. Therefore, the feasibility phase documents (i.e., the without-project report, the with-project reports, and the Draft and Final EA/EIS) and major engineering products will only be reviewed by an ATR team selected by the appropriate Planning Center of Expertise (PCX).

The *project risks* include the area's susceptibility to flooding in a highly urbanized and developed area. Construction of the existing Tujunga Wash channel essentially bypassed the small sub-watershed of Sun Valley, the result of which has been regular localized flooding of streets and properties throughout the watershed. Due to the policy restrictions of the Corps of Engineers, direct participation in solutions to the flooding problems is unlikely; however, there is a great need for a watershed-wide approach to this problem, and there exist many opportunities for ecosystem restoration in conjunction with management of the resources. This complex interrelationship would have to be evaluated and detailed in a potential successive feasibility-level watershed study for Sun Valley.

3. AGENCY TECHNICAL REVIEW PLAN

The District is responsible for ensuring adequate technical review of decision documents. The responsible PDT District of this decision document is the Los Angeles District. The PDT members and their area of expertise are shown in Attachment 1.

A. General. ATR for decision documents covered by EC 1165-2-209 are managed by the appropriate Planning Center of Expertise (PCX) with appropriate consultation with the allied Communities of Practice such as engineering and real estate. The ATR shall ensure that the product is consistent 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 the results in a reasonably clear manner for the public and decision makers. Members of the ATR team will be from outside the home district. The ATR lead will be from outside the home MSC. The leader of the ATR team will participate in milestone conferences and the Civil Works Review Board (CWRB) to address review concerns. In-kind services from the local sponsor include some survey and mapping, geotechnical report, engineering and design, and input on socio-economic studies and plan formulation. As these products will be reviewed in-house before being incorporated as part of the final technical report, no separate ATR is required solely for the in-kind services provided by the local sponsor.

Products for Review. ATR will be performed for the Feasibility Scoping Meeting (FSM) documentation, Alternative Formulation Briefing (AFB) documentation, Draft Report (including NEPA/environmental compliance documentation and technical appendixes), and Final Report (including NEPA/environmental compliance documentation and technical appendixes).

B. Team. The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The review panel will be composed of individuals with expertise in arid region riverine systems ecology, groundwater recharge, geotechnical engineering, hydraulic and hydrology modeling, and effluent water supply. The entire feasibility report with appendices will be provided to the ATR team. It is recommended that the panel conduct a site visit if possible.

It is requested that the ECO-PCX nominate the team members. The members will roughly mirror the composition of the PDT. The ATRT members and their areas of expertise are shown in table 2. The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Directory of Expertise as required. Cost Engineer shall be a Tri Services certified cost engineer or equal (e.g. DAWIA certified).

Required ATR Team Expertise. The Agency Technical Review Team (ATRT) will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT and, wherever possible, reside outside of the South Pacific Division region. It is anticipated that the team will consist of approximately ten reviewers. The ATRT Lead will be outside the home MSC as required by EC1165-2-209 (or the old EC1105-2-410).

The ATRT will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) that have not been involved in the development of the decision document, will be chosen based on expertise, experience, and/or skills, and may be supplemented by outside experts as appropriate. The ATR team leader shall be outside of SPD and ATR team members shall be outside the district office. The members will roughly mirror the composition of the PDT and should be comprised of team members with specific knowledge and experience and one team leader to consolidate ATR team comments, ensure value engineering has been addressed by the ATR team, and to provide the PDT with one primary point of contact for review discussions.

Value Engineering is conducted during the Feasibility Phase, and the cost averages around \$10,000. After the completion of the Feasibility Phase/35% Design Phase, \$48,000 is required. For Sun Valley, Value Engineering workshop, which is conducted over a period of 3-5 days, will be done before the ATR. The workshop is conducted between an A-E team, nominated by the Value Engineering officer (POC on page 24), and the Sun Valley PDT. The VE team comes up with alternative to the current that will improve performance, quality and value of the project. The VE Facilitator writes the VE Report which is used by the PDT to determine which proposals/alternative will be implemented into the project at best value.

The ATRT members will be identified at the time the review is conducted and will be presented in Attachment 1.

Discipline	Experience Needed for Review
ATR Manager/Plan Formulation	Plan formulation for ecosystem restoration projects, familiarity with the “Planning Guidance Notebook” (ER-1105-100) and the Water Resources Council’s Principals and Guidelines.
Environmental Resources	Integration of environmental evaluation and compliance requirements pursuant to the “Procedures for Implementing NEPA” (ER 200-2-2), national environmental statutes, applicable executive orders, and other Federal planning requirements, into the planning of Civil Works projects.
Biologist	Biologist familiar with non-native and native Southern California species, wetland restoration, riparian environments, and habitat modeling. Should be familiar with CHAP method.
Cultural Resources	Archaeologist familiar with records searches, cultural resource survey methodology, area of potential effects, Section 106 of the National Historic Preservation Act, and state and Federal laws/executive orders pertaining to American Indian Tribes.
Hydrology and Hydraulics	Hydrologist or hydraulic engineer proficient with stream and wetlands hydraulics, and associated one dimensional models, hydrologic statistics, sediment transport analysis, risk and uncertainty analysis, and a number of other closely associated technical subjects as these relate to ecosystem restoration features.
Geotechnical Engineering	Geotechnical engineer familiar with sampling and laboratory testing, embankment stability and seepage analyses, planning analysis, and a number of other closely associated technical subjects.
Economics	Analysis of demographics, land use, recreation analysis, use of IMPLAN model to address regional economic development associated with a project; discussion of other social effects (OSE) associated with ecosystem restoration, and well as OSE benefits; economic justification of projects in accordance with current USACE policy.
Civil Design	Civil engineer with experience in designing grading plans and ecosystem restoration features. ,
Cost Engineering ¹	Cost estimating specialist competent in cost estimating for both construction and ecosystem restoration using MCACES/Mii; working knowledge of construction and environmental restoration; capable of making professional determinations based on experience.
Real Estate/Lands	Real estate specialist familiar with real estate valuation, gross appraisal, utility relocations, takings and partial takings as needed for implementation of Civil Works projects.
Construction ²	Must be a Civil Engineer who does analysis of the site, circulation study, phasing analysis/plan, contacts local jurisdictions, development concept, acquires topographic, landscape and utilities survey, and soils investigation.

¹Coordination with the USACE Cost Engineering Directory of Expertise (DX) located in the Walla Walla District will be conducted as required by CECW-EC memo dated 10 Sep 2007 and CECW-CP memo dated 19 Sep 2007.

² The construction ATR team member will review applicable study products when construction elements are required.

The ATR should address the formulation of the restoration plan and river restoration principles, groundwater recharge, hydraulics and hydrology analysis pertaining to ecology. The review panel will be composed of individuals with expertise in arid region riverine/wetland systems ecology, southern California wetland habitat, groundwater modeling and recharge, geomorphology, geotechnical engineering, hydraulic and hydrology modeling, water quality, effluent water supply and O&M.

In-kind services from the local sponsor include some survey and mapping, geotechnical report, engineering and design, and input on socio-economic studies and plan formulation. As these products will be reviewed in-house before being incorporated as part of the final technical report, no separate ATR is required solely for the in-kind services. The local sponsor in-kind services will be part of the ATR review because in-kind services are a critical element of the study's formulation and plan.

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 been 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 or 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 coordination, and lastly the agreed upon resolution. The ATR team will prepare a Review Report which includes a summary of each unresolved issue; each unresolved issue will be raised to the vertical team for resolution. Review Reports will be considered an integral part of the ATR documentation 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.

ATR may be certified when all ATR concerns are either resolved or referred to HQUSACE for resolution and the ATR documentation is complete. Certification of ATR should be completed, based on work reviewed to date, for the AFB, draft report, and final report. A sample certification is included in ER 1110-2-12.

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

A. General. IEPR is conducted for decision documents if there is a vertical team decision (involving the district, MSC, PCX, and HQUSACE members) that the covered subject matter meets certain criteria (described in EC 1165-2-209) where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside the USACE is warranted. IEPR is coordinated by the appropriate PCX and managed by an Outside Eligible Organization (OEO) external to the USACE. IEPR panels shall evaluate whether the interpretations of analysis and conclusions based on analysis are reasonable. To provide effective review, in terms of both usefulness of results and credibility, the review panels should be given the flexibility to bring important issues to the attention of decision makers; however, review panels should be instructed to not make a recommendation on whether a particular alternative should be implemented, as the Chief of Engineers is ultimately responsible for the final decision on a planning or reoperations study. IEPR panels will accomplish a concurrent review that covers the entire decision document and will address all the underlying engineering, economics, and environmental work, not just one aspect of the study. Whenever feasible and appropriate, the office producing the document shall make the draft decision document available to the public for comment at the same time it is submitted for review (or during the review process) and sponsor a public meeting where oral presentations on scientific issues can be made to the reviewers by interested members of the public. An IEPR panel or OEO representative will participate in the CWRB.

Decision on IEPR. EC 1165-2-209 identifies thresholds that trigger IEPR: This decision document will present the details of Sun Valley Watershed Environmental Restoration Feasibility Study undertaken to solve a water resource problem as described in Section II.

Type I IEPR is generally conducted on most project studies when certain triggers are met. The requirement for Type I IEPR is based upon Section 2034 of WRDA 2007, the OMB Peer Review Bulletin and other USACE policy considerations. In keeping with the principle that IEPR should be scalable to the work product being reviewed, there may be cases that warrant a project study or decision document, which would otherwise be required to undergo a Type I IEPR, being excluded from the Type I process. Requests seeking an exclusion from Type I IEPR shall comply with Paragraph 15, Risk Informed Decisions on Appropriate Reviews, from EC 1165-2-209:

“Meeting the specific conditions identified for possible exclusions is not, in and of itself, sufficient grounds for recommending an exclusion. A deliberate, risk-informed recommendation whether to undertake IEPR shall be made and documented by the PDT, as discussed below. The recommendation will be submitted to the MSC. The MSC Commander has approval authority to undertake IEPR. However, if the MSC concurs with a recommendation to exclude the project from IEPR, the MSC will forward the recommendation with its endorsement to the appropriate RIT for coordination in HQ and appropriate action. Once the DCW's or the Chiefs decision is rendered, the recommendation and decision will be documented in the review plan... Type I IEPR is mandatory under the circumstances described in Paragraph 11.d.1. and in Appendix D. When a decision document does not trigger a mandatory Type I IEPR (as discussed in Paragraph 11.d.I), a risk-informed recommendation will be developed. This process shall explicitly consider the consequences of non-performance on project economics, the environment, and social well-being (public safety and social justice), as well as indicate whether the product is likely to contain influential scientific information or be a highly influential scientific assessment; or involve any other issues that provide a rationale for determining the appropriate level of review. Furthermore, the recommendation must make a case that the study is so limited in scope or impact that it would not significantly benefit from IEPR.”

The following conditions from EC 1165-2-209 Paragraph 11, 1-3 were used in determining that Type I IEPR is not mandatory:

- (1) There is no significant threat to human life. Being simply a feasibility study for ecosystem restoration, this project expects no significant life safety issues.
- (2) The estimated total cost of the project, including any potential mitigation costs, is far less than \$45 million based on a reasonable estimate made at the end of the reconnaissance phase.
- (3) The Governor of the affected State, California, has not, nor is he expected to request a peer review by independent experts.
- (4) The project has shown minimal controversy or significant public dispute over size, nature, or effects of the project. Additionally, there is low likelihood for significant economic, environmental and social effects. Because of the seen public support for this project, it is improbable that the DCW or the Chief of Engineers would determine that the project study is controversial.

As previously stated Section 2034 permits project studies to be excluded from independent peer review under certain circumstances, as does EC 1165-2-209 in cases where none of the mandatory triggers (as shown above) are met and a number of other criteria are met. These circumstances and criteria include the following, all of which hold true for this study:

- (1) The Feasibility Report (FR)/Environmental Assessment (EA) is not likely to develop or contain influential scientific information and as such is not expected to be an influential scientific assessment.
- (2) Does not include an EIS.
- (3) Is not controversial.
- (4) Has no more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources.
- (5) Has no substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures.
- (6) Has, before implementation of mitigation measures, no more than a negligible adverse impact on a species listed as endangered or threatened species under the Endangered Species Act of 1973 (16 U.S.c. 1531 et seq.) or the critical habitat of such species designated under such Act.

Items 3-6 above are determined by the DCW or the Chief according to Section 2034 as stated in EC 1165-2-209 paragraph 11(3a).

Type II IEPR is not relevant to this study as this type of review is used for design and construction activities for hurricane and storm risk management and flood risk management projects, as well as other projects where potential hazards pose a significant threat to human life.

Based on the information and analysis provided in paragraph 2(D), and 4(A,B) of this RP, the project covered under this RP should be excluded from peer review because it does not meet the mandatory triggers and does not warrant Independent External Peer Review based on a risk-informed analysis.

Furthermore, this project study is so limited in scope and impact that it would not significantly benefit from IEPR.

Should an IEPR be warranted if future Study conditions change, such as a change of scope, an Integrated FR/EIS will be prepared, as appropriate, to ensure that potential public safety and environmental issues are addressed. IEPR is currently estimated to cost \$150,000. IEPR is a project cost, while the IEPR panel review cost is currently 100% federally funded, the President's Budget for FY10 has cut central funding for IEPRs and costs to complete this review will come from project funding. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost shared expenses. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers.

B. IEPR Method. If an IEPR were to be conducted, the following measures would apply: The IEPR would focus on the formulation of the restoration plan and will address river restoration principles, groundwater recharge, hydraulics and hydrology analysis pertaining to bank stabilization and ecology. Economic analysis would include Regional Economic Benefits and Other Social Effects of the Plan for benefit analysis. Safety would be considered in maintenance of the current flood protection and avoidance of increased damages. Engineering would be used to develop a more sustainable ecosystem within the river corridor and may, for example, include diversions to reduce flood peaks allowing for more sustainable riparian areas. The review panel would be nominated by the ECO-PCX, and composed of individuals with expertise in arid region riverine systems ecology, groundwater recharge, geotechnical engineering, hydraulic and hydrology modeling, and effluent water supply. The entire feasibility report with appendices would be provided to the IEPR team. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers. It would be recommended that the panel conduct a site visit if possible.

The IEPR would be conducted by and Outside Eligible Organization (OEO) and managed by the ECO-PCX. The ECO-PCX would follow the process established in EC 1165-2-209 in managing the IEPR. Whenever feasible and appropriate, the office producing the document shall make the draft decision document available to the public for comment at the same time it is submitted for review (or during the review process) and sponsor a public meeting where oral presentations on scientific issues can be made to the reviewers by interested members of the public. An IEPR panel or OEO representative would participate in the CWRB.

Type I IEPR is mandatory if any of the following are true:

- (1) Significant threat to human life. The decision document phase is the initial concept design phase of a project. Therefore, when life safety issues exist, a Type I IEPR that includes a Safety Assurance Review is required;
- (2) Where the estimated total cost of the project, including mitigation costs, is greater than \$45 million based on a reasonable estimate at the end of the reconnaissance phase. If a project has a cost estimate of less than \$45 million at the end of the reconnaissance phase, but the estimated costs subsequently increase to more than \$45 million, a determination will be made by HQUSACE whether a Type I IEPR is required;
- (3) Where the Governor of an affected State request a peer review by independent experts; or
- (4) Where the Chief of Engineers determines that the project study is controversial due to significant public dispute over either the size, nature, or effects of the project or the economic or environmental costs

or benefits of the project.

C. Products for Review. Not Applicable.

Interim Corps and/or contractor products for all study products, phases, and disciplines will be provided before the draft report is released for public review. The full IEPR panel will receive the entire Integrated Draft FR/EIS and all technical appendixes concurrent with public and agency review. The final report to be submitted by the IEPR panel must be submitted to the PDT within 60 days of the conclusion of public review. The Los Angeles District will draft a response to the IEPR final report and process it through the vertical team for discussion at the Civil Works Review Board (CWRB). An IEPR panel or OEO representative member will participate in the CWRB meeting, preferably in person. Following the CWRB, the Corps will issue final response to the IEPR panel and notify the public.

D. Required IEPR Panel Expertise. Not Applicable.

It is anticipated that the team will consist of approximately ten (10) reviewers. Disciplines that are anticipated to undergo IEPR are plan formulation, environmental resources, biology, hydrology and hydraulic design, geotechnical engineering, cultural resources, civil design, economics, real estate, and cost engineering. Specific experience needed for IEPR is provided in the ATR Table above. Reviewers for the disciplines noted above should be proficient with ecosystem restoration issues in arid and montane environments. Major considerations will include issues relating to lake and riparian restoration, wetland restoration, and invasive vegetation.

E. Documentation of IEPR. Not Applicable.

DrChecks review software will be used to document IEPR comments and aid in the preparation of the Review Report. Comments 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 3.d. The OEO will be responsible for compiling and entering comments into DrChecks. The IEPR team will prepare a Review Report that will accompany the publication of the final report for the project 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 IEPR panel no later than 60 days following the close of the public comment period for the draft decision document. The report will be considered and documentation prepared on how issues were resolved or will be resolved by the District Commander before the district report is signed. The recommendations and responses will be presented to the CWRB by the District Commander with an IEPR panel or OEO representative participating, preferable in person.

5. MODEL CERTIFICATION AND APPROVAL

- A. General.** The use of certified or approved models for all planning activities is required by EC 1105-2-407. This policy is applicable to all planning models currently in use, models under development

and new models. The Ecosystem Restoration PCX will be responsible for model certification/approval. The goal of certification/approval is to establish that planning products are theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. The use of a certified or approved model does not constitute technical review of the planning product. Independent review of the selection and application of the model and the input data and results is still required through conduct of DQC, ATR, and, if appropriate, IEPR. Independent review is applicable to all models, not just planning models. Both the planning models (including the certification/approval status of each model) and engineering models used in the development of the decision document are described below:

B. Planning Models. The following planning models are anticipated to be used:

- **CHAP Accounting Method:** Currently, an ecosystem based framework exists in the Pacific Northwest known as the Habitat (HAB) Accounting and Appraisal methodology. This approach involves a triad assessment of habitat, species, and functions (O’Neil et al., 2005), and can provide assessments at multiple scales. The HAB method can be used to determine habitat units (HUs) similar to those expressed in Habitat Evaluation Procedure’s (HEP) using a habitat quality index. Elements of HEP and HAB were combined under Combined Habitat Assessment Protocols (CHAP) to determine project Habitat Units (Hus). HUs are the “currency” the US Army Corp of Engineers (USACE) currently uses to rate and compare the value of one project to another. The USACE, Los Angeles District, shall receive approval from the ECO-PCX in Vicksburg, Mississippi to apply HAB/CHAP at Sun Valley watershed, California. This is a non-Corps model, which the Los Angeles District is considering applying regionally and may need further approval and certification.

CHAP Habitat Analysis as follows:

- (i) The CHAP process will be used for determining habitat units (HU’s) for the project’s F3 phase, 1) baseline and 2) future without project baseline conditions report for the vegetation cover and habitat types of concern.
- (ii) Vegetation cover types will be determined by use of the California Department of Fish and Game’s (CDFG) California Natural Diversity Data Base (CNDDB) and California Wildlife Habitat Relationship (CWHR).
- (iii) Polygons delineated based upon the vegetation/habitat cover types.
- (iv) A species list (vertebrate taxa only) unique to the project site will be generated and review by the project ecologists and the habitat evaluation team in a timely manner.
- (v) The CHAP process using the Key Environmental Correlates (KEC) and Key Ecological Functions (KEF) to determine habitat value by polygon. Office delineations of polygon boundaries, habitat types and structural conditions will be field verified for each polygon.

Sun Valley watershed study will use the featured or ocular version of CHAP due to seasonality of performing the habitat assessment, i.e., it will be outside the flowering plants and breeding/nesting season for vertebrate taxa.

- **IWR-PLAN:** This is an economic planning model certified by the Corps, which assists with the formulation and comparison of alternative plans. It assists with plan formulation by combining solutions to planning problems and calculating the additive effects of each combination. It will

compare the cost effectiveness and incremental cost of each plan, identifying the plans that are the best financial investments and displaying the effects of each on a range of decision variables.

C. Engineering Models. The following engineering models are anticipated to be used:

- **Micro-Computer Aided Cost Estimating System (MCACES) Second Generation (MII):** This is a cost estimating model that was developed by Building Systems Design Inc. The Army Corps of Engineers began using this model in 1989.
- **Hydrologic Engineering Centers River Analysis System (HEC-RAS):** The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man made channels. HEC-RAS major capabilities are:
 - User interface
 - Hydraulic Analysis
 - Data storage and Management
 - Graphics and reporting

6. REVIEW SCHEDULES AND COSTS

A. ATR Schedule and Cost.

EC 1165-2-209 re-characterized ATR (which replaces the level of review formerly known as Independent Technical Review) as an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product.

The FRM-PCX is responsible for identifying the ATR team members. The Los Angeles District may nominate ATRT members, subject to review and approval by the FRM-PCX. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-408 requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished. This Review Plan outlines the proposed approach to meeting this requirement for the Sun Valley Watershed Environmental Restoration Feasibility Study. ATR is required for this study.

The purpose of ATR is to:

- ensure that the appropriate problems and opportunities are addressed;
- confirm that appropriate solutions are considered;
- confirm that the appropriate solution is recommended;
- assure that accurate cost, scheduling, and associated risks are presented;
- confirm that the recommended solution:
 - o warrants USACE participation,
 - o is in accord with current policies,
 - o can be implemented in accordance with environmental laws and statutes, and
 - o has a sponsor willing and able to fulfill the non-Federal responsibilities; and to
- ensure that the decision document appropriately represents the views of the Corps of Engineers, the Army, and the President.

This feasibility study began in 2006. Reviews will be conducted in accordance with the South Pacific Division (SPD) Quality Management Plan. The Agency Technical Review for the existing conditions/future without-project conditions milestone (FSM) shall be performed by the USACE Sacramento District in January 2011. The next ATR will be performed for the SPD F4 Feasibility Review Conference milestone. Additional policy review will occur in conjunction with completion of the remainder of the feasibility phase milestones and if necessary, in the form of an In Progress Review. The cost for ATR will be \$200,000.

(1) The ATR process for this document followed the timeline below.

Review Milestone	ATR Team Involvement	Scheduled/Actual Date	Estimated Cost of ATR
SPD Planning Milestone F1		April 2007	
ATR of Draft F3 Report	X (partial team)	Oct – Nov 2011	\$40,000
SPD Planning Milestone F3/Feasibility Scoping Meeting		15 Feb 2012	
ATR of SPD Draft F4 Report	X	Oct 2012	\$60,000
SPD Planning Milestone F4A/Alternative Formulation Briefing (AFB)		March 2013	
AFB Policy Memo Issued		April 2013	
ATR of Draft Report	X (partial team)	July 2013	\$40,000
IEPR		TBD	
In Progress Review (IPR)		TBD	
Public Review of Draft Report		TBD	
Civil Works Review Board (CWRB)		TBD	
State and Agency Review of Draft Report		TBD	
ATR of Final Report	X	Oct 2013	\$60,000
Final Report Submission		TBD	

(2) Throughout the study, the team shall hold planning briefings to ensure planning quality. Senior staff and subject matter experts from the PDT District and members of the vertical team shall attend the briefings and provide comments on the product to date.

PROPOSED APR TEAM Table will be updated as ATR team members are finalized, to show their names, qualifications, and years of experience.

The ATR team will conduct ATR in two stages: seamless single discipline review and product review.

Seamless Single Discipline Review is the on-going review of interim work products. As these work products are completed, and before they are shared with other members of the PDT or integrated into the overall study, PDT members should contact their ATR team counterparts for review. ATR team members provide immediate review consistent with the scope and complexity of the products. Interim work products may be reviewed once or iteratively.

Product Review is the review of the draft and final DPR, technical appendices, and EIS/EIR. 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.

Documentation of ATR

For seamless review, ATR team members will use the software system DrChecks (<https://www.projnet.org/projnet/>) to document their reviews. Additionally, for each review, team members should file a memorandum recording the nature and scope of the review with the Review Team Leader. The purpose of this documentation is to minimize re-review.

For product review, DrChecks will be used to document all review comments, PDT responses, and associated resolutions. The ATR team will meet to sort, review, compare, and reconcile their individual comments into a draft assessment of the decision document. This assessment will raise technical issues and questions concerning the document and make suggestions for modifying the document. The PDT and local sponsor's representatives will be given an opportunity to comment on the draft assessment. The final assessment will be submitted to the Planning Division Chief at the home district. Review team files will be readily available to all members of the review team and PDT and to HQUSACE during quality assurance reviews.

7. PUBLIC AND AGENCY REVIEW

A. Release of the draft document for public review will occur after issuance of the AFB policy guidance memo and concurrence by HQUSACE. Whenever feasible and appropriate, the District will make the draft decision document available to the public for comment at the same time it is submitted for review (or during the review process) and sponsor a public meeting where oral presentations on scientific issues can be made to the reviewers by interested members of the public. ATR reviewers will be provided with all public comments.

B. Public review of this document will begin approximately one month after the completion of the ATR process and issuance of the HQUSACE policy guidance memo. The estimated time frame for this review is February 2011. The period will last 30 days.

The public will be invited to comment directly to the PDT through public scoping meetings and public review periods programmed into the feasibility schedule. Documents for review will be made available on the Los Angeles District public web page <http://www.spl.usace.army.mil/>.

C. The public review of necessary State or Federal permits will also take place during this period.

D. 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.

E. 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.

8. MODEL CERTIFICATION

- A. General.** The USACE Planning Models Improvement Program (PMIP) was established in 2003 to assess the state of planning models in the USACE and to make recommendations to assure that high quality methods and tools are available to enable informed decisions on

investments in the Nation's water resources infrastructure and natural environment. The main objective of the PMIP is to carry out "a process to review, improve and validate analytical tools and models for USACE Civil Works business programs." In carrying out this initiative, a PMIP Task Force was established to examine planning model issues, assess the state of planning models in the Corps, and develop recommendations on improvements to planning models and related analytical tools.

For the purposes of this document, planning models 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. It includes all models used for planning, regardless of their scope or source, as specified in the following sub-paragraphs. This Circular does not cover engineering models used in planning which will be certified under a separate process to be established under SET. Most of the models to be employed in the study have either been developed by or for the USACE.

(1) Engineering Computational Models:

- **Cost Engineering:** MCACES: This is a cost estimating model that was developed by Building Systems Design Inc. The Army Corps of Engineers began using this model in 1989.

Hydrology: HEC-HMS : The Hydrologic Modeling System (HEC-HMS) is designed to simulate the precipitation-runoff processes of dendritic watershed systems. It is designed to be applicable in a wide range of geographic areas for solving the widest possible range of problems. This includes large river basin water supply and flood hydrology, and small urban or natural watershed runoff. Hydrographs produced by the program are used directly or in conjunction with other software for studies of water availability, urban drainage, flow forecasting, future urbanization impact, reservoir spillway design, flood damage reduction, floodplain regulation, and systems operation.

Hydraulic: HEC-RAS: The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man-made channels.

Groundwater and Water Quality: Field Data Analysis: This was used for Groundwater and Water Quality analysis. There was no sediment transport model used for Sun Valley Watershed Environmental Restoration Feasibility Study.

Geotechnical Engineering: Focused Phase I ESAs were done several years ago for 5 sites that potentially could be proposed as stormwater harvesting / groundwater recharge sites (at least 2 have since been eliminated in the planning process from further consideration). Potential issues with various contaminants that exist on lands adjoining the study area were the focus of the Phase I ESAs and were addressed on a preliminary (literature search) basis, and with no additional field investigation. The primary environmental issue will be assuring that methane gas from the many, nearby landfills is not mobilized / forced to migrate in response to groundwater recharge from this project. Such gas migration can be hazardous, and it has been documented that methane has seeped from landfills into nearby buildings and caused issues, very close to the study area. There is a risk of methane gas explosion under such circumstances. Any proposed

engineering of a recharge site for this study will be carefully evaluated to assure no such problems are created.

Sediment Transport: Not required for the study.

(2) Ecosystem Output Models

- CHAP: The majority of the computational models to be employed in the Sun Valley Watershed Environmental Restoration Feasibility Study have either been developed by or for the USACE. Model certification and approval for all identified planning models will be coordinated through the PCX as needed. This is a non-Corps model, which the Los Angeles District is considering applying regionally and may need further approval and certification. CHAP will need to be reviewed in accordance with EC 1105-2-407.

B. Method. In accordance with the EC 1105-2-407, Planning Models Improvement Program: Model Certification, the Engineering models will be approved for use through the SET program. In accordance with CECW-CP Memo “Policy Guidance on Certification of Ecosystem Output Models” dated 13 August 2008; the District intends to submit a Model Assessment to the ECO-PCX to substantiate the theoretical soundness and computational accuracy of the model. The ECO-PCX will determine the level of review and certification based on the assessment

9. COST ENGINEERING DIRECTORY OF EXPERTISE COORDINATION

Congressional Authorization is required; therefore coordination with the Cost Engineering Directory of Expertise (DX) will be needed. The district will coordinate with the Cost Engineering DX at the Walla Walla District to conduct reviews (ATR) of cost estimates, construction schedules and contingencies. The Cost Engineering DX will assign the reviewer(s) to the ATR team and will utilize USACE personnel and/or the private sector to assure highly qualified persons are available to conduct these reviews. In cases where the Cost Engineering DX identifies the need for IEPR, it will inform the district and will assist with establishing the cost for the IEPR.

10. PCX COORDINATION

Review plans for decision documents and supporting analyses outlined in EC 1165-2-209 are coordinated with the appropriate Planning Center(s) of Expertise (PCXs) based on the primary purpose of the basic decision document to be reviewed. The lead PCX for this study is the Mississippi Valley Division, Ecosystem Restoration PCX.

This review plan will be submitted through the PDT District Planning Chief to the PCX Director for review and eventual concurrence. The ECO-PCX will manage the review of the ATRT. The approved review plan will be posted to the Los Angeles District website. Any public comments on the review plan will be collected by the Office of Water Project Review (OWPR) and provided to the PDT District for resolution and incorporation if needed.

A. Points of Contact

Questions about this Review Plan may be directed to:

Ms. Priyanka Wadhawan
Los Angeles District Project Delivery Team Planning
(213) 452-3802
Priyanka.Wadhawan@usace.army.mil

Ms. Valerie Ringold
Eco-PCX
(503) 808-3984
Valerie.A.Ringold@usace.army.mil

11. MSC Approval

The MSC that oversees the home district is responsible for approving the review plan. Approval is provided the MSC Commander. The Commander's approval should reflect vertical team input (involving district, MSC, PCX, 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. Changes to the Review Plan should be approved by following the process used for initially approving the plan. In all cases the MSC's will review the decision on the level of review and any changes made in updates to the project.

Sun Valley Watershed Environmental Restoration Feasibility Study will undergo the ATR, but may also be required to undergo Type I and/or Type II IEPR. Meeting the specific conditions identified for possible exclusions is not, in and of itself, sufficient grounds for recommending an exclusion from IEPR. According to EC 1165-2-209, a deliberate, risk-informed recommendation whether to undertake IEPR shall be made and documented by the PDT, as discussed below. The recommendation will be submitted to the MSC. The MSC Commander has approval authority to undertake IEPR. However, if the MSC concurs with a recommendation to exclude the project from IEPR, the MSC will forward the recommendation with its endorsement to the appropriate RIT for coordination in HQ and appropriate action. Once the DCW's or the Chief's decision is rendered, the recommendation and decision will be documented in the review plan.

ATTACHMENT 1: TEAM ROSTERS

PROJECT DELIVERY TEAM

First	Last	Discipline	Phone	Email
Mark	Chatman	Geotech	213-452-3585	Mark.Chatman@usace.army.mil
Chieh	Shih	Hydrology	213-452-3571	Shih.H.Chieh@usace.army.mil
Amy	Holmes	Archaeology	213-425-3855	Amy.M.Holmes@usace.army.mil
Brian	Whelan	Project Manager	213-452-4005	Brian.A.Whelan@usace.army.mil
Priyanka	Wadhawan	Plan Formulation	213-452-3802	Priyanka.Wadhawan@usace.army.mil
Juan	Dominguez	Cost Estimating	213-452-3737	Juan.A.Dominguez@usace.army.mil
Deborah	Lamb	Environmental Coordinator	213-452-3798	Deborah.L.Lamb@usace.army.mil
Gregory	Dombrosky	Soils	213-452-3592	Gregory.A.Dombrosky@usace.army.mil
Jeannine	Hogg	Economics	213-452-3816	Jeannine.H.Hogg@usace.army.mil
Chieh	Shih	Hydraulics	213-452-3571	Shih.H.Chieh@usace.army.mil
John	Madden	Biology	213-452-3887	John.R.Madden@usace.army.mil
Pete	Garcia	Asset Management	213-452-3131	Pete.N.Garcia@usace.army.mil
Roxanne	Vidaurre	Design	213-452-3643	Roxanne.R.Vidaurre@usace.army.mil

AGENCY TECHNICAL REVIEW TEAM

Name	Discipline	Phone	Email
TBD	ATR Manager/Plan Formulation		
TBD	Environmental Resources		
TBD	Cultural Resources		
TBD	Hydrology and Hydraulics		
TBD	Geotechnical Engineering		
TBD	Economics		
TBD	Civil Design		
TBD	Cost Engineering ¹		
TBD	Real Estate/Lands		

¹The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Center of Expertise as required. That PCX will determine if the cost estimate will need to be reviewed by PCX staff.

SAFETY ASSURANCE REVIEW TEAM

Name	Discipline	Phone	Email
TBD	SAR Manager/Plan Formulation		
TBD	Environmental Resources		
TBD	Cultural Resources		
TBD	Hydrology and Hydraulics		
TBD	Geotechnical Engineering		
TBD	Economics		
TBD	Civil Design		
TBD	Cost Engineering ¹		
TBD	Real Estate/Lands		

¹The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Center of Expertise as required. That PCX will determine if the cost estimate will need to be reviewed by PCX staff.

VALUE ENGINEERING

Name	Discipline	Phone	Email
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VERTICAL TEAM

Name	Discipline	Phone	Email
Paul Bowers	District Support Team Mgr	(415) 503-6556	<u>Paul.W.Bowers@usace.army.mil</u>
Ken Zwickl	Regional Integration Team	202-761-4085	<u>Kenneth.J.Zwickl@usace.army.</u>

CENTERS/DIRECTORATES OF EXPERTISE

Name	Discipline	Phone	Email
Valerie Ringold	Biologist, ECO-PCX	(503) 808-3984	Valerie.A.Ringold@usace.army.mil
Eric Thaut	Program Manager, FRM-PCX	(415) 503-6852	Eric.W.Thaut@usace.army.mil
Jim Neubauer	COST-PCX	(509) 527-7332	James.G.Neubauer@usace.army.mil

¹Primary PCX is ECO-PCX, who will coordinate with FRM-PCX as appropriate.

ATTACHMENT 2: CERTIFICATION OF AGENCY TECHNICAL REVIEW

A summary of all comments and responses is attached. Significant concerns and the explanation of the resolution are as follows:

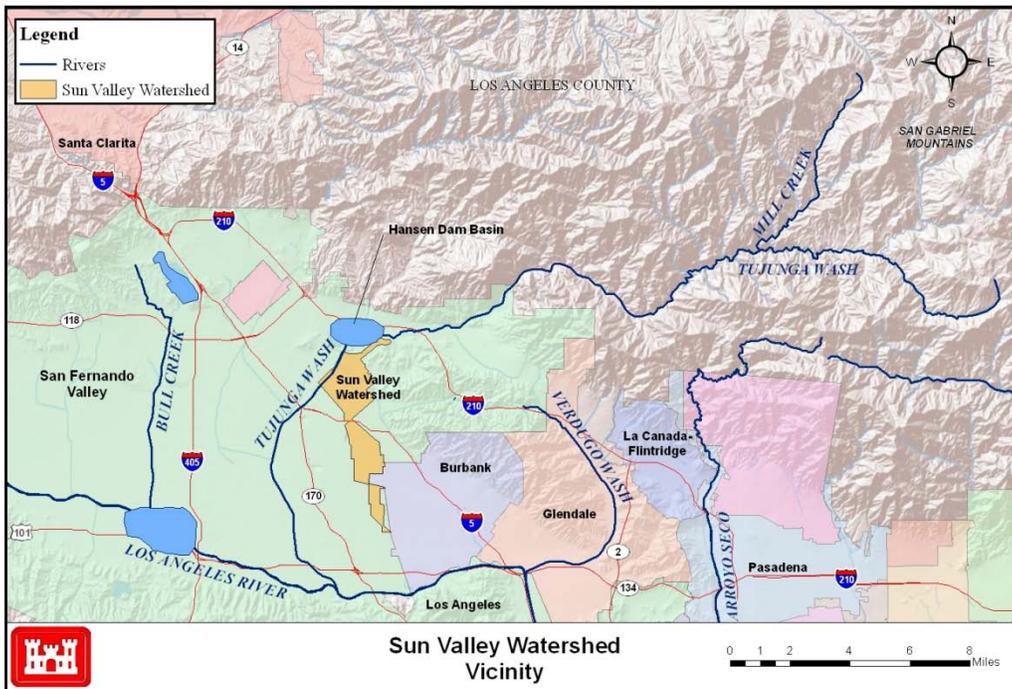
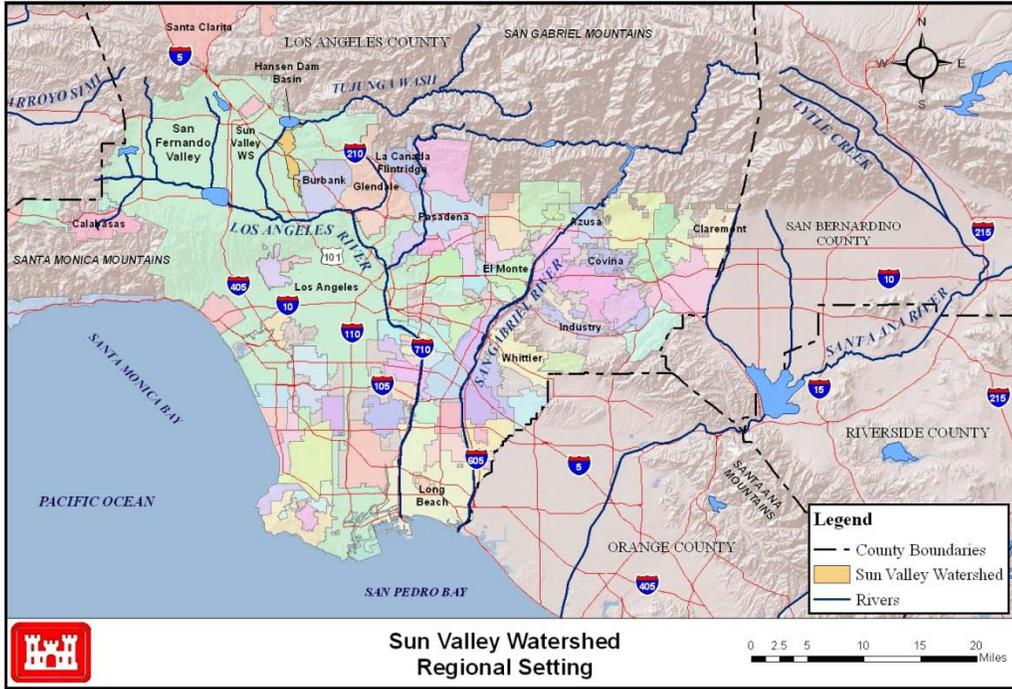
(Describe the major technical concerns, possible impact and resolution)

As noted above, all concerns resulting from the agency technical review of the project have been fully resolved.

Josephine R. Axt, PhD
Chief, Planning Division

Date

ATTACHMENT 3: LOCATION MAPS FOR THE SUN VALLEY WATERSHED STUDY



ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
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
CWRB	Civil Works Review Board	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Ecosystem Restoration	PL	Public Law
FDR	Flood Damage Reduction	QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
FSM	Feasibility Scoping Meeting	RED	Regional Economic Development
GRR	General Reevaluation Report	RTS	Regional Technical Specialist
HQUSACE	Headquarters, U.S. Army Corps of Engineers	USACE	U.S. Army Corps of Engineers
IEPR	Independent External Peer Review	WRDA	Water Resources Development Act
ITR	Independent Technical Review		
LRR	Limited Reevaluation Report		
MSC	Major Subordinate Command		