ENCLOSURE G - PROJECT REVIEW PLAN

PEER REVIEW PLAN
LOS ANGELES RIVER ECOSYSTEM RESTORATION FEASIBILITY STUDY
LOS ANGELES DISTRICT

February 2011

US Army Corps of Engineers
Los Angeles District

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1. PURPOSE AND REQUIREMENTS

A. Purpose. This document outlines the peer review plan for the Los Angeles River Ecosystem Restoration Feasibility Study. This Review Plan (RP) is a component of the Los Angeles River Ecosystem Restoration Feasibility Study Project Management Plan (PMP) as amended October 2009. It will be referenced as an appendix to any future updates to the PMP. This General Investigations (GI) Feasibility Study is being conducted under the authority of the following Congressional Resolution:

Senate Resolution, approved 25 June 1969, reading in part:

> "Resolved by the Committee on Public Works of the United States Senate, that the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby requested 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 Numbered 838, Seventy-sixth Congress, and other pertinent reports, with a view to determining whether any modifications contained herein are advisable at the present time, in the resources in the Los Angeles County Drainage Area."

Engineer Circular (EC) (EC) 1165-2-209 (EC 209) "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). This Circular 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 January 2010.
(2) EC 1105-2-410, Review of Decision Documents, 22 Aug 2008 (supersede 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
(5) ER 11-1-321 Value Engineering Studies 28 Feb 2005.

C. Requirements. 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 appendices as appropriate. Products provided in the past have been reviewed and incorporated already. 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. It is expected that the MSC/District quality management plans address the conduct and documentation of this fundamental level of review. DQC is not covered by this Review Plan.

DQC will include review of contracted products for compliance with Corps standards. Products currently under contract are the, habitat evaluation (Northwest Habitat Institute), plan formulation charettes, planning document management for the F4 document, F4 level design, F4 cost evaluation, and F4 economics (all under TetraTech). These products will be further reviewed as they are incorporated into report documents and appendices during Agency Technical Review and Independent External Peer Review. Quality Control Plans for these contractors are attached (see attachments 2 & 3).

(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) **Value Engineering** (VE). Pursuant to ER 11-1-321Value Engineering Studies, aValue Engineering Study will be included. The ATR budget includes funding in the amount of $20,000 for value engineering studies. Sponsor in kind services for participation are $5,000.

The VE study will be conducted under applicable laws, policy, and ERs (e.g., ER 11-1-321), OMs, and Ekes. Public Law 99-662, Water Resources Development Act (WRDA) of 1986, Section 911, requires that at least one VE study will be performed during the feasibility phase in addition to the longstanding requirement for VE studies during the design phase. The VE study will be performed as part of the plan formulation process, and this will be conducted in that

period bounded by the F3 Conference (Feasibility Scoping Meeting) and the F4 Conference (Alternative Review Conference). It will be scheduled prior to the F4 conference following the CE/ICA..

The PM, Lead Planner, and Value Engineering Officer (VEO) will coordinate the scheduling of the VE study. Use of the F4 ATR Team is the most logical and cost effective way to use conduct this review. The PM, Lead Planner, and VEO are responsible for providing overall support to the VE effort as it relates to the project. Conducted by a multi-disciplinary team and led by the District VE officer, the VE study will use a 5-phase approach:

(1) During the initial information phase the team will gather data through site visits, document review, and interviews of the PDT and others;

(2) Develop a list of potential changes through brainstorming;

(3) Analyze the brainstorm list in order to develop a short list of VE proposals;

(4) Prepare the proposals for presentation; and

(5)Present the VE proposals to the PDT.

The VE process will take approximately 30 days from the initial information phase to final presentation.

A second Value Engineering Study will be required during the Design Phase.

(4) **Independent External Peer Review** (IEPR). This 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.

IEPR is divided into two types, Type I is generally for decision documents and Type II is generally for implementation documents. Type I is conducted on project studies. It is of critical importance for those decision documents and supporting work products where there are public safety concerns, a high level of complexity, novel, or precedent-setting approaches; has significant interagency interest; has significant economic, environmental, and social effects to the nation; or where the Chief of Engineers determines that the project is controversial. However, it is not limited to only those cases and most studies should undergo Type I IEPR. These studies are managed outside USACE, by an Outside Eligible Organization (OEO) using the National Academies of Science (NAS) policy for selecting reviewers (EC1165-2-209). 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.

In accordance with Section 2035 of Water Resources Development Act (WRDA) of 2007, EC 1105-2-410 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. A future Engineering Regulation will provide a more comprehensive Civil Works Review Policy that will address the review process for the entire life cycle of a Civil Works project. That document will address 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.

The criteria for application of Type I 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; or (8) any other circumstance where the Chief of Engineers determines IEPR is warranted. 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 panelsThe 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.

Type II IEPR, Safety Assurance Review (SAR), is conducted on 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. This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities. External panels will conduct reviews of the design and construction activities prior to the 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.

The study phase will not include design or construction. However, since the decision document is the basis of ultimate design, safety assurance will be incorporated into the project as appropriate. Development of the Review Plan for Type II IEPR is a task that will be completed during the design and construction phase of a recommended project if there are Safety Assurance concerns such as a threat to human life.

(5) **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. 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.

(6) **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.

2. PROJECT DESCRIPTION

A. Decision Document. The purpose of the decision document is to present the results of a feasibility study undertaken to support restoration and resolution of water resources problems in the Los Angeles River within the Los Angeles County Drainage Area. The study is cost shared with the non-Federal Sponsor: City of Los Angeles, Bureau of Engineering. This will be and Integrated Feasibility Report (FR)/Environmental Impact Statement (EIS). The document will provide planning, engineering, and implementation details of the recommended restoration plan to allow final design and construction to proceed subsequent to the approval of the plan. Approval of the plan is required by the South Pacific Division, HQUSACE and Congressional authorization of the recommended plan prior to implementation.

B. General Site Description. The Los Angeles River and its tributaries drain an 824-square mile watershed whose headwaters begin in the Santa Susanna Mountains to the west, the San Gabriel Mountains to the north and east, and the Santa Monica Mountains. While forest and open space dominate the upper half of the watershed, the remaining area is highly urbanized in one of the most densely populated areas of the United States with commercial, industrial, and residential land uses. The initial Feasibility Scoping considered the watershed and the entire 51 mile length of the river corridor (Figure I, Attachment I). The second phase will focus on a nine mile reach of the river from Ferraro Fields near Griffith Park just downstream from the Los Angeles River Headworks restoration study area ending at 1st Street in downtown Los Angeles (Figure II, Attachment I). This reach includes 5 miles of soft bottom and has possibilities for connections through tributaries to the mountain areas surrounding the Los Angeles area. This reach is being called the ARBOR Reach (Alternative Reach with Best Opportunity for Restoration) by the Sponsor.

C. Project Scope. The specific purpose of the Los Angeles River Ecosystem Restoration Feasibility Study is to define environmental degradation and related problems, and to investigate the feasibility of implementing alternative solutions that begin to address the problems of loss of riparian habitat, water quality, water conservation, lack of recreation, and open space along the

32-mile river corridor within the City of Los Angeles. Restoration alternatives under evaluation range in cost from $65 - $100 million. The study will be multipurpose in that it will consider water supply and recharge opportunities, recreation alternatives and incidental flood risk management in addition to ecosystem restoration opportunities. Past flood control projects within the Los Angeles County Drainage Area and the channelization of the River itself have resulted in substantial alterations of the hydrological regime. These alterations, combined with the intensive urbanization of the watershed, have resulted in a concrete lined river channel nearly denuded of native vegetation, and subject to high velocity flood flows which inhibit reestablishment of a more natural stream channel Opportunities to construct groundwater recharge features and provide recreation opportunities are also being evaluated. There are no known listed threatened and endangered species within and nearby the study area. Any cultural resource sites within or nearby the study area will be addressed in the EIS.

D. Factors Affecting the Scope and Level of Review: Riparian ecosystems are threatened in the Arid Southwest. Human impacts to the environment are the cause of degradation of the aquatic resources within the Los Angeles River and it associated ecosystem. Wildlife corridors from the mountains surrounding the Los Angeles basin to the tributaries and the ocean have become almost non-existent. Reconnection and restoration of these ecosystems within this corridor will be challenging due to the need to maintain flood risk protection, high level of urbanization, and impacts to existing infrastructure along the corridor.

FR/EIS is not likely to develop or contain influential scientific information and as such 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. 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 IFR/EIS) and major engineering products will be reviewed by an ATR and IEPR team selected by the appropriate Planning Center of Expertise (PCX).

The project risks included the area's susceptibility to drought and impacts on transportation and utility infrastructure located within the river corridor. There is a potential flood risk to portions of the project and any restoration within the river bed may be washed away by large events periodically. Restoration may attract threatened and endangered species and/or generate critical habitat that could warrant special considerations for future operations and maintenance or reservoir regulation. The project will also incur interagency and non-governmental agency interest. The U.S. Fish and Wildlife Service (USFWS), the Regional Water Quality Board, the California Fish and Game Department (CAGF), the California Coastal Conservancy, the Audubon Society, Friends of the LA River are just a few of the agencies already involved with the study. During the feasibility study, coordination with the USFWS will continue in accordance with the Fish and Wildlife Coordination Act. The USFWS will provide USACE with a draft/final Coordination Act Report that includes their views on the tentatively selected plan. All USFWS recommendations will be given full consideration. The USFWS will coordinate their report with the California Coastal Conservancy and the CAFG.

There is a high level of support for restoration of the river locally and nationally. The river is a part of the Pacific Flyway and is could be an important link between the ocean and inland waterways. Improvement of the ecosystem, related recreation opportunities and changes in the aesthetics of the river corridor would be of great economic benefit to the region which serves over five million people. It could restore wildlife corridors and habitat for native species which have

been extirpated from the river system by channelization and the hard concrete nature of the flood risk management structures on the river through the Greater Los Angeles Area.

E. In Kind Contributions. All in kind contributions will be reviewed by the PDT Member and overseen by their supervisor that would be performing the work if done in house. In accordance with the PMP, it is planned that the non-Federal sponsor will contribute in-kind services for the following:

- Project management: Sponsor responsibilities includes preparation of reporting documents, attendance at meetings (PDT, PRB, and Sponsor's internal meetings), briefings, etc., required to keep executive levels informed of study progress and findings. This account includes the time and effort required to assist the Corps in preparation of the post-feasibility phase PMP for advanced engineering and design studies. The Sponsor will be responsible for having their appropriate personnel attend all required meetings listed as milestones in the Project Management Plan schedule, managing the in-kind work to be provided under other accounts, and providing budgetary and schedule input for completion of the activities. This task also includes providing input ot the PED PMP.
- Survey and mapping,
  - Phase I
    - Obtain and provide maps/GIS for the project area based on the data and information provided in coordination with the Corps Project Delivery Team (PDT) and Survey and Mapping Division.
    - Planimetric mapping products provided to the Corps shall show culture, including berms, levees, buildings, bridges, fences, walls, trees, shrubbery, streets, access roads, dirt roads, paths, courses and ways of travel, surface evidence of utilities and all other standard map features.
    - Provide data in the format and standards required by the Corps.
    - Coordinate with Corps PDT for submittal.
  - Phase II
    - Existing mapping will be reviewed to determine if additional aerial photography and mapping are needed for the modeling and environmental efforts.
    - Document Preparation: Prepare scope of work and final government estimate for additional surveys, if necessary.
    - Further support mapping/GIS effort for without project conditions and alternatives development.
- Existing conditions geotechnical studies support with HTW information and database search.
- Participation as members of the habitat evaluation team per the requirements of the applicapable evaluation model.
- Participation in all review processes to include provisions of comments during DQC and seamless peer review in a timely manner and response to comments on ATR, IEPR and Washington Level Review. ATR and IEPR will include

utilization of **DrChecks**[sm]. The Sponsor will make revisions per comments as appropriate.

- Public involvement: Attend, participate and assist in preparation for NEPA required Initial and Final Public Meetings. A minimum of nine additional meetings will be held in support of plan development. The Sponsor will provide a public meeting facility for 50+ persons, a professional facilitator, audio/visual equipment, meeting announcements, advertisements, materials and handouts, presentations, meeting recording and transcription including follow-up mailings to these meetings.
- Solicit public input for incorporation into reports
- The Sponsor will disseminate information to the public, resource agencies, Federal, State and local agencies and update mailing lists..
- The sponsor will develop a public involvement plan.
- In addition to the above Master Plan activities include
    - Organizing the river by zones of interest
    - Develop and maintain a public interactive website
    - Schedule and host outreach sessions
    - Schedule meetings with residents on the river Revitilization Master Plan
    - Prepare printed project updates
    - Catalogue and assemble input received monthly
    - Develop PowerPoint presentation of the master plan report
    - Identify and digitize key images for publicity and publication
    - Present the Master Plan to the public.
    - Develop a project logo.

- Socio-economic studies:
    - Phase I
        - Sponsor to research, develop and describe impact of governance alternatives in terms of relationships to local, regional, state and Federal entities.
    - Phase II
        - Per EC 1105-2-409 Planning in a Collaborative Environment, the Sponsor will provide the regional economic analysis for the purposes of alternative plan formulation and recommended plan selection. The guidance in EC 1105-2-409 requires the Corps determine the plans that are classified as the NED Plan and the NER Plan. The EC 1105-2-409 allows the possibility of recommending alternative plans to the NER or NED if these alternatives have higher net benefits of all four accounts and the ASA Office agrees with our analysis and authorizes a wavier to the NED and NER requirement. In addition, EC 1105-2-409 requires the PDT to work in collaboration with study partners and stakeholders to identify all the impacts and benefits of the proposed alternatives. The description of the regional economic analysis should include the importance of the collaboration

planning between the Corps and the local sponsor and that the regional analysis may identify an alternative recommended plan rather than the NED and NER Plan. Regional Economic Benefit and Other Social Effects analysis will be a Sponsor responsibility using the most recent Corps guidance.

- Cost estimating contributions to cost data will include providing input during alternatives development, assistance to Cost Engineer and Designer in development of quantities and cost estimates for measures for each alternative and response to review comments on costs..
- Real estate tasks will include provision of all rights of entry and Review and comment on summary of real estate requirements, schedules, and baseline cost estimate, project management plan, and any accompanying exhibits. If land access is needed to evaluate potential sites, then preparation of standard ROE will be required. The Corps must obtain ROE's wherever our study may activities take place, such as, HTW investigations, geotechnical, cultural resources, environmental evaluations, survey work, etc. The ROE estimate amount may increase or decrease depending on the actual number of ROE's identified as required. Real Estate Division requires at least 60 days lead time to obtain the ROE's before District elements begin any ground disturbance activities. A list of minimum information requirements will be provided by separate cover upon request.
- Baseline biological studies supported by Sponsor input at a programmatic level from the Revitilization Master Plan effort.and participation in the baseline habitat evaluation.
- Design assistance includes provision of GIS to develop planimetric maps of alternatives locations for management measures and three conceptual cross sectional drawings of the array of final alternatives.
- Participation in plan formulation including:
  - Phase I:
    - Data collection and review:
      - Documentation of existing conditions
      - Documentation of information and data gaps, providing needed data and information
      - Identifying current LA River projects
      - Identify best management practices for watershed restoration and maintenance
      - Summarize data, data gaps and economics of development
    - Identify problems, opportunities, and constraints:
      - Evaluate flood control preservation and enhancement
      - Evaluate existing physical constraints (easements, land ownership, infrastructure, etc.)
      - Identify areas along the River most suitable for incorporating project alternatives
      - Define methods for water quality improvements

- Review and identify land ownership and zoning for proposed project alternatives

- Comprehensive LA River Master Plan Alternatives
  - Develop diagrams and models shown in plan, section, perspective, and 3-D
  - Identify wildlife habitat, water quality improvements for alternatives
  - Support and coordinate with the Corps for hydraulic modeling of alternatives
  - In coordination with the Corps, develop costs and economic model for each alternative
  - Describe design requirements for each alternative

- Concept Urban Designs for Five Nodes
  - Develop alternative urban design concepts for each of the five nodes
  - Describe multi-benefits and include wildlife habitat elements, land uses, urban form, open space elements, development elements, water quality components, infrastructure requirements, zoning requirements, design requirements, social impacts, and community linkages.
  - Support hydraulic models to be done by USACE, City of Los Angeles Bureau of Engineering , or others
  - Develop schematic implementation costs, schedules and economic models of concept node designs and compare\
- Master Plan Report
  - Document data collection, hydrology and hydraulics and flood control elements, wildlife habitat elements, watershed enhancements, water quality and infrastructure needs, economic development elements, document social impacts and community linkages, document an implementation schedule with a priority order for the realization of corridor master plan elements and river related development.
  - Display the comprehensive river corridor master plan design, and the five river node designs
  - Prepare and submit documents to support a master plan EIR with information applicable to a programmatic EIS.

- Phase II:
  - Work with Corps PDT to assess the impacts of each alternative. Assist in presenting and displaying alternatives using the four criteria (completeness, effectiveness, efficiency, and acceptability) and the system of accounts including NER, NED, RED, EQ, and OSE.
  - Assess alternatives for locally preferred plan, if any.
  - Assist with revision of reports and coordination of all technical products.

- Assist in preparation of the final report. Reproduce and distribute final report documentation.

- Hydrologic and hydraulic analyzes such as water quality analysis, and geomorphic analysis.
  - Phase I:
    - Research, collect and provide pertinent water quality information for LA River. Provide complete analysis of LA River water quality for inclusion in Corps feasibility report.
    - In coordination with Corps H&H Engineers, provide Draft Water Quality Documentation for F3. Prepare the water quality documentation to include the results of the baseline analyses for development of project alternatives.
  - Phase II:
    - Support Hydrology & Hydraulics, Economics, and Environmental Efforts. This includes constructed wetland alternatives and other restoration alternatives.
    - Draft Water Quality Documentation for F4 milestone. Prepare the water quality documentation to include the results of the alternative analyses.
    - Conduct Water Quality Modeling. Should water quality modeling become necessary, a Corps approved water quality model will be used to simulate water quality conditions for each selected wetland alternative(s) and to document results for inclusion in the feasibility report.
    - Draft Water Quality Documentation for F4A milestone. Attend F4A milestone meeting. Revise documentation to reflect comments.
    - Refine Recommended Alternative. Update and finalize the water quality analysis for the recommended alternative.
    - Draft Water Quality Documentation for F5 milestone. Amend the water quality documentation to include revisions to the recommended alternative.
    - Address comments and incorporate as necessary into Water Quality documentation.
    - Final Water Quality Documentation. Incorporate comments and prepare final water quality documentation presenting the results for Existing Conditions and for each of the alternatives evaluated in the feasibility phase. The water quality documentation will be included in a Water Quality Appendix to the main report.
    - Coordination. Attend meetings, conferences, and coordinate as required and assist in plan formulation.
    - Technical Reviews. Review comments and attend review conference. Address review comments and prepare final appendix. File study material.

All in-kind work products will undergo review by the PDT for a determination of adequacy; products will ultimately undergo DQC. Hydrology, hydraulic and geotechnical engineering products will undergo IEPR (described later in this Review Plan).

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 table 1. Operations and construction are consulted frequently, although they are not formal team members. PDT members from construction and operations will be added once there are identified and fully described measures, which will be appropriate during the detailed analysis of the final array.

Table 1. Project Delivery Team Members

First	Last	Discipline	Phone	Email
Greg	Dombrosky	Geotech	213-452-3592	Gregory.a.dombrosky@usace.army.mil
Kerry	Casey	Hydrology	213-452-3574	Kerry.t.casey@usace.army.mil
Steve	Dibble	Archaeology	213-425-3849	Steven.d.dibble@usace.army.mil
Darrell	Buxton	Project Manager	213-452-4007	Darrell.w.buxton@usace.army.mil
Kathleen	Bergmann	Plan Formulation	602-640-2003	Kathleen.m.bergamnn@usace.army.mil
Nate	Govan	Cost Estimating	213-452-3739	Nathaniel.govan@usace.army.mil
Erin	Hardison	Environmental Coordinator	213-452-3864	Erin.l.hardison@usace.army.mil
Jeff	Devine	Geotech	213-452-3579	Jeffrey.d.devine@usace.army.mil
Mike	Hallisy	Economics	213-452-3815	Michael.j.hallisy@usace.army.mil
Kerry	Casey	Hydraulics	213-452-3574	Kerry.t.casey@usace.army.mil
Pete	Garcia	Asset Management	213-452-3131	Pete.n.garcia@usace.army.mil
Juan	Urena	Design	213-452-3637	Juan.m.urena@usace.army.mil

A. General. The PCX is responsible for conducting the ATR review and will nominate review team members. An ATR Manager from outside of SPD will be designated to lead the ATR process. The proposed scope of work for the ATR Process is provided in Enclosure C. In general, the ATR Manager is responsible for providing information necessary for setting up the review, communicating with the Team Leader, providing a summary of critical review comments, collecting grammatical and editorial comments from the ATR team (ATRT), ensuring that the ATRT has adequate funding to perform the review, facilitating the resolution of the comments, and certifying that the ATR has been conducted and resolved in accordance with policy.

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. 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. ATRT members from construction and operations will be added once there are identified and fully described measures.

Table 2. ATR Team Members

First	Last	Discipline	Phone	Email
TBD		ATR Manager/plan formulation		@usace.army.mil
TBD		Civil design		@usace.army.mil
TBD		Biology/NEPA		@usace.army.mil
TBD		Hydraulics/hydrology		@usace.army.mil
TBD		Socio-economics		@usace.army.mil
TBD		Cost engineering [1]		@usace.army.mil
TBD		Real estate/Lands		@usace.army.mil
TBD		Cultural resources		@usace.army.mil
TBD		Geotechnical engineering		@usace.army.mil

[1] The cost engineering team member nomination will be coordinated with the NWW Cost Estimating Directory of Expertise as required. The Directory will decide if the cost estimate will need to be reviewed by Directory Staff.

C. 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 EC 1165-2-209. 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, arid regions riverine ecosystems, and riparian environments, ecosystem water quality requirements, and habitat modeling. Team member should also have experience with water quality as it relates to ecosystem needs.

Discipline	Experience Needed for Review
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 river and lake 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 such as geomorphology and groundwater hydrology.
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.

[1]Coordination 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.

D. Timing and Schedule. This feasibility study began in 2006. Past reviews were conducted in accordance with the SPD Quality Management Plan. The Technical Review for the existing conditions/without-project conditions milestone was performed by the Corps San Francisco District in September 2007. The next Technical Review will be performed for the future without-project conditions 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.

E. ATR Schedule and Cost. This feasibility study began in 2006. Past reviews were conducted in accordance with the South Pacific Division (SPD) Quality Management Plan. The Internal Technical Review for the existing conditions/future without-project conditions milestone (FSM) was performed by the USACE San Francisco District SPN in November 2007. 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. ATR cost through the F8 Milestone is estimated at $268,000.The ATR process for this document followed the timeline below.

Review Milestone	ATR Team Involvement	Scheduled/Actual Date
SPD Planning Milestone F1		August 2006
ATR of Draft F3 Report	X	September 2007
SPD Planning Milestone F3/Feasibility Scoping Meeting	X	November 2007
ATR of Draft F4 Report	X	Mar 2010
SPD Planning Milestone F4A/Alternative Formulation Briefing (AFB)	X	TBD – Jun 2010
AFB Policy Memo Issued		TBD
ATR of Draft Report	X	TBD
IEPR		TBD
In Progress Review (IPR)	X	TBD
Public Review of Draft Report		TBD
Civil Works Review Board (CWRB)	X	TBD
State and Agency Review of Draft Report		TBD
ATR of Final Report	X	TBD
Final Report Submission		TBD

4. INDEPENDENT EXTERNAL PEER REVIEW PLAN

A. General. This decision document will present the details of a feasibility study undertaken to solve a water resource problem as described in Section II. A Type I IEPR will be conducted for the following reasons:

(1) Cost – The total project cost is estimated to exceed $45 Million. Estimated implementation cost: $65 - $100 million.
(2) Environmental Impact Statement – The study will produce an integrated document containing an EIS.

Type II IEPR (SAR) will become a part of the Review Plan schedule and documented if the study produces a plan requiring it, and if the plan if authorized and funded by Congress. Type II IEPR will use reviewers will similar areas of expertise and include a construction management expert. Teams are assembled for IEPR by the PCX. IEPR is currently estimated to cost $250,000. IEPR is a project cost, however the IEPR panel review is currently 100% federally funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost shared expenses.

B. Type I IEPR Method. The Type I IEPR will 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 will include Regional Economic Benefits and Other Social Effects of the Plan for benefit analysis. Safety will be considered in maintenance of the current flood protection and avoidance of increased damages. Engineering will 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 will 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. O & M requirements should be understood and reviewed by at least one team member. The entire feasibility report with appendices will 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 is recommended that the panel conduct a site visit if possible.

TYPE I IEPR REVIEW TEAM

First	Last	Discipline	Phone	Email
TBD		Arid region riverine systems ecology		
TBD		Socio economics		
TBD		Groundwater hydrology & recharge		
TBD		Hydrologic & hydraulic modeling		
TBD		Effluent water supply		
TBD		Geotechnical engineering		

The Type I IEPR will be conducted by an Outside Eligible Organization (OEO) and managed by the ECO-PCX. The ECO-PCX will follow the process established in EC 1165-2-209 in managing the Type I 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 will participate in the CWRB.

C. Type I IEPR Schedule and Cost. The Type I IEPR will be conducted after ATR and concurrently with the public and agency review of the draft PIR. The Type I IEPR will be scheduled when the current PMP revisions and cost estimates are complete, estimated date of completion: June 2010. It is anticipated that the remainder of the feasibility will be completed within 24 months; therefore the following schedule is based on that timeframe. Cost for the Type I IEPR is estimated at a maximum of $150,000. Following is the draft schedule for the Type I IEPR:

Task	Schedule
ECO-PCX Prepares Type I IEPR Scope of Work	Fall 2010
Type I IEPR Contract Awarded	Winter 2010
Type I IEPR Review Initiated	Winter 2011
Final Type I IEPR Report Submitted	Spring 2011
PDT Submits Clarifying Questions to Contractor	Spring 2011
Contractor Submits Responses to Clarifying Questions	Spring 2011

D. Products for Review. 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 Type I 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 Type I IEPR final report and process it through the vertical team for discussion at the Civil Works Review Board (CWRB). A Type I 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 Type I IEPR panel and notify the public.

E. Documentation of IEPR. DrChecks review software will be used to document Type I 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. Type I 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 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 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.

The Type I 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.

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. IEPR panels will accomplish a concurrent review that covers the entire decision document and will address all the underlying engineering and economics 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.

The final Review Report will be submitted by the Type I 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. This documentation will consist of a written memorandum explaining agreement or disagreement with the views expressed in the report, the actions undertaken or to be undertaken in response to the report, and the reasons those actions are believed to satisfy the key concerns stated in the report (if applicable). All of the materials related to the review will be included as an appendix to the decision document with a summary of the Review Report and USACE responses will be included as a part of the final decision document and made available to the publicwith the release of the Draft Report. The recommendations and responses will be presented to the CWRB by the District Commander with a Type I IEPR panel or OEO representative participating, preferable in person.

5. MODEL CERTIFICATION

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. Models. Most of the models to be employed in the study have either been developed by or for the USACE. Modeling will be done by USACE or through USACE A/E contracts. The non-Federal Sponsor may provide data as part of in kind services but will not be providing any modeling.

(1) Engineering Computational Models:

- **Micro-Computer Aided Cost Estimating System (MCACES) Second Generation (MII) (Certified)**: 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.

- **HEC-FDA (Certified)**: This model, developed by the Corps' Hydrological Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by EM 1110-2-1419. This program:

    - Provides a repository for both the economic and hydrologic data required for the analysis
    - Provides the tools needed to understand the results
    - Calculates the Expected Annual Damages and the Equivalent Annual Damages Computes the Annual Exceedance Probability and the Conditional Non-Exceedance
    - Probability
    - Implements the risk-based analysis procedures contained in EM 1110-2-1619

- **Hydrologic Engineering Centers River Analysis System (HEC-RAS, Certified)**: 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

- **UTEXAS (Certification Not Required)**: Slope stability model developed by the University of Texas at Autstin used to analyze factors of safety and the critical failure surfaces for levees, earth dams, natural slopes at risk for mass wasting. This is a commercial software, and Corps certification is not required.

- **EQFAULT (Certification Not Required)**: This model is used to determine the estimated peak of acceleration using three-dimensional faults as earthquake sources. This earthquake fault selector software does not require Corps certification.

- **gINT (Certification Not Required)**: gINT is a borehole/boring and well logging software that does not require Corps certification.

- **Groundwater Modeling System (GMS, Certification Not Required)**: This model is a groundwater hydrogeology software used to build and simulate groundwater models. This program is licensed by DoD, therefore Corps certification is not required.

(2)Ecosystem Output Models

- **Habitat Evaluation (Requires Certification)**: Northwest Habitat Institute has developed an ecosystem based framework 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 HUs. Habitat Units (HUs) are the currency often used by the US Army Corp of Engineers (USACOE) to rate and compare the value of one project to another. This is a non-Corps model, which the Los Angeles District is considering applying regionally and will require approval and certification. Certification of this model is being sought in FY 2010 and costs of certification are expected to be shared between the Big Bear Lake Ecosystem Restoration Study, Los Angeles River Headworks Restoration, and Aliso Creek Restoration Study.

(3) Economics Models:

- **IWR-Planning Suite (Certified):** This software assists with the formulation and comparison of alternative plans. While IWR-PLAN was initially developed to assist with environmental restoration and watershed planning studies, the program can be useful in planning studies addressing a wide variety of problems. IWR-PLAN can assist with plan formulation by combining solutions to planning problems and calculating the additive effects of each combination, or "plan." IWR-PLAN can assist with plan comparison by conducting cost effectiveness and incremental cost analyses, identifying the plans which are the best financial investments and displaying the effects of each on a range of decision variables.

C. Model Certification/Approval Schedule and Cost. 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.

The majority of the computational models to be employed in the Los Angeles River Ecosystem 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. The CHAP accounting method is not certified and is estimated to cost $125,000 for certification. Project schedules and resources will be adjusted to address this process for certification and PCX coordination. This is the only model identified for this study potentially subject to the certification requirements.

6. 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 and IEPR 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 Summer 2011. The period will last 30 days. There may be possible coordinating parties' regarding this project but no specific issues have been raised to date.

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.

F. The Review Plan will be posted as required by EC 1165-2-209 by the PCX, MSC and HQ. the MSC website will provide a link from the agenda reviews to study and project documents made public pursuant t0 EC 1165-2-209.

7. PUBLIC PARTICIPATION

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.mi/*.

Significant and relevant public comments from the NEPA workshops and public scoping meeting(s) will be made available to the ATR team to ensure that public comments have been considered in the development of the draft and final FR/EIS. However, the draft FR/EIS will be independently reviewed prior to the conclusion of the public comment period, and, therefore, these comments will not be available to the ATR members. In the event that the final FR/EIS is significantly revised from the draft, another ATR will be scheduled and public comments on the draft will be available to the reviewers.

The vertical team and designated PCX shall determine if Peer Reviewers will be nominated by the public, including scientific or professional societies and the public will have opportunities to review the Integrated Feasibility Report/EIS as required by the NEPA compliance process. If additional project purposes are identified at a later date, the District will initiate coordination with the vertical team and PCX and the decision for EPR will be made at that time.

8. PCX COORDINATION

The lead PCX for this document is the National Ecosystem Planning Center of Expertise (ECO-PCX). This review plan will be submitted through the PDT District Planning Chief to the PCX Director, Rayford Wilbanks, for review and eventual concurrence. The ECO-PCX will coordinate with the Flood Risk Management PCX and the Planning Center of Expertise for Cost Engineering. The ECO-PCX will manage the review of the ATRT and the IEPR. 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 the following points of contact:

Name	Title	Phone Number
Kathleen Bergmann	Study Manager/Planning	(602) 230-6904
Kim Gavigan	Supervisory Civil Engineer	(602) 230-6902
Ed Demesa	Chief of Plan Formulation Branch	(213) 452-3820

VERTICAL TEAM

Name	Discipline	Phone	Email
Paul Bowers		(415) 503-6556	Paul.W.Bowers@usace.army.mil
Ken Zwickl		(202) 716-4085	Kenneth.J.Zwickl@usace.army.mil

CENTERS OF EXPERTISE

Name	Discipline	Phone	Email
Ecosystem Planning Center of Expertise			
Valerie Ringold	Biologist	(503) 808-3984	Valerie.A.Ringold@usace.army.mil
Jodi Staebell	Biologist	(309) 794-5448	Jodi.K.Staebell@usace.army.mil
Flood Risk Management Center of Expertise			
Eric Thaut		(415) 503-6852	Eric.W.Thaut@usace.army.mil
Cost Engineering DX			
	Cost-Engineering	(509) 527-7510	cenww-cost@usace.army.mil

9. 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 MSCs will review the decision on the level of review and any changes made in updates to the project.

_____ _____

Date

_____ _____

Date

_____ _____

Date

_____ _____

Date

ATTACHMENT I: MAPS

FIGURE I: LA RIVER WATERSHED

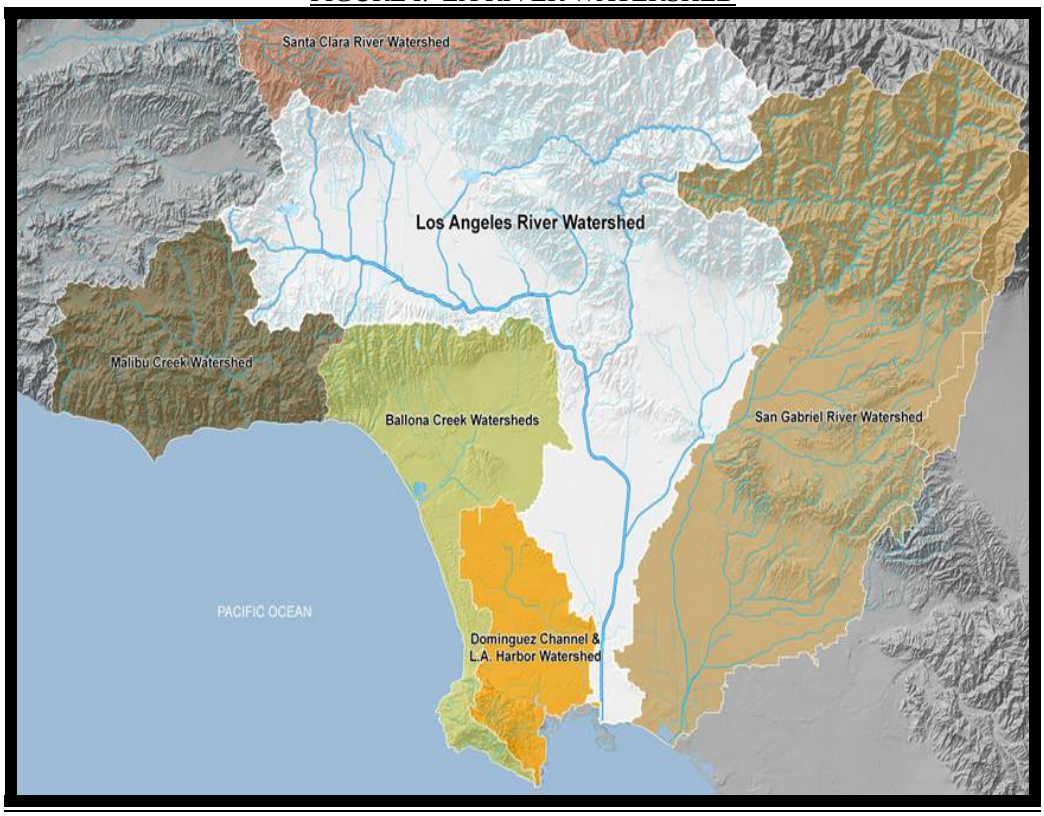
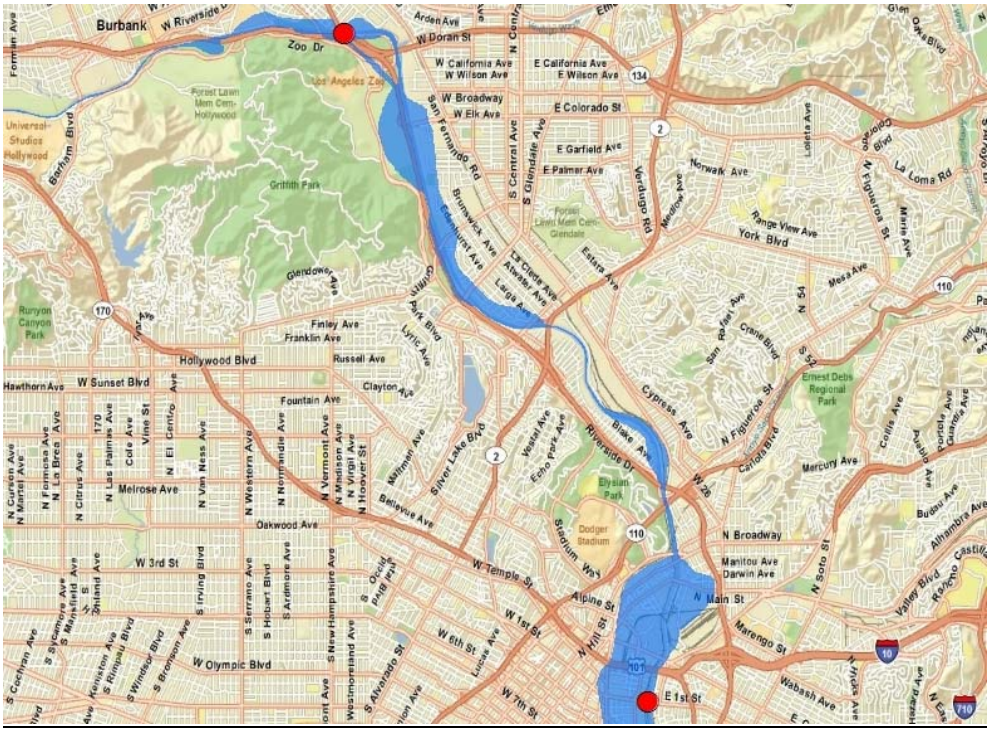


FIGURE II: ARBOR REACH WITH 1991 FLOODPLAINS (red dot to red dot)



ATTACHMENT 2 – TETRA TECH QCP

ATTACHMENT 3 – NORTHWEST HABITAT INSTITUTE QCP

DEPARTMENT OF THE ARMY
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1399

REPLY TO
ATTENTION OF

CESPD-PDS-P

7 MAY 2012

MEMORANDUM FOR Commander, Los Angeles District, ATTN: CESPL-PD-C. Mr. Brain Whelan

Subject: Los Angeles River Ecosystem Restoration Feasibility Study, Review Plan Approval

1. The Los Angeles River Ecosystem Restoration Feasibility Study, California, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-209, Review of Decision Documents, dated 31 Jan 2012. The National Ecosystem Restoration Planning Center of Expertise (FRM-ECO), Mississippi Valley Division, has reviewed the Review Plan (RP) and concurs that the RP satisfies peer review policy requirements outlined in the above referenced EC. The South Pacific Division, Planning and Policy Division and Los Angeles District Support Team have reviewed the Review Plan that has been submitted. The South Pacific Division approves the Los Angeles River Ecosystem Restoration Feasibility Study, California, Review Plan.

2. With MSC approval the Review Plan will be made available for public comment via the internet and the comments received will be incorporated into future revisions of the Review Plans. The Review Plan includes independent external peer review.

3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study development under the Project Management Business Process. Subsequent revisions to the Review Plan after public comment or during project execution will require new written approval from this office.

4. Point of contact for this action is Kurt Keilman, CESPD-PDS-P, 415-503-6596, Kurt.Keilman@usace.army.mil.

Building Strong From New Mexico All The Way To The Pacific!

JOSEPH CALCARA, P.E.
Director
Programs

Encls
1. Review Plan
2. PCX-ECO Memo