REVIEW PLAN
MURRIETA CREEK - (Flood control, Ecosystem Restoration and Recreation)
RIVERSIDE, CALIFORNIA

LOS ANGELES DISTRICT

Prepared by:

U.S. Army Corps of Engineers
Los Angeles District

12 February, 2013

US Army Corps of Engineers ®
Los Angeles District

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REVIEW PLAN

MURRIETA CREEK
(Flood control, Ecosystem Restoration and Recreation)
Riverside County, California

4 February, 2013

1. INTRODUCTION.

a. Purpose. This document outlines the Review Plan for defining the scope and level of quality management activities and peer review for the Murrieta Creek (Flood control, Ecosystem Restoration and Recreation).

b. References.

(1) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
(2) ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
(3) WRDA 2007 H. R. 1495 Public Law 110-114, 8 Nov 2007
(4) EC 1165-2-214, Civil Works Review Policy, 15 Dec 2012
(5) Army Regulation 15–1, Committee Management, 27 November 1992 (Federal Advisory Committee Act Requirements)
(6) National Academy of Sciences, Background Information and Confidential Conflict Of Interest Disclosure, BI/COI FORM 3, May 2003

c. Review Requirements. This review plan was developed in accordance with EC 1165-2-214, which establishes the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision and implementation documents through independent review. This Review Plan describes the scope of review for the implementation documents for the Phase 2 and Phase 3 feature of the project. All appropriate levels of review (DQC, ATR, and IEPR) will be included in this Review Plan and any levels not included will require documentation in the Review Plan of the risk-informed decision not to undertake that level of review. The RP identifies the most important skill sets needed in the reviews and the objective of the review and the specific advice sought, thus setting the appropriate scale and scope of review for the individual project.

d. Review Management Organization (RMO). The RMO is responsible for managing the overall peer review effort described in this review plan. The SPD will coordinate and approve the review plan and procure the services of a suitable ATR lead and support the ATR team when appropriate. The SPL will post the approved review plan on its public website.

2. PROJECT DESCRIPTION

a. Project Authority. The project was authorized for construction in the Energy and Water Development Appropriations Act of 2001 (P.L. 106-377), on 27 October 2000, which stated as follows:

"The Secretary of the Army is directed to use $750,000 of funds appropriated herein to continue preconstruction engineering and design of the Murrieta Creek, California flood protection and environmental restoration project in accordance with Alternative 6 based on the Murrieta Creek feasibility report and environmental impacts statement dated June 2000 at the cost of $90,866,000 with the estimated federal cost of $59,063,000 and an estimated non- federal cost of $31,803,100."

b. Location and Description. Murrieta Creek lies in the southwestern portion of Riverside County and passes through the cities of Murrieta and Temecula and the unincorporated area of Wildomar. Murrieta Creek then combines with Temecula Creek to form the Santa Margarita River, which flows through San Diego County, passing through Camp Pendleton and discharging into the Pacific Ocean. The Murrieta Creek watershed has a drainage area of 222 square miles (570 square Kilometers) and is approximately 13.5 miles (21.7 kilometers) in length.

Murrieta Creek was authorized as a multi-purpose flood control, ecosystem restoration and recreation project. The authorized project's major features include: approximately 7.0 miles of channel improvements; a wildlife corridor along the length of the project; three bridge replacements; and a 270-acre detention basin with 163 acres of wetland restoration and a 49-acre recreation park. The project is designed to provide protection from the 1% exceedance flood event for the cities of Temecula and Murrieta. The project is divided into 4 phases (see Figure 1):

- **Phase 1** consists of channel improvements on both sides extending from the downstream limit of the project up to a point just downstream of First Street Bridge. The portion of Phase 1 that has already been constructed is approximately 1000 feet long. The remaining portions of Phase 1 are about 1000 feet of downstream left side bank protection and about 600 feet of upstream bank protection (both sides). The remaining downstream segment is called **Phase 1A** and, because of a major utility conflict, has not yet been constructed.

- **Phase 2** consists of channel improvements on both sides extending from downstream of the First Street Bridge up to Winchester Road for approximately 2.5 miles and is currently 90% designed. It also includes the replacement of Main Street Bridge, which will be designed and constructed by the City of Temecula.

- **Phase 3** consists of a 270-acre multi-purpose detention basin located upstream of Winchester Road. The basin will include approximately 5,000 acre-feet of flood control storage, 163 acres of environmental restoration and 49 acres of recreation. Design of Phase 3 is still in the preliminary stage.

- **Phase 4** consists of channel widening and improvement immediately upstream of the multi-purpose basin extending from Elm Street up to Tenaja Road for approximately 3.6 miles. It also includes the replacement of Guava Street Bridge and Ivy Street Bridge.

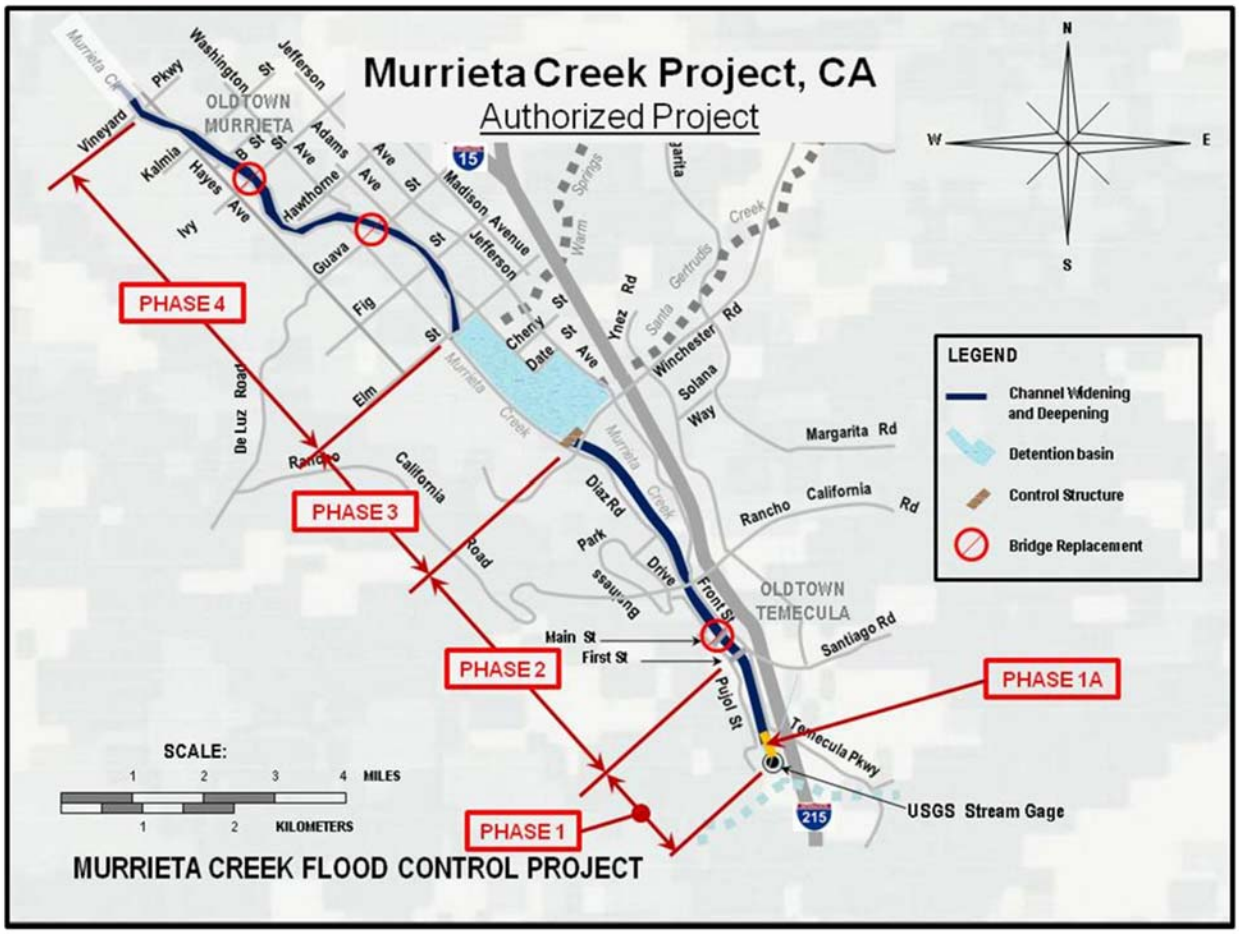

Figure 1 – Murrieta Creek Authorized Project

c. Value Engineering. The project was reviewed at the completion of the Final Feasibility Report. The VE process used to review this project was an organized, multidisciplinary process designed to find alternative ways to achieve the project's necessary and desired functions at the lowest life cycle cost. The VE team identified the important project functions and possible alternative ways to achieve them, then selected the best alternatives and developed them into workable recommendations for project improvement and cost savings.

3. WORK PRODUCTS TO BE REVIEWED

a. Project Features. To date, construction of the majority of the Phase 1 project feature has been completed. As this is an authorized multipurpose flood risk management and ecosystem restoration project that is currently in the implementation phase, this Review Plan is intended to cover the design process and work products for the remaining features described in the attached appendices. Because Congress authorized the Locally Preferred Plan (Alternative 6) as if it were the NED Plan, the Murrieta Creek project has always suffered from a low benefit cost ratio. A Limited Reevaluation Report (LRR) is currently being prepared to address cost increases for the Murrieta Creek project and recommend that the project's authorization be modified in order to complete construction. As a decision document, this LRR will also show that Phase 4 and Phase

1A features are not necessary to achieve the project benefits and recommend to officially defer those features from the project. Based on preliminary analysis, the Los Angeles District believes that this will yield a justified project. As it is a decision document, a separate Review Plan will be prepared for the LRR.

b. Products for Review. The project is in the implementation phase. Designs for the remaining Murrieta Creek features have been, or will be performed by a combination of AE Contractors and in-house SPL staff. The implementation documents include Design Documentation Reports (DDRs), Plans and Specifications (P&S), and Operation & Maintenance (O&M) Manuals. The project features to be reviewed in accordance with this Review Plan are:

- Phase 2
- Phase 3

The Murrieta Creek Flood Control, Environmental Restoration, and Recreation Final Feasibility Report, dated September 2000, has been the basis of all the design work to date. While generally there have been no significant departures from the GDM, separate DDRs for the major features will be prepared to document any changes which have evolved from design refinements, additional studies, and coordination comments. The proposed review level for each of the project features is identified in the feature appendix.

c. Authorization & Reference Materials. Electronic versions of the documents, including the Final Feasibility Report, dated September 2000, completed Design Reports, Value Engineering Studies, and all relevant information available shall be posted in Adobe Acrobat PDF format for both the ATR Reviewers and the IEPR panel to review.

4. SCOPE OF REVIEW

a. 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). SPL will continue to follow the Standard Operating Procedures as outlined in ER 1110-1-12 Quality Management where the DQC will consist of Quality Checks and Reviews, supervisory reviews, Project Delivery Team (PDT) Reviews including input from the Local Sponsor, and Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Reviews. The Independent Review function will be assumed by the ATR and IEPR processes.

b. Agency Technical Review. Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with ER 1110-1-12. In order to insure incorporation of COE national experience for Flood Risk Management Projects (as updated per post-Katrina investigations), and in addition to the DQC, an ATR will also be performed. Moreover, all provisions and checklists for Safety Assurance Review (SAR) contained in EC 1165-2-214 will be incorporated into the charge to the ATR team.

(1) ATR Team responsibilities are as follows:

(a) Reviewers shall review project authorization material and the design documents to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments on the design documents shall be submitted into DrChecks.

(b) Reviewers shall pay particular attention to one's discipline but may also comment on other aspects as appropriate. Reviewers that do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

(c) Grammatical and editorial comments shall not be submitted into DrChecks. Comments should be submitted to the ATR manager via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ATR manager shall provide these comments to the Study Manager.

(d) Review comments shall contain these principal elements:

- a clear statement of the concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;
- the basis for the concern, such as law, policy, or guidance – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
- significance for 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
- specific actions needed to resolve the comment – identify the action(s) that the PDT must take to resolve the concern.

(e) The "Critical" comment flag in DrChecks shall not be used unless the comment is discussed with the ATR manager and/or the Technical Project Leader first.

(2) PDT Team responsibilities are as follows:

(a) The team shall review comments provided by the ATR TEAM in DrChecks and provide responses to each comment using "*Concur*", "*Non-Concur*", or "*For Information Only*". *Concur* responses shall state what action was taken and provide revised text from the report if applicable. *Non-Concur* responses shall state the basis for the disagreement or clarification of the concern and suggest actions to negotiate the closure of the comment.

(b) Team members shall contact the PDT and ATRT managers to discuss any "Non-Concur" responses prior to submission.

c. <u>Independent External Peer Review (Safety Assurance Review)</u>

(1) General. Per EC 1165-2-214, a Type II Safety Assurance Review shall be conducted on design and construction activities when a project:

- addresses hurricane and storm risk management or flood risk management;
- involves existing and potential hazards that pose a significant threat to human life;
- uses innovative materials or techniques;
- lacks redundancy, resilience, or robustness in the design; or has unique construction sequencing or a reduced or overlapping design/construction schedule

This applies to new projects and to the major repair, rehabilitation, replacement, or modification of existing facilities. External panels will review the design and construction activities prior to initiation of physical construction and periodically thereafter until construction activities are completed.

It is proposed that the Murrieta Creek Flood Control features undergo the Safety Assurance Reviews (SAR) for the implementation documents as described in the feature appendices. The objective of this review would be to assess, analyze, interpret, and evaluate design/engineering and construction criteria for the Murrieta Creek Flood Control features during design and construction phases of the project. As defined in the separate Review Plan for the LRR, no IEPR Type I will be required for the decision document.

(2) Type II IEPR (SAR) Methodology

During the Design Phase, panel members shall evaluate/review the design submittals and provide their comments in DrChecks. The design submittals will be at various stages of completion, as defined in the feature appendices. Panel members will address key features and components to validate the state of the art approach being used to design and construct the system.

For the Construction Phase, the IEPR TYPE II (SAR) shall evaluate/review construction activities to assure that the design assumptions made during the design phase remain valid through construction. The Panel shall visit the construction site for a 2-day trip to include the appropriate peer reviewers for the progress of construction to review critical construction operations. The visits should coincide with the mid points of construction and shall be documented with a Field Visit Report. The Field Visit reports will include a check list, photographs and text summarizing observations and information noted during each site visit. The Field Visit Reports shall be included in the Construction Final Report as an appendix. Operations and Maintenance Manuals will also be subjected to IEPR Type II (SAR). The panel member selection will be re-evaluated for the review of the Operations and Maintenance Manual.

The EC 1165-2-214 will be used to manage and develop the charges for the IEPR panels. The results of the ATR will be provided to the IEPR panels. The charges to the IEPR panels will complement the ATR process and not duplicate it. The following excerpt

from Appendix E of the draft EC is included as the basis for this methodology.

"the intent of the reviews is to complement the existing process and to avoid impacts to program schedules and cost. Where appropriate and reasonable, the District can conduct the ATR and SAR concurrent and in concert if it enhances the review process. Every effort should be made to avoid having the SAR duplicate the ATR."

To insure independence and to obtain the required expertise, the IEPR Type II (SAR) panel members will be acquired via the A-E process or with an Army Research Office eligible organization such as Battelle Memorial Institute. Panel members will submit and comply with National Academy of Sciences, Background Information and Confidential Conflict Of Interest Disclosure, BI/COI FORM 3, May 2003.

(3). Type II IEPR (SAR) Questions

The Type II IEPR (SAR) Panels will confirm that ATR has addressed the above questions and will address the following questions as part of their reviews.

- Do the assumptions made during the decision document phase for hazards remain valid through the completion of design as additional knowledge is gained and the state-of-the-art evolves?

- Do the project features adequately address redundancy, robustness, and resiliency with an emphasis on interfaces between structures, materials, members, and project phases?

- Do the assumptions made during design remain valid through construction?

For O&M manuals, do the requirements adequately maintain the conditions assumed during design and validated during construction; and will the project monitoring adequately reveal any deviations from assumptions made for performance? The Panel Member assigned this review will be determined near the mid-point of the construction period.

5. REVIEW TEAM

a. Agency Technical Review. The ATR team will be established per ER 1110-1-12 and EC 1165-2-214. The Corps will manage the ATR internally and it will be conducted by individuals and organizations that are separate and independent from those that accomplished the work, in accordance with policy. As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; appointed SME or senior level experts from the responsible district; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team Leader will be a Corps of Engineers employee outside the South Pacific Division. The required disciplines are described in the feature appendices.

b. IEPR Panels and Members To insure independence and to obtain the required expertise, the IEPR panels will be made up of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. Panel members will be acquired via the A-E process or with an Army Research Office eligible organization. Panel members will submit and comply with National Academy of Sciences, Background Information and Confidential Conflict Of Interest Disclosure, BI/COI FORM 3, May 2003

6. PUBLIC COMMENT To ensure that the peer review approach is responsive to the wide array of stakeholders and customers, both within and outside the Federal Government, this Review Plan will be published on the district's public internet site following approval by SPD at http://www.spl.usace.army.mil/Missions/CivilWorks/ReviewPlans.aspx. This is not a formal comment period and there is no set timeframe for the opportunity for public comment. If and when comments are received, the PDT will consider them and decide if revisions to the review plan are necessary. The public is invited to review and submit comments on the plan as described on the web site.

7. REVIEW SCHEDULE

a. Schedule. Based on SPL's commitment to executing the Murrieta Creek schedule for design and construction, milestones for the DQC, ATR and IEPR processes have been determined and are documented in each of the feature appendices. For the Phase 3 project, the schedule will be determined after approval of the LLR.

b. ATR Funding. The Los Angeles District will provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided by way of a government order. The Project Manager will work with the ATR team leader to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for these reviews is in the range of $70,000 to $100,000 and covers the reviews of the implementation documents only. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

The ATR team leader shall provide organization codes for each team member and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes. Reviewers shall monitor individual labor code balances and alert the ATR team leader to any possible funding shortages.

c. IEPR Funding . The scope of work for the IEPR, and the Independent Government Estimate, will be developed by the PDT, with support and review by the Risk Management Center (RMC). It is anticipated that the total cost for the IEPRs identified within this plan will be approximately $500,000, all a project cost that is 100% federally funded. The Los Angeles District will provide the funding to the IEPR panel and the RMC. The number of panel members proposed for the IEPR will be listed in each of the feature appendices. It is not anticipated that the public, including scientific or professional societies, will ask to nominate potential external peer reviewers.

8. DOCUMENTATION OF REVIEW

a. ATR Communication and Documentation. The communication and documentation plan for the ATR is as follows:

(1) The team will use Document Review and Checking System (DrChecks) to document the ATR process. The Technical Project Leader will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATR TEAM members. An electronic version of the documents, appendices, and any significant and relevant public comments shall be made available on an ftp site at least one business day prior to the start of the comment period.

(2) The PDT shall send the ATR team leader one hard copy of the documents for each ATR team member such that the copies are received at least one business day prior to the start of the comment period.

(3) The PDT shall host an ATR kick-off meeting virtually to orient the ATR team during the first week of the comment period. If funds are not available for an on-site meeting, the PDT shall provide a presentation about the project, including photos of the site, for the team.

(4) The Technical Project Leader shall inform the ATR team leader when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(5) A revised electronic version of the documents with comments incorporated, made available on an ftp site, will be for use during back checking of the comments.

(6) PDT members shall contact ATR team members or leader as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(7) Reviewers will be encouraged to contact PDT members directly via email or phone to clarify any confusion. DrChecks shall not be used to post questions needed for clarification.

b. ATR Dispute Resolution.

(1) Reviewers shall back check PDT responses to the review comments and either close the comment or attempt to resolve any disagreements. Conference calls shall be used to resolve any conflicting comments and responses.

(2) Reviewers may "agree to disagree" with any comment response and close the comment with a detailed explanation. If reviewer and responder cannot resolve a

comment, it should be brought to the attention of the ATR team leader. If the ATR team leader is unable the resolve the issue, the ATR team leader will follow steps as described below.

(3) When resolution is not readily achievable, the RMO should engage the PCX or MSC subject matter experts (SMEs) to help facilitate resolution, and they in turn may choose to engage HQUSACE SMEs. If a specific concern still remains unresolved, the district is to pursue resolution through the policy issue resolution processes described in Appendix H, ER 1105-2-100; ER 1110-1-12, or other applicable guidance. HQUSACE may choose to defer the issue to the policy compliance review process or address it directly. The ATR shall be certified in accordance with ER 1110-1-12 when all ATR concerns are documented as either resolved or deferred by HQUSACE to a separate process.

(4) The Agency Technical Review team will identify significant issues that they believe are not satisfactorily resolved and will note these concerns in the Technical Review Certification documentation. The ATR team will prepare a Review Report which includes a summary of each unresolved issue. Review Reports will be considered an integral part of the ATR documentation.

(5) Significant unresolved ATR concerns that are documented by the RMO will be forwarded through the MSC to the HQUSACE RIT, including basic research of USACE guidance and an expression of desired outcome, for further resolution in accordance with the policy issue resolution process described in either ER 1110-2-12 or Appendix H, ER 1105-2-100, as appropriate. HQUSACE may choose to defer the issue to the policy compliance review process or address it directly. At this point the ATR documentation for the concern may be closed with a notation that the concern has been elevated for resolution by HQUSACE. Subsequent submittals of reports for MSC and/or HQUSACE review and approval shall include documentation of the issue resolution process.

c. ATR Certification. To fully document the ATR process, a statement of technical review will be prepared for each product reviewed. The ATR documentation will include the text of each ATR comment, the PDT response, a brief summary of the pertinent points in the ensuing discussion, including any vertical coordination, and the agreed upon resolution. Certification by the ATR team leader and the Technical Project Leader will occur once issues raised by the reviewers have been addressed to the review team's satisfaction. Indication of this concurrence will be documented by the signing of a certification statement (Appendix F).

d. IEPR Communication and Documentation. The communication and documentation plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The Technical Project Leader will facilitate the creation of a project portfolio in the system to allow access by all PDT and the outside eligible organization (OEO). An electronic version of the documents, appendices, and any significant and relevant public comments will be made available on an ftp site at least one business day prior to the start of the comment period.

The OEO will compile the comments of the IEPR panelists, enter them into DrChecks, and forwards the comments to the District. The District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The District will enter the proposed response to DrChecks, and then return the proposed response to the panel. The panel will reply to the proposed response through the OEO, again using DrChecks. This final panel reply may or may not concur with the District's proposed response and the panels final response will indicate concurrence or briefly explain what issue is blocking concurrence. There will be no final closeout iteration. The District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the District's proposed response, the panels reply to the District's proposed response, and the final agency response will all be tracked and archived in DrChecks for the administrative record. However, only the initial panel comments and the final agency responses will be posted. This process will continue to be refined as experience shows need for changes.

(2) The PDT shall send each IEPR panel member one hard copy (with color pages as applicable) of the document and appendices such that the copies are received at least one business day prior to the start of the comment period.

(3) The Technical Project Leader shall inform the IEPR panel when all responses have been entered into DrChecks and conduct a briefing to summarize comment responses to highlight any areas of disagreement.

(4) A revised electronic version of the documents with comments incorporated will be made available on an ftp site for use during back checking of the comments.

(5) PDT members shall contact IEPR panel members as appropriate to seek clarification of a comment's intent or provide clarification of information in the report. Discussions shall occur outside of DrChecks but a summary of discussions may be provided in the system.

(6) The IEPR panel shall produce final Review Reports, including documentation of the peer review of the Project Design and field visit reports on construction activities.

9. POINTS OF CONTACT. Questions about this Review Plan may be directed to the Los Angeles District Project Delivery Team, Design Lead Supervisor, Mr. Stephen H. Vaughn at (213) 452-3654, or to the Project Manager for the Murrieta Creek project, Mr. Paul Underwood at (213) 452-4004. The Chief, Engineering Division is Mr. Richard J. Leifield at (213) 452-3629. Inquiries to the MSC should be directed to Mr. Paul Bowers at (415) 503-6556.

10. REVIEW PLAN APPROVAL.

In summary, the Los Angeles District proposes to fully comply with all existing guidance, to add ATR and conduct Type II IEPR in accordance with EC 1165-2-214. Approval of this plan as outlined above will help facilitate the District's completion of the Murrieta Creek project within the authorized schedule.

In order to ensure the Review Plan is in compliance with the principles of EC 1165-2-214, the Review Plan must be reviewed and approved by the applicable MSC, in this case the Commander, South Pacific Division (SPD).

The Review Management Office for these features of the Murrieta Creek Project is the Risk Management Center (RMC). Since the RMC is currently in the process of staffing up, the Los Angeles District and the South Pacific Division will work to supplement the RMC's efforts, as requested, by locating ATR team members from other Corps Districts and A/Es to provide the review services. The SPD should coordinate the review and approval of this review plan with the RMC.

Once the Review Plan is approved, the District will post it to its district public website and notify SPD. If necessary, any changes to the review plan will be approved by following the process used for initially approving the plan.

The Los Angeles District requests that the South Pacific Division endorse the above recommendations and approve this Review Plan as described in Appendix B of EC 1165-2-609.

* * *

APPENDIX A

PHASE 2
(Downstream of the First Street Bridge to upstream of Winchester Road)

A-1. FEATURE DESCRIPTION

Phase 2 of the Project extends from Murrieta Creek's confluence with Santa Gertrudis Creek (just upstream of Winchester Road) downstream to just downstream of 1st Street and includes the Old Town Temecula portion of Murrieta Creek. Phase 2 encompasses all of Reach 2 (Santa Gertrudis Creek confluence to 300 feet upstream of Rancho California Road), and the section of Reach 1 not included in the modified Phase I segment (from 300 feet upstream of Rancho California Road to approximately 800 feet downstream of the 1st Street Bridge). This is the narrowest portion of the Project area. This segment of Murrieta Creek overflowed its banks in 1993 resulting in major flood damage in Old Town Temecula. Construction of Phase 2 will include deepening the channel by five feet and widening the channel by 100 to 200 feet throughout. A 200-foot wide corridor will be maintained for storm flow within the channel, and an 50- to 170-foot wide buffer on the east side of the channel will not be maintained flood control, but will be revegetated to support natural habitat values.

The channel modifications are designed to convey a design discharge of 22,300 ft^3/sec. Design and sedimentation studies to refine the size of the upstream detention basin and the size of the channel downstream are pending and may result in a reduced design discharge to accommodate expected sediment deposition. The channel modification for Construction Phase 2 extends from Station 189+00 to Station 59+00. Throughout this reach, the channel will be widened by excavation to provide a trapezoidal cross section. The excavation will provide a design invert slope of 0.002 from Station 189+00 to 83+00, with a drop structure from Station 113+50 to 113+00 that will lower the invert 2.9 feet. The invert slope then flattens to 0.0015 from Station 83+00 to 59+00. The design bottom width ranges from 140 ft to 380 feet throughout Phase 2. Downstream of the 1st Street Bridge, beginning at Station 61+00, the channel bottom widens to tie in with the width of the constructed Phase 1.

A larger vegetated corridor was allowable in Phase 2. The unmaintained vegetation is allowed to grow across approximately 20 ft to 100 ft of the channel bottom extending outward from the East toe of the side slope for the entire reach of construction. The vegetation in the remaining invert will be subject to annual mowing and periodic sediment removal. Maintenance of the side slopes of the channel is not scheduled but will be performed as necessary and in the event of an emergency.

A-2. WORK PRODUCTS TO BE REVIEWED

a. Products for Review. Designs for the Phase 2 of the Murrieta Creek were initiated back in 2008 by SPL with in-house staff. District Quality Control activities for the Phase 2 Murrieta Creek features have been on-going. Because the design is in the final stages, this Review Plan

proposes that one review is required for the design products requiring an ATR. Due to time constraints, the IEPR team should be engaged for the construction phase. All review teams will review the following:

- Phase 2 Murrieta Creek Plans & Specifications
- Phase 2 Murrieta Creek Design Documentation Report

b. Reference Materials. An electronic version of the following documents will be provided:

- Murrieta Creek Flood Control, Environmental Restoration, and Recreation Final Feasibility Report, dated September 2000

A-3. SCOPE OF REVIEW

a. District Quality Control. District Quality Control activities for the Phase 2 Murrieta Creek plans and specifications will consist of quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, Local Sponsor review, and a BCOES Review as required by ER 1110-1-12.

b. Agency Technical Review. Agency Technical Review (ATR) will examine the Phase 2 Murrieta Creek plans and specifications, focusing on compliance with established policy, principles and procedures using clearly justified and valid assumptions. It includes the verification of assumptions, methods, procedures, and material used in analyses based on the level of complexity of the analysis. The ATR should verify the alternatives evaluated, appropriateness of data used and level of data obtained, functionality of the project and verify the reasonableness of the results including whether the project meets the customer's needs consistent with law and existing policy and engineering and scientific principles. The ATR should also determine if the proposed alternative is feasible and will be safe, functional, constructible, and environmentally sustainable within the Federal interest, and whether the concepts and project costs are valid. The final review will confirm whether all relevant engineering and scientific disciplines have been effectively integrated and that the content is sufficiently complete for the current phase of the project.

c. Independent External Peer Review (Safety Assurance Review). The Phase 2 Murrieta Creek shall undergo an IEPR Type II (SAR) for the Construction Phase. The panel will validate the state of the art approach being used to design and construct the system. In addition, the panel should focus on any unique features and changes from the assumptions made and conditions that were presented in the 2000 Murrieta Creek Final Feasibility Report. During the construction phase, the panel should verify assumptions made during the design are still valid through construction; and for the O&M manual, whether the requirements specified maintain the conditions anticipated for the project to function properly in the future.

During the Construction Phase, a site visit shall be scheduled for the reviewers to evaluate/review construction activities. The panel's visit to the construction site will be a 2-day trip to include the appropriate peer reviewers for the progress of construction to review critical construction operations. The visit should coincide with the midpoint of construction and shall

terminate with an exit briefing, which will be scheduled by the Project Manager and will be conducted at the Resident Office. Each site visit shall be documented with a Field Visit Report. The Field Visit reports will include a check list, photographs and text summarizing observations and information noted during each site visit. The Field Visit Reports shall be included in the Construction Final Report as an appendix.

The Operations and Maintenance Manual will also be subjected to IEPR Type II (SAR). The panel member selection will be re-evaluated for the review of the Operations and Maintenance Manual.

A-4. REVIEW SCHEDULE

a. ATR Schedule. The ATR process for the Phase 2 Murrieta Creek will follow the following timeline. Actual dates may have to be adjusted as the period draws closer.

Review Plan Approved by RMO (SPD)	7Nov12

Submittal of Final DDR	15Nov12
District Quality Control Review of DDR	5Nov12 – 14Nov12
ATR Review	26Nov12 – 6Dec12
ATR Complete Back Checking	31Dec12 – 14Feb13
ATR Certification	28Feb13

Submittal of Final P&S Package	15Nov12
District Quality Control & BCOES Review	5Nov12 – 14Nov12
ATR Review	26Nov12 – 6Dec12
ATR Complete Back Checking	31Dec12 – 14Feb13
ATR Certification	28Feb13
BCOES Certification Complete	28Feb13
Advertise Construction Contract	12Mar13
Open Bids	27Apr13
Construction Contract Award	10May13

b. ATR Funding. The current cost estimate for the review of the Phase 2 Murrieta Creek design materials is in the range of $35,000 to $50,000.

c. IEPR Schedule. The IEPR Type II (SAR) process will follow the following timeline. Actual dates may have to be adjusted once the period draws closer.

Submittal of Design Package	Apr13
Type II IEPR Review	Apr13-May13
Construction Contract Award	10May13
Midpoint Construction	Oct13
Construction Completion	Jun14
IEPR Final Reports	Jul14

d. IEPR Type II (SAR) Funding. The RMC will identify someone independent from the PDT to scope the IEPR Type II (SAR) and develop an Independent Government Estimate. The Los Angeles District will provide funding to the IEPR panel and the RMC.

A-5. REVIEW TEAM

a. District Quality Control. Reference is made to the Murrieta Creek QMP that identifies the activities, roles and responsibilities for the DQC of the Phase 2 Murrieta Creek.

b. Agency Technical Review Team Qualifications. The ATR team for the Phase 2 Murrieta Creek should be comprised of the following disciplines:

Hydrology and Hydraulics. The team member should be a registered professional with 10 or more years experience in conducting and evaluating hydrologic and hydraulic analyses for flood risk management projects. The team member should be experienced performing hydrologic and hydraulic engineering studies and analysis of surface water, groundwater, meteorology, discharge frequency, sediment and debris production, water quality, and flood hydraulic studies of overflow, hydraulic design, and sediment transport. Experience with all aspects of hydraulic engineering including: hydraulic analyses and designs for spillways, outlets, stilling basins, approach channels, and diversion structures; water velocities, pressures, directions, trajectories, and erosion potential; and hydraulic modeling is desired. Active participation in related professional societies is encouraged.

Geotechnical Engineering. The team member should have 10 or more years experience in geotechnical engineering. Team member must demonstrate significant experience in the geotechnical aspects of analysis, design and construction of flood risk management structures including channels, floodwalls, and soil cement structures. Specific required design experience includes assessing soil properties, slope stability, seepage analysis, filter design, slope protection design, preparation of plans/specifications and instructions to field personnel. Required construction experience includes diversion and control of water, foundation treatment and improvement, compaction and moisture conditioning methods, evaluating QA/QC and record test data, and evaluating earthwork construction and differing site condition claims.

Environmental Specialist. The team member should have a solid background in the habitat types to be found in the arid southwestern United States and understand the factors that influence the reestablishment of native species of plants and animals. The team member also should have 10 or more years experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact statements for complex civil/site work projects.

Structural Engineering. The team member should be a registered professional with 10 or more years experience in structural engineering. Experience needs to include design and evaluations of large complex hydraulic structures associated with flood risk management projects, including gravity walls, culverts, and shoring. Experience with state road and bridge standards as well as practical knowledge of construction methods and techniques as it relates to structural portions of projects is encouraged.

Civil Engineering. The team member should have 10 or more years experience with large scale civil/site work projects to include levee systems, floodwalls, roads and highways,

relocations, paving and drainage, and be knowledgeable in the art of science Ecosystem Restoration Projects such as design of channels, detention ponds, and site layout.

Landscape Architect. The team member should have 10 or more years experience in the habit types to be found in the southwestern United States and understand the factors that influence the reestablishment of native species of plants.

ATR Team Leader. The ATR Team Leader should have 10 or more years experience with Civil Works Projects, preferably on environmental restoration projects, also capable of performing ATR Team Lead duties on complex civil works projects.

c. IEPR Type II (SAR) Panel Qualifications. The IEPR panel should be comprised of members with the following expertise:

Hydrology and Hydraulics (H&H) Panel Member. The H&H Panel Member should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with 15 or more years experience in conducting and evaluating hydrologic and hydraulic analyses for flood risk management projects. The Panel Member should be experienced performing hydrologic and hydraulic engineering studies and analysis of surface water, groundwater, meteorology, discharge frequency, sediment and debris production, water quality, and flood hydraulic studies of overflow, hydraulic design, and sediment transport. Experience with all aspects of hydraulic engineering including: hydraulic analyses and designs for spillways, outlets, stilling basins, approach channels, and diversion structures; water velocities, pressures, directions, trajectories, and erosion potential; and hydraulic modeling is desired. Active participation in related professional societies is encouraged.

Geotechnical Engineering Panel Member. The Geotechnical Engineering Panel Member should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with 20 years or more experience in the design and construction of geotechnical features for flood risk management infrastructure. The panel member should be a recognized expert in the geotechnical analysis and design of earthen embankments and floodwalls, have experience in preparation of contract specifications, and demonstrate significant experience in the construction and safety evaluation of flood control features.

Structural Engineering Panel Member. Structural Engineer should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with extensive experience in design of hydraulic structures for large and complex civil works projects including floodwalls and drainage features, etc.. Designs may involve unusual stresses because of size and shape, loading conditions resulting from unbalanced earth pressures, settlement and creeping of earth fills.

Civil Engineering Panel Member. The Civil Engineer should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with extensive experience in design of major flood control structures including earthen dams, levees, guide dikes and channels. Experience utilizing riprap protection, soil cement or concrete in design of levees, guide dikes and channels for large civil works projects is required. Practical knowledge

of construction methods and techniques as it relates to these types of projects including earthwork, erosion control, hydraulic structures, interior drainage, site grading, roadwork, and concrete work is encouraged.

d. Review Team Roster. The Review Team Roster for the Phase 2 Murrieta Creek will include the following representatives:

Discipline/Role	Name	Agency/Office	Phone No.
SPL District PCT Leads include:			
Project Team Leader	Jose Rocha	CESPL-ED-DB	(213) 452-3661
SPL Project Manager	Paul Underwood	CESPL-PM-I	(213) 452-4004
Structural Engineer	Nirav Patel	CESPL-ED-DS	(213) 452-3746
Geotechnical Engineer	Doug Chitwood	CESPL-ED-GD	(213) 452-3586
Materials Engineer	Francis Omoregie	CESPL-ED-GI	(213) 452-3599
Geologist	Mark Mclarty	CESPL-ED-GG	(213) 452-3577
Hydraulic Engineer	Mylene Perry	CESPL-ED-HH	(213) 452-3557
Cost Engineer	Alejandro Hernandez	CESPL-ED-DS	(213) 452-3737
Landscape Architect	Sandra Willis	CESPL-ED-DA	(213) 452-3638
Environmental	Erin Jones	CESPL-PD-RL	(213) 452-3863
ATR Team includes:			
ATR Team Leader	Derek McCurdy	CENWP-EC-DC	(503) 808-4918
Civil Engineer	James Lee	CESPK-ED-DB	(916) 557-7564
Geotechnical Engineer	William Shuter	CESPA-EC-EG	(505) 342-3317
Structural Engineer	Michael Ma	CESPK-ED-DR	(916) 557-7298
Hydraulic Engineer	Eugene Maak	CESPK-ED-HA	(916) 557-7020
Structural Engineer	Vincent Andrada	CESPK-ED-DS	(916) 557-6784
Environmental Specialist	Tanis Toland	CESPK-PD-R	(916) 557-6717
Civil Engineer	Debbie Smith	CESPA-EC-EC	(505) 342-3406
Landscape Architect	Matthew Davis	CESPK-PD	(916) 557-6708
IEPR Panel includes:			
Hydraulic Engineer			
Geotechnical Engineer			
Structural Engineer			
Civil Engineer			

* * *

APPENDIX B

PHASE 3
(Reach 3 – From Upstream of Winchester Road to Elm Street)

B-1. FEATURE DESCRIPTION

Reach 3 of the Murrieta Creek project extends from the confluences of Santa Gertrudis and Murrieta Creeks, upstream to past the confluences of Warm Springs and Murrieta Creeks. The NER plan consists of the excavation of approximately 2,120,000 cubic yards of material from this area of land, forming a multipurpose basin. This would create a 163 acre vegetated area in which a natural channel would be recreated, to include low flow channel, bars and berms, backwater areas, terraces, and low-sloped banks. Revegetation efforts and exotic species control would also be undertaken to provide a high-value riparian, aquatic, and upland environment along this reach of Murrieta Creek. This alternative would provide a very high value ecosystem restoration in an area that currently suffers from a high degree of environmental degradation.

The flood control features of this basin use some of the excavated material from the basin to construct levees around the perimeter, and include the construction of an outlet (flow control structure), the construction of an emergency spillway, and installation of an operations and maintenance road around the perimeter of this basin.

In addition, there will be 55.03 acres of recreational parkland bounded to the west by the 10.16 acres of riparian/wetland and then surrounded by 6.28 acres of perimeter slopes. The recreation program within the basin includes sports fields, playgrounds, walkways, bicycle trails, parking, restrooms, lighting, picnic areas, seating, and drinking fountains. The Site Development Plan was developed with the goal of providing convenient access to the recreational facilities and distributing the recreational facilities in a manner to ensure usability during the broadest weather conditions, while maximizing the flood storage capacity of the basin.

The 10.16-acre riparian/wetland area is intended to act a treatment area for on-site runoff (dry weather, irrigation returns, storm water) before it is discharged to Murrieta Creek. Just east of the riparian/wetland area is a 6.30-acre active recreational area. Another 7.75-acre active recreation area is located east of the riparian/wetland area along the southern edge of the basin. Landscape improvements within the recreation basin are intended to use predominantly native plant species, with ornamentals trees being used along the roadways and parking lots and commercial turf grasses within the active recreation areas.

B-2. WORK PRODUCTS TO BE REVIEWED

a. Project Features. Designs for the Phase 3 portion of the Murrieta Creek were initiated back in 2008 by SPL with in-house staff. In addition, a contract was awarded to Aspen Environmental Group, to prepare the Revegetation Plan for the Murrieta Creek Flood Control/Environmental Restoration and Recreation Project.

b. Products for Review. District Quality Control activities for the Phase 3 Murrieta Creek features have been on-going. Because the design is in the final stages, this Review Plan proposes that only one additional review is required for the design products utilizing both the ATR and the IEPR. All three review teams will review the following:

- Phase 3 Murrieta Creek Design Documentation Report
- Phase 3 Murrieta Creek Plans & Specifications

c. Reference Materials. An electronic version of the following documents will be provided:

- Murrieta Creek Flood Control, Environmental Restoration, and Recreation Final Feasibility Report, dated September 2000
- Murrieta Creek Flood Control/Environmental Restoration and Recreation Project Revegetation Plan

B-3. SCOPE OF REVIEW

a. District Quality Control. District Quality Control activities for the Phase 3 Murrieta Creek plans and specifications will consist of quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, Local Sponsor review, and a BCOES Review as required by the ER 1110-1-12.

b. Agency Technical Review. Agency Technical Review (ATR) will examine the Phase 3 Murrieta Creek plans and specifications, focusing on compliance with established policy, principles and procedures using clearly justified and valid assumptions. It includes the verification of assumptions, methods, procedures, and material used in analyses based on the level of complexity of the analysis. The ATR should verify the alternatives evaluated, appropriateness of data used and level of data obtained, functionality of the project and verify the reasonableness of the results including whether the project meets the customer's needs consistent with law and existing policy and engineering and scientific principles. The ATR should also determine if the proposed alternative is feasible and will be safe, functional, constructible, and environmentally sustainable within the Federal interest, and whether the concepts and project costs are valid. The final review will confirm whether all relevant engineering and scientific disciplines have been effectively integrated and that the content is sufficiently complete for the current phase of the project.

c. Independent External Peer Review Type II (Safety Assurance Review). The Phase 3 Murrieta Creek shall undergo an IEPR for the Design and Construction Phases. During the Design Phase, key features and components to be evaluated/reviewed are the channel slopes, utility protections, RCB structural integrity, and road reconstruction. The panel will validate the state of the art approach being used to design and construct the system. In addition, the panel should focus on any unique features and changes from the assumptions made and conditions that were presented in the 2000 Murrieta Creek Final Feasibility Report. During the construction phase, the panel should verify assumptions made during the design are still valid through construction; and for

the O&M manual, whether the requirements specified maintain the conditions anticipated for the project to function properly in the future.

During the Construction Phase, a site visit shall be scheduled for the reviewers to evaluate/review construction activities. The panel's visit to the construction site will be a 2-day trip to include the appropriate peer reviewers for the progress of construction to review critical construction operations. The visit should coincide with the midpoint of construction and shall terminate with an exit briefing, which will be scheduled by the Project Manager and will be conducted at the Resident Office. Each site visit shall be documented with a Field Visit Report. The Field Visit reports will include a check list, photographs and text summarizing observations and information noted during each site visit. The Field Visit Reports shall be included in the Construction Final Report as an appendix.

B-4. REVIEW SCHEDULE

a. ATR Schedule. The ATR process for the Phase 3 Murrieta Creek will follow the following timeline. Actual dates may have to be adjusted once the period draws closer.

Review Plan Approved by RMO (SPD)	7Nov12
Submittal of Final DDR	TBD
District Quality Control Review of DDR	
ATR Review	
ATR Complete Back Checking	
ATR Certification	
Submittal of Final P&S Package	TBD
District Quality Control	
ATR & BCOES Review	
ATR Complete Back Checking	
ATR Certification	
BCOES Certification Complete	
Advertise Construction Contract	
Open Bids	
Construction Contract Award	

b. ATR Funding. The current cost estimate for the review of the Phase 3 Murrieta Creek design materials is in the range of $ 35,000 to $50,000.

c. IEPR Type II (SAR) Schedule. The IEPR process will follow the following timeline. Actual dates may have to be adjusted once the period draws closer.

Submittal of Final DDR	TBD
Type II IEPR Review	
Type II IEPR Complete Back Checking	
SPD Approval of SAR Responses	
Submittal of Final P&S Package	TBD

Type II IEPR Review	
Type II IEPR Complete Back Checking	
SPD Approval of SAR Responses	
Construction Contract Award	
Midpoint Construction	
Construction Completion	
IEPR Final Reports	

d. IEPR Funding . The RMC will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The Los Angeles District will provide funding to the IEPR panel and the RMC.

B-5. REVIEW TEAM

a. District Quality Control. Reference is made to the Murrieta Creek QMP that identifies the activities, roles and responsibilities for the DQC of the Phase 3 Murrieta Creek.

b. Agency Technical Review Team Qualifications. The ATR team for the Phase 3 Murrieta Creek should be comprised of the following disciplines:

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Geotechnical Engineering. The team member should have 10 or more years experience in geotechnical engineering. Team member must demonstrate significant experience in the geotechnical aspects of analysis, design and construction of flood risk management structures including channels, floodwalls, and soil cement structures. Specific required design experience includes assessing soil properties, slope stability, seepage analysis, filter design, slope protection design, preparation of plans/specifications and instructions to field personnel. Required construction experience includes diversion and control of water, foundation treatment and improvement, compaction and moisture conditioning methods, evaluating QA/QC and record test data, and evaluating earthwork construction and differing site condition claims.

Environmental Specialist. The team member should have a solid background in the habitat types to be found in the arid southwestern United States and understand the factors that influence the reestablishment of native species of plants and animals. The team member also should have 10 or more years experience in NEPA compliance activities and preparation of Environmental Assessments and Environmental Impact statements for complex civil/site work projects.

Structural Engineering. The team member should be a registered professional with 10 or more years experience in structural engineering. Experience needs to include design and evaluations of large complex hydraulic structures associated with flood risk management projects, including gravity walls, culverts, and shoring. Experience with state road and bridge standards as well as practical knowledge of construction methods and techniques as it relates to structural portions of projects is encouraged.

Civil Engineering. The team member should have 10 or more years experience with large scale civil/site work projects to include levee systems, floodwalls, roads and highways, relocations, paving and drainage, and be knowledgeable in the art of science Ecosystem Restoration Projects such as design of channels, detention ponds, and site layout.

Landscape Architect. The team member should have 10 or more years experience in the habit types to be found in the southwestern United States and understand the factors that influence the reestablishment of native species of plants.

ATR Team Leader. The ATR Team Leader should have 10 or more years experience with Civil Works Projects, preferably on environmental restoration projects, also capable of performing ATR Team Lead duties on complex civil works projects.

c. IEPR Type II (SAR) Panel Qualifications. The IEPR panel should be comprised of members with the following expertise:

Hydrology and Hydraulics (H&H) Panel Member. The H&H Panel Member should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with 15 or more years experience in conducting and evaluating hydrologic and hydraulic analyses for flood risk management projects. The Panel Member should be experienced in Flood Damage Reduction Projects, including large earth-fill, rock-fill, concrete or combination dams or systems of dams with their many hydraulic appurtenances such as gated and un-gated spillways, stilling basins, outlet works, control gates and valves, power intake structures, tunnels, conduits and approach and diversion channels and appurtenant control structures; and/or Local Flood Damage Reduction Projects including levees; floodwalls; gravity outlet and gate closure structures; pumping stations; detention basins; storm drainage structures; lined and unlined flood control channels and improvement structures. Active participation in related professional societies is encouraged.

Geotechnical Engineering Panel Member. The Geotechnical Engineering Panel Member should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with 20 years or more experience in the design and construction of geotechnical features for critical flood risk management infrastructure and dam safety evaluations. The panel member should be a recognized expert in the geotechnical analysis and design of earthen dams and floodwalls, have experience in preparation of contract specifications, and demonstrate significant experience in the construction and safety evaluation of earthen dams.

Structural Engineering Panel Member. Structural Engineer should be a registered

professional from academia, a public agency, or an Architect-Engineer or consulting firm with extensive experience in design of hydraulic structures for large and complex civil works projects including floodwalls and drainage features, etc.. Designs may involve unusual stresses because of size and shape, loading conditions resulting from unbalanced earth pressures, settlement and creeping of earth fills.

Civil Engineering Panel Member. The Civil Engineer should be a registered professional from academia, a public agency, or an Architect-Engineer or consulting firm with extensive experience in design of major flood control structures including earthen dams, levees, guide dikes and channels. Experience utilizing riprap protection, soil cement or concrete in design of levees, guide dikes and channels for large civil works projects is required. Practical knowledge of construction methods and techniques as it relates to these types of projects including earthwork, erosion control, hydraulic structures, interior drainage, site grading, roadwork, and concrete work is encouraged.

d. Review Team Roster. The Review Team Roster for the Phase 3 Murrieta Creek will include the following representatives:

Discipline/Role	Name	Agency/Office	Phone No.
SPL District PCT Leads include:			
Project Team Leader	Jose Rocha	CESPL-ED-DB	(213) 452-3661
SPL Project Manager	Paul Underwood	CESPL-PM-I	(213) 452-4004
Structural Engineer	Nirav Patel	CESPL-ED-DS	(213) 452-3746
Geotechnical Engineer	Doug Chitwood	CESPL-ED-GD	(213) 452-3586
Materials Engineer	Francis Omoregie	CESPL-ED-GI	(213) 452-3599
Geologist	Mark Mclarty	CESPL-ED-GG	(213) 452-3577
Hydraulic Engineer	Mylene Perry	CESPL-ED-HH	(213) 452-3557
Cost Engineer	Alejandro Hernandez	CESPL-ED-DS	(213) 452-3737
Landscape Architect	Sandra Willis	CESPL-ED-DA	(213) 452-3638
Environmental	Erin Jones	CESPL-PD-RL	(213) 452-3863
ATR Team includes:			
ATR Team Leader			
Civil Engineer			
Geotechnical Engineer			
Hydraulic Engineer			
Structural Engineer			
Environmental Specialist			

IEPR Type II (SAR) Panel includes:

Hydraulic Engineer			
Geotechnical Engineer			
Structural Engineer			
Civil Engineer			

* * *

APPENDIX C

SAMPLE CERTIFICATION

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the Design Documentation Report and Plans and Specifications for the _____, Murrieta Creek, California.

The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks.

_____ _____
NAME Date
ATR Team Leader

_____ _____
NAME Date
Project Manager

_____ _____
Nate Snorteland Date
Review Management Office Representative

CERTIFICATION OF AGENCY TECHNICAL REVIEW

Significant concerns and the explanation of the resolution are as follows:

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

_____ _____
NAME Date
Chief, Engineering Division