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**REVIEW PLAN**

**BERRYESSA CREEK, CALIFORNIA  
GENERAL REEVALUATION STUDY**

**SACRAMENTO DISTRICT**

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**US Army Corps  
of Engineers®**

**APRIL 2010**

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Table of Contents**

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|   |    |
|---|----|
| 1. PURPOSE AND REQUIREMENTS .....             | 1  |
| A. Purpose.....                               | 1  |
| B. Requirements.....                          | 1  |
| 2. STUDY INFORMATION .....                    | 3  |
| A. Decision Document.....                     | 3  |
| B. General Site Description. ....             | 3  |
| C. Study Scope.....                           | 4  |
| D. Problems and Opportunities.....            | 4  |
| E. Potential Methods.....                     | 4  |
| 3. AGENCY TECHNICAL REVIEW PLAN .....         | 4  |
| A. General.....                               | 4  |
| B. Agency Technical Review Team (ATRT). ....  | 4  |
| C. Communication. ....                        | 5  |
| D. Funding .....                              | 6  |
| E. Timing and Schedule.....                   | 6  |
| F. Review .....                               | 7  |
| G. Resolution .....                           | 7  |
| H. Certification .....                        | 8  |
| 4. INDEPENDENT EXTERNAL PEER REVIEW PLAN..... | 8  |
| A. Project Magnitude.....                     | 8  |
| B. Project Risk. ....                         | 8  |
| C. Vertical Team Consensus.....               | 9  |
| D. Products for Review.....                   | 9  |
| E. Communication and Documentation.....       | 9  |
| F. Funding .....                              | 10 |
| 5. MODEL CERTIFICATION .....                  | 10 |
| 6. PUBLIC REVIEW.....                         | 11 |
| 7. POINTS OF CONTACT.....                     | 11 |
| A. Project Delivery Team. ....                | 11 |
| B. Vertical Team.....                         | 11 |
| C. PCX.....                                   | 12 |
| D. Review Plan POC's.....                     | 11 |
| 8. APPROVALS .....                            | 12 |

**APPENDICES**

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|            |                               |
|------------|-------------------------------|
| Appendix A | Statement of Technical Review |
| Appendix B | Review Plan Teams             |
| Appendix C | Acronyms and Abbreviations    |

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**1. PURPOSE AND REQUIREMENTS**

**A. Purpose.**

This document outlines the Review Plan for the Berryessa Creek, California, General Reevaluation Study (the Study). Engineer Circular (EC) 1165-2-209, *Civil Works Review Policy*, dated 31 January 2010, defines the technical and overall quality control review processes for decision documents. It formally distinguishes between technical review performed by in-district (District Quality Control, DQC) and out-of-district resources (Agency Technical Review, ATR). It also reaffirms the requirement for 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 a proposed project are such that a critical examination by a qualified team outside of the U.S. Army Corps of Engineers (USACE) is warranted.

**B. Requirements.**

EC 1165-2-209 outlines the requirement of the three review approaches (DQC, ATR, and IEPR). This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate PCX. The Study will investigate flood risk management (FRM) issues in the study area. Therefore, the FRM-PCX is the responsible PCX.

(1) District Quality Control. 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) for the study (to which this Review Plan will ultimately be appended). It is managed in the District and may be conducted by in-house staff as long as the reviewers are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan (QMP) 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 the approval by the District Commander. For the Study, non-PDT members and/or supervisory staff will conduct this review for major draft and final products, including products provided by the non-Federal sponsors as in-kind services following review of those products by the PDT. A Quality Management Plan (QMP) is included in the PMP for the subject study and addresses DQC by the District; DQC is not addressed further in this Review Plan. DQC is required for this study.

(2) Agency Technical Review. EC 1165-2-209 identifies ATR (which replaces the level of review formerly known as Independent Technical Review) as an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside

experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1165-2-209 requires that DrChecks (<https://www.projnet.org/projnet/>) be used to document all ATR comments, responses, and associated resolution accomplished. This Review Plan outlines the proposed approach to meeting this requirement for the Study. ATR is required for this study.

(3) Independent External Peer Review. IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. Type I IEPR is conducted on project studies. IEPR is managed by an outside eligible organization (OEO) that is described in the Internal Review Code Section 501(c)(3), is exempted from Federal tax under Section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR panels. The scope of review will address all the underlying planning, engineering, including safety assurance, economics, and environmental analyses performed, not just one aspect of the project. The IEPR will be on the technical aspects of the project while the ATR will be responsible for the agency and administration's policy review. This Review Plan outlines the planned approach to meeting this requirement for the Study. Type I IEPR is required for this study.

(4) Policy and Legal Compliance Review. In addition to the technical reviews, 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. Technical reviews described in EC 1165-2-209 are to augment and complement the policy review processes by addressing compliance with published Army polices pertinent to planning products, particularly polices 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. Counsel will generally not participate on ATR teams, but may at the discretion of the district or as directed by higher authority. When policy and/or legal concerns arise during DQC or ATR efforts that are not readily and mutually resolved by the PDT and the reviewers, the District will seek issue resolution support from the MSC and HQUSACE in accordance with the procedures outlined in Appendix H, ER 1105-2-100. IEPR teams are not expected to be knowledgeable of Army and administration polices, nor are they expected to address such concerns. An IEPR team should be given the flexibility to bring important issues to the attention of decision makers. Legal reviews will be conducted concurrent with ATR of the draft and final general reevaluation report/EIS/EIR.

(5) Planning Center of Expertise (PCX) Coordination. EC 1165-2-209 outlines PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for Flood Risk Management (FRM). The FRM-PCX is responsible for the accomplishment of ATR and IEPR for the Study. The DQC is the responsibility of the MSC/District. The FRM-PCX may conduct the review or manage the ATR and IEPR reviews to be conducted by others.

(6) Review Plan Approval and Posting. In order to ensure the Review Plan is in compliance with the principles of EC 1165-2-209 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, in this case the Commander, South Pacific Division (SPD). Once the Review Plan is approved, the District will post it to its district public website and notify

SPD and the FRM-PCX.

(7) Safety Assurance Review(SAR). In accordance with Sections 2034 and 2035 of WRDA 2007, and EC 1165-2-209 all projects addressing flooding or storm damage reduction must undergo a SAR (Type II IEPR) during design and construction. Safety assurance factors (significant threat to human life, project cost thresholds, etc.) must be considered in the planning studies phase and in all reviews for those studies. This study will address safety assurance factors, which at a minimum will be included in the draft report and appendixes for public and agency review. Prior to preconstruction engineering and design (PED) of the project identified for construction, a PMP will be developed that will include SARs (Type II IEPRs) during design and construction.

## **2. STUDY INFORMATION**

### **A. Decision Document.**

The Berryessa Creek, California general reevaluation study was initiated in 2001 to investigate alternatives to the authorized Berryessa Creek Project in Santa Clara County for the purpose of flood damage reduction. The study is considering channel and floodplain terrace excavation, bridge and culvert modifications, levee and floodwall construction, sediment basin modifications, bed and bank armoring, minor recreation improvements, and planting of riparian vegetation. The feasibility phase of this project is cost shared 50 percent Federal, 50 percent non-Federal with the project sponsor, the Santa Clara Valley Water District (SCVWD). The resulting decision document will be an integrated General Reevaluation Report/ EIS/EIR. The approval process for the GRR will depend upon whether the recommended plan requires additional Congressional authority.

**B. General Site Description.** The study area is along a portion of Berryessa Creek in the Santa Clara Valley of California. Berryessa Creek originates on the western slope of the Diablo Range and emerges from hills in the northeastern part of the city of San Jose. The creek flows west and passes under Interstate 680 before turning north and flowing into lower Penitencia Creek, which is a tributary to lower Coyote Creek, which in turn flows into the south end of San Francisco Bay. The primary study area includes the main stem of Berryessa Creek and its floodplains from upstream of Old Piedmont Road downstream to Calaveras Blvd. Within the study area, the Berryessa Creek channel is almost entirely man-made and it provides minimal natural values, outside of the well-vegetated "greenbelt reach" adjacent to a schoolyard and park. The overall study area includes those areas adjacent to the primary study area which could be influenced by potential actions to address the identified problems and needs.

**C. Study Scope.** The study will focus on FRM alternatives along Berryessa Creek from above Old Piedmont Road to Calaveras Blvd. The non-Federal sponsors are interested in reducing flood risk to the existing urbanized areas in the cities of San Jose and Milpitas to remove those areas from the base floodplain mapped under the National Flood Insurance Program.

**D. Problems and Opportunities.** The primary flood-related problems in the study area are potential flood damages to existing residential, commercial and light industrial development in a dense urban area due to limited channel and floodway capacity. The parts of the study that will be most challenging are the need to meet current vegetation-free zone and other design requirements in an acceptable manner despite a constricted right-of-way bordered by dense residential and commercial development.

**E. Potential Methods.** Potential FRM measures include channel and floodplain terrace

excavation, bridge and culvert modifications, levee and floodwall construction, sediment basin modification, and bed and bank armoring. Non-structural floodplain management measures will also be addressed. Additional measures may include minor recreation improvements and planting of riparian vegetation for environmentally-sustainable design and/or habitat mitigation. Based on current information, the project is likely to have significant economic, environmental, and/or social effects, such as, but not limited to: more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources; and substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation. The project is not likely to have more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, prior to the implementation of mitigation. An environmental impact statement is being prepared.

### **3. AGENCY TECHNICAL REVIEW PLAN**

For feasibility studies, ATR is managed by the PCX. For this general reevaluation study, due to the emphasis on flood risk management, the FRM-PCX will identify individuals to perform ATR. District can provide suggestions on possible reviewers.

#### **A. General.**

An ATR Leader shall be designated by the PCX for the ATR process. The proposed ATR Leader for this project is to be determined, but will have expertise in plan formulation. The ATR Leader is responsible for providing information necessary for setting up the review, communicating with the PDT, 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. ATR will be conducted for plan formulation, environmental compliance, economics, hydrology and hydraulic design, civil design, geotechnical engineering, cost engineering, and real estate.

#### **B. Agency Technical Review Team (ATRT).**

The ATRT will be comprised of individuals that have not been involved in the development of the decision document and will be chosen based on expertise, experience, and/or skills. The members will roughly mirror the composition of the PDT and wherever possible, reside outside of the MSC. In general, the review team members will each have a minimum of 10 years experience and education in their respective discipline. A statement of qualifications is required to acceptance of review team members. It is anticipated that the team will consist of about 9 reviewers. The ATRT members will be identified at the time the review is conducted and will be presented in Appendix B. General descriptions of ATR disciplines are as follows:

Hydrology & Hydraulics: Team member will be an expert in the field of urban hydrology and hydraulics, have a thorough understanding of the dynamics of open channel flow systems, enclosed bypass systems, application of sediment basins, and application of levees and flood walls in an urban environment with space constraints, The team member will have an understanding of computer modeling techniques that will be used for this project (HEC-HMS, HEC-RAS, and FLO-2D).

Geotechnical: Team member will be experienced in levee, channel and revetment design and familiar with the Corps' vegetation-free zone requirements for levees and floodwalls. A certified professional engineer is recommended.

Economics: Team member will be experienced in civil works and related flood risk reduction projects, and have a thorough understanding of HEC-FDA.

Plan Formulation: Team member will be experienced with the civil works process, current flood damage reduction planning and policy guidance, and have experience in plan formulation.

Environmental: Team member will be experienced in NEPA/CEQA process and analysis and other environmental compliance.

Civil/Structural: Team member will have experience in floodwall, box culvert and minor drainage structure design, and utility relocations. A certified professional engineer is suggested.

Cost Engineering: Team member will be familiar with cost estimating for similar civil works projects using MCACES. Team member will be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. A separate process and coordination is required through the Walla Walla District DX for cost engineering.

Real Estate: Team member will be experienced in federal civil works real estate laws, policies and guidance. Members shall have experience working with respective sponsor real estate issues.

Other disciplines/functions involved in the project included as needed with similar general experience and educational requirements.

### **C. Communication.**

The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The lead planner or project manager will facilitate the creation of a project portfolio in the system to allow access by all PDT and ATRT members. An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in MS Office or Adobe Acrobat compatible format at: <ftp://ftp.usace.army.mil/pub/> at least one business day prior to the start of the comment period.

(2) The lead planner shall notify the ATR Leader when the document has been posted. ATRT members shall download and print documents as necessary.

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

(4) The lead planner shall notify the ATR Leader when all responses have been entered into DrChecks.

(5) A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(6) PDT members shall contact ATRT members or ATR 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.

(8) The ATRT, the PDT, and the vertical team shall conduct an after action review (AAR) no later than two weeks after the policy guidance memo is received from HQUSACE for the for the draft report.

**D. Funding**

(1) The PDT district shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided. The lead planner will work with the ATR Leader to ensure that adequate funding is available and is commensurate with the level of review needed. The current cost estimate for this review is \$60,000. Any funding shortages will be negotiated on a case by case basis and in advance of a negative charge occurring.

(2) The ATR Leader shall provide organization codes for each team members and a responsible financial point of contact (CEFMS responsible employee) for creation of labor codes.

(3) Reviewers shall monitor individual labor code balances and alert the ATR Leader to any possible funding shortages.

**E. Timing and Schedule**

(1) Throughout the development of this document, the PDT will conduct seamless review to ensure planning quality.

(2) A Feasibility Scoping Meeting was held in 2004, a Value Engineering Study was completed and an Alternative Review Conference was held in 2005, and an Alternative Formulation Briefing was held in 2006. ATR will be conducted on the draft General Reevaluation Report; and if changes are made to the draft report, those changes will be reviewed in the final General Reevaluation Report.

(3) The ATR process for this document will follow the following timeline. Actual dates will be scheduled once the period draws closer. All products produced for these milestones will be reviewed, including those produced by contractors or as in-kind services by the non-Federal sponsors.

**ATR Timeline**

| <b>Task</b>          | <b>Date</b> |
|----------------------|-------------|
| ATR for Draft Report | 1st Q FY11  |
| ATR for Final Report | 4th Q FY11  |

## **F. Review**

(1) ATRT responsibilities are as follows:

(a) Reviewers shall review conference material and the draft report to confirm that work was done in accordance with established professional principles, practices, codes, and criteria and for compliance with laws and policy. Comments 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 Leader via electronic mail using tracked changes feature in the MS Office compatible document or as a hard copy mark-up. The ATR Leader shall provide these comments to the lead planner.

(d) Review comments shall contain these principal elements:

- a clear statement of the concern
- the basis for the concern, such as law, policy, or guidance
- significance for the concern
- specific actions needed to resolve the comment

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

(2) PDT responsibilities are as follows:

(a) The PDT shall review comments provided by the ATRT in DrChecks and provide responses to each comment using "Concur, Non-Concur or For Information." 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) PD members shall discuss any "non-Concur" responses prior to submission with the PDT and ATRT Leader.

## **G. 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) A reviewer may close a comment if the comment is addressed and resolved by the response, or if the reviewer determines that the comment was not a valid technical comment as a result of a rebuttal, clarification, or additional information, or because the comment was advisory, primarily based on individual judgment or opinion, or editorial. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR Leader and, if not resolved by the ATR Leader, it should be brought to the attention of the planning chief who will need to sign the certification. ATRT members shall keep the ATR Leader informed of problematic comments. The vertical team will be informed of any policy variations or other issues that may cause concern during HQ review. A comment may also be closed when it has

been addressed or deferred to the policy compliance review process by HQUSACE.

## **H. Certification**

ATR certification is required for the draft report and final report. See Appendix A for ATR certification statement. A summary report of all comments and responses will follow this statement and accompany the report throughout the report approval process.

## **4. INDEPENDENT EXTERNAL PEER REVIEW PLAN**

This decision document will present the details of a general reevaluation study undertaken to evaluate structural and non-structural FRM measures to address problems in the study area. EC 1165-2-209 states that Type I IEPR is of critical importance where there are public safety concerns, significant controversy, a high level of complexity, or significant economic, environmental and social effects to the nation. However, it is not limited to only those cases and most studies should undergo Type I IEPR.

This study is not expected to contain influential scientific information nor be a highly influential scientific assessment. The study will not be highly complex in comparison to other Corps studies. However, the total project cost of the locally preferred plan will likely be about \$100 million. The study area is highly urbanized and consequently there may be public safety concerns. This project has the potential to be controversial and has significant agency and public interest. An environmental impact statement is being prepared as an integrated part of the GRR. For these reasons, IEPR will be conducted. The cost of IEPR is currently estimated to be \$100,000. IEPR is a project cost. The IEPR panel review will be Federally funded. In-house costs associated with obtaining the IEPR panel contract as well as responding to IEPR comments will be cost-shared expenses. It is not anticipated that the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers.

Disciplines that are anticipated to undergo IEPR are hydrology and hydraulic design, economics, and environmental compliance. IEPR panel members will be identified in Appendix B after they have been selected. Work undertaken as part of these technical disciplines is relevant to public safety, justification of the project cost, and potentially controversial environmental effects. Of the products that will undergo IEPR, all will be reviewed by the PDT and undergo ATR prior to submittal for IEPR. This includes products that are produced by the non-Federal sponsors as in-kind services and contractor work products.

### **A. Project Magnitude.**

For reasons described in the preceding paragraphs, the magnitude of this project is determined as moderate.

### **B. Project Risk.**

This project is considered to have low overall risk. The potential for failure is low relative to other Corps projects because high flows in Berryessa Creek are near the minimum required for Corps participation in a project. The structures that are likely to be included in a recommended plan will be relatively small in scale and conventional in design.

### **C. Vertical Team Consensus.**

This Review Plan served as the coordination document to obtain vertical team consensus. Subsequent to PCX approval, this plan was provided to the vertical team for approval. MSC approval of the plan indicated vertical team consensus.

### **D. Products for Review.**

The full IEPR panel will receive the entire draft General Reevaluation Report/EIS/EIR and all technical appendixes concurrent with public and agency review. The final report of the IEPR panel must be submitted to the PDT within 60 days of the conclusion of public review. A representative of the IEPR panel must attend any public meeting(s) held during public review of the draft report. The District will draft a response to the IEPR final report and process it through the vertical team for discussion at the Civil Works Review Board (CWRB), if a CWRB review is required based on the GRR's recommendations. An IEPR panel member must attend the CWRB. Following the CWRB (if required), the Corps will issue final response to the IEPR panel and notify the public.

### **E. Communication and Documentation.**

The communication plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The lead planner will facilitate the creation of a project portfolio in the system to allow access by all PDT and a qualified Outside Eligible Organization (OEO). An electronic version of the document, appendices, and any significant and relevant public comments shall be posted in MS Office compatible or Adobe Acrobat format at: <ftp://ftp.usace.army.mil/pub/> 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 panel's 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 panel's 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.

(2) Each IEPR panel member shall download the appropriate documents.

(3) The lead planner 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 report and appendixes with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> for use during back checking of the comments.

(5) PDT shall contact the OEO for the IEPR 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 a final Review Report to be provided to the PDT not later than 60 days after the close of the public review of the draft report. This report shall be scoped as part of the effort to engage the IEPR panel. The District will draft a response report to the IEPR final report and process it through the vertical team for discussion at the CWRB. Following direction at the CWRB and upon satisfactorily resolving any relevant follow-on actions, the Corps will finalize its response to the IEPR Review Report and will post both the Review Report and the Corps final responses to the public website.

#### **F. Funding**

The FRM-PCX will identify someone independent from the PDT to scope the IEPR and develop an Independent Government Estimate. The District will provide funding to the IEPR panel.

### **5. MODEL CERTIFICATION**

For the purposes of this RP section, 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 RP section does not cover engineering models used in planning which will be certified under a separate process to be established under SET.

The computational models to be employed in the 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. Project schedules and resources will be adjusted to address this process for certification and PCX coordination. Models being used or considered are:

1. HEC-FDA (Current working version undergoing review for certification; expected to be certified within the first 1 year of the study): This model, developed by the Corps' Hydrologic Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by EM 1110-2-1419.
2. Various Habitat Evaluation Procedure models. The Ecosystem Planning Center of Expertise (Eco-PCX) has responsibility for approving ecosystem output methodologies for use in ecosystem restoration planning and mitigation planning. The Ecosystem PCX will need to certify or approve for use each regionally modified version of these methodologies and individual models and guidebooks used in application of these methods. The PDT will coordinate with the Eco-PCX during the study to identify appropriate models and certification approval requirements.
3. 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.

The following are considered to be engineering models as opposed to planning models and undergo a different review and approval process for usage. Engineering tools anticipated to be used in this study are:

1. MCACES or MII: These are cost estimating models.
2. HEC-HMS: This model was used by contractors to develop the without-project hydrology and breakout hydrographs.
3. HEC-RAS 4.0: The function of this model is one-dimensional hydraulic calculations for channels.
4. FLO-2D: This model is being used by a contractor for hydraulic modeling in the overbank areas.
5. HEC-6T: This model was used by a contractor to estimate sediment bed load yields and sediment balances for the without-project condition.

## **6. PUBLIC REVIEW**

The public will have opportunities to participate in this study. Public review of the draft GRR will occur after concurrence by HQUSACE that the document is ready for public release. As such, public comments other than those provided at any public meetings held during the planning process will not be available to the review teams. Public review of the draft report will last a minimum of 45 days as required for an Environmental Impact Statement. One or more public meetings will be held during the public review period. Comments received during the public comment period for the draft report could be provided to the IEPR team prior to completion of the final Review Report and to the ATRT before review of the final decision document. A formal State and Agency Review will occur concurrently with the public review. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A comment resolution meeting will take place if needed to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the document.

## **7. POINTS OF CONTACT**

### **A. Project Delivery Team.**

The PDT is comprised of those individuals directly involved in the development of the decision document. Individual contact information and disciplines are presented in Appendix B. In accordance with the PMP, it is planned that the non-Federal sponsors will contribute in-kind services for project management; public involvement; environmental studies; surveys and mapping; hydrology studies; real estate studies; and preliminary hazardous waste investigation. All in-kind work products will undergo review by the PDT for a determination of adequacy; products will ultimately undergo DQC. Some products will undergo IEPR (described later in this Review Plan).

### **B. Vertical Team.**

The Vertical Team includes District management, District Support Team (DST) and Regional Integration Team (RIT) staff as well as members of the Planning of Community of Practice (PCoP). Specific points of contact for the Vertical Team can be found in Appendix B.

### **C. PCX.**

The appropriate PCX for this document is the National Flood Risk Management Center of Expertise located at SPD. This Review Plan will be submitted to the FRM-PCX Program

Manager review and comment. Since an IEPR will be required, the PCX will be asked to manage the IEPR review. For ATR, the PCX is requested to nominate the ATR team as discussed in paragraph 3.b. above. The approved Review Plan will be posted to the District's public website for public comment and consideration of public comments

**D. Review Plan Points of Contact**

The Points of Contact for questions and comments to this Review Plan are as follows:

1. District Point of Contact:, 916-557-6695
2. MSC Point of Contact:, 415-503-6557
3. FRM-PCX Point of Contact:, 415-503-6852

**8. APPROVALS**

The PDT will carry out the Review Plan as described. The FRM-PCX recommended approval of this Review Plan on 23 February 2009. After FRM-PCX review and recommendation, the Review Plan was approved by the SPD Division Engineer on 17 April 2009. This Review Plan is a "living document" and may change as the study progresses. The RP shall be updated again when the preferred alternative is identified. The FRM-PCX shall be provided an electronic copy of any revised approved Review Plan. The PDT shall follow the guidance of the SPD DST for processing revised Review Plans.

This update of the Review Plan was prepared in April 2010 to incorporate minor changes resulting from the approval of EC 1165-2-209 on 31 January 2010. The study description, schedule and estimated project cost were also updated. There were no changes in the level of review. Electronic copies of this updated RP will be provided to the FRM-PCX and SPD.

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**REVIEW PLAN  
BERRYESSA CREEK, CALIFORNIA  
GENERAL REEVALUATION STUDY  
SACRAMENTO DISTRICT**

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**APPENDIX A  
STATEMENT OF TECHNICAL REVIEW**

**COMPLETION OF AGENCY TECHNICAL REVIEW  
BERRYESSA CREEK, CALIFORNIA  
GENERAL REEVALUATION REPORT/  
ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT**

The District has completed the General Reevaluation Report/Environmental Impact Statement/Environmental Impact Report for the Berryessa Creek General Reevaluation Study. Notice is hereby given that an agency technical review, that is appropriate to the level of risk and complexity inherent in the project, has been conducted as defined in the Review Plan. During the agency technical review, 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 result, including whether the product meets the customers' needs consistent with law and existing Corps policy. The ATR was accomplished by an agency team composed of staff from multiple districts. All comments resulting from the ATR have been resolved.

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NAME  
Berryessa Creek General Reevaluation Study  
Agency Technical Review Leader

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Date

## **CERTIFICATION OF AGENCY TECHNICAL REVIEW**

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

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

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

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Alicia Kirchner  
Chief, Planning Division  
Sacramento District

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Date

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**REVIEW PLAN**

**BERRYESSA CREEK, CALIFORNIA  
GENERAL REEVALUATION STUDY  
SACRAMENTO DISTRICT**

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**APPENDIX B**

**PROJECT DELIVERY TEAM**

| <b>Name</b>      | <b>Discipline</b>        |
|------------------|--------------------------|
| Cameron Sessions | Project Manager          |
| Scott Miner      | Lead Planner             |
| TBD              | Economics                |
| TBD              | Environmental Resources  |
| Richard Perry    | Cultural Resources       |
| Markus Boedtke   | Civil Design             |
| Laurine White    | Hydrology                |
| John Wiest       | Hydraulic Design         |
| Jane Bolton      | Geotechnical Engineering |
| TBD              | Cost Engineering         |
| Jeremy Hollis    | Real Estate              |

**AGENCY TECHNICAL REVIEW TEAM**

| <b>Name</b> | <b>Discipline</b>             |
|-------------|-------------------------------|
| TBD         | ATR Manager/Plan Formulation  |
| TBD         | Civil/Structural Design       |
| TBD         | Environmental Resources       |
| TBD         | Hydrology/Hydraulics          |
| TBD         | Economics                     |
| TBD         | Cost Engineering <sup>1</sup> |
| TBD         | Real Estate                   |
| TBD         | Geotechnical Engineering      |

<sup>1</sup>The cost engineering team member nomination will be coordinated with the NWW Cost Engineering Directory of Expertise as required. That DX will determine if the cost estimate will need to be reviewed by DX staff.

**INDEPENDENT EXTERNAL PEER REVIEW PANEL**

| <b>Name</b> | <b>Discipline</b>            |
|-------------|------------------------------|
| TBD         | Hydrology & Hydraulic Design |
| TBD         | Economics                    |
| TBD         | Environmental Resources      |

**VERTICAL TEAM**

| <b>Name</b>      | <b>Discipline</b>          | <b>Phone</b> | <b>Email</b>                      |
|------------------|----------------------------|--------------|-----------------------------------|
| Karen Berresford | District Support Team Lead | 415-503-6557 | Karen.G.Berresford@usace.army.mil |
| Ken Zwickl       | Regional Integration Team  | 202-761-4085 | Kenneth.J.Zwickl@usace.army.mil   |

**PLANNING CENTER OF EXPERTISE  
FLOOD RISK MANAGEMENT**

| <b>Name</b> | <b>Discipline</b>                          | <b>Phone</b> | <b>Email</b>                |
|-------------|--|--------------|-----------------------------|
| Eric Thaut  | Program Manager, PCX Flood Risk Management | 415-503-6852 | Eric.W.Thaut@usace.army.mil |

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**PEER REVIEW PLAN**

**BERRYESSA CREEK, CALIFORNIA  
GENERAL REEVALUATION STUDY  
SACRAMENTO DISTRICT**

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**APPENDIX C  
ACRONYMS AND ABBREVIATIONS**

| <b><u>Term</u></b> | <b><u>Definition</u></b>                        | <b><u>Term</u></b> | <b><u>Definition</u></b>                                       |
|--------------------|---|--------------------|--|
| ASA(CW)            | Assistant Secretary of the Army for Civil Works | OMRR&R             | Operation, Maintenance, Repair, Replacement and Rehabilitation |
| ATR                | Agency Technical Review                         | OEO                | Outside Eligible Organization                                  |
| CEQA               | California Environmental Quality Act            | PCX                | Planning Center of Expertise                                   |
| CESPD              | Corps of Engineers, South Pacific Division      | PDT                | Project Delivery Team  |
|                    |   | PAC                | Post Authorization Change                                      |
| DQC                | District Quality Control                        | PPA                | Project Partnership Agreement                                  |
| DX                 | Directory of Expertise                          | PL                 | Public Law   |
| EA                 | Environmental Assessment                        | QM                 | Quality Manual   |
| EC                 | Engineer Circular                               | QMP                | Quality Management Plan  |
| EDR                | Engineer Documentation Report                   | QA                 | Quality Assurance  |
| EIR                | Environmental Impact Report                     | QC                 | Quality Control  |
| EIS                | Environmental Impact Statement                  | RED                | Regional Economic Development                                  |
| EO                 | Executive Order                                 | WRDA               | Water Resources Development Act                                |
| ER                 | Ecosystem Restoration                           |                    |  |
| FDR                | Flood Damage Reduction                          |                    |  |
| FEMA               | Federal Emergency Management Agency             |                    |  |
| FRM                | Flood Risk Management                           |                    |  |
| GRR                | General Reevaluation Report                     |                    |  |
| IEPR               | Independent External Peer Review                |                    |  |
| ITR                | Independent Technical Review                    |                    |  |
| MSC                | Major Subordinate Command                       |                    |  |
| NED                | National Economic Development                   |                    |  |
| NER                | National Ecosystem Restoration                  |                    |  |
| NEPA               | National Environmental Policy Act               |                    |  |
| O&M                | Operation and maintenance                       |                    |  |
| OMB                | Office of Management and Budget                 |                    |  |