



REPLY TO  
ATTENTION OF

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

04 FEB 2015

CESPD-PDC

MEMORANDUM FOR Commander, San Francisco District, US Army Corps of Engineers,  
ATTN: CESPN-PM-C (Mr Caleb Conn), 1455 Market Street, San Francisco, CA 94103-1398

Subject: Approval for the Petaluma River Flood Control Project, Sonoma County, California  
Review Plan

1. The attached Review Plan for the Petaluma River Flood Control Project, Sonoma County, California, was prepared in accordance with EC 1165-2-214. The Review Plan was coordinated internally within the DST. CESPD will serve as the RMO (Encl).
2. The Review Plan does not include independent external peer review (IEPR).
3. I hereby approve this Review Plan, which is subject to change as circumstances require, consistent with project development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.
4. For any additional information or assistance, contact Paul Devitt, CESPD-PDC, (415) 503-6558, Paul.A.Devitt@usace.army.mil.

**BUILDING STRONG *and Taking Care of People!***

Encl

  
R. MARK TOY, P.E.  
Brigadier General, USA  
Commanding

# **REVIEW PLAN**

## **PETALUMA RIVER FLOOD CONTROL PROJECT SONOMA COUNTY, CALIFORNIA IMPLEMENTATION WORK PRODUCTS**

**San Francisco District**

**South Pacific Division Approval Date: 4 February 2015  
Last Revision Date: January 2015**



**US Army Corps  
of Engineers®**

**REVIEW PLAN**

**PETALUMA RIVER FLOOD CONTROL PROJECT  
SONOMA COUNTY, CALIFORNIA  
IMPLEMENTATION WORK PRODUCTS**

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## **1. PURPOSE AND REQUIREMENTS**

### a. Purpose.

This Review Plan defines the scope and level of quality management activities for implementation work products needed to complete the Petaluma River flood control project in Sonoma County, California. Specifically, this Review Plan describes the level of review required for the work products specified in section 4.

### b. References.

- (1) Engineer Circular (EC) 1165-2-214, Civil Works Review Policy, 15 Dec 2012
- (2) Engineer Regulation (ER) 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999
- (3) ER 1110-1-12, Engineering and Design Quality Management, 21 Jul 2006
- (4) ER 415-1-11, Biddability, Constructability, and Operability, 1 Sep 1994
- (5) Section 205 of the 1948 Flood Control Act, 30 Jun 1948
- (6) ER 1110-1-12, Quality Management, 30 Sep 2006
- (7) CESP-D-R 1110-1-8, Quality Management Plan; 30 Dec 2002
- (8) ETL 1110-2-575, Engineering and Design: Evaluation of I-Walls, 1 Sep 2011

### c. Requirements.

This Review Plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement, and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

## **2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION**

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The appropriate RMO will be determined by the South Pacific Division District Support Team. When applicable, the RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to perform the ATR review of the project cost estimate.

## **3. PROJECT DESCRIPTION**

### a. Project Authority.

The Petaluma River flood control project was authorized under the authority of Section 205 of the Flood Control Act of 1948, as amended. Section 205 provides authority for the Secretary of the Army, together with the local sponsoring agency, to study and construct flood control improvements projects without specific authorization from Congress.

### b. Location and Description.

The Petaluma River flood control project is located within the City of Petaluma, Sonoma County, California and controls runoff from approximately 47 square miles of watershed. A site map showing the location of the project is shown in Figure 1. The Petaluma River segment of the project extends roughly

3,680 ft from approximately 500 feet downstream of the Lakeville Street Bridge and to a point 300 feet upstream of the Lynch Creek confluence. The Washington Creek portion of the project extends from its confluence with the Petaluma River to the Holly Lane Bridge for a distance of 950 feet.

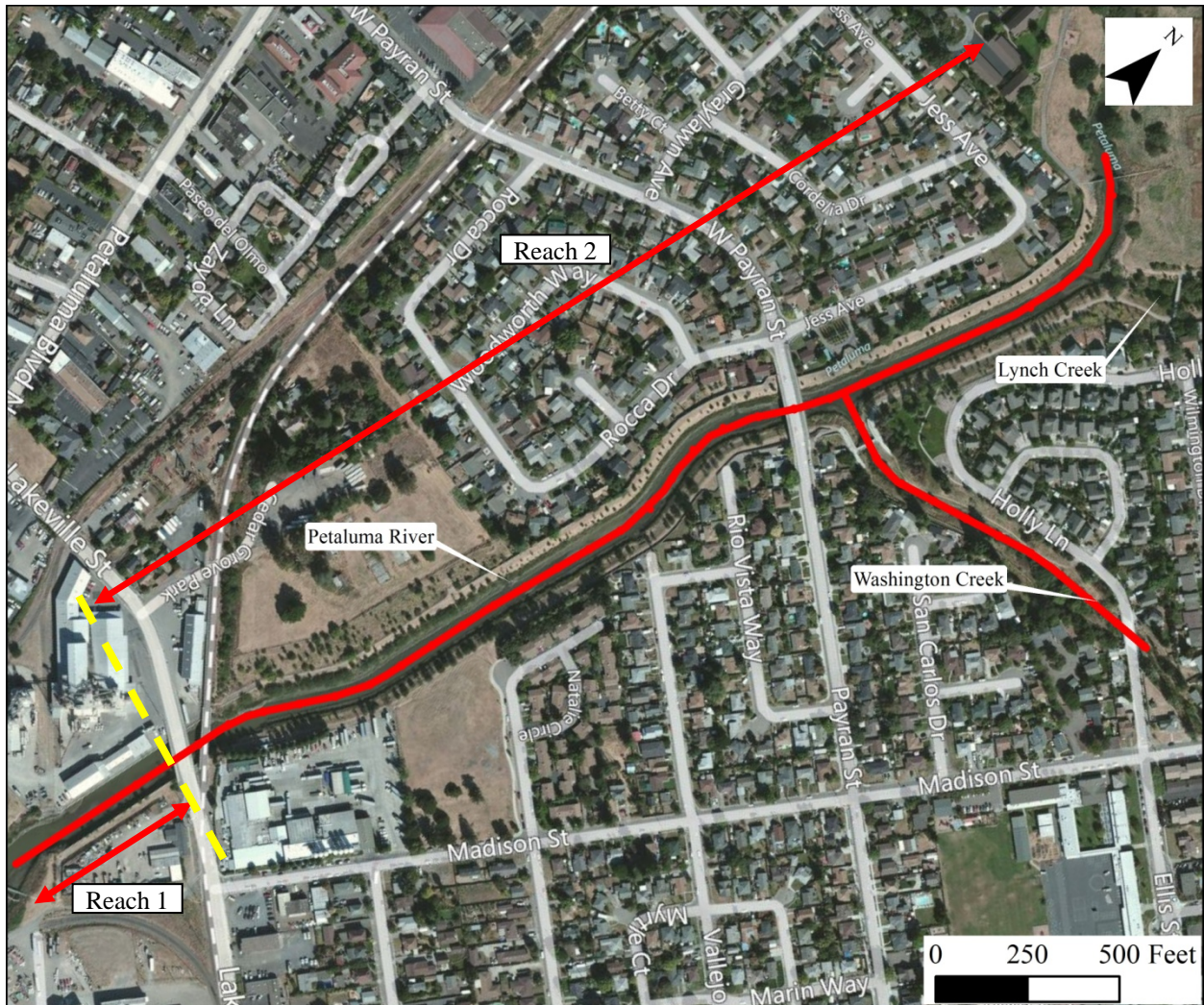


Figure 1: Project location map.

The general project features consist of the following two reaches:

- (a) **Reach 1.** The first reach extends approximately 500 feet from the downstream end (Sta. 752+00) to the Lakeville Street Bridge. Improvements in the reach consist of a roughly 95-foot wide excavated U-shaped channel with vertical sheet pile walls and a natural stream bottom. The Lakeville Street Bridge was replaced to provide adequate clearance for the required cross sectional flow area.
- (b) **Reach 2.** The second reach extends approximately 3,180 feet long and extends from the Lakeville Street Bridge (Sta. 757+00) crossing to the upstream end of the project, roughly 300 feet past the Lynch Creek confluence (Sta. 785+00), as well as 950 ft along Washington Creek. Improvements in the reach consist of a transition section from the U-shaped channel to excavated trapezoidal-shaped channel, sheet pile floodwalls (upstream of Sta. 765+00), interior runoff facilities, mitigation planting, and a transition weir located at the upstream end

of the project. Replacement of the mainline railroad bridge located immediately upstream of the Lakeville Street Bridge was completed in 2002. The Payran Street Bridge was also replaced to provide the required flow area.

The project is greater than 90% complete with roughly \$1.2M of construction remaining and approximately \$29M executed. Remaining project features to be constructed are limited to sheet pile retaining walls to connect existing retaining walls to the upstream abutments of the Mainline Railroad Bridge (Figure 2). The length of the new retaining walls is roughly 70 and 30 ft, on the left and right bank, respectively. A contract to complete this new construction is anticipated to include repair work to existing project features.

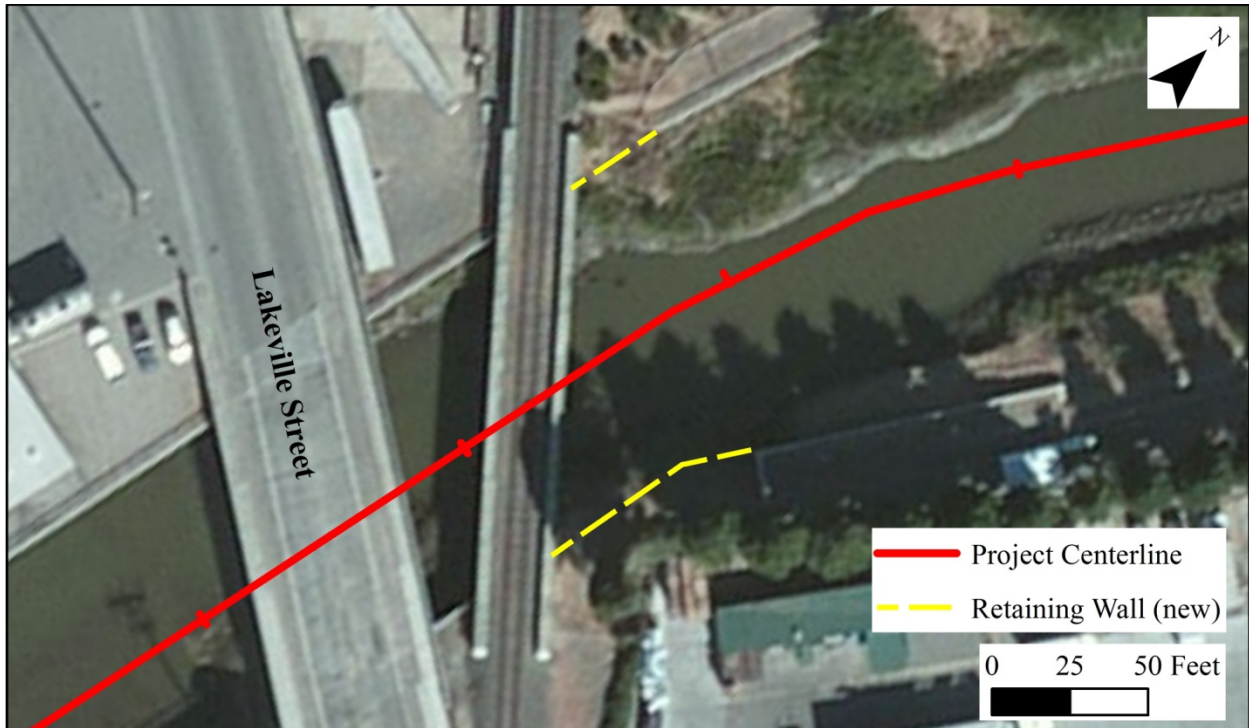


Figure 2: Remaining new construction at the Petaluma FCP.

Remaining work items also include an evaluation report of the existing I-walls (per ETL 1110-2-575) constructed in 1998 as well as the completion of a project OMRR&R.

c. Project Delivery Team.

The PDT is comprised of individuals directly involved in the development of the remaining work products. Individual contact information and disciplines are presented in Attachment 1.

d. Vertical Team.

The Vertical Team includes the management of the San Francisco District, the District Support Team (DST) of the South Pacific Division, and the Regional Integration Team (RIT), HQUSACE staff. Specific points of contact for the Vertical Team can be found in Attachment 1.

e. Model Certification.

This review plan includes implementation work products and will require the use of engineering models. A standardized certification process for engineering models, similar to the planning model certification, has not yet been established by the Corps Engineering Community of Practice (CoP). However, engineering models will be needed to complete the plans and specifications and evaluate the project's existing I-walls. The models anticipated to be used during the completion of work products includes hand calculations (Rankin/Coulomb earth pressure theory) and commercial geotechnical software packages (Slope/W, Plaxis) that conform to the prevailing USACE approved methodologies for engineering design. Generally speaking, the PDT will follow the guidance given in CESP-2007-006: "Until such time that a USACE certification process is enacted for HH&C software, first choice for use in our studies shall be Corps developed software – as they are public domain, readily available, have good documentation and technical support, Corps and many local sponsor technical staff are very familiar with these software, etc.", to the greatest extent practicable. Using Corps models will not require any additional certification, as they are already accepted by the Engineering CoP. Any non-standard, non-Corps models will be vetted through the vertical team and coordinated through the USACE RMC as needed.

#### **4. WORK PRODUCTS**

There are only three remaining work products for the Petaluma River flood control project:

- DDR and Plans & Specifications (P&S) for sheet pile retaining wall extension, channel excavation, and repairs to existing features;
- Evaluation report of completed project I-walls;
- Project OMRR&R manual

#### **5. RISKS & CHALLENGES**

The completion of the Petaluma River flood control project will require both construction funds and confirmation of the design adequacy for the existing project I-walls. Both requirements are necessary to support the turnover of completed and functional project features to the sponsor. Turnover of the project will be sought at the completion of construction.

#### **6. DISTRICT QUALITY CONTROL**

DQC activities will consist of Quality Checks and Reviews, supervisory reviews, PDT reviews, including input from the non-Federal sponsor, and biddability, constructability, operability, and environmental (BCOE) reviews of implementation documents. DQC efforts will include the necessary expertise to address compliance with applicable Corps policy.

The DQC will be managed by the San Francisco District in accordance with Major Subordinate Command (MSC) and District Quality Management Plans. All work products will undergo DQC. This review process will be properly documented and a certification sheet (see example in Attachment 2) will be issued separately for each work product.

#### **7. AGENCY TECHNICAL REVIEW MANAGEMENT**

The ATR for the Petaluma River Flood Control Project will be managed by the RMO. Contact information is provided in Attachment 1 of this Review Plan. A list of ATR reviewers describing qualifications and years of relevant experience will be provided in Attachment 1 upon conferring with the RMO and updated as new ATR reviewers are selected.



a. Agency Technical Review Team (ATRT).

The ATRT will be comprised of individuals that have not been involved in the development of the implementation documents and will be chosen based on expertise, experience, and skills. The members will roughly mirror the composition of the PDT, and come from outside of the San Francisco District, with the ATR Lead being assigned from outside the South Pacific Division. The ATRT will vary in number and composition depending on the work product being reviewed; it is anticipated that the team will require a maximum of six reviewers per work product.

The ATRT will review the all remaining work products. When reviewing these work products, the ATRT should verify that they are sufficiently detailed for each technical specialty. In this way, the criteria that were used, the critical assumptions which were made, and the analytical methods that were used will be evident for purposed review and historical documentation. Verify that it contains summaries of important calculation results and selected example calculations for all critical elements.

b. ATRT Disciplines.

The table below lists the primary disciplines of expertise and experience needed for the ATR. All ATR team members will posses senior level experience in their respective discipline.

Discipline	Experience Needed for Review
ATR Lead/Civil Design	Civil engineer with experience in the design and construction of reinforced concrete elements and structural connections as generally applied to flood control systems.
Geotechnical Engineering	Geotechnical engineer proficient in interpretation of geotechnical sampling and laboratory testing, the application of results in the design of earth retaining structures and evaluation of I-walls, and generalized experience with embankment stability and seepage analyses, foundation design, and a number of other closely associated technical subjects. Member should be familiar with Slope/W, Seep/W, and Plaxis engineering software or equivalent, and the engineering theory that is the basis thereof.
H&H/Coastal Engineering	Engineer familiar with for the principles of evaluating channel loading and flow capacity, field data collection, and other technical subjects related to coastal/river engineering and stream bank protection.
Environmental Resources	Environmental planner familiar with the principles of ecology, environmental evaluation and compliance requirements pursuant to the “Procedures for Implementing NEPA” (ER 200-2-2) and other Federal planning requirements applied in the planning of Civil Works projects.
Cost Engineering	Cost estimating review will be conducted by the Civil Works Cost Engineering MCX at the Walla Walla District.
Construction Management	Engineer with construction management experience in driving pipe- and sheet piles, earthwork, and a number of other closely associated technical subjects related to the construction of flood control features.

c. Communication of ATR.

The communication plan for the ATR is as follows:

1. The team will use DrChecks to document the ATR process. The San Francisco District DrChecks representative 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 PDF or Word format at: <https://safe.amrdec.army.mil/SAFE2/> at least one business day prior to the start of the comment period.
2. At the discretion of the ATRT, 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 provide a presentation about the project, including photos of the site, for the team.
3. The project engineer 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.
4. A revised electronic version of the report and appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/usace/> for use during back checking of the comments.
5. Team members shall contact ATR 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.
6. 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.
7. The ATR Team Leader and the project engineer will prepare a memo certifying that ATR has been completed and all technical issues have been resolved.

d. Funding of ATR.

1. The Project Manager (PM) shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through government order. The PM 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 ATR reviews varies depending on the work product, with an estimated range from \$8,000 to \$20,000. Any funding shortages will be negotiated on a case-by-case basis and in advance of a negative charge occurring.
2. 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.
3. Reviewers shall monitor individual labor code balances and alert the PM to any possible funding shortages.

e. Timing and Schedule.

1. Throughout the development of the implementation documents, the team will conduct seamless review to ensure timeliness and quality of the work product.
2. ATRs will be conducted on the final draft versions of the work products; and if changes are made to the final draft version, those changes will be reviewed in the final version of the document.
3. At the discretion of the PDT, a “page-turn” session may be held by the PDT to review the draft version to ensure consistency across the disciplines and resolve any issues prior to the start of ATR. Writer/editor services will be performed on the draft prior to ATR as well.
4. The ATR process for all work products will follow timelines and milestones given in the project’s P2 schedule. The P2 schedule will be kept current and updated at least annually. Actual dates will be scheduled once the period of review draws closer. All products produced for these milestones will be reviewed, including those produced as in-kind services by the non-Federal sponsor (should that be applicable to this project), and products developed by contractors.

f. ATR Review Responsibilities.

1. ATRT responsibilities are as follows:
  - a. Reviewers shall review the work products 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 report 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 fact.
  - c. Grammatical and editorial comments shall not be submitted into DrChecks. Comments should be submitted to the ATR Team Leader via electronic mail using tracked changes feature in the Word document or as a hard copy mark-up. The ATR Team Leader shall provide these comments to the Project Engineer.
  - d. Review comments shall contain these four principal elements:
    - i. a clear statement of the concern
    - ii. the basis for the concern
    - iii. the significance of the concern
    - iv. 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 Team Leader and/or the Project Engineer first.
2. PDT Team responsibilities are as follows:
  - a. The team shall review comments provided by the ATRT 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.

g. ATR Resolution of Disputes.

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 initiate the resolution process. If reviewer and responder cannot resolve a comment, it should be brought to the attention of the ATR Team Leader and, if not resolved by the ATR Team Leader, it should be brought to the attention of the Engineering Chief who will need to sign the certification. ATR members shall keep the ATR Team Leader informed of problematic comments.

h. Certification of ATR.

To fully document the ATR process, a statement of technical review will be prepared. A statement of review completion will be signed by the ATR Team Leader and the District’s Engineering and Technical Services Division Chief once all issues raised by the reviewers have been addressed to the review team’s satisfaction and the final version is ready for submission. Indication of this concurrence will be documented by the signing of a certification statement by the MSC’s Chief of Business Technology Division (Attachment 3). A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process. An interim certification will be provided by the ATR Team Leader to indicate concurrence with the report to date until the final certification is performed when the work product is considered final.

## **8. INDEPENDENT EXTERNAL PEER REVIEW (IEPR) MANAGEMENT**

Type II IEPR safety assurance review (SAR) is conducted on design and construction activities for hurricane/storm and flood risk management projects where potential hazards pose a significant threat to life safety. The District’s Chief of Engineering and Technical Services Division has determined that a Type II IEPR (SAR) is not required for the remaining features to be constructed (Figure 2) at the Petaluma River flood control project. Therefore, Type II IEPR will not be conducted on the project and is not included in this Review Plan.

The completion of the sheet pile retaining walls (Figure 2) will improve channel capacity and the performance of the entire project through enlarging the channel cross-section to the authorized dimensions. The top of the new retaining wall will conform to existing grade. Flooding via overtopping is unchanged through the construction of the retaining wall and presents no significant threat to life safety.

## **9. POLICY AND LEGAL COMPLIANCE REVIEW**

Policy and legal compliance review are usually only conducted on decision documents, and the subsequent implementation documents are based on these policy and legally compliant documents. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods, compliance with the authorized project, and the presentation of findings in decision documents.

The plans and specifications for construction will undergo policy and legal review at the San Francisco District.

## 10. VALUE ENGINEERING

Plans and specifications to finish construction at the Petaluma River project were completed in September 2014. The estimated cost was approximately \$1.9M and does not require a VE study per ER 11-1-321.

## 11. PUBLIC AND AGENCY REVIEW

There have been numerous public and agencies reviews of various work products over the life of this project. With the project being nearly complete, future public and agency review will be limited to issues for completion of the Petaluma River flood control project.

## 12. REVIEW SCHEDULES AND COSTS

### a. DQC Schedule and Cost.

All work products identified in Section 4 of this Review Plan will undergo DQC. Seamless DQC review will be conducted on each work product as it progresses and is finished. Costs for the DQC for each work product will be presented in scopes of services for each discipline and included in the annually updated PMP.

### b. ATR Schedule and Cost.

Task	Estimated Cost	Estimated Due Date
Evaluation of existing I-wall report	\$4,000	August 2013
Project OMRR&R manual	\$28,000	2015 [post-construction]
P&S for sheet pile extension and repairs	\$20,000	October 2014

## 13. REVIEW PLAN APPROVAL AND UPDATES

The San Francisco District requests that the South Pacific Division Commander endorse the above recommendations and approve this Review Plan as described in Appendix B, Section 6, of EC 1165-2-214.

The Review Plan is a living document and may change as the project progresses. The San Francisco District is responsible for keeping the Review Plan up to date. Future minor changes to the Review Plan will be documented in Attachment 5. Significant changes to the Review Plan (such as changes to the scope and/or level of review) will be re-approved by the South Pacific Division Commander following the process used for initially approving the plan.

## 14. POINTS OF CONTACT

Questions about this Review Plan may be directed to Nicholas Malasavage (415-503-6915; [nicholas.e.malasavage@usace.army.mil](mailto:nicholas.e.malasavage@usace.army.mil)) or the Project Manager Caleb Conn (415-503-6849; [caleb.b.conn@usace.army.mil](mailto:caleb.b.conn@usace.army.mil)).

**INDEPENDENT EXTERNAL PEER REVIEW (IEPR) TYPE II ASSESSMENT AND AGENCY  
TECHNICAL REVIEW (ATR) ASSESSMENT**

I have assessed the conditions in the Review Plan for the Petaluma River Flood Control Project in Petaluma, CA to verify if there is not a significant threat to human life or to project performance. I concur with the project delivery team's life safety and project performance risk presented in Section 8 of this Review Plan. I concur there are no existing or potential hazards or risks that pose a significant threat to human life and project performance. I certify that an IEPR Type II Safety Assurance Review is not required. Project features remaining to be constructed consist of retaining walls that conform to the existing top of bank elevations. The completed structures and appurtenances of the project meet current respective design criteria and successfully performed to an approximately design capacity event in December 2005 with no noted negative performance or impacts. The district will perform a District Quality Control (DQC) review for all products, and a biddability, constructability, operability, environmental, and sustainability (BCOES) review, where applicable. The district will coordinate ATR appropriate to the scope of each product described in this review plan.

---

Lyn Gillespie  
Chief of Engineering and Technical Services  
San Francisco District

Date

**ATTACHMENT 1: TEAM ROSTERS**

**PROJECT DELIVERY TEAM**

<b>Name</b>	<b>Discipline</b>	<b>Phone</b>	<b>Email</b>
Legese Abebe	Civil Design	(415) 503-6933	legese.t.abebe@usace.army.mil
Chris Eng	Environmental	(415) 503-6868	christopher.k.eng@usace.army.mil
Nick Malasavage	Geotechnical Engineering	(415) 503-6915	nicholas.e.malasavage@usace.army.mil
Patrick Sing	Water Resources	(415) 503-6950	patrick.f.sing@usace.army.mil
York So	Cost Engineering	(415) 503-6878	york.j.so@usace.army.mil
Mark Clark	Survey & Datum	(415) 289-3334	mark.d.clark@usace.army.mil
Caleb Conn	Project Management	(415) 503-6849	caleb.b.conn@usace.army.mil

**AGENCY TECHNICAL REVIEW TEAM**

<b>Name</b>	<b>Discipline</b>	<b>Phone</b>	<b>Email</b>
James Winters	ATR Lead/Civil Structural	(501)324-6963	james.l.winters@usace.army.mil
Terry Sullivan	Geotechnical Engineering <sup>a</sup>	(502)315-6299	terry.m.sullivan@usace.army.mil
Bruce Watson	Geotechnical Engineering	(501)324-5151	bruce.w.watson@usace.army.mil
To Be Determined	Water Resources		
Michael Scuderi	Environmental Resources	(206)764-7205	michael.r.scuderi@usace.army.mil
To Be Determined	Cost Engineering		

a. Terry Sullivan will only be the ATR Reviewer for the Evaluation of the Existing I-wall Report.

**VERTICAL TEAM**

<b>Name</b>	<b>Discipline</b>	<b>Phone</b>	<b>Email</b>
Paul Devitt	District Support Team	(415) 503-6558	paul.a.devitt@usace.army.mil
Pauline Acosta	Regional Integration Team	(202) 761-4085	pauline.m.acosta@usace.army.mil
Marc Goodhue	South Pacific Division Business Technical Division	(415) 503-6568	marc.j.goodhue@usace.army.mil

**ATTACHMENT 2: SAMPLE DQC CERTIFICATION SHEET**



**DISTRICT QUALITY CONTROL CERTIFICATION  
COMPLETION OF QUALITY CONTROL ACTIVITIES**

The District has completed the (insert work product here) for the Petaluma River flood control project.

Certification is hereby given that all quality control activities appropriate to the level of risk and complexity inherent in the product have been completed.

**GENERAL FINDINGS**

Compliance with clearly established policy principles and procedures, utilizing clearly justified and valid assumptions, has been verified. This includes assumptions; methods, procedures and materials used in analyses; alternatives evaluated; the appropriateness of data used and level of data obtained; and the reasonableness of the results. The undersigned recommends certification of the quality control process for this product.

\_\_\_\_\_  
[Name of DQC member]  
[Position Title]  
[Office Symbol]

\_\_\_\_\_  
Date

**ATTACHMENT 3: SAMPLE ATR CERTIFICATION SHEET**

**STATEMENT OF TECHNICAL REVIEW  
COMPLETION OF AGENCY TECHNICAL REVIEW**

The San Francisco District has completed the review of the (insert work product here) for the Petaluma River flood control project. Notice is hereby given that an agency technical review (ATR) 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 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 result, including whether the product meets the customer's needs consistent with law and existing Corps policy. All comments resulting from the ATR have been resolved.

\_\_\_\_\_  
[Name]  
ATR Team Leader  
[Office Symbol or AE Firm]

\_\_\_\_\_  
Date

\_\_\_\_\_  
Lyn Gillespie, P.E.  
Chief, Engineering & Technical Services Division  
CESPN-ET

\_\_\_\_\_  
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 independent technical review of the project have been fully resolved.

\_\_\_\_\_  
Clyde Y. Okazaki, P.E.  
Chief, Business Technology Division  
CESPD-RBT

\_\_\_\_\_  
Date

#### ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<b><u>Term</u></b>	<b><u>Definition</u></b>
ATR	Agency Technical Review
ATRT	Agency Technical Review Team
BCOE	Biddability, Constructability, Operability, and Environmental
CoP	Community of Practice
DDR	Design Documentation Report
DQC	District Quality Control/Quality Assurance
DST	District Support Team
DX	Directory of Expertise
EC	Engineer Circular
ESA	Endangered Species Act
HQUSACE	Headquarters, U.S. Army Corps of Engineers
HTRW	Hazardous, Toxic, or Radioactive Waste
HWRP	Hamilton Wetlands Restoration Project
IEPR	Independent External Peer Review
LERR	Lands, Easements, Rights of Way, and Relocations
MHEA	Middle Harbor Enhancement Area
MLLW	Mean Lower Low Water
MSC	Major Subordinate Command
MWRP	Montezuma Wetlands Restoration Project
NEPA	National Environmental Policy Act
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
PCX	Planning Center of eXpertise
PDT	Project Delivery Team
PL	Public Law
PM	Project Manager
PMP	Project Management Plan
P&S	Plans and Specifications
RIT	Regional Integration Team
RMC	Risk Management Center
RMO	Review Management Organization
SAR	Safety Assurance Review
USACE	U.S. Army Corps of Engineers

**ATTACHMENT 5: SUMMARY OF CHANGES TO THE REVIEW PLAN**

This page will document all of the minor changes that were made to the Review Plan after its approval by the South Pacific Division Commander.

<b>Date</b>	<b>Description of Changes</b>