



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

23 APR 2009

CESPD-PDC

MEMORANDUM FOR Commander, San Francisco District, ATTN: CESPN-PF,

Subject: Review Plan Approval for the South San Francisco Bay Shoreline Interim Feasibility Study.

1. The attached Review Plan for the South San Francisco Bay Shoreline Interim Feasibility Study has been prepared in accordance with EC 1105-2-410.
2. The Review Plan will be made available for public comment, and the comments received will be incorporated into future revisions of the Review Plan. The Review Plan has been coordinated with the Flood Risk Management Planning Center of Expertise (PCX) of the South Pacific Division which is the lead office to execute this plan. For further information, contact the PCX, at 415-503-6852.
3. The Review Plan includes independent external peer review.
4. I hereby approve this Review Plan, which is subject to change as study circumstances require. This is consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

5 Encls

1. District Memo
2. Review Plan
3. FRM-PCX Memo
4. FRM-PCX Checklist
5. SPD Checklist

*for* *a 2 Reed*  
JANICE L. DOMBI  
COL, EN  
Commanding



DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, SAN FRANCISCO  
CORPS OF ENGINEERS  
1455 MARKET STREET  
SAN FRANCISCO, CALIFORNIA 94103-1398

CESPN-ET-PF


16 April 2009

MEMORANDUM FOR: South Pacific Division District Support Team, ATTN: CESPN-PDC (Dwyer)

SUBJECT: Request for Approval of Review Plan for the South San Francisco Bay Shoreline Interim Feasibility Study.

1. In accordance with EC 1105-2-410, Review of Decision Documents, dated 22 August 2008, the subject Review Plan is provided for MSC approval by the Commander, South Pacific Division (Enclosure 1). This is the first submittal of a Review Plan for the subject study.
2. This Review Plan is in compliance with above EC and has been coordinated with the applicable Planning Centers of Expertise (PCX). The PCX for Flood Risk Management is designated as the lead PCX, and as such, coordinated the Review Plan with the PCX for Ecosystem Restoration. The PCX concurrence memorandum is provided as Enclosure 2.
3. Please address any questions about this Review Plan to [redacted] who is serving as the SPN POC for this Review Plan, at [redacted]. Upon approval of this Review Plan, please provide notification to this office so we can post it to the San Francisco District public website. Upon posting of the approved Review Plan, the District will notify the vertical team. I appreciate your quick attention to this matter.

Sincerely,

  
Thomas R. Kendall  
Chief, Planning Branch  
San Francisco District

15 April 2009

MEMORANDUM FOR

San Francisco District

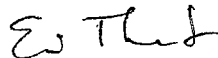
SUBJECT: South San Francisco Bay Shoreline, California, Feasibility Study Review Plan

1. The Flood Risk Management Planning Center of Expertise (FRM-PCX) has reviewed the Review Plan (RP) for the subject study and concurs that the RP satisfies peer review policy requirements outlined in Engineering Circular (EC) 1105-2-410 Review of Decision Documents, dated 22 August 2008.

2. The review was performed by \_\_\_\_\_ of New Orleans District. The RP checklist documenting the review is attached.

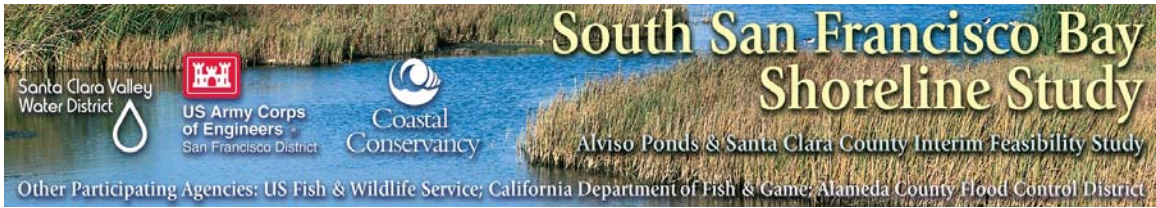
3. The FRM-PCX recommends the RP for approval by the MSC Commander. Upon approval of the RP, please provide a copy of the approved RP, a copy of the MSC Commander approval memorandum, and the link to where the RP is posted on the District website to \_\_\_\_\_ Program Manager for the FRM-PCX and \_\_\_\_\_ lead Regional Technical Specialist for the FRM-PCX

4. Thank you for the opportunity to assist in the preparation of the RP. Please coordinate the Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Model Certification efforts outlined in the RP with me.



Encl

Program Manager, FRM-PCX



**REVIEW PLAN**

**SOUTH SAN FRANCISCO BAY SHORELINE STUDY  
ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY**

**UNITED STATES ARMY CORPS OF ENGINEERS  
SAN FRANCISCO DISTRICT**

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**April 15, 2009**

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**FRM-PCX REVIEW**

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**REVIEW PLAN**

**SOUTH SAN FRANCISCO BAY SHORELINE STUDY  
ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY  
SAN FRANCISCO DISTRICT**

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**APPENDICES**

Appendix A: Statement of Technical Review and Certification Templates

Appendix B: Review Plan Teams

Appendix C: Shoreline Study Products for Review

## REVIEW PLAN

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### SOUTH SAN FRANCISCO BAY SHORELINE STUDY ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY SAN FRANCISCO DISTRICT

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#### 1. PURPOSE AND REQUIREMENTS

**A. Purpose.** This document outlines the Review Plan for the South San Francisco Bay Shoreline Study, Alviso Ponds and Santa Clara County Interim Feasibility Study (Shoreline Study) and is a component of the Shoreline Study's Project Management Plan (PMP). This feasibility study process is anticipated to culminate in a decision document to Congress for potential authorization of a new project. Engineering Circular (EC) *Review of Decision Documents*, EC 1105-2-410, dated 22 August 2008, (1) established procedures to ensure the quality and credibility of Corps decision documents by adjusting and supplementing the review process, and (2) required that documents have a peer review plan. That EC applies to all feasibility studies and reports and any other reports that lead to decision documents that require authorization by Congress. The Shoreline Study is anticipated to result in recommendations to Congress for authorization of a project and is therefore covered by this EC.

**B. Requirements.** EC 1105-2-410 outlines three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent External Peer Review (IEPR). This document addresses review of the decision document (Feasibility Report and Environmental Impact Statement/Report), interim milestone planning documents, and key technical analyses as it pertains to the level of review and planning coordination with the appropriate PCX. The study is a Congressionally-authorized study being performed by the San Francisco District together with local sponsors to identify and recommend for Federal funding one or more projects for flood risk management (riverine and coastal flooding), ecosystem restoration and related purposes such as public access. The primary purpose for the study is flood and coastal storm damage reduction and the secondary purpose is ecosystem restoration. As such, the primary PCX will be the PCX for Flood Risk Management (FRM), and the secondary PCXs will be the PCX for Coastal Storm Damage Reduction (CSDR) and the PCX for Ecosystem Restoration (ER). Coordination between the three PCXs will be performed by the FRM-PCX as the primary PCX.

The requirements for each type of review are briefly described below.

(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 Shoreline Study PMP for the study (to which this Review Plan will ultimately be appended). It is managed in the San Francisco 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 Shoreline 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. It is expected that the Major Subordinate Command (MSC)/District QMP addresses the conduct and documentation of this fundamental level of review. A Quality Control Plan (QCP) is included in the PMP for the subject study and addresses DQC; DQC is not addressed further in this Review

Plan. DQC is required for this study. A template for DQC certification is included in Appendix A.

DQC will be funded through the supervisory and administrative budget associated with each technical task. This funding represents approximately 10% of the budget for each task.

(2) Agency Technical Review. ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.) and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the home MSC. EC 1105-2-410 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 Shoreline Study. ATR is required for this study. A template for ATR certification is included in Appendix A.

(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. 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. This Review Plan outlines the planned approach to meeting this requirement for the Shoreline Study. 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 1105-2-410 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 preliminary, draft and final feasibility report and environmental impact statement. A certification of legal review template is included in Appendix A.

(5) Planning Center of Expertise (PCX) Coordination. EC 1105-2-410 outlines PCX coordination in conjunction with preparation of the Review Plan. This Review Plan is being coordinated with the PCX for FRM. The PCX for FRM will coordinate with the PCXs for CSDR and ER as appropriate. The PCX for FRM is responsible for the accomplishment and quality of ATR and IEPR for the Shoreline Study. The PCX for FRM may conduct the review or manage the review 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 1105-2-410 and the MSC's QMP, the Review Plan must be approved by the applicable MSC, (e.g. the Commander, South Pacific Division (SPD)). Once the Review Plan is approved, the San Francisco District will post it to its district public website and notify SPD and the PCX for FRM.

(7) Safety Assurance Review. In accordance with Section 2035 of WRDA 2007, EC 1105-2-410 requires that all projects addressing flooding or storm damage reduction undergo a safety assurance review during design and construction. Safety assurance factors must be considered in all reviews for those studies. Implementation guidance for Section 2035 is under development. When guidance is issued, the study will address its requirements for addressing 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 identified for construction, a PMP will be developed that will include safety assurance review. Safety assurance review will also be accomplished during construction.

## **2. PROJECT DESCRIPTION**

**A. Decision Document.** The South San Francisco Bay Shoreline Study is a Congressionally-authorized General Investigation study being performed by the San Francisco District together with local sponsors to identify and recommend for Federal funding one or more projects for flood risk management, ecosystem restoration and related purposes such as public access. The study will be performed through several "Interim Feasibility Studies", the first of which will investigate flood risk reduction for all Santa Clara County Baylands, from Palo Alto to Alviso, and portions of southern Alameda County in addition to the restoration of natural habitats in former salt production ponds within the Alviso Pond complex and adjacent properties such as areas around Moffett Field. This Review Plan covers the first interim feasibility study, the South San Francisco Bay Shoreline Study, Alviso Ponds and Santa Clara County Interim Feasibility Study (Shoreline Study).

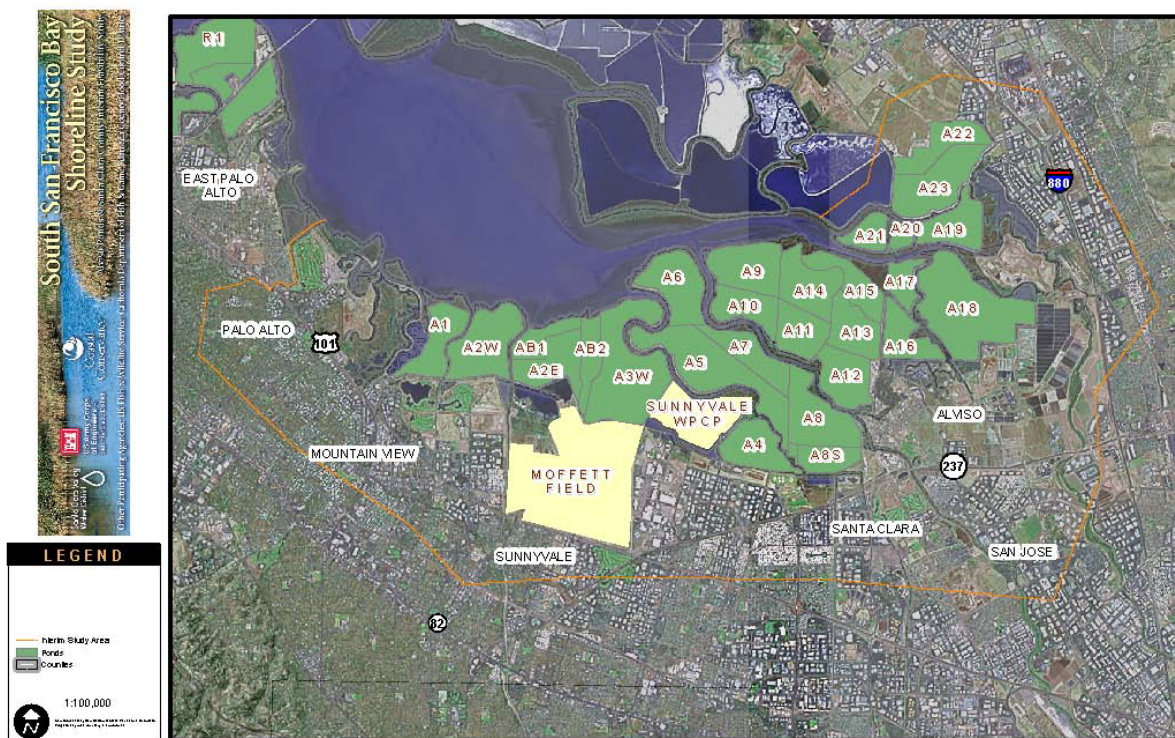
The Shoreline Study is being funded through a partnership memorialized in a Federal Cost Sharing Agreement among the Corps, the Santa Clara Valley Water District and the California State Coastal Conservancy. The U.S. Fish and Wildlife Service and other land-owning agencies within the project area will also be involved in the planning process.

Various flood risk management strategies will be examined in the Shoreline Study, such as increasing flood capacities of local creeks by widening the mouths of waterways and reestablishing historical flood plains. Although flooding risks from individual creeks have been reduced by a number of existing projects in the area, the Shoreline Study area remains vulnerable to tidal flooding. In Santa Clara County, there are several streams that carry runoff through the valley and north to San Francisco Bay. The two largest rivers — the Guadalupe River and Coyote Creek — have been retrofitted to provide flood risk reduction to most communities along their banks, including the community of Alviso in north San Jose. However, it is the Shoreline Study that will examine tidally induced flooding in these communities.



To help guide the ecosystem restoration and flood risk management aspect of the planning effort, the Shoreline Study will incorporate findings from the South Bay Salt Pond Restoration Project, a CSCC-led effort to restore historic wetlands on 15,100 acres of former salt-harvesting ponds in the South Bay.

**B. General Site Description.** The site is shown in Figure 1 and encompasses the South San Francisco Bay shoreline area of Santa Clara County and a portion of Alameda County. It includes 8,000 acres of former salt production ponds that are now part of the Don Edwards San Francisco Bay National Wildlife Refuge, Moffett Federal Airfield, three regional wastewater treatment plants, and portions of the cities of Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose, and Milpitas. The area is relatively flat and is drained by 15 creeks/sloughs that flow into South San Francisco Bay.



**Figure 1. Shoreline Study Area**

**C. Project Scope.** The scope of the Shoreline Study is tidal and fluvial flood risk management, environmental restoration and protection and related purposes along the South San Francisco Bay shoreline in the Alviso Ponds and Santa Clara County geographic area. The study has two non-Federal sponsors: the Santa Clara Valley Water District (SCVWD) and the California State Coastal Conservancy (CSCC). SCVWD is the primary water resources agency for Santa Clara County, California. It acts not only as the county's water wholesaler, but also as its flood protection agency and is the steward for its streams and creeks. The CSCC acts with others to preserve, protect and restore the resources of the California coast. Together they have primary interests of habitat restoration of the South San Francisco Bay shoreline while providing for flood protection of Silicon Valley.

**D. Problems and Opportunities.**

Problems:

- 1) Loss of wetlands and development in wetlands in the San Francisco Bay Area: The San Francisco Bay Estuary is the largest estuary on the west coast of North America and provides a unique habitat for a great diversity of estuarine species. Diking or filling has destroyed approximately 90 percent of the original tidal wetlands of San Francisco Bay (Baylands Ecosystem Habitat Goals, San Francisco Bay Area Wetland Ecosystem Goals Project, March 1999). The loss of tidal wetlands has greatly reduced the amount of habitat available to many species of fish and wildlife. Several animal and plant species native to California, including the salt marsh harvest mouse and the California clapper rail, have been listed as endangered on State and Federal lists due to the severe reduction of wetland habitats (Science Strategy, South Bay Salt Pond Restoration Project, April 2004).
- 2) Loss of flood plain and potential for flood damage in the project area: Potential flood damages within the study area are primarily due to development within the natural tidal and fluvial flood plains and past land subsidence due to overdraft pumping of groundwater. Extensive areas along the South San Francisco Bay shoreline are lower in elevation than the regular tides in the Bay and are potentially subject to tidal flooding. Much of the developed areas in the tidal flood plain are protected by substandard levees, including levees built to create salt ponds. These levees are subject to overtopping during high tides and potential failure. The levees also constrain stream channels conveying runoff from upstream areas into the Bay. The capacity of these constrained channels is further reduced during high tides, potentially increasing the risk of fluvial flooding and causing drainage problems. Past land subsidence is major factor contributing to potential tidal and fluvial flooding, particularly in the Alviso Complex, the portion of the study with the greatest potential flood problems. Flood damages to the Silicon Valley region would have significant impacts to the economy of the Bay Area, the State of California, and the United States. The previous South San Francisco Bay Shoreline study showed that tidal flooding has not been a significant source of flood damages in the past and did not identify an economically justified flood damage reduction project for the area, but several new factors could result in the development of economically feasible flood damage reduction measures. These factors include: (1) the use of risk analysis to better quantify the potential for flooding and the magnitude of flood damages, (2) the potential increase in flood damages due to intensification of land uses in the study area, particularly the increase in high tech businesses that can sustain flood damage even with shallow flooding depths, and (3) the formulation of plans to achieve multiple purposes that may produce economic efficiencies due to shared costs among purposes.
- 3) Increased potential for flood damage due to transfer of salt ponds and associated change in management regime: Prior Corps' studies concluded that the existing salt ponds and levees provide significant (but incomplete) protection against coastal flooding, even though the levees were not engineered structures. This was based on an analysis of flood potential and historic flooding, and predicated on the need and ability to maintain levees for salt production. Since the salt production is not being pursued, levee maintenance may not be economically viable and the risk of flooding and flood related damages to nearby communities might increase. In addition, breaching bayside levees to restore tidal action to the salt complex may affect the level of flood protection in adjacent areas.
- 4) Proliferation of non-native plant and animal species: The proliferation of non-native species in the San Francisco Bay has negatively impacted native species, caused shifts in food webs, and created other ecosystem-level changes (Science Strategy, South Bay Salt Pond Restoration Project, 2004). Smooth cordgrass (*Spartina alterniflora*) is one of the most problematic invasive plant species in the project area; its presence within vegetated wetlands can shift mudflat distributions, change creek geomorphology, and affect habitat conditions. Other non-native species in the project area include: perennial pepperweed

(*Lepidium latifolium*), glasswort (*Salsola soda*), the Chinese Mitten Crab (*Eriocheir sinensis*), and non-native predators such as the red fox, cats, and dogs.

- 5) Reduced salinity in the South Bay: Increased discharges from water pollution control plants and urban runoff have shifted the natural salinity gradient in South San Francisco Bay. The reduction in tidal prism in the far south bay due to sedimentation also contributes to the shift. If Bay salinity continues to change, there could be large-scale impacts on the ecosystem.

Opportunities:

- 1) To provide public access and recreational opportunities compatible with wildlife and habitat goals;
- 2) To increase habitat acreage for special-status species and native South San Francisco Bay species;
- 3) To enhance existing salt pond habitat to benefit special status wildlife and migratory birds;
- 4) To establish connections between tidal marsh and adjacent habitats;
- 5) To address predators and invasive species on a regional level;
- 6) To improve flood control in the project area;
- 7) To restore historic geomorphic features such as channels and sloughs;
- 8) To improve the health and water quality of the San Francisco Bay (by increasing wetland acreage and by increasing overall primary productivity in the South Bay ecosystem by restoring tidal marshes);
- 9) To improve sediment quality; and
- 10) To reshape the landscape away from the present emphasis on salt production and consistent with the multiple objectives of ecosystem restoration and flood control (coastal and fluvial).

**E. Potential Methods.**

A wide variety of methods to achieve the project objectives will be considered during the Feasibility Phase, some of which might be found to be infeasible due to technical, economic, or environmental constraints. The following methods (and others) will be assessed and a determination will be made regarding whether they should be retained in the formulation of alternative plans:

- 1) Methods to reduce flood risk
  - a) Non-Structural
    - i. Relocate homes/businesses in flood-prone areas
    - ii. Create flood management plan
    - iii. Floodproof structures
    - iv. Raise structures
    - v. Create a flood warning system and evacuation plan
  - b) Structural
    - i. Channel/hydrodynamic modification/sediment dredging: This measure would increase channel capacity, resulting in decreased water levels and lowered risk of overtopping.
    - ii. Flood-control levees, setback levees: Expansion of tributary channels and associated floodplain via removal and/or reconstruction of levees farther from the channel will provide a slight increase in flood storage and major increase in conveyance of fluvial floodwaters. The associated increase in tidal prism will scour the channel, resulting in

expansion of the channel cross-section and decreased water levels in the tributary channel.

- iii. Construct/improve inboard salt pond levees: This measure would create/improve levees generally parallel to the shoreline between the creek channels. If improved inboard levees are tied-in to the existing channel levees, any of the other salt pond levees can be modified or removed without affecting developed areas, providing maximum flexibility in the future restoration and management of the salt ponds
- iv. Construct managed ponds and tidal ponds as detention basins or floodplain: This measure would add features to the ponds to allow them to be used for floodplain storage and conveyance.
- v. Breaching along tidal creeks: This measure would increase channel scour and conveyance

## 2) Methods to establish tidal marsh habitat and associated tidal habitats

### a) Non-Structural

- i. Plant native vegetation species
- ii. Land-use management plan
- iii. Remove non-native plant species such as *Spartina alterniflora* through physical (covering, physical removal, or prescribed burns), chemical, or mechanical (mowing) techniques.
- iv. Remove or break up gypsum deposits where necessary.

### b) Structural

- i. Levee breaches: Ponds could be breached to reestablish tidal action within the ponds and allow tidal marsh formation.
- ii. Ditch blocks: Ditch blocks could be used to block flow through artificial (human made) channels to route flow through natural channels with higher habitat value.
- iii. Levee lowering: A portion of the levees could be lowered to create new tidal marsh, improve habitat continuity between the existing fringing marshes and the marshes that are expected to form within the ponds.
- iv. Import and placement of sediment/dredged material: Rather than rely on natural sedimentation, the project could import large quantities of dredged sediment to accelerate habitat evolution and/or the creation of seasonal wetland, transition zones at the upper edge of tidal marshes, and upland habitat. Sediment would most likely be imported from sources within the San Francisco Bay and from associated fluvial systems.
- v. Starter channels: Starter channels may be excavated where channel development is expected to be slow or limited in extent.
- vi. Berms: Berms could facilitate rapid development of a diversity of marsh habitat by providing ground elevations conducive to vegetation establishment, by dissipating wave energy, by creating more sheltered conditions conducive to sedimentation and vegetation colonization, and by acting as sacrificial sources of sediment to the rest of the pond.
- vii. Excavation and grading of coastal uplands: This measure would increase the acreage of tidal wetlands and could be used to create different types of habitat such as salt marsh, intertidal flats, tidal creeks, and permanent pools for marine communities. Grading and

filling could also be used to create a gradual upland transition and refugia.

- viii. Cover of contaminated sediment: Some of the Alviso Ponds are in the Guadalupe River delta that received mercury-laden sediments from the Almaden mercury mine in the past. This measure would cover these sediments during or prior to ecosystem restoration.

3) Methods to improve pond habitat

- a) Salt Pond Levee reinforcements: Ponds that will be retained as shallow and deep-water pond habitat might require levee reinforcements to offset the risk of breaches, the likelihood of which will be determined from levee surveys performed during the Feasibility phase.
- b) Replacement and installation of water control structures: Ponds to be retained might be equipped with new and/or upgraded water control structures to allow effective management of water level and salinity. The restoration effort would use the existing water conveyance infrastructure to the greatest degree possible. However, if existing water conveyance structures were deteriorated, refurbishing or replacement would be required. In addition, it might be necessary to install new intakes, outfalls, and other water conveyance structures (such as pumps, siphons, weirs, and fish screens).
- c) Construct internal pond levees: Internal levees may be constructed to manage pond water levels more effectively, or to subdivide tidal and managed pond habitat to create continuous tidal corridors.
- d) Internal islands: Creation of internal islands in the ponds could provide nesting and roosting habitat for migratory birds. Island would also provide some protection from introduced mammalian predators.
- e) Grading of Pond Bottoms: Grading within the ponds could be used to create nesting islands and other habitat features.
- f) Water Management Plan: Along with installation of water control structures and physical improvements, the ponds will need a management plan that details the ideal water levels and salinities over the course of a year. Different species of migratory birds have preferences for different water levels and salinities and use the ponds at different times of the year.

**F. 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 geotechnical investigations and analyses, water quality investigations and analyses, and biological investigations and analyses. All in-kind work products will undergo review by the PDT for a determination of adequacy; products will ultimately undergo DQC. Products will also undergo ATR and IEPR (described later in this Review Plan).

**G. 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.

**H. Model Certification.** For the purposes of this Review Plan, 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 Review Plan does not cover engineering models used in planning which will be certified under a separate process to be established under the Engineering and Construction (E&C) Science and Engineering Technology (SET) initiative.

The computational models to be employed in the Shoreline 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. The planning models are:

1. HEC-FDA 1.2.4 (Certified): This model, developed by the Corps' Hydrological Engineering Center, will assist the PDT in applying risk analysis methods for flood damage reduction studies as required by, EM 1110-2-1419. This program:
  - o Provides a repository for both the economic and hydrologic data required for the analysis
  - o Provides the tools needed to understand the results
  - o Calculates the Expected Annual Damages and the Equivalent Annual Damages
  - o Computes the Annual Exceedence Probability and the Conditional Non-Exceedence Probability
  - o Implements the risk-based analysis procedures contained in EM 1110-2-1619
2. Various habitat evaluation models. The Ecosystem Restoration Planning Center of Expertise has responsibility for approving ecosystem output methodologies for use in ecosystem restoration 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 Ecosystem 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
4. Flood Damage Model Developed in Excel with the @Risk Program. The HH&C modeling work for this study is unusually complex, and the outputs of the model are unique relative to most flood risk management studies. The non-traditional outputs of the HH&C modeling effort, which includes floodplains modeled with the consideration of levee failure and sea level rise, requires a unique, study-specific model be developed to estimate the damages from flooding. For example, for traditional fluvial flooding damage analyses where levees are involved, four main contributing relationships are entered into the HEC-FDA program to estimate the expected annual damage: frequency-discharge, stage-discharge, stage-damage, and geotechnical levee failure curves. Given that the source of flooding in this case is from the coastal waters, there are no discharge (flow) relationships as there would be for fluvial flooding. This is not necessarily a problem since the HEC-FDA program can run without the discharge relationships specified, but, since FDA was designed for fluvial flooding analysis, it calls into question the need to, advantages of, using the FDA program for this study. Also,

whereas the probability of levee failure at various stages would typically be a part of the FDA model, the probability of failure was developed for ERDC's model for separate modes of failure (erosion by wave attack, erosion from attacking the inner toe from overtopping and static failure), and the failure analysis was then encoded into the coastal Monte Carlo. These two factors seem to make unnecessary any formal consideration of levee failure in the economic damage analysis (the probability is already part of the floodplain construction). The statistics associated with the exceedence probability-stage function should capture the uncertainty associated with this relationship.

In lieu of the FDA program, a spreadsheet model will be created within Microsoft Excel that relies on the @Risk program (which is a statistical and risk-analytical package that is an add-on to Excel) to model structural and non-structural flooding damages. The @Risk model will be developed to estimate damages from numerous single storm events, which provides as an output a mean damage estimate and a corresponding standard deviation. The @RISK model will allow for direct entry of water depths at each parcel (structure), combining this information with data on the foundation height and structure characteristics at each parcel in the particular floodplain. Like the HEC-FDA program, the @RISK program uses Monte Carlo (or Latin Hypercube) simulation in the calculations. Unlike HEC-FDA though, the @RISK template calculates the damages by referencing the depth of water at each individual structure, as opposed to referencing the structure to a water surface profile that corresponds to a channel or river cross section. The model will be used to calculate and aggregate damages associated with most of the damage categories included in the analysis. These include damages associated with all structures and contents, vehicles, private cleanup costs, and displacement costs. The model will incorporate uncertainty in the analysis by using distributions instead of single point estimates whenever appropriate. The expected annual damages (EAD) will be calculated by collecting the results for all frequency events analyzed and integrating under the exceedence probability-damage curve.

5. Regional Economic Impact Analysis with the IMPLAN Program. The IMPLAN program is owned by the Minnesota IMPLAN Group (MIG), Inc. The program creates a predictive model of the economy in a specified geography by using the information in a database to calculate multipliers that are used to predict the economic effect of a shock to the economy. The software enables the user to customize the basic model by altering various elements of the data. The user specifies the final demand changes, which will result in the impact assessment.

IMPLAN and other software programs like it base their impact predictions on a process known as input-output (I/O) accounting. These models capture inter-industry transactions between businesses and transactions between businesses and final consumers in an economy.

The program will be used to model impacts to the regional economy of project construction and, potentially, regional impacts from a significant storm event.

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. RMA-2: This is the Corps's two-dimensional depth-averaged finite element hydrodynamic model. The model solves the eddy viscosity formulation of the Navier Stokes equations with



nonlinear terms for advection and bottom friction. The model also incorporates the ability to specify control structures. It is used for long wave modeling in this Study.

3. STWAVE: The short wave modeling is being performed using STWAVE. STWAVE (STeady State spectral WAVE) is an easy-to-apply, flexible, robust, half-plane model for nearshore wind-wave growth and propagation. STWAVE simulates depth-induced wave refraction and shoaling, current-induced refraction and shoaling, depth- and steepness-induced wave breaking, diffraction, parametric wave growth because of wind input, and wave-wave interaction and white capping that redistribute and dissipate energy in a growing wave field.
4. HEC-RAS: The function of this model is to complete one-dimensional hydraulic calculations for a full network of natural and man made channels. HEC-RAS major capabilities are:
  - User interface
  - Hydraulic Analysis
  - Data storage and Management
  - Graphics and reporting
5. FLO-2D: FLO-2D is a volume conservation model that distributes a flood hydrograph over a system of square grid elements. The program numerically routes a flood hydrograph while predicting the area of inundation and floodwave attenuation. FLO-2D simulates unconfined overland flow using topographic data files that have been developed from a digital terrain model.
6. ADH (ADaptive Hydraulics Modeling system)
7. BOUSS1D: The wave run-up and overtopping analysis was performed using a 1DH version of BOUSS2D called BOUSS1D. This model solves 1D Boussinesq equations given several combinations of tide, surge, and wave conditions (referred to as parameter space). Specific input parameters are: wave height (Hs), peak wave period (Tp), and water level (WL) (combined tide and storm surge). BOUSS1D does not include wave refraction and therefore must be oriented in the direction of the incoming wave. This requires changing the orientation of each 1D transect for different wave directions. BOUSS1D only estimates overtopping due to waves. The combined 'surge overflow and waves' overtopping estimates were determined using the Hughes-Nadal equations, which were recently published in the Coastal Engineering journal

### 3. AGENCY TECHNICAL REVIEW PLAN

For this General Investigation feasibility study, ATR is managed by the PCX. For this study, due to the heavy emphasis on FRM, the PCX for FRM will identify individuals to perform ATR. The San Francisco District can provide suggestions on possible reviewers.

**A. General.** An ATR Team Leader shall be designated for the ATR process and shall be from outside the home MSC to ensure independence. The proposed ATR Team Leader for this project is to be determined, but will have expertise in project planning. The ATR Team Leader is responsible for providing information necessary for setting up the review, communicating with the Project Planner, 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



project planning, ecosystem restoration, environmental compliance, economics, hydrology, hydraulic and hydrodynamic modeling, hydraulic design, civil design, geotechnical engineering, cost engineering, real estate, cultural resources; reviews of additional disciplines may be identified if necessary.

**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 to the extent practicable come from outside of the South Pacific Division region. The ATRT members are presented in Appendix B.

Because the Shoreline Study will potentially recommend a project that requires Congressional authorization, coordination with the Cost Engineering Directory of Expertise for ATR is required. The ATRT thus includes a member of the Cost Engineering Directory of Expertise.

The expertise desired for Shoreline Study ATR is presented below. All ATRT members must also be familiar with documentation requirements for the Feasibility Scoping Meeting, Alternative Formulation Briefing, Feasibility Report, and the Environmental Impact Statement, both for their primary discipline and for the planning (main) report. All ATRT members must also be familiar with Dr. Checks software and the four-part comment structure:

#### Plan Formulation

- Multipurpose planning, combined NED/NER plan formulation and evaluation
- Flood-risk-management planning
- Ecosystem restoration planning
- Trade-off analysis
- Risk and uncertainty analysis
- Project cost-sharing rules for flood-risk management, ecosystem restoration, and recreation

#### Environmental Planning/Compliance

- National Environmental Policy Act requirements
- Environmental laws and statutes (e.g., Clean Water Act, Coordination Act, Endangered Species Acts)
- California Environmental Quality Act requirements (desired, but not required)

#### Biology/Ecology

- Habitat evaluation procedures
- Landscape evolution modeling
- Ecological processes and quality indicators associated with estuarine habitat
- Ecosystem restoration planning procedures

#### Cultural Resources

- Consultation requirements and other applicable laws regarding cultural resources

#### Sediment Quality

- Sediment quality analysis procedures and requirements, including transport models
- Sediment quality as related to beneficial use (ecosystem restoration)
- Familiarity with: PCBs, dioxin, selenium, pesticides (DDT, dieldrin, diazinon), and mercury

## Water Quality

- Surface and groundwater analysis procedures and requirements, including transport models
- Familiarity with: PCBs, dioxin, selenium, pesticides (DDT, dieldrin, diazinon), nutrients, algae, and mercury

## HTRW

- Environmental Site Assessments (Phase I assessments)
- Soil and groundwater sampling and analysis techniques (Phase II assessments)
- Source and non-source contaminants
- Mitigation/remediation methods and requirements

## Economics

- Cost-Effectiveness Analysis and Incremental Cost Analysis
- Economic analysis of recreation features
- NED analysis
- NED/NER trade-off analysis
- Cost allocation
- HEC-FDA
- Non-structural flood-risk management
- Project cost-sharing rules for flood-risk management, ecosystem restoration, and recreation

## Hydrology, Hydraulic Engineering, and Coastal Engineering

- Risk and uncertainty analysis
- Fluvial flood processes
- Tidal flood processes (wind, wave, surge)
- Sediment transport
- Levee overtopping and breaching
- Flood mapping
- Model calibration and verification
- Sea Level Rise – planning and engineering guidance

## Geotechnical Engineering

- Levee analysis – stability, erosion, settlement
- Levee failure modes and contributors to levee failure
- Survey and analysis techniques (e.g., Cone Penetration Tests, lab tests)
- Levee design

## Civil Engineering

- Structural measures for flood-risk management (e.g., Levees, flood walls, tide gates, pump stations, water control structures)
- Ecosystem restoration measures (e.g., levee breaches, water control structures, pond bottom grading, starter channel excavation, berm construction, managed pond design)
- Recreation measures (e.g., information signs and kiosks, trails and trail access points, lighting and signage, surface and drainage improvements, watercraft launch sites, viewing platforms)

## Cost Engineering

- MCACES-II software

- Unit costs associated with common flood-risk-management and ecosystem-restoration project features (see Civil Engineering)

#### Real Estate

- USACE Real Estate appraisal procedures and requirements
- Real Estate Plan requirements

### **C. Communication.** The communication plan for the ATR is as follows:

(1) The team will use DrChecks to document the ATR process. The Project Planner 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 Word format at: <ftp://ftp.usace.army.mil/pub/> 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 (with color pages as applicable) of the document and appendices for each ATRT 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 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.

(4) The Project Planner 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 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 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 2 weeks after the policy guidance memo is received from HQUSACE for the AFB and draft reports.

### **D. Funding**

(1) The San Francisco District shall provide labor funding by cross charge labor codes. Funding for travel, if needed, will be provided through government order. The Project Planner 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 this review is \$240,000. 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 Project Planner to any possible funding shortages.

### **E. Timing and Schedule**

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

(2) The ATR will be convened early in the study and will participate in the Technical Review Strategy Session (TRSS) with the PDT and DST. The TRSS is to verify the basic plan of study and the rationale for key planning assumptions.

(3) The ATR will be conducted on the Feasibility Scoping Meeting documentation and assumptions; the Alternatives Review Conference; the Alternative Formulation Briefing documentation; the draft Feasibility Report; and if changes are made to the draft Feasibility Report, those changes will be reviewed in the Final Feasibility Report. A comprehensive tabulation of documents to be reviewed is included in Appendix C.

(4) The PDT will hold a “page-turn” session to review the draft Feasibility Report 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.

(5) 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 as in-kind services by the non-Federal sponsors.

<b>ATR Timeline Task</b>	<b>Anticipated Date</b>
Participation in TRSS	November 1, 2007
ATR Feasibility Scoping Meeting (FSM) Document	February 2010
ATR Alternatives Review Conference (ARC) Material	November 2012
Alternative Formulation Briefing (AFB) Document	April 2012
AFB Policy Memo Issued	July 2013
ATR Draft Report	August 2013
ATR Certification Draft Report	November 2013
Public Review of Draft Report	November 2013
ATR Final Report	April 2014
ATR Certification Final Report	June 2014
ATR After Action Review	August 2014

### **F. Review**

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 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.

(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 Planner.

(d) Review comments shall contain these principal elements:

- 1) a clear statement of the concern
- 2) the basis for the concern, such as law, policy, or guidance
- 3) significance for the concern
- 4) 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 Planner first.

PDT 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. 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 and, if not resolved by the ATR Team 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 Team 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.

### **H. Certification**

To fully document the ATR process, a statement of technical review will be prepared. Certification by the ATR Team Leader and the Project Planner will occur once issues raised by the reviewers have been addressed to the review team's satisfaction and the final report is ready for submission for HQ review. Indication of this concurrence will be documented by the signing of a certification statement (Appendix A). 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 lead to indicate concurrence with the report to date until the final certification is performed when the report is considered final.

### **I. Alternative Formulation Briefing (AFB)**

The AFB for the Shoreline Study will occur after the majority of the ATR comments have been resolved. It is possible that the briefing will result in additional technical or policy comments from high level reviewers for resolution. The resolution of significant policy comments may result in major changes to the document. Therefore, the ATR Team Leader will perform a brief review of the report to ensure that technical issues are resolved.

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

The Shoreline Study will evaluate a variety of flood risk management and ecosystem restoration measures, including levee construction, flood wall construction, tidal marsh restoration, structural and non-structural pond management options and non-structural flood risk management measures. EC 1105-2-410 sets forth thresholds that trigger IEPR: In cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches; where the project is controversial, has significant interagency interest, has a total project cost greater than \$45 million, is preparing an EIS, or has significant economic, environmental and social effects to the nation, IEPR will be conducted.

For the Shoreline Study, there are public safety concerns related to the dense development of Silicon Valley immediately adjacent to the former salt evaporation ponds. There is a high level of complexity in analyzing and managing the risk of flooding in an area immediately adjacent to San Francisco Bay which has 15 local streams running through it. This complexity is heightened by the potential effects of global climate change. There is significant interagency interest in the study because the single largest landowner in the study area is the Federal government: the U.S. Fish and Wildlife Service's Don Edwards San Francisco Bay National Wildlife Refuge and NASA's Moffett Federal Airfield. An EIS will be prepared for the study, and the likely total project cost is in excess of \$400 million. For all of these reasons, IEPR will be conducted for the Shoreline Study.

IEPR is a project cost but is not cost shared. The IEPR panel review will be Federally funded. In-house costs associated with developing and procuring the IEPR panel contract as well as PDT response to IEPR comments will be cost shared expenses. Disciplines that are anticipated to undergo IEPR are hydrology, hydraulic and geotechnical engineering and feasibility-level design, environmental compliance, and economics. Work undertaken as part of these technical disciplines is considered to be highly complex due to the size of the study area as well as the existing complex water storage and conveyance system in the study area. Of these products that will undergo IEPR, all will be reviewed by the PDT and undergo DQC and ATR prior to submittal for IEPR. This includes products that are produced by the non-Federal sponsors as in-kind services.

**A. Project Magnitude.** As described above, this is a very large and complex project with potentially high benefits and costs and significant inter-agency and local and national interest.

**B. Project Risk.** This project is considered to have high overall risk due to the complex nature of the study area (urbanized bay shore and former salt production ponds), the existence of multiple, potentially competing, objectives based on flood-risk-management and ecosystem restoration, the wide variety of stakeholder interests, the involvement of multiple landowners (including another Federal agency), the partnership with two non-Federal sponsors, as well as uncertainty regarding the effect of sea-level rise on flood risk and potential tidal marsh development. The application of adaptive management to address uncertainties in habitat evolution will also introduce another element of risk.

There are public safety concerns related to the dense development of Silicon Valley immediately adjacent to the former salt evaporation ponds; however, the project seeks reduce flood risk, or minimally mitigate for any negative changes to flood risk as a result of ecosystem restoration actions. There is a high level of complexity in analyzing and managing the risk of flooding in an area immediately adjacent to San Francisco Bay which has 15 local streams running through it. This complexity is heightened by the potential effects of global climate change. There is

significant interagency interest in the study because the single largest landowner in the study area is the Federal government: the U.S. Fish and Wildlife Service's Don Edwards San Francisco Bay National Wildlife Refuge and NASA's Moffett Federal Airfield. An EIS will be prepared for the study due to the expectation of a high level of public interest in the proposed actions and the engineering, scientific and economic analyses that support them. The likely total project cost is in excess of \$400 million. The project report is likely to be a highly influential scientific assessment due to the significance of the study area and the applicability of its technical analyses (e.g., floodplain mapping and landscape evolution modeling to other efforts in the San Francisco Bay Area), which will be based on novel methods and contain precedent-setting methods and models.

It will be important to make sound planning assumptions in application of all the modeling and judgment and to do so will require application of multiple levels of review. Public and agency input will be sought in order to minimize the potential for controversy. Uncertainty of success of the project ultimately will be low to moderate – if the proposed review processes are implemented - because the methods used for evaluating the project are standard and the concept of implementing proposed project features is not innovative.

**C. Vertical Team Consensus.** This Review Plan will serve as the coordination document to obtain vertical team consensus. Subsequent to PCX approval, the plan will be provided to the vertical team for approval. MSC approval of the plan will indicate vertical team consensus.

**D. IEPR Team.** The IEPR Team will be selected by a qualified Outside Eligible Organization (OEO). The FRM PCX will identify an IEPR manager, which will work with the PDT to write a scope of work for the OEO that includes developing a charge to reviewers that outlines the scope and requirements of the review, identifying potential reviewers, contracting them, managing the review, and documenting the review.

The expertise desired for the IEPR Team is presented below. These disciplines represent the areas that pose the most analysis uncertainty due to the development and use of novel methods and/or will generate the most public scrutiny:

#### Plan Formulation

- Flood-risk-management planning
- Ecosystem restoration planning
- Economic principles

#### Hydrology, Hydraulic Engineering, and Coastal Engineering

- Risk and uncertainty analysis
- Fluvial flood processes
- Tidal flood processes (wind, wave, surge)
- Sediment transport
- Levee overtopping and breaching
- Flood mapping
- Model calibration and verification
- Sea Level Rise

#### Geotechnical Engineering

- Levee analysis – stability, erosion, settlement
- Levee failure modes and contributors to levee failure
- Survey and analysis techniques (e.g., Cone Penetration Tests, lab tests)
- Levee design

## Ecosystem Restoration

- Ecosystem restoration planning
- Habitat evaluation procedures
- Landscape evolution modeling
- Ecological processes and quality indicators associated with estuarine habitat
- National Environmental Policy Act requirements
- Environmental laws and statutes (e.g., Clean Water Act, Coordination Act, Endangered Species Acts)
- California Environmental Quality Act requirements (desired, but not required)
- Habitat evaluation procedures
- Landscape evolution modeling
- Ecological processes and quality indicators associated with estuarine habitat
- Ecosystem restoration planning procedures

## Economics

The reviewer should have enough familiarity with Corps processes to be able to assess the adequacy of the economic analysis.

## **E. Products for Review.**

IEPR for the Shoreline Study will occur in two phases corresponding to the future without-project-conditions analysis and the Draft Feasibility Report/EIS.

### Future without-project conditions analysis

The first phase will focus on key technical (modeling) work that contributes to the future without-project conditions analysis. This review will focus on modeling analysis and other technical products for hydrology, hydraulic and geotechnical design, and landscape evolution modeling. With the exception of the landscape evolution modeling, the reviews will occur prior to the Feasibility Scoping Meeting (currently scheduled for April 2010). It is anticipated that the landscape evolution modeling will be completed and reviewed after the Feasibility Scoping Meeting. The cost estimate for this phase of IEPR is \$125,000.

### Draft Feasibility Report

The full IEPR panel will receive the entire draft feasibility report, draft environmental impact statement and all technical appendices concurrent with public and agency review (currently scheduled for November 2013). The final report to be submitted by the IEPR panel must be submitted to the PDT within 60 days of the conclusion of public review. A representative of the IEPR panel may attend any public meeting(s) held during public and agency review of the draft report. The San Francisco District will draft a response to the IEPR final report and process it through the vertical team for discussion at the Civil Works Review Board (CWRB). An IEPR panel member or OEO representative will attend the CWRB. Following the CWRB, the Corps will issue final response to the IEPR panel and notify the public. A comprehensive tabulation of documents to be reviewed is included in Appendix C. The PDT, in coordination with the IEPR manager, will develop a cost estimate for this phase of IEPR.

## **F. Communication and Documentation.** The communication plan for the IEPR is as follows:

(1) The panel will use DrChecks to document the IEPR process. The Project Planner will facilitate the creation of a project portfolio in the system to allow access by all PDT and a qualified OEO. For this Study Batelle Memorial Institute is the OEO. An electronic version of



the document, appendices, and any significant and relevant public comments shall be posted in Word 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 forward the comments to the San Francisco District. The San Francisco District will consult the PDT and outside sources as necessary to develop a proposed response to each panel comment. The San Francisco 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 San Francisco 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 San Francisco District will consult the vertical team and outside resources to prepare an agency response to each comment. The initial panel comments, the San Francisco District's proposed response, the panel's reply to the San Francisco District's proposed response, and the final USACE response will all be tracked and archived in DrChecks for the administrative record. However, only the initial panel comments and the final USACE responses will be posted. This process will continue to be refined as experience shows need for changes. This is specifically in accordance with the EC 1105-2-410 Frequently Asked Questions, dated 3 November 2008.

(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 Project 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 appendices with comments incorporated shall be posted at <ftp://ftp.usace.army.mil/pub/> 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 a final Review Report to be provided to the PDT not later than 60 days after the close of the public and agency review of the draft report. This report shall be scoped as part of the effort to engage the IEPR panel. The San Francisco 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.

**G. Funding.** The PCX for FRM will identify an IEPR manager to scope the IEPR and develop an Independent Government Estimate. An estimate of \$125,000 has been developed for the IEPR for the future without-project-conditions analysis. The San Francisco District will provide funding to the IEPR panel. Funding from HQUSACE may also be available for the IEPR .

## **5. PUBLIC AND AGENCY REVIEW**

The public and agencies will have multiple opportunities to participate in this study. The earliest opportunity will be as part of the public scoping process during the first year of the study. Public review of the draft feasibility report will occur after issuance of the AFB policy guidance memo and 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 begin approximately 1 month after the completion of the ATR process and policy guidance memo. The period will last a minimum of 45 days as required for a Draft Environmental Impact Statement. One or more public workshops will be held during the public and agency review period. Comments received during the public comment period for the draft report will 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. However, it is anticipated that intensive coordination with these agencies will have occurred concurrent with the planning process. 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.

A plan for public participation has been developed for the Shoreline Study which identifies additional forums for participation in the study, particularly the South Bay Salt Pond Restoration Project Alviso Ponds and Santa Clara County Working Group (<http://www.southbayrestoration.org/Working%20groups%202007.html>). The Working Group will provide feedback on the Shoreline Study problems, opportunities, and objectives and project alternatives as they develop.

#### **6. PLANNING CENTERS OF EXPERTISE COORDINATION**

The primary PCX for this document is the National Flood Risk Management Center of Expertise . The PCXs for CSDR and ER are the secondary PCXs because of the coastal/tidal flood damage reduction and ecosystem restoration elements of the study. The primary PCX will coordinate with the secondary PCXs as appropriate. IEPR is required for the Shoreline Study. As such, the PCX will be asked to coordinate 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 San Francisco District public website. Any public comments on the Review Plan will be collected by the San Francisco District for resolution and incorporation if needed.

#### **7. APPROVALS**

The PDT will carry out the Review Plan as described. The Project Planner will submit the plan to the PDT District Planning Chief for endorsement of MSC approval. Formal coordination with PCX for FRM will occur through the PDT District Planning Chief.

#### **8. POINTS OF CONTACT**

Questions about this Review Plan may be directed to the Shoreline Study lead planner at (415) 503-6854, or to the Flood Risk Management Planner Center of Expertise manager at (415) 503-6852.

**REVIEW PLAN  
SOUTH SAN FRANCISCO BAY SHORELINE STUDY  
ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY  
SAN FRANCISCO DISTRICT**

**APPENDIX A  
STATEMENT OF TECHNICAL REVIEW AND CERTIFICATION TEMPLATES**

**COMPLETION OF AGENCY TECHNICAL REVIEW  
SOUTH SAN FRANCISCO BAY SHORELINE STUDY  
ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY**

The San Francisco District has completed the South San Francisco Bay Shoreline Study, Alviso Ponds and Santa Clara County Interim Feasibility 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 customer's 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.

\_\_\_\_\_  
Agency Technical Review Team Leader  
South San Francisco Bay Shoreline Study  
Alviso Ponds and Santa Clara County Interim Feasibility Study

\_\_\_\_\_  
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.

\_\_\_\_\_  
Chief, Planning Branch

\_\_\_\_\_  
Date

\_\_\_\_\_  
Chief, Engineering Branch

\_\_\_\_\_  
Date

**DISTRICT ENGINEER'S QUALITY CONTROL CERTIFICATION**  
(Products Developed by In-house Forces)

COMPLETION OF QUALITY CONTROL ACTIVITIES

The District has completed the Feasibility Study for the South San Francisco Bay Shoreline Study, Alviso Ponds and Santa Clara County Interim Feasibility Study. Certification is hereby given that all quality control activities defined in the Review Plan appropriate to the level of risk and complexity inherent in the product have been complete. Documentation of the quality control process is enclosed.

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 used and level of data obtained; and the reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing Corps policy. The undersigned recommends certification of the quality control process for this product.

\_\_\_\_\_  
Chief, Planning Branch

\_\_\_\_\_ (Date)

QUALITY CONTROL CERTIFICATION

As noted above, all issues and concerns resulting from technical review of the product have been resolved. This project may proceed to the (indicate next phase of product development).

\_\_\_\_\_  
District Engineer

\_\_\_\_\_ (Date)

**CERTIFICATION OF LEGAL REVIEW**

The report for the South San Francisco Bay Shoreline Study, Alviso Ponds and Santa Clara County Interim Feasibility Study, including all associated documents required by the National Environmental Policy Act, has been fully reviewed by the Office of Counsel, San Francisco District and is approved as legally sufficient.

\_\_\_\_\_  
District Counsel

Date \_\_\_\_\_

**REVIEW PLAN  
SOUTH SAN FRANCISCO BAY SHORELINE STUDY  
ALVISO PONDS AND SANTA CLARA COUNTY INTERIM FEASIBILITY STUDY  
SAN FRANCISCO DISTRICT**

**APPENDIX B**

<b>PROJECT DELIVERY TEAM</b>				
<b>Name</b>	<b>Discipline</b>	<b>Organization</b>	<b>Phone</b>	<b>Email</b>
Yvonne LeTellier	Proj. Mgmt.	CESPN	415-503-6744	Yvonne.C.LeTellier@usace.army.mil
	Proj. Mgmt.	CSCC		
	Proj. Mgmt.	SCVWD		
	Proj. Mgmt.	CSCC		
	Plan Formulation	CESPN		
	Plan Formulation	MWH (contractor)		
	Env. Planning & Habitat Appraisal	CESPN		
	Env. Planning	SCVWD		
	Habitat Appraisal	SCVWD		
	Env. Sciences			
	HTRW	CESPN		
	HTRW	SCVWD		
	Sediments	CESPN		
	Sediments	SCVWD		
	Cultural Resources	CESPN		
	Cultural Resources	SCVWD		
	Economics	CESPN		
	Civil Design	CESPN		
	Civil Design	SCVWD		
	Cost Estimating	CESPN		
	Geo-Sciences	CESPN		
	Geo-Sciences	SCVWD		
	Water Resources	CESPN		
	Water Resources	ERDC		
	Water Resources	SCVWD		
	GIS	CESPN		
	GIS	SCVWD		
	Real Estate	CESPN		
	Real Estate	SCVWD		
	Office of Counsel	CESPN		
	Chief Counsel	SCVWD		

AGENCY TECHNICAL REVIEW TEAM					
Name	Discipline	Org.	Relevant Experience (yrs & description)	Phone	E-mail
TBD, Team Leader	Coastal Storm Damage Reduction Planning	TBD	TBD	TBD	TBD
*	Flood-Risk Management and Ecosystem Restoration Planning	CESPK-PD			
	Environmental Planning/Compliance	CESPK-PD			
***	Biology/Ecology	CESPN-ET			
	Cultural Resources	CESPK-PD			
	Sediment Quality	CESPK-ED			
	Water Quality	CESPK-ED			
	HTRW	CESPK-ED			
	Economics	CESPL-PD			
	Hydrology Hydraulic Engineering	CEIWR-HEC CEIWR-HEC			
	Coastal Engineering	CENAN-EN			1
	Geotechnical Engineering	CESPK-ED			
	Civil Engineering	CESPK-ED			
**	Cost Engineering	CENWW-EC			
	Real Estate	CESPD-RE			

\* Member of the ER PCX directory of ecosystem restoration technical specialists.

\*\* Per the requirements set forth by a policy letter dated 19 September 2007 (Subject: Initiatives to Improve Accuracy of Total Project Costs in Civil Works Feasibility Studies Requiring Congressional Authorization), a member of the Cost Estimating Directory of Expertise was included on the ATRT.

\*\*\* This ATR team member, who is from the PDT's home district, was added to the ATRT due to his expertise in coastal ecology and coastal wetlands.



INDEPENDENT EXTERNAL PEER REVIEW PANEL			
Name	Discipline	Phone	Email
	Plan Formulation		
	Hydrology		
	Hydrodynamic Modeling		
	Hydraulic Design		
	Geotechnical Engineering		
	Ecosystem Restoration		
	Economics		

VERTICAL TEAM			
Name	Position	Phone	Email
	District Support Team Leader		
	SPN Project Management Branch		
	Regional Integration Team Leader		

PLANNING CENTER OF EXPERTISE			
Name	Discipline	Phone	Email
	Flood Risk Management	415-503-6852	
	Ecosystem Restoration	309-794-5448	
	Coastal Storm Damage Reduction	718-765-7071	

APPENDIX C

SHORELINE STUDY PRODUCTS FOR REVIEW

Work Product	Lead Agency	Related Shoreline PMP task	Date Available	PDT Review <sup>2</sup>	Single-Discipline ATR <sup>3</sup>	Multi-discipline ATR <sup>4</sup>	Consultant QC <sup>5</sup> , Corps QA <sup>6</sup>	Independent External Peer Review <sup>7</sup>	Planning/ Eng Model Certification <sup>8</sup>	H & H certification <sup>9</sup>	Value Engineering <sup>10</sup>		
<b>Feasibility Scoping Meeting (F3 milestone<sup>1</sup>) Products</b>													
Levee failure existing without project	NFS	3		x			x						
Preliminary Without Project Levee Assessment Report	NFS	3		x			x						
Without Project Water, Sediment, and Air Quality Report	NFS	8		x			x						
Without Project Economics Report	Corps	5		x	x								
HTRW Phase I Assessment Report	Corps	9		x			x						
HH&C Without-Project Conditions Report	Corps	2		x	x				x [ADH (ADaptive Hydraulics Modeling system)]	x			
Hydrology report													
Hydraulic engineering - Fluvial sediment transport												x	
Hydraulic engineering - Hydraulics (flood stages)												x	
Coastal engineering - Data analysis (water & wind data, statistical approach)												x	
Coastal engineering - long-wave modeling report												x	
Coastal engineering - short-wave modeling report												x	
Coastal engineering - sediment transport												x	
HH&C models													
ADH (ADaptive Hydraulics Modeling system)													x
RMA-2													
STWAVE													
HEC-RAS													
FLO-2D													
Detailed Without Project Levee Assessment Report	NFS	3		x			x	x					
Environmental Setting Report	Corps	12		x	x								
Feasibility Scoping Meeting Submittal	Corps	14, All		x		x					x		
<b>Alternative Review Conference (F4 milestone) Products</b>													
Digital Terrain Model (DTM)	Corps	1		x	x								
Preliminary Civil Design	Corps	4		x			x				x		
With Project Levee Assessment Report	NFS	3		x			x						
With Project HEP Analysis Report	NFS	7		x			x	x					
Landscape evolution modeling	NFS	7		x			x	x	x				
With Project Economics Report	Corps	5		x	x								
HTRW Phase II Assessment Report	Corps	9		x			x						
Preliminary Impact Analysis Summary Memorandum	Corps	12		x			x						
Preliminary MCACES Cost Estimate	Corps	11		x	x						x		

Work Product	Lead Agency	Related Shoreline PMP task	Date Available	PDT Review <sup>2</sup>	Single-Discipline ATR <sup>3</sup>	Multi-discipline ATR <sup>4</sup>	Consultant QC <sup>5</sup> , Corps QA <sup>6</sup>	Independent External Peer Review <sup>7</sup>	Planning/ Eng Model Certification <sup>8</sup>	H & H certification <sup>9</sup>	Value Engineering <sup>10</sup>
More Detailed Design	Corps	4		x			x				x
Alternative Review Conference Submittal	Corps	14, All		x		x					
<b>Alternative Formulation Briefing (F4A milestone) Products</b>											
<b>Alternative Formulation Briefing</b> Submittal	Corps	14, All		x		x					
Preliminary Real Estate Plan	Corps	6		x	x						
Real Estate Gross Appraisal	Corps	6		?	x						
Detailed MCACES Cost Estimate	Corps	11		x	x						
<b>Draft Feasibility Report (F5 milestone)</b>											
Draft Integrated Report (Draft Feasibility Report and DEIS/R)	Corps	14, All		x		x		x			
Draft Hydraulics, Hydrology, and Coastal Appendix	Corps	2		x	x			x			
Draft Geotechnical Appendix	NFS	3		x	?		x	x			
Draft Environmental Benefits Report (was "Draft Fish and Wildlife Coordination Act Report" in 9/05 PMP)	NFS	7		x	?		x	x			
Draft USFWS Coordination Act Report	USFWS	7									
Draft Cultural Resources Inventory and Evaluation Report	Corps	10		x	?		x	x			
Draft Monitoring and Adaptive Management Plan	Corps	14		x		x		x			
Draft Engineering Appendix	Corps	4		x	?		x	x			
Draft Economics Appendix	Corps	5		x	x			x			
Draft Real Estate Plan	Corps	6		x	x			x			
Draft MCACES	Corps	11		x	x			x			
<b>Final Public Meeting (F6 Milestone) - no technical products</b>											
<b>Feasibility Review Conference (F7 Milestone) - no technical products identified</b>											
<b>Final Feasibility Report (F8 Milestone )</b>											
Final Integrated Report (Final Feasibility Study and FEIS/R)	Corps	14, All		x		x					
Final Hydraulics, Hydrology, and Coastal Appendix	Corps	2		x	x						
Final Geotechnical Appendix	NFS	3		x	?		x				
Final Environmental Benefits Report (was "Final Fish and Wildlife Coordination Act Report: in 9/05 PMP)	NFS	7		x	?		x				
Final USFWS Coordination Act Report	USFWS	7									
Final Cultural Resources Inventory and Evaluation Report	Corps	10		x	x						
Final Monitoring and Adaptive Management Plan	Corps	14		x		x					
Final Engineering Appendix	Corps	4		x	?		x				
Final Economics Appendix	Corps	5		x	x						
Final Real Estate Plan	Corps	6		x	x						
Final MCACES	Corps	11		x	x						
<b>Division Commander's Submittal (F9 Milestone)</b>	Corps			x							
Draft Chief's Report	Corps	14		x							

Work Product	Lead Agency	Related Shoreline PMP task	Date Available	PDT Review <sup>2</sup>	Single-Discipline ATR <sup>3</sup>	Multi-discipline ATR <sup>4</sup>	Consultant QC <sup>5</sup> , Corps QA <sup>6</sup>	Independent External Peer Review <sup>7</sup>	Planning/ Eng Model Certification <sup>8</sup>	H & H certification <sup>9</sup>	Value Engineering <sup>10</sup>
Record of Decision (ROD)	Corps	12									
<b>FOOTNOTES</b>											
1. The South Pacific Division uses a series of "F" (Feasibility) milestones that correspond to major events during the Feasibility Phase.											
2. PDT = Project Delivery Team. PDT refers to members of the team (Corps, non-Federal sponsors, and consultants) who are involved in the production of technical deliverables.											
3. Single-discipline ATR will be performed by the pertinent member of the Corps's Agency Technical Review Team (ATRT)											
4. Multi-discipline ATR will be performed by multiple members of the Corps's Agency Technical Review Team											
5. "Consultant" refers to Corps and non-Federal sponsor contractors. Quality Control (QC) of consultant products shall be the responsibility of the consulting firm.											
6. The Corps ATRT will perform Quality Assurance (QA) on consultant products. The consulting firm will perform QC.											
7. Independent External Peer Review will be managed by the pertinent Corps Planning Centers of Expertise (PCX) and performed by entities to be determined.											
8. Corps Model Certification will be managed by the pertinent Corps PCX and performed by entities to be determined.											
9. H&H Certification is the certification of the future without-project conditions hydrology and hydraulics, performed by the Corps Chief of Water Resources.											
10. The Value Engineering (VE) Study will be conducted between the Feasibility Scoping Meeting and Alternative Review Conference milestones to ensure the widest range of feasible and cost-efficient measures and alternatives have been considered. The Corps ATRT will serve as the core of the team, with additional expertise supplemented, as necessary.											



# Review Plan Checklist For Decision Documents

**Date:** 15 April 2009

**Originating District:** San Francisco

**Project/Study Title:** South San Francisco Bay Shoreline Study

**PWI #:**

**District POC:** Project Planner

**PCX Reviewer:** MVN & SPD Program Managers

Please fill out this checklist and submit with the draft Review Plan when coordinating with the appropriate PCX. Any evaluation boxes checked 'No' indicate the RP may not comply with ER 1105-2-410 (22 Aug 2008) and should be explained. Additional coordination and issue resolution may be required prior to MSC approval of the Review Plan.

1. Is the Review Plan (RP) a stand alone document?	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it include a cover page identifying it as a RP and listing the project/study title, originating district or office, and date of the plan?</p> <p>b. Does it include a table of contents?</p> <p>c. Is the purpose of the RP clearly stated and EC 1105-2-410 referenced?</p> <p>d. Does it reference the Project Management Plan (PMP) of which the RP is a component?</p> <p>e. Does it succinctly describe the three levels of peer review: District Quality Control (DQC), Agency Technical Review (ATR), and Independent Technical Peer Review (IEPR)?</p> <p>f. Does it include a paragraph stating the title, subject, and purpose of the decision document to be reviewed?</p> <p>g. Does it list the names and disciplines of the Project Delivery Team (PDT)?*</p> <p><i>*Note: It is highly recommended to put all team member names and contact information in an appendix for easy updating as team members change or the RP is updated.</i></p>	<p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: Replace references to flood protection or flood damage reduction with flood risk reduction to keep with current Corps terminology. Is flood risk management the primary purpose or ecosystem restoration? A summary paragraph that addresses checklist requirements 1c, 1e, and 1f should be included.</p> <p>Response: 1) The term "flood protection" was</p>

		<p>replaced with references to flood risk reduction.</p> <p>2) The RP was revised to indicate Flood and Coastal Storm Damage Reduction as the primary purpose (Section 1B (Requirements)).</p> <p>3) Checklist requirement 1 c is addressed in the revised Section 1A (Purpose), Checklist requirements 1e - f are addressed in the revised Section 1B (Requirements).</p> <p>Backcheck: OK</p>
<p><b>2. Is the RP detailed enough to assess the necessary level and focus of peer review?</b></p>	<p>EC 1105-2-410, Appendix B, Para 3a</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it indicate which parts of the study will likely be challenging?</p> <p>b. Does it provide a preliminary assessment of where the project risks are likely to occur and what the magnitude of those risks might be?</p> <p>c. Does it indicate if the project/study will include an environmental impact statement (EIS)?</p> <p><i>Is an EIS included? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>d. Does it address if the project report is likely to contain influential scientific information or be a highly influential scientific assessment?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i> <i>If yes, IEPR is required.</i></p> <p>e. Does it address if the project is likely to have significant economic, environmental,</p>	<p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 3a</p> <p>EC 1105-2-410 Para 7c &amp; 8f</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 6c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> OK</p>

<p>and social affects to the nation, such as (but not limited to):</p> <ul style="list-style-type: none"> <li>• more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources?</li> <li>• substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation?</li> <li>• more than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation?</li> </ul> <p><i>Is it likely? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p> <p>f. Does it address if the project/study is likely to have significant interagency interest?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p> <p>g. Does it address if the project/study likely involves significant threat to human life (safety assurance)?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p> <p>h. Does it provide an estimated total project cost?</p> <p><i>What is the estimated cost: <u>\$400M+</u> (best current estimate; may be a range)</i></p> <p><i>Is it &gt; \$45 million? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p> <p>i. Does it address if the project/study will likely be highly controversial, such as if there will be a significant public dispute as to the size, nature, or effects of the project or to the economic or environmental costs or benefits of the project?</p>	<p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410 Para 8f</p> <p>EC 1105-2-410, Para 6c</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1b</p>	<p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>g. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>h. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>i. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>j. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer:  There is not sufficient detail to assess the necessary level and focus of review. More detail should be added regarding checklist requirements 2a through 2j. More detail summarizing challenging parts of analysis, project risks, level of scientific assessment, the economic, environmental and social effects, threat to human life, total cost estimate, controversial nature of project, and</p>
---	--	--



<p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p> <p>j. Does it address if the information in the decision document will likely be based on novel methods, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices?</p> <p><i>Is it likely? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></i>  <i>If yes, IEPR is required.</i></p>	<p>EC 1105-2-410, Appendix D, Para 1b</p>	<p>novel approaches.</p> <p>Response: The RP underwent substantial revision to address the requirements in 2a - 2j:</p> <p>Item 2a - Study challenges are addressed in Section 4B (Project Risk).</p> <p>Item 2b - Project Risk is addressed in Section 4B (Project Risk).</p> <p>Item 2c - Section 1B (Requirements) of the revised RP indicates that the decision document will be a Feasibility Report and Environmental Impact Statement/Report.</p> <p>Item 2d - See Section 4B (Project Risk).</p> <p>Item 2e - Substantial adverse impacts are not anticipated from this project and thus are not discussed in the RP.</p> <p>Item 2f - See Section 4B (Project Risk).</p> <p>Item 2g - Section 4B (Project Risk) indicates that reducing flood threat to human life is a project purpose.</p> <p>Item 2h - an estimate total project cost of \$400 million is indicated in Section 4B (Project Risk).</p> <p>Item 2i &amp; j - See Section 4B (Project Risk).</p>
---	---	---

		Backcheck: OK
<b>3. Does the RP define the appropriate level of peer review for the project/study?</b>	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it state that DQC will be managed by the home district in accordance with the Major Subordinate Command (MSC) and district Quality Management Plans?</p> <p>b. Does it state that ATR will be conducted or managed by the lead PCX?</p> <p>c. Does it state whether IEPR will be performed?</p> <p>Will IEPR be performed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Does it provide a defensible rationale for the decision on IEPR?</p> <p>e. Does it state that IEPR will be managed by an Outside Eligible Organization, external to the Corps of Engineers?</p>	<p>EC 1105-2-410, Para 7a</p> <p>EC 1105-2-410, Appendix D, Para 3a</p> <p>EC 1105-2-410, Appendix B, Para 4b</p> <p>EC 1105-2-410, Para 7c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> The size and nature of the Study clearly indicate the need for IEPR.</p> <p>Reviewer: Attachment A indicates when IEPR will be conducted, but more detail is needed regarding rationale or decision of IEPR.</p> <p>Response: The rationale for undergoing IEPR is provided in Section 4 (para 2) (Independent External Peer Review).</p> <p>Backcheck: OK</p>
<b>4. Does the RP explain how ATR will be accomplished?</b>	EC 1105-2-410, Appendix B, Para 4l	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>e. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>c. Does it indicate that ATR team members will be from outside the home district?</p> <p>d. Does it indicate that the ATR team leader will be from outside the home MSC?</p> <p>e. Does the RP state that the lead PCX is responsible for identifying the ATR team members and indicate if candidates will be nominated by the home district/MSD?</p> <p>f. If the reviewers are listed by name, does the RP describe the qualifications and years of relevant experience of the ATR team members?*</p>	<p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Para 7b</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p> <p>EC 1105-2-410, Appendix B, Para 4k(1)</p>	<p>f. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> One exception for item 4.a. ATR Team Leader is from Sacramento District. As of 4/13/09, the FRM PCX is in the process of identifying an ATR lead from outside SPD prior to the FSM. As such, the ATRT roster indicates that the ATR lead is TBD.</p>
		<p>Reviewer: Additional detail should be provided to address 4b and 4d. A "succinct description" of ATR disciplines should be included to go along with the table on page 8 and 9 that contains the names, organization and relevant years and type of experience.</p> <p>Response: A description of desired ATR team member expertise was added to Section 3B (Agency Technical Review).</p> <p>Backcheck: OK</p>
<p><b>5. Does the RP explain how IEPR will be accomplished?</b></p>	<p>EC 1105-2-410, Appendix B, Para 4k &amp; Appendix D</p>	<p><b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/> n/a <input type="checkbox"/></p>
<p>a. Does it identify the anticipated number of reviewers?</p> <p>b. Does it provide a succinct description of the primary disciplines or expertise needed for the review (not simply a list of disciplines)?</p>	<p>EC 1105-2-410, Appendix B, Para 4f</p> <p>EC 1105-2-410, Appendix B, Para 4g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> The exact</p>

<p>c. Does it indicate that the IEPR reviewers will be selected by an Outside Eligible Organization and if candidates will be nominated by the Corps of Engineers?</p> <p>d. Does it indicate the IEPR will address all the underlying planning, safety assurance, engineering, economic, and environmental analyses, not just one aspect of the project?</p>	<p>EC 1105-2-410, Appendix B, Para 4k(1) &amp; Appendix D, Para 2a</p> <p>EC 1105-2-410, Para 7c</p>	<p>number of reviewers and disciplines to be determined by Batelle Memorial Institute. Disciplines are indicated by the products identified for IEPR.</p> <p>Reviewer: Checklist requirements 5b and 5d should be addressed in more detail as required by EC 1105-2-410. Economics is not listed as a technical area for review in narrative on page 10, but is listed for IEPR on page 14 in Attachment A.</p> <p>Response:</p> <p>1) A description of desired IEPR team member expertise was added to Section 4D (IEPR Team).</p> <p>2) Economics was removed as an area for IEPR.</p> <p>Backcheck: Need to add economics reviewer to IEPR panel to comply with WRDA 2007, Section 2034.</p> <p>Response:</p> <p>An Economics IEPR team member was added in Section 4B (IEPR Team) and the IEPR team roster (TBD) on page 30.</p> <p>Backcheck: OK</p>
<p><b>6. Does the RP address peer review of sponsor in-kind contributions?</b></p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP list the expected in-kind contributions to be provided by the</p>	<p>EC 1105-2-410, Appendix B,</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>

<p>sponsor?</p> <p>b. Does it explain how peer review will be accomplished for those in-kind contributions?</p>	<p>Para 4j</p>	<p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: Page 7, Section c., addresses checklist requirements 6a and 6b along with Attachment A Table, however, the narrative lacks sufficient detail addressing checklist requirement 6b regarding how peer review will be accomplished.</p> <p>Response: See revised sections 4D (IEPR Team) and 4E (Products for Review).</p> <p>Backcheck: OK</p>
<p><b>7. Does the RP address how the peer review will be documented?</b></p>		<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does the RP address the requirement to document ATR and IEPR comments using DrChecks?</p> <p>b. Does the RP explain how the IEPR will be documented in a Review Report?</p> <p>c. Does the RP document detail how written responses to the IEPR Review Report will be prepared?</p> <p>d. Does the RP detail how the district/PCX will disseminate the final IEPR Review Report, USACE response, and all other materials related to the IEPR on the internet and include them in the applicable decision document?</p>	<p>EC 1105-2-410, Para 8g(1)</p> <p>EC1105-2-410, Appendix B, Para 4k(13)(b)</p> <p>EC 1105-2-410, Appendix B, Para 4l</p> <p>EC 1105-2-410, Para 8g(2) &amp; Appendix B, Para 4l</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: Checklist requirements 7a through 7d are addressed on pages 10 and 11, Section C. More detail is required in the RP regarding checklist requirements 7b through 7d.</p> <p>Response: See revised Section 4E (Products for</p>

		Review). Backcheck: OK
<b>8. Does the RP address Policy Compliance and Legal Review?</b>	EC 1105-2-410, Para 7d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <b>Comments:</b> OK
<b>9. Does the RP present the tasks, timing and sequence (including deferrals), and costs of reviews?</b>	EC 1105-2-410, Appendix B, Para 4c & Appendix C, Para 3d	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it provide a schedule for ATR including review of the Feasibility Scoping Meeting (FSM) materials, Alternative Formulation Briefing (AFB) materials, draft report, and final report?</p> <p>b. Does it include interim ATR reviews for key technical products?</p> <p>c. Does it present the timing and sequencing for IEPR?</p> <p>d. Does it include cost estimates for the peer reviews?</p>	<p>EC 1105-2-410, Appendix C, Para 3g</p> <p>EC 1105-2-410, Appendix C, Para 3g</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> RP notes that IEPR schedule is to be determined and will be added when available. Reviewer: Checklist requirements 9a through 9d are addressed on page 9, Section G of the RP for ATR and page 11, Section E, for IEPR. I do not have Enclosure C referenced on page 9 and information needs to be updated on page 11. Cost estimates for the reviews are included on pages 9 and 10 Section H and page 11, Section F.</p> <p><b>Response:</b> The RP was substantially revised since the initial review comments and therefore section references within the comments are outdated.</p>

		<p>1) Items 9a-b: The ATR schedule was revised and is presented in Section 3E (Timing and Schedule). Enclosure C (Shoreline Study Products for Review) lists products for peer review, including interim review products for ATR.</p> <p>2) Item 9c: The timing and sequencing of IEPR is indicated in Section 4E (Products for Review).</p> <p>3) Item 9d: A cost estimate for DQC was not included in the RP, but the RP indicates that DQC will be funded through supervisory and administrative costs (See Section 1B(1) DQC). A cost estimate for ATR is indicated in Section 3D (Funding). A cost estimates for the first round of IEPR is indicated in Sections 4E (Products for Review) and 4G (Funding), as well as a note that the cost estimate for the second round of IEPR will be developed in conjunction with a IEPR manager.</p> <p>Backcheck: OK</p>
<p><b>10. Does the RP indicate the study will address Safety Assurance factors?</b></p> <p>Factors to be considered include:</p> <ul style="list-style-type: none"> <li>• Where failure leads to significant threat to human life</li> <li>• Novel methods\complexity\ precedent-</li> </ul>	<p>EC 1105-2-410, Para 2 &amp; Appendix D, Para 1c</p>	<p><b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/> <b>n/a</b> <input type="checkbox"/></p> <p><b>Comments:</b> OK</p>

<p>setting models\policy changing conclusions</p> <ul style="list-style-type: none"> <li>• Innovative materials or techniques</li> <li>• Design lacks redundancy, resiliency of robustness</li> <li>• Unique construction sequence or acquisition plans</li> <li>• Reduced\overlapping design construction schedule</li> </ul>		
<p><b>11. Does the RP address model certification requirements?</b></p>	<p>EC 1105-2-407</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it list the models and data anticipated to be used in developing recommendations (including mitigation models)?</p> <p>b. Does it indicate the certification/approval status of those models and if certification or approval of any model(s) will be needed?</p> <p>c. If needed, does the RP propose the appropriate level of certification/approval for the model(s) and how it will be accomplished?</p>	<p>EC 1105-2-410, Appendix B, Para 4i</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: Checklist requirements 7a through 7c are addressed on page 11 and 12 in section 6A through 6E of the RP. A list of anticipated models along with their certification status should be provided. For example, HEC-FDA program for economics, IMPLAN for regional impacts, etc.</p> <p><b>Response:</b> The RP was substantially revised since the initial review comments; therefore, the section references in the comments are outdated.</p> <p>A list of anticipated models is included in Section 2H (Model Certification).</p> <p>Backcheck: OK</p>



<b>12. Does the RP address opportunities for public participation?</b>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it indicate how and when there will be opportunities for public comment on the decision document?</p> <p>b. Does it indicate when significant and relevant public comments will be provided to reviewers before they conduct their review?</p> <p>c. Does it address whether the public, including scientific or professional societies, will be asked to nominate potential external peer reviewers?</p> <p>d. Does the RP list points of contact at the home district and the lead PCX for inquiries about the RP?</p>	<p>EC 1105-2-410, Appendix B, Para 4d</p> <p>EC 1105-2-410, Appendix B, Para 4e</p> <p>EC 1105-2-410, Appendix B, Para 4h</p> <p>EC 1105-2-410, Appendix B, Para 4a</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>d. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: RP does not adequately address opportunities for public participation. A paragraph addressing Checklist requirements 10a through 10d should be included in the RP.</p> <p>Response: Public participation is addressed in Section 5 (Public and Agency Review).</p> <p>Backcheck: OK</p>
<b>13. Does the RP address coordination with the appropriate Planning Centers of Expertise?</b>	EC 1105-2-410, Para 8a	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>a. Does it state if the project is single or multi-purpose? Single <input type="checkbox"/> Multi <input checked="" type="checkbox"/></p> <p>List purposes: Flood risk management, ecosystem restoration</p> <p>b. Does it identify the lead PCX for peer review? Lead PCX: <b>FRM</b></p> <p>c. If multi-purpose, has the lead PCX coordinated the review of the RP with the other PCXs as appropriate?</p>	<p>EC 1105-2-410, Appendix D, Para 3c</p>	<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>c. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> The PDT has contacted the Eco PCX regarding this study and the need for certification of planning models. Reviewer: Coordination with the PCXs is mentioned on page 8 of RP. However, the naming of a lead PCX is not clear and coordination detail is not provided.</p>

		<p>Response: Sections 1B (Requirements) and 1B(5) (Planning Center of Expertise (PCX) Coordination) and 6 (Planning Centers of Expertise Coordination) indicate that the lead PCX is the FRM PCX and that coordination will occur with the CSDR and ER PCXs through the FRM PCX.</p> <p>Backcheck: OK</p>
<p><b>14. Does the RP address coordination with the Cost Engineering Directory of Expertise (DX) in Walla Walla District for ATR of cost estimates, construction schedules and contingencies for all documents requiring Congressional authorization?</b></p>	<p>EC 1105-2-410, Appendix D, Para 3</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
<p>a. Does it state if the decision document will require Congressional authorization?</p> <p>b. If Congressional authorization is required, does it state that coordination will occur with the Cost Engineering DX?</p>		<p>a. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>b. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> n/a <input type="checkbox"/></p> <p><b>Comments:</b> Reviewer: Table 8 indicates that CENWW-EC will be used however checklist requirements 12a and 12b should be stated in the RP.</p> <p>Response: Section 1A (Purpose) indicates that the decision document will require Congressional authorization. Section 3B (Agency Technical Review Team) indicates that coordination with the Cost Engineering DX will occur.</p> <p>Backcheck: OK</p>
<p><b>15. Other Considerations:</b> This checklist highlights the minimum requirements for an RP based on EC 1105-2-410. Additional factors to</p>		<p><b>Comments:</b> IEPR will be conducted for the Study as described in</p>

<p>consider in preparation of the RP include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>a. Is a request from a State Governor or the head of a Federal or state agency to conduct IEPR likely?</li> <li>b. Is the home district expecting to submit a waiver to exclude the project study from IEPR?</li> <li>c. Are there additional Peer Review requirements specific to the home MSC or district (as described in the Quality Management Plan for the MSC or district)?</li> <li>d. Are there additional Peer Review needs unique to the project study?</li> </ul>	<p>EC 1105-2-410, Appendix D, Para 1b</p> <p>EC 1105-2-410, Appendix D, Para 1d</p>	<p>the RP.</p>
<p><b>Detailed Comments and Backcheck:</b> Backcheck: RP complies with EC 1105-2-410.</p>		

# SOUTH SAN FRANCISCO BAY SHORELINE INTERIM FEASIBILITY STUDY

## CESPD SUPPLEMENTAL REVIEW PLAN CHECKLIST

22 April 2009

Approval of RP(s) rests with Division Commanders, but management and coordination with the appropriate Planning Center of Expertise. The Flood Risk Management PCX has developed a review checklist for its RP coordination and management responsibilities. Below is a regional supplemental checklist identifying the regional quality management requirements from CESPD's QMP, Appendix C, Planning.

Following are review process principles from EC 1105-2-410, Review of Decision Documents:

- Reviews significantly improve product quality
- Peer review is concurrent with product development
- Agency technical reviews by another district will be performed on all products
- ATR teams should be chaired by another Division
- Civil Works policy reviews must be consistent

### CHECKLIST

1. Is there a Technical Review Strategy Session identified early in the study process? (See Appendix C paragraph 8.2.)

Response: The Technical Review Strategy Session for the South San Francisco Bay Shoreline Study (Shoreline Study) occurred on 1 November 2007.

2. Are there any potential Continuing Authority Program (CAP) "spinoffs" identified, and the appropriate QCP identified for them?

Response: No potential CAP projects have been identified to date.

3. Are the review costs identified? for District Quality Control (DCQ), ATR, and Independent External Peer Review (IEPR)?

Response: The DQC cost is not identified in the Review Plan. The ATR cost is included (\$240,000). The IEPR cost is not identified in the Review Plan and will be developed in coordination with an IEPR coordinator when a coordinator is identified by the PCX. The cost of the IEPR for technical work (e.g., modeling) informing the future without-project conditions analysis is \$125,000.

4. Does the RP identify seamless technical review (8.4) including supervisory oversight of the technical products? (8.5)

Response: Yes, this type of review is considered as a component of DQC

SPD: Information only: This requirement is actually for seamless review as part of the ATR, which is identified in the Review Plan.

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INTERIM FEASIBILITY STUDY**

**CESPD SUPPLEMENTAL REVIEW PLAN CHECKLIST**

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5. Does the RP identify the recommended review comment content and structure? (8.5.4)

Response: Yes.

6. The RP should encourage face-to-face resolution of issues between PDT and reviewers. (8.5.5)

Response: The resolution process encourages face-to-face resolution of issues between the PDT and reviewers and is described in the Communication section (Section C) of the Agency Technical Review Plan (Section 3) and in Section 4.E for IEPR. If the reviewers are at many locations, methods including email, VTC, and conference calls will be used by team members to resolve issues between the PDT and reviewers.

7. And if issues remain, does the RP must identify an appropriate dispute resolution process? (8.6)

Response: Yes, in Section 3.G for ATR and 4.E for IEPR.

SPD: For information only: Section 4.E. does not seem to address dispute resolution during IEPR. The general review process is sufficiently described. This requirement More directly applies to the ATR process, which has been sufficiently covered in the RP.

8. The RP must require documentation of all the significant decision and leave a clear audit trail. (8.5.6)

Response: Included in the RP are the methods for documentation on significant decisions for review related issues. Issues not related to review are not discussed in the Review Plan.

9. Does the RP identify all the requirements for technical certifications? (8.5.7)

Response: Yes.

10. Does the RP identify the requirement that without-project hydrology is certified at the Feasibility Scoping Meeting? (8.5.8)

Response: Yes. Appendix C of the RP (Shoreline Study Products for Review) indicates that the H&H Without Project Conditions Report will undergo H&H Certification

11. Does the RP fully address products developed by contractors? (8.10)

Response: Yes. Appendix C of the RP (Shoreline Study Products for Review) indicates that Corps and non-federal contractor products will undergo QC by the contractor performing the work and QA by the Corps. Section 2.F (Project Delivery Team) also indicates that all in-kind work products will undergo review by the PDT for a determination of adequacy, be reviewed under DQC, and that some products will also undergo IEPR.

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12. Is the need for a VE study identified and incorporated into the review process subsequent to the feasibility scoping meeting? (8.11)

Response: The VE study requirement is discussed in the PMP.

13. Does the RP include a Feasibility Alternative Review Milestone, where CESPD buy-in to the recommended plan is obtained. (12.1)

Response: Yes, the "ATR Timeline Task" table in Section 3.E includes a preliminary date for the Alternative Review Conference.

14. The RP should identify the final public meeting milestone. (See Appendix C, Enclosure 1, SPD Milestones)

Response: The "ATR Timeline Task" table in Section 3.E includes a preliminary date for initiating Public Review of the Draft Report. The final public meeting will occur sometime during this review period. Section 5 of the RP describes the public review timing and process.

15. Does the RP identify the report approval process and if there is a delegated approval authority?

Response: The report approval process for the study is discussed in Section 1.B.4 (Policy and Legal Compliance Review). There is not a delegated approval authority for this study. The review plan approval process is indicated in Section 7 (Approvals).