



REPLY TO  
ATTENTION OF

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

14 Dec 2012

CESPD-PDS-P

MEMORANDUM FOR Commander, Los Angeles District, ATTN: CESPL-PM-N. Ms. Susan Ming

Subject: Encinitas - Solana Beach Shoreline Feasibility Study, Review Plan Approval

1. The Encinitas - Solana Beach Shoreline Feasibility Study, City of Encinitas and City of Solana Beach, CA, Los Angeles District, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-209, Review of Decision Documents, dated 31 Jan 2012. The South Pacific Division, Planning and Policy Division, Regional Business Technical Division, and Los Angeles District Support Team have reviewed the Review Plan that has been submitted. The South Pacific Division approves the Encinitas - Solana Beach Shoreline Feasibility Study, Review Plan.
2. With MSC approval the Review Plan will be made available for public comment via the internet and the comments received will be incorporated into future revisions of the Review Plans. The Review Plan includes independent external peer review.
3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study development under the Project Management Business Process. Subsequent revisions to the Review Plan after public comment or during project execution will require new written approval from this office.
4. Point of contact for this action is Kurt Keilman, CESPD-PDS-P, 415-503-6596, [Kurt.Keilman@usace.army.mil](mailto:Kurt.Keilman@usace.army.mil).

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

Encl  
Review Plan

  
MICHAEL C. WEHR  
BG, EN  
Commanding 

## REVIEW PLAN

**Encinitas - Solana Beach Shoreline Feasibility Study,  
City of Encinitas and City of Solana Beach, Ca  
Los Angeles District**

**MSC Approval Date: August 2009  
Revision Date: July 2011, October 2012**



**US Army Corps  
of Engineers®**

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## REVIEW PLAN

### Encinitas - Solana Beach Shoreline Feasibility Study, City of Encinitas and City of Solana Beach, Ca

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## 1. PURPOSE AND REQUIREMENTS

**Purpose.** This Review Plan defines the scope and level of peer review for the Encinitas - Solana Beach Shoreline Feasibility Study, City of Encinitas and City of Solana Beach, Ca.

### a. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (5) Encinitas Solana Beach Feasibility Study PMP, September 2008
- (6) District Quality Management Plan

**b. Requirements.** This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-209) and planning model certification/approval (per EC 1105-2-412).

**2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION.** The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the Coastal Storm Damage Reduction Planning Center of Expertise (PCX-CSDR).

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. The *Encinitas - Solana Beach Feasibility Study* is a single purpose project. The lead PCX for the study is the Coastal Storm Damage Reduction PCX. Environmental and Economics team members of the PCX-CSDR have also been involved with the study.

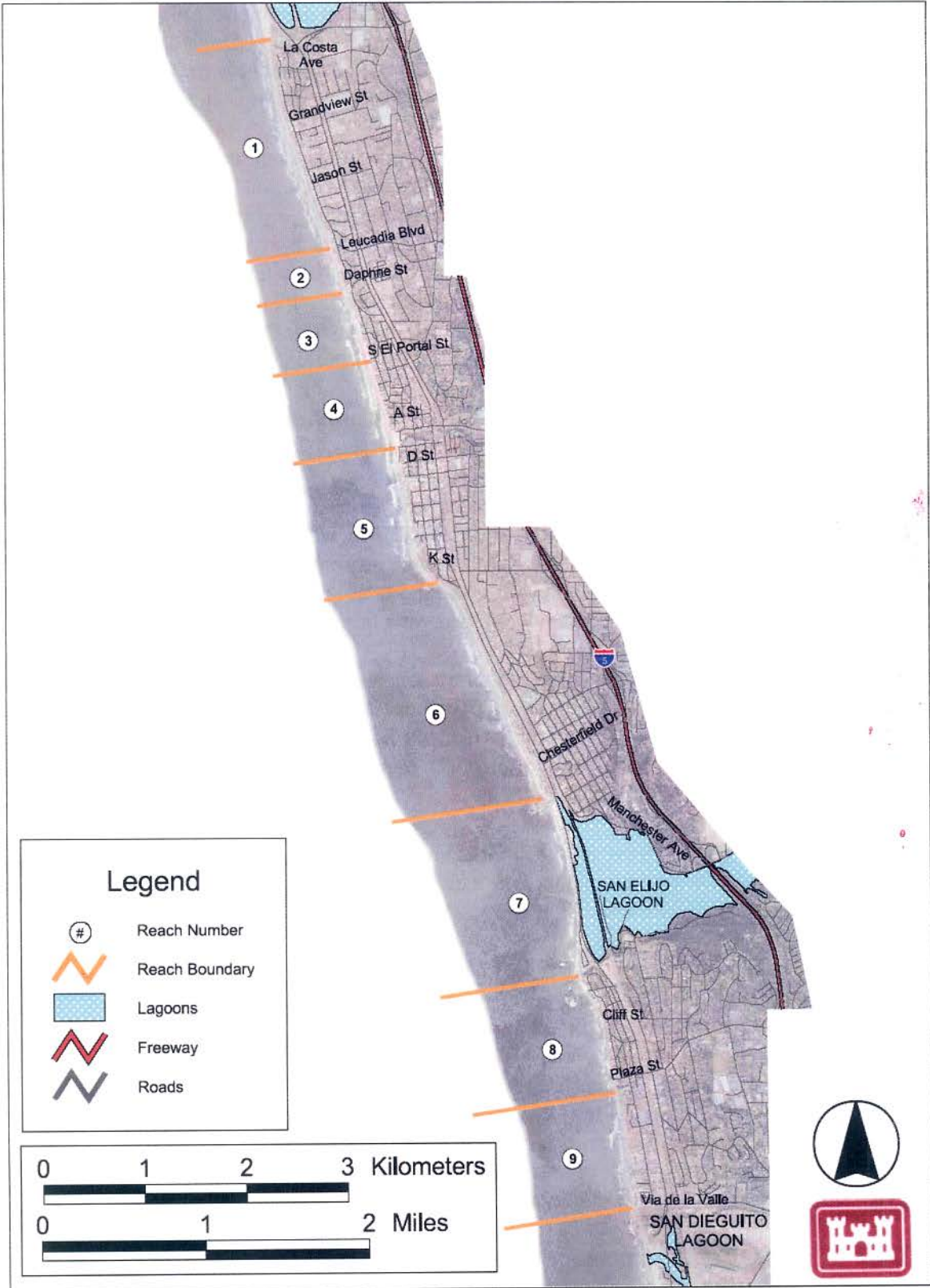
## 3. STUDY INFORMATION

**a. Decision Document.** A draft feasibility report and an environmental impact statement/environmental impact report (EIS/EIR) for the study were published in August 2005. The public responded with significant concerns about the impact the alternatives considered in those reports could have on the environment. As a result, the alternatives are being reformulated. These alternatives will be assessed in an updated integrated feasibility report and EIS/EIR.

Feasibility reports and EIS/EIRs are decision documents. That is, they are documents prepared for the purpose of obtaining Congressional authorization. All USACE decision documents are subject to review.

- b. **Study/Project Description.** The *Encinitas - Solana Beach Feasibility Study* is a single purpose storm damage reduction feasibility study investigating the protection of coastal bluffs in Encinitas and Solana Beach, in San Diego County, California, from erosion by wave attack. Erosion of the bluffs has caused bluff failures in the area, resulting in the loss of human life and significant damages to public and private property. Alternatives considered address the erosion to include beach nourishment, sea walls, and some combination of the two. The final array of alternatives included beach nourishment at various increments and a hybrid of beach nourishment and notchfill. The study is a joint effort between the US Army Corps of Engineers (USACE) and the cities of Solana Beach and Encinitas (the local sponsors).

The study area is shown in the figure on the following page:



- c. **Factors Affecting the Scope and Level of Review.** The decision documents prepared for the *Encinitas – Solana Beach Feasibility Study* will be subject to four types of review: District Quality Control (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), public review, state and agency review, and Washington-level Policy and Compliance Reviews.

DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP Quality Control Plan. DQC will be managed in the Los Angeles District (SPL). DQC applies the tools outlined in the quality management plans for SPL and the South Pacific Division (SPD), the district's Major Subordinate Command (MSC). Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander.

ATR is an in-depth review that ensures the proper application of clearly established criteria, regulations, laws, codes, principles, and professional practices. ATR also assures that all work products coherently fit together. ATR will be managed within USACE and conducted by a qualified team from outside of the home district. The lead Corps Planning Center of Expertise (PCX) for the study, the Coastal Storm Damage Reduction PCX (PCX-CSDR), will identify the ATR team leader and members. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. The ATR team leader shall be outside of SPD. Candidates may be nominated by the home district.

IEPR addresses all planning, engineering, economics, and environmental analyses in the feasibility study. This review evaluates the assumptions that support the analyses, as well as the soundness of models, surveys, investigations, and methods. IEPR will be coordinated through the PCX-CSDR. The PCX will select an outside eligible organization (OEO) to manage the IEPR. The OEO will assemble a panel of independent experts to conduct IEPR.

IEPR 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. The criteria for application of IEPR are:

- (1) The total project cost exceeds \$45 million
- (2) There is a significant threat to human life
- (3) It is requested by a State Governor of an affected state
- (4) It is requested by the head of a Federal or state agency charged with reviewing the project if he/she determines the project is likely to have a significant adverse impact on resources under the jurisdiction of his/her agency after implementation of proposed mitigation (the Chief has the discretion to add IEPR under this circumstance)
- (5) There is significant public dispute regarding the size, nature, effects of the project
- (6) There is significant public dispute regarding the economic or environmental cost or benefit of the project
- (7) Cases where information is based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices
- (8) Any other circumstance where the Chief of Engineers determines IEPR is warranted.

IEPR and SAR may be appropriate for feasibility studies; reevaluation studies; reports or project studies requiring a Chiefs Report, authorization by Congress, or an EIS; and large programmatic efforts and their component projects. IEPR is managed by an outside eligible organization (OEO) that is described in Internal Revenue Code Section 501(c)(3), is exempt from Federal tax under section 501(a), of the Internal Revenue Code of 1986; is independent; is free from conflicts of interest; does not carry out or advocate for or against Federal water resources projects; and has experience in establishing and administering IEPR 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.

SAR, in accordance with Section 2034 and 2035 of WRDA 2007, EC 1165-2-209, requires that all projects addressing flooding or storm damage reduction undergo a SAR during design and construction. Safety assurance factors (significant threat to human life, project cost thresholds, etc) must be considered in the planning and studies phases and in all reviews for those studies. Updated guidance on the civil works review process including implementation guidance for Section 2034 and 2035 is under development. This study will address safety assurance factors, which at a minimum will be included in the draft report and appendixes for public and agency review. Prior to preconstruction engineering and design (PED) of the identified for construction, a PMP will be developed that will include SAR's with the selection of external panels to perform the independent external peer reviews during design and construction.

The SAR shall focus on the quality of the surveys and investigations, quality of in-kind-contributions and whether it is certifiable for credit in accordance with EC 1165-2-208, the range of alternatives considered, the models used to assess hazards, the level of uncertainty in assessments, and whether the quality and quantity of engineering per ER 1110-2-1150 are sufficient to ensure public welfare, safety, and health. The purpose of the Safety Assurance Review is to ensure that good science, sound engineering, and public health, safety, and welfare are the most important factors that determine a project's fate. The IEPR for the feasibility report would address SAR of engineering items and assumptions in the report..

Release of the draft document for public review will occur after issuance of the AFB policy guidance memo and concurrence by HQUSACE. A public meeting where oral presentations on scientific issues can be made to the reviewers by interested members of the public. ATR and IEPR reviewers will be provided with all public comments. Public review of this document will occur after the completion of the ATR process and issuance of the HQUSACE policy guidance memo. The public review period will last 45 days.

A formal State and Agency review will occur after the release of the final report is approved by the Civil Works Review Board. However, intensive coordination with these agencies will occur concurrently with the planning process. There may be possible coordinating parties' regarding this project but no specific issues have been raised to date. Upon completion of the review period, comments will be consolidated in a matrix and addressed, if needed. A summary of the comments and resolutions will be included in the document.

Washington-level Policy and Compliance Reviews determine whether 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. Washington-level policy and compliance review is completed before the draft feasibility report and EIS/EIR are



released for public review and again before the Chief of Engineers signs his report. The review is conducted by personnel working for USACE headquarters (HQUSACE). Guidance for policy and legal compliance reviews is addressed further in Appendix H, ER 1105-2-100. The technical review efforts addressed in this Circular are to augment and complement the policy review processes by addressing compliance with published Army policies pertinent to planning products, particularly policies on analytical methods and the presentation of findings in decision documents. DQC and ATR efforts are to include the necessary expertise to address compliance with published planning policy.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The in-kind products and analyses to be provided by the non-Federal sponsor include:

Sponsors are responsible for quality control of In-Kind contributions. The responsible technical PDT member will be responsible for DQC of the Sponsors In-kind work products via seamless single and product reviews. Upon completion of the In-kind work products, the Sponsors shall request credit, for which the Los Angeles District will then determine the reasonableness, allocability and allowability in accordance with the PMP and FCSA. Quality assurance review of the products developed under contract for the *Encinitas - Solana Beach Feasibility Study* will be performed by the ATR team, through seamless single discipline and product reviews. This will ensure that products developed under contract are in compliance with applicable laws, regulations, and sound technical practices. A list of In-Kind contributions included in the PMP to date is shown in Table 3.

Resource / Activity Number	Activity Name	At-Completion Cost
<b>TOTAL WORK IN KIND:</b>		<b>\$1,824,158.00</b>
FEA1095	Sponsor's Work In Kind - FCSA Thru Amendment # 3	\$642,500.00
FEA2776	Coastal Reef Surveys (In-Kind)	\$115,000.00
FEA4999	Contingency - Non Federal	\$50,000.00
FEA5030	*Sponsor Review of Draft Report (IN-KIND)	\$10,000.00
FEA5080	*Sponsor Response to IEPR (IN-KIND)	\$10,000.00
FEA5100	Sponsor Management - Encinitas (IN-KIND)	\$25,400.00
FEA5110	Sponsor Management - Solana (IN-KIND)	\$20,400.00
FEA5200	Econ - Seawall Permit & Construction Analysis (IN-KIND)	\$20,000.00
FEA5305	Coastal - GENESIS Modeling & Mitigation Cost Estimates for Contract 1 (IN-KIND)	\$49,000.00
FEA5310	Coastal - Model Calibration & Report update (IN-KIND)	\$125,000.00
FEA5330	Coastal -Complete Genesis Analysis (IN-KIND)	\$50,000.00
FEA5360	Coastal - Coastal Frontiers Data, 2007 & 2008 Solana (IN-KIND)	\$20,000.00
FEA5370	Coastal - Coastal Frontiers Data, 2007 & 2008 Encinitas (IN-KIND)	\$20,000.00
FEA5401	ENV - EIS/EIR Management & Prep City of Encinitas (IN-KIND)	\$50,000.00
FEA5402	ENV - EIS/EIR Management & Prep City of Solana (IN-KIND)	\$20,000.00
FEA5415	ENV - Analyze nearshore habitat impacts (IN-KIND)	\$74,250.00
FEA5420	ENV - Analyze impacts to surfing resources (IN-KIND, Task 5)	\$25,000.00
FEA5425	ENV - Lobster Analysis (IN-KIND, Task 6a)	\$29,000.00
FEA5430	ENV - Climate Analysis (IN-KIND, Task 6b)	\$12,000.00
FEA5440	ENV - Analyze Impacts to Lagoon Sedimentation (IN-KIND, Task 6)	\$11,000.00
FEA5450	ENV - Borrow Site Investigations, City of Encinitas (IN-KIND)	\$66,500.00
FEA5455	ENV - Borrow Site Investigations, City of Solana (IN-KIND)	\$17,500.00

FEA5460	ENV - Adaptive Management Plan (IN-KIND, Task 15a-d)	\$65,000.00
FEA5470	ENV - Prepare Admin Draft EIS/EIR (IN-KIND)	\$101,200.00
FEA5490	ENV - Prepare updated Public Draft EIS/EIR (IN-KIND)	\$40,700.00
FEA5800	*Public Involvement City of Encinitas (IN-KIND)	\$10,000.00
FEA5810	*Public Involvement City of Solana Beach (IN-KIND)	\$10,000.00
FEA8010	*Public Release of Draft EIR (IN-KIND)	\$1,100.00
FEA8040	Respond to Public Comments (IN-KIND)	\$42,350.00
FEA8100	Sponsor Management - Encinitas (IN-KIND)	\$2,400.00
FEA8110	Sponsor Management - Solana (IN-KIND)	\$2,400.00
FEA8300	Coastal - Prepare Final Report (IN-KIND)	\$5,000.00
FEA8420	ENV - Prepare Public Final EIS/EIR (IN KIND)	\$20,900.00
FEA8440	Prepare responses to comments on Public Final EIS/EIR	\$10,558.00
FEA8800	*Public Involvement City of Encinitas (IN-KIND)	\$10,000.00
FEA8810	*Public Involvement City of Solana Beach (IN-KIND)	\$10,000.00
FEA9030	*Civil Works Review Board (CWRB) (IN KIND)	\$20,000.00
FEA9050	Respond to CWRB Comments (IN-KIND)	\$10,000.00

4. **DISTRICT QUALITY CONTROL (DQC).** All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo DQC. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). The home district shall manage DQC. Documentation of DQC activities is required and should be in accordance with the Quality Manual of the District and the home MSC.

a. **Documentation of DQC.** DQC will be managed in the Los Angeles District (SPL). DQC applies the tools outlined in the quality management plans for SPL and the South Pacific Division (SPD), the district's Major Subordinate Command (MSC). Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander.

Procedures for DQC for the *Encinitas - Solana Beach Feasibility Study* are outlined in the:

- *South Pacific Division Quality Management Plan*, CESPD R 1110-1-8 (December 30, 2002):
  - Appendix C, *Quality Management of Planning Products* (September 20, 2004);
- *Los Angeles District Quality Management Plan*, CESPL OM 1105-1-2, (January 25, 2000):
  - Appendix A, *Planning Subplan* (January 25, 2000); and
- "Quality Control Plan", in *Encinitas - Solana Beach Feasibility Study Project Management Plan* (August 22, 2008).

The quality control objectives for the study include ensuring that feasibility phase products and analyses:

- meet customer (Federal and non-Federal sponsor) requirements;
- comply with applicable laws, regulations, policies, and sound technical practices of the disciplines involved;
- are of adequate scope and level of detail;
- are consistent, logical, accurate, and comprehensive;
- are based on convincing and consistent assumptions, especially those related to the probable/most likely future with and without-project conditions;

- adequately describe the problems and opportunities, planning objectives and constraints, existing conditions, future without-project conditions, and future with-project conditions to support recommendations;
- tell a coherent planning story; and
- address outstanding action items from milestone conferences, issue resolution conferences, and other reviews.

The PDT and each team member's supervisors will be responsible for DQC.

Design checks and other internal reviews will be carried out as routine management practices in technical divisions. This includes checking work to assure basic assumptions and calculations are error-free. These checks will be performed by staff responsible for the work.

Supervisory review will be managed by section chiefs and branch chiefs to ensure that appropriate criteria is established, correct methodology is followed, appropriate data is used, and computations are accurate.

Additionally, PDT members will be responsible for assuring the overall integrity of the feasibility report, EIS/EIR, technical appendices, and recommendations before approval by the District Commander.

The Los Angeles District's Office of Counsel is responsible for the legal review of the feasibility report and EIS/EIR. Legal review involves a critical examination of the documents to ensure compliance with applicable laws, policies, and regulations.

- b. Products to Undergo DQC.** DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP Quality Control Plan. Any decision document for *Encinitas – Solana Beach Feasibility Study* will be subject to DQC.

#### DQC of Products Developed Under Contract

At this time, there are not any work products that will be completed under contracts managed by the Los Angeles District. Several contracts are managed by the Sponsors and DQC will be applied in accordance with the section on DQC of Sponsors In-kind Contributions.

Contractors are responsible for the quality control of products developed under contract. The responsible function chief at the Los Angeles District will review and approve the sponsor's quality control plan. The sponsor will then be responsible for managing and providing input to the contractor and ensuring that the contractor meets the requirements of the contract. Quality assurance review of the products developed under contract for the *Encinitas - Solana Beach Feasibility Study* will be performed by the ATR team, through seamless single discipline and product reviews. This will ensure that products developed under contract are in compliance with applicable laws, regulations, and sound technical practices.

DQC will also include single discipline seamless peer review and multi-discipline product review. These are forms of ATR, described in the next section.

- 5. AGENCY TECHNICAL REVIEW (ATR)** ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.). The objective of ATR is to ensure consistency with established criteria, guidance, procedures, and policy. The ATR will assess whether the analyses presented are technically correct and comply with published USACE guidance, and that the document explains the analyses and results in a reasonably clear manner for the public and decision makers. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside the home MSC.
- a. Products to Undergo ATR.** ATR of the draft and final feasibility report, technical appendices, and EIS/EIR for the Alternative Formulation Briefing (AFB) documentation, Draft Report (including NEPA and supporting documentation), and Final Report (including NEPA and supporting documentation). Recommendations and comments will be provided by the ATR team. ATR of these products will occur before they are released for public comment and review.
- b. Required ATR Team Expertise.** The PDT requires that approximately eight reviewers will be needed for ATR of the *Encinitas – Solana Beach Feasibility Study*, based on the disciplines required to develop the feasibility report and EIS/EIR.

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional with extensive experience in preparing Civil Works decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. The ATR lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc).
Planning	The Planning reviewer should be a senior water resources planner with experience in coastal storm damage reduction and shoreline protection studies.
Economics	The economic reviewer should be a senior economist with experience with the @risk program and experience in coastal storm damage reduction and shoreline protection studies.
Environmental Resources	The Environmental Resource reviewer should be a senior biologist with expertise in marine biologist and experience in coastal storm damage reduction and shoreline protection studies.
Coastal Engineering	The Coastal Engineering reviewer should be a technical expert in coastal engineering with experience in coastal storm damage reduction and shoreline protection feasibility studies.
Geotechnical Engineering	The Geotechnical Engineering reviewer should have experience with coastal geology and coastal bluff erosion along with experience in coastal storm damage reduction and shoreline protection feasibility studies.
Cost Engineering	The Cost Engineering reviewer should be a technical expert in cost with experience in coastal storm damage reduction and shoreline

	protection feasibility studies.
Real Estate	The Real Estate reviewer should have civil works experience with emphasis on coastal storm damage reduction and shoreline protection feasibility studies.

c. **Documentation of ATR.** DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. The four key parts of a quality review comment will normally include:

- (1) The review concern – identify the product’s information deficiency or incorrect application of policy, guidance, or procedures;
- (2) The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not be properly followed;
- (3) The significance of the concern – indicate the importance of the concern with regard to its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks will include the text of each ATR concern, the PDT response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes the district, RMO, MSC, and HQUSACE), and the agreed upon resolution. If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-1-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in DrChecks with a notation that the concern has been elevated to the vertical team for resolution.

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;
- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issue (if any); and
- Include a verbatim copy of each reviewer’s comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

ATR may be certified when all ATR concerns are either resolved or referred to the vertical team for resolution and the ATR documentation is complete. The ATR Lead will prepare a Statement of

Technical Review certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A Statement of Technical Review should be completed, based on work reviewed to date, for the AFB, draft report, and final report. A sample Statement of Technical Review is included in Attachment 2.

- 6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)** IEPR may be required for decision documents under certain circumstances. 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. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines, representing a balance of areas of expertise suitable for the review being conducted. There are two types of IEPR:
- **Type I IEPR.** Type I IEPR reviews are managed outside the USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.
  - **Type II IEPR.** Type II IEPR, or Safety Assurance Review (SAR), are managed outside the USACE and are conducted on design and construction activities for hurricane, storm, and flood risk management projects or other projects where existing and potential hazards pose a significant threat to human life. Type II IEPR panels will conduct reviews of the design and construction activities prior to initiation of physical construction and, until construction activities are completed, periodically thereafter on a regular schedule. The reviews shall consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.
- a. **Decision on IEPR.** IEPR is required when at least one or more of the eight “trigger factors” in Appendix D of the USACE’s Water Resources Policies and Authorities Report EC 1105-2-410 are present. In addition, IEPR is required for any project in which the Chief of Engineers determines that circumstances warrant IEPR. The Los Angeles District is complying with IEPR Type I and the Chief of Engineering Division and Los Angeles District will assessed if there is a significant threat to life safety, environmental considerations, or if the State of California's Governor has requested IEPR Type II after the Chief report is approved. If conditions warrant IEPR Type II will be required in subsequent project phases.

IEPR is necessary for the *Encinitas - Solana Beach Feasibility Study* due to the following applicable trigger factors:

- **Safety Assurance:** the project area is a threat to human life as casualties have occurred due to slumping and collapsing of bluff material;

- The project area may experience potential adverse impacts to the existing nearshore habitat and species prior to implementation of mitigation;
- The feasibility study will include an Environmental Impact Statement (EIS)/Environmental Impact Report (EIR);
- The project has had significant interagency interest. Agencies including NOAA and Department of Fish and Game along with several other agencies had commented on the previous public draft report as well as participated in technical meetings to discuss project alternatives. There is particular interest with impacts the project has on nearshore habitat, particularly to surfgrass and reef habitat, and how to minimize the expected impacts.

The project has generated significant interest from the public in regard to its size, nature, cost, environmental effect, and effect on the public (beach access and use). The public has been vocal in expressing their interest in the project at public meetings, city council meetings, and written letters. The previous public draft feasibility report, released in 2005 resulted in public comments relating to the effects that the project would have on the nearshore habitat, surfing impacts, recreational impacts, and any bluff structures to be constructed as part of the project. There was strong interest in sand placement with requests for additional explanation of potential impacts in the EIS/EIR report.

- b. **Products to Undergo Type I IEPR.** IEPR of the public draft feasibility report, technical appendices, and EIS/EIR (including NEPA and supporting documentation). Recommendations and comments will be provided by the ATR team. IEPR of these products will occur concurrent with the release for public comment and review.
- c. **Required Type I IEPR Panel Expertise.** The PCX-CSDR will contract with an outside eligible organization (OEO) to manage IEPR. The OEO will select IEPR panel members using the National Academy of Science’s policy for selecting reviewers. The IEPR panel will consist of recognized independent experts from outside of USACE, with disciplines appropriate for the type of review being conducted. The PCX-CSDR will make the final decision regarding the disciplines and number of panel members.

The *Encinitas - Solana Beach Feasibility Study* PDT anticipates that the following disciplines or expertise will be needed for IEPR:

IEPR Panel Members/Disciplines	Expertise Required
Economics	The Economics Panel Member should have experience in coastal storm risk management.
Environmental	The Environmental Panel Member should have experience in marine biology.
Engineering	The Engineering Panel Member should have experience in coastal engineering coastal storm management.
Geologist	The Engineering Panel Member should have experience in geotechnical coastal engineering coastal storm management.
Planner	The Planner Panel Member should have experience in water resource and coastal storm risk management.

d. **Documentation of Type I IEPR.** The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-209, Appendix D. Panel comments will be compiled by the OEO and should address the adequacy and acceptability of the economic, engineering and environmental methods, models, and analyses used. IEPR comments should generally include the same four key parts as described for ATR comments in Section 4.d above. The OEO will prepare a final Review Report that will accompany the publication of the final decision document and shall:

- Disclose the names of the reviewers, their organizational affiliations, and include a short paragraph on both the credentials and relevant experiences of each reviewer;
- Include the charge to the reviewers;
- Describe the nature of their review and their findings and conclusions; and
- Include a verbatim copy of each reviewer's comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

The final Review Report will be submitted by the OEO no later than 60 days following the close of the public comment period for the draft decision document. USACE shall consider all recommendations contained in the Review Report and prepare a written response for all recommendations adopted or not adopted. The final decision document will summarize the Review Report and USACE response. The Review Report and USACE response will be made available to the public, including through electronic means on the internet.

e. **SAR.** The Type II IEPR, Safe Assurance Review, is required to insure public health, safety, and welfare and is conducted on design and construction activities for any hurricane, storm, and flood risk management projects, as well as other projects where existing and potential hazards pose a significant threat to human life. Other factors to consider for conducting a SAR include: project involves use of innovative materials or techniques, project design requires redundancy resiliency, and robustness, or the project has unique construction sequencing or a reduced/overlapping construction schedule. The Type II IEPR is undertaken prior to initiation of physical construction and periodically thereafter until construction activities are completed. SAR oversight is the responsibility of the MSC, Chief, Business Technical Division, in coordination with Districts Chiefs of Construction and Operations and the PM. Decision documents that meet the criteria should incorporate the SAR into their Type I IEPR. For Type II IEPRs, the RMO is the RMC. SAR should be considered at certain milestones, including: at the record of final design in the Design Documentation Report, at the completion of Plans, Specifications, and the Cost Estimate, at the midpoint of a construction contract, prior to final inspection, and at any critical design or construction milestones. The intent of the SAR is to compliment and not duplicate the ATR. After receiving a SAR Report, the host District Chief of Engineering shall consider all comments contained in the report, prepare a written response note agreement/action or disagreement/explanation, submit the report and responses to the MSC for final approval, followed by posting on the District's web site for public information. A Type II IEPR will not be conducted for this feasibility study, but will be included in the design (PED) phase of the project, if applicable. An SAR will be included in a future design phase for this project. Based on the IEPR Type I panel the same skill sets may be needed for the IEPR Type II. Disciplines to be included in the SAR team include coastal engineering, with expertise in risk and uncertainty evaluation for coastal zones; geotechnical engineering, including expertise in determining factors of safety and examination of failure modes for earthen construction. It is not known what the costs will be for the SAR at this time, but cost estimates will be developed at the completion of the feasibility study to include in the RP updates for PED phase of the project. SAR will likely be



conducted between 60% and 90% Plans & Specs submittal and cost approximately \$100,000-\$150,000.

7. **POLICY AND LEGAL COMPLIANCE REVIEW.** All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.
8. **COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION.** All decision documents shall be coordinated with the Cost Engineering DX, located in the Walla Walla District. The DX will assist in determining the expertise needed on the ATR team and Type I IEPR team (if required) and in the development of the review charge(s). The DX will also provide the Cost Engineering DX certification. The RMO is responsible for coordination with the Cost Engineering DX.
9. **MODEL CERTIFICATION AND APPROVAL.** EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. Planning models, for the purposes of the EC, 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. The use of a certified/approved planning model does not constitute technical review of the planning product. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

EC 1105-2-412 does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

- a. **Planning Models.** The following planning models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Economic Simulation Model	A custom economic simulation model was developed using tools such as @Risk to evaluate coastal storm damages for the	Approved for Use

	Encinitas Solana Beach Feasibility Study. The study was developed by the coastal engineering and economic team.	
Mitigation model	The PDT has worked with local and State resource agencies to develop a mitigation model to assess potential mitigation impacts of the study on habitat within the study area.	Awaiting verification on need for approval or certification

b. **Engineering Models.** The following engineering models are anticipated to be used in the development of the decision document:

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
GENESIS	The GENESIS model was used to simulate along shore transport of sand. For Encinitas Solana Beach feasibility study the GENESIS model was used to estimate where placement of the sand would distribute within the nearshore and beach. This data is used to predict sand placement to determine erosion rates and burial of nearshore habitat.	Certified

## 10. REVIEW SCHEDULES AND COSTS

### a. ATR Schedule and Cost.

The budgeted total costs for ATR are as follows:

Activity	Budget	Start	Finish
FEA5040 – ATR of AFB Report	\$60,000	11-Jun-12	15-Jun-12
FEA8052 – ATR of Final Report	\$20,000	31-Jan-13	8-Feb-13

### b. Type I IEPR Schedule and Cost.

The budgeted total costs for IEPR are as follows:

Activity	Budget	Start	Finish
FEA5060 – Independent External Peer Review of Draft Report	\$150,000	26 Nov-12	4-Jan-12
FEA5070 – PDT Responses to IEPR of Draft Report	\$15,000	4-Feb-13	15-Feb-13
FEA5080 – Sponsor Responses to IEPR of Draft Report	\$10,000	4-Feb-13	15-Feb-13

### c. Model Certification/Approval Schedule and Cost.

#### Review Certifications

Draft and final decision documents submitted to higher authority should be accompanied by review documentation and certifications that technical, legal and policy compliance review have been completed.

The completion of DQC will be certified by the Planning Division Chief and the District Commander.

The legal sufficiency of decision documents will be certified by the SPL Office of Counsel.

For products developed in whole or part by a contractor, a principal of the contractor will sign a quality control certification. The responsible function chief will then sign a quality assurance certification, and recommend to the District Commander that a certification that quality control and quality assurance are complete be signed and that any significant technical concerns have been considered and resolved.

The SPL Quality Management Plan (CESPL OM 1105-1-2), Appendix A, Attachment I contains example certifications for DQC, legal review, and contractor quality control/quality assurance.

The completion of ATR for interim work products may be certified by the responsible function chief. The completion of ATR for the final decision documents will be certified by the Planning Division Chief and the District Commander. The ATR certification should note, and reference the location of, any unresolved concerns in the review documentation.

The Engineering Division Chief will certify that the total project cost estimate submitted with the final decision documents is in accordance with current guidance and has been coordinated with and reviewed by the Cost Engineering DX. The review of real estate costs should be certified as well.

The SPD Quality Management Plan (CESPD R 1110-1-8), Appendix I, contains examples of ATR and cost estimate certifications.

The Los Angeles District will attach a certification of IEPR to the IEPR documentation.

The Project Manager is responsible for ensuring that certification requirements are met prior to approval of the project by the District Commander or transmittal of the project to SPD or HQUSACE.

The project summary accompanying the final feasibility report and EIS/EIR will:

- present the dates of the certifications of the technical and legal adequacy of the final report;
- describe the involvement of the PCX;
- summarize the involvement of the Cost Engineering DX in the approval of the total project cost estimate; and
- summarize the review and approval of real estate cost estimates.

HQUSACE is responsible for confirming the technical, policy, and legal compliance of planning products; supporting the resolution of issues requiring HQUSACE, ASA(CW) or OMB decisions; continuously evaluating the overall project development process, including the review and policy compliance processes; and recommending appropriate changes when warranted.

#### **Model Certifications**

The PCX will coordinate with the PDT on the Economics and Storm Damage model to be utilized for this study. This model is not expected to warrant full model certification.

See EC 1105-2-412, *Assuring Quality of Planning Models* (March 31, 2011).

11. **PUBLIC PARTICIPATION.** The Los Angeles District and local sponsors, the cities of Encinitas and Solana Beach, will work together to ensure that all interested organizations and members of the public are kept informed of the study progress and results. Individuals and organizations will be notified in advance of the release of key documents and public meetings.
12. **REVIEW PLAN APPROVAL AND UPDATES.** The Los Angeles District Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, the Review Plan is a living document and may change as the study progresses. The home district is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last MSC Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, should be posted on the Home District's webpage. The latest Review Plan should also be provided to the RMO and home MSC.
13. **REVIEW PLAN POINTS OF CONTACT.** This Review Plan for the *Encinitas - Solana Beach Feasibility Study* will be posted on the Los Angeles District's public webpage for the study:

[http://www.spl.usace.army.mil/cms/index.php?option=com\\_content&task=view&id=73&Itemid=31](http://www.spl.usace.army.mil/cms/index.php?option=com_content&task=view&id=73&Itemid=31)

The public will be able to submit their comments on the Review Plan via the webpage. For inquiries about this Review Plan, the points of contact are:

Los Angeles District:

Project Manager (213) 452-3789

Lead Planner (213)452-3835

Coastal Storm Damage Reduction PCX:

PCX Project Team Member (347) 370-4571

**ATTACHMENT 1: TEAM ROSTERS**

<b>Name</b>	<b>Discipline</b>	<b>Office</b>
Susie Ming	Project Manager	CESPL-PM-N
Marriah Abellera	Plan Formulation	CESPL-PD-WS
Larry Smith	Environmental	CESPL-PD-RQ
Art Shak	Coastal Engineering	CESPL-ED-DC
Jeffrey Devine	Geotechnical	CESPL-ED-GG
Jacob Hensel	Economics	CESPL-PD-WE
Juan Dominguez	Cost Engineering	CESPL-ED-DD
Joe Gatti	Real Estate	CESPL-AM-A

<b>Name</b>	<b>ATR Role</b>	<b>Office</b>
J.Bailey Smith	ATR Team Leader/Plan Formulation	CENAP-PL-PC
Bill Brostoff	Environmental	CESPN-ET-PA
John Winkelman	Coastal Engineering	CENAE-EP-WM
Bruce Uibel	Geotechnical	CENAP-EC-EG
Ed O'Leary	Economics	CENAE-EP-VC
Anne Fore	Cost Engineering	CEPOA-EN-CE
Heather Sachs	Real Estate	CENAB-RE-C

**ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS**

**COMPLETION OF AGENCY TECHNICAL REVIEW**

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *<project name and location>*. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-209. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrChecks<sup>sm</sup>.

*SIGNATURE*

\_\_\_\_\_  
*Name*  
ATR Team Leader  
*Office Symbol/Company*

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
*Name*  
Project Manager  
*Office Symbol*

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
*Name*  
Architect Engineer Project Manager<sup>1</sup>  
*Company, location*

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
*Name*  
Review Management Office Representative  
*Office Symbol*

\_\_\_\_\_  
Date

**CERTIFICATION OF AGENCY TECHNICAL REVIEW**

Significant concerns and the explanation of the resolution are as follows: *Describe the major technical concerns and their resolution.*

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

*SIGNATURE*

\_\_\_\_\_  
*Name*  
Chief, Engineering Division  
*Office Symbol*

\_\_\_\_\_  
Date

*SIGNATURE*

\_\_\_\_\_  
*Name*  
Chief, Planning Division  
*Office Symbol*

\_\_\_\_\_  
Date

<sup>1</sup> Only needed if some portion of the ATR was contracted

**ATTACHMENT 3: REVIEW PLAN REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>

#### ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

<u>Term</u>	<u>Definition</u>	<u>Term</u>	<u>Definition</u>
AFB	Alternative Formulation Briefing	NED	National Economic Development
ASA(CW)	Assistant Secretary of the Army for Civil Works	NER	National Ecosystem Restoration
ATR	Agency Technical Review	NEPA	National Environmental Policy Act
CSDR	Coastal Storm Damage Reduction	O&M	Operation and maintenance
DPR	Detailed Project Report	OMB	Office and Management and Budget
DQC	District Quality Control/Quality Assurance	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DX	Directory of Expertise	OEO	Outside Eligible Organization
EA	Environmental Assessment	OSE	Other Social Effects
EC	Engineer Circular	PCX	Planning Center of Expertise
EIS	Environmental Impact Statement	PDT	Project Delivery Team
EO	Executive Order	PAC	Post Authorization Change
ER	Ecosystem Restoration	PMP	Project Management Plan
FDR	Flood Damage Reduction	PL	Public Law
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSD	The District or MSD responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSD	Major Subordinate Command	WRDA	Water Resources Development Act