



REPLY TO
ATTENTION OF

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

May 8, 2013

CESPD-RBT

MEMORANDUM FOR Commander, Los Angeles District, ATTN: CESPL-PD-WS, Mr. Nathaniel (Nate) West

Subject: Pismo Beach, California, CAP 103 Shoreline Protection Project, Review Plan Approval

1. Pismo Beach, California, CAP 103 Shoreline Protection Project, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-214, Review of Decision Documents, dated 15 Dec 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 Pismo Beach, California, CAP 103 Shoreline Protection Project, 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 excludes 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. Points of contact for this action are Mr. Marc Goodhue, CESPD-RBT, 415-503-6568, marc.j.goodhue@usace.army.mil, and Mr. Paul Bowers, CESPD-PDC, 415-503-6556, paul.w.bowers@usace.army.mil.

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

Encl


C. DAVID TURNER
BG, EN
Commanding 

REVIEW PLAN

Pismo Beach CAP 103 Shoreline Protection Study

**U.S. Army Corps of Engineers
Los Angeles District**

May 2014

**MSC Approval Date: Pending
Last Revision Date: March 2011**



**US Army Corps
of Engineers ®**

ENCL

REVIEW PLAN

Pismo Beach CAP 103 Shoreline Protection Study

TABLE OF CONTENTS

1. PURPOSE AND REQUIREMENTS1

2. REVIEW MANAGEMENT ORGANIZATION (RMO) COORDINATION1

3. STUDY INFORMATION2

4. DISTRICT QUALITY CONTROL (DQC).....6

5. AGENCY TECHNICAL REVIEW (ATR).....7

6. INDEPENDENT EXTERNAL PEER REVIEW (IEPR).....10

7. POLICY AND LEGAL COMPLIANCE REVIEW12

8. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION13

9. MODEL CERTIFICATION AND APPROVAL13

10. REVIEW SCHEDULES AND COSTS.....14

11. PUBLIC PARTICIPATION14

12. REVIEW PLAN APPROVAL AND UPDATES15

13. REVIEW PLAN POINTS OF CONTACT15

ATTACHMENT 1: TEAM ROSTERS.....16

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECISION DOCUMENTS.....17

ATTACHMENT 3: REVIEW PLAN REVISIONS.....18

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS.....19

1. PURPOSE AND REQUIREMENTS

a. **Purpose.** This Review Plan defines the scope and level of peer review for the Pismo Beach CAP 103 Shoreline Protection Study, in accordance with Engineering Circular 1165-2-214, *Water Resources Policies and Authorities: Civil Works Review* (15 December 2012). This Review Plan is a stand-alone component of the *Pismo Beach CAP 103 Shoreline Protection Study Project Management Plan* (PMP).

b. References

- (1) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 December 2012
- (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) Pismo Beach, CA Shoreline CAP 103 Study Project Management Plan, September 2008
- (6) South Pacific Division Quality Management Plan (CESPD R) 1110-1-8, 30 Dec 2002

c. **Requirements.** This review plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and operation, maintenance, repair, replacement and rehabilitation (OMRR&R). The EC outlines four general levels of review: District Quality Control/Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review. In addition to these levels of review, decision documents are subject to cost engineering review and certification (per EC 1165-2-214) 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. However, the RMO for the peer review effort described in this Review Plan is the South Pacific Division (SPD), as ATR and IEPR are not needed. The Coastal Storm Damage Reduction Planning Center of Expertise (PCX-CSDR) will provide support as needed.

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.

3. STUDY INFORMATION

- a. **Decision Document.** The purpose of this study is to review existing shoreline erosion problems that are currently being experienced by the City of Pismo Beach, assess feasible measures to solve the identified problems, and determine if there is a Federal interest to implement a program of intervention.

- b. **Study/Project Description.** The City of Pismo Beach is located within the upper reach of San Luis Bay in San Luis Obispo County, California (Figure 1-1). The southern portion of the Pismo Beach shoreline is characterized by a broad sandy beach. The remainder of the shoreline consists of coastal bluffs backing rocky shores and narrow pocket beaches. The coastal bluffs are eroding. The main factors affecting bluff erosion are wave attack at the base of the seacliff, gradual erosion and flattening of the terrace deposits above the cliff, and the geologic makeup of the seacliffs. A total of six sites were determined as the study area. Five areas in the northern portion of Pismo Beach have been identified as chronically erosional to the extent that city structures are threatened. These five areas from north to south are: 1) St. Andrews Lift Station (a lift station is a pump that raises sewage from a lower elevation sewer line to a higher elevation sewer line), 2) Vista del Mar Lift Station, 3) Ocean Park, 4) Price Street - North, and 5) Price Street - South. At each of these sites, loss of material due to erosion of bluff faces and toes has jeopardized existing street rights-of-way, infrastructure, and public improvement (Figure 1-2). However, it should be noted that the project being implemented for construction only addresses erosion at Site 1, St. Andrews Lift Station, due to CAP total project funding limits as well as work performed by the City of Pismo Beach at the other sites, particularly Site 2, which was the other priority site of the City of Pismo Beach for implementation of a Federal project. Failure of or damage to the St. Andrews Lift Station would have a significant impact on the community of the City of Pismo Beach, as they're dependent on the operation of the lift station for their sanitary sewer system.



Figure 1-1: City of Pismo Beach

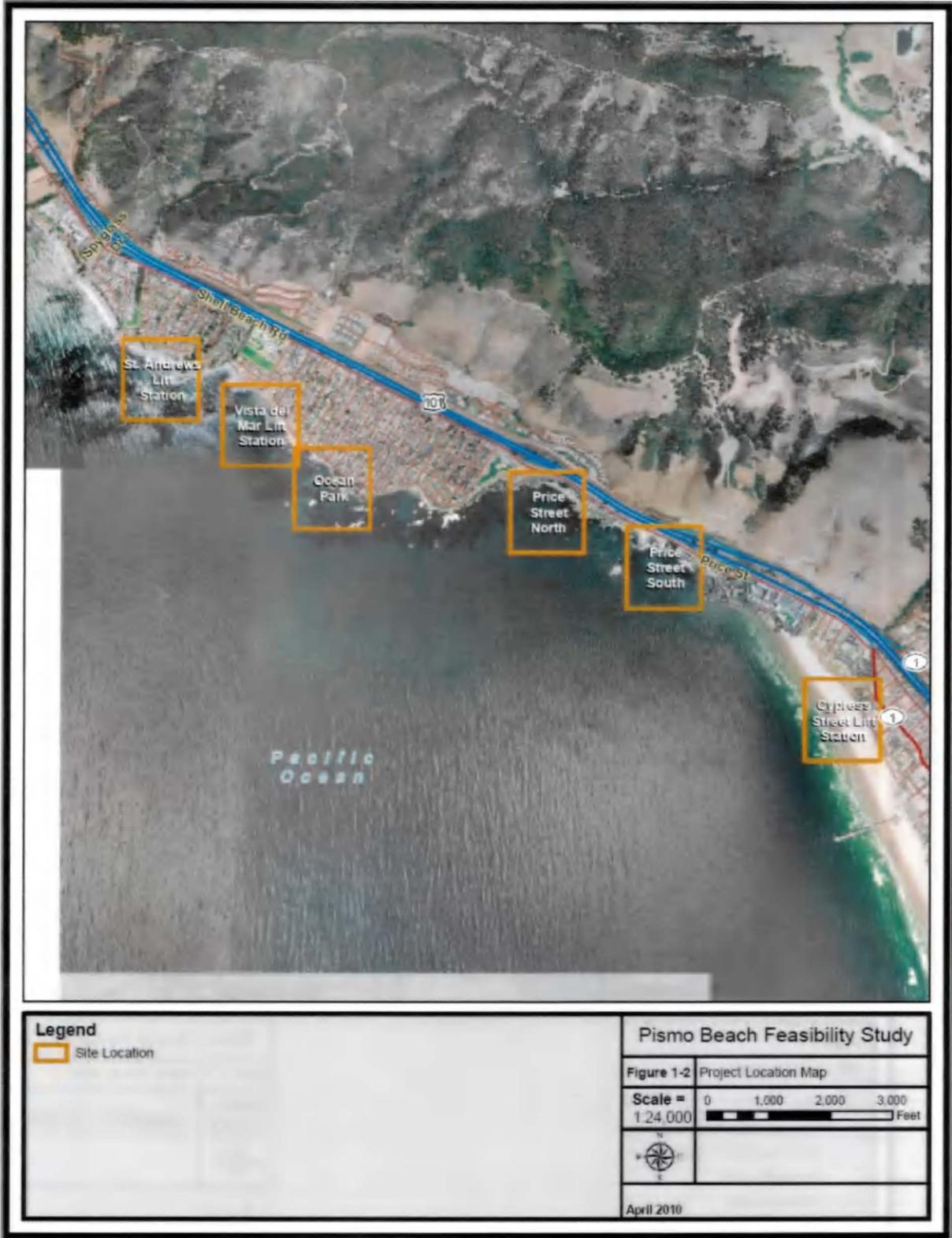


Figure 1-2: Project Sites

- c. **Factors Affecting the Scope and Level of Review.** The decision documents and their supporting analyses prepared for the *Pismo Beach CAP 103 Shoreline Protection Study* will be subject to the following review: District Quality Control (DQC), Agency Technical Review (ATR), public review, and South Pacific Division Policy and Compliance Reviews.

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 is usually 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), usually identifies the ATR team leader and members, however, the RMO (SPD) for this Review Plan would manage ATR in this case. ATR teams are comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. The ATR team leader is employed outside of SPD. Candidates may be nominated by the home district. Per EC 1165-2-214, all decision and implementation documents are required to undergo ATR; however, decision on whether to conduct ATR on other work products can be based on the 17 ATR criteria questions in Section 15 of the EC.

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 is typically coordinated through the PCX-CSDR; however, the RMO for this Review Plan is SPD. The SPD would 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 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.

Safety Assurance Review (SAR), in accordance with Section 2034 and 2035 of WRDA 2007, EC 11052-410, and pending additional guidance, 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.

The SAR would 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. The Review Plan would be revised, if required, to comply with current Corps guidance on SAR.

- d. **In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR, similar to any products developed by USACE. The following products were or will be provided as in-kind services by the non-Federal Sponsor, the City of Pismo Beach:

Resource/ Activity Number	Activity Name	At-Completion Cost
FEA 4015	Environmental Studies and Reports	\$10,000
FEA 5025	Cultural Resources and Reports	\$10,000
FEA 3020	Plan Formulation and Evaluation and Project Management	\$70,500
FEA 7070	Geotechnical Engineering – Final Report	\$81,000
FEA 8020	Public Review Period Involvement	\$8,000
IAR 3055	Plan and Specs PMP	\$5,000
		TOTAL: \$184,500

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 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 would be

managed in the Los Angeles District (SPL) for work products developed and/or managed by SPL and managed in the San Francisco District (SPN) for work products developed and/or managed by SPN. 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 *Pismo Beach CAP 103 Shoreline Protection Study* are outlined in the:

- *South Pacific Division Quality Management Plan*, CESPD R 1110-1-8 (December 30, 2002):
 - o *Appendix C, Quality Management of Planning Products* (September 20, 2004);
- *Los Angeles District Quality Management Plan*, CESPL OM 1105-1-2, (January 25, 2000):
 - o *Appendix A, Planning Subplan* (January 25, 2000); and
- "Quality Control Plan", in *California Coastal Sediment Master Plan Feasibility Study Project Management Plan* (August 2005).

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.

- b. Products to Undergo DQC.** The Detailed Project Report for the *Pismo Beach CAP 103 Shoreline Protection Study* will undergo DQC Review.
- c. Required DQC Expertise.** Expertise needed to DQC review work products include SPL staff in the following disciplines: coastal engineering, cost engineering, cultural resources, economics, environmental, geotechnical engineering, plan formulation, real estate, regulatory, and/or other disciplines as needed.

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. The ATR team members will be required to validate their technical qualifications for review through the Corps of Engineers Reviewer Certification and Access Program (CERCAP). The CERCAP requires potential reviewers to submit their resumes for evaluation and approval from a Community of Practice panel within the USACE, in this case, for engineering disciplines including coastal engineering, geotechnical engineering, and cost engineering.

- a. **Products to Undergo ATR.** The ATR team would conduct ATR in two stages: seamless single discipline review and product review.

Seamless Single Discipline Review is the on-going review of interim work products. As these work products are completed, and before they are shared with other members of the PDT or integrated into the overall study, PDT members should contact their ATR team counterparts for review. ATR team members provide immediate review consistent with the scope and complexity of the products. Interim work products may be reviewed once or iteratively.

The ATR of cost estimates, construction schedules, and contingencies for the feasibility report would be coordinated with the Cost Engineering Directory of Expertise (DX) in Walla Walla District (NWW), Northwest Division (NWD).

Product Review is the review of the draft and final feasibility report, technical appendices, and EIS/EIR. Recommendations and comments would be provided by the ATR team. ATR of these products would occur before they are released for public comment and review.

ATR will be performed throughout the study in accordance with the District and MSC Quality Management Plans. The ATR shall be documented and discussed at the Alternative Formulation Briefing (AFB) milestone. Certification of the ATR will be provided prior to the District Commander signing the final report. Products to undergo ATR include the Detailed Project Report (DPR) with associated appendices and the Environmental Assessment (EA). During the Planning and Design phase of the project, the Plans and Specifications, as well as the Operations and Maintenance Manual, will also undergo ATR.

- b. **Required ATR Team Expertise.**

The PDT estimates that eight reviewers will be needed for ATR of the *Pismo Beach CAP 103 Study*, based on the disciplines required to develop the DPR and EA. Table below presents the proposed ATR team and required expertise.

ATR Team Disciplines	ATR Team Member
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 Economics 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 Resources reviewer should be a senior biologist with expertise in marine biology 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 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 studies.
Cost Engineering	The Cost Engineering reviewer should be a technical expert in cost with experience in coastal storm damage reduction and shoreline protection studies.
Real Estate	The Real Estate reviewer should have civil works experience with emphasis on coastal storm damage reduction and shoreline protection 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 1165-2-214, 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 1165-2-214.
- **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.** The decision on whether the above criteria are met (and a Type I IEPR exclusion is appropriate) is the responsibility of the MSC and HQUSACE.

A Type I IEPR exclusion is appropriate for this study. An IEPR exclusion is recommended based on the criteria for Type I IEPR exclusion. The decision for exclusion is based on compliance with the exclusion criteria in Section 3 – Factors Affecting the Scope and Level of Review.

IEPR is not necessary for the *Pismo Beach CAP 103 Study* due to the following factors:

- The study will include an Environmental Assessment (EA) and will not have any significant environmental impacts;
- The study is a CAP study, with a maximum total Federal participation limit of \$5,000,000; and
- The study does not meet any of the IEPR qualification triggers.

A Type II IEPR SAR shall be conducted on design and construction activities for any project where potential hazards pose a significant threat to human life. Other factors to consider for conducting a Type II review of a project or components of a project include:

- The project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices;
- The project design requires redundancy, resiliency, and robustness:
 - 1) Redundancy is the duplication of critical components of a system with the intention of increasing reliability of the system, usually in the case of a backup or failsafe.
 - 2) Resiliency is the ability to avoid, minimize, withstand, and recover from the effects of adversity, whether natural or manmade, under all circumstances of use.
 - 3) Robustness is the ability of a system to continue to operate correctly across a wide range of operational conditions (the wider the range of conditions, the more robust the system), with minimal damage, alteration or loss of functionality, and to fail gracefully outside of that range.
- The project has unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems.

The SPL Chief of Engineering has determined there is no significant threat to human life associated with the project. In addition, the *Pismo Beach CAP 103 Shoreline Protection Study* does not trigger any of the above factors for SAR and therefore, a review under Section 2035 is not required. Explanations of how the factors are not met are below.

- Potential hazards pose a significant threat to human life:
 - ✓ Failure or damage to the project would not impact life safety as the seawall is designed to protect a lift station and not prevent loss of life. Failure of the seawall would return the project site to the without project conditions, in which the City of Pismo Beach would be required to relocate the lift station, the sewer mains, water mains and underground utility electrical lines.
- The project involves the use of innovative materials or techniques where the engineering is based on novel methods, presents complex challenges for interpretations, contains precedent-setting methods or models, or presents conclusions that are likely to change prevailing practices:
 - ✓ The seawall will be constructed using standard materials and techniques and will not result in changing prevailing practices.
- The project design requires redundancy, resiliency, and robustness:
 - ✓ The design of the seawall does not require aspects of redundancy, resiliency, nor robustness.
- The project has unique construction sequencing or a reduced or overlapping design construction schedule; for example, significant project features accomplished using the Design-Build or Early Contractor Involvement (ECI) delivery systems:
 - ✓ The seawall does not incorporate a unique construction sequence or a reduced or overlapping construction schedule.

b. Products to Undergo Type I IEPR. Not-Applicable

c. Required Type I IEPR Panel Expertise. Not-Applicable

d. Documentation of Type I IEPR. Not-Applicable

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 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 and ATR.

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 and ATR.

- 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
@Risk Program	Excel spreadsheets are used to frame the parameters of the models and is the platform for the @Risk Program. The @Risk Program accounts for risk and uncertainty of the models and the parameters through simulations & use of statistical distributions. The parameters (e.g. erosion rates, distances, traffic volumes, and etc.) are external to the models. The Excel spreadsheets and the @Risk Programs are common tools used for analyses by Economists.	Pending 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
CMS-Wave version 10.1	The Coastal engineering models used to propagate the waves from shallow water. This model is used and approved by ERDC.	Approved by ERDC
CEDAS version 4.0	This model is approved for use by ERDC. This model curve fitting extreme value distributions. This is used to assign a return period to the wave period.	Approved by ERDC

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

The budgeted costs for Reviews are as follows:

Activity	Budget	Start	Finish
DQC of Draft Report	\$10,000	1-Mar-11	10-Mar-11
ATR of Draft Report	\$40,000	1-May-14	30-May-14

b. Type I IEPR Schedule and Cost. Not-Applicable

c. Model Certification/Approval Schedule and Cost. For decision documents prepared under the model National Programmatic Review Plan, use of existing certified or approved planning models is encouraged. Where uncertified or unapproved models are used, approval of the model for use will be accomplished through the ATR process. The ATR team will apply the principles of EC 1105-2-407 during the ATR to ensure the model is theoretically and computationally sound, consistent with USACE policies, and adequately documented. If specific uncertified models are identified for repetitive use within a specific district or region, the appropriate PCX, MSC(s), and home District(s) will identify a unified approach to seek certification of these models.

11. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments.

The Los Angeles District and the local sponsor, the City of Pismo Beach, have worked together to ensure that all interested organizations and members of the public are kept informed of the study progress and results. USACE representatives have presented project status updates quarterly at the City Council meetings. A public comment period follows each presentation at City Council meetings.

Individuals and organizations will be notified in advance of the release of key documents and public meetings.

This Review Plan for the *Pismo Beach CAP 103 Shoreline Protection Study* will be posted on the Los Angeles District's public Review Plan webpage:

<http://www.spl.usace.army.mil/Missions/CivilWorks/ReviewPlans.aspx>

The public will be able to submit their comments on the Review Plan via the webpage.

12. REVIEW PLAN APPROVAL AND UPDATES

The South Pacific Division 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 for the Study, the Los Angeles District, is responsible for keeping the Review Plan up to date. 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

Public questions and/or comments on this review plan can be directed to the following points of contact:

Los Angeles District:

Project Manager: Monica Eichler (213) 452-3789

Lead Planner: Nate West (213) 452-3801

South Pacific Division:

SPD Team Lead: Paul Bowers (415) 503-6556

Coastal Storm Damage Reduction PCX:

PCX Project Team Member: Larry Cocchieri (718) 765-7071

ATTACHMENT 1: TEAM ROSTERS

Table 1 Project Delivery Team

Role	Office/Agency Symbol	Name
[REDACTED]	[REDACTED]	[REDACTED]

Table 2 ATR Team

Role	Office/Agency Symbol	Name
[REDACTED]	[REDACTED]	[REDACTED]

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 Detailed Project Report for the *Pismo Beach CAP 103 Shoreline Protection Study*. The ATR was conducted as defined in the project’s Review Plan to comply with the requirements of EC 1165-2-214. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of: assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer’s needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and made the determination that the DQC activities employed appear to be appropriate and effective. All comments resulting from the ATR have been resolved and the comments have been closed in DrCheckssm.

SIGNATURE

William Gallagher
ATR Team Leader
CESPK-PM-P

Date

SIGNATURE

Monica Eichler
Project Manager (home district)
CESPL-PM-N

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:

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

SIGNATURE

Rick Leifield
Chief, Engineering Division (home district)
CESPL-ED

Date

SIGNATURE

Josephine Axt
Chief, Planning Division (home district)
CESPL-PD

Date

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
7 March 2014	Update of Review Plan to EC209 Template Format	All

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
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
CAP	Continuing Authorities Program	O&M	Operation and maintenance
CSDR	Coastal Storm Damage Reduction	OMB	Office and Management and Budget
DPR	Detailed Project Report	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
DX	Directory of Expertise	OSE	Other Social Effects
EA	Environmental Assessment	PCX	Planning Center of Expertise
EC	Engineer Circular	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PAC	Post Authorization Change
EO	Executive Order	PMP	Project Management Plan
ER	Ecosystem Restoration	PL	Public Law
FDR	Flood Damage Reduction	QMP	Quality Management Plan
FEMA	Federal Emergency Management Agency	QA	Quality Assurance
FRM	Flood Risk Management	QC	Quality Control
FSM	Feasibility Scoping Meeting	RED	Regional Economic Development
GRR	General Reevaluation Report	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
MSC	Major Subordinate Command	WRDA	Water Resources Development Act