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

REPLY TO
ATTENTION OF

17 Aug 2015

CESPD-DE

MEMORANDUM FOR Commander, US Army Corps of Engineers, Los Angeles District, (ATTN: CESPL-PM-N, Mr. Jim Fields)

Subject: Port of Long Beach Deep Draft Navigation Feasibility Study, Review Plan Approval

1. Port of Long Beach Deep Draft Navigation Feasibility Study 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 the Port of Long Beach Deep Draft Navigation 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 Type I.

3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study and project 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. Kurt Keilman, CESPD-PDP, 415-503-6596, kurt.keilman@usace.army.mil , and Mr. Paul Bowers, CESPD-PDC, 415-503-6556, paul.w.bowers@usace.army.mil .

BUILDING STRONG *and Taking Care of People!*

Encl

R. MARK TOY
Brigadier General, USA
Commanding

REVIEW PLAN

Port of Long Beach Deep Draft Navigation Project Integrated Feasibility Report / Environmental Impact Statement

Los Angeles District

PCX Endorsement Date: 10-JUN-2015
MSC Approval Date:
Last Revision Date: 06-AUG-2015

US Army Corps of Engineers ®

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the Port of Long Beach, California Integrated Feasibility Report and Environmental Impact Statement (FR/EIS).

b. References

- Engineering Circular (EC) 1165-2-214, Civil Works Review Policy, 15 December 2012
- EC 1105-2-412, Assuring Quality of Planning Models, 31 Mar 2011
- Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- Cost and Schedule Risk Analysis Guidance, 17 May 2009
- Project Management Plan for the Port of Long Beach, California Deep Draft Navigation Study, 2014
- District and Division Quality Management Plans

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 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 Deep Draft Navigation Planning Center of Expertise (DDNPCX).

The RMO will coordinate with the Cost Engineering Mandatory Center of Expertise (MCX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies. The feasibility study for the Port of Long Beach Deep Draft Navigation is a single-purpose study; no life safety issues are anticipated.

3. STUDY INFORMATION

a. Decision Document. The authorized name of the study is Port of Long Beach Deep Draft Navigation. The study area location is in San Pedro, California. The decision document will be an integrated Feasibility Report and National Environmental Policy Act (NEPA) document. The NEPA document will be an Environmental Impact Statement (EIS). For simplicity's sake, the integrated document will be referred to as a FR/EIS in this Review Plan. The purpose of the FR/EIS is to document the project delivery team's (PDT) evaluation of the Federal interest and recommended plan to improve transportation efficiency and safety at Port of Long Beach. The integrated FR/EIS will require approval from the South Pacific Division Major Subordinate Command (MSC), USACE Headquarters (HQUSACE), the Chief of Engineers, as well as congressional authorization. The EIS will satisfy all requirements under NEPA.

b. Study Description. The Port of Long Beach is on the coast of southern California in San Pedro Bay, approximately 20 miles south of downtown Los Angeles, California (see Figure 1). To the west and northwest of San Pedro Bay are the communities of San Pedro and Wilmington, respectively, and to the east the community of Long Beach. The Port of Los Angeles is adjacent and west of the Port of Long Beach. The study area includes the waters in the immediate vicinity (and shoreward) of the breakwaters through the entire Port of Long Beach, and the downstream reaches of the Los Angeles River that have a direct impact on the Bay, including Outer Harbor, Inner Harbor, Cerritos Channel, West Basin, Southeast Basin, and the Back Channel (see Figure 2).

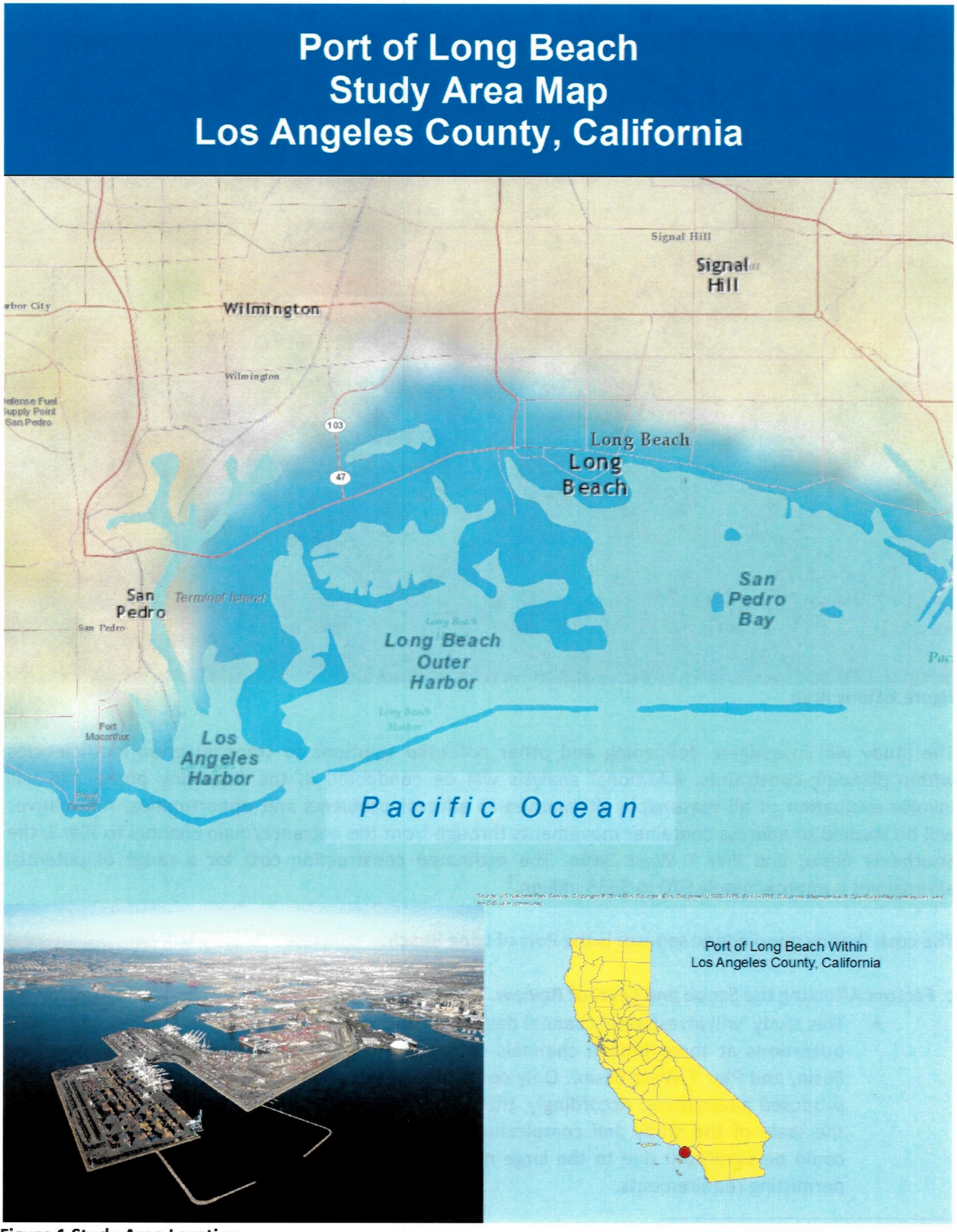

Figure 1 Study Area Location

Figure 2 Study Area

The study will investigate deepening and other potential solutions to transportation inefficiencies within planning constraints. Additional analysis will be conducted in the feasibility phase and will involve evaluation of all reasonable alternatives to address problems and opportunities. Alternatives will be studied to address container movements through from the entrance/main channel to Pier J, the Southeast Basin, and Pier T West Basin. The estimated construction cost for a range of potential alternatives is approximately $70 to $335 million.[1]

The cost-sharing non-Federal sponsor is the Port of Long Beach.

c. Factors Affecting the Scope and Level of Review.

- This study will investigate channel deepening and widening to improve efficiency of vessel operations at three branch channels connecting to the main channel (Pier J, Southeast Basin, and Pier T West Basin). Only container vessels are expected to be impacted by any proposed alternatives. Accordingly, the project has modest technical challenges because of the scale of the study and complexity of operations at the port. Institutional challenges could be significant due to the large number of stakeholders as well as state and federal permitting requirements.

[1] Preliminary cost estimates developed for the *Port of Long Beach Reconnaissance Report* approved September 2014. Estimates are shown here to convey the magnitude and scale of potential alternatives only.

- In general the feasibility study is not expected to be controversial because potential construction would occur along existing vessel channels and dredged material would be disposed at existing approved disposal sites or used for beneficial purposes. There could be public dispute or expressions of concern about air pollution during project construction and from on-going operations.
- All technical disciplines have methods to identify and mitigate inherit project risks.
- The study may consist of constructing access channels not previously authorized for Federal deepening. Preliminary analysis indicates that impacts to fish and wildlife, including threatened and endangered species, are expected to be less than significant. To the extent practicable, environmental concerns can be addressed through mitigation measures of avoidance, minimization, or compensation, and through public education and outreach efforts. There are potential significant impacts to air quality, transportation (vessel and vehicle), water quality, and biota depending on the project description. Since we cannot rule those out at this point, we are proceeding as if an EIS were needed, but can scale back later to an EA if needed.
- The study will likely have significant interagency interest that will require close coordination.
- Potential dredging depths for this study exceed current sediment sampling depths; thus, it is unknown if contaminated sediment exists that could trigger additional requirements for sampling and handling of dredged material.
- Public and stakeholder interest is expected to be diverse and complex.
- The project will be justified primarily by transportation efficiency.
- Type I Independent External Peer Review (IEPR) is required because estimated project costs range between $70 and $335 million.
- The final Feasibility Report/EIS and supporting documentation will contain standard engineering, economic, and environmental analyses and information.
- Information in the decision document is unlikely to be based on novel methods, involve the use of innovative materials or techniques, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices. The project does not contain influential scientific information and will not include any highly influential scientific assessments.
- The project is a typical channel deepening project involving traditional methods of dredging and traditional methods of placement of dredged material. This project would be for an activity (dredging and placement) for which there is ample experience within USACE.
- The project design is not anticipated to require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design and construction schedule.

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:

- Project management duties
- Participation in and condition of scoping activities and meetings, including public meetings
- GIS support
- Graphics/visual information support
- Sediment sampling/characterization support or oversight

- Economics data gathering
- Contracting pilot services for ship simulation

4. DISTRICT QUALITY CONTROL

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) and in-kind products shall undergo District Quality Control (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 comments will be documented electronically along with responses, and associated resolutions accomplished throughout the review process. DQC records will be provided to the ATR team for each ATR event and the ATR team will provide comments as to the adequacy of the DQC effort for the associated product.

b. Products to Undergo DQC. The draft and final FR/EIS (decision document) including feasibility-level design of the recommended plan and all technical appendices will undergo DQC prior to release from the District for external reviews (e.g., ATR and Type I IEPR). All DQC reviews will be complete and closed out before external reviews are initiated.

c. Required DQC Expertise. Required expertise for DQC includes individuals from Plan Formulation, Economics, Environmental and Cultural Resources, Operations, Coastal Engineering, Cost Engineering, , Real Estate, Geotechnical Engineering and Office of Counsel.

5. AGENCY TECHNICAL REVIEW (ATR)

ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.) and any in-kind products. 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. ATR is managed within USACE by the designated RMO, which is the Deep Draft Navigation Planning Center of Expertise (DDNPCX) for this study, 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 assigned by the DDNPCX, 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. The ATR team will review the draft and final FR/EIS (decision document) including feasibility-level design of the recommended plan, technical appendixes, and any supporting documentation that is not contained in the technical appendices. This review will occur following completion of DQC. The ATR team will also be informally engaged throughout the feasibility phase and will complete interim reviews on specific products as necessary.

b. Required ATR Team Expertise. Below is a list of anticipated disciplines for the ATR team. This list will be revised if the expertise needed for the review changes as the study progresses. The expertise represented on the ATR team reflects the significant expertise involved in the work effort and generally mirrors the expertise on the PDT. The PDT made the initial assessment of expertise needed based on the PMP and the factors affecting the scope and level of review and may suggest additional technical disciplines as the study progresses. In addition to the expertise outlined below, ATR reviewers should be experienced in reviewing products resulting from risk-informed decision-making following SMART Planning processes. The RMO will determine the final make-up of the ATR team. The names, organizations, contact information, credentials, and years of experience of the ATR members will be included in Attachment 1 once the ATR team is established.

ATR Team Members/Disciplines	Expertise Required
ATR Lead / Planning	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 should also be a senior water resources planner and certified reviewer with experience in formulation, evaluation, and selection of alternatives for deep draft navigation.
Economics	The Economics reviewer(s) is required to be an economist certified by the deep draft navigation business line. Depending upon availability, two economics reviewers may be required, one for reviewing the assumptions, methodologies, analysis and conclusions and the other for reviewing HarborSym modeling.
Environmental Resources	The Environmental Resources reviewer should have extensive knowledge of biology in the vicinity of the study area, specifically knowledge of endangered coastal species and experience with coastal projects. Knowledge of Federal regulations, CEQA and NEPA is also required.
Cultural Resources	The Cultural Resources reviewer should have a general background in cultural resources management and specialized experience with built environment and historic structures. Experience with Corps navigation and coastal projects is preferred. Knowledge of NHPA and NEPA is also required.
Coastal Engineering	The Coastal Engineering reviewer should have experience designing navigation improvement projects including channel deepening projects, and have knowledge of General Investigation requirements for coastal engineering. Reviewer must be CERCAP approved.
Geotechnical	The geotechnical should have experience in sediment characterization, suitability determinations, slope stability, and HTRW considerations in deep draft navigation planning projects. Reviewer must be in CERCAP.
Operations	The operations reviewer should have experience in dredged material management, disposal plans, and maintenance estimates in deep draft navigation planning projects.
Cost Engineering	The Cost Engineering reviewer will be identified by the Cost MCX and will have experience using Micro-Computer Aided Cost Estimating System (MCASES) and experience developing cost estimates for deep draft navigation improvements, dredging, and coastal dredged material disposal.

ATR Team Members/Disciplines	Expertise Required
Real Estate	The Real Estate reviewer will have experience in development of SMART Planning Real Estate Plans and will have experience in verification of considerations of utility relocations, staging, and dredged material disposal. This review will be limited in scope because RE acquisition is not anticipated for the project.

a. **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 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, the DDNPCX, 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 lead 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 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 are managed outside the USACE and are conducted on design and construction activities for hurricane, coastal 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.** Based on a risk-informed decision process, Type I IEPR will be required. While the project would not involve significant threat to human life, it is estimated to cost more than the $45 million threshold for Type I IEPR and the NEPA document will be an EIS. Details of the decision to conduct a Type I IEPR are provided below:

- The project does not involve significant threat to human life.
- Project construction costs were estimated during reconnaissance phase to be approximately $70 to $335 million, which is above the $45 million threshold in EC 1165-2-214.
- The NEPA document will be an EIS.

- Information is based on methods commonly used for dredging, does not present complex challenges for interpretation or contain precedent-setting methods or models, and is unlikely to present conclusions likely to change prevailing practices.
- Project would be for an activity (dredging and placement) for which there is ample experience within the USACE.
- The Governor of California has not requested an independent peer review and is not expected to make such a request.

At this point in the planning process, it is too early for the Engineering Division Chief to make a recommendation on whether Type II IEPR is required because a recommended plan has not been identified. The decision on Type II IEPR will be made in the Implementation Phase (PED) Review Plan.

b. **Products to Undergo Type I IEPR.** The draft integrated Feasibility Report/EIS and supporting documentation will undergo Type I IEPR. Public comments will also be reviewed by the Panel for information purposes. The intent is to ensure that the Panel is aware of the public's concerns and determine whether there are any technical issues that were raised by the public that they had not previously considered.

c. **Required Type I IEPR Panel Expertise.** The following provides a description of the proposed panel members and expertise. The proposed four member panel includes the necessary expertise to assess engineering, environmental, and economic adequacy of the decision document, as required by EC 1165-2-214, Appendix D. Reviewers will be selected by an Outside Eligible Organization. The likely disciplines and expertise required for IEPR are presented below. Each discipline will review products related to their area of expertise and focus their review on the previously listed items. Additional technical areas requiring IEPR may be identified during the study/review process.

IEPR Panel Members/Disciplines	Expertise Required
Plan Formulation	The Plan Formulation panel member should also be an expert in the USACE plan formulation process, procedures, and standards with experience in the evaluation of alternative plans for deep draft navigation studies.
Economics	The Economics panel member should be a senior Economist with extensive knowledge of cost/benefit analysis for navigation improvement projects. Experience with the HarborSym model is also required.
Environmental Resources	The panel member should be an expert in Southwest biology, specifically knowledge of endangered coastal species. The panel member should be familiar with USACE environmental analyses, Ecosystem Restoration studies, CZMA, EFH and other regulatory requirements, and feasibility reports.
Coastal (Hydraulic) Engineering	The Coastal Engineering reviewer should have extensive experience designing navigation improvement projects including channel deepening projects, and have be familiar with USACE coastal engineering requirements for feasibility studies.

d. **Documentation of Type I IEPR.** The IEPR panel will be selected and managed by an Outside Eligible Organization (OEO) per EC 1165-2-214, Appendix D. The IEPR documentation in DrChecks will include the text of each IEPR concern, the PDT response, a brief summary of the pertinent points in any discussion, and the agreed upon resolution. 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 will 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.

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 MANDATORY CENTER OF EXPERTISE REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost MCX, located in the Walla Walla District. The MCX 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 MCX will also provide the Cost Engineering MCX certification. The RMO is responsible for coordination with the Cost Engineering MCX.

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
HarborSym	Economics- The HarborSym Suite - widening model, deepening model, container model, bulk model, data analysis post-processor model and a tide tool model – will be used as part of the Benefit Analysis.	Certified
RECONS	Economics – Model used to analyze Regional Economic Development (RED) benefits of the alternatives and Tentatively Selected Plan (TSP)	Certified

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
MPFATE/MDFATE	Used to simulate open water placement of dredged material considered suitable for open water placement at the San Pedro Bay or Ocean Dredged Material Disposal (LA-2) site.	Allowed for Use
DELFT-3d (TBD)	Hydrodynamic and sediment transport model used to simulate currents, sediment transport, and salinity excursions in the estuary. *Note: Coordination is ongoing to determine if this model will be run during the feasibility phase. This Review Plan will be updated once use of this model is confirmed.*	Allowed for Use
MII	Used to estimate costs of project alternatives	Enterprise
Crystal Ball	Used to account for risk and uncertainty of alternatives	Enterprise
@Risk	Used to account for risk and uncertainty of alternatives	Enterprise
CEDEP	Corps-proprietary, Excel add-on for Cost Engineering; used to estimate costs of alternatives	Enterprise
ArcGIS	Used to visually represent alternatives	Enterprise
Automated Risk Assessment Modeling System	Used to visually represent risks of alternatives	Enterprise

c. **Design Methodology.** The following design methodologies are anticipated to be used in the development of the decision document:

Ship Simulation (TBD)	Simulation of ports, harbors, inland waterways, and other maritime environments. *Note: Coordination is ongoing to determine if this model will be run during the feasibility phase. This Review Plan will be updated once use of this model is confirmed.*	Shall be approved by ERDC with appropriate District oversight in compliance with ER 1110-2-1403

10. REVIEW SCHEDULES AND COSTS

a. **ATR Schedule and Cost.** ATR will be conducted seamlessly throughout the study. During Fiscal Year 2016, the ATR team will be engaged and review documents prior to the Alternatives Milestone. After review of the Draft Report and following the Tentatively Selected Plan milestone scheduled for January 2016, the ATR Lead will prepare the ATR Review Report. The tentative feasibility study schedule is shown below.

Milestone	Date
Alternatives	January 2016
Tentatively Selected Plan	January 2017
Agency Decision	June 2017
Final Report/ Civil Works Review Board	December 2017
Chief's Report	July 2018

The ATR schedule and cost estimates, which assume a feasibility start date of September 2015, are presented below.[2]

Task	Date	Estimated Cost
DDNPCX review of preliminary economics technical documentation (Prior to Alternatives Milestone and/or TSP Milestone)	January 2016	$5,000
ATR of draft FR/EIS (Prior to Agency Decision Milestone)	February 2017	$50,000
ATR of final FR/EIS (After ADM and at conclusion of Feasibility Level Design)	December 2017	$50,000
Total:		$105,000

b. Type I IEPR Schedule and Cost. The IEPR schedule and cost estimate is presented below.

Task	Date	Estimated Cost
DDNPCX initial Coordination of IEPR	October 2016	$5,000
Management of IEPR	December 2016-March 2017	$25,000
Type I IEPR of draft FR/EIS (Prior to Agency Decision Milestone)	January - February 2017	$150,000*
Total:		$180,000

*Estimated contract for 4 reviewers

c. Model Certification/Approval Schedule and Cost. Not applicable. There are no models requiring certification for this study.

11. PUBLIC PARTICIPATION

The public will be invited to comment directly to the PDT through informal and formal public scoping meetings and public review comment periods programmed into the feasibility schedule. This includes

[2] Cost for ATR Lead participation in milestone meetings is additional to what is shown and costs will be updated once information becomes available.

apublic review of the draft FR/EIS (public review occurs concurrently with ATR, IEPR, and HQ policy reviews). Public input will be available to the IEPR team.

This RP and the accompanying PMP will be posted to the District web site for public review prior to initiation of ATR.

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 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 an attachment. 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 SharePoint site or similar means of electronic storage and retrieval. 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: Jim Fields
  Email: James.A.Fields@usace.army.mil
  Voice: 213-452-3403

- South Pacific Division: Paul Bowers
  Email: Paul.W.Bowers@usace.army.mil
  Voice: 415-503-6556

- Deep Draft Navigation Planning Center of Expertise: Kim Otto
  Email: Kimberly.P.Otto@usace.army.mil
  Voice: 251-694-3842

ATTACHMENT 1: TEAM ROSTERS

Project Delivery Team Roster

Discipline	Name	Organization	Email
Project Manager	Jim Fields	CESPL-PM	James.A.Fields@usace.army.mil
Project Manager (Non-Fed Sponsor)	Derek Davis	Port of Long Beach	Derek.Davis@polb.com
Planner	Jacob Hensel	CESPL-PD	Jacob.R.Hensel@usace.army.mil
Economist	Jacob Hensel	CESPL-PD-E	Jacob.R.Hensel@usace.army.mil
DDNPCX Economist	TBD		
Environmental	Larry Smith	CESPL-PD-RN	Lawrence.J.Smith@usace.army.mil
Environmental Coordinator	Ken Wong	CESPL-PD-RL	Kenneth.Wong@usace.army.mil
Cultural Resources	Danielle Storey	CESPL-PD-RN	Danielle.L.Storey@usace.army.mil
Coastal Engineer	Joe Ryan	CESPL-ED-DC	Joseph.A.Ryan@usace.army.mil
HTRW[3]	Jodi Clifford	CESPL-PD	Jodi.L.Clifford@usace.army.mil
Cost Engineering	Juan Dominguez	CESPL-ED-DS	Juan.A.Dominguez@usace.army.mil
Real Estate	Willie Starks	CESPL-AM-DOD-R	Willie.E.Starks@usace.army.mil
Geotechnical	Jeffrey Divine	CESPL-ED-GG	Jeffrey.D.Devine@usace.army.mil
Programmer	Angela Fuller	CESPL-PM-P	Angela.D.Fuller@usace.army.mil
Public Affairs	Greg Fuderer	CESPL-PA	Gregory.A.Fuderer@usace.army.mil
Office of Counsel	Elizabeth Moriarty	CESPL-OC	Elizabeth.A.Moriarty@usace.army.mil

ATR Team Roster

Discipline	Name	Organization	Email
ATR Lead / Planning	TBD		
Economics	TBD		
Economics (HarborSym)	TBD		
Environmental Resources	TBD		
Coastal (Hydraulic) Engineering	TBD		
Geotechnical and Operations Engineering	TBD		
Cost Engineering	TBD		
Real Estate	TBD		

IEPR Panel Roster

Discipline	Name
Plan Formulation	TBD
Economics	TBD
Environmental	TBD
Coastal (Hydraulic) Engineering	TBD

[3] Hazardous, toxic, and radioactive waste point of contact if needed

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION 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 1165-2-214. 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 DrChecks[sm].

SIGNATURE _____ Date _____

Name
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ Date _____

Name
Project Manager
Office Symbol

SIGNATURE _____ Date _____

Name
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ Date _____

Name
Review Management Office Representative
Office Symbol

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 _____ Date _____

Name
Chief, Engineering Division
Office Symbol

SIGNATURE _____ Date _____

Name
Chief, Planning Division
Office Symbol

[1] Only needed if some portion of the ATR is contracted

ATTACHMENT 3: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Term	Definition	Term	Definition
ASA(CW)	Assistant Secretary of the Army for Civil Works	OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
ATR	Agency Technical Review	PCX	Planning Center of Expertise
DQC	District Quality Control/Quality Assurance	PDT	Project Delivery Team
Home District/MSC	The District or MSC responsible for the preparation of the decision document	RED	Regional Economic Development
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMC	Risk Management Center
IEPR	Independent External Peer Review	RMO	Review Management Organization
MCX	Mandatory Center of Expertise	SAR	Safety Assurance Review
MSC	Major Subordinate Command	USACE	U.S. Army Corps of Engineers
NED	National Economic Development	WRDA	Water Resources Development Act
NEPA	National Environmental Policy Act		
CEQA	California Environmental Quality Act		
CZMA	Coastal Zone Management Act		