DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

CEPOD-PDC

20 NOV 2012

MEMORANDUM FOR COMMANDER HONOLULU ENGINEER DISTRICT (CEPOH-PP-C/CINDY BARGER), BUILDING 230, FORT SHAFTER, HI 96858-5440

SUBJECT: Review Plan Approval for the (Kalaeloa) Barbers Point Harbor Modification Project Feasibility Report, Island of Oahu, Hawaii

1. References:

a. Engineering Circular 1165-2-209, Civil Works Review Policy, 31 January 2010, and Change 1, 31 January 2012.

b. Review Plan for the (Kalaeloa) Barbers Point Harbor Modification Project Feasibility Report, Island of Oahu, Hawaii, Honolulu District, U.S. Army Corps of Engineers.

2. IAW reference 1.a., the Review Plan (reference 1.b.) was coordinated with the Deep Draft Navigation Planning Center of Expertise (DDN-PCX) in the Mobile District of the South Atlantic Division which is the lead office to execute this Review Plan. For further information, contact the DDN-PCX at 251-694-3804. This Review Plan includes Type I Independent External Peer Review.

3. I approve this Review Plan. It is subject to change as circumstances require, consistent with project development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

4. The point of contact for this memorandum is Mr. Russell Iwamura, Senior Economist, Civil Works Integration Division, at 808-835-4625 or email Russell.K.Iwamura@usace.army.mil.

Encl

GREGORY J. GUNTER
Colonel, EN
Acting Commander

REVIEW PLAN

(KALAELOA) BARBERS POINT HARBOR MODIFICATION PROJECT
ISLAND OF O'AHU, HAWAI'I

Feasibility Report
Section 301 of the Rivers and Harbors Act of 27 October 1965
Public Law (PL) 89-298

U.S. Army Corps of Engineers, Honolulu District

MSC Approval Date: 20 November 2012
Last Revision Date: 15 November 2012

US Army Corps of Engineers ®

This page is intentionally left blank.

REVIEW PLAN

(KALAELOA) BARBERS POINT HARBOR MODIFICATION PROJECT
ISLAND OF O'AHU, HAWAI'I

Feasibility Report
Section 301 of the Rivers and Harbors Act of 27 October 1965
Public Law (PL) 89-298

TABLE OF CONTENTS

This page is intentionally left blank.

1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of peer review for the (Kalaeloa) Barbers Point Harbor (KBPH) Modification Project, Island of O'ahu, Hawai'i. A feasibility study and Environmental Impact Statement (EIS) are being developed for this single purpose navigation project.

The Review Plan was originally developed and approved on November 2007. The Review Plan is being updated to be consistent with current U.S. Army Corps of Engineers (USACE) regulations and policies and to reflect the current status and schedule of the project. This review plan was developed using the National Planning Center of Expertise (PCX) review plan template dated 15 June 2011.

b. References

(1) Engineer Circular (EC) 1165-2-209, Civil Works Review Policy, 31 January 2012.

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

(3) Engineer Regulation (ER) 1110-1-12, Quality Management, 30 September 2006.

(4) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 November 2007.

(5) KBPH Modification Project Management Plan (PMP), December 2000.

(6) USACE Pacific Ocean Division (POD) Quality Management Plan, December 2010.

(7) USACE Honolulu District (POH) Civil Works Review Policy (ISO CEPOH-C_12203), 1 November 2010.

(8) CECW-CP Memorandum, "Peer Review Process," dated March 30, 2007.

c. 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, certification (per EC 1165-2-209), and planning model certification/approval (per EC 1105-2-412) and the Value Management Plan requirements in the Project Management Business Process Reference 8023G and the ER 11-1-321, Change 1.

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 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 (DDN)-PCX.

The DDN-PCX 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.

3. STUDY INFORMATION

a. Authority. The study is authorized under Section 301 of the Rivers and Harbors Act of 27 October 1965, Public Law (PL) 89-298.

b. Decision Document. Formerly known as Barbers Point Deep Draft Harbor, the name of the Harbor was changed to Kalaeloa Barbers Point Harbor (KBPH) on 1 January 1999. The KBPH and Honolulu Harbor are the only two deep draft commercial harbors on the island of O'ahu. A feasibility report and EIS are being developed for the KBPH project consistent with ER 1105-2-100. The Chief of Engineers is the approval authority for the feasibility report/EIS. If approved by the Chief of Engineers, Congressional authorization is required for the project to proceed to construction.

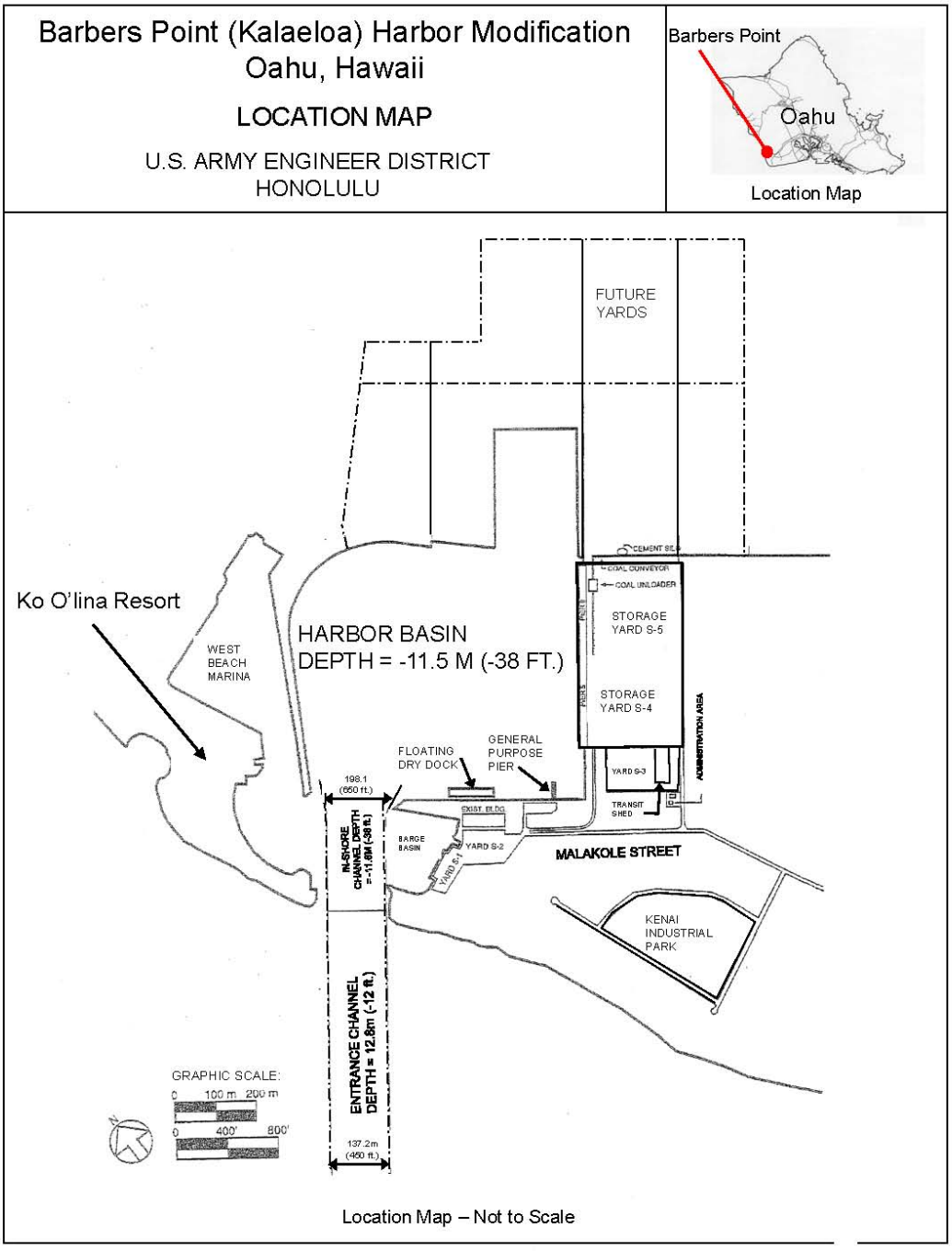
c. Project Sponsor: The non-Federal sponsor for this project is the State of Hawai'i, Department of Transportation (DOT).

d. Study Location: The Harbor is located on the 'Ewa plains along the southwestern coast of the island of O'ahu, approximately 20 road miles west of Honolulu (See Figure 1). Situated adjacent to the 1,367-acre James Campbell Industrial Park, the Harbor was originally designed to serve as a relief harbor for the Honolulu Harbor and to service the needs of businesses at Campbell Industrial Park.

e. Study/Project Description. The KBPH Modification Study is currently in the feasibility phase. On 8 September 1992, DOT requested POH to initiate a study to determine if a Federal interest exists in modifying the Harbor entrance channel and turning basin.

Construction of the existing KBPH was completed in 1985. The project cost of $59 million was cost shared by the State of Hawai'i and USACE. The general existing navigation features include an offshore entrance channel 3,300-feet long, 450-feet wide, and 42-feet deep; a 38-foot deep inshore channel, 980-feet long, and 450-feet wide flaring to 650 feet over the last 200 feet; a 92-acre inshore basin, 38-feet deep; and, 4,600 feet of wave absorber structures. The Harbor also incorporates a 21-foot deep barge basin, which was constructed in 1961 by the Estate of James Campbell.

Figure 1: Kalaeloa Barbers Point Harbor Location Map



Problem: The Honolulu Harbor and KBPH are the busiest ports in the State as measured by throughput tonnage. They serve O'ahu, home to 73 percent of the State's population, and function as transshipment ports for neighbor island goods. The KBPH serves the 1,367-acre Campbell Industrial Park (the largest concentration of industrial activity in the State), the 800-

acre Kapolei Business Park, Kenai Industrial Park, the urban center of Kapolei, and the 1,000-acre Kō Olina Resort.

Since the completion of the KBPH in 1985, the 'Ewa area has experienced rapid growth and development. The State of Hawai'i and City and County of Honolulu plan call for continued economic growth in this area. Port planning studies over the past 15 years have called for continued development of the KBPH for cargo handling, using the KBPH as a complementary and backup facility to the Honolulu Harbor. It would complement the Honolulu Harbor by specializing in bulk cargoes, while the Honolulu Harbor specializes in container and passenger traffic. The KBPH would serve as a back-up facility to the Honolulu Harbor if needed (e.g., closure of the entrance channel to the Honolulu Harbor). Redundancy in port facilities on O'ahu is warranted because of the importance of marine cargo transportation to the State, and the transshipment function provided by O'ahu commercial harbors.

The proposed deepening of the entrance channel and harbor basin, and construction of the jetty north of the entrance channel, are needed to enhance harbor operations and economic efficiency, and improve navigational safety. The need for each element of the project is addressed separately below.

Alternatives: The project alternatives formulated to date include:

- Alternative 1: Construct a 375-foot long jetty adjacent to the entrance channel and deepening the harbor basin and channel to 40 feet and 42 feet respectively. The total project cost is estimated at $21,171,600.

- Alternative 2: Construct a 375-foot long jetty adjacent to the entrance channel and deepening the harbor basin and channel to 42 feet and 44 feet respectively. The total project cost is estimated at $31,976,200.

- Alternative 3: Construct a 375-foot long jetty adjacent to the entrance channel and deepening the harbor basin and channel to 43 feet and 45 feet respectively. The total project cost is estimated at $39,424,200.

- Alternative 4 (Locally Preferred Plan): Construct a 375-foot long jetty adjacent to the entrance channel and deepening the harbor basin and channel to 45 feet and 47 feet respectively. The total project cost is estimated at $53,879,700.

f. Factors Affecting the Scope and Level of Review. The primary issue for the study is likely significant environmental adverse impacts from harbor construction, including adverse impacts to marine habitat and coral reefs. POH has determined that the study will require an EIS to comply with National Environmental Policy Act (NEPA) requirements. Other factors affecting the level of review include the following:

- The estimated cost of construction range from $32 million to $54 million.

- Because of the potential unavoidable impacts to coral reefs and the risk and uncertainty with effectively mitigating for coral reef impacts, Federal and state agencies have noted that the project is likely to have a significant adverse impact on environmental, cultural or other resources under the jurisdiction of the agency after implementation of proposed mitigation plans.

- The project is anticipated to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures.

- While there is ample experience within USACE and industry for the harbor construction to treat the activity as being routine, there is not ample experience within USACE or the industry to treat the implementation of potential mitigation measures as being routine.

- The project has significant interagency interest by U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration (NOAA).

- While the project is not expected to incorporate challenging technical solutions for the harbor construction, the potential mitigation options incorporate challenging technical solutions.

- While the project design for the Harbor construction is not likely to be based on novel methods, the information in the decision document for potential mitigation options is likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practice.

- There has been no request nor expected to have a request by the Governor of Hawai'i for peer review by independent experts.

- No significant public dispute has been voiced over any aspect of the proposed project, including the size, nature, or effects of neither the project nor the economic or environmental cost or benefit of the project.

- The study is not likely to contain influential scientific information or be a highly influential scientific assessment.

- There has been no request by a head of a Federal or state agency for peer review by independent experts.

- The project is not controversial.

- The project is anticipated to have negligible adverse impacts on scarce or unique tribal, cultural or historic resources.

- The project is anticipated to have no more than a negligible adverse impact, before implementation of mitigation measures, on a species listed as endangered or threatened under the Endangered Species Act (ESA) of 1973 or the critical habitat of such species designated under ESA. However, there are 82 Pacific coral reef species proposed for listing under ESA. Depending on the final listing decision, the proposed project may have an adverse impact to potentially listed species.

- The project study does not involve the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates within the same footprint and for the same purpose as an existing water resources project.

g. In-Kind Contributions. Products and analyses provided by non-Federal sponsors as work-in-kind services are subject to DQC, ATR, and IEPR. The non-Federal sponsor is not proposing any work-in-kind services that would be subject to DQC, ATR, and IEPR.

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 PMP. POH shall manage the DQC process. Documentation of DQC activities is required and should be in accordance with the Quality Manuals of POH and POD, the Major Subordinate Command (MSC).

a. Documentation of DQC. Consistent with the POH Quality Manual, DQC will be documented using the POH DQC review table. When all comments have been addressed and back checked, the DQC lead will sign a DQC certification in compliance with the POH Quality Manual. The DQC comments and responses will be provided for the ATR team at each review.

b. Products to Undergo DQC. The following products will be subject to DQC:

- Draft and final integrated feasibility report/EIS.

- All technical reports and appendices developed in support of the integrated feasibility report/EIS.

- The draft and final Record of Decision (ROD).

c. Required DQC Expertise. The following expertise is needed for DQC. An individual reviewer may meet the requirements for multiple disciplines.

Table 1: DQC Required Expertise

DQC Team Members/Disciplines	Expertise Required
DQC Lead	The DQC lead should be a senior professional with experience in preparing Civil Works decision documents and conducting DQC.
Planning	The Planning reviewer should be a senior water resources planner with experience in the development of feasibility studies and navigation projects.
Economics	The Economics reviewer should have experience with civil works navigation projects.
Environmental Resources	The Environmental reviewer should have environmental regulatory expertise in NEPA, Clean Water Act (CWA) Section 404(b) (1) analysis and Section 401 Water Quality Certification, Fish and Wildlife Coordination Act (FWCA), and ESA. The environmental expert should be familiar with environmental compliance requirements for dredging and disposal of harbors. The environmental expert should also be familiar with tropical marine ecology, particularly coral reef ecosystems, and the potential impacts to these ecosystems from navigation projects.
Marine Ecology Output Model	The Marine Ecology Output Model reviewer should have experience and familiarity with tropical coral reef and marine habitats and familiarity with the Habitat Equivalency Analysis (HEA).
Coastal Engineering	The Coastal Engineering reviewer will be an expert in the field of coastal engineering with experience with navigation projects.
Geotechnical Engineering	The Geotechnical Engineering reviewer should have experience in geotechnical evaluation of navigation structures including jetties and breakwaters. The reviewer will also have experience in slope stability and excavatability of coastal sediments and coral limestone rock materials.
Civil/Structural Engineering	The Civil/Structural Engineering reviewer should have experience in navigation structures, including jetties and breakwaters. The review will also have experience in assessing the impact of harbor deepening on the structural integrity of any adjacent pier and dock facilities.
Cost Engineering	Reviewer must be experienced in design requirements for navigation projects.
Real Estate	Reviewer must be experienced in civil work real estate laws, policies and guidance and experience working with sponsor real estate issues.

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. This ATR will be managed within USACE by the DDN-PCX, as the designated RMO, and will be conducted by a qualified team from outside POH that is not involved in the day-to-day production of the project/product. The ATR team will be selected by the DDN-PCX and will be comprised of senior USACE personnel and may be supplemented by outside experts as appropriate. The ATR team lead will be from outside POD and no candidates will be nomined by POH or POD.

a. Products to Undergo ATR. The following products will be subject to ATR:

- Draft and final feasibility report/EIS.
- All technical reports and appendices developed in support of the feasibility study/EIS.
- The draft and final ROD.

b. Required ATR Team Expertise. The following ATR expertise is required for this project. Where possible ATR team members will address multiple disciplines and emphasis. The DDN-PCX will identify the final make-up of the ATR team and identify the ATR team leader in consultation with the Project Manager (PM), vertical team and other appropriate centers of expertise. Once identified, the ATR team members for this study and a brief description of their credentials will be added in Attachment 1.

Table 2: ATR Required Expertise

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 an 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 the development of feasibility studies and navigation projects.
Economics	The Economics reviewer should have experience with civil works navigation projects.

ATR Team Members/Disciplines	Expertise Required
Environmental Resources	The Environmental reviewer should have environmental regulatory expertise in NEPA, CWA Section 404(b) (1) analysis and Section 401 Water Quality Certification, FWCA, and ESA. The environmental expert should be familiar with environmental compliance requirements for dredging and disposal of harbors. The environmental expert should also be familiar with tropical marine ecology, particularly coral reef ecosystems, and the potential impacts to these ecosystems from navigation projects.
Marine Ecology Output Model	The Marine Ecology Output Model reviewer should have experience and familiarity with tropical coral reef and marine habitats and familiarity with the HEA.
Coastal Engineering	The Coastal Engineering reviewer will be an expert in the field of coastal engineering with experience with navigation projects.
Geotechnical Engineering	The Geotechnical Engineering reviewer should have experience in geotechnical evaluation of navigation structures including jetties and breakwaters. The reviewer will also have experience in slope stability and excavatability of coastal sediments and coral limestone rock materials.
Civil/Structural Engineering	The Civil/Structural Engineering reviewer should have experience in navigation structures, including jetties and breakwaters. The reviewer will also have experience in assessing the impact of harbor deepening on the structural integrity of any adjacent pier and dock facilities.
Cost Engineering	Reviewer must be experienced in design requirements for navigation projects.
Real Estate	Reviewer must be experienced in civil work real estate laws, policies and guidance and experience working with sponsor real estate issues.

c. Documentation of ATR. DrChecks[sm] 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:

- The review concern – identify the product's information deficiency or incorrect application of policy, guidance, or procedures;

- The basis for the concern – cite the appropriate law, policy, guidance, or procedure that has not been properly followed;

- 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

- 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 where information is incomplete or unclear, comments may seek clarification in order to then assess whether further specific concerns may exist.

The ATR documentation in DrChecks[sm] will include the text of each ATR concern, the Project Delivery Team (PDT) response, a brief summary of the pertinent points in any discussion, including any vertical team coordination (the vertical team includes POH, DDN-PCX, POD, 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[sm] 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 (STR) certifying that the issues raised by the ATR team have been resolved (or elevated to the vertical team). A STR should be completed, based on work reviewed to date, for the draft report and final report. A sample STR 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 to assess whether an IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of the USACE in the appropriate disciplines. The IEPR panel will represent 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 by an Outside Eligible Organization (OEO) external to USACE. 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 (SAR)) 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 SAR, is managed by the RMC and is 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. Based on the estimated construction costs, the assumed need for an EIS and the other factors described in Section 3.f., POH has determined that a Type I IEPR is required.

b. Products to Undergo Type I IEPR. Draft Feasibility report/EIS.

c. Required Type I IEPR Panel Expertise. The following IEPR expertise is required for this project. Where possible IEPR panel members will address multiple disciplines and emphasis. The DDN-PCX will identify the final make-up of expertise required for the IEPR team in consultation with the PM, vertical team and other appropriate centers of expertise. Once identified, the IEPR team members for this study and a brief description of their credentials will be added in Attachment 1.

Table 3: IEPR Required Expertise

IEPR Panel Members/Disciplines	Expertise Required
Economics	The economics panel member should have experience with in civil works navigation projects.
Environmental	The environmental panel member(s) should have environmental regulatory expertise in NEPA, CWA Section 404(b) (1) analysis and Section 401 Water Quality Certification, FWCA, and ESA. The environmental expert should be familiar with environmental compliance requirements for dredging and disposal of harbors. The environmental expert should also be familiar with tropical marine ecology, particularly coral reef ecosystems, and the potential impacts to these ecosystems from navigation projects. The environmental panel member should also have experience and familiarity with tropical coral reef and marine habitats and familiarity with the HEA.
Engineering	The engineering panel member(s) should have experience in coastal, geotechnical, civil and structural engineering as it relates to navigation projects, including dredging and construction of jetties and breakwaters.

d. Documentation of Type I IEPR. The IEPR panel will be selected and managed by an 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 5.c. 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 POD 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 (MCX) REVIEW AND CERTIFICATION

All decision documents shall be coordinated with the Cost Engineering 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 Certification. The DDN-PCX is responsible for coordination with the Cost Engineering MCX.

9. MODEL CERTIFICATION AND APPROVAL

a. Planning Models. 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).

In accordance with EC 1105-2-412 Paragraph 5.c, models that are single-use or study-specific require approval that the model is a technically and theoretically sound and functional tool that can be applied during the planning process by knowledgeable and trained staff for purposes consistent with the model's purpose and limitations. For this project, the PM will coordinate with the DDN-PCX and Ecosystem Restoration (ECO)-PCX in determining the appropriate level of review for model approval. At this time, an additional ATR reviewer has been added to specifically approve models for site specific use.

The following planning models are anticipated to be used in the development of the decision document:

Table 4: Planning Models and Certification/Approval Status

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Institute of Water Resources (IWR) Planning Suite	This model assists with formulating plans, cost-effectiveness, and incremental cost analysis (CE/ICA), which are required for ecosystem restoration projects. An "annualizer" module has been included to allow for easy calculations of equivalent annual average values, total net values, and annualizing non-monetary benefits and calculating costs. The IWR Planning Suite will be used to conduct the CE/ICA necessary to identify the appropriate compensatory mitigation for the project in conjunction with the KBPH site specific mitigation model. The IWR Plan Annualizer in the IWR Planning Suite will be used in conjunction with the KBPH Site specific spreadsheet economic model to compute average annual values of cost and revenue streams, discount future values to present values, compute interest during construction and perform other basic arithmetic functions.	Certified
HarborSym Simulation Model for Coastal Harbors	HarborSym is a planning-level simulation model designed to assist in economic analyses of coastal harbors. With user provided input data, such as the port layout, vessel calls, and transit rules, the model calculates vessel interactions within the harbor. Unproductive wait times result when vessels are forced to delay sailing due to transit restrictions within the channel; HarborSym captures these delays. Using the model, analysts can calculate the cost of these delays and any changes in overall transportation costs resulting from proposed modifications to the channel's physical dimensions or sailing restrictions. Developed as a data driven model, HarborSym allows users to analyze changes without modifying complex computer code. This approach also enables analysts to apply the model to many different ports by altering the network representation of the harbor.	Certified
KBPH Site Specific Spreadsheet	An ecosystem output model is required to assess the mitigation requirements for this study. In the absence of	Approval to be

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Mitigation Model	any regionalized ecosystem output model that quantifies habitat benefits for coral reef habitats in Hawai'i, a customized spreadsheet model will be developed specifically for use on the KBPH Project. This is considered to be an appropriate approach, as a spreadsheet model can be tailored to focus on metrics that are directly applicable to the project mitigation objective. In particular, habitat quality parameters contained within the model can serve as a key dataset for quantification of habitat impacts and benefits in the spreadsheet model. In addition, elements of the HEA approach will be used. NOAA and USFWS regularly use this method for coral reef mitigation assessment in the Pacific. The HEA has not been approved by the ECO-PCX but has been accepted on a site specific basis for navigation projects in the USACE Jacksonville District. In accordance with USACE regulations and policies, the HEA discount rate will not be used.	coordinated with the ECO-PCX

b. Engineering Models. 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 initiative, many engineering models have been identified as preferred or acceptable for use on USACE studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data are still the responsibility of the users and is subject to DQC, ATR, and IEPR (if required).

The following engineering models are anticipated to be used in the development of the decision document:

Table 5: Engineering Models and Approval Status

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
ADCIRC (Advanced Circulation) Hydrodynamic Model v.49	The ADCIRC is a long-wave hydrodynamic model that simulates the circulation and water levels associated with both tides and atmospheric conditions. A two-dimensional, depth-averaged version of ADCIRC will be applied in this study to develop currents for input into ship simulations.	HH&C CoP Preferred Model

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
STWAVE (Steady-state Spectral Wave) Transformation Model	The STWAVE is a spectral wave transformation model which is capable of representing depth-induced wave refraction and shoaling, current-induced refraction and shoaling, depth- and steepness-induced wave breaking, diffraction, wind-wave growth, wave-wave interaction and whitecapping. This model will be used to transform deep water wave conditions from Wave Information Study (WIS) to the nearshore vicinity of the harbor and as input to the BOUSS-2D model.	HH&C CoP Preferred Model
BOUSS-2D (Boussinesq-2D)	The BOUSS-2D is a comprehensive numerical model for simulating the propagation and transformation of waves in coastal regions and harbors based on a time-domain solution of Boussinesq-type equations. The model can simulate most of the phenomena of interest in harbor basins including shoaling/ refraction over variable topography, reflection/diffraction near structures, energy dissipation due to wave breaking and bottom friction, cross-spectral energy transfer due to nonlinear wave-wave interactions, breaking-induced longshore and rip currents, wave-current interaction and wave interaction with porous structures. This model will be used to evaluate harbor surge and oscillations, reflection and results of proposed structural measures within the harbor.	Allowed for Use
WIS	The WIS is a wave hindcast model that generates consistent, hourly, long-term (20+ years) wave climatologies along all US coastlines. A wave hindcast predicts past wave conditions using a computer model and observed wind fields. This data will be used to develop wave climate for the project area and determine offshore conditions appropriate for input to the wave transformation models.	HH&C CoP Preferred Model
Microcomputer Aided Cost Engineering System (MCACES) 2nd Generartion (MII)	The MCACES MII construction cost estimating software, developed by Building Systems Design, Inc., is a tool used by cost engineers to develop and prepare all USACE Civil Works cost estimates. Using the features in this system, cost estimates are prepared uniformly allowing cost engineering throughout USACE to function as one virtual cost engineering team.	Cost Engineering MCX Required Model

10. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost. The ATRs for this study will be accomplished in accordance with the cost and schedule in the PMP. As of the approval date of this Review Plan, the ATRs of the various documents are scheduled as follows:

- Draft Feasibility Report/EIS: March 2014.
- Final Feasibility Report/EIS: March 2015.
- Estimated Total ATR Costs: $80,000.

This assumes $40,000 for the ATR of the draft report and $40,000 for the ATR of the final report.

b. Type I IEPR Schedule and Cost. The IEPR for this study will be accomplished in accordance with the cost and schedule in the PMP. As of the approval date of this Review Plan, the IEPR is scheduled as follows:

- Draft Feasibility Report/EIS: October 2014.
- Estimated Contract Cost: $150,000. Pursuant to Section 2034 of the Water Resource Development Act of 2007, this amount is 100% federally funded.
- Estimated cost POH and DDN-PCX Coordination of the IEPR: $60,000.

This estimate was developed using the Type I IEPR Standard Operating Procedure table provided by the PCXs. This amount is cost-shared between USACE and the non-federal Sponsor.

c. Model Certification/Approval Schedule and Cost. The KBPH Site Specific ecosystem output model will be used on a one-time basis. Consistent with EC 1105-2-412, the model will require approval for use. The approval review of the single use site specific model will be coordinated with the DDN-PCX and ECO-PCX to determine if approval during ATR is acceptable. In the event that the ECO-PCX requires a separate or regional approval, schedule and costs will be adjusted accordingly.

11. PUBLIC PARTICIPATION

A Public Involvement Plan will be developed for the feasibility study to guide the public participation process. Small group meetings will be conducted to collect specific information relevant to study goals and objectives and provide information to key stakeholders and interest groups relevant to study goals and objectives. A public meeting will be held during the public review process to seek input on the draft report.

12. REVIEW PLAN APPROVAL AND UPDATES

The POD Commander is responsible for approving this Review Plan. The POD Commander's approval reflects vertical team input (involving POH, POD, DDN-PCX, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the PMP, of which this document is a component, the Review Plan is a living document and may change as the study progresses. POH is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last POD Commander approval are documented in Attachment 3. Significant changes to the Review Plan (such as changes to the scope and/or level of review) will be re-approved by the POD Commander, following the process used for initially approving the plan. The latest version of the Review Plan, along with the POD Commander's approval memorandum, will be posted on the POH webpage. The latest Review Plan will also be provided to the DDN-PCX and POD.

13. REVIEW PLAN POINTS OF CONTACT

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

Honolulu District
Mr. Milton Yoshimoto, Project Manager
Civil and Public Works Branch
Programs and Project Management Division
U.S. Army Corps of Engineers, Honolulu District
Building 230, Room 307
Ft. Shafter, HI 96858
Telephone: (808) 835-4034

Pacific Ocean Division
Mr. Russell Iwamura
U.S. Army Corps of Engineers, Pacific Ocean Division
Building 525
Ft. Shafter, HI 96858-5440
Telephone: (808) 835-4625

Review Management Organization
Mr. Johnny Grandison
Deep Draft Navigation Planning Center of Expertise
U.S. Army Corps of Engineers, Mobile District
109 St. Joseph Street
Mobile, AL 36602
Telephone: (251) 694-3804

ATTACHMENT 1: TEAM ROSTERS

Table 6: Project Delivery Team

DISCIPLINE	NAME	OFFICE
Project Manager/Planner	Mr. Milton Yoshimoto	PP-C
Project Sponsor (non-Federal)	Mr. Arnold Liu	DOT
Coastal Engineer	Mr. Tom Smith	EC-T
Economist	Mr. Bob Finch	EC-T
Environmental	Mr. Kevin Nishimura	PP-E
Cultural Resources	Mr. Kanalei Shun	PP-E
Cost Engineer	Ms. Lana Murashige	EC-S
Value Engineer	Mr. Elton Choy	EC-S
Real Estate	Mr. Mike Sakai	PP-R
Program Analyst	Mr. Geoff Lee	PP-PC
Geotechnical Engineer	Mr. Russell Leong	EC-Q
Structural Engineer	To Be Determined (TBD)	EC-D
GIS Specialist	Ms. Sarah Falzarano	EC-G
Public Affairs	Mr. Joe Bonfiglio	PA
Contracting	Mr. Ed Chambers	CT
Small Business	Ms. Cathy Yoza	DB
Office of Counsel	Ms. Lindsey Kasperowicz	OC

Table 7: Review Team

DISCIPLINE	NAME	DESCRIPTION OF CREDENTIALS
DQC Team Lead	TBD	TBD
MSC	Mr. Russell Iwamura	POD
RMO	Mr. Johnny Grandison	DDN-PCX
ATR Team Lead	TBD	TBD
Planning	TBD	TBD
Economics	TBD	TBD
Environmental Resources	TBD	TBD
Marine Ecology Output Model	TBD	TBD
Coastal Engineering	TBD	TBD
Geotechnical Engineering	TBD	TBD
Civil/Structural Engineering	TBD	TBD
Cost Engineering	TBD	TBD
Real Estate	TBD	TBD

Table 8: IEPR Team

DISCIPLINE	NAME	DESCRIPTION OF CREDENTIALS
Economics	TBD	TBD
Environmental	TBD	TBD
Engineering	TBD	TBD

ATTACHMENT 2: SAMPLE STATEMENT OF TECHNICAL REVIEW FOR DECSION DOCUMENTS

COMPLETION OF AGENCY TECHNICAL REVIEW

The ATR has been completed for the *<type of product>* for KBPH Modification Project, Island of O'ahu, Hawai'i. 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 USACE policy. The ATR also assessed the 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 _____ _____

Name Date
ATR Team Leader
Office Symbol/Company

SIGNATURE _____ _____

Name Date
Project Manager
Office Symbol

SIGNATURE _____ _____

Name Date
Architect Engineer Project Manager[1]
Company, location

SIGNATURE _____ _____

Name Date
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 _____ _____

Name Date
Chief, Engineering Division
Office Symbol

SIGNATURE _____ _____

Name Date
Chief, Planning Division
Office Symbol

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

ATTACHMENT 3: REVIEW PLAN REVISIONS

Table 9: Review Plan Revisions

Revision Date	Description of Change	Page / Paragraph Number

ATTACHMENT 4: ACRONYMS AND ABBREVIATIONS

Table 10: Standard Acronyms and Abbreviations

Term	Definition	Term	Definition
ATR	Agency Technical Review	MSC	Major Subordinate Command
CWA	Clean Water Act	NEPA	National Environmental Policy Act
DDN	Deep Draft Navigation	OMRR&R	Operation, Maintenance, Repair, Replacement, and Rehabilitation
DQC	District Quality Control/Quality Assurance	OEO	Outside Eligible Organization
EC	Engineer Circular	PCX	Planning Center of Expertise
ECO	Ecosystem Restoration	PDT	Project Delivery Team
EIS	Environmental Impact Statement	PMP	Project Management Plan
ER	Engineer Regulation	PL	Public Law
ESA	Endangered Species Act	POD	U.S. Army Corps of Engineers, Pacific Ocean Division
FWCA	Fish and Wildlife Coordination Act	POH	U.S. Army Corps of Engineers, Honolulu District
HEA	Habitat Equivalency Analysis	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	SAR	Safety Assurance Review
IWR	Institute of Water Resources	USACE	U.S. Army Corps of Engineers
MCX	Mandatory Center of Expertise		