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

REPLY TO
ATTENTION OF

CEPOD-PDC

6 APR 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 West Maui Watershed Plan, Island of Maui, Hawaii

1. References.
   a. EC 1165-2-209, Civil Works Review Policy, 31 January 2010.
   b. CECW-CP memorandum, Subject: U.S. Army Corps of Engineers Civil Works Feasibility Study Program Execution and Delivery, 8 February 2012.

2. The enclosed Review Plan for the West Maui Watershed Plan was prepared in accordance with reference 1.a. The Ecosystem Planning Center of Expertise of the Mississippi Valley Division is the lead office to execute this Review Plan, which does not include 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. In order to support the District's ability to abide by the USACE Civil Works Program execution guidelines in reference 1.b., the Pacific Ocean Division (POD) will expedite the policy reviews for the Watershed Scoping Meeting and Watershed Alternatives Formulation Briefing as recommended in the Review Plan. In addition, POD agrees to concurrent reviews of the Draft and Final documents with the HQUSACE reviews. At each stage of review, POD will work with the District to identify potential strategies to increase efficiency and minimize impacts to schedule and cost while not reducing the quality of the Watershed Plan and its ability to meet planning objectives.

5. The point of contact for this memorandum is Mr. Russell Iwamura, Senior Economist, Civil Works Integration Division, at 808-438-8859 or email Russell.K.Iwamura@usace.army.mil.

FOR THE COMMANDER:

EUGENE M. BAN, P.E.
Director of Programs

Encl

REVIEW PLAN

Photo Courtesy of S. Langsdale

WEST MAUI WATERSHED PLAN

ISLAND OF MAUI, HAWAI`I

PREPARED BY
U.S. ARMY CORPS OF ENGINEERS
HONOLULU DISTRICT
PACIFIC OCEAN DIVISION

MSC APPROVAL DATE: 6 APRIL 2012
LAST REVISION DATE: 3 APRIL 2012

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1. Purpose and Requirements

Purpose

This Review Plan (RP) defines the scope and level of peer review for the West Maui Watershed Plan, Maui, Hawai`i. This RP was developed based on the June 15, 2011 template from the U.S. Army Corps of Engineers (USACE) National Planning Centers of Expertise (PCX).

References

- Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- EC 1105-2-411, Watershed Plans, 15 Jan 2010
- 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
- West Maui Watershed Assessment Management Plan (WAMP), 3 April 2012
- USACE Pacific Ocean Division (POD) Quality Management Plan, Dec 2010
- USACE Honolulu District Civil Works Review Policy (ISO CEPOH-C_12203), 1 Nov 2010.

Requirements

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

The Ecosystem Restoration Planning Center of Expertise (ECO-PCX) determined on 19 March 2012 that this study did not meet the criteria for an IEPR. Therefore an IEPR is not required for this study. Table 1 provides a description of the IEPR criteria and the specific determination that this study does not meet the criteria.

2. Review Management Organization (RMO) Coordination

The RMO is responsible for managing the overall peer review effort described in this Review Plan. The RMO for decision documents is typically either a Planning Center of Expertise (PCX) or the Risk Management Center (RMC), depending on the primary purpose of the decision document. The RMO for the peer review effort described in this Review Plan is the ECO-PCX.

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. While aquatic ecosystem restoration is the main focus of the watershed plan, flood risk management, coastal storm management and water supply will be addressed to ensure the aquatic ecosystem restoration scenarios are developed in a holistic, integrated fashion. The RMO will coordinate with the Flood Risk Management PCX (FRM-

PCX), the PCX for Coastal Storm Damage Reduction (PCX-CDSR) and the RMC as needed to ensure that the review teams with the appropriate expertise are assembled.

3. Study Information

The West Maui Watershed Plan is authorized under Water Resources Development Act (WRDA) of 1986 §729. The non-Federal sponsor for this plan is the State of Hawai`i, represented by the Department of Land and Natural Resources (DLNR). Financial support to DLNR by National Oceanic and Atmospheric Administration (NOAA) is proposed as work-in-kind match in accordance with Section 2007 of Water Resources Development Act (WRDA) of 2007. This watershed plan will identify solutions to restore coral reef ecosystems by addressing land based threats to coral reefs. Where feasible, the plan will also address other aquatic ecosystem restoration actions. The plan will consider other issues and purposes such as flood risk management, coastal storm damage reduction, water quality, wildfire management and drought management. However strategies will not be developed for these other purposes unless funds become available at a later date. Solutions identified will be implemented by federal and non-federal sponsors and partners. If solutions are identified that would fit within the authorities of USACE, then a tiered feasibility study will be conducted under separate authority, as required.

In accordance with Section 729 of WRDA of 1986, the Watershed Assessment Management Plan (WAMP) serves the Project Management Plan (PMP).

Once completed, the final West Maui Watershed Plan will be approved by the Chief, Planning and Policy Division, Headquarters USACE (HQUSACE) (EC 1105-2-411, 10(a)). Because the West Maui Watershed Plan will not generate a specific proposal for a major Federal action that could adversely affect the human environment as defined by the National Environmental Policy Act (NEPA), preparation of a NEPA document is not required. Any actions identified in the plan will have a NEPA document developed as appropriate by the designated lead Federal agency. If the watershed plan generates one or more proposals for USACE projects, then the NEPA documentation would be done as part of the associated feasibility study (EC 1105-2-411, 9(e)).

Study Area

The study area extends from Kā'anapali northward to Honolua and from the top of the West Maui Mountains at the summit of Pu`u Kukui to the outer reef including the watersheds of Wahikuli, Honokōwai, Kahana, Honokahua, and Honolua (24,000 acres). Figure 1 shows the study area location.

Study/Plan Description

As described in the WAMP, nearly one-fourth (¼) of all living corals have been lost in West Maui in the last thirteen (13) years alone. Studies of neighboring areas confirm coral reefs were already degraded when the monitoring began. If anything, recent observations underestimate the overall long term deterioration. Substantial losses can occur quickly. Without dramatic steps to restore favorable conditions, reefs statewide — and around islands generally — risk rapid degradation.

Coral reefs and fisheries are integral to ocean environments and to marine life itself. Coral reefs support complex food systems, diverse biological life, recreation, commerce, shoreline protection, and cultural resources. The University of Hawai'i (UH) estimates that coral reefs contribute up to $800 million/year in gross annual revenue for the State of Hawai'i. An economic valuation study sponsored by the Hawaii Coral Reef Initiative in 2002 estimates Maui County loses more than $20 million/year from coral reef decline (Cesar, et al, 2002). The total net benefits of Hawai'i coral reefs are estimated at $360 million annually, and the overall asset value conservatively estimated to be nearly $10 billion (Cesar and Van Beukering, 2004; US Global Climate Research Program, 2009).

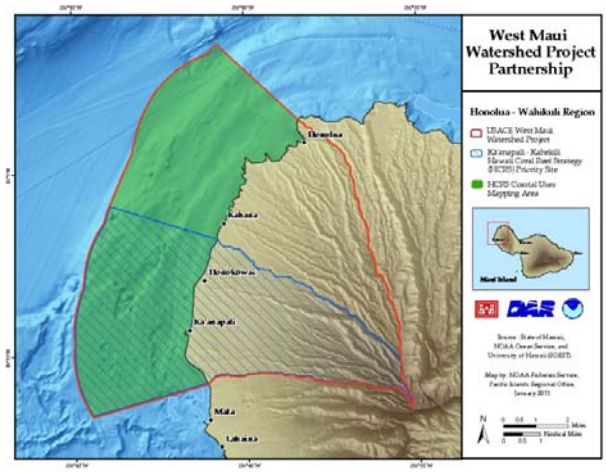

Figure 1: West Maui Watershed Plan Study Area

The causes of coral reef decline are complex and not yet fully understood. However, land-based pollution (sediment, nutrients, and other pollutants) is a clear and serious threat to coral reef ecosystems. Surface water run-off from storm events and ground water discharge both transfer pollutants into the near shore marine environment. Elevated nutrient levels from surface water run-off and groundwater discharge into nearshore waters has been linked to an increase in alien invasive algal species in the nearshore. Increased sedimentation associated with loss of forest land, historical plantation agriculture, stream channelization, and rapid development have clearly impacted coral reef health.

The West Maui Watershed Plan proposes to address the problem of coral decline systematically and to seek high benefit, low cost remedies. Building off of previous work completed by the1997 West Maui Watershed Owner's Manual and other initiatives, the plan will focus on how each restoration strategy enhances the whole system. In 2011, the West Maui Watershed Plan was designated as the priority partnership initiative in the Pacific by the U.S. Coral Reef Task Force. Through the partnership initiative, other federal and state agencies and non-governmental organizations will be contributing to the development and implementation of the plan. In a phased process, the plan will develop solutions that reflect the shared vision and values of the partners and will identify the government entity best suited to accomplish each activity (EC 1105-2-411).

Previous efforts, while successful, have been discreet in scale and size with limited funding and authority. The complexity of the coral reef and watershed degradation problem requires a more comprehensive approach across jurisdictions. Using a systems approach, the West Maui Watershed Plan will build on the Watershed Owner's Manual with goals to: 1) identify critical threats to the reefs and watershed health; 2) develop and evaluate solutions; and 3) implement recommended actions. Solutions will be evaluated considering other uses and issues within the watershed – flood and coastal storm management, terrestrial ecosystem restoration, water quality improvement, water supply management – among the complex land ownership, jurisdictional boundaries, governance structure and interest groups. By reducing land-based pollution in a more comprehensive manner, coastal water quality and coral reef ecosystem functions and health should improve in a way not possible with isolated actions.

The West Maui Watershed Plan provides an umbrella process to coordinate the variety of partnership initiatives within the study area. These initiatives will happen during different phases of the plan to maximize windows of opportunities to address immediate short term needs while leveraging actions to support long-range restoration goals. In Fall 2011, NOAA will initiate the first phase of the West Maui Watershed Plan with an update of the 1997 West Maui Watershed Owner's Manual and watershed assessment in the Wahikuli and Honokōwai watersheds. Natural Resources Conservation Service (NRCS) will be assisting in the implementation of erosion and sediment control best management practices on agricultural lands. National Fish and Wildlife Foundation (NFWF)'s investigating potential avenues to support and fund capacity building within the community and implementation of

short-term projects to address stormwater run-off issues. US Environmental Protection Agency (EPA) and State of Hawaii Department of Health (DOH) Clean Water Branch plan to support water quality improvements based on priorities identified through the Watershed Plan.

Assimilating all these initiatives among others, the West Maui Watershed Plan will:

- Develop a planning process to mobilize and consolidate community involvement;
- Aggressively facilitate, collaborate, and coordinate resources among county, state and federal agencies;
- Identify and closely define operational "on the ground" actions that this and other communities can implement quickly; and
- Ensure that the projects and lessons can be transferred to and replicated to watersheds in other island communities.

Factors Affecting the Scope and Level of Review

Table 1 outlines the factors affecting the scope and level of review for the West Maui Watershed with a rating of the factors as high, medium and low based on the difficulty to address within the watershed plan. The IEPR Trigger notes if any of the factors warrant the need for an IEPR based on guidance provided in EC1165-2-209. Based on this analysis, the ECO-PCX determined on 19 March 2012 that an IEPR was not required for this study.

TABLE 1: FACTORS AFFECTING THE SCOPE AND LEVEL OF REVIEW

Factor	Rating	IEPR Trigger	Description
Construction Costs	Low	With no construction activities proposed, the IEPR mandatory trigger of construction equal or greater to $45 million is not met.	In accordance with WRDA §729 and EC 1105-2-411, the West Maui Watershed Plan will identify planning scenarios or strategies. It does not result in a proposed justification for design and construction. If management measures are identified that would fall under a USACE authority, a new feasibility study would be requested for that action including a new cost share agreement, project management plan. A NEPA document would be conducted under the appropriate authority referencing information in the Watershed Plan.
Plan Formulation - Integrated Water Resource Management	High	None	As the first jointly-sponsored watershed plan in the Honolulu District, the West Maui Watershed Plan involves a variety of requirements while fully incorporating a ridge to reef planning perspective. The plan development will be challenging.
Ecosystem Output Model	High	None	This will be one of the first USACE plans to incorporate coral reef restoration as part of the aquatic ecosystem restoration objectives. There are no ecosystem restoration output models available for coral reef systems and worldwide there has been limited success in large scale coral reef restoration.

Factor	Rating	IEPR Trigger	Description
Hydrologic/Hydraulics - Flashy Tropical Systems	Medium	None	Hawai`i is characterized by flashy, steep tropical systems in relatively small watersheds. Designing aquatic ecosystem restoration projects that may minimize flood risk within these systems is challenging.
Forecasting Resources – Climate Change	High	None	As an island state, Hawai`i is likely to experience significant changes to its environment due to global climate change including sea level rise, an increase in alien invasive species, changes in rainfall duration, intensities, and frequencies, and changes in water supply. Identifying and incorporating these likely changes in the baseline conditions will be a challenge within the planning process.
Risk Assessment	Low	None	The West Maui Watershed Plan will reflect the uncertainties and assumptions inherent in planning on a larger scale and will result in a more comprehensive and strategic vision or plan. Because the plan will result in alternative scenarios or strategies rather than specific projects, a general risk assessment of the scenarios abilities to meet the goals and objectives of the plans will be conducted. If any proposals are identified that would meet USACE authorities, separate feasibility studies with associated detailed cost engineering and risk assessments would be conducted as tiered studies to this watershed plan.
Life Safety	Low	With no construction proposed and the focus on aquatic ecosystem restoration, the IEPR mandatory trigger to significant threat to human life is not triggered.	At this time, flood risk management is not a primary planning objective. The development of aquatic ecosystem restoration strategies will consider their interaction with flood risk management issues to provide a systematic and holistic approach to the strategy. As such, there is no life safety issues currently proposed with the plan. In the event that additional funding and need to develop flood risk management strategies arises during the planning process, the issue of life safety will be re-evaluated.
Governor Request for IEPR	Low	There has been no request by the Governor of Hawaii for a peer review by independent experts. The IEPR mandatory trigger is not met.	The State of Hawaii is the non-federal sponsor of this watershed plan. The watershed plan is meeting specific needs and objectives for the State and the Governor of Hawaii. Based on discussions with the State, the State does not see any need to request a peer review by independent experts for this watershed plan.

Factor	Rating	IEPR Trigger	Description
Public Dispute	Low	There are no public dispute issues related to this plan. The IEPR mandatory trigger for significant public dispute is not met.	As part of the public involvement plan, the goal is to collaborate with the public through the planning process. To meet this objective, the State is proposing an intensive public involvement process including a State sponsored and facilitated steering committee to help ensure the plan meets the overall goals and objectives of the West Maui community. At this time, no issues of public dispute over the goals and objectives of the plan have arisen.
Economic - Environmental Costs and Benefits	Medium	None	Consistent with EC 1105-2-411, identifying a National Economic Development (NED) or National Ecosystem Restoration (NER) plan is not required. The plan will follow the USACE planning process and conduct a screening level economic comparison among the strategies to prioritize actions. The detailed NED/NER analyses would be done as part of the feasibility planning process if a USACE tiered-off project is identified. The plan will lean heavily on existing economic data and reports. No novel methods are proposed for the screening level comparative analysis.
Novel Methods	Medium	No novel methods are proposed so the MSC discretionary trigger for IEPR is not met.	This plan incorporates activities under the Hawaii Coral Reef Program. This DLNR program has been in place for over 10 years and leans on existing research and existing scientific information. The plan will consolidate and integrate the existing research but no new research is proposed. All new information will be restricted to data collection only to address data gaps in the existing without plan conditions. No novel methods are proposed for the data collection or data interpretation. Data gaps that could be formed into research questions will be identified within the plan. However, any research based on these data gaps would be conducted under tiered-off studies by USACE or other partners and will be subject to the appropriate reviews within those tiered-off studies.
Robust or Unique Construction Sequencing	Low	With no construction proposed, the MSC discretionary trigger for IEPR for unique construction sequencing is not met.	Since the West Maui Watershed Plan will only result in alternative planning scenarios and will not provide the feasibility analysis for the design and construction of a project, there are no issues surrounding the project design. Considerations of the project design approach and necessary reviews will be addressed in tiered off feasibility studies of any potential USACE projects identified within the final West Maui Watershed Plan.

Factor	Rating	IEPR Trigger	Description
Significant Interagency Interest	Low	This is an interagency collaborative plan. There have been no requests raised by Federal or State agencies for an IEPR. The IERP discretionary trigger of agency interest in IEPR is not met.	As the US Coral Reef Task Force designated priority partnership initiative in the Pacific, there is a significant level of interagency interest. However, the plan is designed to incorporate a collaborative and integrated process. As such, federal, state and local agencies that have an interest or role in implementing the goals and objectives of this effort will be actively engaged throughout the planning process.
Environmental - Cultural Impacts, including impacts to fish and wildlife species.	Medium	A NEPA document is not required. Any tiered implementation studies that would have potential for significant impacts would address NEPA and IEPR analysis at that time. The IEPR discretionary trigger of potential significant impacts is not met.	In accordance with EC 1105-2-411, a NEPA document is not required for the watershed plan. However, as part of the planning process, a screening of the potential environmental and cultural impacts of the planning scenarios will be conducted. This will also include a screening of potential impacts to federally listed species and other fish and wildlife species. With a primary purpose of ecosystem restoration, impacts to environmental and cultural issues will be avoided and minimized to the full extent practicable. In some of the more developed areas or in areas with conflicting uses, there is a potential for significant impacts. The watershed plan will identify these potential impacts or concerns. Assessment of the extent of those impacts and identification of mitigation, if necessary, will be done in association with the tiered-off feasibility studies to implement the proposed actions by the appropriate lead agency. If there are projects identified for USACE to consider, then this assessment would occur in a USACE tiered-off feasibility analysis/NEPA documentation as appropriate for the applicable authority.

In-Kind Contributions

Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC), and Agency Technical Review (ATR). Based on the expertise needed for the review such as water quality, other federal partners, such as EPA or NOAA, may supplement the USACE DQC team. As discussed in the WAMP, the non-Federal sponsors' required cost-share will be based on work in-kind contributions. The in-kind products and analyses to be provided by the non-Federal sponsor include: climate change scenarios (sea level rise models, physical predictions of climate change); existing without plan conditions for biological resources, groundwater, water quality and water supply; GIS support; development of ecosystem restoration output models (in whole or in part); public involvement; and assistance in development plan formulation with specific focus on non-USACE priority missions (water quality, water supply and drought, terrestrial ecosystem restoration and wildfire management). An integral determination report of the proposed in-kind contributions was conducted and included as an appendix to the West Maui WAMP in accordance with ER 1165-2-209.

4. District Quality Control (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) must undergo DQC. DQC is an internal review process of basic science and engineering work products that focuses on fulfilling the plan quality requirements defined in the WAMP. DQC activities may be supplemented by expertise from other Federal agencies where the expertise is not within the USACE missions (e.g. wildfire management, water quality, terrestrial ecosystem restoration). The Honolulu District will manage DQC. Documentation of DQC activities is required and will be in accordance with the Quality Manual of Honolulu District and POD.

Documentation of DQC

Consistent with the Honolulu District Civil Works Review Policy, the DQC will be documented through the use of the Honolulu District review table format. The review table includes the identification of the report being reviewed, the author of the report, the reviewer, the reviewer's comments as noted by section and page number, the preparer's response, and confirmation of the reviewer back-check. When the DQC process is complete, a DQC certification memorandum is signed by all the reviewers, the Project Manager, and the Chief of the Civil Works Technical Branch.

Products to Undergo DQC

Consistent with Honolulu District policies, all products that are transmitted to POD will undergo DQC. This includes the WAMP, the RP, the Watershed Plan Scoping Meeting (WSM) documentation, the Watershed Plan Alternatives Formulation Briefing (AFB) documentation, the Preliminary Draft Watershed Plan, the Final Watershed Plan, and the final transmittal documentation. All documents submitted to the RMO or any other PCX, such as the model certification documentation, will undergo DQC. All environmental compliance documents that may be necessary for data collection during the West Maui Watershed planning process will also undergo DQC including, but not limited to, the § 7 Endangered Species Act (ESA) Consultation documents, the § 106 National Historic Preservation Act (NHPA) consultation documents, and the Fish and Wildlife Coordination Act (FWCA) consultation documents.

Because the study area is large and complex, the strategy is to conduct incremental reviews on the documents being developed by USACE or the non-Federal Sponsors to support the development of the watershed plan. For example, the hydrology and hydraulics analysis, Hazardous Toxic Radioactive Waste (HTRW) assessments, and biological surveys may be reviewed prior to a review of the entire watershed plan. Some of these incremental submittals will be made available to the public or partnering agencies for information and/or for use in development of related but separate projects. All incremental submittals will undergo DQC.

Required DQC Expertise

The following disciplines will be needed for DQC. Not all disciplines will need to review all documents. Specific expertise will be identified based on the subject matter of the document. For reviews requiring multiple disciplines, a DQC lead will be designated consistent with the Honolulu District Civil Works Review Policy to coordinate the DQC team. Because the Honolulu District has limited staff and most will be engaged as part of the PDT for this plan, the DQC team will likely comprise of subject matter experts from USACE Alaska District (POA). Other federal and state partners on the plan are likely to assist with the DQC related to disciplines and focuses outside of the USACE core expertise such as water quality or terrestrial ecosystems. Because this is the first §729 Watershed Assessment conducted by Honolulu District, the DQC will include a member from another District that has expertise in §729 Watershed Assessments.

- Plan Formulation
  - Watershed Planning

  - Ecosystem Restoration
  - Water Quality Management
  - Flood Risk, Water Supply and Drought and Wildlife Management, as needed.
- Biology/Ecology
  - Marine including Coral Reef and Nearshore
  - Freshwater including Wetlands
  - Terrestrial
- Coastal Engineering
  - Tropical Systems
- Cost Engineering
  - Screening level analysis suitable for Watershed Plans
- Cultural Resources
  - Native Hawaiian Cultural Considerations
  - Archaeology
  - Historic Architecture
- Economics
  - Screening level evaluations of NER objectives suitable for Watershed Plans.
- Engineering and Design
  - Screening level engineering and design considerations suitable for Watershed Plans
- GIS Specialist/Spatial and Temporal Planning
- Hydrology and Hydraulics
  - Tropical Systems
- Public Involvement Planning and Communication
- Water Quality

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 ensure 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 plan/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 POD (the home MSC).

Products to Undergo ATR

Based on recommendations from the ECO-PCX, only the AFB document will undergo ATR. However, at AFB, the MSC, the District and the Sponsor will re-evaluate the need for future ATRs based on the plan development to ensure that the ATR is scalable to the work product being reviewed.

Required ATR Team Expertise

The ATR team reflects the significant expertise involved in the development of the plan and within the DQC team. Team members should have multiple skill sets (e.g. one individual reviewing both plan formulation and biological resources) to minimize the size of the team, which will increase efficiencies and reduce cost. In addition, not all ATR team members will be required to review each document but each ATR team member should review all documents at a level to understand the overall goals and objectives of the plan and ensure consistency within the plan as it relates

to their discipline. Table 2 lists the disciplines and expertise likely needed for the ATR team. As the plan develops, the team disciplines and necessary expertise will be adjusted as needed through consultation among the RMO, PDT, POD, and the other applicable PCXs. Based on the ecosystems considered and the issues associated with the plan, the ATR team members are likely to be from USACE South Atlantic Division for its expertise in tropical systems and coral reefs, USACE South Pacific Division for its expertise in flash flood systems and multi-purpose watershed plans jointly sponsored watershed plans (such as the CALFED Bay Delta Project), and/or USACE Northwest Division for its expertise in large scale multi-system ecosystem restoration projects (such as the Puget Sound Nearshore Ecosystem Restoration Project).

TABLE 2: ATR TEAM MEMBER 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 ATR. The lead should have a strong understanding of the unique differences of a WRDA 1986 §729 Watershed Plan versus a traditional feasibility report. 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 multi-purpose watershed plans. The planning review should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report. The planning reviewer should also understand public collaborative planning methods and processes.
Economics	The economics reviewer should be a senior economist with experience in combined NER plans and trade-off analysis. The economists should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.
Biological Resources	The biological resources reviewer should be a senior environmental specialist with experience in aquatic ecosystem restoration. The biological resources reviewer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report. Expertise in tropical marine systems including coral reefs and expertise in freshwater stream systems is also needed.
Cultural Resources	The cultural resources reviewer should be a senior cultural resources specialist with experience in coordination with indigenous populations and incorporation of indigenous perspectives such as traditional ecological knowledge within a planning process. The cultural resources reviewer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.

ATR Team Members/Disciplines	Expertise Required
Hydrology	The hydrology reviewer should be an experienced hydrologist with expertise in flash flood systems, preferably tropical or sub-tropical systems, and the computer modeling techniques to be used. Models to be used will be determined after the cost share agreement is executed but are likely to include FLO-2D and GSSHA. The hydrology reviewer should have expertise in hydrologic considerations for aquatic ecosystem restoration. The hydrology reviewer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.
Hydraulic Engineering	The hydraulic engineering reviewer should be an expert in the field of hydraulics and have knowledge of hydraulic considerations for aquatic ecosystem restoration, bioengineering approaches – specifically bioengineering approaches to help reduce sediment and erosion issues downstream. Understanding of non-structural approaches such as low impact development is beneficial. The hydraulic engineering reviewer should also have experience with the computer modeling techniques that will be used. Models to be used will be determined after the cost share agreement is executed, but are likely to include HEC-RAS and FLO-2D. The hydraulic engineer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.
Coastal Engineering	The coastal engineering reviewer should be an expert in the field of coastal engineering with knowledge of and experience applying USACE sea level rise policies and procedures and bioengineering approaches to CSDR. The coastal engineer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.
Engineering and Design	The engineering and design reviewer should be an expert in the field of civil engineering as it relates to designing aquatic ecosystem restoration. The reviewer should have expertise in multipurpose bioengineering approaches. Specific engineering disciplines of geotechnical, civil, and structural may be needed. The engineering and design reviewer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.
Cost Engineering	The cost engineering reviewer should be a senior cost engineer with experience with multipurpose projects including aquatic ecosystem restoration. The cost engineer should have a strong understanding of WRDA 1986 §729 requirements and the unique differences to the traditional feasibility report.

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:

- 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 be 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, especially when 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, 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 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 must:

- 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 plan are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision, as described in EC 1165-2-209, is made as to whether IEPR is appropriate. IEPR panels will consist of independent, recognized experts from outside of 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 USACE and are conducted on project studies. Type I IEPR panels assess the adequacy and acceptability of the economic and environmental assumptions and projections, project evaluation data, economic analysis, environmental analyses, engineering analyses, formulation of alternative plans, methods for integrating risk and uncertainty, models used in the evaluation of

environmental impacts of proposed projects, and biological opinions of the project study. Type I IEPR will cover the entire decision document or action and will address all underlying engineering, economics, and environmental work, not just one aspect of the study. For decision documents where a Type II IEPR (Safety Assurance Review) is anticipated during project implementation, safety assurance shall also be addressed during the Type I IEPR per EC 1165-2-209.

- Type II IEPR. Type II IEPR, or Safety Assurance Review (SAR), are managed outside 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 will consider the adequacy, appropriateness, and acceptability of the design and construction activities in assuring public health safety and welfare.

Decision on IEPR

The ECO-PCX determined on 19 March 2012 that this study did not meet the criteria for an IEPR and therefore and IEPR would not be required. Table 1 outlines the criteria for an IEPR and details how this study does not meet the criteria.

Products to Undergo Type I IEPR

Not Applicable.

Required Type I IEPR Panel Expertise

Not Applicable.

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 compliance reviews is found in Appendix H, ER 1105-2-100. Legal sufficiency and policy compliance reviews determine whether the recommendations in the reports and the supporting analyses and coordination comply with law and policy and whether the reports warrant either approval by the District Engineer or further recommendation of approval to higher authority by the POD Division Engineer (the 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 must 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 the Type I IEPR 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, 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 USACE 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).

Planning Models

Because the availability of planning models that work within Hawai`i systems is limited, planning models will need to be identified and/or developed. After the cost share agreement is executed and the detailed planning objectives are defined, the PDT will evaluate all potential models to determine the models that will most effectively meet the needs of the plan and provide the greatest opportunity to be applied to similar efforts in Hawai`i in the future. The PDT will work closely with the RMO to consider models that have already been certified and approved and/or to identify appropriate models based on USACE regulations and policies. Consistent with the model certification requirements in EC 1105-2-412, model certification/approval will be initiated before the submittal of the AFB documentation to POD and HQUSACE. Table 3 provides a list of planning models being considered.

TABLE 3: PROPOSED PLANNING MODELS

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Hawaiian Stream HEP (Stream Ecosystem Restoration Output)	The Hawaiian Stream Habitat Evaluation Protocol (HEP) is a multi-spatial model to provide standardized evaluation for stream animal habitat in Hawaiian streams in order to assess the impacts of land use change, flow diversion, habitat manipulation, and water quality issues. The Hawaiian Stream HEP has been developed by the DLNR Division of Aquatic Resources with support, guidance and approval from U.S. Fish and Wildlife Service (FWS).	Certification/Approval Required
Marine Ecosystem Restoration Output Model	As part of the planning process, an ecosystem restoration output model will be identified and/or developed to address the needs of the coral reef and marine ecosystem restoration analysis. Once identified, this model will need to undergo model certification/ approval.	Certification/Approval Required

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Certification / Approval Status
Integrated Planning Model	An integrated planning model will be required to effectively formulate and analyze the wide array of objectives and potential alternatives. Models that work within a Shared Vision Planning process will be evaluated and identified based on the planning objectives and constraints. Models being considered include, but are not limited to, IWR Planning Suite, N-SPECT, Stella, Marxan, or a multi-criteria spatial planning model. IWR Planning Suite has been certified by USACE. The other models have not been certified or approved. Once identified, the model will need to undergo model certification/ approval as appropriate.	Certification/Approval Required

Engineering Models

Similar to the planning model process, engineering models will be selected based on the detailed planning objectives that will be developed after cost share agreement execution. As the result of the planning is a preferred scenario rather than a preferred plan or alternative, the extent use of engineering models may be limited based on the watershed plan goals. Priority will be given to USACE SET preferred models. Table 4 provides a list of likely models to be used.

TABLE 4: PROPOSED ENGINEERING MODELS

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.0 (River Analysis System)	The Hydrologic Engineering Center's River Analysis System (HEC-RAS) program provides the capability to perform one-dimensional steady and unsteady flow river hydraulics calculations. The program will be used for unsteady flow analysis to evaluate the future without- and with-plan conditions along the streams and tributaries in the West Maui watershed.	HH&C CoP Preferred Model
GSSHA 2.0 (Surface and Groundwater Flow)	Gridded Subsurface Hydrologic Analysis (GSSHA) model is a grid-based two dimensional hydrologic model. Features include 2D overland flow, 1D stream flow, 1D infiltration, 2D groundwater, and full coupling between the groundwater, vadoze zone, streams, and overland flow. GSSHA can run in both single event and long-term modes. The fully coupled groundwater to surface water interaction allows GSSHA to model both Hortonian and Non-Hortonian basins. Features of version 2.0 include support for small lakes and detention basins, wetlands, improved sediment transport, and an improved stream flow model. GSSHA has been successfully used to predict soil moistures as well as runoff and flooding.	Developed by USACE Engineer Research and Development Center (ERDC)

10. Review Schedules And Costs

ATR Schedule and Cost

The estimated total cost of the ATR is $46,000 for review of the Watershed Plan AFB documentation. This includes the cost for the ATR team lead to facilitate the ATR but does not include the costs for the PDT to respond to ATR comments. It is anticipated that the ATR review will take approximately 2 weeks, PDT response will take

approximately 2 weeks, and ATR back-check and comment close out will take 1 week for a total of 5 weeks of review. Table 5 shows the dates the DQC, ATR, and IEPR review milestones are scheduled to be completed. These dates may change based on the date the cost share agreement is executed.

TABLE 5 WEST MAUI WATERSHED PLAN SCHEDULE

Task/Milestone	Completion Date	Related Activities/Descriptions
Execute Cost Share Agreement	CSA Execution date To Be Determined (Estimated as May 2012)	Once the §729 Assessment Agreement is executed, the schedule will be adjusted accordingly.
PDT Kick-off Meeting	1 Month After CSA Execution	
Visioning Session with DLNR sponsored Advisory Committee	1 Month After CSA Execution	NOAA Initiates Supporting Watershed Assessment of Kā'anapali
Defining Goals, Objectives, Problems, Opportunities		Identify "spin-off" projects for non-Federal Sponsor and partners
Stakeholder Assessment and Involvement Plan	2 Months After CSA execution	DAR to Initiate CAP Planning Process
Public Information Meeting	3 Months After CSA Execution	Update of proposed plan and strategy to general public
Watershed Plan Scoping Meeting (WSM)/Baseline Conditions Preliminary Report	12 Months After CSA Execution	Identify "spin-off" projects for non-Federal Sponsor and partners Report is complete but needs to undergo technical review.
Update Peer Review Plan	13 Months After CSA Execution	Peer Review Plan to be updated as needed based on the without project condition or baseline condition.
DQC Review	13 Months After CSA Execution	DQC will include a USACE expert in §729 Watershed Assessments. DQC will be 1 week with 2 Weeks to address comments and 1 Week to complete back check.
POD/HQUSACE Review	14 Months After CSA Execution	POH will ask for expedited review by HQUSACE since this is not a decision document.
Watershed Plan Scoping Meeting	15 Months After CSA Execution	Purpose: Seek consensus and official approval across sponsoring agencies. Includes USACE Vertical Chain of Command (District to HQ), non-Federal Sponsor Vertical Chain of Command and key State and Federal Resource Agencies
Watershed Plan SM/Baseline Conditions FINAL Report	15 Months After CSA Execution	

Task/Milestone	Completion Date	Related Activities/Descriptions
Watershed Plan AFB Preliminary Report	21 Months After CSA Execution (6 Months After Watershed Plan SM Final Report)	This is considered a 75% complete version of the final plan The report is complete but subject to technical review
DQC Review	22 Months After CSA Execution	DQC will be 1 week with 2 weeks to address comments and 1 week to complete back check.
ATR	23 Months After CSA Execution	ATR will be 2 weeks with 2 weeks to address comments and 1 week to complete back check.
Update Peer Review Plan	23 Months After CSA Execution	Peer Review Plan to be updated as needed based on the identification of alternatives to be considered.
POD/HQUSACE Review	23 Months After CSA Execution	POH will request an expedited review since this is not a decision document.
Watershed Plan AFB	24 Months After CSA Execution	Similar to the WSM, this is to seek consensus/approval from all sponsors. This includes the vertical chain of USACE and the non-Federal Partners. Identify "spin-off" projects for non-Federal Sponsor and partners
Watershed Plan AFB FINAL Report	24 Months After CSA Execution	
Preliminary Draft Watershed Plan	28 Months After CSA Execution (4 Months After Watershed Plan AFB Final Report)	Identify "spin-off" projects for non-Federal Sponsor and partners
DQC Review	29 Months After CSA Execution	DQC will be 1 week with 2 weeks to address comments and 1 week to complete back check.
Update Peer Review Plan	30 Months After CSA Execution	Peer Review Plan to be updated as needed based on the identification of the preferred alternative.
DRAFT Watershed Plan	30 Months After CSA Execution	
Public Release of Draft Watershed Plan	31 Months After CSA Execution	
POD/HQUSACE Review	31-32 Months After CSA Execution	POD/HQUSACE review will be concurrent with Public Review
Public Comment Period	31-32 Months After CSA Execution	45-day comment period
Public Information Meeting	32 Months After CSA Execution	Identify "spin-off" projects for non-Federal Sponsor and partners
Preliminary Final Watershed Plan	34 Months After CSA Execution (2 Months After Public Comment Period Closes)	Identify "spin-off" projects for non-Federal Sponsor and partners

Task/Milestone	Completion Date	Related Activities/Descriptions
DQC	35 Months After CSA Execution	DQC will be 1 week with 2 Weeks to address comments and 1 Week to complete back check.
POD/HQUSACE Review	36 Months After CSA Execution	
FINAL Watershed Plan	36 Months After CSA Execution	

Type I IEPR Schedule and Cost

Not Applicable.

Model Certification/Approval Schedule and Cost

The estimated cost of model certification is $50,000 per model. It is assumed that at least 3 models (stream ecosystem restoration output model, marine ecosystem restoration output model, and integrated planning model) will require certification or approval for a total amount of $150,000. The model certification/approval documentation will be provided to the PCX no later than the AFB milestone and will be completed no later than the POD/HQUSACE review of the Final Watershed Plan. The model certification/approval process is likely to take 4 months. The cost and schedule will be adjusted as needed with the PCX once the models have been identified.

11. Public Participation

The approved review plan will be posted on the Honolulu District website and the ECO-PCX website.
Chapter 4 of the WAMP outlines the public involvement plan. A detailed Public Involvement Plan (PIP) will be developed after the cost share agreement is executed. The intent of the public involvement process is to work at a public collaboration level. With this approach, public involvement will be early, often, and consistent throughout the feasibility study process. Consistent USACE regulations, at least one public scoping meeting will be held early in the process with a public comment meeting being held after the release of the Draft Watershed Plan. Consistent with the transparency objectives of the USACE planning process, the review plan, final decision documents and applicable review reports will be made available to the public. The process in which they will be made available will be defined within the detailed PIP but will likely be on the plan website and available upon request.

Any public comments received on the review plan, at public meetings or on draft or final reports will be provided to the review teams before they conduct their reviews.

12. Review Plan Approval And Updates

The POD Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving the District, POD, RMO, and HQUSACE members) as to the appropriate scope and level of review for the decision document. Like the WAMP, the Review Plan is a living document and may change as the study progresses. The Honolulu District is responsible for keeping the Review Plan up to date. Minor changes to the review plan since the last POD Commander approval will be documented in an attachment to this Review Plan. Significant changes to the Review Plan (such as changes to the scope and/or level of review) should 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 Commander's approval memorandum, will be posted on the Honolulu District's webpage. The latest Review Plan should also be provided to the RMO 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:

Ms. Cindy S. Barger
Watershed Program Manager
U.S. Army Corps of Engineers, Honolulu District
Civil and Public Works Branch
Programs and Project Management Division
Building 230
Ft. Shafter, HI 96858
Telephone: (808) 438-6940
E-mail: cindy.s.barger@usace.army.mil

Mr. Russell Iwamura
U.S. Army Corps of Engineers, Pacific Ocean Division
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Ft. Shafter, HI 96858
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E-mail: russell.k.iwamura@usace.army.mil

Ms. Valerie Ringold
U.S. Army Corps of Engineers, Northwest Division
1125 NW Couch Street, Suite 500
Portland, OR 97208-2870
Telephone: (503) 808-3984
E-mail: valerie.a.ringold@usace.army.mil

Attachment 1: Team Rosters

The West Maui Watershed USACE team roster is shown in Table 6. This will be updated as specific participants are identified.

TABLE 6: WEST MAUI WATERSHED PLAN USACE TEAM ROSTER

Role	Name	E-mail
Project Manager, Plan Formulator, Biological Resources	Cindy Barger	Cindy.S.Barger@usace.army.mil
Program Analyst	Geoff Lee	Geoffrey.K.Lee@usace.army.mil
P2 Scheduler	Laureen Vizcarra	Laureen.E.Vizcarra@usace.army.mil
Archeologist	Kanalei Shun	Kanalei.Shun@usace.army.mil
Coastal Engineer	Jessica Podoski	Jessica.H.Podoski@usace.army.mil
Coastal Engineer	Justin Goo	Justin.A.Goo@usace.army.mil
Cost Engineer	Tracy Kazunaga	Tracy.Y.Kazunaga@usace.army.mil
Contracting	Joan Kaimikaua	Joan.E.Kaimikaua@usace.army.mil
Economist	Bob Finch	Robert.A.Finch@usace.army.mil
Economist	Lance Shiroma	Lance.T.Shiroma@usace.army.mil
Engineering Services	Duane Arakawa	Duane.T.Arakawa@usace.army.mil
Environmental Compliance, Public Involvement	Athline Clark	Athline.M.Clark@usace.army.mil
GIS Specialist	Sarah Falzarano	Sarah.R.Falzarano@usace.army.mil
Geotechnical Engineering	Ray Kong	Raymond.W.Kong@usace.army.mil
Hydrologic/Hydraulic Engineer	Stephen Stello	Stephen.M.Stello@usace.army.mil
Hydrologic/Hydraulic Engineer	Jarrett Hara	Jarrett.H.Hara@usace.army.mil
Office of Counsel	Lindsey Kasperowicz	Lindsey.Kasperowicz@usace.army.mil
Public Affairs Office	Joe Bonfiglio	Joseph.Bonfiglio@usace.army.mil
Real Estate	Michael Sakai	Michael.Y.Sakai@usace.army.mil
RMO POC	Valerie Ringold	Valeria.A.Ringold@usace.army.mil
POD POC	Russell Iwamura	Russell.K.Iwamura@usace.army.mil
RIT POC	Gib Owen	Gib.A.Owen@usace.army.mil
DQC Team	To Be Determined (Potentially POA)	
ATR Team	To Be Determined	

Attachment 2: Sample Statement Of Technical Review For Decision Documents

COMPLETION OF AGENCY TECHNICAL REVIEW

The Agency Technical Review (ATR) has been completed for the *<type of product>* for *West Maui Watershed Plan, Maui, Hawai'i*. The ATR was conducted as defined in the watershed plan'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 U.S. 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 _____ _____

Name Date
ATR Team Leader, *Office Symbol/Company*

SIGNATURE _____ _____

Name Date
Project Manager, *CEPOH-PP-C*

SIGNATURE _____ _____

Name Date
RMO 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 plan have been fully resolved.

SIGNATURE _____ _____

Name Date
Chief, Engineering and Construction Division
CEPOH-EC

SIGNATURE _____ _____

Name Date
Chief, Program and Project Management Division
CEPOH- PP

Attachment 3: Review Plan Revisions

Revision Date	Description of Change	Page / Paragraph Number
Pending	Original Review Plan	All

Attachment 4: Acronyms and Abbreviations

Term	Definition	Term	Definition
AFB	Alternative Formulation Briefing	NEPA	National Environmental Policy Act
ASA(CW)	Assistant Secretary of the Army for Civil Works	NFWF	National Fish and Wildlife Foundation
ATR	Agency Technical Review	NOAA	National Oceanic and Atmospheric Administration
CSDR	Coastal Storm Damage Reduction	NRCS	Natural Resources Conservation Service
DLNR	State of Hawaii Department of Land and Natural Resources	O&M	Operation and maintenance
DOH	State of Hawaii Department of Health	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	Engineer Regulation	PL	Public Law
ERDC	USACE Engineer Research and Development Center	POA	USACE Alaska District
EPA	US Environmental Protection Agency	POD	USACE Pacific Ocean Division
FDR	Flood Damage Reduction	POH	USACE Honolulu District
FEMA	Federal Emergency Management Agency	QMP	Quality Management Plan
FRM	Flood Risk Management	QA	Quality Assurance
FSM	Feasibility Scoping Meeting	QC	Quality Control
GRR	General Reevaluation Report	RED	Regional Economic Development
Home District/MSC	The District or MSC responsible for the preparation of the decision document	RMC	Risk Management Center
HQUSACE	Headquarters, U.S. Army Corps of Engineers	RMO	Review Management Organization
IEPR	Independent External Peer Review	RTS	Regional Technical Specialist
ITR	Independent Technical Review	SAR	Safety Assurance Review
LRR	Limited Reevaluation Report	USACE	U.S. Army Corps of Engineers
MSC	Major Subordinate Command	WAMP	Watershed Assessment Management Plan
NED	National Economic Development	WRDA	Water Resources Development Act
NER	National Ecosystem Restoration		