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

CEPOD-PDC (1105) 7 March 2023

MEMORANDUM FOR Commander, Alaska Engineer District (CEPOA-PM-C/Curtis Lee), P.O. Box 6898 JBER, AK 99506-0898

SUBJECT: Review Plan Approval for Hyder Harbor Navigational Improvements (CAP Section 107) Feasibility Study, Hyder, Alaska

1. References:

a. Engineering Regulation 1165-2-217, Civil Works Review Policy, 1 May 21.

b. Review Plan for Hyder Harbor Navigational Improvements (CAP Section 107) Feasibility Study (Encl).

c. HQ POD, CEPOD-PDC memorandum (Delegation of Approval Authority for Review Plans for Civil Works Products), 6 Aug 22.

2. The Pacific Ocean Division is the lead office to execute this Review Plan. In accordance with Reference 1.c., the authority to approve POD Review Plans covering decision documents for Civil Works studies/projects has been delegated to the POD Director of Programs. The Review Plan does not include an Independent External Peer Review or Safety Assurance Review.

3. I hereby approve this Review Plan, which is subject to change as circumstances require, consistent with work product development under the Project Delivery Business Process. Subsequent revisions to this Review Plan or its execution due to significant changes in the study/scope or level of review will require written approval from the POD Director of Programs.

4. POC is Mr. Russell Iwamura, Team Leader for Planning and Policy, Pacific Ocean Division, at 808-835-4625 or at Russell.K.Iwamura@usace.army.mil.

Encl

DAMON P. LILLY, SES
Director of Programs

# REVIEW PLAN

**Hyder Harbor Navigational Improvements**
**Continuing Authorities Program (CAP) Section 107**
**Hyder, Alaska**
**Integrated Feasibility Report and Environmental Assessment**

**Alaska District**

**MSC Approval Date:** 7 March 2023
**Last Revision Date**: NONE

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US Army Corps
of Engineers ®

# DECISION DOCUMENT REVIEW PLAN

March 2023
Updated: NONE

## OVERVIEW

**Project Name:** Hyder Harbor Navigational Improvements Study, Hyder, Alaska.

**P2 Number:** 484472.

**Decision Document Type:** Integrated Feasibility Report and Environmental Assessment.

**Project Type:** Small Harbor Navigational Improvements (Section 107, Continuing Authority Program (CAP)).

**District:** Alaska District (POA)

**Major Subordinate Command (MSC):** Pacific Ocean Division (POD)

**Review Management Organization (RMO):** POD

**RP Contacts:**

- **District:** POA Project Manager, 907.753.2539
- **MSC:** POD CAP Manager, 808.835.4621
- **RMO:** POD Team Leader for Planning and Policy, 808.835.4625

## KEY REVIEW PLAN DATES

| Action | Date – Actual[1] |
|---|---|
| Date of RMO Endorsement of Review Plan | PENDING |
| Date of MSC Approval of Review Plan | 7 March 2023 |
| Date of Last Review Plan Revision[2] | NONE |
| Date of Review Plan Posted on District Website | PENDING |

*[1]Date action occurred or 'PENDING if not yet approved*
*[2]Enter 'NONE' if no updates have been made since approval*

## MILESTONE SCHEDULE

| Action | Date – Scheduled | Date – Actual | Status – Complete? |
|---|---|---|---|
| Feasibility Cost Sharing Agreement Signed | - | 09/19/2022 | YES |
| Charette | 03/13/2023 | - | NO |
| Tentatively Selected Plan | 09/19/2023 | - | NO |
| **Release Draft Report for Concurrent Review** | 11/20/2023 | | NO |
| Final Decision Document Submittal | 04/01/2024 | - | NO |
| **Decision Document Approval** | 07/03/2024 | | NO |

## PROJECT FACT SHEET

## February 2023

**Project Name**: Hyder Harbor Navigational Improvements Study

**Location**: Hyder Alaska

**References:**

- Engineer Regulation (ER) 1165-2-217, Civil Works (CW) Review Policy, 1 May 2021.

- Engineering Pamphlet (EP) 1105-2-58, Planning, Continuing Authorities Program, 1 March 2019.

**Authority:** Section 107 of the Rivers and Harbor Act of 1960 (Public Law 86-645), as amended (33 U.S.C. 577), authorizes the study of navigational improvements within harbors. Section 105(a) of the Water Resources Development Act of 1986 (Public Law 99-662), as amended (33 U.S.C. 2215(a)), specifies the cost-sharing requirements.

**Sponsor:** The State of Alaska Department of Transportation and Public Facilities.

**Specific, Measurable, Attainable, Risk-Informed, and Timely (SMART) Planning Status:** The study is 3x3 compliant, and an exemption is not anticipated at this time.

**Project Area:** The town of Hyder is located along the border of Alaska and British Columbia in Southeast Alaska. Hyder sits at the head of Portland Canal, a 96-mile-long fjord which forms a portion of the border between Alaska and Canada at the southeastern edge of the Alaska Panhandle. Hyder is the only community in southern southeast Alaska accessible by road which runs through Stewart, British Columbia, just two miles across the Canadian border (Figure 1 and Figure 2).

**Problem Statement:** The Hyder Harbor is sited in an alluvial fan at the mouth of the Salmon River. The Salmon River is a glacially fed river that deposits high levels of sediment into the outflow of Salmon River into the Portland Canal fjord. The deposition of glacial silt paired with shallow depths are negatively impacting the Hyder Harbor. The accessibility and efficiency of navigation within the harbor has been compromised. Vessels often become grounded during low tide, and portions of the harbor are inaccessible (Figure 3). The shallow depths are largely due to sediment movement and deposition within the alluvial fan. The Non-Federal sponsor has identified these key issues within the Hyder Harbor that make navigation inaccessible.

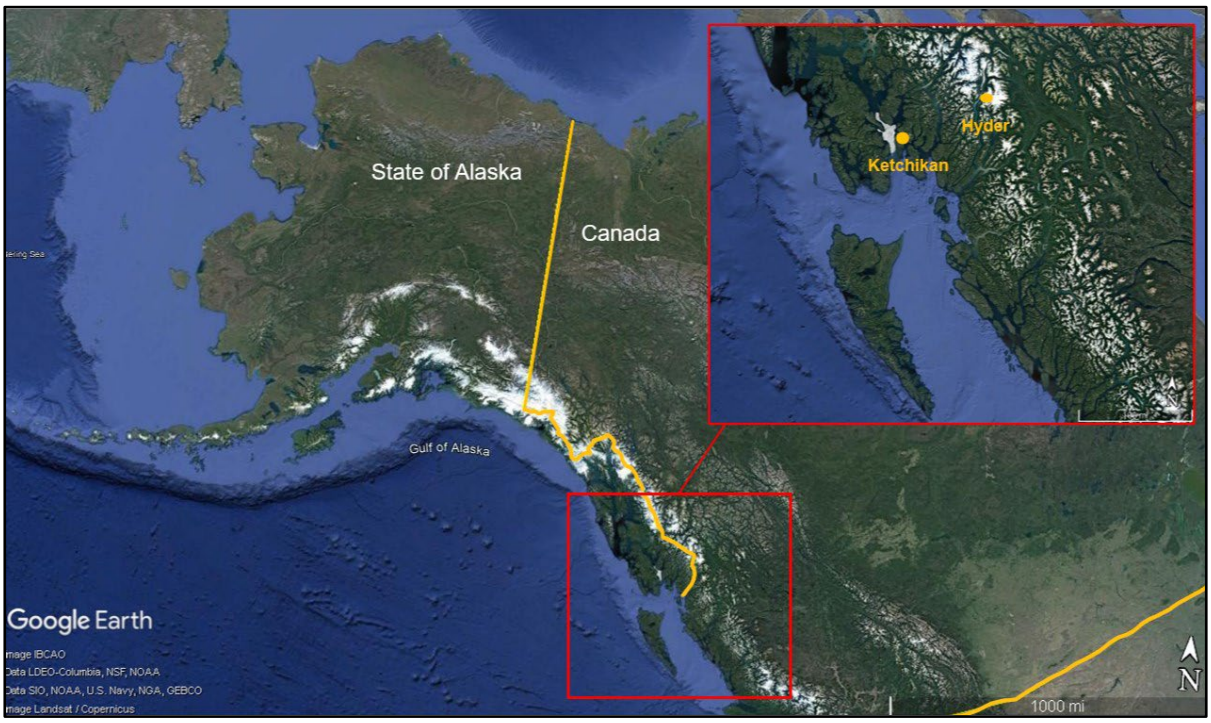


**Figure 1. Geographical location of Hyder within Southeast Alaska.**

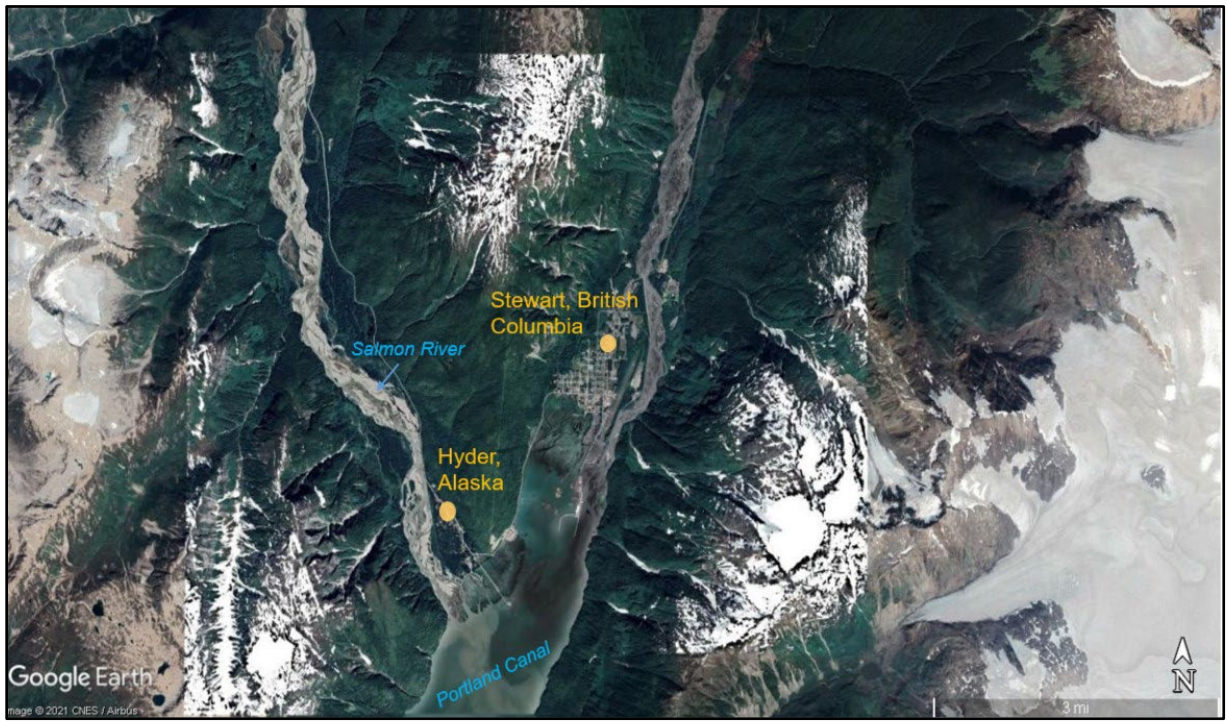


**Figure 2. Proximity of Hyder to Stewart, British Columbia along the Portland Canal.**

**Figure 3. Current conditions at Hyder Harbor.**

**Future Without Project Condition**: Harbor conditions would continue to lead to frequent delays associated with draft restrictions for the fleet of 5-10 boats that regularly utilize the harbor and less frequent delays for the transient vessels utilizing the harbor. The delays experienced increases costs in time, fuel, and maintenance. Without dredging the harbor condition will continue to worsen and delays are expected to increase.

**Federal Interest:** The Federal Interest Determination (FID) was approved by the POA Chief of Planning on 22 March 2022 and demonstrated that there was a federal interest in conducting a study on navigational improvements at the Hyder Harbor. The Feasibility Cost Share Agreement (FCSA) was executed on 19 September 2022.

**Study Goals & Objectives**: The objectives of this project are to provide sustainable, safe, and reliable harbor access to residents within the community of Hyder. Dependable access to the harbor will facilitate improvements to key service operations, such as the transportation of goods and commercial enterprise.

**Types of Measures/Alternatives Being Considered:** Solutions will likely include increasing the harbor depth, dredging channels, or potential relocation to increase the navigational efficiency and safety within the harbor. Alternatives that consider both structural and non-structural measures are being considered for this project. The preliminary formulation of alternatives and measures is ongoing throughout the planning process.

**Risk Identification:** None of the risks identified to date expected to impose a significant threat to human life or the environment. Potential risks presented below could impact study schedule, timeline, or costs:

- Alternatives may include a dredging component. Dredging methods will likely include mechanical dredging to remove sediment. A dredge material management plan will be required to identify the most cost effective and environmentally acceptable management method of the dredged material. Management of the dredged material will include consideration of beneficial use. Currently there are no in-water disposal or placement sites identified in the immediate area.

- Construction and dredging operations may impact marine mammals that reside in the area. Standard protocol will be followed to mitigate any potential adverse effects.

- It is expected that geotechnical and engineering surveys and design work will be completed via contract. The potential impact to the study schedule is currently unknown.

## DOCUMENTATION OF RISKS & ISSUES

## 1. FACTORS AFFECTING THE SCOPE AND LEVEL OF REVIEW

**Scope of Review.** This Review Plan defines the levels and scopes of reviews for the Hyder Harbor Navigational Improvements Study. Products expected for review include a a Feasibility Report including appendices. Reviews will be managed in accordance with Engineering Regulation (ER) 1165-2-217, Civil Works Review Policy, 01 May 2021. Additional information concerning the CAP can be found in Engineer Pamphlet (EP) 1105-2-58, Planning Continuing Authorities Program, 01 March 2019.

This study will undergo reviews to include District Quality Control (DQC), Agency Technical Review (ATR), Policy and Legal Compliance Review (P&LCR) and Quality Assurance Review (QA), as outlined in the next section. Independent External Peer Review (IEPR) is mandatory when any of three statutory triggers is met. None of the mandatory triggers are expected to be met, and at this time no IEPR is planned. IEPR is discussed further in the next section.

**Mandatory IEPR Triggers.** A project may require an IEPR if any of the three mandatory conditions in WRDA 2007 Sec 2034, as amended, are triggered:

- Is the estimated total project cost, including mitigation, greater than $200 million? No. This is a CAP Section 206 study, and it is expected that the total cost will be significantly less than the $200 million trigger.

- Has the Governor of an affected state requested a peer review by independent experts? No. There has been no request by the Governor of Alaska for peer-review by independent experts, and such a request is not anticipated at this time.

- Has the Chief of Engineers determined the project study is controversial due to significant public dispute over the size, nature, or effects of the project or the economic or environmental costs or benefits of the project (including but not limited to projects requiring an Environmental Impact Statement)? No. Currently, this CAP Section 107 study has not met any of the controversial triggers (i.e., significance, scope, effects present) that would warrant a determination by the Chief of Engineers.

While none of the three mandatory triggers for IEPR have been met, the MSC Commander retains the discretion to conduct IEPR based on a risk-informed assessment of the expected contribution of IEPR to the project.

**Discretionary Decision.** IEPR is discretionary when the head of a federal or state agency charged with reviewing the project study determines 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 and they request an IEPR. No such request has been made with respect to this study.

**Risk-Informed Assessment.** The Project Delivery Team (PDT) does not recommend an IEPR based on the Risk-Informed Decision Making (RIDM) considerations outlined in ER 1165-2-217, para. 6.5.2, as an IEPR would not substantially benefit or add value to the project study. The study does not address significant life safety concerns, is not burdened by complex challenges, is not controversial, is not expected to utilize novel or precedent setting methods or models, is unlikely to change prevailing practices, does not have significant interagency interest, and does not have significant economic, environmental, or social effects to the Nation. Each of the management measures considered during the federal interest determination are relatively straightforward in design and construction methods and have been recommended and implemented by the U.S. Army Corps of Engineers (USACE) on other navigation improvement projects.

**Level and Scope of Review.** The study will produce a feasibility report (including appendices) with an integrated National Environmental Policy Act (NEPA) document. The draft report will undergo an initial DQC review, followed by a concurrent review that includes ATR, P&LCR, and public review. After the concurrent review comments are addressed, the final report will be prepared, which will undergo DQC, Targeted ATR, and MSC QA and P&LCR before the final report is approved. The various reviews are detailed in Table 1. Factors affecting the risk informed decisions on the appropriate levels of review are discussed below.

- Is it likely that part(s) of the study will be challenging (ER 1165-2-217, paragraph 3.6.1)? No. The project study does not have any significant technical, institutional, or social challenges. The Hyder Harbor Navigational Improvements study falls under CAP Section 107. This study does not present complex challenges, precedent-setting methods, or models.

- Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks (ER 1165-2-217, paragraphs 3.6.1 and 3.6.2.2)**.** A preliminary list of risks has been identified by the PDT, as noted in the section above. The magnitude of each identified risk is assumed to be low, but the risks will be managed as the data gaps are filled. A risk register will be developed for this study.

- Is the project likely to be justified by life safety, or is the study likely to involve significant life safety issues (ER 1165-2-217, paragraph 3.6.2.2.2)? No. The project is expected to have National Economic Development (NED) justification based on the FID. Human life safety is not expected to be impacted, and it is expected that improving navigational conditions with Hyder Harbor will likely decrease threats to human life and safety by reducing the risk of grounding, improving maneuverability, and reducing the risk of vessel collisions. The POA Chief of Engineering, Construction & Operations has determined that the actions likely to be recommended by the Feasibility Study would not pose a significant threat to human life or public safety.

- Does/will the study/project have significant interagency interest (ER 1165-2-217, paragraph 3.7.2.2)? No. The study does not have significant interagency interest.

USACE plans to informally coordinate with the relevant state and federal agencies. At this time no cooperating agencies have been identified and no controversial issues are expected to arise. A charette is tentatively scheduled for 05 December 2022. Public interest will be assessed during this meeting.

- Is the information in the decision document or anticipated project design likely to contain influential scientific information or be a highly influential scientific assessment – i.e., be based on novel methods, involve innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices (ER 1165-2-217, paragraphs 6.5.2 and 7.4.1.1)? No. Project design and implementation techniques will be based on similar harbor improvement projects in Alaska and are unlikely to be precedent setting, unique, or change prevailing practices.

- Will the study/project require an environmental impact statement (ER 1165-2-217, paragraph 6.6.1)? No. An Environmental Assessment (EA) will be prepared and a Finding of No Significant Impact (FONSI) is anticipated. The National Environmental Policy Act (NEPA) document is anticipated to be an integrated EA that describes the project, provides the history, and identifies the alternatives. Currently, no substantial adverse impacts on fish and wildlife species have been identified; and adverse impacts on scarce or unique tribal, cultural, or historic resources has not been indicated. This assessment will continue to be evaluated as the study progresses**.**

- Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources (ER 1165-2-217, paragraph 6.6.1.2)? No. Alternatives and measures that involve of construction within the footprint of the existing harbor are anticipated to have negligible adverse impacts on scarce or unique tribal, cultural, or historic resources. This assessment will continue to be evaluated as the study progresses.

- Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures (ER 1165-2-217, paragraph 6.6.1.3)? No. The project is unlikely to have substantial adverse impacts on fish and wildlife species and their habitat. Any recommendation made will ensure compliance with environmental laws and regulations.

- Is the project expected to have, before mitigation measures, more than a negligible adverse impact on an endangered or threatened species or their designated critical habitat (ER 1165-2-217, paragraph 6.6.1.4)? No. The project area will be within an existing harbor, and most of the new development will be in areas already disturbed by port activities. Regardless, avoidance of adverse environmental impacts will be considered. Any potential adverse effects will be appropriately coordinated with the local and government-based resource agencies to ensure compliance with environmental laws and regulations.

- Does the project study pertain to an activity for which there is ample experience within the USACE and industry to treat the activity as being routine (ER 1165-2-217, paragraph 6.6.2.2)? Yes. The final integrated feasibility report and supporting documentation will contain standard engineering, economic, and environmental analyses. The Hyder Harbor Navigational Improvements project falls under CAP Section 107 and is therefore considered by USACE to be routine.

## 2. REVIEW EXECUTION PLAN

This section provides a general description of each type and level of review to be conducted. Based on factors discussed in Section 1, this study anticipates the following types of reviews:

**DQC**. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements of the project management plan. All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC review. Additionally, DQC of milestone submittals is required.

**Legal Sufficiency Review**. Legal Sufficiency Review is conducted for the Draft and Final Decision document submittals. These reviews should be conducted by an experienced attorney with expertise reviewing Civil Works decision documents to ensure they are legally sufficient and compliant with existing laws, regulations, and USACE policies.

**ATR**. ATR is performed to assess whether project analyses are technically correct and comply with USACE guidance and whether documentation explains the analyses and results in a clear manner. Further, the ATR team will ensure that proper and effective DQC has been performed (an assessment of which will be documented in the ATR report) and will ensure that the product is consistent with established criteria, guidance, procedures, and policy. ATR of the draft and final decision documents and supporting analyses is required (ER 1165-2-217, paragraph 5.3). Targeted reviews may be scheduled as needed.

**Cost Engineering Review**. The Cost Engineering Mandatory Center of Expertise (MCX) will review and certify project costs and may delegate the final cost certification at its discretion. The Director's Policy Memo dated 3 Sep 2020 delegates the final cost certification and associated documentation for CAP projects to be the cost engineering reviewer assigned to the ATR team. The RMO is responsible for coordinating with the MCX for review assignments and ATR of cost products.

**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 criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. The PDT performs a risk-informed assessment whether IEPR is appropriate and documents that

assessment/recommendation in the review plan. The PDT has assessed that an IEPR is not recommended (ER 1165-2-217, paragraph 6.5.2).

**Model Review and Approval/Certification.** EP 1105-2-58 specifies that approval of planning models is not required for CAP projects, but planners should utilize certified models if they are available. The ATR certification package for CAP ATR reviews must include an explicit statement that says that models and analyses are used appropriately and in a manner that is compliant with Corps policy, and they are theoretically sound, computationally accurate, and transparent. ATR certification packages also must address any limitations of applied models or their use.

**P&LCR**. All decision documents will be reviewed throughout the study process for compliance with law and policy. ER 1105-2-100 (Appendix H) provides guidance on policy and legal compliance reviews. These reviews culminate in a determination whether report recommendations, supporting analyses, and coordination comply with law and policy and whether the decision document warrants approval or further recommendation to higher authority by the POD Commander.

**Public Review.** The home District will post the Review Plan and approval memo on the district internet site. Public comment on the adequacy of the Review Plans will be accepted and considered. Additional public review will occur when the draft report and environmental compliance document(s) are released for public and agency comment.

**QA Review.** POD, as the RMO, has responsibility for quality assurance. QA includes verifying that the overall project quality control activities are effective in producing a work product that meets the desired end quality. QA activities include reviewing work performed by the District (including implementation of the DQC and ATR processes) and the ATR Team.

### Anticipated Reviews and Costs

Table 1 provides the estimated schedule and cost for reviews anticipated for this study. The specific expertise required for the teams is identified in later subsections covering each review. These subsections also identify requirements, special reporting provisions, and sources of more information.

## Table 1. Hyder Harbor Navigational Improvements Study, Hyder, Alaska – Anticipated Reviews and Cost

| Product to Undergo Review | Review | Start Date (MO/DA/YR) | End Date (MO/DA/YR) | Cost | Complete |
|---|---|---|---|---|---|
| Pre-TSP Milestone Submittals | DQC | 06/19/2023 | 07/03/2023 | $10,000 | - |
| Draft Feasibility Report and Environmental Assessment | DQC | 10/05/2023 | 10/19/2023 | $20,000 | - |
| | Legal Sufficiency Review | 10/19/2023 | 11/02/2023 | N/A | |
| | ATR | 11/20/2023 | 12/29/2023 | $40,000 | - |
| | Public Review | 11/20/2023 | 12/29/2023 | N/A | - |
| | IEPR | N/A | N/A | N/A | N/A |
| | QA & P&LCR | 11/20/2023 | 12/29/23 | N/A | - |
| Final Feasibility Report and Environmental Assessment | DQC | 02/12/2024 | 02/26/2024 | $20,000 | - |
| | Targeted ATR | 02/22/2024 | 03/11/2024 | $10,000 | |
| | Legal Sufficiency Review | 03/11/2024 | 03/28/2024 | N/A | - |
| | QA & P&LCR | 04/01/2024 | 06/03/2024 | N/A | - |
| In-Kind Products[1] | Routing/Approval | 06/03/2024 | 07/03/2024 | N/A | N/A |
| ATR Lead Participation in Milestone Meetings | - | *as scheduled* | *as scheduled* | $1,500 | No |

[1] Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC and ATR. In-kind services are expected to be provision of support for the team to access sites and perform required testing, so no review requirement is anticipated.

### a. DQC

POA shall manage DQC and will appoint a DQC Lead to oversee that review (ER 1165-2-217, paragraph 4.4.2).

**Table 2. Required DQC Team Expertise.**

| DQC Team Disciplines | Expertise Required |
|---|---|
| DQC Lead | A senior professional with extensive experience preparing Civil Works (CW) decision documents and conducting DQC. The lead may also serve as a reviewer for a specific discipline (such as plan formulation, engineering, environmental resources, etc.). |
| Planning | A senior water resources planner with experience in planning for navigational harbors and SMART Planning. |
| Economics | A senior economist with experience in benefit/cost analysis and cost-effectiveness incremental cost analysis (CE/ICA) with respect to small boat harbors and mixed subsistence-cash economies. |
| Environmental and Cultural Resources | Expertise in evaluating the impacts associated with harbors and dredged material placement and beneficial use options. Should also be experienced with environmental coordination, National Environmental Policy Act (NEPA) requirements, Endangered Species Act (ESA) requirements, Marine Mammal Protection Act (MMPA), National Historic Preservation Act (NHPA), and the unique needs and lifestyles of subsistence communities. |
| Hydraulics and Hydrology | Expert in the field of coastal hydraulics and have a thorough understanding of analyses of winds, waves, currents, hydrodynamic-salinity, harbor/channel design, and breakwater construction. A registered professional engineer is recommended. Reviewer will also be responsible for the Climate Preparedness and Resiliency (CPR) review. |
| Geotechnical Engineering | Experienced in geotechnical investigation practices including soil classification, the design of breakwater foundations, and the classification of rip rap and core materials for suitability in use of breakwater construction. A registered, professional engineer is recommended. |
| Cost Engineering | Familiar with cost estimating using the Microcomputer Aided Cost Engineering System (MCACES) model and preparation of an MII Cost Estimate. The reviewer will be Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. |
| Real Estate | The real estate reviewer will be experienced in Federal CW real estate law, policy, and guidance, development of Real Estate Plans for CW studies, particularly in with regard to tribal lands, village corporation lands and regional corporation lands, and application of navigational servitude. |
| **Operations** | The operations reviewer should have expertise in the design, construction, and associated maintenance of small boat harbor projects, including coastal dredging and placement options. |

**Documentation of DQC**. Quality Control should be performed continuously throughout the study. Certification of DQC completion is required prior to ATR. Documentation of DQC should follow the POA Quality Manual and the POD Quality Management Plan. An example of a DQC Certification statement is provided in ER 1165-2-217 (Appendix D). DrChecks software will be used to document the DQC review (comments, responses, and issue resolution).

Documentation of the completed DQC review (i.e., all comments, responses, issue resolution, and DQC certification) will be provided to the RMO and ATR Team leader prior to initiating an ATR or subsequent reviews. The ATR team will assess the quality of the DQC performed and provide a summary of that assessment in the ATR report. Missing or inadequate DQC documentation can result in the start of subsequent reviews being delayed (ER 1165-2-217, paragraph 5.2.2).

### b. ATR

ATR is mandatory for draft and final decision documents and supporting analyses (ER 1165-2-217, paragraph 5.3). POD will manage the ATR. ATR will be performed by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR will be performed by a team whose members are certified or approved by their respective Communities of Practice (CoPs) to perform reviews.

**Table 3. Required ATR Team Expertise.**

| ATR Team Disciplines | Expertise Required |
|---|---|
| ATR Lead | The ATR lead will be a senior professional with extensive experience preparing CW decision documents and conducting ATR. The lead may serve as a reviewer for plan formulation. |
| Planning | The plan formulation reviewer should be a senior water resources planner with experience in leading a team through a small boat harbor study and analysis of dredged material placement requirements |
| Economics | A senior economist with experience with benefit/cost analysis and CE/ICA for harbors, and mixed subsistence-cash economies. |
| Environmental and Cultural Resources | Expertise in evaluating the impacts associated with harbors and dredged material placement/beneficial use options. Should also be experienced with environmental coordination, NEPA, ESA, MMPA, and NHPA. |
| Hydraulics and Hydrology | Expert in the field of coastal hydraulics and have a thorough understanding of analyses of winds, waves, currents, hydrodynamic-salinity, harbor/channel design, and breakwater construction. A registered professional engineer is recommended. . |
| Geotechnical Engineering | Experienced in geotechnical investigation practices including soil classification, the design of breakwater foundations, the classification of rip rap and core materials for suitability in use of breakwater construction. A registered professional engineer is recommended. |
| Cost Engineering | Familiar with cost estimating using the MCACES model and preparation of an MII Cost Estimate. The reviewer will be Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer. |
| Real Estate | The real estate reviewer will be experienced in Federal CW real estate law, policy, and guidance, development of Real Estate Plans for CW studies, particularly with regard to application of navigational servitude. |
| Operations | The operations reviewer should have expertise in the design, construction, and associated maintenance of small boat harbor projects, including coastal dredging and placement options. |
| Climate Preparedness and Resilience | A member of the Climate Preparedness and Resiliency Community of Practice (CoP). |

**Documentation of ATR**. DrChecks will be used to document ATR comments, responses, and issue resolution. Comments should be limited to those needed to ensure product adequacy. All members of the ATR team should use the four-part comment structure (ER 1165-2-217, paragraph 5.8.3). If a concern cannot be resolved by the ATR team and PDT, it will be elevated to the vertical team for resolution using the issue resolution process identified in ER 1165-2-217. The comment(s) can then be closed in DrChecks by noting the concern has been elevated for resolution. The ATR Lead will prepare a Statement of Technical Review Report (ER 1165-2-217, paragraph 5.11), for both draft and final decision documents. Any unresolved issues will be documented in the ATR report prior to certification.

### c. IEPR

As detailed in Section 1 above, the mandatory triggers for IEPR have not been met and no requests for IEPR have been submitted by federal or state agencies. Based on this assessment and the RIDM considerations outlined in ER 1165-2-217, para. 6.5.2, the PDT does not recommend an IEPR. The MSC maintains the discretionary authority to revisit the decision to conduct an IEPR during the study.

### d. SAFETY ASSURANCE REVIEW (SAR)

SAR is the most independent level of review for implementation documents or other work products 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 of experts outside USACE is warranted. Per provisions in ER 1165-2-217, SAR is completed for implementation documents for PED and construction activities for projects where potential hazards pose a significant threat to human life (public safety). The POA Chief of Engineering, Construction and Operations has assessed that there is not a significant threat to human life associated with aspects of the study or failure of the proposed project, and therefore SAR is not anticipated to be required. Following completion of the Feasibility Study a new Review Plan will be developed for the Design & Implementation (D&I) phase. The D&I Review Plan will confirm the determination whether SAR will be needed in the next phase of the study

### e. MODEL REVIEW AND APPROVAL/CERTIFICATION

EP 1105-2-58 specifies that approval of planning models is not required for CAP studies. The planning models in Table 4 may be used to develop the decision document.

**Table 4. Planning Models.**

| Model Name and Version | Brief Model Description and How It Will Be Used in the Study | Certification/Approval |
|---|---|---|
| Regional Economic System (RECONS; v.2.0) | RECONS is a regional economic impact modeling tool that estimates jobs, income, and economic output associated with Corps Civil Works spending and additional economic activities. The model will be used to estimate the regional economic impacts of project implementation. | Certified |
| Small Boat Harbor Simulation Model (SBH Simulation Model) | The development of a simulation model that will quantify the economics of small boat harbor project benefits will be undertaken in this study. This model will run Monte-Carlo simulations to establish delays due to congestion and depth concerns. | Reviewed through ATR. Certification not required. |
| Small Boat Harbor Spreadsheet Model (SBH Spreadsheet Model) | Spreadsheet model will be used to quantify and annualize benefits not captured in other models. | Reviewed through ATR. Certification not required. |
| HarborSym (v.1.5.8.3) | HarborSym is a discrete event Monte-Carlo simulation model designed to facilitate economic analyses of proposed navigation improvement projects in coastal harbors. | Certified |

EP 1105-2-58 does not address engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue. The professional practice of documenting the application of the software and modeling results will be followed. The USACE Scientific and Engineering Technology Initiative has identified many engineering models as preferred or acceptable for use in studies. These models should be used when appropriate. The selection and application of the model and the input and output data is the responsibility of the user and is subject to DQC, ATR, and IEPR (if required). The following models may be used to develop the decision document.

**Table 5. Engineering Models.**

| Model Name and Version | Brief Model Description and How It Will Be Used in the Study | Certification/Approval |
|---|---|---|
| Steady State Spectral Wave (STWAVE) | STWAVE computes nearshore wave transformation including refraction, shoaling, and breaking, as well as wind-wave generation. | CoP Preferred |
| Channel Design and Evaluation Tool (CADET) | Probabilistic risk analysis techniques to evaluate the accessibility of channel reaches for multiple vessel geometries, loading, and wave conditions. | CoP Preferred |
| Microcomputer Aided Cost Engineering System (MCACES, v.MII) | MCACES is the cost estimating software program tool used by cost engineering to develop and prepare civil works and environmental project cost estimates. | CW cost engineering MCX mandatory |
| Abbreviated Risk Analysis (ARA)<br><br>Cost Schedule Risk Analysis (CSRA) | Cost risk analysis identify the of contingency that must be added to a project cost estimate and define the high-risk drivers. The analysis will include a narrative identifying the risks or uncertainties. During the alternative's evaluation, the PDT will assist the cost engineer to define confidence/risk levels associated with the project feature within the abbreviated risk analysis. | CW cost engineering MCX mandatory |
| Total Project Cost Summary (TPCS) | The TPCS is the required cost estimate document that will be submitted for either division or HQUSACE approval. The Total Project Cost for each CW project includes all Federal and authorized non-Federal costs represented by the CW Work Breakdown Structure features and respective estimates and schedules, including the lands and damages, relocations, project construction costs, construction schedules, construction contingencies, planning, and engineering costs, design contingencies, construction management costs, and management contingencies. | CW cost engineering MCX mandatory |
| Corps of Engineers Dredge Estimating Program (CEDEP) | CEDEP is the required software program that will be used for dredging estimates using floating plants. CEDEP contains a narrative documenting reasons for decisions and selections made by the cost engineer. Software distribution is restricted as it is considered proprietary to the Government. | CW cost engineering MCX mandatory |

### f. P&LCR

In accordance with Director's Policy Memorandum (CW 2018-05), policy and legal compliance reviews for draft and final planning decision documents are delegated to the POD, which is responsible for the execution of the study.

Policy Review. The policy review team is identified by the POD Chief of Planning and Policy for CAP. The team roster is identified in Attachment 1 of this Review Plan. The makeup of the Policy Review team will be drawn from POD, the Planning Centers of Expertise (PCX), and other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of decision documents and the milestone meeting. These engagements may include In-Progress Review or policy team meetings in addition to the milestone meeting.

- The input from the Policy Review Team should be documented in a Memorandum for the Record (MFR) produced for each engagement with the team. The MFR should be distributed to all meeting participants.

- Teams may choose to capture some of the policy review input in a risk register if appropriate. These items should be highlighted at future meetings until the issues are resolved. Any key decisions on how to address risk or other considerations should be documented in an MFR.

Legal Review. Representatives from the Office of Counsel will be assigned to participate in reviews. Members may participate from the district and MSC. The POD Chief of Planning and Policy will coordinate membership and participation with the office chiefs.

- If applicable, legal review input may be captured in the MFR for a particular meeting or milestone. In other cases, a separate legal memorandum may be used to document the input from the Office of Counsel.

- Each participating Office of Counsel will determine how to document legal review input.

**Public Posting Information per ER 1165-2-217**. As required by ER 1165-2-217, the approved Review Plan will be posted on the POA District public website (https://www.poa.usace.army.mil/Library/Reports-and-Studies/). There is no formal comment period, and there is no set timeframe for the opportunity for public comment. When comments are received, the PDT will consider them and decide if revisions are necessary.

**Review Plan Approvals and Updates**. The POD Commander has delegated the authority to approve Review Plans for decision documents to the POD Director of Programs. The approval from the POD Director of Programs reflects vertical team input (involving POA and POD) regarding the appropriate scope, level of review, and endorsement by POD. The Review Plan is a living document and should be updated in accordance with ER 1165-2-217. All changes made to the approved Review Plan will be documented. The latest version of the Review Plan, along with the POD Programs Director’s approval memorandum, will be posted on the POA District's webpage and linked to the HQUSACE webpage. The approved Review Plan should be provided to the POD.