REVIEW PLAN
January 2021

Project Name: Continuing Authorities Program (CAP) 107 Nome Harbor Alaska, Nome Alaska

P2 Number: 469404

Decision Document Type: Integrated Feasibility Report and Environmental Assessment

Project Type: Single-Purpose Navigation

District: Alaska District (POA)

District Contact: Project Manager 907-753-2837 (Richard Austring); Plan Formulator 907-753-2693 (Jan Deick).

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

MSC Contact: POD Team Leader for Planning and Policy, 808-835-4625

Review Management Organization (RMO): POD

RMO Contact: POD Team Leader for Planning and Policy, 808-835-4625

Key Review Plan Dates

Date of RMO Endorsement of Review Plan: 17 February 2021

Date of MSC Approval of Review Plan: 17 February 2021

Date of IEPR Exclusion Approval: 17 February 2021

Has the Review Plan changed since PCX Endorsement? (No)

Date of Last Review Plan Revision: (None)

Date of Review Plan Web Posting: 19 February 2021

Date of Congressional Notifications: (Pending - enter date the RIT notified Congress of IEPR decisions)

Milestone Schedule

	Scheduled	Actual	Complete
Feasibility Cost Sharing Agreement Signed	N/A	6 May 2020	Yes
Tentatively Selected Plan Meeting	20 Aug 2021	TBD	No
Decision Documents Submitted to POD	26 Jan 2022	TBD	No
Decision Document Approval	2 Feb 2022	TBD	No

Project Fact Sheet

August 2020

Project Name: CAP 107 Nome Harbor

Location: Nome, Alaska

Authority: Section 107 of the Rivers and Harbor Act of 1960 (Public Law [P.L.] 86-645), as amended (33 U.S.C. 577), authorizes the study of improvement to the Nome Inner Harbor. 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: City of Nome

Type of Study: Feasibility Study

SMART Planning Status: The study is 3x3x3 compliant. No policy waivers, including a waiver for deviation from the NED Plan, are anticipated at this time.

Project Area: The City of Nome is located on the Western coast of Alaska in approximately the mid-latitude of the state in the Bering Strait-Norton Sound area (Figure 1). The City and Port of Nome serve as a regional hub for the Seward Peninsula and the Norton Sound region. The population of Nome is approximately 3,700 (2017 Alaska Department of Commerce, Community, and Economic Development Certified Population), with an additional 1,000 seasonal residents. Goods imported into the Port are used locally and redistributed through the limited road network or by barge or air service to the other communities in the region.

Figure 1. Location of Nome and communities in the Bering Strait region serviced by the Nome Harbor.

The Port of Nome currently consists of the Outer Harbor extending into Norton Sound and the Inner Harbor inland at the mouth of the Snake River (Figure 2). Modification to the Outer Harbor has recently been recommended in the Integrated Feasibility Study and Final Environmental Site Assessment dated March 2020 and the signed Chief's Report dated 29 May 2020. This CAP study is a separate study focused on the Inner Harbor (Figure 2 and Figure 3), which services barge traffic, fishing vessels, gold dredges, and subsistence vessels.

The Inner Harbor has a relatively shallow basin with the current Federal are limits, as shown in Figure 2, generally maintained at –10 feet Mean Lower Low Water (MLLW). The 2010-2012 Operations and Maintenance (O&M) dredge contract identified the current Federal area limits and included some test dredging to improve navigation within the Inner Harbor, especially near Belmont Point, where barges encountered shallow water when maneuvering to use the West Barge ramp facility (Figure 3). However, not all areas could be deepened to the depth (notably one area south of Belmont Point) using the available suction head equipment typically used for O&M. The potential for not getting to depth was recognized in the contract, and the Federal limits identified in the 2010-2012 contract persist to this day.

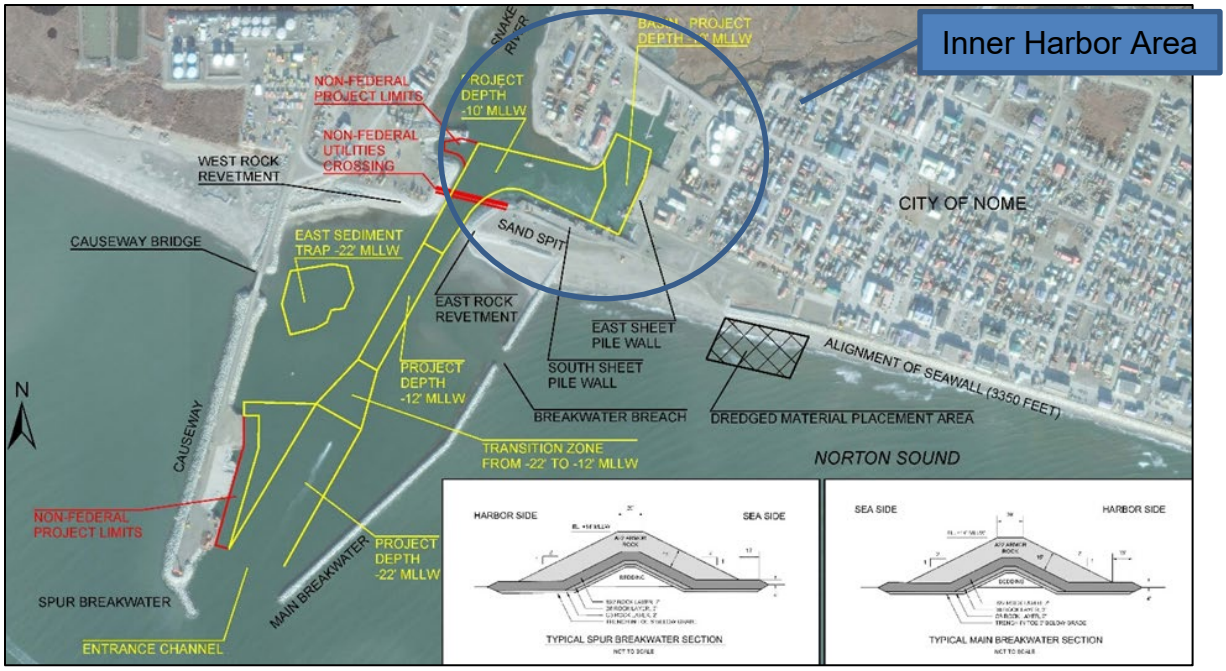

Figure 2. Existing Federal dredge limits of the Nome harbor, the current Federal maintenance limits are in yellow. The City of Nome maintains areas outside of the yellow channels.

Figure 3. The Port of Nome, looking west. Inner Harbor in the foreground, Outer Harbor in the background, Snake River mouth development on the right.
*Source: City of Nome.

The existing maneuvering area in the Inner Harbor is restricted by the depth and limited maneuvering space for vessels. In addition, north winds frequently push 2 to 3 feet of water out of the harbor, delaying vessels from accessing or departing the loading ramps

until the winds change. Industry response has been to lighter vessels to access the harbor, resulting in shipping inefficiencies. The CAP 107 Authority is being considered to modify the current Federal limits during the CAP study. The Federal dredge limits may be deepened and /or expanded to improve navigation efficiency and vessel safety while in the Inner Harbor. Mechanical dredge methods will be required for new work dredging to achieve depth because the local hydraulic and suction-head cutter equipment has previously failed in areas not previously dredged. More powerful suction-head cutter equipment is not readily available in Alaska, and it would not be cost-effective to mobilize this equipment from outside of Alaska to perform this relatively small project.

Problem Statement: The Inner Harbor frequently experiences operational inefficiencies brought on by vessel traffic congestion, which is caused by limited depth in an over-crowded basin with limited moorage capacity. In addition, consistent moderate north winds frequently push 2 to 3 feet of water out of the harbor, delaying vessels from accessing or departing the West Barge Ramp area until the wind direction changes. Industry response has been to lighter vessels to access the harbor, resulting in shipping inefficiencies. The fleet types also compete for maneuvering space in the current basin. Larger vessels put smaller vessels at risk of damage while maneuvering in the harbor, especially during the frequent high wind conditions experienced at the harbor.

Federal Interest: Federal Interest was presented in a July 2019 Fact Sheet approved by POD in December 2019 and subsequently with Headquarters United States Army Corps of Engineers (HQUSACE) concurrence to proceed with the CAP study. The project purpose for Section 107 CAP projects is briefly described as improvements to navigation, including dredging of channels and widening of turning basins. The non-Federal sponsor has identified inefficiencies to commercial navigation that will likely include the specific solutions of increasing the harbor depth and adding a turning basin on the west side of the harbor to increase navigation efficiency and safety for a wide variety of vessel types and sizes that rely on the Inner Harbor during the short open-water season at Nome.

Non-structural and structural measures are being considered for this project. However, the non-structural measures, and possibly others, are ongoing practices that will be revisited, modified, and applied by the non-Federal sponsor as applicable to improve navigation efficiency whether, or not, structural navigation improvements are implemented in the Inner Harbor after this study. The structural measures currently considered to develop the alternatives for further evaluation include dredging and potentially retrofitting an existing Federal project (South Bulkhead Wall), so it can meet an adequate Factor Safety for use as a dock as intended by the City in the future.

Four alternatives, including a no action alternative, was developed by the Project Development Team (PDT) based on the two structural measures as described below:

1. No Action.

2. Deepen within the current Federal horizontal and depth limits.

3. No.2 above, plus adding a turning basin referred to as a barge ramp/channel maneuvering area, which also increases the area of the current Federal limits.

4. No.3 above, plus dredging a navigation channel up the Snake River and the moorage area adjacent to the north end of the Inner Harbor.

There are five areas within the Inner Harbor (Figure 4) that are currently being considered for this study:

1. The existing Federal Limits.

2. A new turning basin area just west of the Launch and High Ramps in the southwest corner of the Inner Harbor.

3. Area A on the west side of the Snake River.

4. Area B on the west side of the Snake River.

5. Floating dock area in the northeast corner of the Inner Harbor.

The turning basin area shown in Figure 4 is only a placeholder with the actual extent to be identified during the study. The turning basin measure has the potential to increase the Federal limits. The Snake River Areas A and B are already permitted by the City as moorage areas for future development with permitted dredge depths of -8 ft MLLW. Area A is already dredged to -8 ft MLLW, but the floating docks have not been installed. Area B is undeveloped. Both Area A and B and the floating dock area adjacent to the north end of the Inner Harbor are assumed to be local service facilities and should not increase the current Federal limits.

A rough range of construction costs for dredging the existing limits to -12 ft MLLW (Alternative 2) was used to provide upper and lower limits on potential project costs based on mechanical dredging (higher cost) and hydraulic dredging (lower cost) to -12 feet Mean Lower Low Water. Please note, since these costs were developed, the PDT now understands that the hydraulic dredge would not likely be successful if used for new work dredging because of the relative density of undisturbed consolidated sediments. The current Federal limits were established during the 2010-2012 O&M dredge contract. The cost estimate also assumes that beach disposal of the dredged material will be possible, and these costs are accounted for in the contingency.

Construction cost estimates ranged from $4.7M for mechanical dredging to $2.8 M for hydraulic dredging. Assuming mechanical dredging is the selected dredge method, Lifetime Project Cost with O&M is estimated at $35.3M with a Present Value estimate of $22M, and Average Annual Cost of $837,800. O&M costs are based on the past 5-year

average for the Inner Harbor. The estimated Federal and non-Federal Sponsor cost break out with the mechanical dredge method used for Alternative 2 included a Federal cost of $6.9M and $1.4M for the non-Federal Sponsor. Alternative 3 and 4 would cost more than Alternative 2; however, dredge quantities were unknown at this time, and estimates would be difficult considering the scope of work for these alternatives is poorly defined at this time.

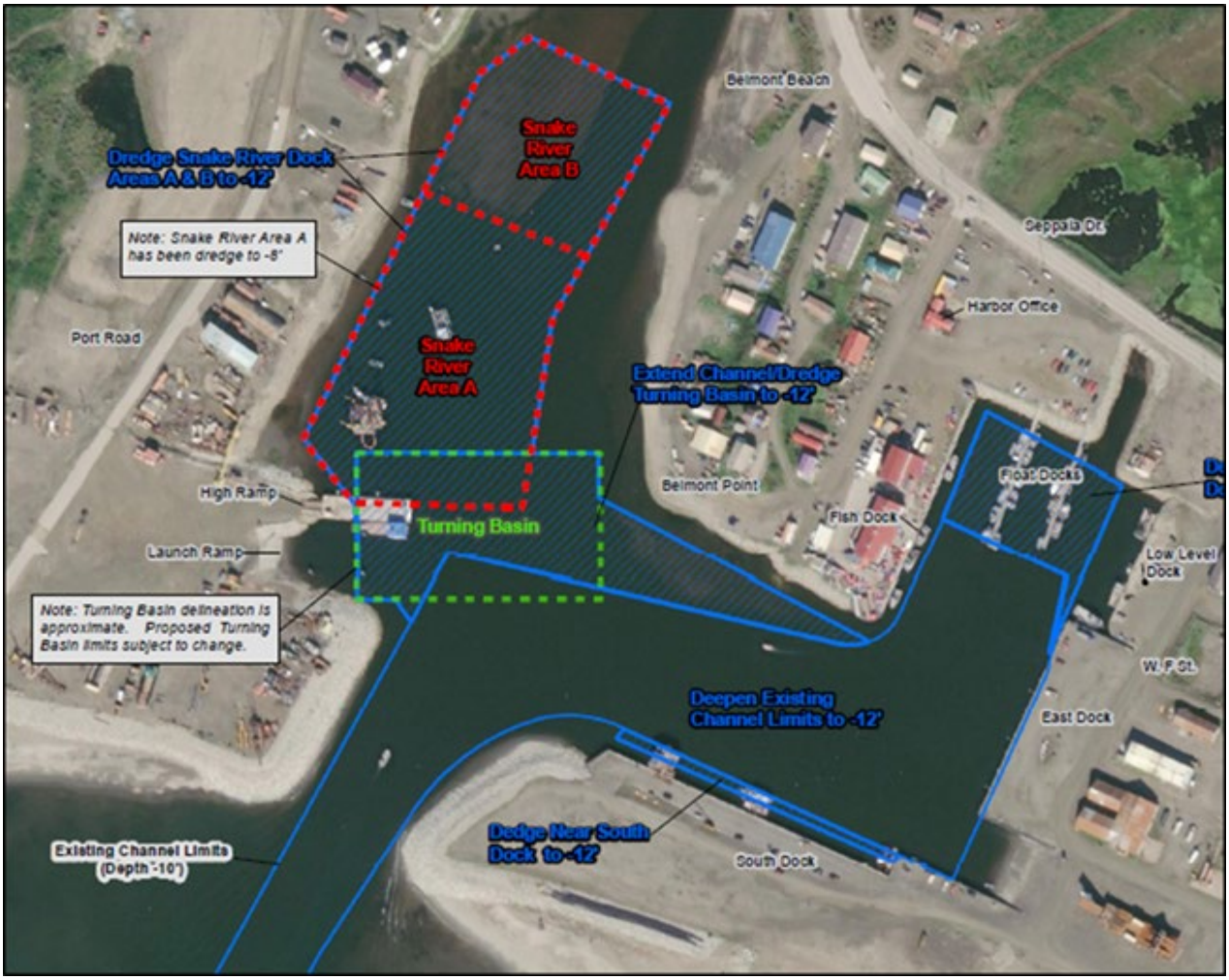

Figure 4. Study area considered for the Inner Harbor alternatives (Limits of each area are approximate).

Risk Identification: None of the risks identified to date appear to represent a significant risk to human health or the environment now or in the future. The main risks that have been identified to date are summarized below:

- Sediment quality data is needed to inform the Dredged Material Management Plan (DMMP). Sediment quality is a risk because new work dredging in at least one area in the past, specifically the Floating Dock area in the northeast corner of the Inner Harbor, has generated sediment with elevated concentrations of arsenic. This sediment was used as fill and buried in the abandoned Inner Harbor entrance and within the Inner

Harbor basin just south of the floating dock area within the Federal limits. Encountering these sediments buried in the Inner Harbor basin is a risk, which could increase costs for management of this material.

- The maximum allowable dredge depth adjacent to and the loading capacity is unknown at two USACE owned sheet-pile structures in the Inner Harbor, referred to as the South and East walls. These same structures are also called the South and East Docks (Figure 4). The risk to the project is that if the maximum allowable dredge depth adjacent to these structures is not adequate to capture benefits, there will be additional project costs if these docks need to be modified or upgraded in some way to capture these benefits. These costs will likely be considered a modification of a local service facility (LSF) that is a 100% non-Federal sponsor cost, and these costs will decrease the benefit-cost ratio (BCR). These docks were formerly sheet-pile bulkheads installed by the Corps to maintain the previous entrance channel to the Inner Harbor when it was located in the southeast corner of the harbor. The entrance channel was relocated in 2006 and the old channel filled. The bulkheads eventually were repurposed as the South and East Docks with the Gravel Barge Ramp located between these two docks at the approximate location of the old entrance channel.

- Utilities are located under the existing entrance channel. The elevation or depth of these utilities needs to be verified if the existing entrance channel is dredged any deeper than its currently maintained depth. The City has built and is verifying the depth of these utilities.

- Geotechnical data may be needed in the area south of Belmont Point if that area is dredged deeper to improve vessel maneuverability, especially for barges that use the west barge ramp facility. Currently, there are no plans for a field investigation to collect additional geotechnical data.

- The economic analysis performed before the Inner Harbor CAP study was separated from the Port of Nome General Investigation indicated that the BCR for the Inner Harbor was above unity; however, an error was found in the HarborSym Model that overestimated benefits. As a result, the benefits may decrease during the CAP study.

1. FACTORS AFFECTING THE LEVELS OF REVIEW

Scope of Review.

- Will the study likely be challenging? The study is unlikely to be challenging as improvements are proposed to an existing Federal project. However, there is a potential for data gaps to occur. Those gaps will be identified as the study progresses and a risk-based decision made concerning the need for that information to be obtained. If data gaps are critical to the plan selection, the challenge will be meeting the proposed two-year schedule. Each of the risks identified in the section above has been discussed with the PDT, and the scope of works are being developed to better understand, inform, and mitigate the risks as necessary.

- Provide a preliminary assessment of where the project risks are likely to occur and assess the magnitude of those risks. A preliminary list of risk has been identified by the PDT, as noted in the section above. The magnitude of each of these identified risks is assumed to be low to medium. Each risk will be managed as the data gaps are filled. A new small boat harbor economic model is being developed that will work in conjunction with the revised HarborSym model. Although these actions do not reduce the risk of a lower BCR than previously estimated during the previous GI study, the potential for an accurate and defendable economic analysis used to inform plan selection will be improved.

- Is the project likely to be justified by life safety, or is the study or project likely to involve significant life safety issues (Type I IEPR - EC 1165-2-217, paragraph 11.d(1)(a) and SAR - paragraph 12.h.)? No. Improved navigation conditions will likely decrease threats to human life and safety by reducing the risk of grounding, improving maneuverability, and reducing the risk of vessel collisions. This statement has been reviewed by the Chief, Engineering Construction and Operations, Alaska District, and has his concurrence.

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

- Will the project likely involve significant public dispute as to the project's size, nature, or effects? No. The project is unlikely to involve significant public dispute as to the size, nature, or effects of influence as improvements are proposed to an existing harbor and will benefit both harbor users and the surrounding community. Charette participants were generally supportive of the study. Concerns have been raised by local individuals about increased traffic and potential impacts to fishing in the harbor, but these impacts are anticipated to be less than significant.

- Is the project/study likely to involve significant public dispute as to the economic or environmental cost or benefit of the project? No. The project is not likely to involve

significant public dispute as to the economic or environmental cost or benefit of the project.

- Is the information in the decision document or anticipated project design likely to 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? No. The project design is relying on the known design and material considerations, and implementation techniques are unlikely to be precedent-setting, unique, or change prevailing practices.

- Does the project design require redundancy, resiliency, and/or robustness, unique construction sequencing, or a reduced or overlapping design/construction schedule? No. The project design is unlikely to encounter any of these issues.

- Is the estimated total cost of the project greater than $200 million? No. The Federal cost for this CAP project is limited to $10M.

- Will an Environmental Impact Statement be prepared as part of the study? Not likely. If the environmental assessment determines that there may be a significant environmental impact or impacts, an Environmental Impact Statement will be prepared.

- Is the project expected to have more than negligible adverse impacts on scarce or unique tribal, cultural, or historic resources? Alternatives that consist 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. Should anything change, this assessment will be re-evaluated, and the plan will be updated.

- Is the project expected to have substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures? This area has existing data on fish and wildlife species and their habitats, and no substantial adverse impacts are expected during project implementation. Should anything change, this assessment will be re-evaluated, and the plan will be updated.

- 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? No more than negligible adverse impacts to endangered or threatened species or their designated critical habitat are anticipated during project implementation. The project area already has an existing port, and most of the new development will be in areas already disturbed by port activities.

2. REVIEW EXECUTION PLAN

This section describes each level of review to be conducted. Based on the factors discussed in Section 1, this study will undergo the following types of reviews:

District Quality Control (DQC). All decision documents (including data, analyses, environmental compliance documents, etc.) undergo DQC. This internal review process covers basic science and engineering work products. It fulfills the project quality requirements of the Project Management Plan.

Agency Technical Review (ATR). ATR is performed by a qualified team from outside the POA that is not involved in the day-to-day production of the project/product. These teams will be comprised of certified USACE personnel. The ATR team lead will be from outside POD. If significant life safety issues are involved in a study or project, a safety assurance review should be conducted during ATR.

Independent External Peer Review (IEPR). Type I IEPR may be required for decision documents under certain circumstances. This is the most independent level of review and is applied in cases that meet criteria where the risk and magnitude of the project are such that a critical examination by a qualified team outside of USACE is warranted. A risk-informed decision is made as to whether Type I IEPR is appropriate.

Cost Engineering Review. All decision documents shall be coordinated with the Cost Engineering Mandatory of Expertise (MCX). The MCX will assist in determining the expertise needed on the ATR and IEPR teams. The MCX will provide the Cost Engineering certification. The RMO is responsible for coordinating with the MCX for the reviews. These reviews typically occur as part of ATR.

Model Review and Approval/Certification. EC 1105-2-412 mandates the use of certified or approved models for all planning work to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions.

Policy and Legal Review. All decision documents will be reviewed for compliance with law and policy. ER 1105-2-100, Appendix H guides policy and legal compliance reviews. These reviews culminate in determinations that report recommendations, and the supporting analyses and coordination comply with law and policy and warrant approval or further recommendation to a higher authority by the POD Commander. These reviews are not further detailed in this section of the Review Plan.

Table 1 provides the schedules and costs for reviews. 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. Levels of Review

Product(s) to undergo Review[1]	**Review Level**	**Start Date** (MO/DA/YR)	**End Date** (MO/DA/YR)	**Cost**	**Complete**
Planning Model Review(2)	Model Review (see EC 1105-2-412)	10/20/2021	12/15/2021	NA	No
HarborSym Model(2)	Certified Model	10/20/2021	12/15/2021	NA	NA
Regional Economic System (RECONS(2)	Certified Model	10/20/2021	12/15/2021	NA	NA
Small Boat Harbor Spreadsheet Model	Single-Use obtained during ATR for CAP studies	9/26/2021	12/6/2021	NA	No
Appendices for Draft Feasibility Report and EA(1)	On-going discipline internal peer level reviews and In-Progress Reviews (IPRs) to DQC of Draft Feasibility Report and EA: Hydrology/Hydraulics, Economic Analysis, Geotechnical Engineering, Structural Engineering, Correspondences, and Cost Engineering Real Estate Plan.			Managed per discipline within their budgets	No
In-Kind Services Products: Sediment Sampling and Analysis Plan, and Sediment Quality Report	Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, and IEPR. The Sampling and Analysis Plan (SAP) that has the objective of characterizing the quality of sediments in the Inner Harbor has been reviewed and approved. The analytical results were received in January 2021 and will be used to inform the Dredge Material Management Plan that will be prepared by the PDT as part of the Integrated Feasibility Report and Environmental Assessment (IFREA). The data report prepared by the City will be an appendix in the IFREA and will be subject to DQC and ATR. In November 2020, the non-Federal sponsor also provided bathymetric survey services and data for portions of the Inner Harbor not previously surveyed by the Corps.			$180,000 (Sediment Sampling) $30,000 (Bathymetric Survey)	No
	District Quality Control	9/10/2021	10/08/2021	$10,000	No

Draft Feasibility Report and EA	Public Review Period	10/20/2021	12/08/2021	$65,000	No
	Agency Technical Review	10/20/2021	12/15/2021		
	Type I and II IEPRs[1]	NA	NA	NA	NA
	Policy and Legal Review	10/20/2021	12/15/2021	NA	No
Final Feasibility Report and EA	District Quality Control	01/10/2022	01/20/2022	$10,000	No
	Policy and Legal Review[3]	01/20/2022NA	01/20/20221	NA	No

Notes:

[1]This Section 107 decision document (Feasibility Phase) is excluded from Type I and Type II IEPRs as discussed in this Review Plan, Section 2.c. INDEPENDENT EXTERNAL PEER REVIEW.

[2] All planning review model reviews will be completed by the end of ATR.

[3] District legal review will take place during the final report DQC period.

a. DISTRICT QUALITY CONTROL

POA shall manage DQC and will appoint a DQC Lead to manage the local review (see EC 1165-2-217, section 8.a.1). The DQC Lead should prepare a DQC Plan and provide it to POD prior to starting DQC reviews. Table 2 identifies the required expertise for the DQC team.

Table 2. Required DQC Expertise

DQC Team Disciplines	Expertise Required
DQC Lead	Senior water resources professional with extensive experience preparing Civil Works decision documents and conducting DQC. The lead may also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc.).
Planning	The planning DQC reviewer will be the POA Planning Chief not directly associated with the PDT in the detailed preparation of the document.
Economics	The reviewer will have expertise in harbor data gathering and analysis and economic evaluation of Civil Works navigation projects. The DDNPCX Technical Director will identify the economics DQC reviewer that will have a working knowledge of HarborSym and RECONS models.
Environmental Resources (ER)	The environmental resources reviewer will be the POA ER Chief or, as designated, a reviewer with expertise in the National Environmental Policy Act (NEPA) compliance and evaluation of impacts on marine species.
Cultural Resources	The reviewer will be familiar with Alaska Native cultures and have experience with the National Historic Preservation Act (NHPA).
Hydrology / Hydraulic (H&H) Engineering	The POA H&H Chief or, as designated, a reviewer with expertise in the field of coastal hydraulics and have a thorough understanding of analyses of winds, waves, currents, hydrodynamic-salinity, harbor design, and breakwater construction. A registered professional engineer is recommended with applicable model experience.
Structural Engineering	The structural engineering reviewer will be the POA Structural Engineer Chief or, as designated, a reviewer with expertise in structural engineering practices, including the structural capacity of navigation features. No modeling is anticipated at this time. A registered professional engineer is recommended.
Geotechnical Engineering	The geotechnical engineering reviewer will be the POA Geotechnical Chief or, as designated, a reviewer with expertise in geotechnical investigation practices, including soil classification, the design of breakwater foundations over fine-grained marine soils, and the classification of rip rap and core materials for suitability in breakwater and causeway construction. No modeling is anticipated at this time. A registered professional engineer is recommended.
Cost Engineering	The POA Cost Engineering Chief will review cost engineering products or, as designated, a reviewer with expertise in estimating costs for Small Boat Harbor Navigation projects. The reviewer

	should be a Certified Cost Technician, Certified Cost Consultant, or Certified Cost Engineer.
Construction/Operations	The operations reviewer should have at least three years of experience with coastal dredging and associated maintenance dredging and placement operations.
Real Estate	The POA Real Estate Chief will review real estate documentation or, as designated, a reviewer with expertise in Federal Civil Works real estate law, policy, and guidance and development of Real Estate Plans for Civil Works studies.
HTRW	HTRW expertise may be provided by the same person that provides the environmental resources review. The HTRW reviewer should have at least three years of experience with applicable federal and state HTRW assessment, management, and disposal regulation.
Office of Counsel	An OC reviewer will conduct a legal sufficiency review.

Documentation of DQC. Quality Control should be performed continuously throughout the study. A specific certification of DQC completion is required at the draft and final report stages. Documentation of DQC should follow the District Quality Manual and the POD Quality Management Plan. An example DQC Certification statement is provided on page 19 (see Figure F) in EC 1165-2-217.

Documentation of completed DQC should be provided to POD and ATR Team leader prior to initiating an ATR. The ATR team will examine DQC records and comment in the ATR report on the adequacy of the DQC effort. Missing or inadequate DQC documentation can result in delays to the start of other reviews (see EC 1165-2-217, Section 9).

DrChecks review software will be used to document all DQC comments, responses, and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure the adequacy of the product. The four key parts of a quality review comment will normally include:

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

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

3. The significance of the concern – indicate the importance of the concern concerning its potential impact on the plan selection, recommended plan components, efficiency (cost), effectiveness (function/outputs), implementation responsibilities, safety, Federal interest, or public acceptability; and

4. The probable specific action needed to resolve the concern – identify the action(s) that the reporting officers must take to resolve the concern.

In some situations, especially addressing incomplete or unclear information, comments may seek clarification to assess then whether further specific concerns may exist.

The Recommended Best Planning Practice is using DrChecks software to document DQC. The DQC documentation in DrChecks will include each comment and PDT response, including the agreed-upon resolution. After the DQC effort, the DQC coordinator will download a DQC Report from DrChecks summarizing the review and prepare a Statement of Technical Review certifying that the DQC comments have been resolved. The comment submitters and comment reviewers sign the State of Technical Review. The DQC Report and signed certification will be made available for the draft and final report.

b. AGENCY TECHNICAL REVIEW

The ATR will assess whether the analyses are technically correct and comply with guidance and that documents explain the analyses and results clearly. An RMO manages ATR. The review is conducted by an ATR Team whose members are certified to perform reviews. Lists of certified reviewers are maintained by the various technical Communities of Practice (see EC 1165-2-217, section 9(h)(1)). Table 3 identifies the disciplines and required expertise for this ATR Team.

Table 3. Required ATR Team Expertise

ATR Team Members/Disciplines	Expertise Required
ATR Lead	The ATR lead should be a senior professional, preferably with experience in preparing Section 107 decision documents and conducting ATR. The lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR lead will also serve as a reviewer for a specific discipline (such as planning, economics, environmental resources, etc.). The ATR Lead MUST be from outside POD.
Planning	The planning reviewer should be a senior water resources planner with experience in planning related to small boat harbor studies.
Economics	The economics reviewer should be a senior economist with experience in small boat harbor studies with working knowledge of HarborSym and RECONs models.
Environmental Resources	The environmental reviewer should be a senior NEPA expert. They should have a working knowledge of NEPA related to small boat harbor studies.
Cultural Resources	The cultural resource reviewer is typically a senior archaeologist with experience in the customs of the indigenous people of the area.
Hydrology / Hydraulic (H&H) Engineering	The H&H reviewer is typically a senior reviewer with expertise in the field of coastal hydraulics and have a thorough understanding of analyses of winds, waves, currents, hydrodynamic-salinity, harbor design, and breakwater construction. A registered professional engineer is recommended with applicable model experience.
Geotechnical Engineering	The geotechnical reviewer should have experience in geotechnical analyses as they pertain to the design of small boat harbor facilities, especially and sheet pile dock design. A registered professional engineer is recommended.
Structural Engineering	The structural engineering reviewer should have experience with sheet pile bulkheads/dock design. A registered professional engineer is recommended.
Cost Engineering	The cost engineering reviewer will be the Cost DX Staff or Cost DX Pre-Certified Professional with experience in preparing cost estimates for small boat harbors.
Real Estate	The real estate reviewer should be a senior real estate expert with experience in developing real estate plans for civil works projects.
Climate Preparedness and Resilience CoP Reviewer	A member of the Climate Preparedness and Resiliency Community of Practice (CoP) will participate in the ATR review. The reviewer may be combined with the Coastal Engineering reviewer.

Documentation of ATR. DrChecks will be used to document all ATR comments, responses, and resolutions. Comments should be limited to those needed to ensure product adequacy. If the ATR team and PDT cannot resolve a concern, it will be elevated to the vertical team for resolution using the EC 1165-2-217 issue resolution process. Concerns can be closed in DrChecks by noting the concern has been elevated for resolution. The ATR Lead will prepare a Statement of Technical Review (see EC 1165-2-217, Section 9) for the draft and final reports, certifying that review issues have been resolved or elevated. As a recommended best planning practice: All members of the ATR team should use the four-part comment structure (see EC 1165-2-217, Section 9(k)(1)). ATR may be certified when all concerns are resolved or referred to the vertical team, and the ATR documentation is complete.

c. INDEPENDENT EXTERNAL PEER REVIEW

(i) Type I IEPR.

Decision on Type I IEPR. Type I IEPR will not be required based on a risk-informed decision process referencing CECW-CE Memorandum dated 05 April 2019 (Subject: Interim Guidance on Streamlining Independent External Peer Review for Improved Civil Works Project Delivery). The project does not meet any of the three mandatory triggers for Type I IEPR outlined in the CECW-CE Memorandum: The estimated project cost is well under $200 million; the Governor of Alaska has not requested peer review; and the Chief of Engineers has not determined that 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. In addition, given the considerations relating to the scope of review in paragraph 1 above, an IEPR would not add value to this study and is not warranted.

(ii) Type II IEPR.

If the second kind of IEPR (Type II IEPR) was performed, the Safety Assurance Reviews(SAR) is managed outside of the USACE for design and construction for projects where existing and potential hazards pose a significant threat to human life. A Type II IEPR Panel is convened to review the design and construction activities before construction begins, and until construction activities are completed, and periodically thereafter on a regular schedule.

Decision on Type II IEPR. A Type II IEPR SAR is not anticipated for this project because the conditions specified per C1165-2-1217 Section 11(1 (2)(a-c) are not met. The District Chief of Engineers has determined that the project would not pose a significant threat to human health or public safety, and the project is a typical navigation improvement project using standard engineering design and construction methods resulting in minimal life safety risk. In addition, the life safety consequences and risks for this project will be no greater than those expected conditions experienced under the "Without Project Conditions." Therefore, based on existing historical records for this project, the failure of the project would not pose a significant threat to human life/safety.

d. MODEL CERTIFICATION OR 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 are any models and analytical tools used 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 a technical review of a planning product. The selection and application of the model and the input and output data are the responsibility of the users and are subject to DQC, ATR, and IEPR.

Table 4. Planning Models. The following models may be used to develop the decision document

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Approval Status	Discipline Using Model
HarborSym 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. Incorporating risk and uncertainty, the model will be used to estimate transportation cost savings (benefits) attributable to fleet and loading changes in the future with project conditions.	Certified	Economics
Regional Economic System (RECONS)	RECONS is a regional economic impact modeling tool that estimates jobs, income, sales, and value-added associated with Corps Civil Works spending and the effects of additional economic activities. The model will be used to estimate the regional economic impacts of project implementation.	Certified	Economics
SBH Spreadsheet Model	The development of a model that will quantify the economics of small boat harbor project benefits that fall outside HarborSym and RECONS will be utilized in this study. Model development scoping is currently underway with the Inland Nav PCX, and the model description will be refined in the near future. This model will likely take a form similar to the existing WAM2 model, but a standard spreadsheet model	To Be Determined (TBD)	Economics

	incorporating risk and uncertainty through the utilization of @Risk is also a possibility. Given the early stages of the model development, a model name may be revised, and an approval level will be available in the near future.		

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. 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 are still the responsibility of the users and are subject to DQC, ATR, and IEPR.

Table 5. Engineering Models. These models may be used to develop the decision document

Model Name and Version	Brief Model Description and How It Will Be Used in the Study	Approval Status	Discipline Using Model
Microcomputer Aided Cost Engineering System (MCACES) 2nd Generation (MII)	MCACES is the cost estimating software program tools used by cost engineering to develop and prepare Class 3 Civil Works cost estimates.	Civil Works Cost Engineering and ATR MCX mandatory model	Cost Engineer
Cost Schedule Risk Analysis (CSRA)	Cost risk analyses identify the amount of contingency that must be added to a project cost estimate and define the high-risk drivers. The analyses will include a narrative identifying the risks or uncertainties. During the alternative's evaluation, the PDT will assist the cost engineer in defining confidence/risk levels associated with the project features. For the Class 3 estimate, evaluation of risks is performed using Crystal Ball CSRA for construction costs over $40 million.	Civil Works Cost Engineering and ATR MCX mandatory model	Cost Engineer
Total Project Cost Summary (TPCS)	The TPCS is the required cost estimate document that will be submitted for either POD or HQUSACE approval. The Total Project Cost for each Civil Works project includes all Federal and authorized non-Federal costs represented by the Civil Works	Civil Works Cost Engineering and ATR MCX mandatory model	Cost Engineer

	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.		
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.	Civil Works Cost Engineering and ATR MCX mandatory model	Cost Engineer
STWAVE	STWAVE (Steady State Spectral Wave) is a steady-state, finite difference, spectral model based on the wave action balance equation. STWAVE simulates depth-induced wave refraction and shoaling current-induced refraction and shoaling depth- and steepness-induced wave breaking, diffraction, wave growth because of wind input, and wave-wave interaction and white capping that redistribute and dissipate energy in a growing wave field. The results are used in the design of breakwaters, causeways to avoid unacceptable impacts to infrastructure and vessels.	Allowed	HH&C
STFATE	STFATE (Short-Term FATE of dredged material in open water) predictive model for understanding the behavior of dredged material during placement.	Allowed	HH&C
LTFATE	LTFATE (Long-Term FATE of dredge material) model is a hydrodynamic and sediment transport model used to determine the long-term and short-term stability of dredge material mounds.	Allowed	HH&C

e. POLICY AND LEGAL REVIEW

Policy and legal compliance reviews for the draft and final planning decision documents are delegated to the MSC (see Director's Policy Memorandum 2018-05, paragraph 9).

(i) Policy Review.

The policy review team is identified through the collaboration of the POD Chief of Planning and Policy and the HQUSACE Chief of the Office of Water Project Review. The team is identified in Attachment 1 of this Review Plan. The makeup of the Policy Review team will be drawn from Headquarters (HQUSACE), POD, the Planning Centers of Expertise, and other review resources as needed.

- The Policy Review Team will be invited to participate in key meetings during the development of decision documents as well as SMART Planning Milestone meetings. These engagements may include In-Progress Reviews, Issue Resolution Conferences, or other vertical team meetings plus the milestone events.

- 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.

- In addition, 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.

(ii) Legal Review.

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

- In some cases, 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.

ATTACHMENT 1. TEAM ROSTERS

PROJECT DEVELOPMENT TEAM ROSTER	
Discipline	**Team Member**
Project Manager	Richard Austring
Planning	Jan Deick
Project Economics	Andria Werning
Economics	Eva Sala
Environmental Resources	Chris Floyd
Cultural Resources	Kelly Eldridge
Real Estate	Ron Green
Hydraulic Engineering	Merlin Peterson
Geotechnical Engineering	Inocencio Roman
Structural Engineer	Robert Koruna
Office of Counsel	Brandee Ketchum
Cost Engineering	Jon Capua
Tribal Liaison	Kendall Campbell

DISTRICT QUALITY CONTROL TEAM ROSTER	
Discipline/Role	**Team Member**
DQC Team Leader	Cindy Upah
Cost Engineering	Karl Harvey
Plan Formulation	Cindy Upah
Hydraulics and Hydrology	Nathan Epps
Environmental & Cultural Resources	Michael Salyer
Geotechnical Engineering	John Rajek
Structural Engineer	Scott Haan
Economics	TBD
Real Estate	Gary Hanson
Survey	Tom Sloan
Office of Counsel	M. LeeAnn Summer

ATR Team Roster			
Name	**Specialty**	**Affiliation**	**Years of Experience**
James Nowlin	ATR Lead	CELRH	TBD
Beth Cade	Plan Formulation	CELRH	TBD
James Nowlin	Economics	CELRH	TBD
TBD	Environmental Resources	TBD	TBD
TBD	Hydraulics and Hydrology	TBD	TBD
TBD	Geotechnical Engineering	TBD	TBD
TBD	Structural Engineer	TBD	TBD
TBD	Cultural Resources	TBD	TBD
TBD	Cost Engineering	TBD	TBD

Division Contact Information		
Name	**Title**	**Telephone**
Sharon Ishikawa	POD CAP Manager	808-835-4621
Russell Iwamura	POD Civil Works Planning Team Leader	808-835-4625

VERTICAL TEAM			
Name	**Office**	**Position**	**Phone Number**
Cindy Upah	CEPOA-PM-C-PL	POA Chief, Planning	907-753-5788
Bruce Sexauer	CEPOA-PM-C	POA Chief, Civil Works	907-753-5619
Steve Howard	CEPOA-PM	POA Chief Project Management	907-753-5729
Mike Salyer	CEPOA-PM-C-ER	POA Chief, Environmental Resources	907-753-2690
Russell Iwamura	CEPOD-PDC	POD Civil Works Planning Team Leader	808-835-4625
Sharon Ishikawa	CEPOD-PDC	POD CAP Manager	808-835-4621

POLICY REVIEW TEAM			
Name	**Office**	**Position**	**Phone Number**
Russell Iwamura	CEPOD-PDC	Lead/Plan Formulation/Economics	808-835-4625
TBD			
TBD			
TBD			

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 CAP 107 Decision Document for *Inner Harbor, Nome, Alaska*. The ATR was conducted as defined in the project's Review Plan to comply with the requirements of EC 1165-2-217 and Director of Civil Works' Policy Memorandum #1. During the ATR, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included a review of assumptions, methods, procedures, and material used in analyses, alternatives evaluated, the appropriateness of data used and level obtained, and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing US Army Corps of Engineers policy. The ATR also assessed the District Quality Control (DQC) documentation and determined 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 (home district)
Office Symbol

SIGNATURE _____ _____

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

SIGNATURE _____ _____

Name Date
Review Management Office
Representative
Office Symbol