



<b>TRANSMITTAL MEMORANDUM</b>
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**TO:** The Honorable Mayor and City Council

**FROM:** Karl R. Amylon, City Manager

**DATE:** August 12, 2020

**RE:** **Replacement of Bar Harbor North Floating Breakwater**

Attached for City Council review is a memorandum from Port & Harbors Director Steve Corporon, which details the Army Corps of Engineers proposed project to replace the Bar Harbor North floating breakwater during the summer of 2022. Mr. Corporon will attend the City Council meeting of August 20, 2020, in order to address any questions and/or concerns that Councilmembers may have.



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## MEMORANDUM

**To:** Karl Amylon, City Manager  
**From:** Steve Corporon, Port & Harbors Director  
**Date:** August 4, 2020  
**Re:** **Replacement of Bar Harbor North Floating Breakwater**

Attached are the slides from the recent kickoff meeting for the Army Corps of Engineers project to replace their floating breakwater that protects Bar Harbor North. A brief summary of the project is as follows:

- Tetra Tech is the consultant under contract to the Corps for design.
- Both of the existing floating breakwaters will be replaced.
- Three alternatives are being evaluated.
  - Concrete similar to existing "ladder" layout.
  - Concrete barge style.
  - Steel pontoon.
- 100% design is scheduled for completion by April 2021.
- Construction on site likely will be scheduled for summer 2022.
- Replacement would be section by section to protect the harbor during construction.
- This is a 100% Corps project including all funding.
- The estimated cost is \$12,000,000.

At the end of the meeting I asked if the Corps would entertain preparing the bid documents in a manner that would result in the City being able to obtain the existing short section of floating breakwater at the southern entrance to Bar Harbor North at little to no cost with the intent of relocating it to the southern entrance to Bar Harbor South. The City received a permit 10 years ago to anchor several sections of the old Hanson Float in that location to better protect floats 3 and 4. The concept worked well but the old moorage floats were not designed for that purpose and deteriorated to the point they had to be removed after a few years. The City still has the anchors to secure the section of floating breakwater if it could be obtained. The Corps will review the request during design development.

# LOCAL SPONSOR KICKOFF MEETING: FLOATING BREAKWATER REPLACEMENT

KET005  
Bar Point Harbor  
Ketchikan, Alaska

30 July 2020



US Army Corps  
of Engineers





# MEETING AGENDA



## Project Delivery Team

- USACE
- Tetra Tech (A-E Design)
- City of Ketchikan

## KET005 Overview

- Objectives
- A-E Scope of Work
- Project Schedule
- A-E Design Considerations

## Open Discussion





# INTRODUCTIONS – PROJECT DELIVERY TEAM



## USACE Contracting

- Christine Dale, KO
- Ron Perry, A-E Task Order
- Jeannette Morpew, Construction Solicitation

## USACE Operations

- Donna West, COR
- Michael Tencza, PM – Primary POC for City

## USACE Environmental

- Joey Sparaga, Archaeologist
- Chris Hoffman, NEPA
- Kendall Campbell, Tribal Liaison

## USACE Construction

- Ze Jong, Civil Works Office
- Nathan Machacek, BCOES Coordinator

## USACE Engineering

- Robert Tedrick, H&H
- Tom Sloan, Geomatics
- Mike Alley, Geotech & Materials
- Jon Capua, Cost
- Don Tybus, VE Officer

## A-E Prime: Tetra Tech

- Principal
- PM
- Senior Structural Engineer
- Structural Engineer
- Senior Civil Engineer
- Coastal Engineer
- Cost Engineer
- CAD & GIS
- Admin Support

## A-E Sub: Shannon and Wilson

- Senior Geotechnical Engineer
- Geotechnical Engineer

## Local Sponsor

- Steve Corporon, Port & Harbors Director
- Dan Berg, Harbormaster

Reminder: The A-E shall accept directions only from the Alaska District KO or duly authorized COR. The KO must authorize any changes to the project scope or other provisions of this SOW in writing.



## KET005 OBJECTIVES



Ensure the successful design, contract acquisition, and construction of the floating breakwater replacement in order to protect Bar Point Harbor in Ketchikan, Alaska all in compliance with applicable environmental laws and regulations while delivering high quality reports and supporting documents within budget, on time, and in a safe manner.





# KET005 A-E SCOPE OF WORK



The A-E is to develop concept designs for three (3) replacement alternatives for the two floating breakwaters at Bar Point Harbor with recommendations and associated estimated costs. The A-E and USACE team will then prepare design and solicitation documents for a construction contract. The project will incorporate all required disciplines to develop the construction solicitation documents.

A-E TASK 1 – Alternative Concept Designs and Recommendations

A-E TASK 2 – Design of the Selected Alternative

A-E TASK 3 – (OPTIONS)

- Engineering Services During Solicitation
- Engineering Services During Construction
- Site Visit/Inspection During Construction



# KET005 A-E SCOPE OF WORK – TASK 1



## Alternative Concept Designs and Recommendations

- Kickoff Meeting (20 May 2020)
- Background Information Review
- Site Visit: deferred due to COVID-19.
- Develop Concept Designs for Alternatives
  - 1) Replacement In-Kind
  - 2) Steel pontoons (See Value Engineering Proposal in 2013 Report)
  - 3) Concrete “Barge” Type
  - 4) Additional alternatives may be considered with prior coordination with USACE PM
- Submit Concept Documents for Government Review
  - a. Findings of Site Visit (deferred due to COVID-19)
  - b. Design Drawings for Each Alternative
  - c. Design Analysis with Advantages and Disadvantages of Each Alternative
    - Initial Cost
    - Maintaining Safe Moorage During Breakwater Construction/Replacement
    - Life Cycle Maintenance Costs
    - Durability for an Estimated 40-Year Useful Life
    - Level of Anticipated Maintenance Required
- Concept Design Review Meeting: discuss each alternative with the lead DOR and select an alternative to advance to the 95% and 100% design stages. Document in memorandum.



## KET005 A-E SCOPE OF WORK – TASK 2



### Design of the Selected Alternative

- Government review and acceptance of Design Quality Control Plan.
- Coordination Teleconferences: once per month to discuss progress of design with A-E.
- Design Submittals: 80%, 95%, and 100% stage.
  - 80% Design Submittal: Government review of drawings with comments entered in DrChecks.
  - 95% Design Submittal: Create full draft solicitation package including Government prepared Div 00 and 01 specs and conduct a BCOES review with comments entered in DrChecks.
  - 95% Review Conference: Discuss design documents, current project status, and annotated review comments with the lead DOR and other disciplines as necessary (virtual meeting).
  - 95% Backcheck Submittal: Government review of corrected 95% documents to ensure all comments have been adequately addressed.
  - 100% Design Submittal: Address any remaining Government comments following the 95% Backcheck and provide the 100% design documents.



# KET005 A-E SCOPE OF WORK – TASK 3



## Options

### ➤ Engineering Services During Solicitation

- Amendments associated with bidder's alternative methods or changes in design criteria
- Responses to bidder inquiries as requested by the Government, with max 3 calendar day review for complex questions
- Provide amended plans or specs associated with bidder proposed alternate methods or changes in design criteria
- A-E shall submit a conformed award set when directed by the Government and labelled as "AWARD"

### ➤ Engineering Services During Construction.

- Submittal and Shop Drawing reviews with a typical 7 calendar day turn around
- Requests for Information generated by contractor or Government with typical 7 calendar day turn around

### ➤ Site Visit(s)/Inspection(s) During Construction

- Performed by the lead DOR as requested by the Government
- Provide a brief field report for each site visit/inspection within 5 days
- Each site visit will be 1-day duration
- Option may be exercised multiple times prior to construction contract completion



# KET005 PROJECT SCHEDULE



DATE	TASK
<b>A-E TASK 1 – Alternative Concept Designs and Recommendations</b>	
26 August 2020	Concept Design Submittal
8 September 2020	Concept Design Review Meeting
<b>A-E TASK 2 – Design of the Selected Alternative</b>	
TBD 2020	DQCP Review & Approval
12 November 2020	80% Design Submittal
19 January 2021	95% Design Submittal & Start BCOES Review
16 February 2021	95% Design Review Conference
9 March 2021	95% Backcheck Submittal
6 April 2021	100% Design Submittal
<b>April-June 2021 Construction Solicitation (Subject Availability of Funds)</b>	
<b>A-E TASK 3 – Options Under A-E Contract</b>	
TBD	Engineering Services During Solicitation
TBD	Engineering Services During Construction
TBD	Site Visit/Inspection During Construction



# KET005 A-E DESIGN CONSIDERATIONS

## Engineering

- “Current Market Value” > COVID-19?
- Replace or eliminate (ie different design) the anchor blocks
- New structure to have 40-year useful life
- Match performance of existing structure
- Structure to be mostly in-water
- If concrete, breakwater units to be precast
- Hold position over all tide stages and field conditions so as to allow a 100 foot wide entrance/maneuvering channel between the structures and harbor floats
- A-E design compatible with any/all Government environmental documentation
- Design criteria as of the date of award of the A-E task order

## Project Stakeholders

- City of Ketchikan, US Forest Service, and AK State Troopers

## Acquisition & Contract Strategy

- Performance specification
- Buy American-Construction Materials under Trade Agreements
- No trade names or proprietary items

## Construction

- Estimated Cost Construction \$12,000,000
- Transportation of breakwater structure to site; wave restrictions if towed long distance
- Timing and sequencing of construction
- Continued safe moorage for vessels during construction

## Environment

- Isostatic rebound
- Winter storms
- Significant vessel traffic along Tongass Narrows
- Existing structures
- Existing utilities (see '94 Navy report)
- Creek/stream along northwest corner of harbor
- Whales and other marine mammals
- Tide range & tidal datum updates
- Bottom conditions (see dive videos/reports)



# KET005 OPEN DISCUSSION



Communication  
Schedule  
Funding  
Any challenges, problems, or concerns?

