

City Manager
Tom Moran

Port Director
Joy Baker

Harbormaster
Lucas Stotts



Nome Port Commission
Jim West, Jr., Chairman
Charlie Lean, Vice Chairman
Doug Johnson
Derek McLarty
Shane Smithhisler
Scot Henderson
Denise Michels

102 Division St. • P.O. Box 281
Nome, Alaska 99762
(907) 443-6619
Fax (907) 443-5473

**NOME PORT COMMISSION
WORK SESSION & REGULAR MEETING AGENDA
THURSDAY, NOVEMBER 16, 2017 @ 5:30/6:30 PM
COUNCIL CHAMBERS IN CITY HALL**

WORK SESSION – 5:30 PM:

Port Tariff Rate Review and Items for Discussion

REGULAR MEETING – 6:30PM:

- I. ROLL CALL**
- II. APPROVAL OF AGENDA**
- III. APPROVAL OF MINUTES**
 - 17-10-19 Regular Meeting
- IV. CITIZEN’S COMMENTS**
- V. COMMUNICATIONS**
 - 17-02-08 Bering Sea Alliance Letter to Senator Sullivan & Senator Murkowski re: Creation of Arctic Fisheries Management Council
 - 17-10-24 Mayor Beneville Letter to Hapag Lloyd Cruises re: Turning Ships
 - 17-11-14 Alaska DOT Open House Meeting re: Seppala Dr. & Port Rd.
- VI. CITY MANAGER REPORT**
 - None
- VII. HARBORMASTER REPORT**
 - Update on Season Close Out – Winter Maintenance
- VIII. PORT DIRECTOR REPORT/PROJECTS UPDATE**
 - 17-11-09 Port Director/Projects Status Report
- IX. OLD BUSINESS**
 - Capital Improvements Plan – Revised Draft
- X. NEW BUSINESS**
 - Arctic Deep Draft Port Concept Renderings & Cost Estimates
 - Garth Howlett w/PND Question/Answer Session
- XI. CITIZEN’S COMMENTS**
- XII. COMMISSIONER COMMENTS**
- XIII. NEXT REGULAR MEETING (RESCHEDULED)**
 - December 14, 2017 - 5:30 pm
- XIV. ADJOURNMENT**

**MINUTES
NOME PORT COMMISSION
REGULAR MEETING
October 19th, 2017**

The Regular Meeting of the Nome Port Commission was called to order at 7:35 pm by Chairman Lean in Council Chambers at City Hall, located at 102 Division Street.

ROLL CALL

Members Present: C. Smithhisler; C. West; C. Henderson; C. McLarty

Absent: C. Lean – excused; C. Michels - excused

Also Present: Lucas Stotts, Harbormaster; Joy Baker, Port Director

In the audience: Sandra Medearis, Arctic News; Zoe Grueskin, KNOM; Howard Farley, Farley Marine; Ken Morton, NJUS

APPROVAL OF AGENDA

Chairman West asked for a motion to approve the agenda:

A motion was made by C. Henderson to approve the agenda as amended, and seconded by C. Smithhisler.

At the Roll Call:

Ayes: West, Henderson, McLarty, Smithhisler

Nays:

Abstain:

The motion **CARRIED**.

APPROVAL OF MINUTES

September 21, 2017 Regular Meeting

A motion was made by C. McLarty and seconded by C. Smithhisler to approve the minutes.

At the Roll Call:

Ayes: West, Henderson, McLarty, Smithhisler

Nays:

Abstain:

The motion **CARRIED**.

CITIZENS' COMMENTS

Ken Morton, representing NJUS, gave a brief update on the Commission's request to investigate installation of two shore power stations on the light poles along the Low Level Dock on the east side of the Small Boat Harbor. It is feasible to set up these stations using conductors installed to power the existing light. Commissioner McLarty confirmed that 120 volt would be a sufficient voltage for these stations. Ken stated that additional research is required to determine the most efficient pay mechanism for the system.

Howard Farley, representing Farley Marine, spoke to his letter in the packet requesting an assigned berthing location on the west floating docks to support his growing charter operation for pilot boat and crew transfer operations. Howard indicated that sometimes time is very short based on weather or departing flights, and the personnel being transferred frequently have multiple heavy bags for extended shifts on the vessel. Therefore, he is seeking to acquire a reserved float at the base of the ramp to ensure immediate and efficient access for his transports. Mr. Farley indicated the spot will rarely be empty as he has three vessels so at least one should be there most of the time. Mr. Farley thanked the Commission for consideration of his request.

COMMUNICATIONS

- 17-09-28 Letter from ALCOM Arctic Ports Info Request
- 17-10-13 Farley Marine Assigned Berthing Request
- 17-10-13 Alaska Ports Step Up Their Efforts to Serve the Arctic – ADN

Discussion: There was none

CITY MANAGER'S REPORT (10/06/17 Written)

PD Baker made one comment in Manager's absence that the Assistant Harbormaster, Chris Schuneman, was selected as employee of the month of October. Chris has done a great job in serving as temporary Harbormaster several times this season when Lucas is out of town.

HARBORMASTER'S REPORT (Verbal)

HM Stotts highlighted the remaining few cargo-related barges wrapping up their 2017 operations, and the anticipated arrival of the Discovery ship next week. The Discovery will be shuttling fresh water and other supplies to the Ile de Batz cable laying ship that will be anchored offshore, as they both make their way south following successful completion of the final shore-tie on the Quintillion under-sea cable operation. Port staff continues to coordinate placement for vessels hauling out for winter and ensure collection of fees, along with several impound processes in play for those beyond 60 days past due in payments.

Discussion:

C. Henderson asked if there have been any changes in the number of impounded accounts this season; HM Stotts replied that although it fluctuates this year, there are fewer accounts being impounded, and those that do achieve that status frequently pay before they lose their equipment/vessel.

C. McLarty inquired if the security cameras are only on the Causeway or elsewhere? PD Baker indicated there have been 21 cameras installed at various locations throughout the Port, Harbor and Industrial Pad. The contractor is waiting for the City/NJUS to complete the upgrades to the internal fiber system that will allow them to pull in all of the camera views and troubleshoot any connection/software issues before the project will be deemed complete. C. West asked if the views will be available at the Public Safety Building; yes, NPD will have access to all camera recordings for investigative purposes, seasonal monitoring at the Harbor Office, and 24/7 monitoring at the NJUS Power Plant.

C. Henderson inquired on whether the request from Phoenix Marine to winter in the harbor had been addressed; HM Stotts indicated that with the help of another local user, the Phoenix barge was removed from the harbor for the winter.

Port Director Report / Projects Update (10.16.17 Port Director/Projects Status Report)

PD Baker touched on a few highlights of the report; specifically to the Thornbush site being fully completed and that project phase being closed out, with the remaining phase for excavation of the remaining dredge spoils work scheduled for March/April 2018. Additionally, she reported that the close out survey on the

Cape project showed some stones not placed per design, so the contractor mobilized to address the deficiencies and had their subcontractor perform a 2nd bathymetric survey on 15 October. The camera project is near completion, with all cameras and related equipment fully installed. The City is working to complete some internal upgrades to the network that are required before final stand-up of the project. Once this work is complete, the camera contractor will return for final programming and staff training.

Additional project updates:

- CAP Section 107 Interest Letter & Drawing – this request was accepted by the Corps as suitable to the program and routed up the chain of command for further consideration.
- Tiger Grant Application (Snake River Moorage) – this package was submitted on 16 Oct, with a great deal of project support demonstrated, including the application submitted to NSEDC.
- NSEDC Grant Application (Snake River Moorage) – this package was mailed on 16 Oct, with the pertinent documents pertaining to the Tiger grant attached.

Discussion:

C. West asked about the intended depth of the river project; PD Baker stated the Corps permit allows dredging to -8 feet MLLW. At this time, the plan is to submit a modified application to the Corps to authorize a dredge depth of -10 feet, as soon as the spring 2018 dredging work is complete, as making the request before completion of the project would cause significant delay. It can be a lengthy process.

C. McLarty inquired as to how the river project would affect the Belmont Beach site, as it is frequently impacted by storm surge. PD Baker advised the idea would be to attract many of these users over to the expanded moorage facility in the river as the additional capacity could support the beach fleet.

C. West asked about how the design of the Thornbush Pad pushed the drainage to the south, and toward the unfilled property owned by Bonanza Fuel (BFI). PD Baker explained that the City Engineer modified the design to address the project drainage due to BFI being unable to collaborate with the City in the project and fill simultaneously. The low areas that accumulate rainwater and snow melt are a common issue at this site so berms and culvert drainage were added to the project to mitigate. C. Henderson indicated that their crews are working to divert their runoff and snow melt to the west from their property, and are considering putting fill into their lot to alleviate accumulation in low areas. C. West reiterated that filling the lot is in BFI's best interest. PD Baker added that the City intends to incrementally raise the elevation of the drainage ditch (built specifically for the drainage issue) as BFI fills their property. Clarification will be obtained from the City Engineer on the status of the drainage issue.

OLD BUSINESS

Capital Improvements Plan – Cordova Consulting (Updated Draft for Consideration)

PD Baker elaborated on a few tweaks that have been made, mostly in the project tables, and whether the group had further questions or any concerns about the information being conveyed, the layout or general purpose of the document.

Discussion:

After a brief discussion, it was agreed that with only 4 members present, and one vacancy, this item would be postponed for consideration at the next meeting.

NEW BUSINESS There was none

CITIZENS' COMMENTS - None

COMMISSIONERS' COMMENTS

C. McLarty – hope it stays warm

C. Smithhisler – none

C. Henderson – glad to see we are using some of the new areas of the facility that haven't been used before, and glad to see more vessels wintering in Nome.

C. West – definitely good to see other revenue streams being created by using the east gravel ramp. Glad to see more NSEDC boats wintering in Nome, and the availability of the lot at F. St and Seppala Drive for a potential new lessor. Seemed like the season was very busy and hopefully the numbers reflect that. I'm happy to see the continuing effort to develop a ship waste disposal facility here in Nome, that should be very beneficial to the facility.

SCHEDULE OF NEXT MEETING

The next meeting: November 16, 2017 at 5:30PM.

ADJOURNMENT

Motion was made by C. McLarty for adjournment – meeting adjourned at 9:10 PM.

APPROVED and **SIGNED** this 16 day of November, 2017.

Jim West, Chairman

ATTEST:

Joy Baker, Port Director

February 8, 2016

Bering Sea Alliance, LLC
Art Ivanoff, CEO
Box 100
Unalakleet, Alaska 99684

Office of Senator Lisa Murkowski
United States Senate
700 Hart Senate Building
Washington, DC 20510

Office of Senator Dan Sullivan
United States Senate
702 Hart Senate Building
Washington, DC 20510

RE: Call to Establish the Arctic Fisheries Management Council

Dear Senator Murkowski Senator Sullivan:

The call to establish the 9th Fisheries Management Council under the Re-authorization of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) stems from empirical knowledge founded on participation at numerous North Pacific Fisheries Management Council meetings, in addition, to research related to fisheries management.

Climate change brings new opportunities for extraction of Alaska's vast resources, fisheries is no exception. The late Governor Walter Hickel envisioned and had hope that Alaska would be an "owner state". Today, we embrace the late Governor Hickel's dream and in doing so, appeal for friendly amendments to the MSA to establish the Arctic Fisheries Management Council. The call for action is based on the following;

Currently, the North Pacific Fisheries Management Council (NPFMC) has jurisdiction and management authority in federal waters which covers the Gulf of Alaska and Bering Sea. The NPFMC has eleven voting members; 6 from Alaska and 5 from Oregon and Washington. The Arctic, or more specifically, the Northern Bering Sea is far removed from the states of Washington and Oregon and are not directly impacted. Let me restate that; Washington and Oregon currently have very little economic benefit from the Arctic region. In a true effort to build our rural economy while setting policy there is a need to keep Washington and Oregon out of the Arctic waters.

Seaward States. The Northern Bering Sea and Arctic differ dramatically from the east coast fisheries where the states are connected and thus share jurisdiction and management of their common fisheries i.e. Mid-Atlantic and South-Atlantic. Alaska is a stand-alone in the Arctic, with exception of close ties to Russia.

Simply put, we call on your respective offices to create a system that is governed by Alaskans for Alaskans, while we build our rural economies. We have an opportunity to do right in the Northern Bering Sea and

SENATOR SULLIVAN & MURKOWSKI
FEBRUARY 9, 2016
PAGE 2

Arctic Ocean through building Alaskan owned processes from decision making, allocation, harvest, processing and marketing. Help us achieve to become independent from interests that have owned processes that impact our very lives.

Sincerely,



Art Ivanoff
CEO, BSA

Sincerely,



Pat Pletnikof
Mayor, Saint George

Cc: Governor Bill Walker
BSA Board of Directors
Gail Schurbert, BSNC
Chuck Greene, NANA
Andrew Guy, Calista
Tara Sweeny, Arctic Slope Regional Corporation
Jim Gambell, Aleut International Association
Melanie Bahnke, Kawerak
Mayor Clement Richards, Northwest Arctic Borough
Mayor Pat Pletnikof, Saint George

**BERING SEA ALLIANCE, LLC
RESOLUTION 01-16**

**CALL FOR ACTION TO AMEND THE MAGNUSON-STEVENSON ACT TO ESTABLISH
THE ARCTIC FISHERY MANAGEMENT COUNCIL.**

WHEREAS, the Magnuson-Stevens Fishery Conservation and Management Act manages fisheries off the coast of Alaska from 3 miles to 200 miles; and reintroduce

WHEREAS, *TITLE 1-UNITED STATES RIGHTS AND AUTHORITY REGARDING FISH AND FISHERY RESOURCES, SECTION 101. UNITED STATE SOVEREIGN RIGHTS TO FISH AND FISHERY MANAGEMENT AUTHORITY 16 U.S.C. 1811 99-659, 102-251 (a)* —The United States claims, and will exercise in the manner provided for this Act, sovereign rights and exclusive fishery management authority over all fish, and all Continental Shelf fishery resources, within the exclusive economic zone; and

WHEREAS, *section 2. FINDINGS, PURPOSES, AND POLICY (c) 101-627,104-297(3) states: —involves, and is responsive to the needs of, interested and affected States and citizens; and*

WHEREAS, *section 302.Regional Fishery Management Councils 16 U.S.C. 1852 97-453, 101-627,104-297 (a) Establishment. - (1) There shall be established, within 120 days after the date of the enactment of this Act, eight Regional Fishery Management Councils; and*

WHEREAS, the National Marine Fisheries Service (NMFS), is responsible for the management of fisheries in the marine exclusive economic zone off the coast of Alaska; and

WHEREAS, Alaska Native peoples are the original residents of Alaska and have developed rich cultures and enduring societies over thousands of years to the present and sincere future which include the coastal/oceanic ecosystems and the sustainable subsistence harvest and utilization of a variety of ocean resources with spiritual relationships; and

WHEREAS, customary and traditional subsistence hunting, fishing and gathering of ocean resources are vital to the globally unique Alaska Native cultures and communities economic, social and cultural well-being, as well as the thousands of years of knowledge and information about the ecosystem, environment, wildlife and habitats; and

WHEREAS, the Being Sea Alliance, LLC supports (1) Alaska-based ownership and maximum local participation in Arctic fisheries, and (2) the protection and sustainable harvest of wild stock fisheries, marine mammals and migratory birds; and

WHEREAS, Tribal involvement is critical to the responsible management of the marine and ocean ecosystem, particularly with Alaska Natives historical and modern relationship with subsistence resources for both food and economic security; and

WHEREAS, federally recognized tribes and Alaska Native Organizations will develop an internal process to select nominations and forward these nominees directly to the Secretary of

Commerce for consideration; and


NOW, THEREFORE BE IT RESOLVED, that the Being Sea Alliance, LLC support an U.S. Congressional Amendment to the Magnuson-Stevens Fishery Conservation and Management Act that would establish the Arctic Fisheries Management Council to be filled by representatives of federally recognized tribes and Alaska Native Organizations, state of Alaska; and


BE IT FURTHER RESOLVED, that the Arctic Fisheries Management Council shall consist of the State of Alaska and federally recognized tribes and or Alaska Native Organization representatives as follows;

2 representatives from North Slope Region
2 representatives from the Northwest Arctic Region
2 representatives from the Bering Straits Region
2 representatives from the Yukon-Kuskokwim Region
2 representatives from the Aleutian Islands Region
1 representative from the Bristol Bay Region
1 representative from the State of Alaska; and

BE IT FURTHER RESOLVED, Arctic Fisheries Management Council shall have authority over the fisheries of the Northern Bering Sea, Chukchi Sea and Arctic Ocean.

Singed this 12th day of January of 2016 in Nome, Alaska.


Chairman, Edmond Apassingok
BSA, LLC

Attest: 
Secretary, BSA LLC



P.O. Box 281 o Nome, Alaska 99762
phone 907.443.6663 fax 907.443.5349

October 24, 2017

Ulrike Schultzen
Barbara Hoffmann
Hapag-Lloyd Cruises

Dear Sir or Madam,

I am writing in my capacity as Mayor of Nome Alaska. I have been following with some interest your announcement of two new vessels being added to your existing fleet. The announcement of the new *Hanseatic Nature* and the *Hanseatic Inspiration* has excited the cruise industry.

As you may know, both the existing *Hanseatic* as well as the *Bremen* have been calling on the Port of Nome for many years, more often than not doing passenger exchange and continuing through the Northwest Passage.

During the time in Port, through Northern Logistics, your passengers have enjoyed guided tours of Nome, gold panning demonstrations, Iditarod dog demonstrations, musk oxen viewing, and lunch. Departing passengers transfer to the airport, at which time the arriving Miami Air passengers have enjoyed a trip into town, lunch, and time to walk around our wonderful Gold Rush City before being delivered dockside to embark on their adventure with Hapag-Lloyd.

I don't yet know the itinerary for the new ships, but I hope it will include routine stops in Nome to turn passengers through the Nome airport. Your ships (*Hanseatic* and *Bremen*) have been able to successfully take on additional stores, fuel, and fresh water while in Port. It is an important and exciting time for your ships and passengers to cruise the Arctic, and a very important time for the Port of Nome.

We are working to expand the Port to a Deep Draft Port dredged out to -40' and becoming the first Arctic Deep Draft Port in the Far North of Alaska. The future is upon us your two new vessels add great luster to that future.

I don't know what your plans are as far as a detailed itinerary for the voyages, but Nome is ready to assist you in planning for a stop in our beautiful and historic city.

Sincerely,

Richard Beneville, Mayor
Nome, Alaska



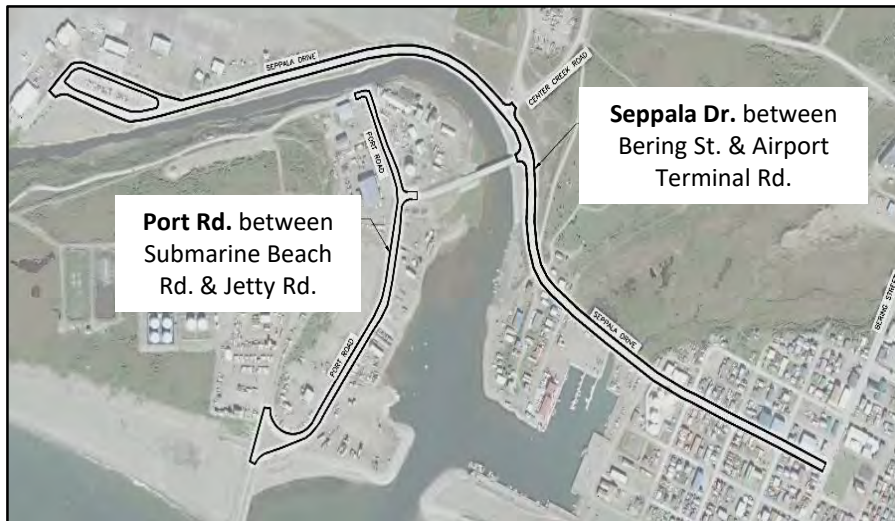
Announcing a public open house for two DOT&PF road projects

Seppala Drive Upgrades and Nome Port Road Reconstruction

The Seppala Drive project will

- Rehabilitate about 1.3 miles of Seppala Drive
- Include pedestrian facilities
- Address poor drainage

Seppala Drive Project Nos.:
Z620030000/000S828



The Port Road project will

- Reconstruct and improve about 0.6 miles of Port Road
- Include pedestrian facilities
- Address pavement and intersections issues

Port Road Project Nos.:
Z621230000/0002278

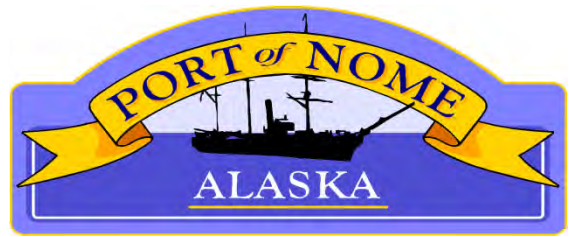
Come to the PUBLIC OPEN HOUSE

Old **St. Joe's**
407 Bering Street

Tuesday, November 14, 2017
stop by any time between
11:30 am – 2:00 pm
- Lunch Provided -

Or send written comments by December 15, 2017 to
Robin Reich, Public Involvement, Solstice Alaska Consulting, Inc., at
2607 Fairbanks St., Ste. B, Anchorage, AK 99503 or solsticeak@solsticeak.com

For more information, visit the website at
dot.alaska.gov/nreg/projects/seppala/index.shtml



Memo

To: Tom Moran – City Manager
From: Joy L. Baker – Port Director *JLB*
CC: Mayor & Nome Common Council
Nome Port Commission
Date: 11/9/2017
Re: Port & Harbor Report/Projects Update – November 2017

The following provides a status update on active issues and projects pertaining to the Port & Harbor.

Administrative:

October Port activity consisted of mostly fuel and cargo barges and began to slow after the 18th, with some of the homeported fleet hauling out mid-month for winter. Port & Harbor staff has expended most of their time assisting with space allocation for winter storage, and invoicing users accordingly. The Assistant Harbormaster began splitting his time between the Port and Public Works once the snow start accumulating, and was officially transitioned over on 6 Nov 2017. The Office Manager completed the final storage invoicing and list compilation of personal property to submit to the Clerk's Office, before being discharged due to office closure. Harbormaster Stotts remains on staff to handle user collections, inventories and planning for the 2018 season, but will transition to Public Works on 1 Jan 2018.

The F18 Port Budget at 31 Oct 2017 shows revenue at 85% – with 31.7% expended. All 4 Port vehicles were in service during October, but at least three will be “pickled” and put away for winter around mid-November.

Causeway:

Arctic Deep Draft Port (ADDP) Study:

The Army Corps Alaska District has been working with Headquarters in what appears to be a potential path forward on the project study. The most recent discussions center around framing the scope of work that will identify new study components on Nome, as well as the required updates to the existing regional study. There remains ongoing communication with the CODEL staff for continued monitoring of the Army Corps progress relating to the project study.

PND has delivered draft port expansion concept renderings and cost estimates as requested, which will be reviewed by the Port Commission at the 16 November 2017 Regular Meeting. This conceptual information will be provided to the Alaska District for consideration in the anticipated project efforts.

Inner Harbor:**Snake River Moorage & Vessel Haulout Facility:**

The Tiger grant application for funding of this project was successfully submitted to the USDOT on 16 Oct 2017, with anticipated funding awards generally announced in March. The comprehensive package demonstrated significant project support and we are hopeful for success.

Port Industrial Pad:**Industrial Pad Development (Thornbush Site):**

This project is currently in a dormant status until the final phase of the Snake River dredging excavation begins just after 1 March 2018. The remaining work will be funded by the held balance of the 2014 DC-108 grant.

Questions regarding the project drainage design were raised at the 19 Oct 2017 Port Commission Meeting, specifically to how the revised design (attached drawing) drained the southern portion of the pad south toward the unfilled property owned by Bonanza Fuel (BFI). The City Engineer and I have coordinated with BFI personnel throughout the planning and design of this project to actually mitigate drainage issues until such time that BFI is able to fill the property to the north of their existing tank farm. See attached email from City Engineer John Bles for a timeline of these events and other related technical justification on the temporary layout of the southern portion of the pad. As BFI makes progress in filling their lot, the City will make corresponding modifications to the adjacent pad section to continue to accommodate drainage, eventually eliminating the temporary culvert installed during the project. *(See attached email)*

External Facilities:**Cape Nome:**

The results of the contractor's final bathymetric survey have been provided to PND for review and verification to ensure the missing stone has been accurately placed in the affected areas. We anticipate receiving PND's review results in the next week to 10 days. In the meantime, the Alaska DHS office is sending an inspector to view the project site on 16 Nov 2017, to meet the requirements for their oversight of the FEMA disaster.

The City still awaits the formalized PW17 and award package revision from DHS to account for redesign and reduced quantities on the project, as well as administrative and engineering costs. DHS has advised the revision is still under review, and will be transmitted once all DHS personnel have completed their portion of the review.

Port Security Cameras:

Arctic Fire & Security (AFS) has completed all work associated with the project contract deliverables, with the exception of final program tweaks for wireless stations and staff training, scheduled for the week of 13 Nov 2017. The City has completed all internal network upgrades to accommodate the project and currently working with AFS on a few external cameras for the Seawall and Old St. Joe's. The Port Security Grant project is anticipated to achieve final completion and closeout by 30 November 2017.

A variety of other projects are in the queue for the off-season period for various planning, design and funding phases. This information can be made available on request.

From: [Blees, John](#)
To: [Joy Baker](#)
Subject: Port Pad Expansion at the Thorn Bush Subdivision
Date: Wednesday, October 25, 2017 11:10:04 AM

Hi Joy,

This email serves to document how the pad was developed from preliminary design in December of 2016 to its current constructed configuration. I had a conversation with Port Commission Chair Jimmy West Jr. and discussed these items with him.

The initial draft design proposed filling the east portion of the Thorn Bush Subdivision and the west portion of the Port North Expansion Area. This fill was planned to abut the existing port pad at the boatyard. Fill would be placed the full depth of the existing pad and be shaped to drain to the north and to the east.

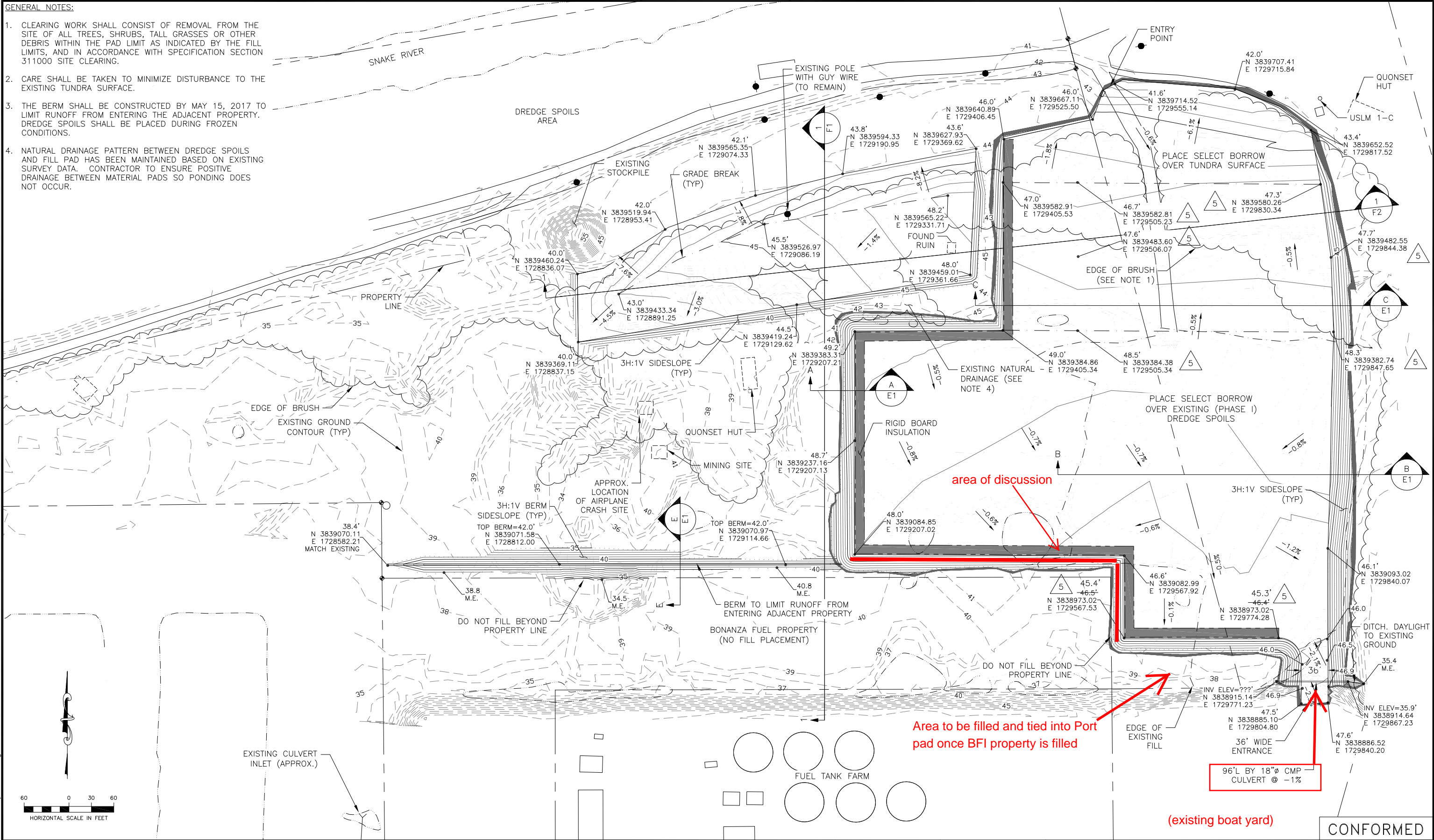
We met with Scot Henderson of Bonanza Fuel, Inc. (BFI) with the intent of working together to develop the pad simultaneously as they filled their property. Bristol prepared a draft layout and quantity estimate for Bonanza to fill a portion of the Bonanza Bulk Tank Farm Addition No. 1. That configuration would fill a low area that exists against the toe of their existing pad and direct the standing water to drain towards the north line of that property. We understood from the following conversations that BFI was not prepared to allocate funds to this project.

With BFI unable to develop their lot, the design was modified to create a surface water diversion dike along the north property line of the BFI parcel to prevent surface water generated from the City's dredge spoils dewatering effort from freely flowing towards their pad. Additionally, we realized the need to provide an avenue for spring meltwater runoff to exit the property to the east. In order to accommodate a culvert to allow passage of the seasonal drainage, we narrowed the width of the southern access to the pad, and lowered it so that a maintainable length of culvert could be installed. The culvert is considered a temporary solution until the BFI and City pads are further developed and graded together. The culvert had to be installed a bit higher than originally designed due to conflict at the outlet end with a buried NJUS fuel line that runs parallel the eastern edge of the development. As a result, the culvert is a few inches higher than the tundra surface at the inlet end. The culvert will function during large storm events or during spring thaw and prevent a deep pond from developing west of the access drive.

The area on the north side of BFI's existing pad is a natural low point as indicated by several pre-construction photographs of the site. Trenching a channel through the organic mat near the toe of the fill pad would be required to drain the low areas by gravity because the existing ground to the east and west are at higher elevations. Trenching in this manner would not be recommended because the organic mat acts like a natural geotextile and insulation over the subsurface permafrost soils. Cutting a channel may cause erosion to occur at the toe of the existing fill pad slope, further destabilizing the underlying permafrost. The recommended way to encourage the water to the east or west, other than by pumping, is by filling in the low point on BFI property and shaping the fill to grade toward the inlet end of the culvert at the east side or to a natural drainage channel to the west. Ultimately, it is our goal to work with BFI and their pad designers to bring the pads together and direct the surface drainage of the combined pads to mutually agreed upon locations. As BFI has funds to allocate to the project we will work with them to help alleviate their drainage issues. To date, the City has made several plan revisions to prevent contributing to BFI's existing drainage problem.

Please do not hesitate to call or email if you have any questions or comments.

User: DSQUER Sep 06, 2017 - 2:14pm
Drawing: K:\JOBS\32114030 PORT PAD EXP\ACAD-DESIGN\CIVIL DESIGN\32114030_D1_CONFORMED-REV3.DWG - Layout: D1
Xrefs: (DIESEL evaluation failed) - Images: CITY_NOME_SEAL_COLOR.JPG



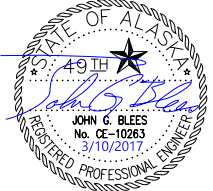

REVISIONS			
NO.	DATE	BY	DESCRIPTION
5	9/6/17	JGB	REVISED NORTHERN AREA GRADING

REVISIONS			
NO.	DATE	BY	DESCRIPTION
4	8/17/17	JGB	RAISED ELEVATION AT WEST EDGE. INCREASED SELECT BORROW QUANTITY.
3	7/21/17	JGB	REMOVED SURFACE COURSE. INCREASED SELECT BORROW QUANTITY.
2	5/11/17	JGB	REVISED SOUTH ENTRANCE DRIVE FOR DRAINAGE ISSUE. ADDED CULVERT AT DRIVEWAY. REDISTRIBUTED FILL.
1	3/10/17	JGB	CONFORMED DOCUMENTS

Bristol

ENGINEERING
SERVICES CORPORATION

Phone (907) 563-0013 Fax (907) 563-6713



THORNBUSH SITE DEVELOPMENT & SNAKE RIVER DREDGING
PHASE II - NOME, ALASKA

SITE PLAN

SCALE: SHOWN DESIGNED: DST CHECKED: JGB DRAWN: DST DATE: 3/10/17

SHEET NO.

D1

SHEET 4 OF 7

Port of Nome Capital Improvements Plan



Cordova Consulting

1191 South Lower Road
Palmer, AK 99645
(907) 957-0581

NOVEMBER 2017

Executive Summary

The purpose of a Capital Improvements Plan is to ensure the timely repair and replacement of aging infrastructure and to plan for infrastructure improvements to support future needs. A capital improvements plan attempts to capture the major, non-recurring expenditures such as land, buildings, public infrastructure, and equipment.

This plan is organized by summaries for near-term needs (next 1 – 2 years), mid-term needs (in 3 – 5 years), and long-term needs for over five years. The summaries are based on discussions with Port and Harbor staff, the Port Commission, and responses to a survey of existing users.

This is a working document. Regular review and updates to the Plan are encouraged.

Contents

Introduction.....	1
Potential Private Sector Projects.....	5
Existing Depreciable Items	5
Financing Options.....	7
Survey Results Summary	Appendix 1

Table of Tables

Table 1 - Near-term needs summary– 1-2 years.....	2
Table 2 - Mid-term needs summary– 3-5 years	4
Table 3 - Long-term needs summary– More than 5 years	4
Table 4 – Existing assets on depreciation schedule	5
Table 5 – Pending Capital Improvements.....	8
Table 6 – Survey Respondent Requests for Capital Improvements	10

Introduction

This Capital Improvements Plan (CIP) for the Port of Nome follows from previous work conducted by Cordova Consulting for the Port and Harbor Development Analysis - April 2017.

The purpose of a CIP is to ensure the timely repair and replacement of aging infrastructure and to plan for infrastructure improvements to support customer's and Port's needs. A capital improvements plan attempts to capture the major, non-recurring expenditures such as land, buildings, public infrastructure, and equipment. Recurring expenditures are typically captured in the annual budget for the Port.

The methodology used for this plan includes a review of the depreciation schedule for the Port Enterprise Fund, inputs from Port and Harbor staff, and a survey of past and current users of the Port. The review of the Port's depreciation schedule resulted in some items being renamed in the depreciation schedule to more accurately reflect the asset. The depreciated items shown in this report have been updated as of November 2017. An assessment of Marine Exchange of Alaska data for vessels passing near the Port of Nome was also conducted to identify other potential users. All current users of the Port, including vessels that must anchor offshore, were included in the Marine Exchange of Alaska dataset.

Assets with a purchase price of less than \$5,000 are not included in this plan unless they could be lumped into one larger component of the Port's existing depreciation schedule. For instance, the Guardian boat includes outboard motor, steering system, stainless steel propellers, and the trailer for the vessel. These items are listed separately on the depreciation schedule due to varying times of purchase and some were less than \$5,000 but when added together, the Guardian boat met the \$5,000 threshold for inclusion.

This plan is organized by summaries for near-term needs (next 1 – 2 years), mid-term needs (in 3 – 5 years), and long-term needs for over five years. The survey results are incorporated into the near-, mid-, and long-term needs as appropriate for the discussion. A copy of the survey is included in the appendix to this plan. Input from the Port Commission during two work sessions conducted in August 2017 is also summarized.

This is a working document, regular review and updates are encouraged. Given the dynamic nature of the operations at the Port of Nome, it is recommended that this CIP be reviewed on a biennial basis (i.e. approximately every two years).

Table 1 - Near-term needs summary– 1-2 years

Short-Term Projects Status (1-2 years)					
Pending Capital Improvements		Project Lead	Estimated Cost	Potential for Financing	Status
1	Port Deep Water Expansion	Joy	\$250,000,000 -\$300,000,000	USACE & P3 Partners USDOT/INFRA Grant (Study/Design)	This project will also address better dock protection for inclement weather operations and could address a second fuel header at Causeway.
2	Causeway turning area expansion and deepening	Joy	<\$10 million (limit of program)	USACE/Section 107 (Expand Federal limits for dredging)	This project has potential to move forward as a stand-alone or part of the Port deep water expansion. Potential to pursue Section 107 with COE. Request made to COE October 2017.
3	Waste Reception Facility	Joy/BESC	unknown	Seeking EPA/ADEC Funding Option	Feasibility with Bristol Engineers currently in progress with draft to the PC on Sept. 21, 2017. Once Port Ship's waste reception methodology is configured, the solution to the smaller facility for bilge/oil pumpout at the SBH can proceed.
4	SBH Electrical Shore Power	Joy/Ken Morton	unknown (costs being developed)	Fund in-house with NJUS	Ken Morton – utilities - looking at drawings to figure out test project. Need to figure out pay mechanism. Test project should be in place by next summer (2018). Pursue with in-house funds.
5	Causeway Communications connection	Joy/Dana/John H	unknown (costs being developed)	Fund in-house with fee mechanism	In process now. Need to figure out pay mechanisms. Cameras going up now. WiFi can be available for purchase. Pursue this with in-house funds.
6	Snake River Development	Joy	\$13,910,000	USDOT/Tiger Grant (full project)	Can be phased. Additional dock space in SBH can be relieved with Snake River development. TIGER grant submitted 10/16/17 with support from NSEDC, City, and Sitnasuak.

Short-Term Projects Status (1-2 years) (continued)					
Pending Capital Improvements		Project Lead	Estimated Cost	Potential for Financing	Status
6a	Snake River Travel lift and infrastructure	Local partners	\$5,500,000	P3 component with Snake River Development	Snake River travel lift construction potential for P3. City responsible for shore infrastructure and local partners for lift. (\$ portion of #6) USDOT TIGER grant submitted 10/16/17.
7	Additional ladders in SBH	Lucas	\$10,000 each	Fund in-house as budget allows	Snake River development will relieve the need for additional ladders in SBH. Potential for in-house funds for a few ladders now.
8	Cruise Ship Tender Floats in SBH	Lucas	\$ 220,000	Fund in-house (lower cost option)	Potential to relocate fuel float temporarily to accommodate cruise passengers. Port staff researching affordable gangway for use as temporary float. Coordinating float/gangway layout with PN&D.
9	Ability to discharge regulated garbage	Joy/BESC	Contract	Fund in-house (P3 potential)	Investigate most cost-effective way to dispose of regulated garbage. Incinerator may be cost prohibitive unless cost-shared w/landfill. Potential to fold into waste reception facility.
10	GARCO building upgrade	Joy	\$550,000 (Engineer's estimate)	Fund in-house (lower cost option)	Currently gathering information for materials cost estimates for force account construction with in-house labor.
11	Port Road Overhead Utility Line Bury	Joy/Ken	\$750,000	Pursue with ADOT&PF during Port Road improvements	Bury overhead utility lines along Port Road and WNTF entrances to allow for unobstructed vessel/equipment movement
12	Industrial Pad Lighting	Joy/Ken	unknown (costs being developed)	Seek local/state funding option	Existing industrial pad, expansion area, and WNTF and barge ramp pad need for better lighting.
Public/Private Partnership Potential					
13	Second fuel header at Causeway	Joy	Unknown		Potential for P3 arrangement with local terminal operator.

Table 2 - Mid-term needs summary– 3-5 years

Mid-Term Projects Status (3-5 years)					
	<i>Pending Capital Improvements</i>	<i>Project Lead</i>	<i>Estimated Cost</i>	<i>Potential for Financing</i>	<i>Status</i>
14	Outer harbor dolphins				Contingent on expansion of outer turning basin.
15	7-acre parcel development for vessel storage (WNTF)	Public Works/ Port		In-house funding as needed	Waiting on final property transfer before this project can continue moving forward.
16	Harbor Bathhouse/Laundry facilities		\$ 805,000 (Engineer's estimate)	Seeking lower cost option	Staff investigating reduced scale construction. Option for private industry to take the lead on the laundry.
17	Port Road Improvements			Cost-share with ADOT&PF	Cost-share project with ADOT&PF to widen, resurface Port Road with drainage and safety improvements (sidewalks).

Table 3 - Long-term needs summary– More than 5 years

Long-Term Projects Status (more than 5 years)					
	<i>Pending Capital Improvements</i>	<i>Project Lead</i>	<i>Estimated Cost</i>	<i>Potential for Financing</i>	<i>Status</i>
18	SBH Fueling Station				Real estate in the harbor is at a premium. Private sector will need to take the lead on this activity.
19	Causeway Electrical Shore Power				This project can probably be pushed out until demand becomes greater.

Potential Private Sector Projects

- Fork lift or mobile crane
- Floating dock or graving dock
- Vessel lift for larger vessels
- SBH Fueling Station

Existing Depreciable Items

Existing items on the Port of Nome depreciation schedule follow the same format as the previous tables with short-term needs of 1-2 years, mid-term needs of 3-5 years, and all other depreciable items listed in the greater than 5-year category. Short-term considerations include all motor vehicles currently listed under Port assets along with the Guardian boat and the skiff trailer. Items such as the 20-foot containers and the blue Causeway shack will probably not need replacing but only minor repairs as shown in Table 4.

Mid-term needs include Information Technology upgrades which were just completed in the 2018 fiscal year, the water lines in the Small Boat Harbor, and the Garco building. Of these, the Garco building replacement is the largest cost estimated at \$550,000.

The docks at the port along with ramps, fuel and water lines, high mast lights, and the harbormaster's office all have depreciation schedules which push their repair and replacement out past the 5-year mark. Some of these items will need periodic repairs as shown in Table 4. These should be monitored for inclusion in future updated Capital Improvement Plans.

Table 4 – Existing assets on depreciation schedule

Description of Asset	Initial Cost	Current Book Value	Replacement (yes/no)	Major rehab (yes/no)	Potential for financing	Estimated Cost
<i>Fully depreciated in 2018 to 2019 (1-2 year plan)</i>						
2005 Chevrolet Trailblazer	\$ 28,669	\$ -	yes			\$ 30,000
2008 GMC Sierra	\$ 28,515	\$ -		Maint.		

Description of Asset (continued)	Initial Cost	Current Book Value	Replacement (yes/no)	Major rehab (yes/no)	Potential for financing	Estimated Cost
2012 GMC Sierra	\$ 36,078	\$ -		Maint.		
2002 Ford F350 Flatbed	\$ 18,000	\$ 3,482		Maint.		
Guardian Boat, additions, and skiff trailer	\$ 209,770	\$ 725		Maint.		
20' Container (5 of them)	\$ 13,300	\$ 965	no			
Blue Dock Shack (Causeway)	\$ 11,289	\$ -	no			
Fully depreciated in 2020 to 2022 (3-5 year plan)						
Security System (Workstations, Monitors, Cameras)	\$ 28,362	\$ 12,108	no			already replaced
Water lines (SBH)	\$ 26,099	\$ 5,233	no			
Garco Building	\$ 161,200	\$ 5,378	yes	yes		\$ 550,000
Fully depreciated 2023 and beyond (more than 5 years)						
Westgold Dock	\$ 1,713,000	\$ 589,833	no			
City Dock	\$ 1,704,749	\$ 503,489	no			
Fish Dock	\$ 2,145,462	\$ 1,193,413	no			
Barge High Ramp	\$ 5,005,126	\$ 4,449,937	no			
Small Boat Harbor - Low Level Dock	\$ 3,113,911	\$ 2,178,926	no			
Snake River Site Dredging	\$ 3,017,206	\$ 2,584,394	no			
Fuel lines (includes discharge hose and drain)	\$ 1,363,931	\$ 399,341	no	Maint.		
Water lines (Causeway)	\$ 574,677	\$ 258,605	no	Maint.		
Security Signage and Fence	\$ 23,598	\$ 10,476	no	Maint.		
Toilets, waste oil, and storm drain	\$ 275,647	\$ 92,053	no	Maint.		
High Mast Lights	\$ 1,042,513	\$ 903,531	no	Maint.		
Seawall Erosion Repairs	\$ 781,854	\$ 768,930	no			
Harbormaster Office Building	\$ 216,530	\$ 96,717	no			

Financing Options

- Federal grants
 - Corps of Engineers
 - EDA grants
 - US DOT grants
- State grants
 - Legislative
 - Harbor DOT matching grants
 - Denali Commission
 - State bonds
- Other local grants
 - NSEDC
- User fees
- P3 partner investment
 - Many forms of P3
 - Partner for construction
 - Partner for operations
 - Partner in exchange for preferred customer status
 - Etc.

Long shot: Cruise Passenger Vessel Excise (Head) Tax? Probably needs legislative fix as it appears to only apply to first seven ports of call in Alaska and all the funds go to Southeast or Southcentral locations.



Worksheet #1 – Updated based on August 17 Work Session

Pending capital improvements have been previously identified by harbor staff and port users as needed. These are ranked in order of importance based on survey responses and have been updated based on an August 17, 2017 work session with the Port Commission. Projects that are included in the summary sheets show a corresponding summary sheet number. See the near-, mid-, and long-term summary sheets for the status, the project lead, and estimated cost, if known.

Table 5 – Pending Capital Improvements

<i>Pending Capital Improvements</i>	<i>Short 1 (1 -2 years)</i>	<i>Mid 1 (3 - 5 years)</i>	<i>Long ¹ (more than 5 years)</i>	<i>Summary Sheet # From Tables 1 - 3</i>
Better dock protection for inclement weather operations ⁴	X			1
SBH Waste oil/bilge pumpout ⁵	X			3
Port Deep Water Expansion ⁴	X			1
Port Ship's Waste Reception Facility ⁵	X			3
SBH Electrical Shore Power ⁶	X			4
Outer harbor dolphins		X		12
SBH Fueling Station ⁷			X	16
Causeway Communications connection ⁸	X			5
Causeway Electrical Shore Power ⁹			X	19
Snake River Moorage Development ¹⁰	X			6
7-acre parcel development for vessel storage (WNTF) ¹¹		X		13
Cruise Ship Tender Floats in SBH ¹²	X			8
Harbor Bathhouse/Laundry facilities ¹³		X		14
GARCO building upgrade	X			10

Notes to Table:

1. Indicate if these improvements should be considered in the short, mid, or long-term.
2. **City, State, Federal, grant** funds, or **user fees** for potential financing. To be determined in the future.
3. If cost estimate known, please fill in. Engineering estimates will be completed at later date.
4. Combine better dock protection for inclement weather operations with Port Deep Water Expansion - both needs met with one project.
5. Combine SBH waste oil/bilge pumpout with Port Ship's waster reception facility - can be one project or perhaps different phases of same project. Need to work with the utility company on this effort.
6. Electrical shore power can be installed in phases. Need to work with the utility company.
7. Real estate in the harbor is already at a premium. Need to investigate a public/private partnership for this endeavor.
8. Cameras going up with a potential for wireless connection by next season. Test model next summer.
9. Need to work with the utilities - could allow ships to shut down completely and has the potential to reduce black carbon emissions.
10. This has the potential to reduce conflicts between different users at the Port, would allow for adequate separation between the fishing vessels, dredges, and sailboats.
11. Waiting on the final negotiations with the Air Force to proceed with this effort.
12. This could be a temporary gangway and could address dual purposes. Customs is conducted on ship and security folks could be onshore.
13. Potential for private industry to take on the laundromat, with City pursuing bath house and restrooms.

Worksheet #2 - Updated based on August 24 Work Session

This worksheet includes additional items identified by survey respondents as needed/desired at the Port and Small Boat Harbor facilities. These are in no particular order. The summary sheet number indicates where on the short-, mid-, and long-term summary sheets the projects can be found along with the project lead and the estimated cost, if known.

Table 6 – Survey Respondent Requests for Capital Improvements

<i>Requests from survey respondents</i>	<i>Short 1 (1 -2 years)</i>	<i>Mid 1 (3 - 5 years)</i>	<i>Long ¹ (more than 5 years)</i>	<i>Summary Sheet # From Tables 1 - 3</i>
Causeway turning basin expansion ⁴	X			1 or 2
Causeway turning basin dredged deeper ⁵	X			1 or 2
Rubber fendering on sheetpile ⁶				Done
Second fuel header at Causeway ⁷	X			1 or 11
Additional dock space in small boat harbor ⁸	X			6
Provide additional ladders for seasonal users in small boat harbor ⁹	X			7
Ability to discharge regulated garbage ¹⁰	X			9
PON purchase of fork lift or mobile crane ¹¹				Private industry
Floating dock or graving dock ¹²				Private industry
Vessel lift for larger vessels ¹³				Private industry
Wintertime snow removal from vessel storage lots ¹⁴				Already doing this as needed
WiFi free to Port users ¹⁵				5

Notes to Table:

1. Indicate if these improvements should be considered in the short, mid, or long-term.
2. **City, State, Federal, grant** funds, or **user fees** for potential financing. To be determined in the future.
3. If cost estimate known, please fill in. Engineering estimates will be completed at later date.
4. Would have to get Corps reevaluation and get this included in their annual dredging budget. Include in part of Port expansion and pursue alone.
5. Would have to get Corps reevaluation and get this included in their annual dredging budget. Include in part of Port expansion and pursue alone.
6. May be addressed already. Lucas to check.
7. Thought being that fuel transfer would be more efficient with another fuel header. This can also be part of the Port Expansion. Opportunity for Public/Private Partnership.
8. This could be part of the Snake River Development.
9. This could be addressed as part of the Snake River Development. Could also purchase a couple now as this is a small cost item.
10. Joy currently investigating. Regulated garbage needs to be incinerated. Cruise ships could be discharging now if PON could meet this need. Private industry?
11. Liability issue for the City. Rate schedule would need to be evaluated carefully. Would have to pencil out during 3-4 months of year.
12. Potential for private industry to take this on. Would have to pencil out during 3-4 months of year.
13. Potential for private industry to take this on. Would have to pencil out during 3-4 months of year. Snake River development potential?
14. Harbor staff already clearing the lot. If someone needs a vessel cleared at a particular time, they can contact the harbor and ask for clearing.
15. This is revenue opportunity. Users will be able to purchase WiFi at the Port shortly. Either private industry can handle or the City could make investment to make this happen.

Survey Results Summary

1. *Do you currently use the Port of Nome?*

Eighteen of the 20 respondents indicated that they currently use the Port of Nome.

2. *Do you have multiple vessels using the Port of Nome?*

Thirteen of the 18 respondents currently using the Port of Nome have more than one vessel.

3. *If yes, how many vessels does your company currently have visiting the Port of Nome?*

One respondent has 10 vessels currently using the Port. The average number for all respondents was 4 vessels. A total of 50 vessels were represented by the survey respondents.

4. *On average, how many times a year does your company use the Port of Nome and how long do your vessels typically stay?*

Eight of the respondents are long-term users of the Port. Low usage from one respondent was an annual visit for about 2 days. The highest usage amount outside of the long-term users was 26 to 30 times a year staying for approximately one day.

5. *If no, what are your reasons for not using the Port of Nome?*

- New Arctic rules make it impossible for our ship to work in the Arctic
- Inadequate depth and Port is sometimes too congested
- We are based out of Emmonak and generally pull our boats out of the water here. Last winter we pulled out one boat in Nome. Great facility and service and would use again if we need to pull a boat elsewhere than our own yard.
- Inadequate berth length for large cruise ships
- Vessels requesting fuel don't meet draft or length requirements, congestion at fuel docks prohibitive costs at Port (tariffs, taxes) compared to offshore fueling alternatives.

6. *Please select the vessel type that best describes your operations:*

Number	Vessel Type
2	gravel
5	cargo
2	fishing vessel
4	mining vessel
4	research vessel
2	landing craft
4	tug
1	passenger/cruise
1	freight

Several respondents provided information on more than one vessel so the types of vessels will exceed the total survey responses. Of note here, however, is that the survey respondents represent a good mix of the vessel types currently using the Port of Nome.

7. Please indicate your vessel specifications:

Vessel lengths overall were somewhat balanced with about a third of the vessels under 100-feet, another third in the 100 to 200-feet category, and the balance greater than 200-feet. The shortest length vessel was 20 feet and the longest length vessel was 820 feet. The beam for vessels calling at the Port of Nome had a wide range with 5-feet as the smallest and 106-feet as the widest. Most vessels fell in the 21 to 50-foot beam category. Vessel drafts range from 1 foot to 25-feet with almost half of the vessels falling in the greater than 12-foot draft category.

Vessel Dimensions Summary

Category/ # Vessels	Vessel Size	Most/Least	Feet
LOA			
18	Vessels under 100-feet	Longest length:	820
14	Vessels 100 to 200-feet	Shortest length:	16
14	Vessels greater than 200-feet		
Beam			
8	Vessels under 20-feet	Greatest beam:	106
25	Vessels 21 to 50-feet	Least beam:	5
9	Vessels greater than 50-feet		
Draft			
16	Vessels under 7-feet	Greatest draft:	25
9	Vessels 8 to 12-feet	Least draft:	1
21	Vessels greater than 12-feet		

The following capital improvements are currently under construction at the Port of Nome:

- Security camera system
- 18-acre parcel for uplands storage (9 acres in 2017)
- Snake River dredging to -8-feet MLLW
- Dead-man mechanism for equipment and vessel haul-outs

8. *The Port of Nome also has the following capital improvements projects pending on its Ports/Harbors list. Please rank these projects in order of importance for your business operations with “1” being most important and “14” being least important.*

Pending Capital Improvement	Ranking: (one vote per survey)
Better dock protection for inclement weather operations	1
Waste oil/bilge pumpout	2
Port expansion to deeper water	3
Port Ship's Waste Reception Facility	4
Electrical shore power in harbor	5
Outer harbor dolphins	6
Fueling station in small boat harbor	7
Communications connection on the Causeway	8
Causeway shore power	9
Snake River Moorage Development	10
7-acre parcel for vessel storage near existing launch ramps	11
Disembarking floats for cruise ship tenders in SE corner of harbor	12
Shower facilities	13
GARCO building upgrade	14

The 14 items listed in the pending capital improvements have been previously identified by the harbor staff and Port and Small Boat Harbor users. The ranking in this table shows that “better dock protection for inclement weather operations” and “waste oil/bilge pumpout” was of the most importance to the Port of Nome users. “Shower facilities” and “GARCO building upgrades” were least favored by the current users.

9. ***What other port improvements at Nome would make your operations more efficient or make you want to use the Port of Nome more frequently? Please list the improvements in order of your preference with "1" being the most important.***

Other Port Improvements desired fell into the general categories of Causeway infrastructure, small boat harbor infrastructure, management techniques, assistance with inclement weather conditions and include: (Responses here are listed in their entirety without editing)

Causeway Infrastructure:

Widen entrance so there is not a need for an assist boat
 Break wall in front of entrance to knock down swell in inclement weather
 Being able to moor large/deep draft vessels at the Outer Cell
 Turning basin dredged to deeper level
 Turning basin expanded
 Rubber fendering to protect sheet piling
 Second fuel header on Causeway for large vessels (outbound)

Small Boat Harbor Infrastructure:

More dock space
 Provide more docking space and control in harbor for seasonal users, allow larger vessels to have wall space for repairs and fueling, with smaller vessels handled by docking or docks
 More docking space for mining vessels
 Provide ladders for seasonal users, and control areas people can park in.
 Capacity of Snake River Bridge

Management Techniques:

Assist tug near port
 Assist tug available 24 X 7
 Please do not further limit full time users for once in a while users. i.e. occasional cruise ship float. This would take up additional wall space that is so badly needed for every day users. Rather reform the current fuel dock with a walkway to unload cruise passengers on that would have them walk up to the top of the current gravel ramp, via steps and a walkway

Assistance with Inclement Weather:

Wintertime snow removal from vessel storage lots
 More protection from the weather

Other Services:

The ability to discharge regulated garbage at Port of Nome
 Number of docking cells expanded to decrease schedule conflicts
 The Port of Nome should purchase a fork lift or mobile crane
 A floating dry dock or graving dock
 Vessel lift for larger vessels
 Free WiFi

10. Would you be willing to pay a small fee on top of your moorage/dockage to support capital improvements at the Port of Nome?

Eleven of the 19 respondents (55%) answering this question indicated they would be willing to pay a fee to support capital improvements at the Port of Nome. Eight respondents indicated they would not be willing to pay an additional fee.

11. If yes, what amount would you be willing to pay in addition to your moorage/dockage and other fees at the Port? Please indicate amount that you would be willing to pay each visit or an amount up to annually.

This question asked users if they would be willing to pay a fee per visit or an annual fee. Of the respondents indicating they would be willing to pay a fee, the high amount per each visit was \$50 and the low amount was \$20 per visit. For those indicating a willingness to pay an annual fee, the low amount was \$50 and the high amount was \$2,000 annually.

12. Other comments or information you would like to share with the Port of Nome: (these comments are listed in their entirety without editing)

- Frankly, the deficit now showing in the port report that was provided by your firm??? Is skewed. Showing depreciation as a tangible deduct item in the report is misleading as to the actual costs and projected costs to run the port, and projected port deficits. The basis used is not correct, thereby, there will be extra funds left for capital improvements if the report is used as gospel. You should correctly show the accounting in the proper format so as not to be misleading.
- We already pay such high prices for our usage in such a crowded port, I would figure there would be enough money to make improvements with what is already being collected without further raising prices. It is packed in the harbor.
- Please note that the above is submitted on behalf of the Cruise ships Silver Discoverer, Bremen, Crystal Serenity, and LeBoreal which will be the 4 cruise vessels calling at Port of Nome in 2017. Note that Crystal Serenity and LeBoreal must conduct their calls at anchor due to insufficient berth size.
- Additional 2% sales tax during summer months s/b used to support port improvements, not tariff or fee increases. The Port needs to develop an asset replacement schedule to determine appropriate planning and funding requirements for improvements and repairs of existing infrastructure.



ENGINEERS, INC.

Ms. Joy Baker
Port Director
City of Nome
P.O. Box 281
307 Belmont St.
Nome, AK 99762

November 3, 2017

Subject: Deep Draft Port Development – Revetments and Dredging Design

Dear Ms. Baker:

This letter is supplemental to the four (4) Nome Deep Draft Port Concepts and cost estimates prepared by PND Engineers, Inc. (PND) for the City of Nome (City) in November 2017 (see attached). The concept layouts and estimates were based off of the US Army Corps of Engineers (USACE) “Alaska Deep-Draft Arctic Port System Study”, February 2015 (DRAFT) report Concept 1A for the Nome Deep Draft Port. The USACE 1A alternative was the Tentatively Selected Plan (TSP) from the report based on the National Economic Development (NED) score. The City tasked PND with verifying the USACE cost estimates as well as providing concept layouts and rough order of magnitude (ROM) costs for modifications to this alternative.

The discussion below briefly outlines some additional design refinements that should be evaluated to optimize the armor stone design and lower costs on any of the presented alternatives that were not considered in these concept layouts or ROM cost estimates. Additionally, maintenance dredging vs. extension of the Deep Draft Port to deeper water is also discussed.

Design Refinements

The USACE Concept 1A cross section used for extending the existing causeway is reportedly based on the design by a Tippetts, Abbott, McCarthy and Stratton (TAMS) subconsultant in 1983, with some input from the USACE and the State of Alaska Coastal Engineer. That original causeway was designed around an, at the time, unproven rock source, with very little known about the ice conditions and conservative estimates for depth limited wave size.

A significant amount has been learned about the site since that original design from experience with the in-place structure, additional monitoring of wind, wave and currents, and much better information on the local material sources. PND believes that refinement of the design criteria for the Deep Draft Port utilizing knowledge of past performance, more recently collected data for use in hindcasting meteorological/oceanographic (Met-Ocean) and ice conditions should be conducted and would likely lower armor stone size requirements for the port.

For example, the significant wave design used at the site was reported as 0.7 times the water depth. More recent research now indicates that 0.6 or even 0.55 is more consistent with observations, which by itself should reduce the armor stone weight by 15% to 21%. Wave, current and ice keel data has been collected by PND with a Acoustic Doppler Current Profiler (ADCP) that would provide site specific data for design refinement. Also the use of cross sectional optimization techniques such as: special stone placement above MLLW, shallowing slopes deeper in the cross section coupled with smaller rock sizes, optimizing for exposure where wave and ice forces are less significant, coupled with replacement of some of the causeway core material with much lower cost gravel readily available in Nome could each offer reduction of project costs.

As the causeway revetment, and in particular the large armor stone, is a significant portion ($> \$100$ MM) of the overall cost of any of the considered concept designs, study and optimization of the design criteria and cross section of the revetment should realize significant savings to the overall project.

Considering the vested interest of the USACE, the State of Alaska and the City of Nome it may be beneficial to jointly study these potential cost saving measures. Should a single party wish to provide the study it is recommended that participation from the other interested parties be sought and carefully considered during design study development.

Maintenance Dredge vs. Port Extension

Ideally, a port is constructed at the natural water depth of the ships for which it is being designed. Desirable deep sites do not typically occur close enough to arctic shores to be constructed without significant additional cost to reach the desired depth. When optimizing port construction and maintenance costs alternatives of how to achieve a balance between the cost of extension into deeper water, versus dredging the berths, and artificially maintaining the deeper water depth closer to shore should be considered.

The Nome Deep Draft Port Concept C (see attached) presents an alternative for the port that extends the causeway an additional 1350' as compared to the other three concepts presented. Because of the cost of the armor stone required for the causeway extension this concept is estimated to be approximately \$100 MM +/- more than other considered concepts and would still require significant initial dredging as well as some maintenance dredging to maintain the desired basin depth of -40' MLLW.

In comparison, Concepts B1 and B2 would require slightly more initial dredging due to the shallower starting depth of the basin and longer required lead-in dredge from open water to the port. These concepts could also require more maintenance dredging since they would be placed in an area that is naturally higher than the desired dredge depth.

The USACE 2015 report estimated the gross annual sediment transport rate at 120,000 cubic yards with the majority being transported from west to east as evidenced by buildup on the west side of the causeway. With this in mind even a cursory look at the cost/benefit and conservatively assuming that the entire 120,000 cubic yards of material was

required to be dredged each year for Concepts B1 and B2 at approximately \$26/yard yields a maintenance dredge cost of approximately \$3.12 MM annually, or 32 years of dredging to balance out the \$100 MM cost difference.

In reality, the offshore maintenance dredge amount is likely to be much less than the full 120,000 cubic yards annually. The sediment from the east could affect the proposed berth while sediment from the west will have almost no effect on the berth. A cursory look at the buildup on the East Breakwater indicates that the basin influx is less than 0.08 feet per year. A more detailed study to refine sedimentation amounts and dispersion within the project boundary is needed to more accurately estimate the long term maintenance dredging efforts and costs.

In addition to the above cost considerations it is possible that extension of the east breakwater could be required to extended with the main causeway out to the natural -40' MLLW contour to minimize wave, sedimentation and ice effects, resulting in even higher project costs. If Concept C is to be investigated further it would be prudent that wave, sedimentation and ice studies be performed to ascertain this risk and cost.

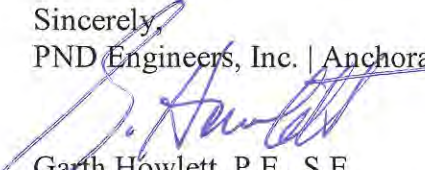
Conclusion and Recommendations

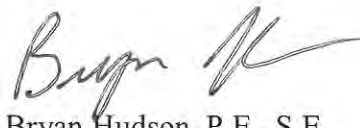
It is anticipated that design optimization of the armor stone portions of the causeway concepts attached to this letter would likely yield significant cost savings to the project. Study of past performance of the existing causeway, refinement of the design criteria and a more detailed design that optimizes the rock revetment is recommended to quantify the cost savings that could be realized. A joint effort between the USACE, the City of Nome and the State of Alaska would be the most beneficial as it would allow all parties input into the ultimate design criteria and optimization options.

Extension of the causeway to reach the -40' MLLW contour to minimize maintenance dredging is not a recommended alternative due to the high cost of the causeway extension. Based on USACE estimates of sedimentation in the area it is very likely that the cost of extension would far outweigh maintenance dredging costs for shallower depth alternatives for many years.

Please contact us if you have any questions or comments.

Sincerely,
PND Engineers, Inc. | Anchorage Office


Garth Howlett, P.E., S.E.
Principal


Bryan Hudson, P.E., S.E.
Senior Engineer

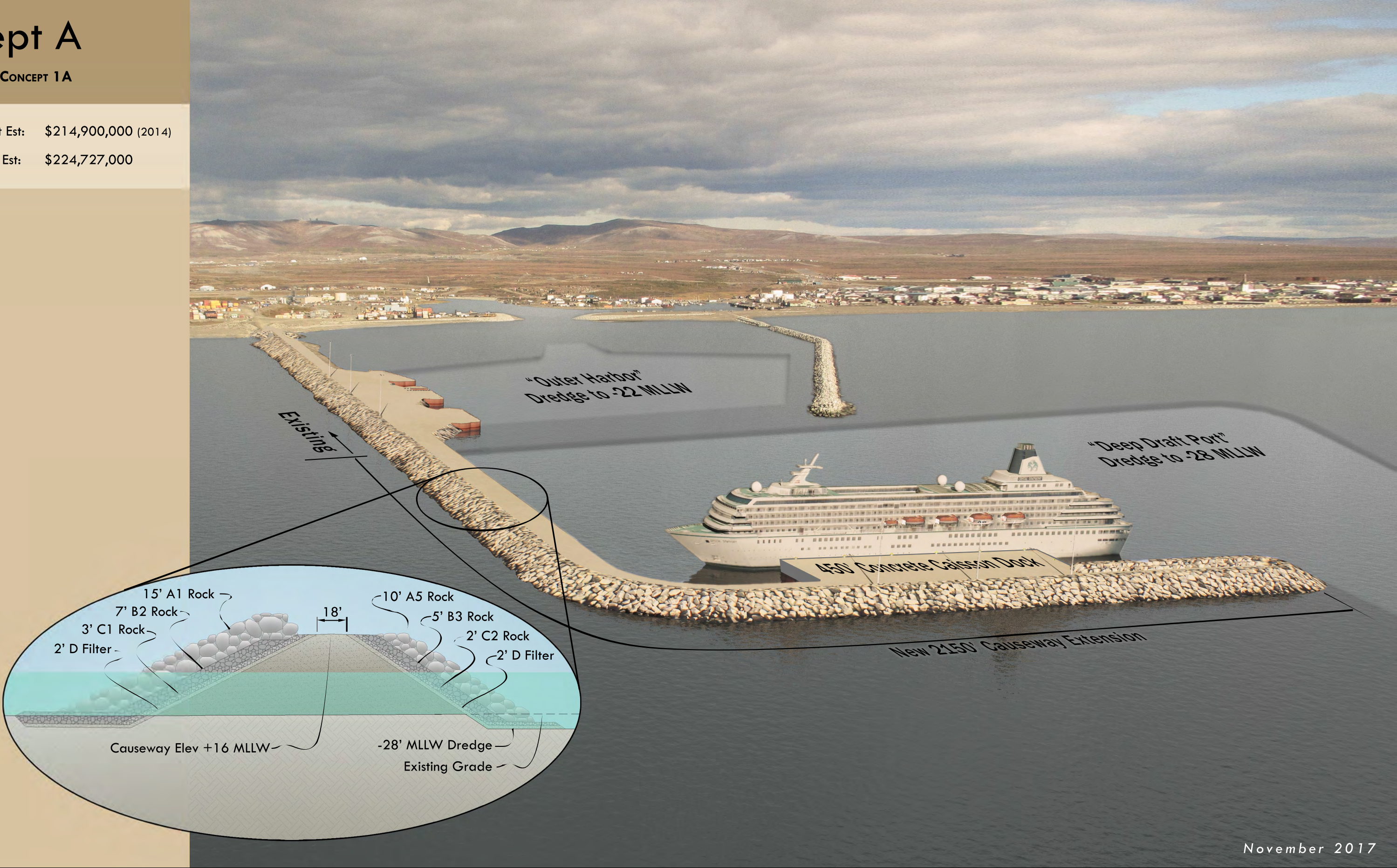
Enclosures: (4) Nome Deep Draft Port Concepts and Cost Estimates

Concept A

USACE BASELINE CONCEPT 1A

USACE ROM Cost Est: \$214,900,000 (2014)

Indep. ROM Cost Est: \$224,727,000



November 2017

Cost Breakdown Structure (CBS) Register

PND ENGINEERS, INC.

CBS Position Code	Description	Material Quantity	Unit of Measure	Total Unit Cost	Total Cost
1	Concept A1 - USACE Design	1.00	LS	\$224,271,901.97	\$224,271,901.97
1.1	Mobilization and Demobilization	1.00	LS	\$9,036,928.27	\$9,036,928.27
1.1.1	Mobilization	1.00	LS	\$5,309,062.17	\$5,309,062.17
1.1.2	Demobilization	1.00	LS	\$2,671,866.10	\$2,671,866.10
1.1.3	Field Personnel Housing, Per Diem, Transportation	600.00	Day	\$1,760.00	\$1,056,000.00
1.2	Demolition	1.00	LS	\$1,137,431.07	\$1,137,431.07
1.2.1	Remove Spur Breakwater	1.00	LS	\$1,137,431.07	\$1,137,431.07
1.3	Breakwater Extension - Cape Nome Quarry	1.00	LS	\$131,854,458.95	\$131,854,458.95
1.3.1	A1 Rock	191,000.00	LS	\$346.36	\$66,154,286.24
1.3.2	A5 Rock	25,000.00	CY	\$254.00	\$6,349,878.48
1.3.3	B2 Rock	81,000.00	CY	\$158.20	\$12,813,885.02
1.3.4	B3 Rock	57,900.00	CY	\$143.20	\$8,291,054.85
1.3.5	C1 Rock	26,400.00	CY	\$131.83	\$3,480,314.45
1.3.6	C2 Rock	17,600.00	CY	\$109.33	\$1,924,209.63
1.3.7	D Filter Rock	47,000.00	CY	\$116.83	\$5,491,014.36
1.3.8	Shot Rock Fill	455,000.00	CY	\$60.11	\$27,349,815.92
1.4	Dredging	1.00	LS	\$15,666,141.05	\$15,666,141.05
1.4.1	Deep Draft Port Dredging (-28 MLLW)	287,400.00	CY	\$26.58	\$7,639,037.90
1.4.2	Outer Harbor Dredging (-22 MLLW)	302,000.00	CY	\$26.58	\$8,027,103.15
1.5	Concrete Caisson Dock	1.00	LS	\$20,848,979.28	\$20,848,979.28
1.5.1	Provide Precast Concrete Caissons	1.00	LS	\$14,400,000.00	\$14,400,000.00
1.5.2	Transportation	1.00	LS	\$4,550,000.00	\$4,550,000.00
1.5.3	Site Preparation	1.00	LS	\$225,928.40	\$225,928.40
1.5.4	Installation	1.00	LS	\$470,861.17	\$470,861.17
1.5.5	Gravel Infill	1.00	LS	\$1,202,189.71	\$1,202,189.71
1.6	Dolphins	2.00	EA	\$434,774.89	\$869,549.77
1.6.1	Provide and Install Dolphin Caps	2.00	EA	\$52,856.86	\$105,713.72
1.6.2	Provide Dolphin Pile - 30x0.5"	1,200.00	LF	\$279.18	\$335,016.00
1.6.3	Drive Dolphin Pile	10.00	EA	\$3,786.17	\$37,861.71
1.6.4	Rock Anchors	8.00	EA	\$35,000.00	\$280,000.00
1.6.5	Concrete Infill	100.00	CY	\$1,109.58	\$110,958.34
1.7	Utilities	1.00	LS	\$2,906,213.58	\$2,906,213.58
1.7.1	Water Utilities	1.00	LS	\$360,009.33	\$360,009.33
1.7.2	Fuel Lines	1.00	LS	\$1,146,204.25	\$1,146,204.25
1.7.3	Electrical	1.00	LS	\$1,400,000.00	\$1,400,000.00
1.8	Indirect Project Costs	1.00	LS	\$5,492,200.00	\$5,492,200.00
1.8.1	Site Survey and Bathymetry	1.00	LS	\$75,000.00	\$75,000.00
1.8.2	Project Permitting	1.00	LS	\$125,000.00	\$125,000.00
1.8.3	Design Engineering	1.00	LS	\$3,650,000.00	\$3,650,000.00
1.8.4	Construction Administration	1.00	LS	\$720,000.00	\$720,000.00
1.8.5	Construction Inspection and Testing	1.00	LS	\$879,000.00	\$879,000.00
1.8.6	Project Closeout, As-Builts and O&M Manuals	1.00	LS	\$43,200.00	\$43,200.00
1.9	Contingency (Assumed 20%)	1.00	LS	\$36,460,000.00	\$36,460,000.00
43					\$224,271,901.97

Concept B1

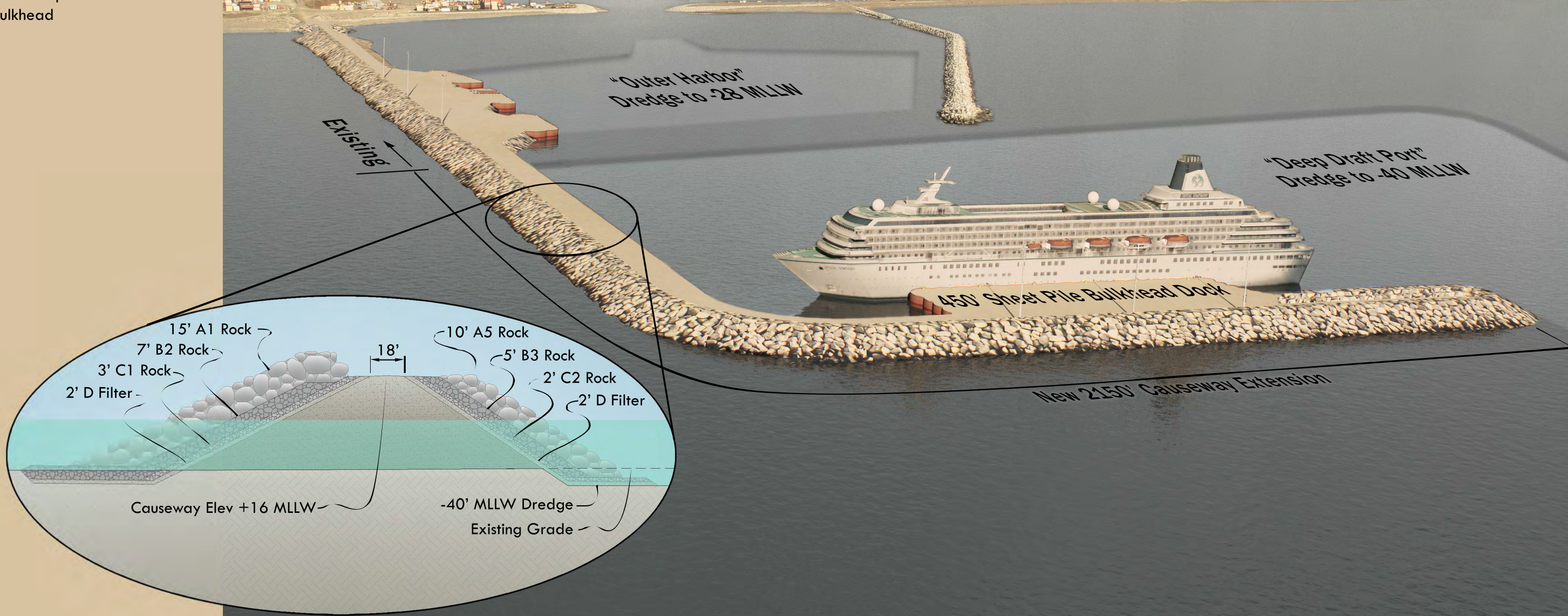
USACE BASELINE CONCEPT 1A WITH:

ROM Cost Est: \$254,097,000

“Outer Harbor” Dredged
to -28’ MLLW

Deeper “Deep Draft Port” dredged
to -40’ MLLW

Concrete Caisson Dock replaced
with Sheet Pile Bulkhead



November 2017

Cost Breakdown Structure (CBS) Register

PND ENGINEERS, INC.

CBS Position Code	Description	Material Quantity	Unit of Measure	Total Unit Cost	Total Cost
2	Concept B1 - USACE Design w/OCSF Dock and Dredge to -40MLLW	1.00	LS	\$254,096,922.90	\$254,096,922.90
2.1	Mobilization and Demobilization	1.00	LS	\$8,860,928.27	\$8,860,928.27
2.1.1	Mobilization	1.00	LS	\$5,309,062.17	\$5,309,062.17
2.1.2	Demobilization	1.00	LS	\$2,671,866.10	\$2,671,866.10
2.1.3	Field Personnel Housing, Per Diem, Transportation	500.00	Day	\$1,760.00	\$880,000.00
2.2	Demolition	1.00	LS	\$1,137,431.07	\$1,137,431.07
2.2.1	Remove Spur Breakwater	1.00	LS	\$1,137,431.07	\$1,137,431.07
2.3	Breakwater Extension - Cape Nome Quarry	1.00	LS	\$144,727,447.40	\$144,727,447.40
2.3.1	A1 Rock	194,000.00	LS	\$346.36	\$67,193,358.80
2.3.2	A5 Rock	17,000.00	CY	\$254.00	\$4,317,917.37
2.3.3	B2 Rock	77,000.00	CY	\$158.20	\$12,181,100.57
2.3.4	B3 Rock	55,000.00	CY	\$143.20	\$7,875,786.12
2.3.5	C1 Rock	26,400.00	CY	\$131.83	\$3,480,314.45
2.3.6	C2 Rock	17,600.00	CY	\$109.33	\$1,924,209.63
2.3.7	D Filter Rock	45,000.00	CY	\$116.83	\$5,257,354.17
2.3.8	Shot Rock Fill	707,000.00	CY	\$60.11	\$42,497,406.28
2.4	Dredging	1.00	LS	\$41,916,363.15	\$41,916,363.15
2.4.1	Deep Draft Port Dredging (-40 MLLW)	969,000.00	CY	\$26.58	\$25,755,837.60
2.4.2	Outer Harbor Dredging (-28 MLLW)	608,000.00	CY	\$26.58	\$16,160,525.55
2.5	OCSF Dock - 450 LF	1.00	LS	\$6,374,289.66	\$6,374,289.66
2.5.1	Provide Sheet Pile	2,030.00	Ton	\$1,815.00	\$3,684,450.00
2.5.2	Set Templates and Temporary Supports (Per Cell)	23.00	EA	\$20,395.57	\$469,098.00
2.5.3	Stab and Drive Sheet Piles	1,400.00	EA	\$993.04	\$1,390,252.75
2.5.4	Cut Off Sheet Piles and Weld Interlocks	550.00	EA	\$298.81	\$164,345.05
2.5.5	Face Beam	450.00	LF	\$1,480.32	\$666,143.87
2.6	Dolphins	2.00	EA	\$434,774.89	\$869,549.77
2.6.1	Provide and Install Dolphin Caps	2.00	EA	\$52,856.86	\$105,713.72
2.6.2	Provide Dolphin Pile - 30x0.5"	1,200.00	LF	\$279.18	\$335,016.00
2.6.3	Drive Dolphin Pile	10.00	EA	\$3,786.17	\$37,861.71
2.6.4	Rock Anchors	8.00	EA	\$35,000.00	\$280,000.00
2.6.5	Concrete Infill	100.00	CY	\$1,109.58	\$110,958.34
2.7	Utilities	1.00	LS	\$2,906,213.58	\$2,906,213.58
2.7.1	Water Utilities	1.00	LS	\$360,009.33	\$360,009.33
2.7.2	Fuel Lines	1.00	LS	\$1,146,204.25	\$1,146,204.25
2.7.3	Electrical	1.00	LS	\$1,400,000.00	\$1,400,000.00
2.8	Indirect Project Costs	1.00	LS	\$5,954,700.00	\$5,954,700.00
2.8.1	Site Survey and Bathymetry	1.00	LS	\$75,000.00	\$75,000.00
2.8.2	Project Permitting	1.00	LS	\$125,000.00	\$125,000.00
2.8.3	Design Engineering	1.00	LS	\$4,135,000.00	\$4,135,000.00
2.8.4	Construction Administration	1.00	LS	\$720,000.00	\$720,000.00
2.8.5	Construction Inspection and Testing	1.00	LS	\$856,500.00	\$856,500.00
2.8.6	Project Closeout, As-Builts and O&M Manuals	1.00	LS	\$43,200.00	\$43,200.00
2.9	Contingency (Assumed 20%)	1.00	LS	\$41,350,000.00	\$41,350,000.00
43					\$254,096,922.90

Concept B2

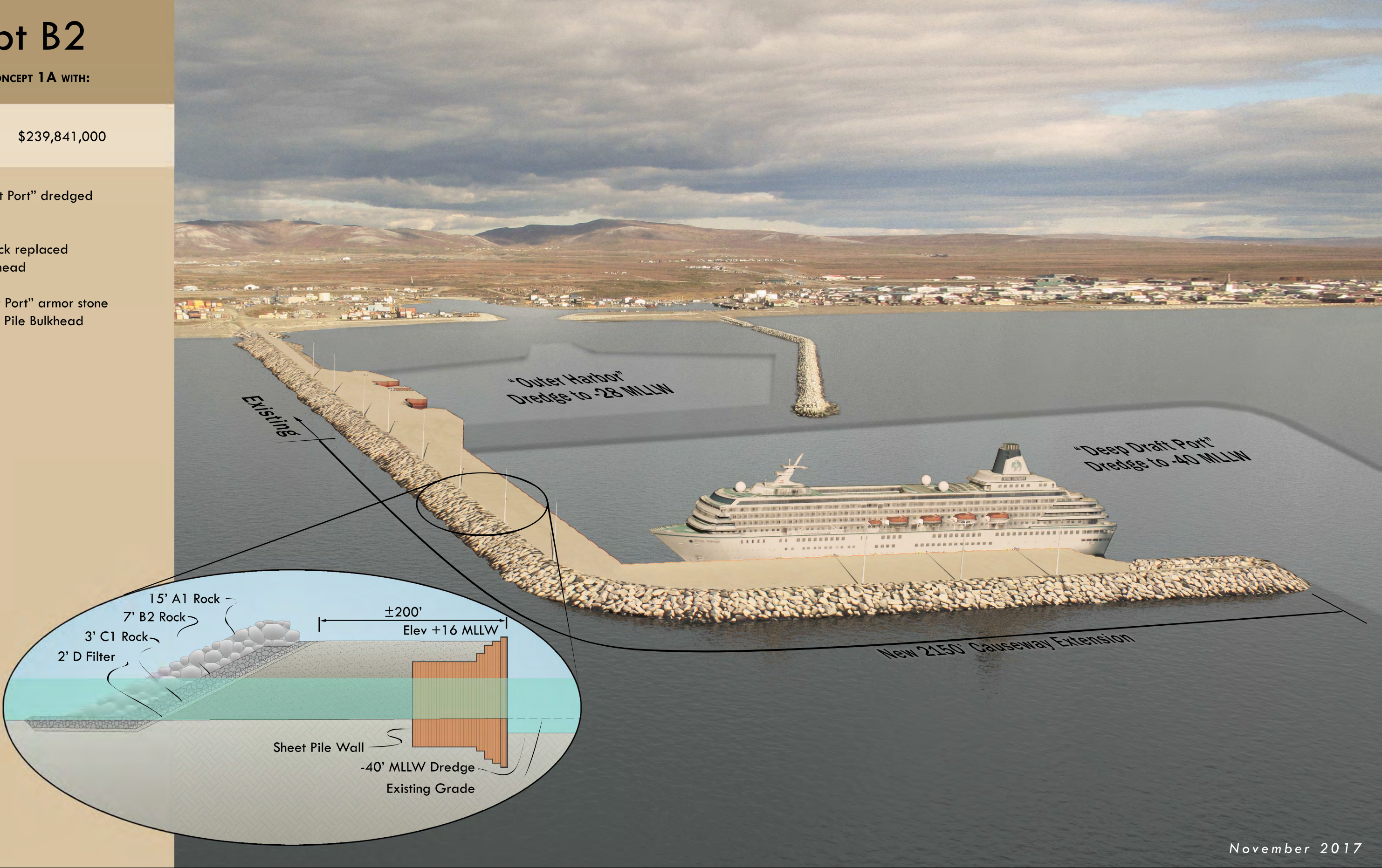
USACE BASELINE CONCEPT 1A WITH:

ROM Cost Est: \$239,841,000

Deeper “Deep Draft Port” dredged to -40’ MLLW

Concrete Caisson Dock replaced with Sheet Pile Bulkhead

Interior “Deep Draft Port” armor stone replaced with Sheet Pile Bulkhead



November 2017

Cost Breakdown Structure (CBS) Register

PND ENGINEERS, INC.

CBS Position Code	Description	Material Quantity	Unit of Measure	Total Unit Cost	Total Cost
3	Concept B2 - Inner Harbor Bulkhead and Dredge to -40MLLW	1.00	LS	\$239,840,666.14	\$239,840,666.14
3.1	Mobilization and Demobilization	1.00	LS	\$8,860,928.27	\$8,860,928.27
3.1.1	Mobilization	1.00	LS	\$5,309,062.17	\$5,309,062.17
3.1.2	Demobilization	1.00	LS	\$2,671,866.10	\$2,671,866.10
3.1.3	Field Personnel Housing, Per Diem, Transportation	500.00	Day	\$1,760.00	\$880,000.00
3.2	Demolition	1.00	LS	\$1,137,431.07	\$1,137,431.07
3.2.1	Remove Spur Breakwater	1.00	LS	\$1,137,431.07	\$1,137,431.07
3.3	Breakwater Extension	1.00	LS	\$139,315,196.52	\$139,315,196.52
3.3.1	OCSP Inner Harbor Bulkhead	1.00	LS	\$15,468,762.63	\$15,468,762.63
3.3.2	A1 Rock	182,200.00	LS	\$346.36	\$63,106,340.07
3.3.3	B2 Rock	108,300.00	CY	\$158.20	\$17,132,638.86
3.3.4	C1 Rock	32,300.00	CY	\$131.83	\$4,258,112.00
3.3.5	D Filter Rock	32,800.00	CY	\$116.83	\$3,832,027.04
3.3.6	Shot Rock Fill	455,000.00	CY	\$60.11	\$27,349,815.92
3.3.7	OCSP Fill	326,700.00	CY	\$25.00	\$8,167,500.00
3.4	Dredging	1.00	LS	\$41,363,503.07	\$41,363,503.07
3.4.1	Deep Draft Port Dredging (-40 MLLW)	948,200.00	CY	\$26.58	\$25,202,977.52
3.4.2	Outer Harbor Dredging (-28 MLLW)	608,000.00	CY	\$26.58	\$16,160,525.55
3.5	OCSP Dock - 450 LF (Appurtenances Only)	1.00	LS	\$666,143.87	\$666,143.87
3.5.1	Face Beam	450.00	LF	\$1,480.32	\$666,143.87
3.6	Dolphins	2.00	EA	\$434,774.89	\$869,549.77
3.6.1	Provide and Install Dolphin Caps	2.00	EA	\$52,856.86	\$105,713.72
3.6.2	Provide Dolphin Pile - 30x0.5"	1,200.00	LF	\$279.18	\$335,016.00
3.6.3	Drive Dolphin Pile	10.00	EA	\$3,786.17	\$37,861.71
3.6.4	Rock Anchors	8.00	EA	\$35,000.00	\$280,000.00
3.6.5	Concrete Infill	100.00	CY	\$1,109.58	\$110,958.34
3.7	Utilities	1.00	LS	\$2,906,213.58	\$2,906,213.58
3.7.1	Water Utilities	1.00	LS	\$360,009.33	\$360,009.33
3.7.2	Fuel Lines	1.00	LS	\$1,146,204.25	\$1,146,204.25
3.7.3	Electrical	1.00	LS	\$1,400,000.00	\$1,400,000.00
3.8	Indirect Project Costs	1.00	LS	\$5,721,700.00	\$5,721,700.00
3.8.1	Site Survey and Bathymetry	1.00	LS	\$75,000.00	\$75,000.00
3.8.2	Project Permitting	1.00	LS	\$125,000.00	\$125,000.00
3.8.3	Design Engineering	1.00	LS	\$3,902,000.00	\$3,902,000.00
3.8.4	Construction Administration	1.00	LS	\$720,000.00	\$720,000.00
3.8.5	Construction Inspection and Testing	1.00	LS	\$856,500.00	\$856,500.00
3.8.6	Project Closeout, As-Builts and O&M Manuals	1.00	LS	\$43,200.00	\$43,200.00
3.9	Contingency (Assumed 20%)	1.00	LS	\$39,000,000.00	\$39,000,000.00
38					\$239,840,666.14

Cost Breakdown Structure (CBS) Register

PND ENGINEERS, INC.

CBS Position Code	Description	Material Quantity	Unit of Measure	Total Unit Cost	Total Cost
4	Concept B3- Inner Harbor Bulkhead and Dredge to -28MLLW	1.00	LS	\$208,501,304.13	\$208,501,304.13
4.1	Mobilization and Demobilization	1.00	LS	\$8,860,928.27	\$8,860,928.27
4.1.1	Mobilization	1.00	LS	\$5,309,062.17	\$5,309,062.17
4.1.2	Demobilization	1.00	LS	\$2,671,866.10	\$2,671,866.10
4.1.3	Field Personnel Housing, Per Diem, Transportation	500.00	Day	\$1,760.00	\$880,000.00
4.2	Demolition	1.00	LS	\$1,137,431.07	\$1,137,431.07
4.2.1	Remove Spur Breakwater	1.00	LS	\$1,137,431.07	\$1,137,431.07
4.3	Breakwater Extension	1.00	LS	\$139,315,196.52	\$139,315,196.52
4.3.1	OCSP Inner Harbor Bulkhead	1.00	LS	\$15,468,762.63	\$15,468,762.63
4.3.2	A1 Rock	182,200.00	LS	\$346.36	\$63,106,340.07
4.3.3	B2 Rock	108,300.00	CY	\$158.20	\$17,132,638.86
4.3.4	C1 Rock	32,300.00	CY	\$131.83	\$4,258,112.00
4.3.5	D Filter Rock	32,800.00	CY	\$116.83	\$3,832,027.04
4.3.6	Shot Rock Fill	455,000.00	CY	\$60.11	\$27,349,815.92
4.3.7	OCSP Fill	326,700.00	CY	\$25.00	\$8,167,500.00
4.4	Dredging	1.00	LS	\$15,666,141.05	\$15,666,141.05
4.4.1	Deep Draft Port Dredging (-28 MLLW)	287,400.00	CY	\$26.58	\$7,639,037.90
4.4.2	Outer Harbor Dredging (-22 MLLW)	302,000.00	CY	\$26.58	\$8,027,103.15
4.5	OCSP Dock - 450 LF (Appurtenances Only)	1.00	LS	\$666,143.87	\$666,143.87
4.5.1	Face Beam	450.00	LF	\$1,480.32	\$666,143.87
4.6	Dolphins	2.00	EA	\$434,774.89	\$869,549.77
4.6.1	Provide and Install Dolphin Caps	2.00	EA	\$52,856.86	\$105,713.72
4.6.2	Provide Dolphin Pile - 30x0.5"	1,200.00	LF	\$279.18	\$335,016.00
4.6.3	Drive Dolphin Pile	10.00	EA	\$3,786.17	\$37,861.71
4.6.4	Rock Anchors	8.00	EA	\$35,000.00	\$280,000.00
4.6.5	Concrete Infill	100.00	CY	\$1,109.58	\$110,958.34
4.7	Utilities	1.00	LS	\$2,906,213.58	\$2,906,213.58
4.7.1	Water Utilities	1.00	LS	\$360,009.33	\$360,009.33
4.7.2	Fuel Lines	1.00	LS	\$1,146,204.25	\$1,146,204.25
4.7.3	Electrical	1.00	LS	\$1,400,000.00	\$1,400,000.00
4.8	Indirect Project Costs	1.00	LS	\$5,199,700.00	\$5,199,700.00
4.8.1	Site Survey and Bathymetry	1.00	LS	\$75,000.00	\$75,000.00
4.8.2	Project Permitting	1.00	LS	\$125,000.00	\$125,000.00
4.8.3	Design Engineering (Assumed 2% of Construction Cost)	1.00	LS	\$3,380,000.00	\$3,380,000.00
4.8.4	Construction Administration	1.00	LS	\$720,000.00	\$720,000.00
4.8.5	Construction Inspection and Testing	1.00	LS	\$856,500.00	\$856,500.00
4.8.6	Project Closeout, As-Builts and O&M Manuals	1.00	LS	\$43,200.00	\$43,200.00
4.9	Contingency (Assumed 20%)	1.00	LS	\$33,880,000.00	\$33,880,000.00
38					\$208,501,304.13

Concept C

EXTEND EXISTING CAUSEWAY TO -40' MLLW CONTOUR

ROM Cost Est: \$353,019,000



November 2017

Cost Breakdown Structure (CBS) Register

PND ENGINEERS, INC.

CBS Position Code	Description	Material Quantity	Unit of Measure	Total Unit Cost	Total Cost
5	Concept C - Extended Breakwater and Dredge to -40MLLW	1.00	LS	\$353,018,709.37	\$353,018,709.37
5.1	Mobilization and Demobilization	1.00	LS	\$9,300,928.27	\$9,300,928.27
5.1.1	Mobilization	1.00	LS	\$5,309,062.17	\$5,309,062.17
5.1.2	Demobilization	1.00	LS	\$2,671,866.10	\$2,671,866.10
5.1.3	Field Personnel Housing, Per Diem, Transportation	750.00	Day	\$1,760.00	\$1,320,000.00
5.2	Demolition	1.00	LS	\$1,137,431.07	\$1,137,431.07
5.2.1	Remove Spur Breakwater	1.00	LS	\$1,137,431.07	\$1,137,431.07
5.3	Breakwater Extension - Cape Nome Quarry	1.00	LS	\$239,494,968.26	\$239,494,968.26
5.3.1	A1 Rock	313,000.00	LS	\$346.36	\$108,409,903.63
5.3.2	A5 Rock	75,000.00	CY	\$254.00	\$19,049,635.44
5.3.3	B2 Rock	132,200.00	CY	\$158.20	\$20,913,525.92
5.3.4	B3 Rock	94,400.00	CY	\$143.20	\$13,517,712.91
5.3.5	C1 Rock	49,200.00	CY	\$131.83	\$6,486,040.56
5.3.6	C2 Rock	32,700.00	CY	\$109.33	\$3,575,094.03
5.3.7	D Filter Rock	80,400.00	CY	\$116.83	\$9,393,139.46
5.3.8	Shot Rock Fill	967,400.00	CY	\$60.11	\$58,149,916.32
5.4	Dredging	1.00	LS	\$26,021,635.72	\$26,021,635.72
5.4.1	Deep Draft Port Dredging (-40 MLLW)	371,000.00	CY	\$26.58	\$9,861,110.16
5.4.2	Outer Harbor Dredging (-28 MLLW)	608,000.00	CY	\$26.58	\$16,160,525.55
5.5	OCSF Dock - 450 LF	1.00	LS	\$6,374,289.66	\$6,374,289.66
5.5.1	Provide Sheet Pile	2,030.00	Ton	\$1,815.00	\$3,684,450.00
5.5.2	Set Templates and Temporary Supports (Per Cell)	23.00	EA	\$20,395.57	\$469,098.00
5.5.3	Stab and Drive Sheet Piles	1,400.00	EA	\$993.04	\$1,390,252.75
5.5.4	Cut Off Sheet Piles and Weld Interlocks	550.00	EA	\$298.81	\$164,345.05
5.5.5	Face Beam	450.00	LF	\$1,480.32	\$666,143.87
5.6	Dolphins	2.00	EA	\$434,774.89	\$869,549.77
5.6.1	Provide and Install Dolphin Caps	2.00	EA	\$52,856.86	\$105,713.72
5.6.2	Provide Dolphin Pile - 30x0.5"	1,200.00	LF	\$279.18	\$335,016.00
5.6.3	Drive Dolphin Pile	10.00	EA	\$3,786.17	\$37,861.71
5.6.4	Rock Anchors	8.00	EA	\$35,000.00	\$280,000.00
5.6.5	Concrete Infill	100.00	CY	\$1,109.58	\$110,958.34
5.7	Utilities	1.00	LS	\$4,028,606.62	\$4,028,606.62
5.7.1	Water Utilities	1.00	LS	\$503,257.72	\$503,257.72
5.7.2	Fuel Lines	1.00	LS	\$1,825,348.90	\$1,825,348.90
5.7.3	Electrical	1.00	LS	\$1,700,000.00	\$1,700,000.00
5.8	Indirect Project Costs	1.00	LS	\$8,351,300.00	\$8,351,300.00
5.8.1	Site Survey and Bathymetry	1.00	LS	\$125,000.00	\$125,000.00
5.8.2	Project Permitting	1.00	LS	\$125,000.00	\$125,000.00
5.8.3	Design Engineering	1.00	LS	\$5,740,000.00	\$5,740,000.00
5.8.4	Construction Administration	1.00	LS	\$1,080,000.00	\$1,080,000.00
5.8.5	Construction Inspection and Testing	1.00	LS	\$1,216,500.00	\$1,216,500.00
5.8.6	Project Closeout, As-Builts and O&M Manuals	1.00	LS	\$64,800.00	\$64,800.00
5.9	Contingency (Assumed 20%)	1.00	LS	\$57,440,000.00	\$57,440,000.00
43					\$353,018,709.37