



**ADDENDUM TO THE CONTRACT**  
**for the**  
**PORTAGE COVE HARBOR EXPANSION**

**ADDENDUM NO.: TWO**

**CURRENT DEADLINE FOR BIDS:**  
**October 19, 2016**  
**2:00 P.M.**

**PREVIOUS ADDENDA: ONE**

**ISSUED BY:** Haines Borough  
PO Box 1209  
Haines, Alaska 99827

**PREVIOUS DEADLINE FOR BIDS:**  
October 19, 2016  
2:00 P.M.

**DATE ADDENDUM ISSUED:** September 29, 2016

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online at the Haines Borough website.

**INFORMATIONAL ITEMS:** The following informational items have been posted to the Haines Borough website:

1. Responses to Bidder Questions – September 28, 2016
2. Existing Marine Wastewater Outfall Design and Repair Plans
3. David Evans & Associates – Multibeam Data Interpretation, September 17, 2014
4. 3.01 Dredging Plan.dwg (ACAD file with surface TIN)
5. XREF-BASE.dwg (ACAD file – existing conditions for 3.01 Dredging Plan)

**VOLUME 1 PROJECT MANUAL:**

- Item No. 1** SECTION 00100 – INSTRUCTIONS TO BIDDERS, ARTICLE 17.0 AWARD OF CONTRACT: **Add** the following to the end of paragraph C:
- The OWNER intends to award any selected Additive Alternates at the same time as the Base Bid.
- Item No. 2** SECTION 00300 – BID, Paragraph 11: **Delete** the last bulleted item in its entirety.
- Item No. 3** SECTION 00310 – BID SCHEDULE: **Delete in its entirety and replace** with the attached SECTION 00310 – BID SCHEDULE, labeled ADDENDUM NO. 2 in the footer.
- Item No. 4** SECTION 00700 – GENERAL CONDITIONS:
- Replace** the word “CBJ” with “OWNER” anywhere found in this Section.
- ARTICLE 6.6 PERMITS: **Delete** paragraph D in its entirety.
- Item No. 5** SECTION 00800 – SUPPLEMENTARY GENERAL CONDITIONS: **Add** the following:
- SGC 4.3 DIFFERING SITE CONDITIONS: **Add** the following to the end of Paragraph B:

The Owner will retain title to all existing hazardous waste encountered during construction excluding hazardous materials generated by the Contractor. Contractor shall dispose of such hazardous waste according to the Contract Documents, following local, State, and Federal regulations. The Owner will be shown as the hazardous waste generator and will sign all hazardous waste shipment manifests for non-contractor generated hazardous wastes. Nothing contained within these Contract Documents shall be construed or interpreted as requiring Contractor to assume the status of Owner or generator of hazardous waste substances for non-contractor generated hazardous wastes.

SGC 9.8 DECISIONS ON DISPUTES: *Add* the following paragraph:

- C. If a dispute arises out of or relates to this contract, or the breach thereof, and if the dispute cannot be settled through contract negotiations, the parties agree first to try in good faith to settle the dispute by mediation administered by the American Arbitration Association under its Construction Industry Mediation Procedures before resorting to litigation or some other dispute resolution procedure.

**Item No. 6** SECTION 01010 – SUMMARY OF WORK, ARTICLE 1.8 OWNER USE OF PROJECT SITE: *Add* the following paragraphs:

- D. To facilitate dredging of Area D under Additive Alternate A, the OWNER shall remove vessels along the outsides of the northerly most headwalk float (Float A) and westerly most transient float (Float E) for a maximum single duration period of fourteen days between the dates of October 1<sup>st</sup> and April 30<sup>th</sup>. The CONTRACTOR shall provide a minimum of 14 days advance notice to the OWNER in order to notify harbor patrons and move the vessels.
- E. Active vessel moorage shall occur on all existing floats located within the project limits. The CONTRACTOR shall coordinate with the OWNER at least 14 days in advance of any required vessel relocations or any float closures to accomplish dredging activities. The fuel float shall not be closed or relocated for more than 48 consecutive hours at a time. The fuel float shall be repositioned and reopened a minimum of 48 hours between consecutive closure periods.
- F. Due to active public vessel moorage throughout the existing harbor, both within and outside of the project work limits, dredging and loading over the top of existing floats and vessels shall not be allowed. The only existing floats that may be removed and replaced by the CONTRACTOR to facilitate dredging operations are the 24' removable stall floats on the north side of Float A, the Transient Float and the Fuel Float.
- G. The OWNER will make available the Port Chilkoot Dock for construction related barge and vessel mooring during the cruise ship off season starting October 1<sup>st</sup> and ending April 30<sup>th</sup>. The CONTRACTOR shall coordinate with the OWNER a minimum of 14 days in advance for use of this facility. The dock is not available for CONTRACTOR use from May 1<sup>st</sup> to September 30<sup>th</sup>.

**Item No. 7** SECTION 01025 – MEASUREMENT AND PAYMENT:

*Replace* Article 2.1 with the following:

- 2.1 DEMOLITION, SALVAGE AND DISPOSAL (Pay Item Nos. 2060.1 and 2060.1-A)  
PRICE BASED ON LUMP SUM

- A. Measurement for payment for Demolition, Salvage and Disposal shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the Contract Documents.
- B. Payment for Demolition, Salvage and Disposal under the Base Bid shall be made at the amount shown on the Bid Schedule under Pay Item No. 2060.1, which payment shall constitute full compensation for all WORK described in Section 02060 - Demolition and Disposal, as shown on the Plans, and as directed by the ENGINEER.
- C. Payment for Demolition, Salvage and Disposal under Additive Alternate A shall be made at the amount shown on the Bid Schedule under Pay Item No. 2060.1-A, which payment shall constitute full compensation for all WORK described in Section 02060 - Demolition and Disposal, as shown on the Plans, and as directed by the ENGINEER.

**Replace** Article 2.14 with the following:

- 2.14 REMOVE EXISTING NAVIGATION AID STRUCTURE (Pay Item No. 2207.4) PRICE BASED ON LUMP SUM
- A. Measurement for payment for Remove Existing Navigation Aid Structure shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the Contract Documents.
  - B. Payment for Remove Existing Navigation Aid Structure shall be made at the amount shown on the Bid Schedule under Pay Item No. 2207.4, which payment shall constitute full compensation for all WORK described in Section 02207 – Rubble Mound Breakwater, as shown on the Plans, and as directed by the ENGINEER.

ARTICLE 2.30 DREDGING AND DISPOSAL, Paragraph A: **Add** the following to the end of this paragraph:

Final measurement shall include the dredge slopes to the lines, grades and cross sections shown on the Plans.

**Add** the following Article:

- 2.301 MARINE MAMMAL WORK SUSPENSION – DREDGING ACTIVITY (Pay Item No. 2881.2) PRICE BASED ON QUANTITY, HOUR
- A. Measurement for Payment for Marine Mammal Work Suspension – Dredging Activity shall be per hour of work suspended by the OWNER based on marine mammal observations, complete, all in accordance with the requirements of the Permits and Contract Documents.
  - B. Payment for Marine Mammal Work Suspension – Dredging Activity under the Base Bid or any Additive Alternate shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2881.2, which payment shall constitute full compensation for all WORK described in Section 02881 – Dredging and Disposal, as shown on the Plans, and as directed by the ENGINEER.

**Replace** Article 2.37 with the following:

- 2.37 SPIN FIN™ PILE TIP (Pay Item Nos. 2896.7 and 2896.7-C) PRICE BASED ON QUANTITY, EACH

- A. Measurement for Payment for SPIN FIN™ Pile Tip shall be per each, complete in place, all in accordance with the Contract Documents.
- B. Payment for SPIN FIN™ Pile Tip under the Base Bid shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.7, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans, and as directed by the ENGINEER.
- C. Payment for SPIN FIN™ Pile Tip under Additive Alternate C shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.7-C, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans, and as directed by the ENGINEER.

ARTICLE 2.38 PDA TESTING ASSISTANCE: **Replace** the word “PRACED” with the word “PRICE”.

**Replace** Article 2.42 with the following:

- 2.42 MARINE MAMMAL WORK SUSPENSION - PILE ACITIVITY (Pay Item No. 2896.12) PRICE BASED ON QUANTITY, HOUR
- A. Measurement for Payment for Marine Mammal Work Suspension – Pile Activity shall be per hour of work suspended by the OWNER based on marine mammal observations, complete, all in accordance with the requirements of the Permits and Contract Documents.
  - B. CONTRACTOR shall fully comply with all Mitigation Measures outlined in the permit documents to receive compensation under this item.
  - C. Payment for Marine Mammal Work Suspension – Pile Activity under the Base Bid or any Additive Alternate shall be made at the Unit Price shown on the Bid Schedule under Pay Item No. 2896.12, which payment shall constitute full compensation for all WORK described in Section 02896 – Steel Pipe Piles, as shown on the Plans, and as directed by the ENGINEER.

ARTICLE 5.1 FURNISH AND INSTALL WAVE BARRIER WALER, Paragraph A: **Add** the following to the end of this paragraph:

Final measurement shall be the completed asbuilt length in place.

**Replace** Article 5.3 with the following:

- 5.3 WAVE BARRIER AMENITIES – FENDERS, LADDERS, NAVIGATION AID MOUNT AND OWNER FURNISHED TOWER (Pay Item No. 5120.3) PRICE BASED ON LUMP SUM
- A. Measurement for payment for Wave Barrier Amenities – Fenders, Ladders, Navigation Aid Mount and Owner Furnished Tower shall be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete in place including all hardware, timber and attachments, all in accordance with the requirements of the Contract Documents.

- B. Payment for Wave Barrier Amenities – Fenders, Ladders, Navigation Aid Mount and Owner Furnished Tower under the Base Bid shall be made at the amount shown on the Bid Schedule under Pay Item No. 5120.3, which payment shall constitute full compensation for all WORK described in Section 05120 – Metal Fabrication, as shown on the Plans and as directed by the ENGINEER

**Item No. 8** SECTION 01560 – TEMPORARY ENVIRONMENTAL CONTROLS, ARTICLE 1.7 NOISE ORDINANCE: *Replace* paragraph A with the following:

- A. CONTRACTOR'S WORK SCHEDULE LIMITATIONS. It is unlawful to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or similar heavy construction equipment before 7:00 a.m. or after 10:00 p.m., Monday through Saturday, or before 9:00 a.m. or after 10:00 p.m., Sunday, unless a permit shall first be obtained from the Borough. Such permit shall be issued by the Borough only upon a determination that such operation during hours not otherwise permitted hereunder is necessary and will not result in unreasonable disturbance to surrounding residents. The described work schedule limitations do not apply to that Work associated with Pay Item 2401.4 Connect to Existing 16-Inch Diameter HDPE Outfall Pipe.

**Item No. 9** SECTION 01570 – EROSION AND SEDIMENT CONTROL

ARTICLE 1.1 THE REQUIREMENT: *Add* the following paragraph:

- E. SWPPP submittal to ADEC is required for projects where the total land disturbance contributing to storm water runoff is five acres or more. For this project the dredged areas are not included in this calculation. By design the total land disturbance is estimated to be approximately 4.1 Acres. The CONTRACTOR shall review his means and methods for upland work to tabulate estimated acreage disturbed by his operations and submit a SWPPP to ADEC if required by law. The CONTRACTOR shall prepare and maintain a SWPPP and adhere to the stipulations therein and as required by law and the CGP.

ARTICLE 1.2 SUBMITTALS: *Replace* Paragraph D.1 with the following:

1. The CONTRACTOR shall submit a SWPPP to the ENGINEER complying with the current ADEC CGP. If required by law and the CGP, the SWPPP shall be reviewed and approved by ADEC prior to submission to the ENGINEER.

ARTICLE 3.2 SILT CONTAINMENT BOOM:

*Replace* paragraph C with the following:

- C. The silt containment boom shall remain in place around the upland containment work area, monitored for effectiveness and maintained in good working order until the armor rock on the exterior of the dredge material containment dike has been installed to an elevation of 21.2-feet MLLW, all suspended and erodible materials have been stabilized and the ENGINEER has determined water quality to be acceptable. The silt containment boom may then be removed in its entirety and shall remain property of the CONTRACTOR.

*Add* paragraph D as follows:

- D. Silt containment booms are not required for other armor rock placement, dredging, pile driving or wastewater outfall activities on this project.

**Item No. 10** SECTION 02202 – EXCAVATION AND EMBANKMENT

ARTICLE 2.3 CLASS A SHOT ROCK BORROW: *Add* the words “or talus” after the word “quarry” in the first sentence.

ARTICLE 2.4 CLASS B SHOT ROCK BORROW: *Add* the words “or talus” after the word “quarry” in the first sentence.

**Item No. 11** SECTION 02205 ARMOR ROCK, ARTICLE 3.1 CONSTRUCTION: *Add* the following to the end of paragraph B:

Armor rock thickness acceptance criteria shall be -10% to +30% of the design template neat line thickness. The CONTRACTOR shall adjust layer thickness as required to meet these tolerances.

**Item No. 12** SECTION 02203 TRENCHING, ARTICLE 3.4 SUBMARINE PIPE TRENCHING, BEDDING AND BACKFILL: *Delete* Paragraph D in its entirety.

**Item No. 13** SECTION 02207 – USACE RUBBLE MOUND BREAKWATER, ARTICLE 3.9 USCG NAVIGATION AID: *Replace* paragraph A with the following:

- A. Remove and salvage the existing USCG Navigation Aid structure and associated equipment from the south end of the breakwater and store it within the CONTRACTOR’s staging area. This equipment shall not be reinstalled. The USCG shall collect the salvaged equipment from the staging area and transport it off site.

**Item No. 14** SECTION 02401 – WASTEWATER OUTFALL

ARTICLE 1.2 GENERAL REQUIREMENTS: *Add* the following paragraph:

- C. The existing wastewater outfall pipe is critical OWNER infrastructure. It discharges all of the municipal wastewater and service cannot be interrupted except for a brief three hour connection period as outlined under Article 3.4. The CONTRACTOR shall schedule and sequence the installation of the entire new Wastewater Outfall WORK such that service to the Haines Borough is not impacted or interrupted in any manner beyond the connection period outlined herein.

ARTICLE 2.4 CONCRETE PIPE ANCHORS: *Replace* paragraph B.2. with the following:

2. Stainless steel bolts nuts and washers shall be passivated in accordance with ASTM A967 prior to delivery to the site.

ARTICLE 3.3 HDPE PIPE INSTALLATION: *Add* the following paragraphs:

- G. Prior to submerging the outfall pipe, the CONTRACTOR shall flush the pipe then perform hydrostatic testing as specified in Section 3.5 herein.
  1. Flushing shall be performed at volumes and velocities great enough to ensure the pipe is clear of foreign objects and debris. Flushing may be performed with seawater at the CONTRACTOR’s discretion.
  2. The ENGINEER shall be present for all flushing unless otherwise directed by the ENGINEER. The CONTRACTOR shall notify the ENGINEER at least 24 hours prior to flushing and shall notify the ENGINEER at least two hours in advance of the scheduled time if the test is to be cancelled or postponed.

ARTICLE 3.4 CONNECTION TO EXISTING OUTFALL PIPE, Paragraph B.4: *Delete* the words “In addition to the” at the end of this paragraph.

ARTICLE 3.5 HDPE OUTFALL TESTING:

*Add* the following to the end of paragraph A:

The CONTRACTOR shall submit, in writing, for the ENGINEER to review and approve, a Hydrostatic Testing Plan which conforms to the requirements specified herein and shall describe the CONTRACTOR's proposed schedule and procedure for hydrostatic pressure testing of all newly installed pipe.

1. It is the design intent for the outfall pipe to be hydrostatically tested prior to submergence with the concrete anchors installed. The CONTRACTOR may propose alternative testing procedures for ENGINEER review.

*Replace* Paragraph D and sub-paragraphs with the following:

- D. The length of individual pipe sections tested shall be determined by the CONTRACTOR. The CONTRACTOR may test the pipe in sections provided the following conditions are met.
  1. The CONTRACTOR shall include in the Hydrostatic Testing Plan the locations of proposed joints which will allow the outfall pipe up to the diffuser to be tested in no more than four lengths.
  2. A maximum of three joints shall be allowed to be visually inspected with no hydrostatic test. These joints may be either butt-fused or flanged, however other types of mechanical connections shall not be allowed. The ENGINEER shall be present for the connection of these joints.

ARTICLE 3.7 DIVE SURVEYS AND VIDEO: *Add* the following to the end of Paragraph E.

The submittals shall include results of the Wastewater Outfall Hydrographic Surveys as required by Section 02702 – Construction Surveying, Article 3.5 - Wastewater Outfall Hydrographic Surveys.

**Item No. 15** SECTION 02702 – CONSTRUCTION SURVEYING:

ARTICLE 3.2 DREDGING SURVEYS, *Replace* paragraph A with the following:

- A. All surveying involving dredging and disposal shall be performed by or under the supervision of a hydrographic surveyor that is a Professional Land Surveyor (PLS) registered in the State of Alaska having current hydrographic certification from the American Congress for Surveying and Mapping (ACSM). Pre-dredge and post-dredge surveys shall be performed by an independent surveyor. Dredge progress surveys may be performed by the Contractor or by an independent surveyor. All surveyors shall document at least 3 years of experience in hydrographic surveying of navigable channels.

*Add* the following Article:

3.5 WASTEWATER OUTFALL HYDROGRAPHIC SURVEYS

- A. The CONTRACTOR shall perform two hydrographic surveys of the entire submarine wastewater outfall line at milestones as specified below. Surveys shall be performed with equipment, specifications, submittal format, and quality control practices equivalent to that required for the dredging surveys as specified herein.
- B. Wastewater outfall hydrographic surveys shall extend a minimum of ten feet beyond both sides of the disturbed seafloor area, including the trench and any adjacent excavated material stockpiles, along the entirety of the submarine alignment.

- C. The first hydrographic survey of the entire submarine segment of the outfall alignment shall be completed after trench excavation, but before pipe installation. It shall be used in conjunction with the dive survey and video to demonstrate the following:
  - 1. The trench is generally straight and follows the design alignment both vertically and horizontally.
  - 2. The trench depth will allow the pipe to be placed and have the required depth of cover.
  - 3. There are no abrupt changes in alignment and there are no large rocks, debris or other material that could damage the pipe upon installation.
- D. The second hydrographic survey of the entire submarine segment of the outfall alignment shall be made after the pipe has been covered and the trench backfilled. It shall be used in conjunction with the dive survey and video to demonstrate the entire submarine segment has been properly covered, and that the sea bottom is relatively smooth and follows the general contours which existed prior to trenching.
- E. The hydrographic survey drawings shall be submitted to the ENGINEER with the respective dive survey report and video. The survey drawings shall be an integral part of the dive survey and video submittal and subsequent ENGINEER's review and thus shall be subject to the schedule constraints for both ENGINEER and CONTRACTOR as described in Section 02401 – Wastewater Outfall, Article 3.7.E.

**Item No. 16** SECTION 02881 – DREDGING AND DISPOSAL

ARTICLE 3.3 DISPOSAL WITHIN CONTAINMENT DIKE: *Replace* paragraph B with the following:

- B. Dredge material designated for disposal within the containment dike shall be obtained from Dredge Area A as shown on the Plans.

*Add* the following Article:

3.6 MARINE MAMMAL OBSERVATIONS AND WORK SUSPENSION

- A. The OWNER shall provide all required marine mammal observers as outlined in the USACE permits under Special Condition 4. The OWNER shall have stop work authority if marine mammals enter the described observation zones during dredging or disposal.
- B. The CONTRACTOR shall suspend and resume WORK at the direction of the OWNER and shall log all such activities on a daily report provided to the ENGINEER.
- C. Compensation for Marine Mammal Work Suspension associated with any dredging and disposal activities shall be at the contract bid unit price, provided the CONTRACTOR operations are in full compliance with all permit requirements.

**Item No. 17** SECTION 02896 – STEEL PIPE PILES

ARTICLE 2.3 MISCELLANEOUS, Paragraph A. Barrier Piles – Flat Sheet Piles: *Add* the following Subparagraph:

3. All flat web sheet piles shall be hot-dip galvanized in accordance with ASTM A123 following fabrication and welding to pipe piles. Care shall be taken to avoid excessive buildup of galvanizing material in the interlocks. Chase interlocks as required to remove excessive material, allowing the interlocks to be free sliding with a swing angle suitable for the intended installation.

ARTICLE 3.2 INSTALLATION, Paragraph B. Equipment:

*Add* the following to the end of the second paragraph: Wave Equation Analysis of Pile drivability, WEAP or similar, shall be considered acceptable analyses. Analyses shall be performed for all types and sizes of piles to be driven on the project. As determined necessary by the pile driving analysis, the CONTRACTOR may need to monitor and restrict energy inputs while pile driving to avoid overstressing piles.

*Add* the following to the end of the third paragraph: The following hammers, or equivalent, shall be considered adequate and shall be provided by the CONTRACTOR for installation of piles on this project: Delmag D100 (energy range of 157,743 ft-lbs to 300,000 ft-lbs and ram weight of 23,612 lbs) for bearing piles and Delmag D62 (energy range of 78,960 ft-lbs to 165,000 ft-lbs and ram weight of 14,600 lbs) for barrier piles. CONTRACTOR may assume piles can be advanced to minimum pile tip elevations and achieve specified design capacities within the range of energy settings allowed by the said hammers. If, during pile driving, refusal is encountered and the pile is not able to advance to the minimum specified pile depth, CONTRACTOR shall consult ENGINEER for further contract direction.

ARTICLE 3.2 INSTALLATION, Paragraph C. Pile Acceptance Criteria:

*Add* the following to the end of the third paragraph: The intent is to avoid damaging the sheet pile interlocks during pile driving in dense soil conditions. On a case by case basis, contingent upon ENGINEER approval, CONTRACTOR may employ staggered driving methods to impact drive adjacent barrier piles that extend deeper than five feet into dense soils, provided no damage occurs to the interlocks.

ARTICLE 3.2 INSTALLATION, Paragraph D. Dynamic Pile Test Program: *Add* the following to the end of Subparagraph 4:

Piles dedicated for restrike shall be coordinated in advance between the ENGINEER and CONTRACTOR to avoid pile splicing and excessive rework of any falsework.

- Item No. 18** SECTION 05120 METAL FABRICATION, ARTICLE 1.4 QUALITY ASSURANCE, Paragraph E. Welding Standards, Subparagraph 1: *Add* the words “or Washington Association of Building Officials (WABO)” after the word “AWS” in the first sentence.

**VOLUME 2 PLANS:**

- Item No. 19** SHEET 1.07 TRANSIENT FLOAT PLAN – PILE LAYOUT AND DETAILS

OWNER FURNISHED PILE SCHEDULE: *Change* the following values in the summary table:

<b>Row</b>	<b>Column</b>
Pile #3	Cutting Shoe <i>Change Value</i> from 63’ to 57’
Pile #6	Cutting Shoe <i>Change Value</i> from 34.8’ to 34.5’
Pile # 8	No. of Field Splices Req’d by Contractor <i>Change Value</i> to 1
Pile # 9	No. of Field Splices Req’d by Contractor <i>Change Value</i> to 1

*Add* the following Sheet Note:

7. 16-inch diameter piles shall be installed per the Typical Steel Mooring Float Pile Detail shown this sheet except top as noted. Piles shall be furnished by the CONTRACTOR with cutting shoes as shown.

**Item No. 20** DRAWING SHEET 2.01 WASTEWATER OUTFALL PLAN & PROFILE: *Replace* drawing in its entirety with the attached drawing similarly titled, labeled Addendum No. 2 and dated 9/21/16.

**Item No. 21** DRAWING SHEET 2.02 WASTEWATER OUTFALL DETAILS, OUTFALL PIPE TRENCH STA. 7+75 TO DAYLIGHT SECTION: *Replace* the callout referencing trench excavation at the top of the detail with the following:

Trench Excavation: Excavated material may be cast alongside the trench prior to backfill. CONTRACTOR shall make reasonable efforts based on visual dive surveys and video recordings to locate and remove visible boulders (+18") from the trench and excavated material prior to backfilling.

*Add* the following Note:

3. Anchors shall be installed snug-tight around the outfall pipe so as to prevent slippage of anchors upon installation, but not excessively tight to deform the pipe.

**Item No. 22** DRAWING SHEET 2.03 WASTEWATER OUTFALL DIFFUSER DETAILS: *Add* the following Note:

Note: Install diffuser in a generally flat area such that diffuser discharges are unobstructed for minimum 10-feet outside the pipe and to ensure outlets are above grade as shown. This may require minor grading of the seafloor in the diffuser area which shall be considered incidental to diffuser installation.

**Item No. 23** DRAWING SHEET 3.01 DREDGING PLAN:

*Delete* delineation arrow and callouts "Base Bid Dredging/Add Alt A Dredging" west side of (E) Fuel Tanks. (This is for clarification purposes only.)

DREDGE LAYOUT TABLE: *Replace* the Northing value for Point No. 7 with "2706863.01"

DREDGE SUMMARY TABLE: *Add* ADD ALT C to Dredge Area designation A.

NOTES:

*Delete* the words "Only clean granular" from the beginning of Note 1.

*Add* the following Notes:

9. Toe of Class II Armor Rock slope shown between points 9-12 shall be relocated along Base Bid dredge basin limit, points 26-29, should Additive Alternate C not be awarded. There is an additional 160 CY of Class II Armor Rock required in this region under Additive Alternate C.
10. To the maximum pay limit (including over dredge allowance) for each respective dredge area, it is estimated that the individual areas contain neat line dredge volumes approximately as follows:

Area A (Base Bid):	42,000 CY
Area A (Base Bid +Add Alt. C):	49,020 CY
Area B:	41,500 CY
Area C:	14,230 CY

Area D: 1,910 CY

11. Should Additive Alternate C be awarded, disposal conditions shall be per Area A requirements.

- Item No. 24** DRAWING SHEET 4.02 UPLAND GRADING AND DRAINAGE PLAN: *Replace* drawing in its entirety with the attached drawing similarly titled, labeled Addendum No. 2 and dated 9/21/16.
- Item No. 25** DRAWING SHEET 4.03 UPLAND SECTIONS, DETAIL C/4.02 – UPLAND FILL SECTION: *Change* the armor rock thickness dimension from 5'-0<sup>3</sup>/<sub>4</sub>" to 5'-0".
- Item No. 26** DRAWING SHEET 4.04, STORM DRAIN DETAILS, STORM DRAIN MANHOLE TYPE I (AS SHOWN): *Replace* the callout referencing the top slab at the top right corner of the detail with the following:
- Top slab shall be required for Manhole S2 only, reducing cone or top slab may be installed elsewhere.
- Item No. 27** DRAWING SHEET 5.02 WAVE BARRIER NORTH PARTIAL PLAN: *Replace* drawing in its entirety with the attached drawing similarly titled, labeled Addendum No. 2 and dated 9/21/16.
- Item No. 28** DRAWING SHEET 5.06 ROCK BREAKWATER SECTION, D/5.02 TYPICAL SECTION: *Add* the following dimensions to the existing breakwater section: Top Width = 5', Side slopes = 1.5H:1.0V.
- Item No. 29** DRAWING SHEET 5.09 BARRIER PILES AND WALERS: *Replace* drawing in its entirety with the attached drawing similarly titled, labeled Addendum No. 2 and dated 9/21/16.
- Item No. 30** DRAWING SHEET 5.12 FENDER AND MARINE SIGNAL LIGHT: *Replace* drawing in its entirety with the attached drawing titled FENDER AND NAVIGATION TOWER MOUNT, labeled Addendum No. 2 and dated 9/21/16.
- Item No. 31** DRAWING SHEET 5.14 PILE ANODES ADDITIVE ALTERNATE 'B', ANODE DETAIL: *Change* dimensional callout for Steel Tab Plate to ½"t x 3" min. wide.
- Item No. 32** DRAWING SHEET 5.15 NAVIGATION STRUCTURE DETAILS: *Replace* drawing in its entirety with the attached drawing similarly titled, labeled Addendum No. 2 and dated 9/21/16.

Approved By: William Seward, Borough Manager

Total number of pages contained within this Addendum: 22 (Including Plans)

**SECTION 00310 - BID SCHEDULE**

**BASE BID - PORTAGE COVE HARBOR EXPANSION**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
1505.1	Mobilization	LS	All Req'd	LUMP	SUM		
1570.1	Erosion and Sediment Control	LS	All Req'd	LUMP	SUM		
1570.2	Silt Containment Boom	LS	All Req'd	LUMP	SUM		
2060.1	Demolition, Salvage and Disposal	LS	All Req'd	LUMP	SUM		
2060.2	Seaplane Float Removal and Reinstallation	LS	All Req'd	LUMP	SUM		
2060.3	Remove, Salvage and Reinstall Transient Float Light Fixtures	LS	All Req'd	LUMP	SUM		
2201.1	Clearing and Grubbing	LS	All Req'd	LUMP	SUM		
2202.1	Class A Shot Rock Borrow	CY	8,690				
2202.2	Class B Shot Rock Borrow	CY	8,390				
2204.1	Base Course, Grading C-1	CY	440				
2205.1	Class II Armor Rock	CY	3,210				
2205.2	Class III Armor Rock	CY	2,210				
2205.3	Class IV Armor Rock	CY	1,540				
2207.1	Remove and Restore Rock on Rubble Mound Breakwater	LS	All Req'd	LUMP	SUM		
2207.2	Breakwater Armor Rock, Type I	CY	700				
2207.3	Breakwater Underlayer Rock, Type II	CY	350				
2207.4	Remove Existing Navigation Aid Structure	LS	All Req'd	LUMP	SUM		
2401.1	Furnish and Install 16-Inch Dia. HDPE Wastewater Outfall Pipe Sta. 1+50 to 7+75	LF	625				
2401.2	Furnish and Install 16-Inch Dia. HDPE Wastewater Outfall Pipe Sta. 7+75 to Diffuser	LF	1,800				
2401.3	Furnish and Install Wastewater Outfall Diffuser	LS	All Req'd	LUMP	SUM		
2401.4	Connect to Existing 16-Inch Dia. HDPE Outfall Pipe	LS	All Req'd	LUMP	SUM		
2401.5	Furnish and Install Wastewater Outfall Concrete Anchor, Type I	EA	170				
2401.6	Furnish and Install Wastewater Outfall Concrete Anchor, Type II	EA	20				

**SECTION 00310 - BID SCHEDULE**

**BASE BID - PORTAGE COVE HARBOR EXPANSION**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
2401.7	Wastewater Outfall Dive Surveys and Videos	LS	All Req'd	LUMP	SUM		
2501.1	12-Inch CPP Storm Drain Pipe	LF	170				
2501.2	24-Inch CPP Storm Drain Pipe	LF	240				
2501.3	36-Inch CPP Storm Drain Pipe	LF	450				
2501.4	Clean Existing Storm Drain Pipe to Upstream Manhole	LS	All Req'd	LUMP	SUM		
2501.5	Connect to Existing Storm Drain Pipe	EA	4				
2502.1	Storm Drain Manhole, Type I	EA	3				
2502.2	Storm Drain Manhole, Type II	EA	1				
2502.3	Storm Drain Oil-Water Separator	EA	1				
2502.4	Storm Drain Outfall Structure	LS	All Req'd	LUMP	SUM		
2702.1	Construction Surveying	LS	All Req'd	LUMP	SUM		
2702.2	Reset Survey Monument	EA	1				
2714.1	Geotextile Fabric	SY	13,240				
2881.1	Dredging and Disposal	CY	83,500				
2881.2	Marine Mammal Work Suspension - Dredging Activity	HR	20				
2896.1	Furnish and Install Mooring Pile, 16 Inch Dia. X 0.500 Inch Thick	EA	8				
2896.2	Furnish and Install Wave Barrier Pile w/Sheetpile Wings, 24 Inch Dia. X 0.500 Inch Thick	EA	113				
2896.3	Furnish Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	LF	6,840				
2896.4	Install Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	EA	38				
2896.5	Install Transient Float Pile, 12.75 Inch Dia. X 0.500 Inch Thick	EA	9				
2896.6	Contingent Work - Deep Obstruction Removal	CS	As Req'd	CONT	SUM	\$500,000	00
2896.7	SPIN FIN™ Pile Tip	EA	36				
2896.8	PDA Testing Assistance	HR	20				

**SECTION 00310 - BID SCHEDULE**

**BASE BID - PORTAGE COVE HARBOR EXPANSION**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
2896.9	Field Splice Owner Furnished Transient Float Pile, 12.75 Inch Dia.	EA	9				
2896.10	Furnish and Install Open Cutting Shoe, 12.75 Inch Dia. Pile	EA	1				
2896.11	Field Splice, 24 Inch or 30 Inch Dia. Pile	EA	6				
2896.12	Marine Mammal Work Suspension - Pile Activity	HR	20				
5120.1	Furnish and Install Wave Barrier Waler	LF	604				
5120.2	Furnish and Install Wave Barrier Bearing Cap and Connection	EA	19				
5120.3	Wave Barrier Amenities - Fenders, Ladders, Navigation Aid Mount and Owner Furnished Tower	LS	All Reqd	LUMP	SUM		

**TOTAL BASE BID AMOUNT IN FIGURES: \$** \_\_\_\_\_

**TOTAL BASE BID AMOUNT IN WORDS:** \_\_\_\_\_

**BIDDER NAME:** \_\_\_\_\_

**SECTION 00310 - BID SCHEDULE**

**ADDITIVE ALTERNATE A-DREDGING EXISTING INNER HARBOR BASIN**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
1505.1-A	Mobilization	LS	All Req'd	LUMP	SUM		
2060.1-A	Demolition, Salvage and Disposal	LS	All Req'd	LUMP	SUM		
2205.1-A	Class II Armor Rock	CY	370				
2702.1-A	Construction Surveying	LS	All Req'd	LUMP	SUM		
2881.1-A	Dredging and Disposal	CY	16,140				

**TOTAL ADDITIVE ALTERNATE A AMOUNT IN FIGURES: \$** \_\_\_\_\_

**TOTAL ADDITIVE ALTERNATE A AMOUNT IN WORDS:** \_\_\_\_\_

**BIDDER NAME:** \_\_\_\_\_

**ADDITIVE ALTERNATE B – PILE ANODES**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
1505.1-B	Mobilization	LS	All Req'd	LUMP	SUM		
2996.1-B	Supply Anode	EA	380				
2996.2-B	Install Anode	EA	380				
2996.3-B	Field Photos, Continuity, Potential Readings and Report	LS	All Req'd	LUMP	SUM		

**TOTAL ADDITIVE ALTERNATE B AMOUNT IN FIGURES: \$** \_\_\_\_\_

**TOTAL ADDITIVE ALTERNATE B AMOUNT IN WORDS:** \_\_\_\_\_

**BIDDER NAME:** \_\_\_\_\_

**SECTION 00310 - BID SCHEDULE**

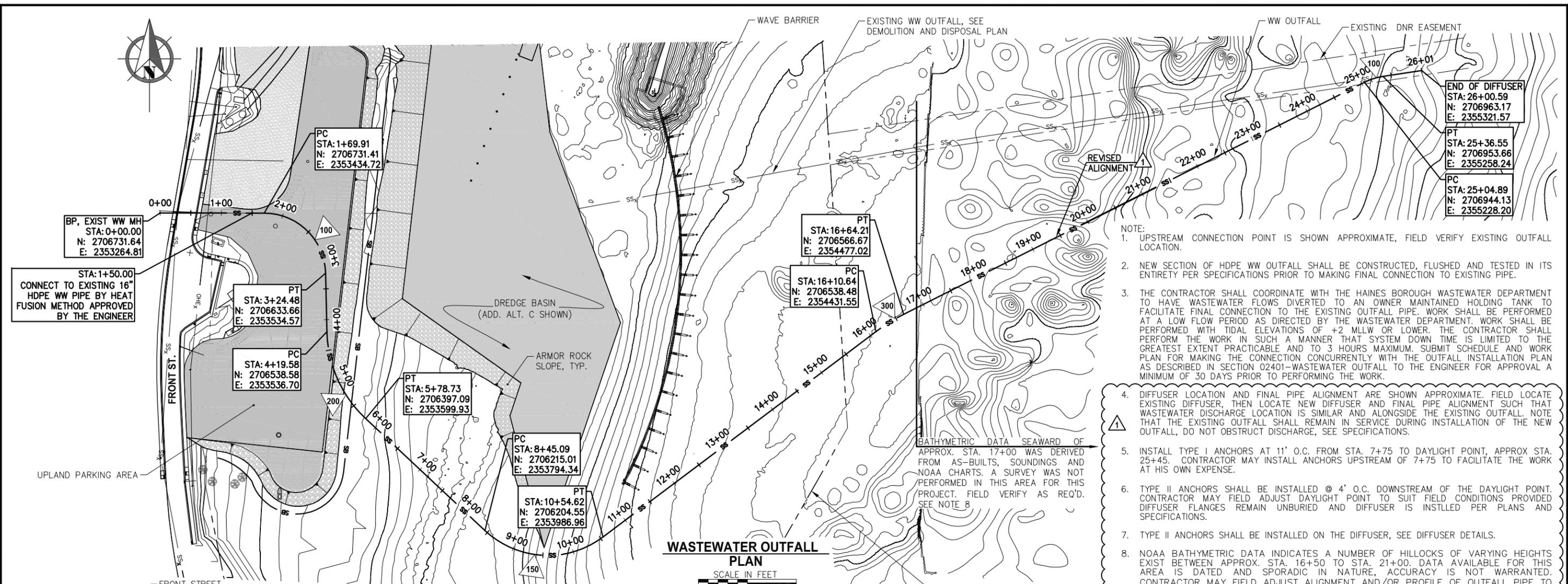
**ADDITIVE ALTERNATE C – ADDITIONAL WAVE BARRIER, PILE ANODES & DREDGING**

Pay Item No.	Pay Item Description	Pay Unit	Approximate Quantity	Unit Price		Amount	
				Dollars	Cents	Dollars	Cents
1505.1-C	Mobilization	LS	All Req'd	LUMP	SUM		
2205.1-C	Class II Armor Rock	CY	160				
2702.1-C	Construction Surveying	LS	All Req'd	LUMP	SUM		
2881.1-C	Dredging and Disposal	CY	7,020				
2896.2-C	Furnish and Install Wave Barrier Pile w/Sheetpile Wings, 24 Inch Dia. X 0.500 Inch Thick	EA	6				
2896.3-C	Furnish Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	LF	360				
2896.4-C	Install Bearing Pile, 30 Inch Dia. X 0.750 Inch Thick	EA	2				
2896.7-C	SPIN FIN™ Pile Tip	EA	2				
2996.1-C	Supply Anode	EA	24				
2996.2-C	Install Anode	EA	24				
2996.3-C	Field Photos, Continuity, Potential Readings and Report	LS	All Req'd	LUMP	SUM		
5120.1-C	Furnish and Install Wave Barrier Waler	LF	33				
5120.2-C	Furnish and Install Wave Barrier Bearing Cap and Connection	EA	1				

**TOTAL ADDITIVE ALTERNATE C AMOUNT IN FIGURES: \$** \_\_\_\_\_

**TOTAL ADDITIVE ALTERNATE C AMOUNT IN WORDS:** \_\_\_\_\_

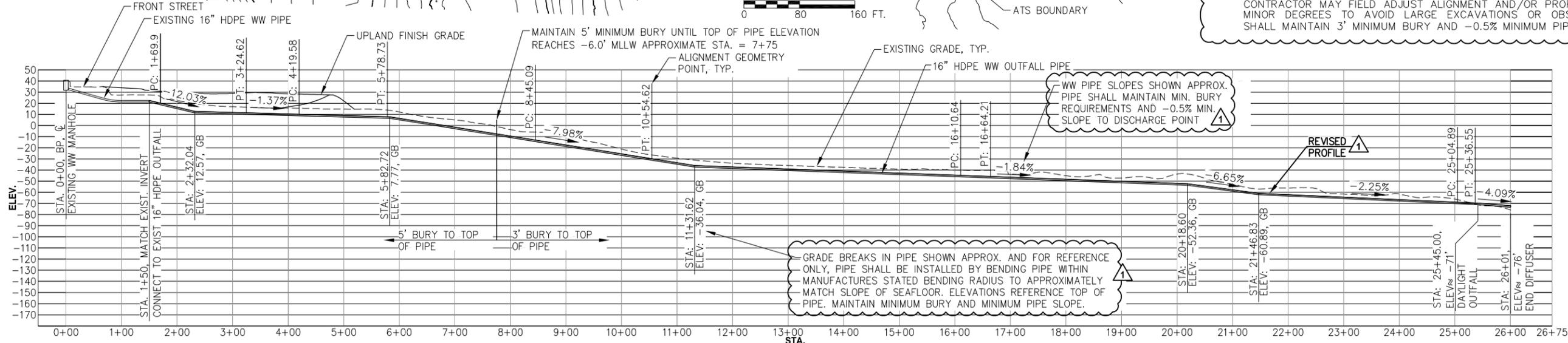
**BIDDER NAME:** \_\_\_\_\_



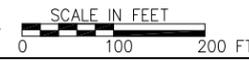
**WASTEWATER OUTFALL PLAN**



- NOTE:
- UPSTREAM CONNECTION POINT IS SHOWN APPROXIMATE, FIELD VERIFY EXISTING OUTFALL LOCATION.
  - NEW SECTION OF HDPE WW OUTFALL SHALL BE CONSTRUCTED, FLUSHED AND TESTED IN ITS ENTIRETY PER SPECIFICATIONS PRIOR TO MAKING FINAL CONNECTION TO EXISTING PIPE.
  - THE CONTRACTOR SHALL COORDINATE WITH THE HAINES BOROUGH WASTEWATER DEPARTMENT TO HAVE WASTEWATER FLOWS DIVERTED TO AN OWNER MAINTAINED HOLDING TANK TO FACILITATE FINAL CONNECTION TO THE EXISTING OUTFALL PIPE. WORK SHALL BE PERFORMED AT A LOW FLOW PERIOD AS DIRECTED BY THE WASTEWATER DEPARTMENT. WORK SHALL BE PERFORMED WITH TIDAL ELEVATIONS OF +2 MLLW OR LOWER. THE CONTRACTOR SHALL PERFORM THE WORK IN SUCH A MANNER THAT SYSTEM DOWN TIME IS LIMITED TO THE GREATEST EXTENT PRACTICABLE AND TO 3 HOURS MAXIMUM. SUBMIT SCHEDULE AND WORK PLAN FOR MAKING THE CONNECTION CONCURRENTLY WITH THE OUTFALL INSTALLATION PLAN AS DESCRIBED IN SECTION 02401-WASTEWATER OUTFALL TO THE ENGINEER FOR APPROVAL A MINIMUM OF 30 DAYS PRIOR TO PERFORMING THE WORK.
  - DIFFUSER LOCATION AND FINAL PIPE ALIGNMENT ARE SHOWN APPROXIMATE. FIELD LOCATE EXISTING DIFFUSER, THEN LOCATE NEW DIFFUSER AND FINAL PIPE ALIGNMENT SUCH THAT WASTEWATER DISCHARGE LOCATION IS SIMILAR AND ALONGSIDE THE EXISTING OUTFALL. NOTE THAT THE EXISTING OUTFALL SHALL REMAIN IN SERVICE DURING INSTALLATION OF THE NEW OUTFALL, DO NOT OBSTRUCT DISCHARGE, SEE SPECIFICATIONS.
  - INSTALL TYPE I ANCHORS AT 11' O.C. FROM STA. 7+75 TO DAYLIGHT POINT, APPROX. STA. 25+45. CONTRACTOR MAY INSTALL ANCHORS UPSTREAM OF 7+75 TO FACILITATE THE WORK AT HIS OWN EXPENSE.
  - TYPE II ANCHORS SHALL BE INSTALLED @ 4' O.C. DOWNSTREAM OF THE DAYLIGHT POINT. CONTRACTOR MAY FIELD ADJUST DAYLIGHT POINT TO SUIT FIELD CONDITIONS PROVIDED DIFFUSER FLANGES REMAIN UNBURIED AND DIFFUSER IS INSTALLED PER PLANS AND SPECIFICATIONS.
  - TYPE II ANCHORS SHALL BE INSTALLED ON THE DIFFUSER, SEE DIFFUSER DETAILS.
  - NOAA BATHYMETRIC DATA INDICATES A NUMBER OF HILLOCKS OF VARYING HEIGHTS EXIST BETWEEN APPROX. STA. 16+50 TO STA. 21+00. DATA AVAILABLE FOR THIS AREA IS DATED AND SPORADIC IN NATURE, ACCURACY IS NOT WARRANTED. CONTRACTOR MAY FIELD ADJUST ALIGNMENT AND/OR PROFILE OF OUTFALL PIPE TO MINOR DEGREES TO AVOID LARGE EXCAVATIONS OR OBSTRUCTIONS. CONTRACTOR SHALL MAINTAIN 3' MINIMUM BURY AND -0.5% MINIMUM PIPE SLOPE AT ALL TIMES.



**WASTEWATER OUTFALL PROFILE**



NOTE: PROFILE SHOWN WITH 2X VERTICAL EXAGGERATION

**ADDENDUM NO. 2**



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.
1	9/21/16	ADDENDUM NO.2: ALIGNMENT AND PROFILE MODIFICATIONS	TCB	CRS	CRS

**PND ENGINEERS, INC.**

9360 Glacier Highway, Ste. 100  
Juneau, Alaska 99801  
Phone: 907-586-2093  
Fax: 907-586-2099  
www.pndengineers.com

DESIGN: TCB    CHECKED: CRS    SCALE: AS SHOWN  
DRAWN: TCB    APPROVED: CRS



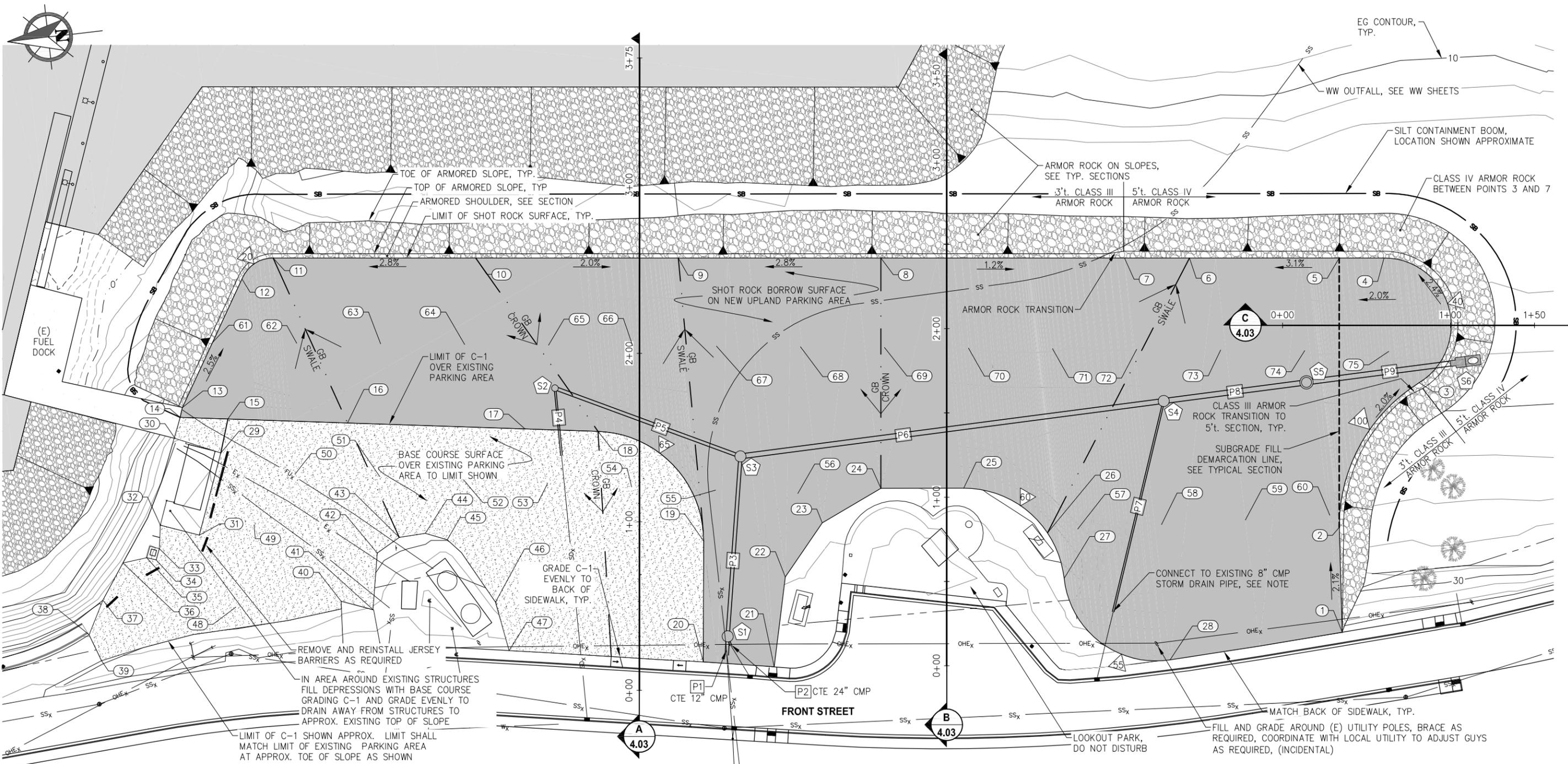
**HAINES BOROUGH PORTAGE COVE HARBOR EXPANSION**

SHEET TITLE: **WASTEWATER OUTFALL PLAN & PROFILE**

PND PROJECT NO.: 102029.01

DATE: 9/21/16

**2.01**  
SHEET 8 OF 32



**GRADING AND DRAINAGE PLAN**

△ LAYOUT POINTS ARE SHOWN THIS SHEET.

**NOTES:**

- CONNECTIONS TO EXISTING PIPES SHALL BE COUPLED AS SHOWN IN THE CONCRETE ENCASEMENT DETAIL, SHEET 4.03.
- THE 8" CMP PIPE TO BE CONNECTED UPSTREAM TO PIPE P7 IS BURIED IN THE EXISTING SLOPE. CONTRACTOR SHALL FIELD LOCATE AND SUBMIT COORDINATES AND INVERT ELEVATION TO ENGINEER PRIOR TO MATERIAL ORDER. (INCIDENTAL)
- GRADE ARROWS PROVIDED ARE SPOT GRADES AND ARE FOR REFERENCE ONLY, POINTS SHALL CONTROL.
- WATER OR WASTEWATER PIPES, INCLUDING THE 16" WASTEWATER OUTFALL SHALL BE INSULATED WITH BOARD INSULATION PER SPECIFICATIONS AT ALL LOCATIONS WHERE THE DISTANCE BETWEEN THE WW PIPE AND A STORM DRAIN PIPE OR STRUCTURE IS LESS THAN 3' PER ENGINEER DIRECTION.
- CONSTRUCT STORM DRAIN SYSTEM IN A MANNER THAT DIRECTS FLOWS OUTSIDE OF THE DREDGED MATERIAL CONTAINMENT DIKE TO PREVENT SATURATION OF FILL MATERIALS.
- SILT BOOM REQUIRED AROUND UPLAND FILL AREAS AS REQUIRED TO CONTAIN RUNOFF, LOCATION SHOWN APPROXIMATE, SEE SPECIFICATIONS.
- (4) EXISTING STORM DRAIN PIPES TO BE CONNECTED TO NEW SYSTEM SHALL BE CLEANED OUT FROM THE CONNECTION POINT TO THE UPSTREAM STRUCTURE. PIPES SHALL BE COMPLETELY CLEARED OF SILT, GRAVEL AND DEBRIS AS DETERMINED BY THE ENGINEER PRIOR TO MAKING CONNECTIONS TO NEW PIPES.

**ADDENDUM NO. 2**



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.
△	9/21/16	ADDENDUM NO.2: LAYOUT POINTS SHOWN	TCB	CRS	CRS

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 9360 Glacier Highway, Ste. 100  
 Juneau, Alaska 99801  
 Phone: 907-586-2093  
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DESIGN: TCB    CHECKED: CRS  
 DRAWN: TCB    APPROVED: CRS

SCALE: SCALE IN FEET  
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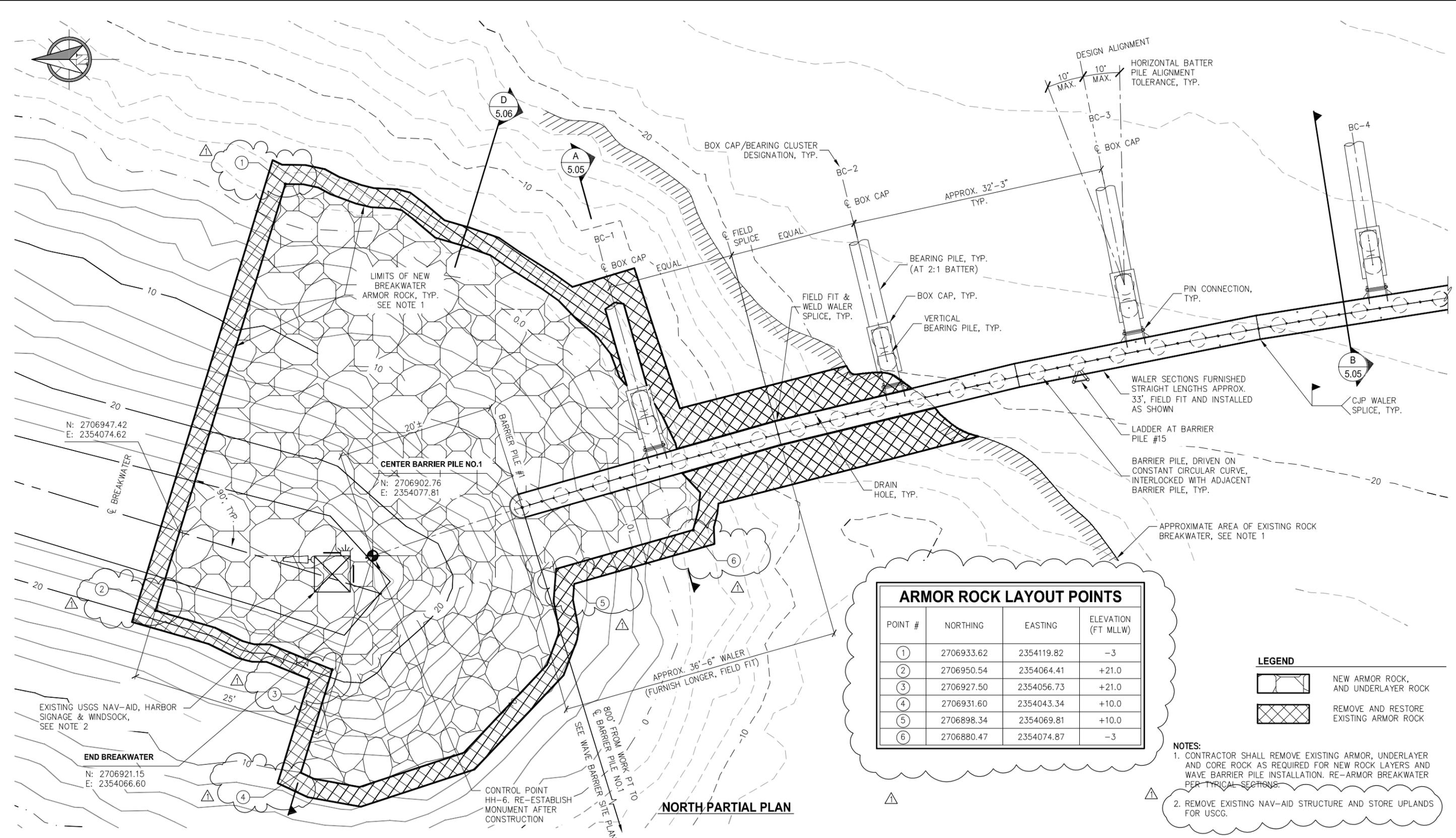
**HAINES BOROUGH PORTAGE COVE HARBOR EXPANSION**

SHEET TITLE: **UPLAND GRADING AND DRAINAGE PLAN**

PND PROJECT NO.: 102029.01

DATE: 9/21/16

**4.02**  
 SHEET 15 OF 32



N: 2706947.42  
E: 2354074.62

**CENTER BARRIER PILE NO.1**  
N: 2706902.76  
E: 2354077.81

EXISTING USGS NAV-AID, HARBOR  
SIGNAGE & WINDSOCK,  
SEE NOTE 2

**END BREAKWATER**  
N: 2706921.15  
E: 2354066.60

CONTROL POINT  
HH-6. RE-ESTABLISH  
MONUMENT AFTER  
CONSTRUCTION

**NORTH PARTIAL PLAN**

ARMOR ROCK LAYOUT POINTS			
POINT #	NORTHING	EASTING	ELEVATION (FT MLLW)
①	2706933.62	2354119.82	-3
②	2706950.54	2354064.41	+21.0
③	2706927.50	2354056.73	+21.0
④	2706931.60	2354043.34	+10.0
⑤	2706898.34	2354069.81	+10.0
⑥	2706880.47	2354074.87	-3

LEGEND	
	NEW ARMOR ROCK, AND UNDERLAYER ROCK
	REMOVE AND RESTORE EXISTING ARMOR ROCK

- NOTES:**
- CONTRACTOR SHALL REMOVE EXISTING ARMOR, UNDERLAYER AND CORE ROCK AS REQUIRED FOR NEW ROCK LAYERS AND WAVE BARRIER PILE INSTALLATION. RE-ARMOR BREAKWATER PER TYPICAL SECTIONS.
  - REMOVE EXISTING NAV-AID STRUCTURE AND STORE UPLANDS FOR USCG.

**ADDENDUM NO. 2**



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.
Δ	9/21/16	ADDENDUM NO.2: ARMOR ROCK LAYOUT POINTS, AND NOTE.	PJD	JDO	CRS

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ENGINEERS, INC.

9360 Glacier Highway, Ste. 100  
Juneau, Alaska 99801  
Phone: 907-586-2093  
Fax: 907-586-2099  
www.pndengineers.com

DESIGN: JDO CHECKED: CRS  
DRAWN: GRD APPROVED: CRS

SCALE: SCALE IN FEET  
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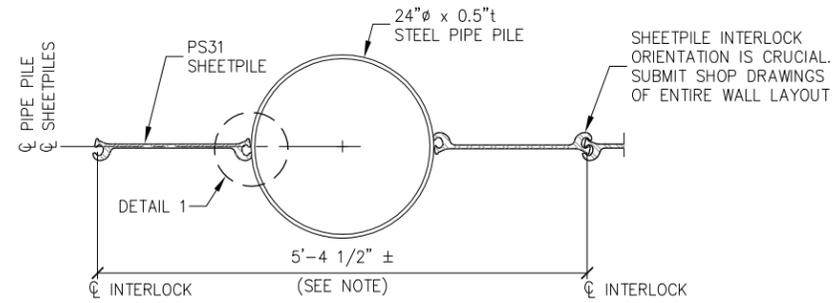
**HAINES BOROUGH  
PORTAGE COVE  
HARBOR EXPANSION**

SHEET TITLE:  
**WAVE BARRIER NORTH  
PARTIAL PLAN**

PND PROJECT NO.: 102029.01

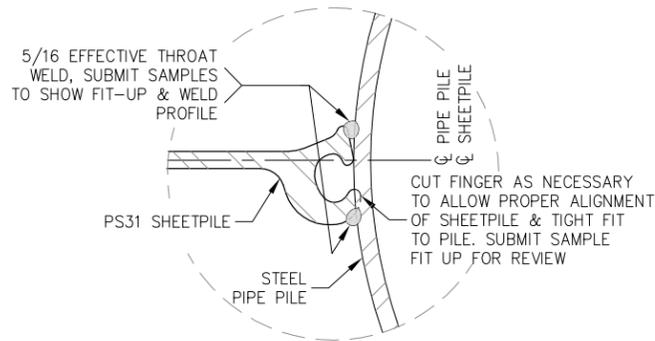
DATE: 9/21/16

**5.02**  
SHEET  
19 OF 32

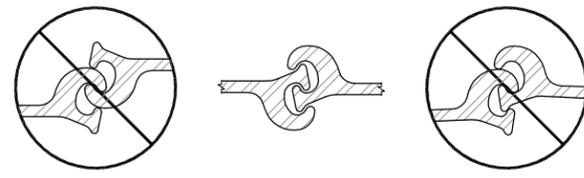


**TYPICAL BARRIER PILE**

**NOTE:**  
IF DIMENSION VARIES SUBSTANTIALLY FROM THIS ESTIMATE DUE TO FIT-UP OF PROPOSED SHEETPILE, ADDITIONAL BARRIER PILES AND SHEETPILE MAY BE REQUIRED TO OBTAIN OVERALL DESIRED LENGTH OF WAVE BARRIER SHOWN.



**DETAIL 1**



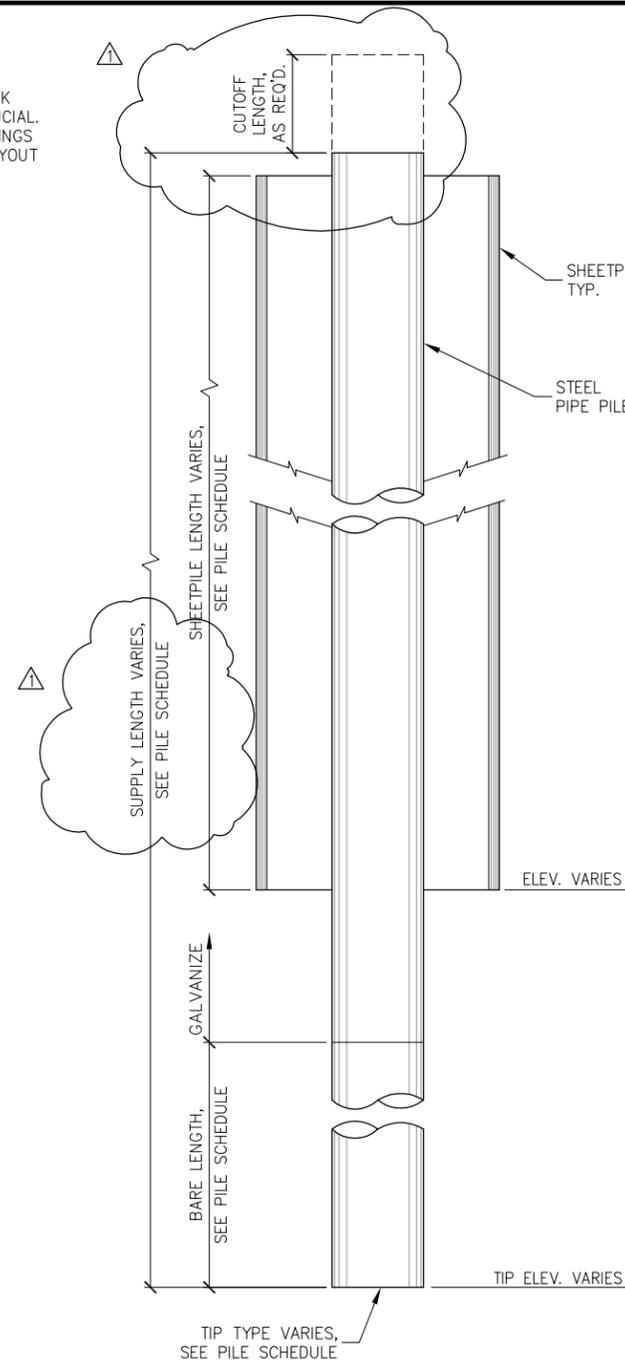
INCORRECT

CORRECT

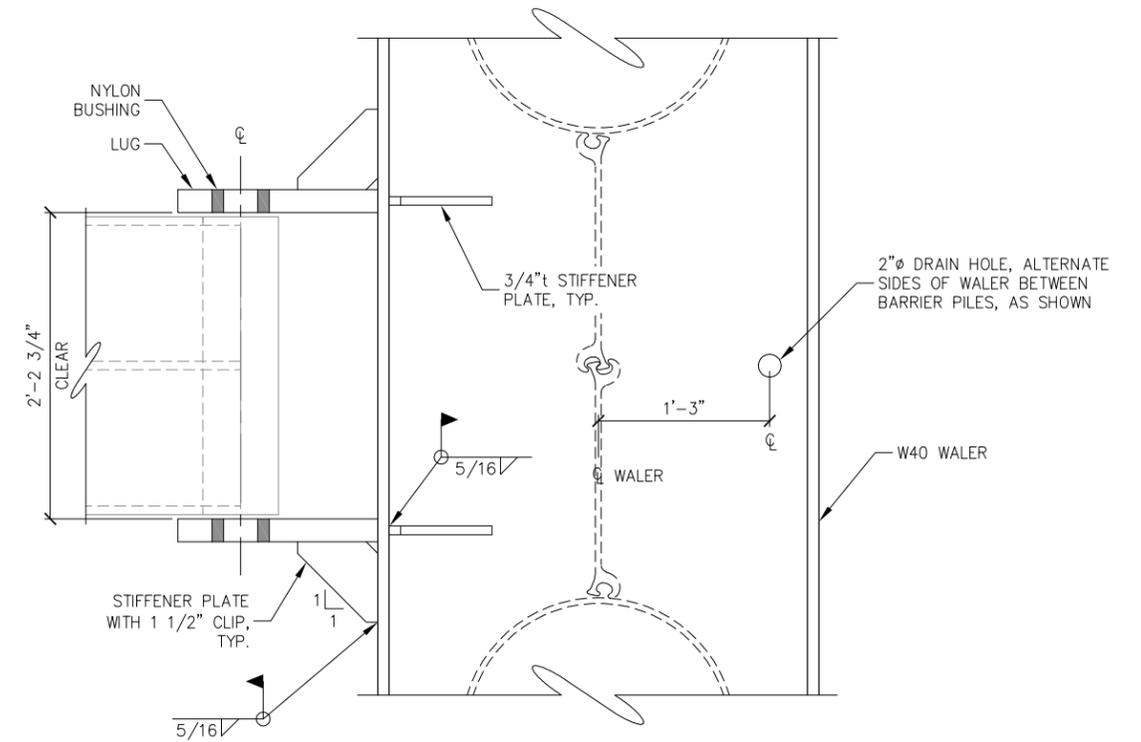
INCORRECT

**SHEETPILE INTERLOCK DETAILS**

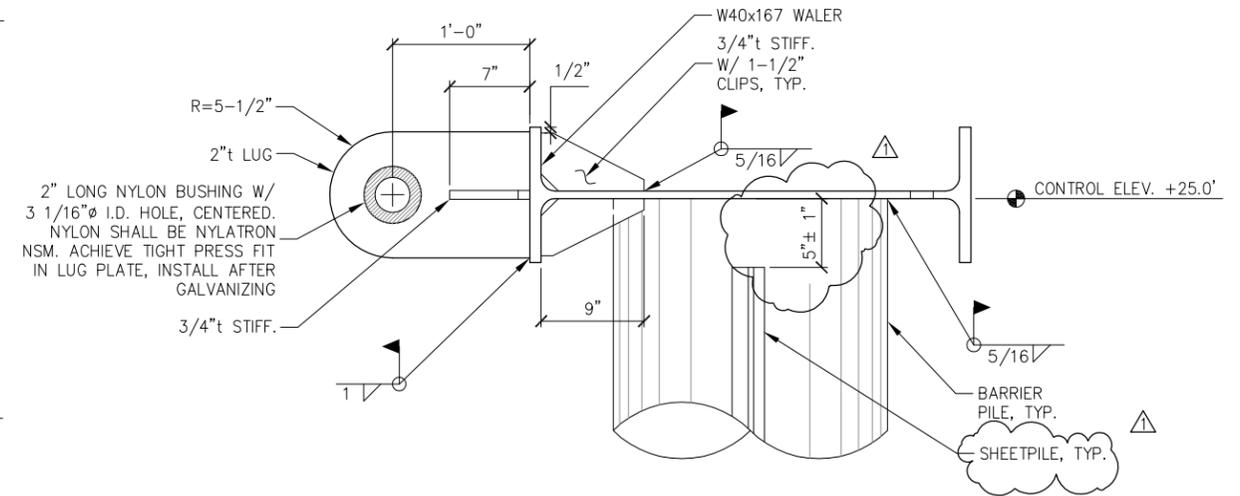
NOTE: ORIENTATION OF INTERLOCKS IS CRITICAL, VIEW SHOWN FROM TOP.



**TYPICAL WAVE BARRIER PILE**



**PLAN**



**ELEVATION**

**WALER DETAILS**

ADDENDUM NO. 2



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.
△	9/21/16	ADDENDUM NO.2	GRD	JDO	CRS

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9360 Glacier Highway, Ste. 100  
Juneau, Alaska 99801  
Phone: 907-586-2093  
Fax: 907-586-2099  
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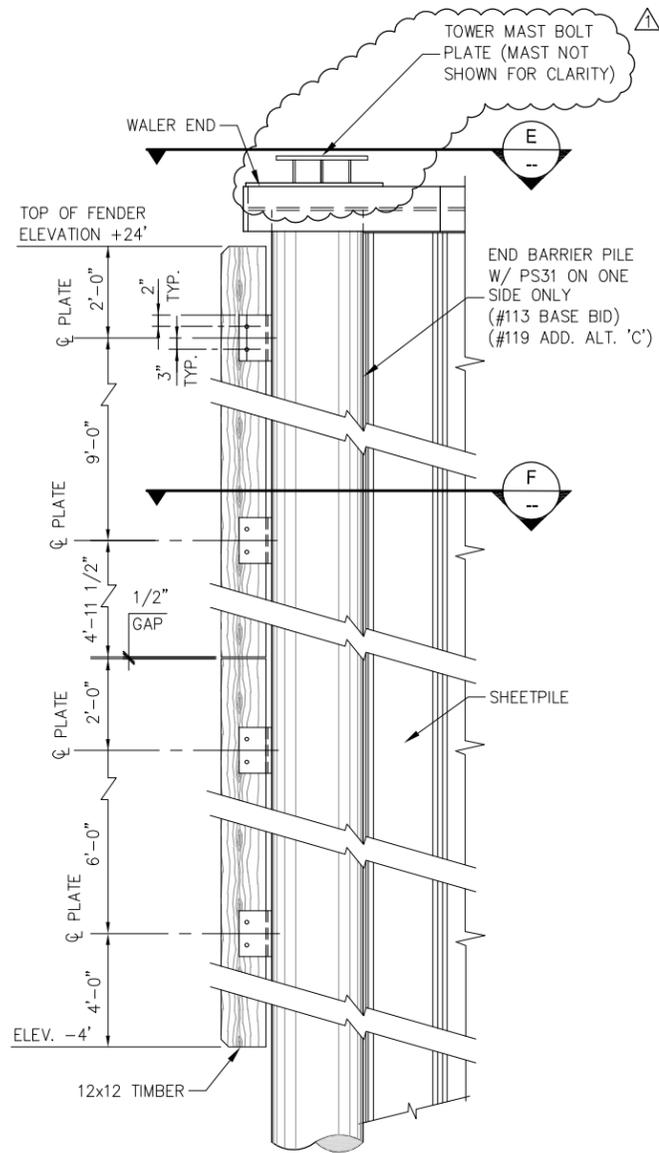


**HAINES BOROUGH PORTAGE COVE HARBOR EXPANSION**

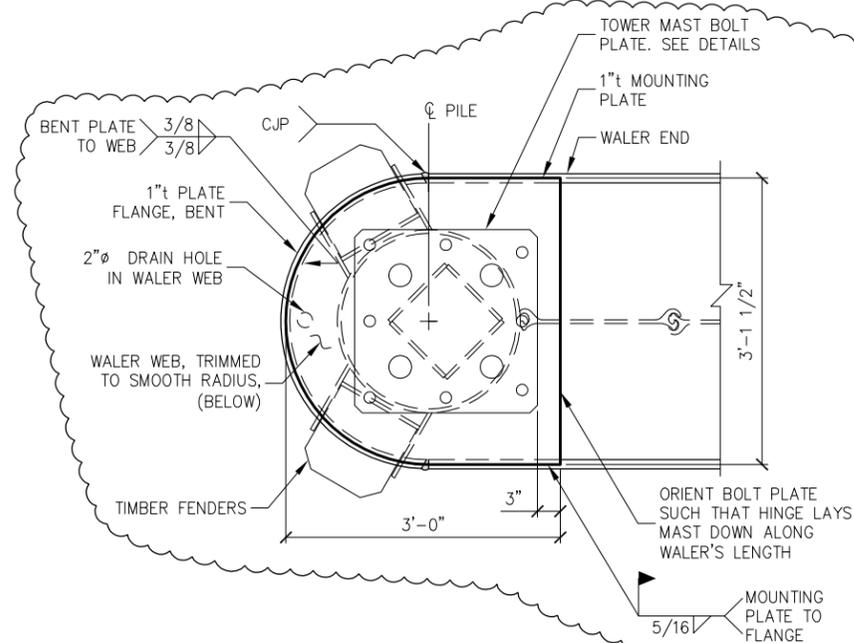
SHEET TITLE:  
**BARRIER PILES AND WALERS**

5.09  
SHEET 26 OF 32

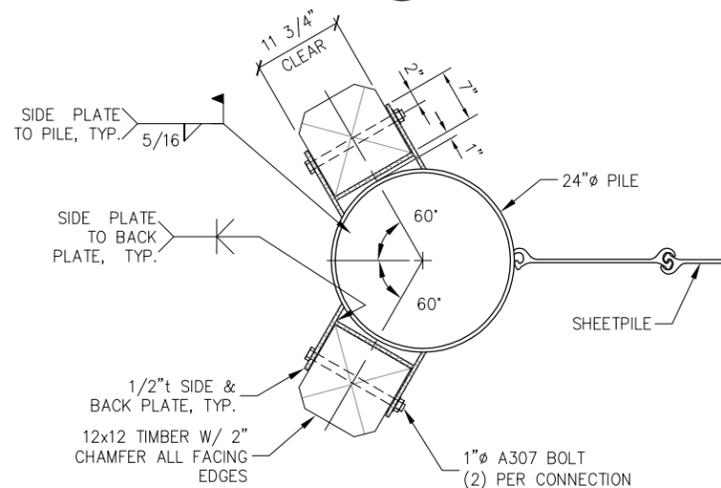
PND PROJECT NO.: 102029.01



**PARTIAL ELEVATION**

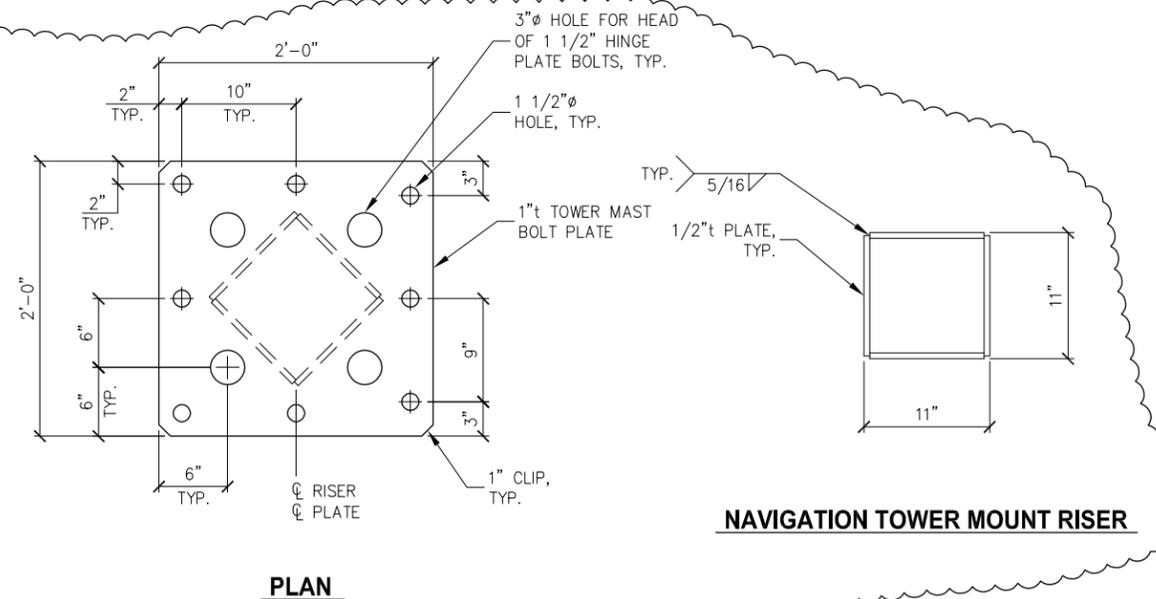


**E**  
VIEW

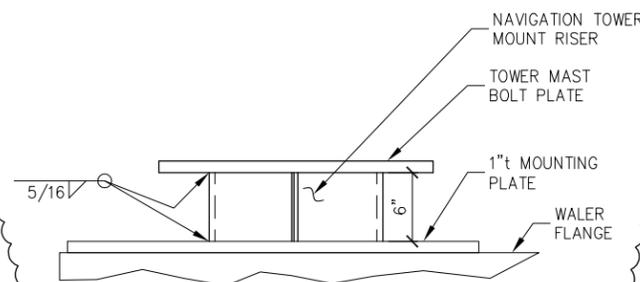


**F**  
VIEW

**FENDER**



**PLAN**



**ELEVATION**

**NAVIGATION TOWER MOUNT**

**NAVIGATION TOWER MOUNT RISER**

**FENDER NOTE:**

ALL SAWN TIMBER SHALL BE S4S AND CONFORM TO COAST REGION DOUGLAS FIR NO.1, SELECT STRUCTURAL, OR BETTER ACCORDING TO WCLIB GRADING RULES, STANDARD NO.17 AND SHALL BE PRESSURE TREATED. TIMBER SHALL BE TREATED WITH CREOSOTE TO A MINIMUM NET RETENTION OF 20.0 POUNDS PER CUBIC FOOT PER AWPA C28. SAWN TIMBER COMPONENTS SHALL BE CUT, DRILLED, DAPPED AND SHAPED AS MUCH AS PRACTICAL BEFORE PRESSURE TREATING. ANY FIELD FABRICATION OR DAMAGE SHALL BE REPAIRED PER AWPA M4. FIELD DRILLED HOLES SHALL BE SWABBED WITH PRESERVATIVE PRIOR TO BOLT INSTALLATION. ALL ENDS, INCLUDING FIELD CUT ENDS, SHALL BE SEALED AFTER CUTTING WITH A SEALER AS RECOMMENDED BY THE TIMBER SUPPLIER AND AS APPROVED BY THE ENGINEER.

ADDENDUM NO. 2



REVISIONS					
REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.
△	9/21/16	ADDENDUM NO.2: NAVIGATION TOWER MOUNT	GRD	JDO	CRS

**P | N | D**  
ENGINEERS, INC.

9360 Glacier Highway, Ste. 100  
Juneau, Alaska 99801  
Phone: 907-586-2093  
Fax: 907-586-2099  
www.pndengineers.com

DESIGN: JDO CHECKED: CRS SCALE:  
DRAWN: GRD APPROVED: CRS



**HAINES BOROUGH PORTAGE COVE HARBOR EXPANSION**

SHEET TITLE: **FENDER AND NAVIGATION TOWER MOUNT**

DATE: 9/21/16

PND PROJECT NO.: 102029.01

**5.12**  
SHEET 28 OF 32

