

## ADDENDUM No. 1 TO THE CONTRACT DOCUMENTS

**Project:** City of Unalaska Light Cargo Dock Expansion

**Addendum Issue Date:** May 27, 2016

**Issued for Bid Date:** May 13, 2016

**Bid Due Date:** June 15, 2016, 2:00pm (AKST)

**Previous Addenda Issued:** None

**Issued By:** Corey Roche  
PND Engineers, Inc.  
1506 West 36<sup>th</sup> Avenue  
Anchorage, Alaska 99503

---

### Notice to Bidders:

Bidders must acknowledge receipt of this addendum prior to the date set for bid opening by one of the following methods:

- (1) By acknowledging receipt of this addendum on the bid submitted.
- (2) By fax which includes a reference to the project and addendum number.

The bid documents require acknowledgment individually of all addenda to the drawings and/or specifications. This is a mandatory requirement and any bid received without acknowledgment of receipt of addenda may be classified as not being a responsive bid. If, by virtue of this addendum it is desired to modify a bid already submitted, such modification may be made by fax provided such a fax makes reference to this addendum and is received prior to the opening date specified above.

---

The contract Documents for the above project are amended as follows (all other terms and conditions remain unchanged):

#### ITEM 1

Contract: *City of Unalaska Light Cargo Dock Expansion*  
Section: *Part 7 - Permitting*

Insert the attached unsinged USACE Permit POA-1998-979-M1 into section 7 – Permitting, see attached.

#### ITEM 2

Contract: *City of Unalaska Light Cargo Dock Expansion*  
Section: *Part 5 - Drawings*

Replace sheets 2 and 10 of the City of Unalaska Light Cargo Dock Expansion drawings with the attached drawings. Construction drawings of the 2005 paving project, 2001 Catwalk installation, and the original 1999 Light Cargo Dock are included for reference.

#### ITEM 3

Contract: *City of Unalaska Light Cargo Dock Expansion*  
Section: *Part 1- 00100 Instructions to Bidders*

Delete the following:

Section 4.F-

~~The USACE permit required for this Project will be under review during the bid phase of this Project. In an effort to avoid delay to the Project, the Contract will be awarded as a limited notice to proceed in order to allow the procurement of long lead time materials and initial mobilization. Should complications arise with the USACE permit and the project start date is delayed, the Contractor shall be compensated as described in the Additive Alternatives #1 or #2 as applicable.~~

**ITEM 4**

Contract: *City of Unalaska Light Cargo Dock Expansion*  
Section: *Part 1 - 00300 Bid Form*

Replace the Bid Form with the attached.

**ITEM 5**

Contract: *City of Unalaska Light Cargo Dock Expansion*  
Section: *NA – Responses to Bidder Questions*

Q1: No Demolition specification.... Please clarify what becomes property of Owner after demo (for example...Catwalks, dolphin piles?) and what has to be disposed of by Contractor( concrete debris?).  
Drawings are silent on this issue.

A1: The following items shall be removed and salvaged, all remaining materials/items shall be removed:

- Catwalks
- Light Poles
- Hydrants
- Dolphin Piles

“Removed” shall be defined as detaching the items from existing construction and legally disposing of them off-site. “Removed and salvaged” shall be defined as carefully detaching from existing construction, in a manner to prevent damage, and delivering to Owner ready for reuse. The catwalks, light poles, and hydrant shall be delivered to the concrete slab across from Ballyhoo Road from the UMC Dock. The salvaged dolphin piles shall be transported to DPW 1035 E. Broadway street and unloading shall be coordinated with the Roads division.

Q2: What is thickness of existing concrete that has to be demolished?

A2: For reference see the attached Light Cargo Dock Paving, catwalks, and original dock construction drawings.

Q3: Drawing 9 says Contractor may elect to use salvaged dolphin batter pile with Engineer approval. Does pile need to be recoated ( spray metallized?) after welding on of the SWC connectors?... How can we bid with this assumption if its subject to Engineer approval.... Will they approve or not? Please clarify.

A3: Acceptance of the salvaged piles will be based on a condition inspection after removal and handling. Acceptance will be granted unless the piles are damaged during removal and handling. Coatings at the plug to SWC weld may be field repaired using the “Galv Stick” method as described in the general notes.

Q4: Hard driving is defined but not where and how much of it we should expect... How can we determine how much hard driving if any? No Borehole information provided. Please define hard riving limits.

A4: The original installation of the Light Cargo Dock did not require special installation techniques. Therefore we do not anticipate significant levels of hard driving once surface obstructions (armor rock, shot rock fill, etc.) are removed and if proper construction techniques are utilized. Additionally reference the attached BH2 Borehole log and the original dock drawings for its location.

Q5: Hard driving sections says we might have to pre-drill....does this mean we should include provision of drilling gear in our bid which will be very expensive whether used or not. Pleas clarify.

A5: Reference response to Q4.

Q6: Drawing 10 Says contractor may use demolished Dolphin Fender Tires with Engineer approval... again how do we bid this without knowing if the Engineer will approve or not... Please clarify acceptance criteria.

- A6: Drawing 10 tire note has been revised to “Contractor shall reuse demolished dolphin tire fenders. After cell stabilization occurs the tire fenders at the new and existing cell will be adjusted, moved, or relocated to maintain adequate fender alignment.”
- Q7: Backfill Quantities... Bid item is lump sum... drawing show” Approximate Existing grade”.... How are we to calculate the amount of shot rock fill from data provide?.... There is insufficient details to accurately determine this quantity from what has been provided. PND has already calculated this in their budgeting(presumably) . Can this quantity take -off be provided or can CAD drawings and survey data of existing survey conditions be provided so we can calculate?
- A7: The referenced approximate grade on sheet 5 is for reference only and is an arbitrary section through the cell that varies depending on where the section is located. Sheet 2, Existing conditions, demolition, and survey control, shows the surveyed bathymetric data in the project location. This information in combination with the information and locations shown in the design drawings provide enough data to calculate fill volume.
- Q8: Backfill quantities—on section says slope is” Approximate” existing grade... since quantities are lump sum and contractors risk( See question above)... who will perform survey to determine if the “approximate” grade slopes shown on the sections are correct... Owner or Contractor? If not the same after survey will adjustment of lump sum price take place?
- A8: See response to Q7 and no additional survey is planned. Survey information shown represents the existing conditions to the best of our knowledge.
- Q9: Can you supply Borehole data or records of previous sheet pile driving at the previous built cells?
- A9: Previous sheet pile driving records are not available. Reference attached borehole log.
- Q10: Please clarify if pre-drilling for sheet piles is required .... This whole question of pre-drilling, probing and hard driving was a major issue at Port of Anchorage and is the subject of numerous claims and legal action that will go on for years. This needs to be clarified. If the Owner wants the Contractor to accept all that risk and bring drill gear to the project for pre-drilling then they need to say that specifically.
- A10: Reference above response regarding hard driving.
- Q11: Please clarify areas that may require impact driving. Are we to assume that all sheets need impact driving? Without Boreholes or As- built information. How is the contractor to assess this risk.? Please clarify or provide sufficient data for contractor to make a reasonable assessment.
- A11: Refer to above applicable responses.
- Q12: Document say that where hard driving is encountered...sheet may have to be extracted to prove interlock integrity( Interlock integrity was a major issue at port of Anchorage ). Again.. how can the contractor reasonably determine how many sheets will have to be extracted to prove interlock integrity when there is no definition of the extent of hard driving to be expected? These “ catch all”.. attempts to transfer all risk to the Contractor for existing ground and driving conditions is not industry norm.
- A12: Reference above applicable responses. Additionally, hard driving may be increased and/or caused by the selected means and methods of the contractor for installation and not solely due to the subsurface conditions experienced.
- Q13: State of AK Letter in permits says 5,800 cy of fill.... US Dept of Commerce letter says 8, 700 cy of fill.....please clarify fill quantity on both these permit letter...see also first two pints in this list of question.
- A13: Permit fill volumes are not design volumes and are generated prior to detailed design efforts. Contractor is to determine volumes from the design drawings.
- Q14: Dept of Commerce letter, Table 1 says new steel piel will be driven with an impact hammer... Sheet 16 say pipe pile Shall NOT be driven with an impact hammer unless approved by the Engineer. Please clarify .
- A14: The referenced table 1 shows installation methods for sheet pile and pipe pile. These means do not conflict with the general notes. Impact driving of sheet piles requires Engineer approval.

Q15: Dept of Commerce letter , Table 1 says Sheet piles will be installed with a vibratory hammer but Sheet 17 says”additional assistive methods such as...use of impact driving may be required during hard driving.... Please clarify.

Q15: The default installation method for sheet piles is a vibratory hammer. In the event of hard driving, impact driving of sheet piles requires Engineer approval.

Q16: The current drawings show the toe of Rip Rap between the existing cells to be -6’ to -8’ while the original dock drawings show the rip rap being required to -20’. Please confirm which is correct.

A16: Field measurement taken from the dock surface (one from each side of the existing dock) indicate that the elevation of the toe of rip rap is at approximately -17’ between the existing cells. Measurements were performed using a weighted fabric tape measure. Sheet 2 of the design drawing has been updated to reflect the measured toe of rip rap. Reference the original dock design drawings for anticipated riprap section.

Q17: Please provide Electrical trench detail.

A17: Conduit depth as required. All trenches shall be 18” wide min. 2” d1 below conduit and 6” of d1 above conduit compacted per civil. Classified fill per civil from d1 up to top layer structural concrete per civil. If there is 6” or less space between top of conduit to bottom of structural concrete fill with d1 to concrete.

Q18: Do the new shore power receptacles need to be GFI protected in compliance with NEC Article 555.3 Ground Fault Protection?

A18: Yes, the Contractor is to replace the 50a 3p circuit breakers feeding the receptacles with new 50a 3p gfi circuit breakers.

### **END OF ADDENDUM**

#### Attachments (5)

1. Unsinged USACE Permit
2. Revised Bid Form
3. Borehole log BH2
4. Revised Light Cargo Dock Expansion Drawing 2 and 10.
5. Construction drawings for the Light Cargo Dock Paving, Catwalks, and original dock.

**Attachment #1**

**Unsigned USACE Permit**



**DEPARTMENT OF THE ARMY**  
ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS  
REGULATORY DIVISION  
44669 STERLING HIGHWAY, SUITE B  
SOLDOTNA, AK 99669-7915

May 20, 2016

Regulatory Division  
POA-1998-979-M1

Mr. David Martinson  
City of Unalaska  
P.O. Box 610  
Unalaska, AK 99685

Dear Mr. Martinson:

Enclosed are two copies of Department of the Army permit POA-1998-979-M1, Dutch Harbor, which would authorize the expansion of the Light Cargo Dock, including: 1) the removal of two existing dolphins and catwalks; 2) removal of the existing armor rock between the existing bulkheads; 3) installation of an open cell sheet pile bulkhead; 4) installation of five 36-inch diameter steel fender piles and four 24-inch support piles with an impact hammer [with ten temporary 18-inch diameter steel piles, installed with a vibratory hammer, for support during construction activities]; and, 5) construction of a 0.20 acre concrete dock surface over new fill/sheet pile/fender piles. The project site is located within Section 26, T. 72 S., R. 117 W., Seward Meridian; USGS Quad Map Unalaska C-2; Latitude 53.9072° N., Longitude 166.5097° W.; Light Cargo Dock in Dutch Harbor, 2481 Ballyhoo Road on Amaknak Island Spit, in Unalaska, Alaska..

The Alaska Department of Environmental Conservation has issued a Certificate of Reasonable Assurance pursuant to Section 401 of the Clean Water Act for your project and found it to be in accordance with the Alaska Water Quality Standards. This certification is attached to the Department of the Army permit and will become a part of this permit when it is finalized.

Additionally, we have enclosed a Notification of Administrative Appeal Options and Process and Request for Appeal form regarding this Department of the Army Permit (see section labeled "Initial Proffered Permit").

If you accept the conditions of the enclosed permit, please sign and date both copies and return them to us. The permit will not be valid until we have returned a finalized copy to you. This is not an authorization to commence construction. No work is to be performed in Dutch Harbor until you have received a validated copy of the permit.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect this work.

Please contact me via email at [jen.l.martin@usace.army.mil](mailto:jen.l.martin@usace.army.mil), by mail at the address above or by phone at (907) 753-2730, if you have questions. For more information about the Regulatory Program, please visit our website at <http://www.poa.usace.army.mil/Missions/Regulatory.aspx>.

Sincerely,

Jen Martin  
Regulatory Specialist

Enclosures

CF:

Applicant, David Martinson: [dmartinson@ci.unalaska.ak.us](mailto:dmartinson@ci.unalaska.ak.us)  
Agent, Brenna Hughes: [bhughes@pndengineers.com](mailto:bhughes@pndengineers.com)

# Compensatory Mitigation Plan

For the

# Light Cargo Dock Expansion

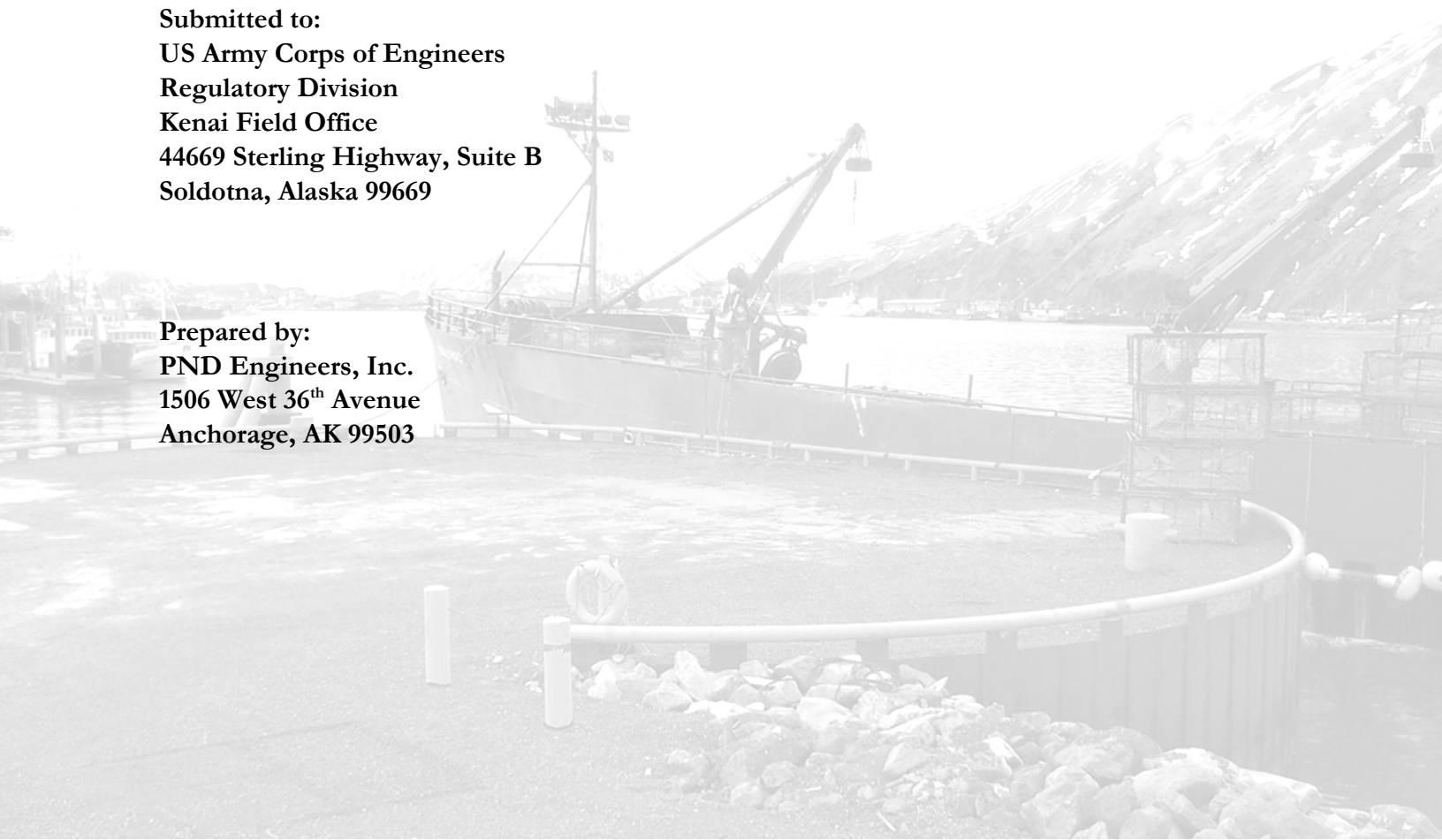
POA-1998-979-M1

## City of Unalaska

Submitted January 2016 , Revised April 21, 2016

Submitted to:  
US Army Corps of Engineers  
Regulatory Division  
Kenai Field Office  
44669 Sterling Highway, Suite B  
Soldotna, Alaska 99669

Prepared by:  
PND Engineers, Inc.  
1506 West 36<sup>th</sup> Avenue  
Anchorage, AK 99503







**This page intentionally left blank.**



## TABLE OF CONTENTS

<b>SECTION</b>	<b>PAGE</b>
1 Objectives .....	5
2 Site Selection Criteria .....	6
3 Site Protection Instrument.....	6
4 Baseline Information.....	6
4.1 Impact Site.....	6
4.2 Mitigation Sites .....	7
4.2.1 Site 1 – Spit.....	8
4.2.2 Site 2 – Airport.....	9
5 Determination of Credits .....	11
6 Mitigation Work Plan.....	11
7 Maintenance Plan.....	12
8 Performance Standards.....	12
9 Monitoring Requirements .....	12
10 Long-term Maintenance Plan .....	12
11 Adaptive Management Plan .....	13
12 Financial Assurances.....	13

### LIST OF TABLES

<b>Table 1.</b> Proposed mitigation sites.....	6
--	---

### LIST OF FIGURES

<b>FIGURE</b>	<b>PAGE</b>
<b>Figure 1.</b> Impact project location.....	5
<b>Figure 2.</b> Proposed mitigation project sites.....	7
<b>Figure 3.</b> Debris found at the Spit site.....	8
<b>Figure 4.</b> Debris found at the Airport site.....	9
<b>Figure 5.</b> Previous marine debris removal project completed in Unalaska.....	12



**This page intentionally left blank.**



## 1 Objectives

The City of Unalaska (COU) proposes to clean either 0.5 tons of marine debris from a local shoreline or clean debris from 0.11 acres of marine intertidal habitat located in Unalaska to compensate for unavoidable impacts to 0.11 acres of waters of the United States associated with the proposed Light Cargo Dock (LCD) Expansion Project.

The proposed impact project is located along the Dutch Harbor spit adjacent to the COU's Spit Dock. The proposed impact project will incorporate a new, central OPEN CELL SHEET PILE™ dock between the existing bulkheads at the LCD, providing users with more dock space. The proposed dock has the added benefit of creating over 0.11 acres of new uplands area that can be utilized for handling and storing materials in an area which has limited uplands.

Dutch Harbor is currently listed as impaired by the Alaska Department of Environmental Conservation (ADEC) due to the presence of petroleum hydrocarbons. The coastline waters of the harbor were identified as impacted during a 2006 assessment by ADEC. The potential sources of this contamination include several nearby contaminated sites as well as many industrial sources that currently operate within the harbor area.



*Figure 1. Impact project location.*



## 2 Site Selection Criteria

The City of Unalaska proposes to restore a local marine intertidal area to its natural condition by removing marine debris that has accumulated along the shoreline. Either 0.5 tons of marine debris will be removed or an area of 0.11 acres of shoreline will be cleaned. Upon completion of the debris removal, there will be a lowered entanglement risk to marine mammals that reside in the area. Additionally, the watershed could benefit greatly from the removal of debris, which may include large metal items. Debris above HTL may be removed to prevent it from being displaced from the shoreline during storm events.

Several possible mitigation sites are currently being considered by the City. The City will select a site (or sites) that meet(s) the objectives of this plan from the sites listed in Table 1 and shown in Figure 2. Site 1, located within the Spit, was selected based on its proximity to the impact project site. It is located within the same waterbody, which is frequented by both fishing vessels and a variety of marine mammals. Sites 2 and 3, located north and south of the Airport, are also located close to the project site, but they are located in a different waterbody. All sites were selected because they have impaired waters (see section 4.2).

The removal of marine debris before it enters the waterbody will protect the water quality at the site from worsening. The debris, which is composed of various materials and compounds, will be prevented from entering the waterbody. Marine debris is also considered to be a cause of adverse impacts to marine mammals, sea turtles, and seabirds through entanglement and ingestion by the National Oceanic and Atmospheric Administration. Several types of seabirds and marine mammals are common within the waters around Unalaska Island. The proposed mitigation project was selected as it will be beneficial to the community and local animals. The final site selection will be approved by the USACE prior to implementation of the mitigation project.

**Table 1.** Proposed mitigation sites.

Site Number	Site Name	Approximate Distance to Impact Site (mi)
1	Spit	0.10
2	Airport	1.60
3	Airport Beach Road	1.75

## 3 Site Protection Instrument

Most of the work will occur within tidelands that were conveyed to the City of Unalaska by the State of Alaska. COU will work with additional property owners to ensure that the necessary approval is received prior to starting the project. No easements or transfers of property ownership are proposed.

## 4 Baseline Information

### 4.1 Impact Site

The impact site is located at the existing Light Cargo (Figure 1) within Dutch Harbor in Unalaska, Alaska (53.9072°N, -166.5096° W) Township 72 South, Range 117 West, Section 26, of the Seward Meridian as found on USGS Quad Map Unalaska C-2. Under the Cowardin Classification, this site is considered to be an unconsolidated intertidal area. The impact site is part of an existing dock facility.

Dutch Harbor is currently listed as impaired by the Alaska Department of Environmental Conservation (ADEC) due to the presence of petroleum hydrocarbons. The coastline waters of the harbor were identified as impacted during a 2006 assessment by ADEC. The potential sources of this contamination include several nearby contaminated sites as well as many industrial sources that currently operate within the harbor area.



## 4.2 Mitigation Sites

Three possible mitigation sites are currently being considered by the City. The City will select a site (or multiple sites) that meet(s) the objective of this plan from the sites listed in Table 1 and described in the sections below. Debris at all sites consists of derelict fishing gear and various types of litter. The final site selection will be approved by the USACE prior to implementation of the mitigation project.



*Figure 2. Proposed mitigation project sites.*



#### 4.2.1 Site 1 – Spit

The Spit site is located in Dutch Harbor within Township 72 South, Range 117 West, Sections 26 and 35 of the Seward Meridian as found on USGS Quad Map Unalaska C-2 (53.9054 N, -166.5102 W). At a distance of approximately 0.10 miles, it is the closest mitigation site to the proposed impact project. Under the Cowardin Classification, this site is considered to be an unconsolidated intertidal and subtidal area. The mitigation site is primarily made up of sand, gravel and, rock with algae occurring close to the water and grassy vegetation occurring near the road.

Dutch Harbor is currently listed as impaired by the Alaska Department of Environmental Conservation (ADEC) due to the presence of petroleum hydrocarbons. The coastline waters of the harbor were identified as impacted during a 2006 assessment by ADEC. The potential sources of this contamination include several nearby contaminated sites as well as many industrial sources that currently operate within the harbor area.



*Figure 3. Debris found at the Spit site.*



#### 4.2.2 Site 2 – Airport

The Airport site is located along the shoreline north of the Unalaska Airport in South Unalaska Bay and Township 72 South, Range 117 West, Section 27 and 34 of the Seward Meridian as found on USGS Quad Map Unalaska C-2 (53.9084 N, -166.5494 W). Under the Cowardin Classification, this site is considered to be an unconsolidated intertidal and subtidal area. The mitigation site is primarily made up of sand, gravel, and rock, interspersed with areas of grass.

South Unalaska Bay which is currently listed by the ADEC as impaired due to the presence of settleable solid residues and low dissolved oxygen (biochemical oxygen demand). Discharges from seafood processing wastes from multiple facilities and sewage from the municipal wastewater treatment plant contribute to this impairment.



*Figure 4. Debris found at the Airport site.*





#### 4.2.3 Site 3 – Airport Beach Road

The Airport Beach Road site is located along the shoreline to the east of Airport Beach Road (53.8872°N, -166.5472°W) Township 73S, Range 118W, Section 3, of the Seward Meridian as found on USGS Quad Map Unalaska C-2. Under the Cowardin Classification, this site is considered to be an unconsolidated intertidal and subtidal area. The mitigation site is primarily made up of sand and gravel, with larger rocks occurring closer to the road, and no significant vegetation.

South Unalaska Bay which is currently listed by the ADEC as impaired due to the presence of settleable solid residues and low dissolved oxygen (biochemical oxygen demand). Discharges from seafood processing wastes from multiple facilities and sewage from the municipal wastewater treatment plant contribute to this impairment.



*Figure 5. Debris at Airport Beach Road site.*



## 5 Determination of Credits

Credits were determined using the USACE guidance titled “Ratios for Compensatory Mitigation” dated May 1, 2014. A mitigation ratio of 1:1 was determined to be adequate for the proposed project and impacts. While the impact project site is located within an area that has been designated as critical habitat for marine mammals that are listed as threatened and/or endangered species, it is also within a highly developed area with waters that have been listed as impaired. A previous survey of the area determined that it is unlikely to provide valuable habitat for any listed species. Although all of the mitigation sites are also located in waters listed as impaired, sites 2 and 3 are likely to be more preferential habitat for marine mammals due to the lower amount of vessel traffic and development.

The impact that the proposed project will have on 0.11 acres of waters of the U.S. will be mitigated through the proposed compensatory mitigation project. Using the mitigation ratio determined for the impact project, the proposed mitigation project will involve the removal of marine debris from 0.11 acres of shoreline or the removal of 0.5 tons of debris from an intertidal area.

## 6 Mitigation Work Plan

The removal of plastic, metal, glass, and rubber marine debris littering shorelines in Unalaska will restore the sites to their natural condition and provide beneficial habitat to many of the marine mammals and endangered species that inhabit the area. The removal of small plastic debris and abandoned fishing gear debris will prevent future entanglement and ingestion issues for many of these animals. In addition to returning the sites to their natural condition, the removal of large debris could reduce navigational hazards and improve water quality. The proposed mitigation project is also expected to raise community awareness about the impacts of marine debris. Similar projects that have occurred in Unalaska have resulted in the recovery of derelict fishing gear, as shown in Figure 5.

The three sites that have been selected (Figure 2) will be surveyed for debris. From these areas, either 0.11 acres or 0.5 tons of debris will be selected to be cleaned due to factors such as the amount of debris present, the distance between the debris and the water, and the ability to remove the debris. Laborers will utilize hand tools to gather the smaller pieces of debris into piles. Larger debris may be picked up using laborers that have the necessary equipment to complete the task (excavators, skiffs, etc.). Recovered debris will be taken to the local landfill for disposal, or may be barged offsite if necessary. Work is planned to occur during low tides and when site conditions will allow for work. Winter weather is notoriously bad in Unalaska, so it will likely occur outside of the winter months (March through October).



*Figure 6. Previous marine debris removal project completed in Unalaska.*

## 7 Maintenance Plan

The proposed mitigation project is a one-time cleanup effort to remove marine debris from the mitigation site. The applicant is not proposing any legal protection or long-term maintenance at the mitigation site.

## 8 Performance Standards

As outlined in the Mitigation Work Plan (Section 6), the proposed mitigation project will be considered a success when either 0.11 acres of shoreline have been cleared of marine debris or 0.5 tons of debris have been removed and the site is returned to its natural condition. The mitigation project will have a direct impact on marine mammals and other animals that are frequent within the Unalaska Island area. The mitigation effort may also reduce marine mammal entanglement. In addition to cleaning the shoreline, the proposed mitigation effort will raise awareness of marine debris within the community.

## 9 Monitoring Requirements

Upon completion of the mitigation clean-up work, the site(s) will be inspected by the applicant to see that the work conforms to the work plan as described above. The applicant will monitor the cleanup effort and compile a brief packet of pictures documenting the conditions of the site after the cleanup work is performed. The applicant will also provide a narrative and a map detailing the work that was done. The narrative will include an estimate of the volume of debris removed by the project.

## 10 Long-term Maintenance Plan

The proposed mitigation project is a one-time cleanup effort to remove marine debris from the mitigation site(s). The applicant is not proposing any legal protection or long-term maintenance at the mitigation site(s). After the initial clean-up has been completed, the site could easily be maintained through annual community sponsored efforts or by other entities.



## 11 Adaptive Management Plan

Due to the simplicity of this proposed mitigation plan, there are no perceived risks to the success of this project. The mitigation work plan accommodates all aspects of returning the site to its natural condition. The primary goal of the work is to remove the debris. Removing debris will be beneficial in many ways to the local community and marine mammals that are common within the waters around Unalaska Island, therefore there are no remedial measures to outline.

## 12 Financial Assurances

The COU will providing the funding for the project. Laborers will likely be COU personnel. Additional financial information can be provided by the applicant if requested.



**SELF-CERTIFICATION STATEMENT OF COMPLIANCE**

**Permit Number: POA-1998-979-M1, Dutch Harbor**

Permittee's Name & Address (please print or type): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Location of the Work: \_\_\_\_\_

\_\_\_\_\_

Date Work Started: \_\_\_\_\_ Date Work Completed: \_\_\_\_\_

**PROPERTY IS INACCESSIBLE WITHOUT PRIOR NOTIFICATION: YES \_\_\_\_\_ NO \_\_\_\_\_  
TO SCHEDULE AN INSPECTION PLEASE CONTACT \_\_\_\_\_  
AT \_\_\_\_\_**

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Acreage or Square Feet of Impacts to Waters of the United States: \_\_\_\_\_

Describe Mitigation completed (if applicable): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

\_\_\_\_\_

\_\_\_\_\_

I certify that all work and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Full Name of Permittee (printed or typed)

\_\_\_\_\_  
Date

# DEPARTMENT OF THE ARMY PERMIT

**Permittee:** City of Unalaska

**Permit No.:** POA-1998-979-M1, Dutch Harbor

**Issuing Office:** U.S. Army Engineer District, Alaska

**NOTE:** The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

**Project Description:** to expand the existing Light Cargo Dock, including: 1) the removal of two existing dolphins and catwalks (six 36-inch diameter steel king piles will be removed with a vibratory hammer, with batter piles cut off at the surface and buried); 2) removal of the existing armor rock between the existing bulkheads; 3) installation of an open cell sheet pile bulkhead backfilled with 5,800 cubic yards (cy) of gravel fill into 0.11 acre of navigable waters of the U.S.; 4) installation of five 36-inch diameter steel fender piles and four 24-inch support piles with an impact hammer [with ten temporary 18-inch diameter steel piles, installed with a vibratory hammer, for support during construction activities]; and, 5) construct a 0.20 acre concrete dock surface over new fill/sheet pile/fender piles. Work will occur over, and below, the high tide line (HTL, approximate elevation +6.7' above the 0.0 foot contour) and mean high water mark (MHWM, approximate elevation +3.3' above the 0.0 foot contour) of Dutch Harbor.

All work will be performed in accordance with the attached plan, sheets **[1-4]**, dated January 4, 2016.

**Project Location:** within Section 26, T. 72 S., R. 117 W., Seward Meridian; USGS Quad Map Unalaska C-2; Latitude 53.9072° N., Longitude 166.5097° W.; Light Cargo Dock (LCD) in Dutch Harbor, 2481 Ballyhoo Road on Amaknak Island Spit, in Unalaska, Alaska

## Permit Conditions:

### General Conditions:

1. The time limit for completing the work authorized ends on **May 31, 2021**.

If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**Special Conditions:**

1. The Permittee shall use only clean fill material for this project. The fill material shall be free from items such as trash, debris, automotive parts, asphalt, construction materials, concrete blocks with exposed reinforcement bars, and soils contaminated with any toxic substance, in toxic amounts in accordance with Section 307 of the Clean Water Act.
2. The permittee shall implement the Approved Mitigation Plan titled "Compensatory Mitigation Plan for the Light Cargo Dock Expansion, POA-1998-979-M1, City of Unalaska," submitted January 19, 2016, revised April 21, 2016, and attached as Attachment A.
3. The permittee shall comply with the Federal Endangered Species Act. You must implement all of the mitigating measures identified in the enclosed U.S. Fish and Wildlife Service letter of concurrence (Consultation # 07CAAN00-2016-I-0068, dated April 5, 2016) and National Marine Fisheries Service letter of concurrence (NMFS PCTS# AKR-2016-9544, dated April 20, 2016), including those ascribed to the Corps therein. If you are unable to implement any of these measures, you must immediately notify the Corps, the U.S. Fish and Wildlife Office, and the National Marine Fisheries Service so we may consult as appropriate, prior to initiating the work, in accordance with Federal law.
4. Within 60 days of completion of the work authorized by this permit, the Permittee shall complete the attached "Self-Certification Statement of Compliance" form (Attachment B) and submit it to the Corps. In the event that the completed work deviates in any manner from the authorized work, the Permittee shall describe the deviations between the work authorized by this permit and the work as constructed on the "Self-Certification Statement of Compliance" form. The description of any deviations on the "Self-Certification Statement of Compliance" form does not constitute approval of any deviations by the Corps.
5. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the U.S.
6. You must install and maintain, at your expense, any safety lights and signals prescribed by the U.S. Coast Guard (USCG), through regulations or otherwise, on your authorized facilities. The USCG may be reached at the following address and telephone number: Commander (oan), 17th Coast Guard District, P.O. Box 25517, Juneau, Alaska 99802, (907) 463-2272.
7. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).



(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

\_\_\_\_\_  
(PERMITTEE) AND TITLE

\_\_\_\_\_  
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

\_\_\_\_\_  
FOR (DISTRICT COMMANDER)  
Colonel Michael S. Brooks  
Jen Martin  
South Branch, Regulatory Division

\_\_\_\_\_  
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEREE)

\_\_\_\_\_  
(DATE)

**Attachment #2**

**Revised Bid Form**

**Section 00300  
BID FORM**

To: **City of Unalaska, Department of Public Works**

Address: **P.O. Box 610, Unalaska, Alaska 99685**

Project Identification: **City of Unalaska LIGHT CARGO DOCK EXPANSION**  
DEFINITIONS

The terms used in this Bid which are defined in the General Conditions and Instructions to Bidders included as part of the Contract Documents are used with the same meaning in this Bid.

BIDDERS DECLARATION AND UNDERSTANDING

This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the City.

In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that Bidder has examined copies of all the Bidding Documents.

Bidder has familiarized itself with the nature and extent of the Contract Documents, work, site, locality, general nature of work to be performed by Owner or others at the site that relates to work for which this Bid is submitted as indicated in the Contract Documents, and all local conditions and all federal, state, and local Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the work.

Bidder has reviewed and checked all information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, or similar information or data in respect of said Underground Facilities are or will be required by Bidder in order to perform and furnish the work at the Contract Price, within the Contract Time, and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.

Bidder has correlated information known to Bidder and the results of all such observations, examinations, investigations, explorations, tests, and studies with the Contract Documents.

Bidder has given the City written notice of all conflicts, errors, ambiguities or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by the City is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work for which this Bid is submitted.

## CONTRACT EXECUTION AND BONDS

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the City in the form included in the Contract Documents to perform and furnish all work as specified or indicated in the Contract Documents for the Contract price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 30 days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and City of Unalaska business license and other documents required by the Bidding Requirements within 10 days after the date of Owner's Notice of Award.

## CERTIFICATE OF INSURANCE

Bidder agrees to furnish the City, before commencing any Physical Work related to this Contract and as required elsewhere, the certificates of insurance as specified in these Documents.

Bidder further agrees that the amount stated herein includes specific consideration for the insurance coverages, including contractual liability, specified in the Contract Documents.

## CONTRACT COMPLETION TIME

Bidder agrees that the work will be completed and ready for final payment in accordance with the number of calendar days or completion date indicated in the Agreement.

## LIQUIDATED DAMAGES

Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the work within the times specified in the Agreement.

## ADDENDA

The Bidder hereby acknowledges that it has received Addenda No's \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that its Bid(s) includes all impacts resulting from said addenda.

## SALES AND USE TAXES

The Bidder agrees that all sales and use taxes are included in the stated bid prices for the work, unless provision is made herein for the Bidder to separately itemize the estimated amount of sales tax.

## SUBCONTRACTORS

The Bidder further agrees that if the bid is the apparent low bid, he shall submit, within 5 days after the bid opening, a listing of subcontracting firms or businesses that will be awarded subcontracts for work in excess of \$5,000 and a copy of the City of Unalaska business license for the Contractor and each Subcontractor.

## BID TABULATION AND SUMMARY

The Bidder further proposes to accept, as full payment for work proposed herein, the amount computed under provisions of the Contract Documents and based on the following Bid amounts, it being expressly understood that the unit quantities of work shown on the plans is independent of the exact quantities involved. The Bidder agrees that the bid amount represent(s) a true measure of the labor and materials required to furnish, install, or provide the item of Work, including all allowances for overhead and profit. The amount shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

Bidder agrees to perform all of the work described in the Documents including the specifications, special provisions, and as generally shown on the plans for the prices stated in the Bid Schedules. Bidder understands that the Owner reserves the right to reject any or all bids and to waive any informalities in the bidding. Bidder understands that the Owner reserves the right to pick and choose what bid items will be constructed as part of this work, recognizing that Mobilization and Demobilization will be common to the remaining items of Work.

City of Unalaska  
**LIGHT CARGO DOCK EXPANSION**

BIDDER

If the Bidder is awarded a construction Contract on this Proposal, the surety who provides the Performance Bond and Payment Bond will be \_\_\_\_\_

\_\_\_\_\_ whose address is \_\_\_\_\_

\_\_\_\_\_, \_\_\_\_\_,

Street

City

\_\_\_\_\_.

State

Zip

BIDDER

An Individual

By

\_\_\_\_\_ (SEAL)

(Individual's name)

doing business as

\_\_\_\_\_

Business

address: \_\_\_\_\_

\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Email address: \_\_\_\_\_

A Partnership

By \_\_\_\_\_ (SEAL)  
(Firm name)

\_\_\_\_\_  
(general partner)

Business address: \_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Email address: \_\_\_\_\_

A Corporation

By \_\_\_\_\_  
(Corporation name)

\_\_\_\_\_  
(state of incorporation)

By \_\_\_\_\_  
(name of person authorized to sign)

\_\_\_\_\_  
(Title)

(Corporate Seal)

Attest \_\_\_\_\_  
(Secretary)

Business address: \_\_\_\_\_  
\_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Email address: \_\_\_\_\_



A Joint Venture

By \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

By \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

Phone Number and Address for receipt of official communications

Business address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Email address: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

**SUBMITTED** on \_\_\_\_\_, 20\_\_.

**BID PROPOSAL**  
City of Unalaska  
**LIGHT CARGO DOCK EXPANSION**

**BID SCHEDULE ITEMS**

In accordance with the Invitation for Bids and all Terms, Conditions, Plans and Specifications related thereto, I propose to furnish materials and perform construction for the following Lump Sum (LS) or Unit (per unit) prices.

**BASE BID ITEMS:**

1. Mobilization and Demobilization: Work shall include cost of transporting, mobilizing and demobilizing all materials, construction equipment and personnel necessary to complete this project as detailed in the Plans and Specifications.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

2. Existing Site Demolition: Work shall consist of providing all materials, labor, equipment and incidentals necessary for demolition and removal of existing items and structures as indicated on the Plans and in accordance with the Contract Documents. The price for this bid item shall include disposal of all demolished materials as indicated on the Plans and in accordance with all local, state, and federal regulations.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

3. OPEN CELL SHEET PILE™: Work shall consist of providing all materials, labor equipment and incidentals necessary to install the OPEN CELL SHEET PILE™ as indicated on the Plans and in accordance with the Contract Documents. The price for this bid item shall include installation and procurement of all sheet piles, anchor piles, anodes, plug piles, support piles, plug rock, OPEN CELL SHEET PILE™ backfill and leveling course.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

4. Marine Mammal Observer: Work shall consist of supplying labor in the form of a designated marine mammal observer. The marine mammal observer shall have no other duties and all work and documentation generated shall be in accordance with the project permits.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

5. Structural Concrete: Work shall consist of providing all materials, labor equipment and incidentals necessary to install all concrete shown on the Plans and in accordance with the Contract Documents. The price for this bid item shall include furnishing and installation of all formwork, rebar, dowels and placement and finishing of concrete.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

6. Structural & Miscellaneous Steel: Work shall consist of providing all materials, labor equipment and incidentals necessary to install all steel shown on the Plans and in accordance with the Contract Documents. The price for this bid item shall include furnishing and installation of all face beams, infill beams, plates, rails and other miscellaneous steel required for completion of the Project.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

7. Fender System: Work shall consist of providing all materials, labor equipment and incidentals necessary to install the dock fender system shown on the Plans and in accordance with the Contract Documents. The price for this bid item shall include furnishing and installation of all timber, UHMW panels, loader tires and mounting hardware required for completion of the Project.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

8. Vibracompaction: Work shall consist of providing all materials, labor equipment and incidentals necessary to perform vibracompaction as indicated on the Plans and in accordance with the Contract Documents.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

9. Water Service: Work shall consist of providing all materials, labor equipment and incidentals necessary to tie into the existing water system and install the new water service as indicated on the Plans and in accordance with the Contract Documents. The price for this bid item shall include connecting and installing the new water service, drain pipe, trenching and backfilling, water meter, protective bollards, new fire hydrant and new dock face water vaults.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

10. Electrical System: Work shall consist of providing all materials, labor equipment and incidentals necessary to the complete electrical system as indicated on the Plans and in accordance with the Contract Documents.

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

11. Site Cleanup & Restoration: Work shall consist of providing all materials, labor, equipment and incidentals necessary to cleanup the site and restore all used areas to a neat and clean condition as determined by the City. Excess material shall be hauled to a City-designated site within five (7) miles of the project in accordance with all governmental regulations. The bid for this item shall not be less than ten thousand dollars (\$10,000).

\_\_\_\_\_ LS                    \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

12. As-Built Drawings & Information: Work shall consist of providing all materials, labor, equipment and incidentals necessary to provide red-lined as-built drawings and information for the project, including the as-built alignment and profile.

\_\_\_\_\_ LS                      \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

**BASE BID Total:**

\_\_\_\_\_ LS                      \$ \_\_\_\_\_ LS  
(Lump Sum In Words)

**BID AUTHORIZATION**

The undersigned represents (check appropriate boxes) that he/she operates as an  Individual,  
 Joint Venture,  Partnership, or  Corporation, incorporated in the State of \_\_\_\_\_.

BIDDER:

Bidding Company: \_\_\_\_\_

Name (Printed): \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor's License No. \_\_\_\_\_ Business License No. \_\_\_\_\_

CORPORATE SEAL (If Corporation)

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

as Principal, hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

a corporation duly organized under the laws of the State of Alaska as Surety, hereinafter called Surety, are held and firmly bound unto

City of Unalaska  
\_\_\_\_\_  
(Name of Owner)

PO Box 610, Unalaska, Alaska 99685  
\_\_\_\_\_  
(Address of Owner)

as Obligee, hereinafter called Obligee, in the sum of \_\_\_\_\_ Dollars, (\$\_\_\_\_\_) for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for the City of Unalaska **LIGHT CARGO DOCK EXPANSION**, located in Unalaska, Alaska.

NOW THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and Sealed this \_\_\_\_\_ day of \_\_\_\_\_ 2016

\_\_\_\_\_  
(Principal) Seal

\_\_\_\_\_  
(Surety) Seal

\_\_\_\_\_  
(Printed Name & Title)

\_\_\_\_\_  
(Printed Name & Title)

**Attachment #3**

**Borehole log BH2**

DEPTH IN FEET	SAMPLE	INCHES DRIVEN	DEPTH OF	SAMPLE NO.	BLOWS/FT	WT. OF
0	S/S 2 3/8	24 0	—	1 SUR	51 24"	340
5	S/S 2 3/8	24 5	41	2 5	63 24"	340
10	S/S 2 3/8	24 3	46	3 10	16 24"	340
15	S/S 2 3/8	24 3	51	4 15	22 24"	340
20	S/S 2 3/8	24 3	56	5 20	22 24"	340
25	S/S 2 3/8	24 0	61	6 25	27 24"	340
30	S/S 2 3/8	24 2	66	7 30	30 24"	340
35	S/S 2 3/8	24 3	71	8 35	19 24"	340
40	S/S 2 3/8	24 4	76	9 40	21 24"	340
45	NO SAMPLE TAKEN.					

### SYMBOLS

### DESCRIPTION

	GM	NO SAMPLE RETRIEVED. BOTTOM APPEARS TO BE VERY IRREGULAR WITH ROCKS AND BOULDERS, ETC. DRILLING IS GOING SLOW AND HARD.
	RK	
	GM	
	RK	
	RK	
	GM	
	GP	SAMPLE RETAINED CONTAINS PRIMARILY GRAVELS WITH PIECES OF BASALT, LITTLE, OR NO FINES PRESENT. ROCK FRAGMENT IN CORE CATCHER.
		NO LARGE ROCKS OR BOULDERS.
		SAMPLE RETAINED IS AS ABOVE.
		SAMPLE RETAINED IS AS ABOVE.
		NO SAMPLE RETAINED.
		SAMPLE RETAINED IS ONE LARGE, WELL-ROUNDED COBBLE WEDGED IN CORE CUTTER.
		SAMPLE RETAINED IS LARGE ANGULAR COBBLES OF BASALT AND VERY LITTLE GRAVEL SIZED MATERIAL.
		SAMPLE RETAINED IS A COMBINATION OF SMALL PEBBLES AND COBBLES, NO FINE MATERIAL. SOME LARGER ROCK FRAGMENTS.
	RK	LARGE ROCKS ENCOUNTERED. (VERY HARD, SLOW DRILLING.)
	GP	ROCKS PROHIBIT SAMPLING.
	RK	
	GP	
	RK	(DRILLER INDICATES THAT HE IS PASSING IN AND OUT OF ROCKS.)

**Attachment #4**

**Revised Light Cargo Dock Expansion Drawings sheet 2 and 10**



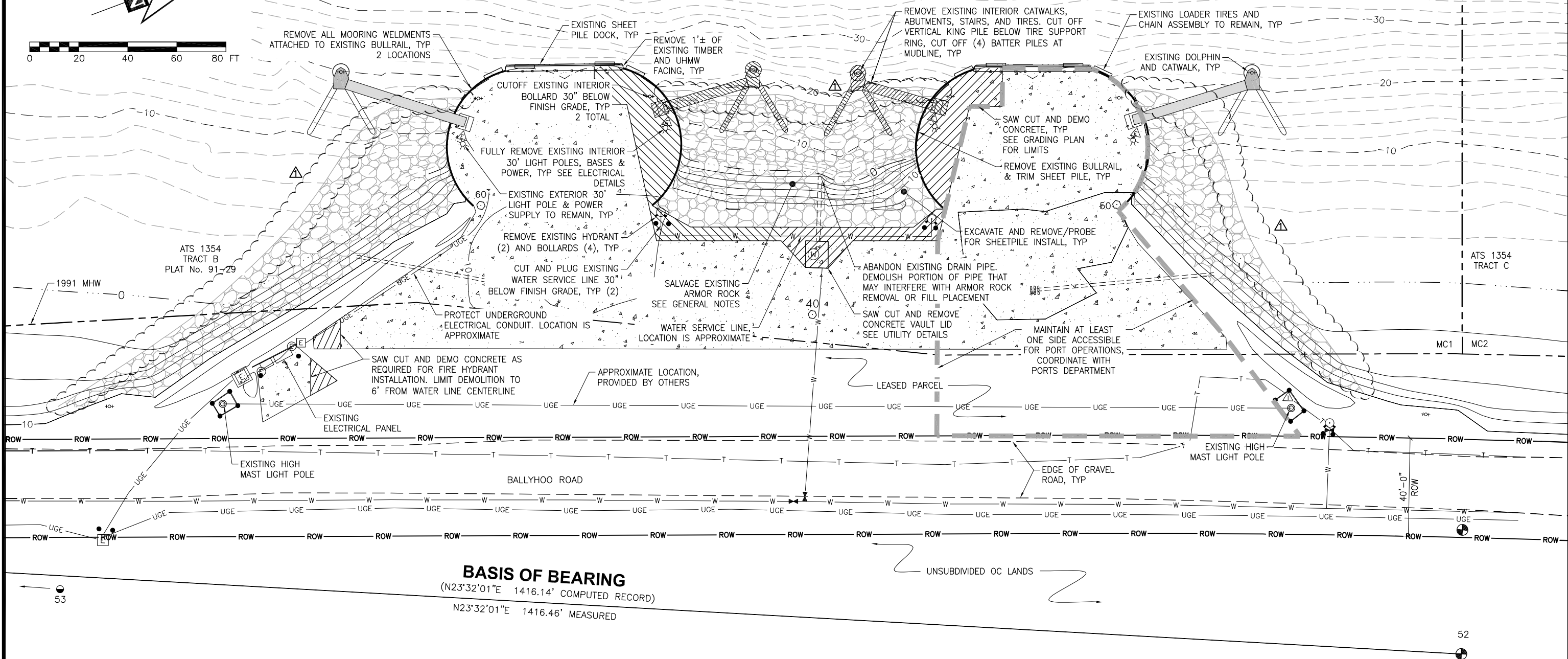
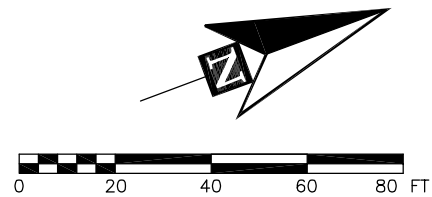
**LEGEND**

- ⊕ FOUND MONUMENT
- ⊙ FOUND REBAR W/ YPC
- ⊖ SET MAG NAIL W/ PND FLASHER
- ( ) RECORD INFORMATION (SEE NOTE 3)
- ⊞ ELECTRIC TRANSFORMER
- ⊙ ELECTRIC METER
- ⚡ ELECTRIC SERVICE
- ⊕ LIGHT POLE
- ⊙ HIGH MAST
- ⊕ WATER MANHOLE
- ⚡ WATER VALVE
- ⊕ FIRE HYDRANT
- PROTECTIVE BOLLARD
- ⊕ MOORING BOLLARD

PROJECT CONTROL COORDINATE TABLE						
PT#	LOCAL COORDINATES		AK STATE PLANE COORDINATES*		ELEVATION	DESCRIPTOR
	NORTHING	EASTING	NORTHING	EASTING		
40	9049.905	6397.164	NA	NA	10.59	SET NAIL W/ FLASHER
50	9181.875	6398.303	1196332.684	5321285.72	9.97	SET NAIL W/ FLASHER
52	9249.976	6618.793	NA	NA	11.23	FOUND AL MON
53	7951.328	6053.217	NA	NA	13.94	FOUND REBAR W/YPC
60	8938.616	6308.515	1196079.676	5321228.979	10.03	SET NAIL W/ FLASHER

**SURVEY NOTES:**

- VERTICAL DATUM IS MEAN LOWER LOW WATER (MLLW = 0.00')
- FOR INFORMATION: BASIS OF VERTICAL DATUM FOR THIS SURVEY IS FROM THE N.O.A.A. BENCH MARK "No. 20 1974" ELEVATION 15.50' MLLW (SEE NOTE 1). THE BENCH MARK IS SET VERTICALLY IN THE EASTERN CORNER OF THE ALYESKA BUNK HOUSE. FOR ADDITIONAL INFORMATION REFER TO THE PUBLISHED BENCH MARK SHEET FOR 9462620 UNALASKA.
- BASIS OF BEARING FOR THIS SURVEY IS N 23° 32' 01"E AND IS BASED ON THE FOUND PRIMARY MONUMENT WCMC 2 C2 TR C OF ATS 1354 AND A FOUND R.O.W. CORNER AS SHOWN ON THE BALLYHOO ROAD RIGHT OF WAY ACQUISITION PLAT RECORDED IN THE ALUTIAN ISLAND RECORDING DISTRICT AS PLAT NO. 94-45.
- INFORMATION REGARDING THE LOCATION OF THE UNDERGROUND UTILITIES WAS PROVIDED BY ONSITE UTILITY COMPANY LOCATORS & INFORMATION SUPPLIED TO PND SURVEYORS BY THE CITY OF UNALASKA PUBLIC WORKS. REMAINING UTILITIES WERE LOCATED BASED ON VISUAL ABOVE GROUND UTILITY STRUCTURES.
- BATHYMETRIC INFORMATION WAS OBTAINED UTILIZING AN INNERSPACE 448 SOUNDER AND A TRIMBLE PRO-XR GPS FOR POSITIONING.
- ROAD RIGHT OF WAY SHOWN IS FROM THE BALLYHOO ROAD RIGHT OF WAY ACQUISITION PLAT NO. 94-95
- CONTOURS ARE IN FEET, WITH TWO FOOT INTERVALS.
- FIELD SURVEY PERFORMED JUNE 15-17, 2007.
- \*AK STATE PLANE COORDINATES ARE IN ZONE 10 AND ARE ADJUSTED TO "CITY VALUES".



**BASIS OF BEARING**  
 (N23°32'01"E 1416.14' COMPUTED RECORD)  
 N23°32'01"E 1416.46' MEASURED



**OPEN CELL™ AND OPEN CELL SHEET PILE™ ARE PND ENGINEERS, INC. REGISTERED TRADEMARKS**  
 PND ENGINEERS, INC.'S OPEN CELL TECHNOLOGY IS PATENTED  
 PATENT - US 6,715,964 B2  
 PATENT - US 7,488,140 B2  
 PATENT - US 8,950,981 B2

This drawing, including the principle of design, is the intellectual property of PND Engineers, Inc. and is submitted with the agreement that it is not to be reproduced, copied or used in any other manner than its intended use on this project, and further, shall not be used in any manner that would be detrimental to PND. Use of this drawing and the associated design principles is construed as acceptance to this agreement and provisions.

**ISSUED FOR BID**  
 05/17/2016

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION
1	5/27	UPDATES PER ADDENDUM #1

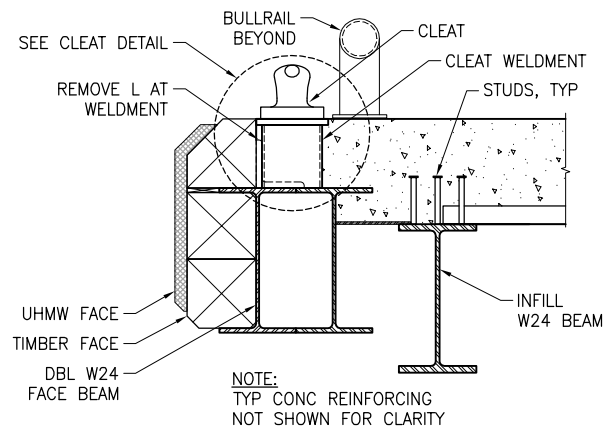
1506 West 36th Avenue  
 Anchorage, Alaska 99503  
 Phone: 907.561.1011  
 Fax: 907.563.4220  
 www.pndengineers.com



PROJECT: **CITY OF UNALASKA LIGHT CARGO DOCK EXPANSION**

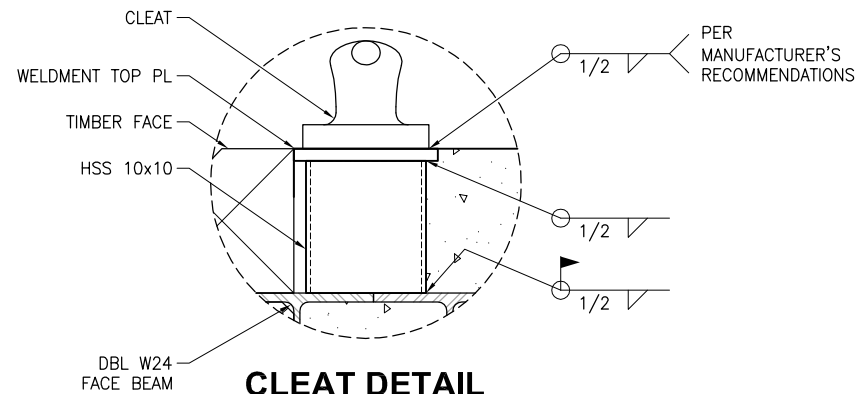
TITLE: **EXISTING CONDITIONS, DEMOLITION PLAN, & SURVEY CONTROL**

DESIGNED BY: CJR	DATE: MAY 2016	SHEET NO: <b>2</b> OF 19
CHECKED BY: DST	PROJECT NO: 151125	



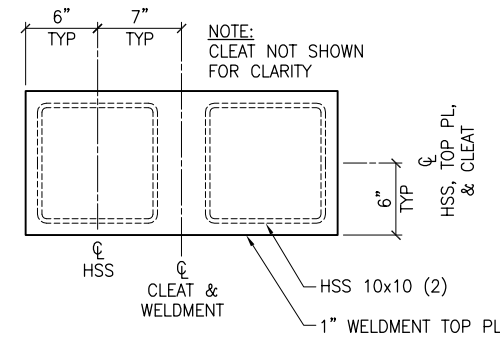
**CLEAT ATTACHMENT DETAIL**

NTS

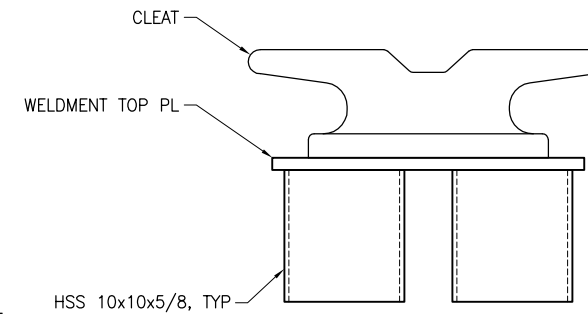


**CLEAT DETAIL**

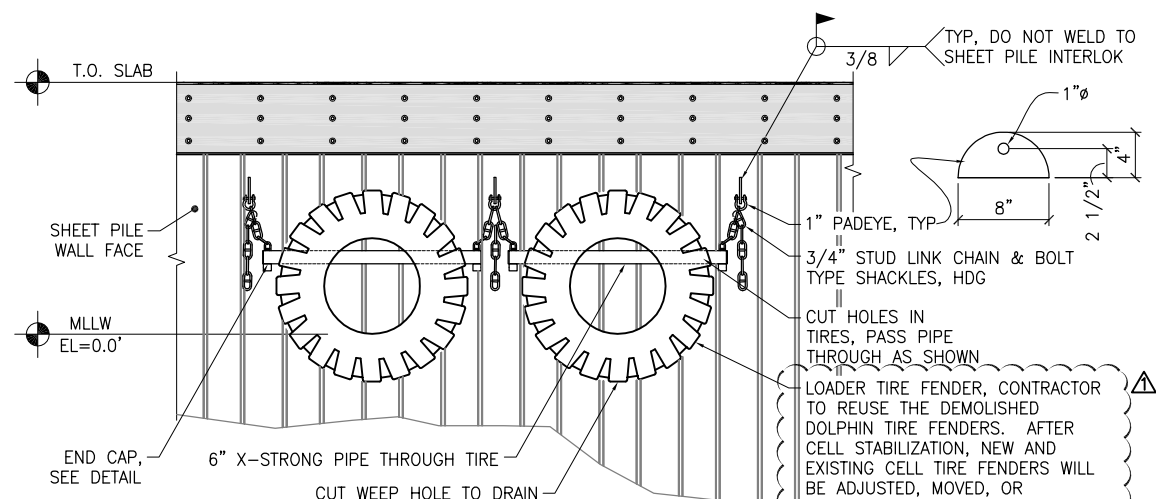
NTS



**PLAN**

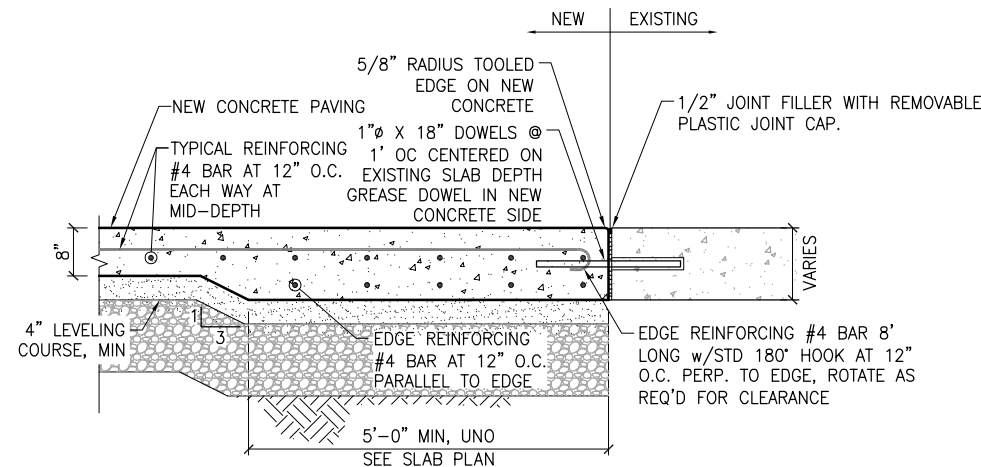


**ELEVATION**



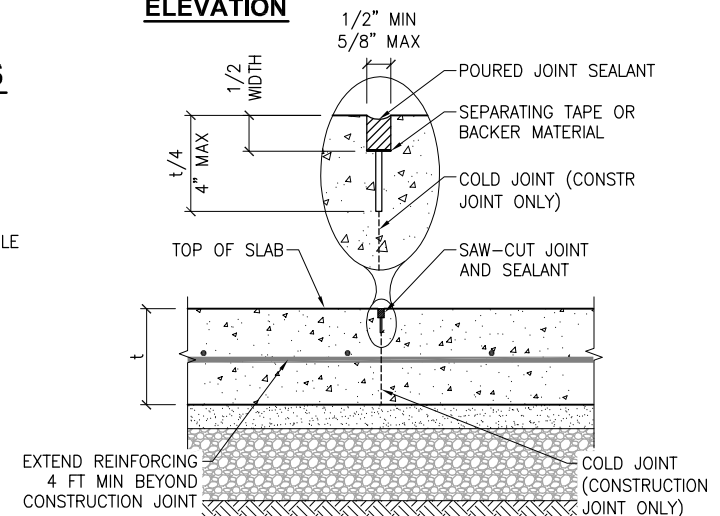
**TIRE FENDER DETAIL**

NTS



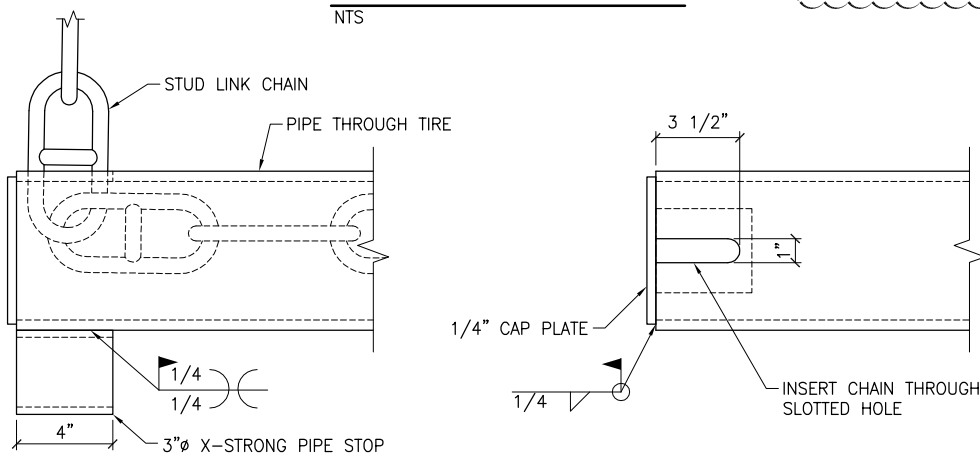
**CONCRETE SLAB AT EXISTING**

NTS



**TYPICAL JOINT SECTION**

NTS

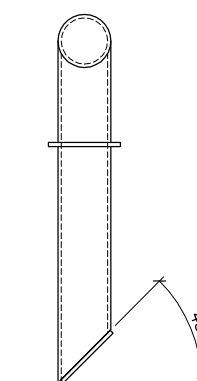


**SIDE VIEW**

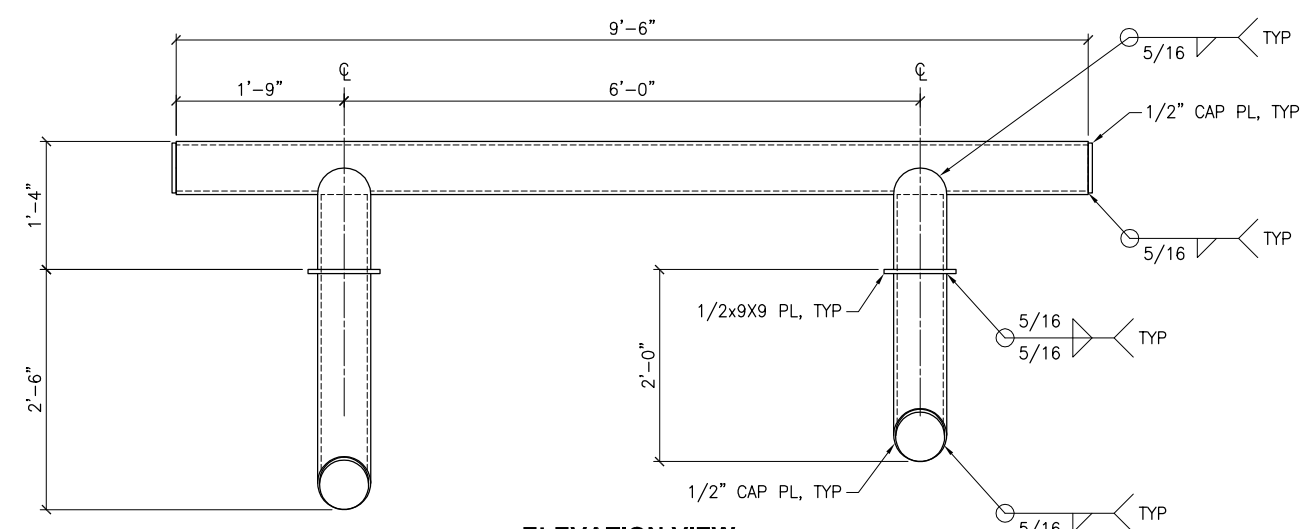
**TOP VIEW**

**FENDER TIRE PIPE END CONNECTION**

NTS



**END VIEW**



**ELEVATION VIEW**

**REMOVABLE BULLRAIL**

NTS

NOTE: ALL STEEL 6" Ø X-STRONG PIPE, UNO, GALVANIZED



OPEN CELL™ AND OPEN CELL SHEET PILE™ ARE PND ENGINEERS, INC. REGISTERED TRADEMARKS  
 PND ENGINEERS, INC.'S OPEN CELL TECHNOLOGY IS PATENTED  
 PATENT - US 6,715,964 B2  
 PATENT - US 7,488,140 B2  
 PATENT - US 8,950,981 B2

This drawing, including the principle of design, is the intellectual property of PND Engineers, Inc. and is submitted with the agreement that it is not to be reproduced, copied or used in any other matter than its intended use on this project, and further, shall not be used in any manner that would be detrimental to PND. Use of this drawing and the associated design principles is construed as acceptance to this agreement and provisions.

**ISSUED FOR BID**  
 05/17/2016

PND Engineers, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION

DATE: \_\_\_\_\_

1506 West 36th Avenue  
 Anchorage, Alaska 99503  
 Phone: 907.561.1011  
 Fax: 907.563.4220  
 www.pndengineers.com



PROJECT: **CITY OF UNALASKA LIGHT CARGO DOCK EXPANSION**

TITLE: **DOCK DETAILS (2 OF 2)**

DESIGNED BY: CJR DATE: MAY 2016  
 CHECKED BY: DST PROJECT NO: 151125

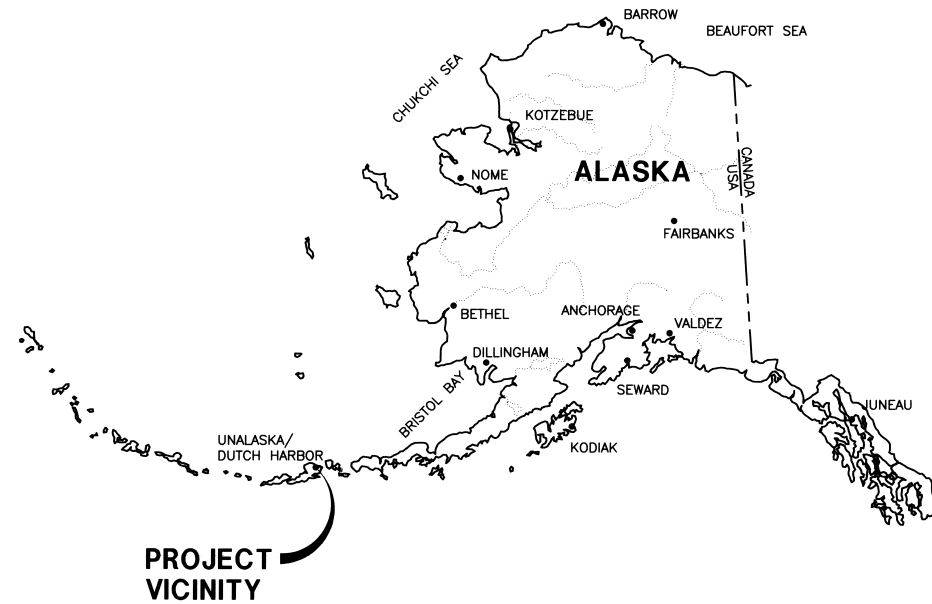
SHEET NO: **10** OF 19

**Attachment #5**

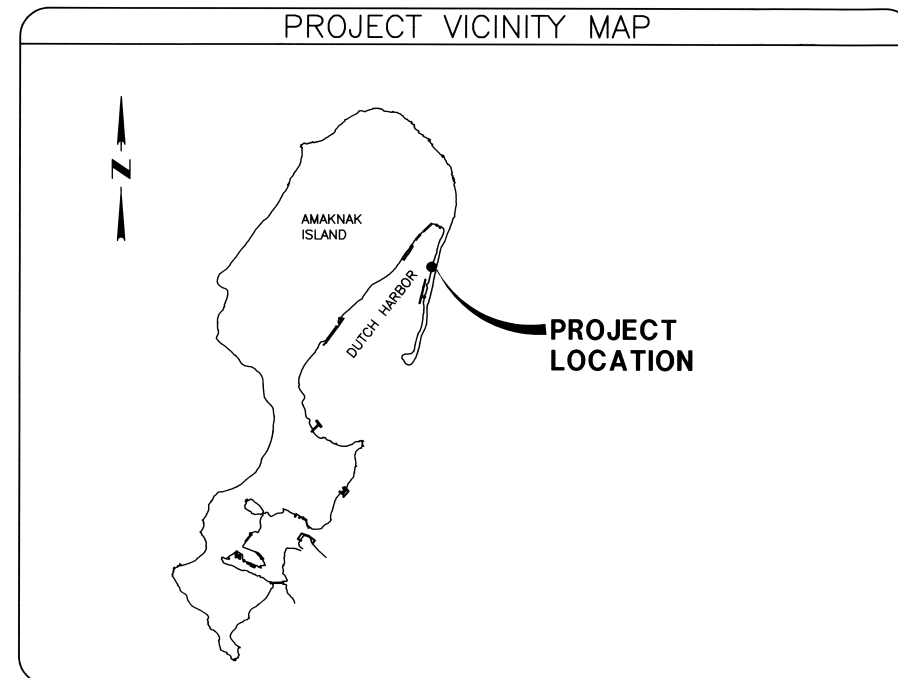
**Construction drawings for:**

- Light Cargo Dock Paving
- Light Cargo Dock Catwalks
- Original Light Cargo Dock

# CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK DPW PROJECT No. 98603



DRAWING INDEX	
DWG. No.	TITLE
1	EXISTING CONDITIONS / PROJECT CONTROL
2	DOCK PLAN
3	SHEET PILE DETAILS
4	DOCK DETAILS/ADD. #2
5	SITE GRADING AND DRAINAGE
6	TYPICAL DOLPHIN & LIGHT POLE BASE DETAILS
7	GENERAL NOTES (PART ONE)
8	GENERAL NOTES (PART TWO)
E1	ELECTRICAL
E2	ELECTRICAL ADD. ALT. #1



**p**  
**n** Peratrovich, Nottingham & Drage, Inc.  
Engineering Consultants

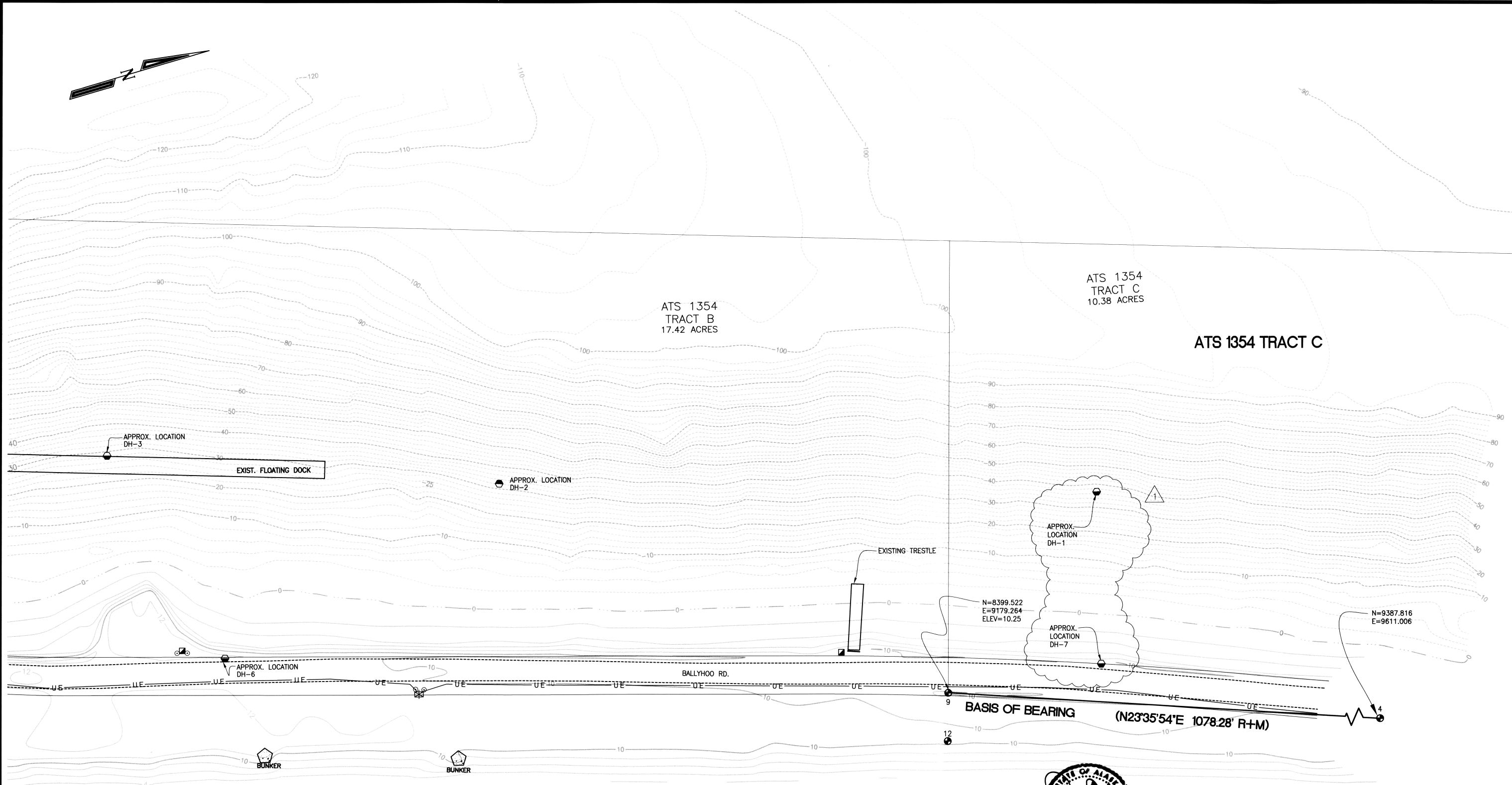
1506 West 36th Avenue,  
Anchorage, Alaska 99503

(907) 561-1011

ISSUED FOR  
CONSTRUCTION  
1-25-00

Peratrovich, Nottingham, and Drage, Inc. (PN&D) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Drawings are for the use of this project only and are not intended for reuse without written approval from PN&D. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to Peratrovich, Nottingham, and Drage, Inc.

1 REVISED 12/21/99



ATS 1354 TRACT B  
17.42 ACRES

ATS 1354 TRACT C  
10.38 ACRES

ATS 1354 TRACT C

APPROX. LOCATION DH-3  
EXIST. FLOATING DOCK

APPROX. LOCATION DH-2

EXISTING TRESTLE

N=8399.522  
E=9179.264  
ELEV=10.25

APPROX. LOCATION DH-1

APPROX. LOCATION DH-7

N=9387.816  
E=9611.006

BALLYHOO RD.  
BASIS OF BEARING (N23°35'54"E 1078.28' R+M)

BUNKER

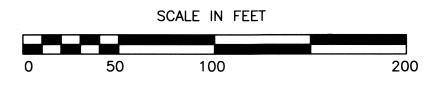
BUNKER

LEGEND

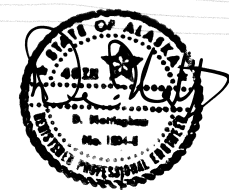
- FOUND 2 1/2" ALUMINUM MONUMENT
- FOUND PN&D YELLOW PLASTIC CAP (YPC)
- TELEPHONE PEDESTAL
- ⊠ ELECTRIC TRANSFORMER
- ⊞ CITY ELECTRIC VAULT
- ⊞ ELECTRIC METER BOX
- TESTHOLES, SEE NOTE 7
- ▲ TRAFFIC SIGN
- WOODEN BOLLARD
- GUARD RAIL
- E— UNDERGROUND ELECTRIC
- EDGE OF GRAVEL ROAD
- - - - - ATS 1354 MLLW LINE

NOTES:

- 1) VERTICAL DATUM MLLW. = 0.00'
- 2) BASIS OF VERTICAL DATUM IS FROM USC&GS TIDAL BENCH MARK NO. 15 (1955) ELEVATION 8.71' MLLW (SEE NOTE 1) LOCATED ON AMAKNAK ISLAND ALONG EAST POINT ROAD, DATUM FOR HYDROGRAPHIC AND TOPOGRAPHIC SURVEY WAS TRANSFERRED TO THE SURVEY SITE BY SIMULTANEOUS OBSERVATIONS 5/26/98.
- 3) BASIS OF BEARING FOR THIS SURVEY IS N23°35'54"E AND IS BASED ON THE FOUND ALASKA TIDELAND SURVEY MONUMENTS AS SHOWN ON THIS DRAWING, AND TAKEN FROM THE BALLYHOO ROAD R.O.W. ACQUISITION PLAT (P-94-45).



ISSUED FOR CONSTRUCTION  
1-25-00



CITY OF UNALASKA SPIT  
LIGHT CARGO AND POT DOCK

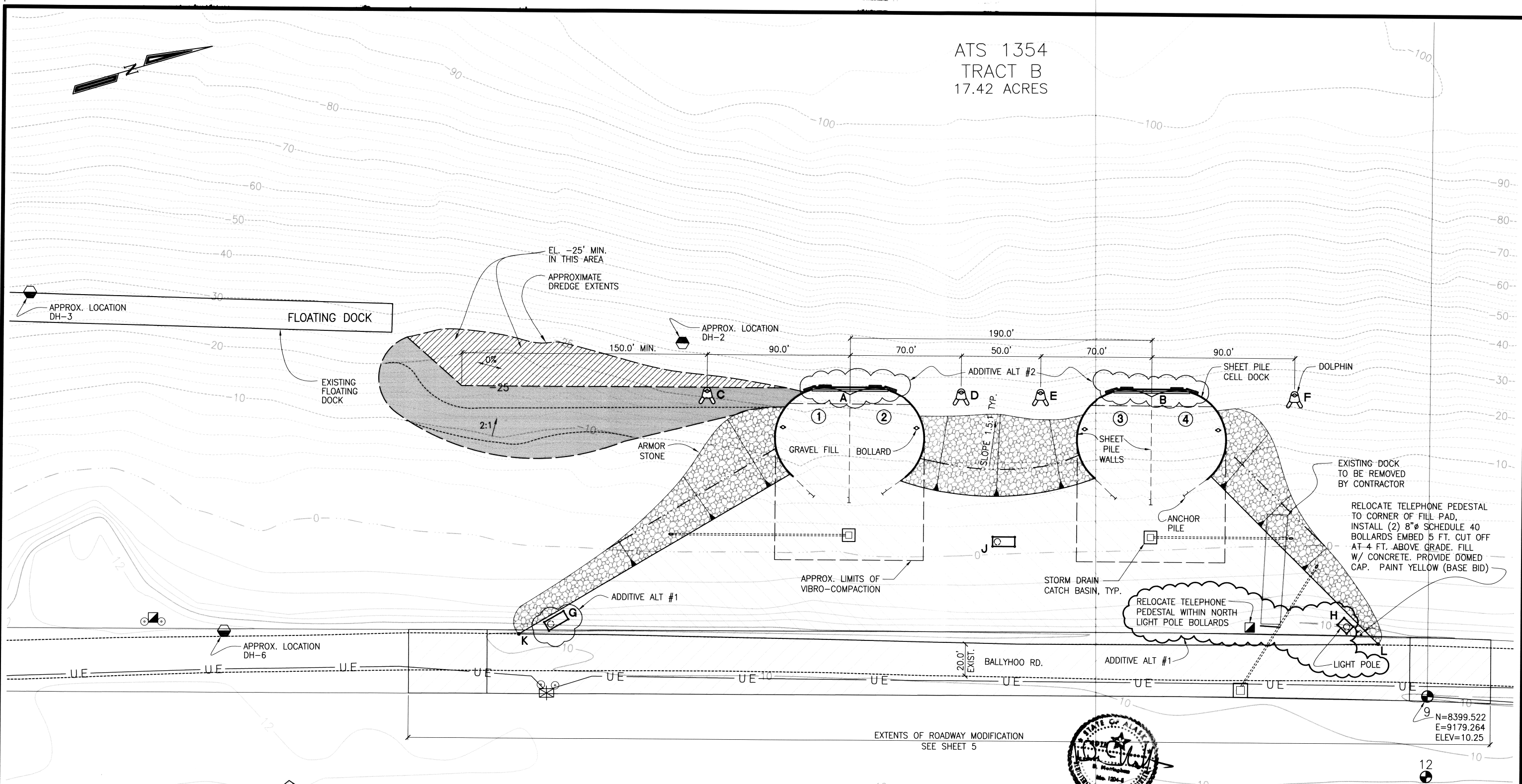
Designed: CW/JWP  
 Drawn: RLC  
 Checked: DN  
 Project No: 98058

**Peratrovich, Nottingham & Drage, Inc.**  
 Engineering Consultants  
 1506 West 36 th Avenue  
 Anchorage, Alaska 99503  
 (907) 561-1011 FAX (907) 563-4220

Date: 11/19/99  
 Scale: AS SHOWN

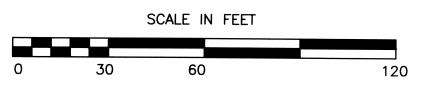
**EXISTING CONDITIONS/  
PROJECT CONTROL**

ATS 1354  
TRACT B  
17.42 ACRES



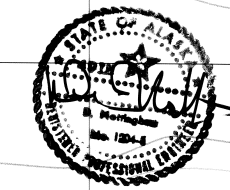
PROJECT LAYOUT			
MARK	DESCRIPTION	NORTHING	EASTING
A	WYE 1/2	8121.71	8877.47
B	WYE 3/4	8300.02	8943.20
C	DOLPHIN 1	8037.86	8844.75
D	DOLPHIN 2	8187.95	8900.00
E	DOLPHIN 3	8234.89	8917.30
F	DOLPHIN 4	8384.99	8972.71
G	SOUTH LIGHT POLE BASE ADDITIVE ALT #1	7895.86	8948.92
H	NORTH LIGHT POLE BASE ADDITIVE ALT #1	8366.52	9120.80
J	LIGHT POLE BASE (BASE BID)	8177.73	8995.89
K	FILL PAD CORNER	7874.90	8947.97
L	FILL PAD CORNER	8381.51	9137.77

- LEGEND**
- FOUND 2 1/2" ALUMINUM MONUMENT
  - FOUND PN&D YELLOW PLASTIC CAP (YPC)
  - ☒ TELEPHONE PEDESTAL
  - ☒ ELECTRIC TRANSFORMER
  - ⊕ CITY ELECTRIC VAULT
  - ☒ ELECTRIC METER BOX
  - TEST HOLES, SEE NOTE 7
  - ▲ TRAFFIC SIGN
  - WOODEN BOLLARD
  - GUARD RAIL
  - U— UNDERGROUND ELECTRIC
  - EDGE OF GRAVEL ROAD
  - - - - - ATS 1354 MLLW LINE



- NOTES:**
- 1) FIELD SURVEY WAS COMPLETED MAY 27-29, 1998.
  - 2) LOCATIONS OF DOLPHINS MAY NEED TO BE ADJUSTED BY FIELD ENGINEER.
  - 3) CONTRACTOR TO LOCATE AND MARK ALL UNDERGROUND ELECTRICAL WIRING PRIOR TO DISTURBING SOIL.
  - 4) SOIL BORING LOCATIONS ARE FROM ADOT PROJECT #K93438 "UNALASKA BOAT HARBOR" DATED APRIL 23, 1981. SEE BID DOCUMENTS FOR SOIL LOGS.

**ISSUED FOR CONSTRUCTION**  
1-25-00

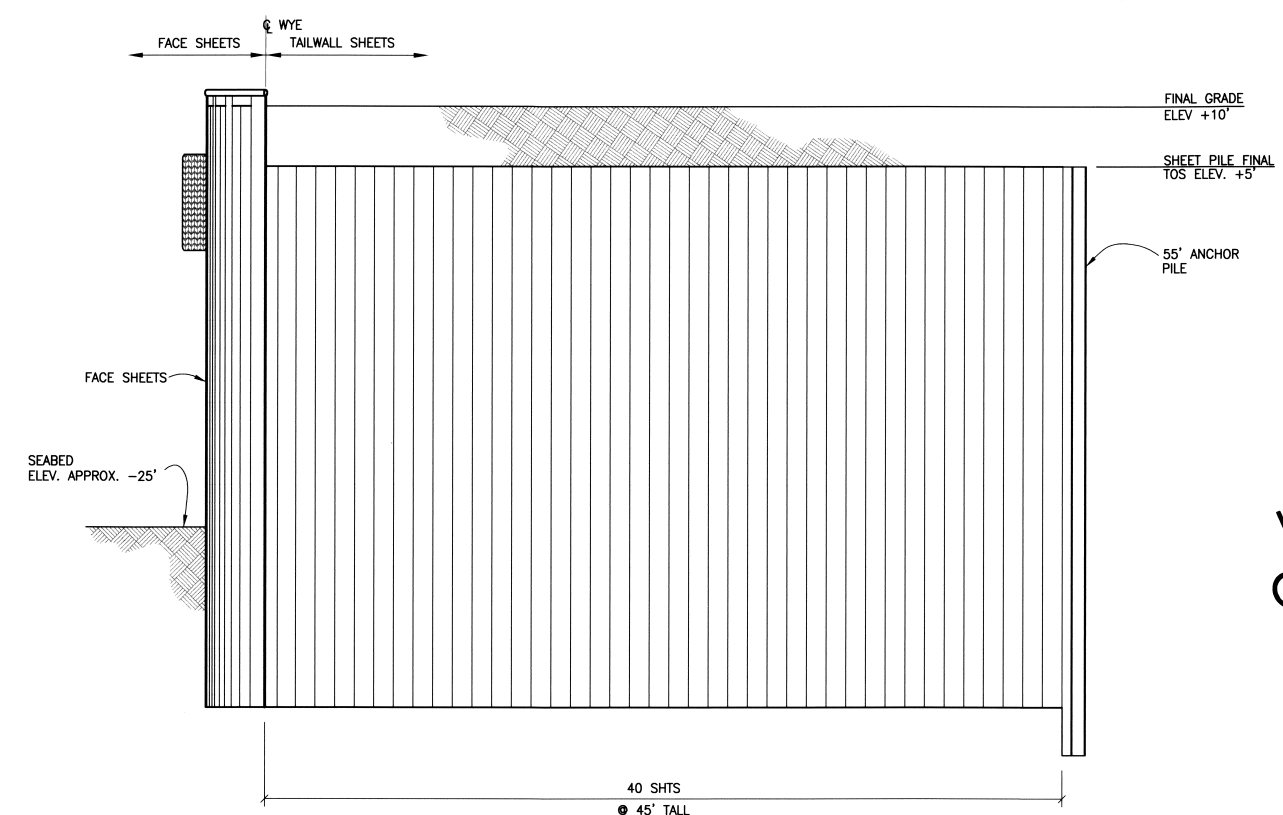


Designed: CW/JWP  
Drawn: RLC  
Checked: DN  
Project No: 98058  
Date: 10/26/99  
Scale: AS SHOWN

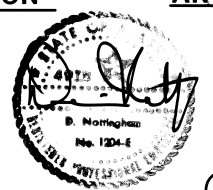
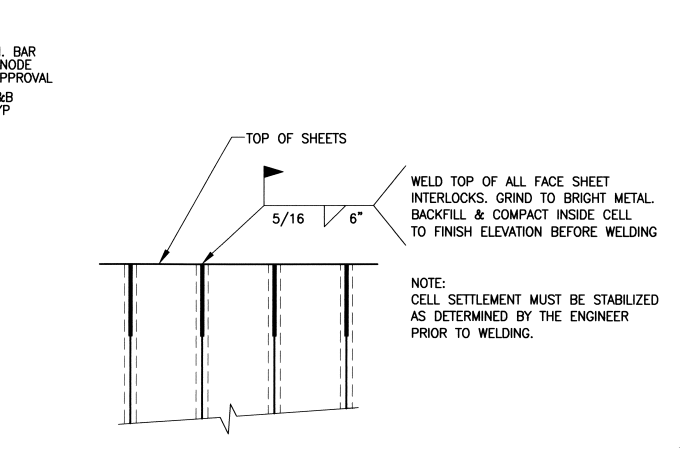
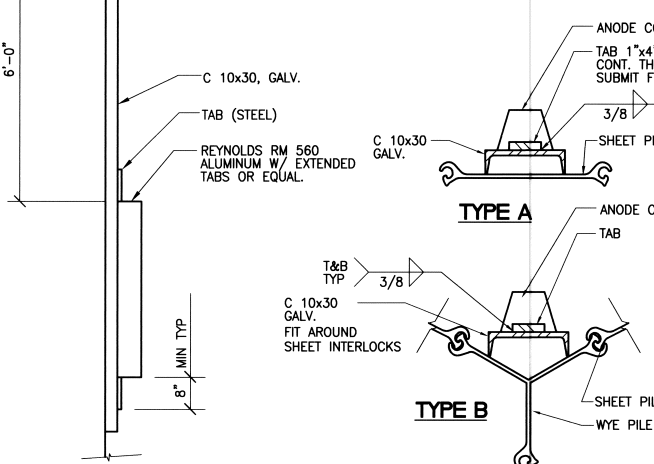
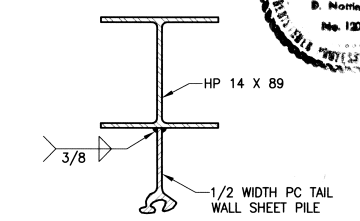
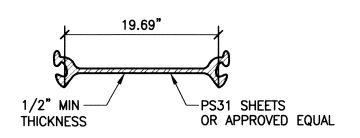
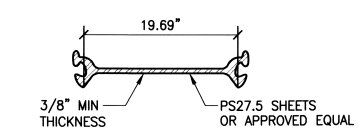
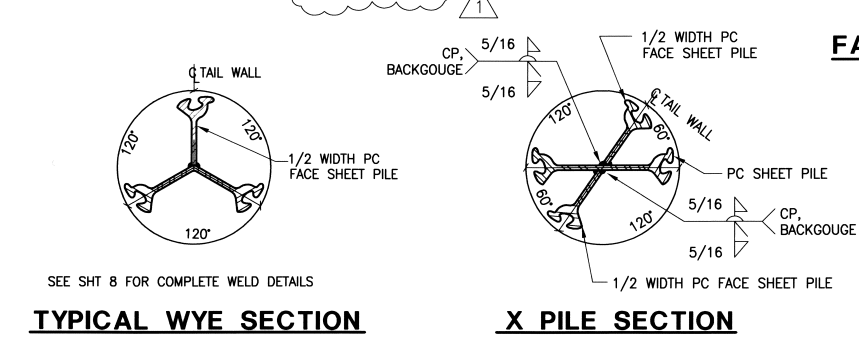
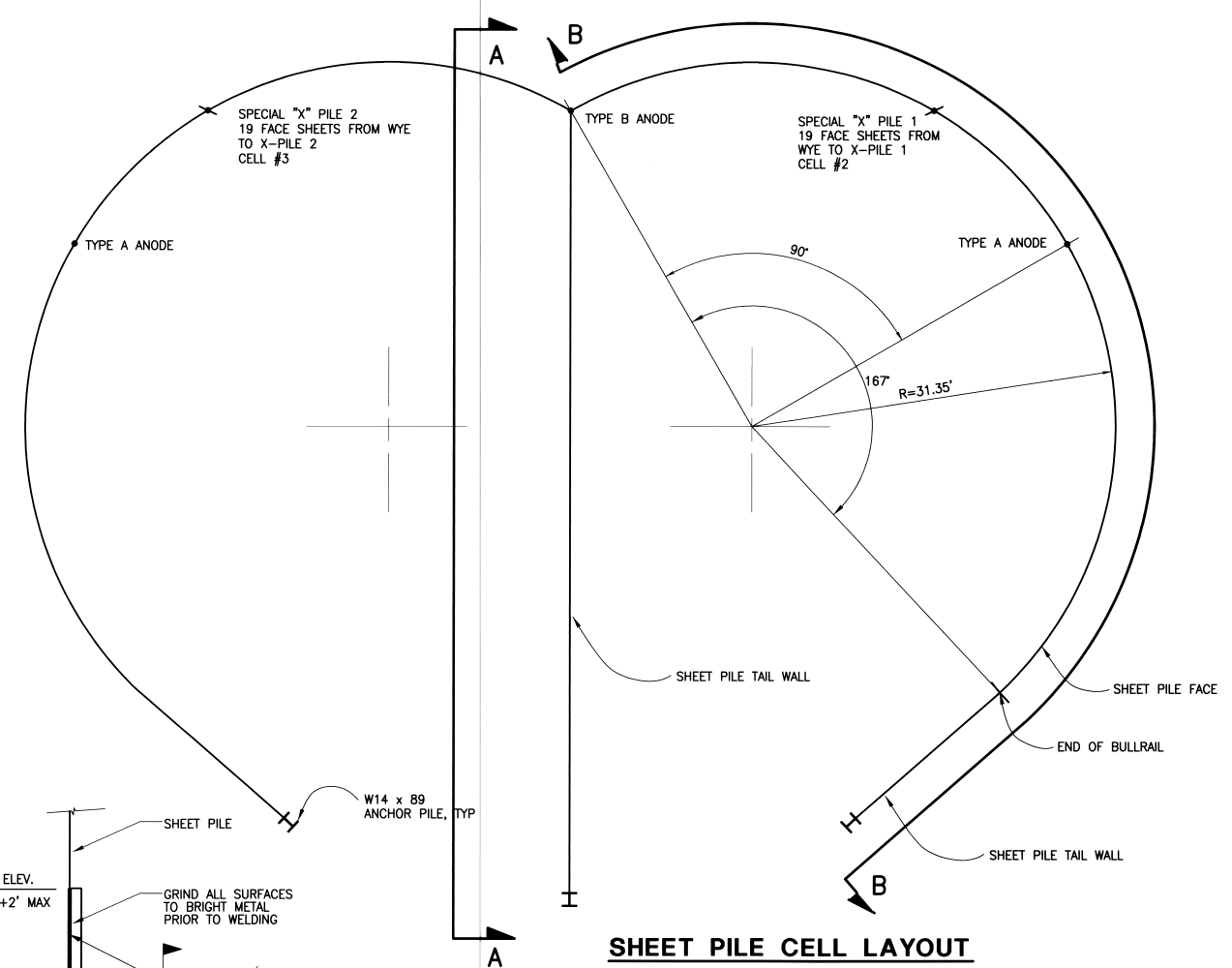
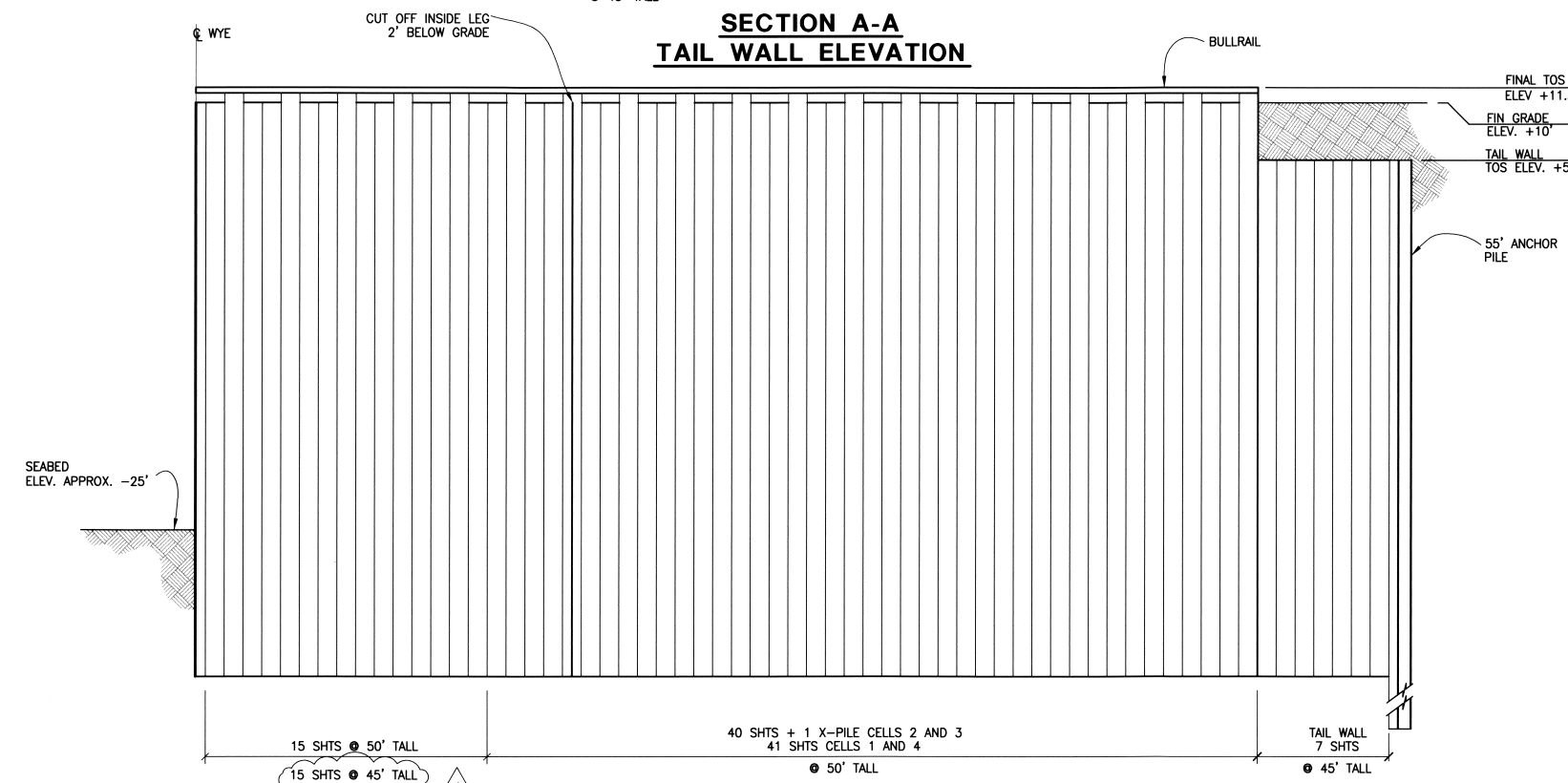
**CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK**

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

1506 West 36 th Avenue  
Anchorage, Alaska 99503  
1907) 561-1011 FAX 1907) 563-4220



ISSUED FOR CONSTRUCTION  
1-25-00



**CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK**

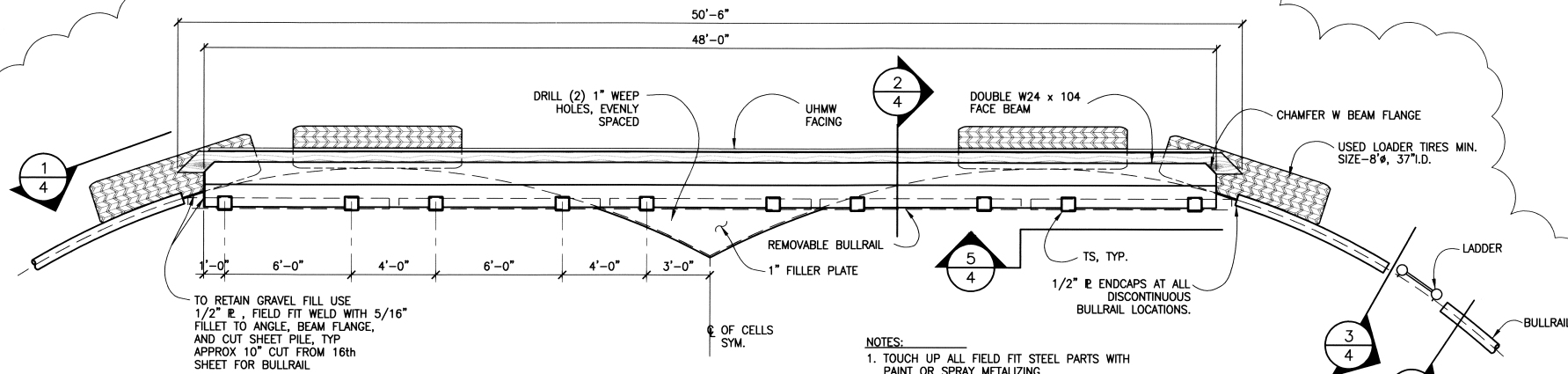
**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants  
1506 West 36 th Avenue  
Anchorage, Alaska 99503  
19071 561-1011 FAX 19071 563-4220

Designed: CW/JWP  
Drawn: RLC  
Checked: DN  
Project No: 98058

Date: 10/26/99  
Scale: AS SHOWN

**SHEET PILE DETAILS**  
sheet 3 of 8

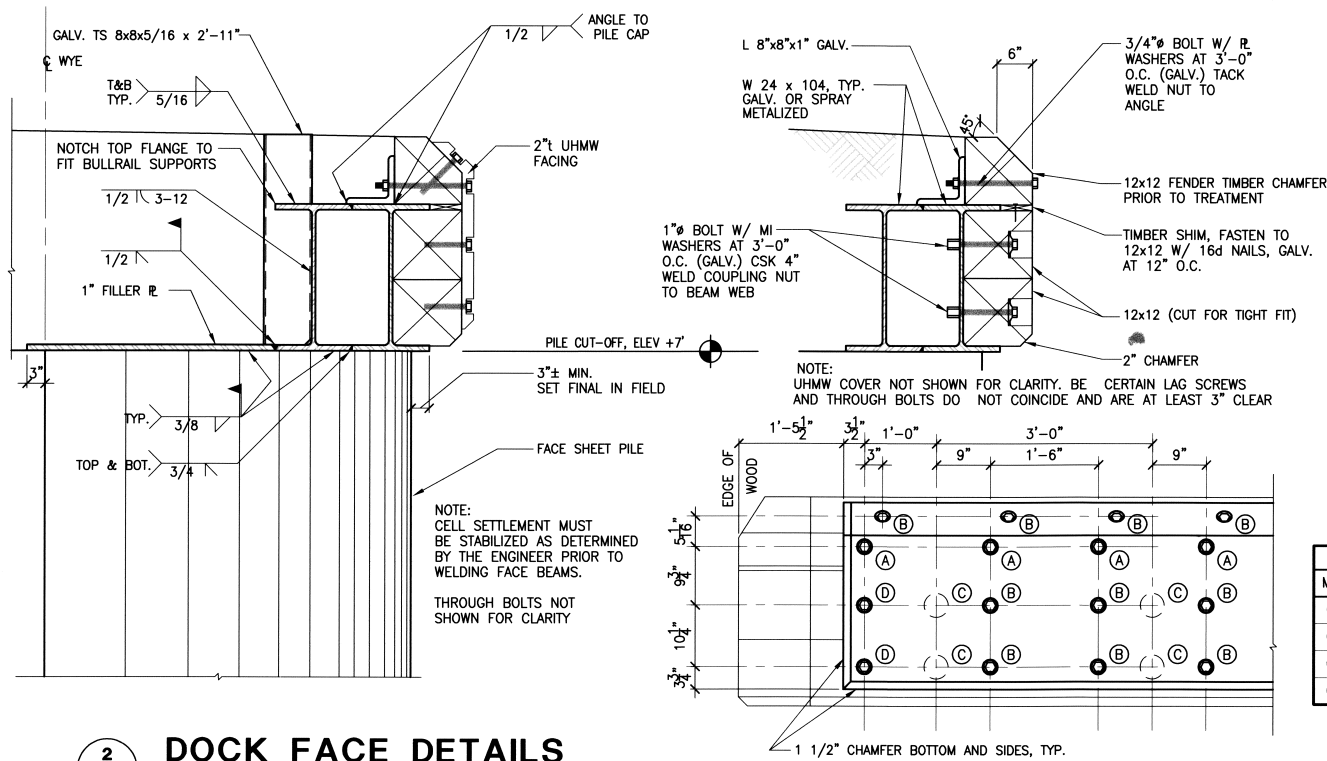
SEE SHT 8 FOR COMPLETE WELD DETAILS



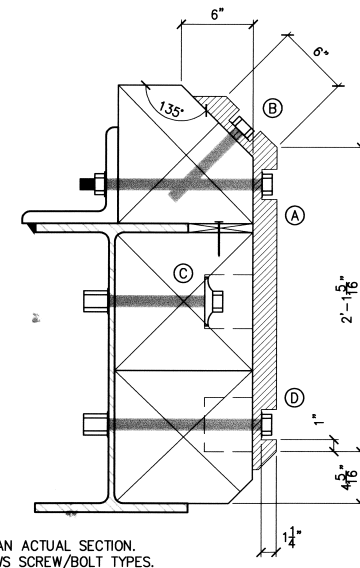
**ADDITIVE ALTERNATE #2**

**FACE BEAM**

- NOTES:
- TOUCH UP ALL FIELD FIT STEEL PARTS WITH PAINT OR SPRAY METALIZING.
  - EACH TIMBER FACE BEAM MAY BE COMPOSED OF 3 PIECES MAX. SPLICES SHALL BE STAGGERED AND BE 3" CLR OF ALL BOLT LOCATIONS.



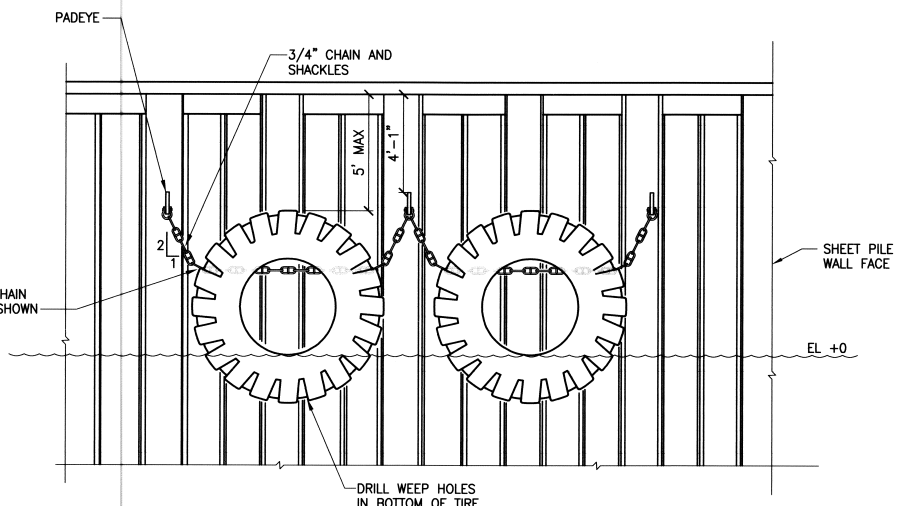
**DOCK FACE DETAILS**



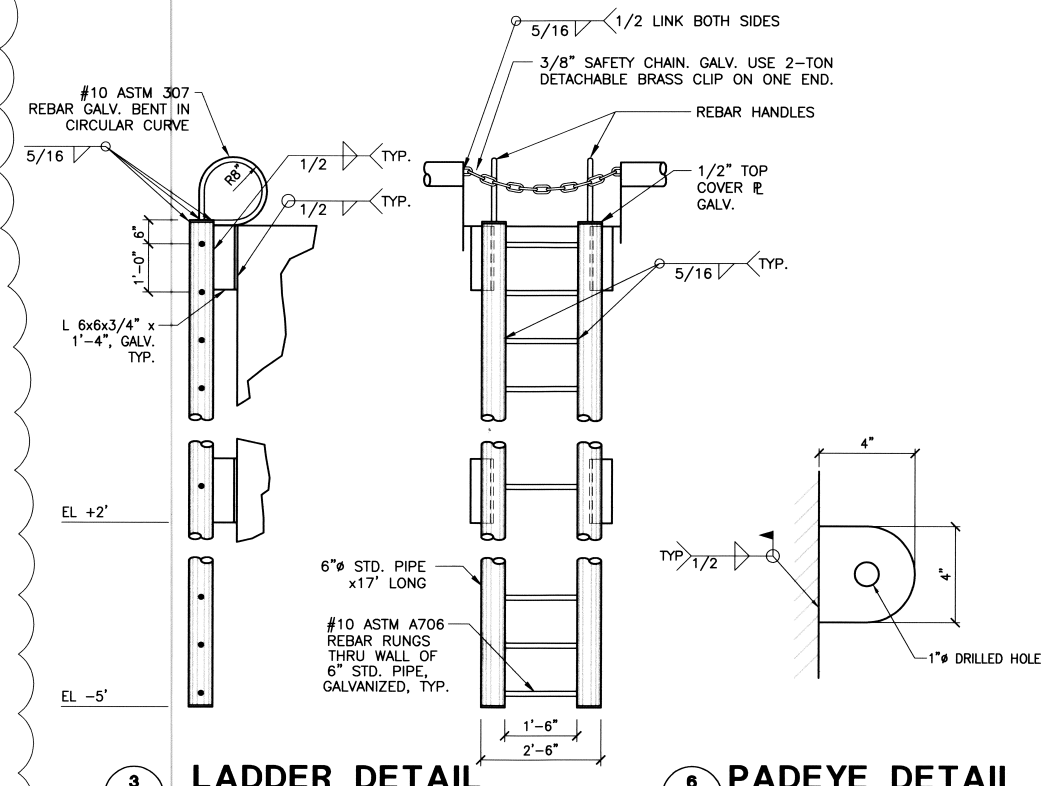
THIS IS NOT AN ACTUAL SECTION. IT ONLY SHOWS SCREW/BOLT TYPES.

BOLT SCHEDULE			
MARK	TYPE	APPROX. LENGTH	QUNTY.
(A)	3/4" BOLT	15"	66
(B)	3/4" LAG SCREW	8"	182
(C)	1" BOLT	12"	64
(D)	3/4" BOLT	16"	8

NOTE: 1. CONTRACTOR TO VERIFY QTY., LENGTH



**LOADER TIRE FENDER**

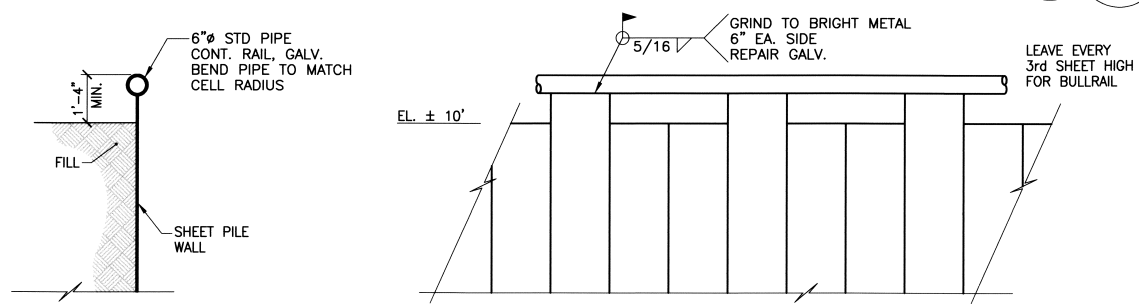


**LADDER DETAIL**

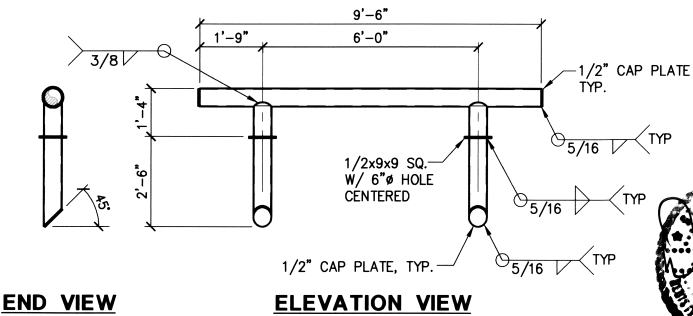
**PADEYE DETAIL**

**ISSUED FOR CONSTRUCTION**  
1-25-00

**ADDITIVE ALTERNATE #2**

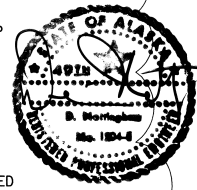


**BULLRAIL DETAIL**



**REMOVABLE BULLRAIL**

NOTE: ALL STEEL 6" X-STRONG PIPE, UNLESS NOTED OTHERWISE, GALVANIZED



Designed: CW/JWP  
Drawn: RLC  
Checked: DN  
Project No: 98058

Date: 10/26/99  
Scale: AS SHOWN

**CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK**

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

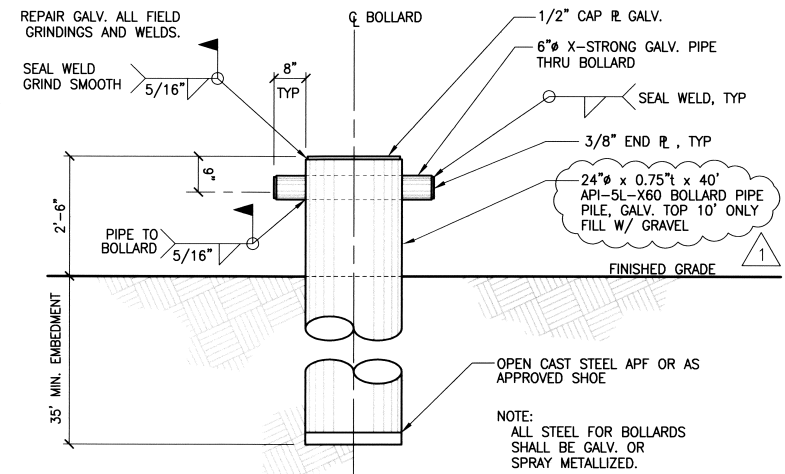
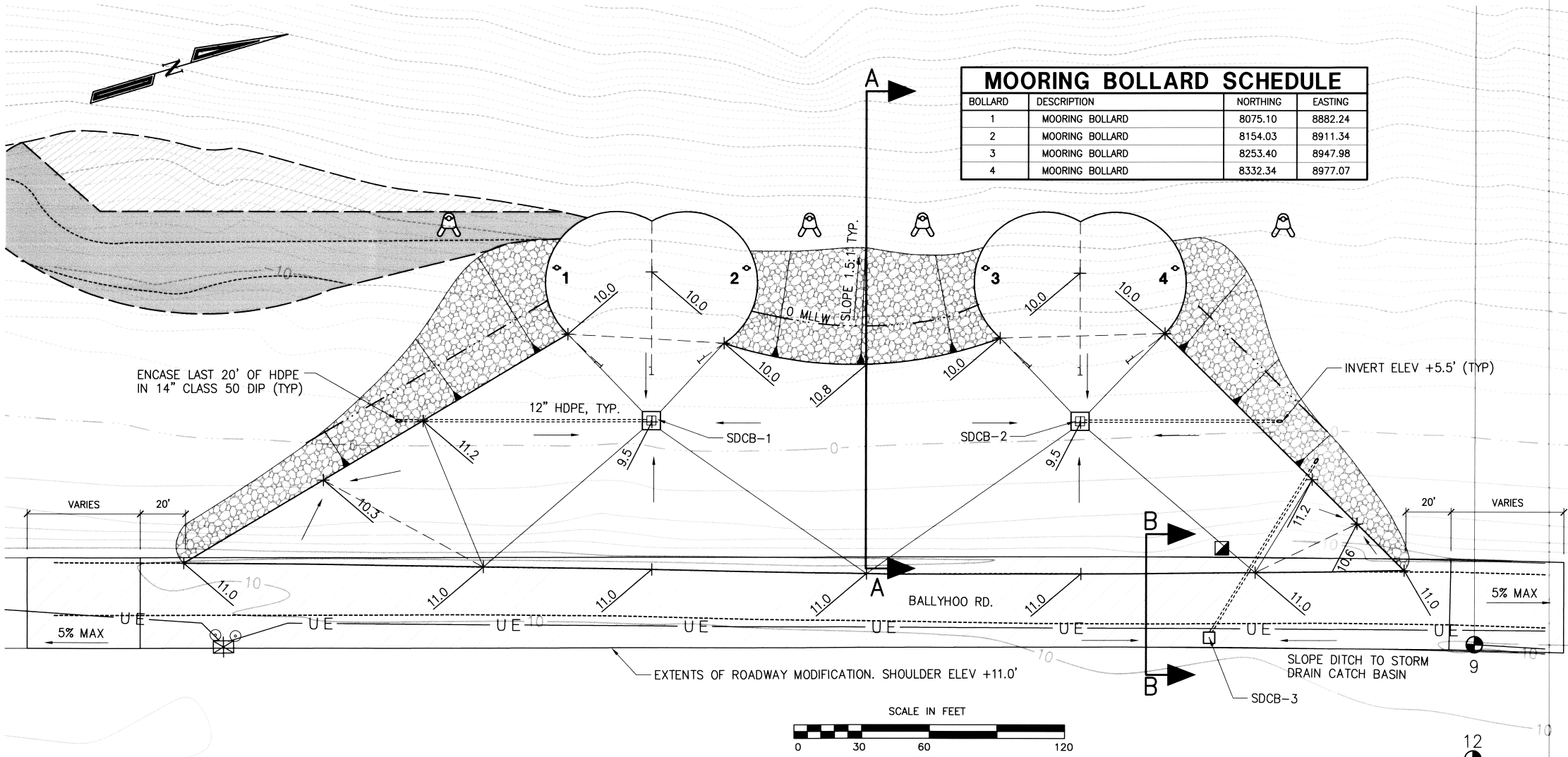
1506 West 36 th Avenue  
Anchorage, Alaska 99503

19071 561-1011 FAX 19071 563-4220

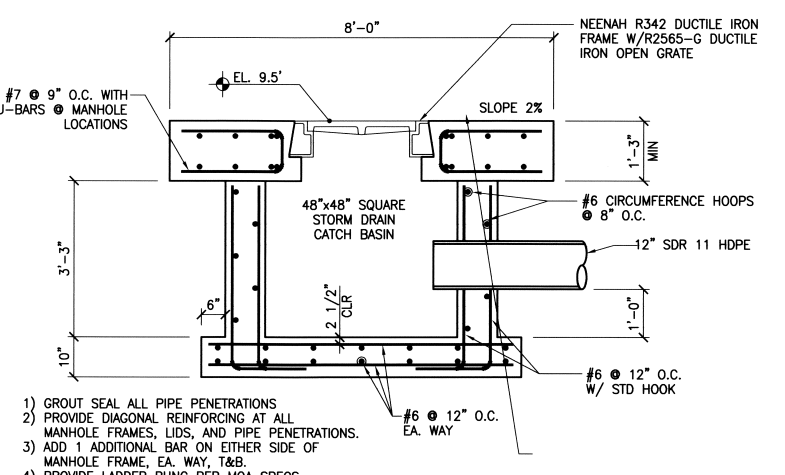


### MOORING BOLLARD SCHEDULE

BOLLARD	DESCRIPTION	NORTHING	EASTING
1	MOORING BOLLARD	8075.10	8882.24
2	MOORING BOLLARD	8154.03	8911.34
3	MOORING BOLLARD	8253.40	8947.98
4	MOORING BOLLARD	8332.34	8977.07

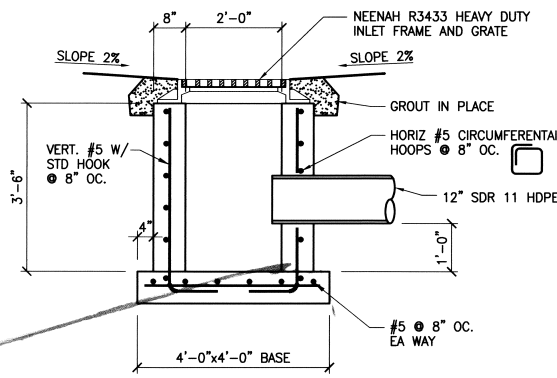


### MOORING BOLLARD PILE



### TYPE A STORM DRAIN CATCH BASIN

- 1) GROUT SEAL ALL PIPE PENETRATIONS
- 2) PROVIDE DIAGONAL REINFORCING AT ALL MANHOLE FRAMES, LIDS, AND PIPE PENETRATIONS.
- 3) ADD 1 ADDITIONAL BAR ON EITHER SIDE OF MANHOLE FRAME, EA. WAY, T&B.
- 4) PROVIDE LADDER RUNG PER MOA SPECS.



### TYPE B STORM DRAIN CATCH BASIN

(100K MAX. LOADING)

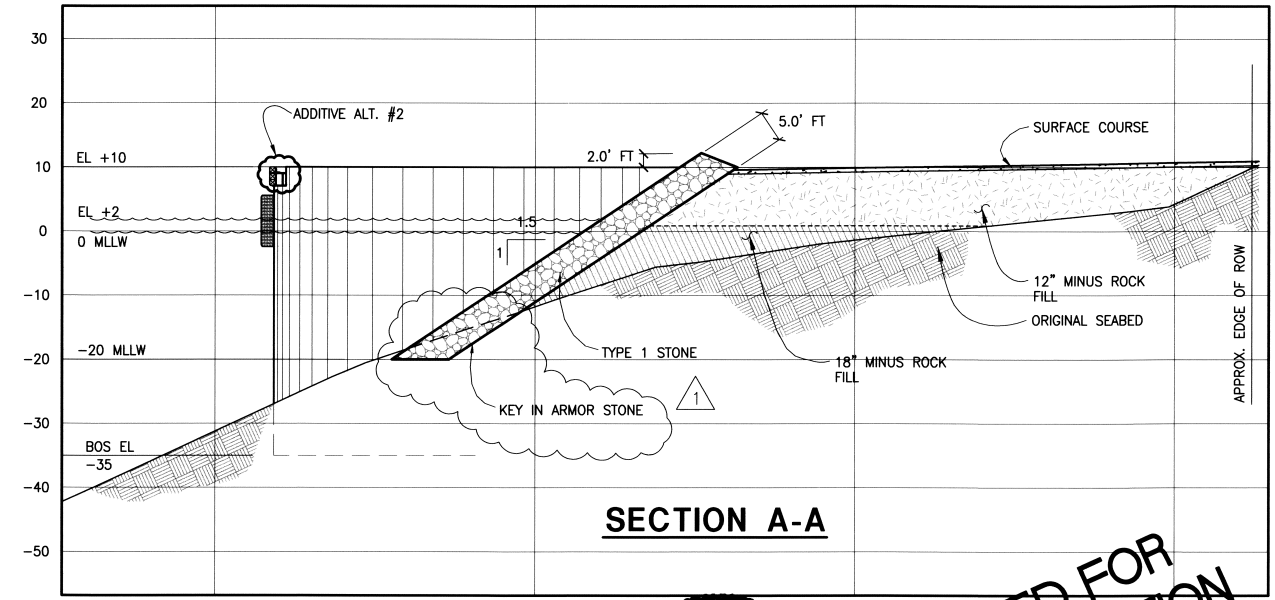
## CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

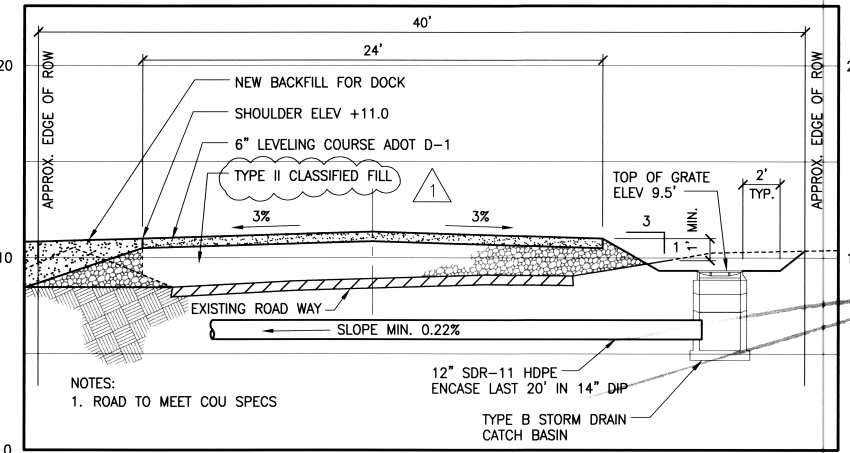
1506 West 36th Avenue Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

**SITE GRADING AND DRAINAGE/BOLLARDS** sheet 5 of 8

### SECTION A-A



### SECTION B-B



### CATCH BASIN SCHEDULE

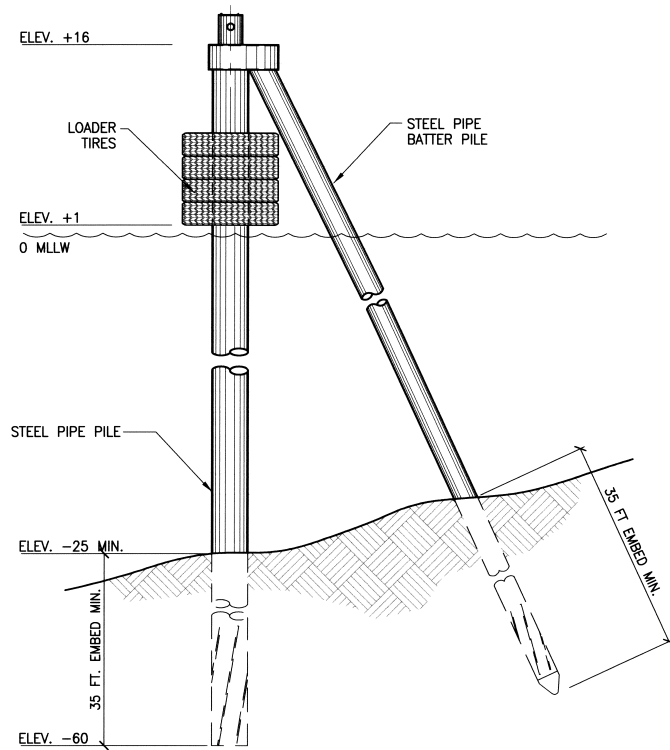
MANHOLE	DESCRIPTION	NORTHING	EASTING
SDCB-1	TYPE A STORM DRAIN CATCH BASIN	8091.14	8960.26
SDCB-2	TYPE A STORM DRAIN CATCH BASIN	8269.42	9026.07
SDCB-3	TYPE B STORM DRAIN CATCH BASIN	8290.24	9135.78

Designed: CW/JWP  
Drawn: RLC  
Checked: DN  
Project No: 98058  
Date: 10/26/99  
Scale: AS SHOWN

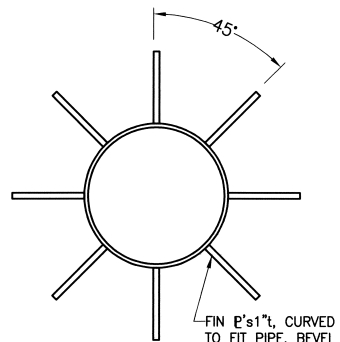
REVISED 12/21/99



**ISSUED FOR CONSTRUCTION**  
1-25-00



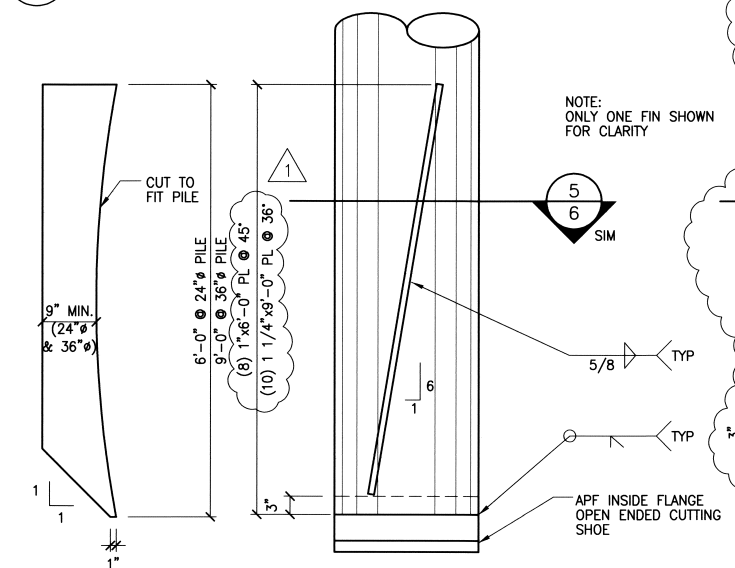
**DOLPHIN**



FIN 1/2" T, CURVED TO FIT PIPE, BEVEL R's TO MATCH PIPE SURFACE

**PILE SECTION**

5 NTS

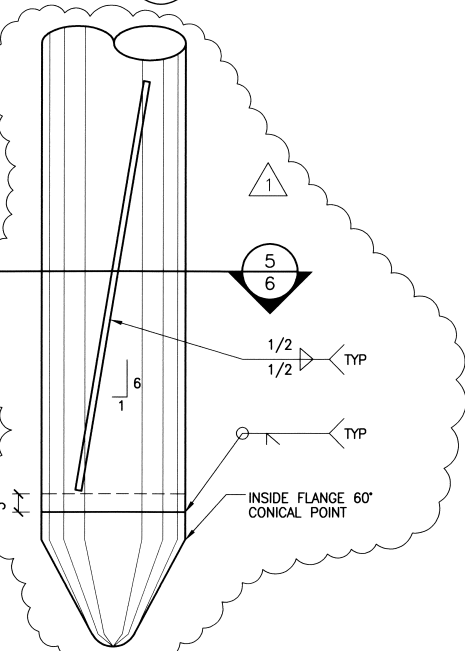


**FIN PLATE**

**36" DIA PILE**

**SPIN-FIN PILES DETAIL**

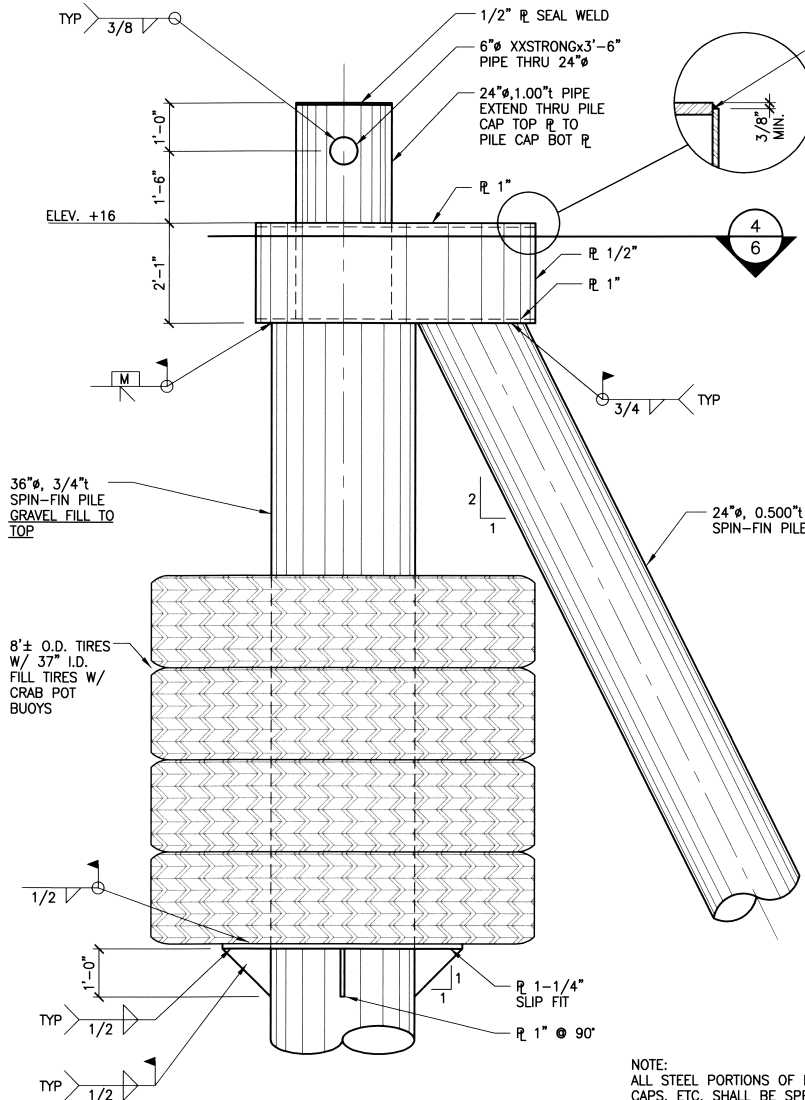
3 NTS



**24" DIA PILE**

**DOLPHIN CLOSE-UP**

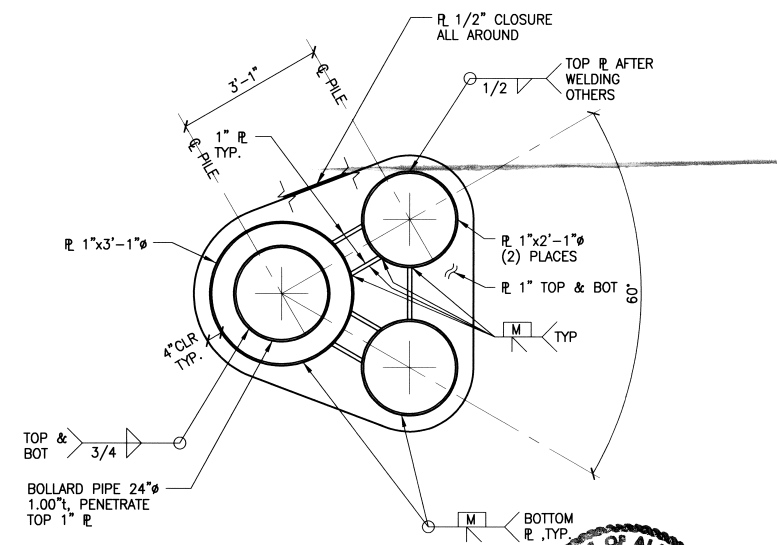
1 NTS



NOTE: ALL STEEL PORTIONS OF DOLPHIN PILES, CAPS, ETC. SHALL BE SPRAY METALLIZED.

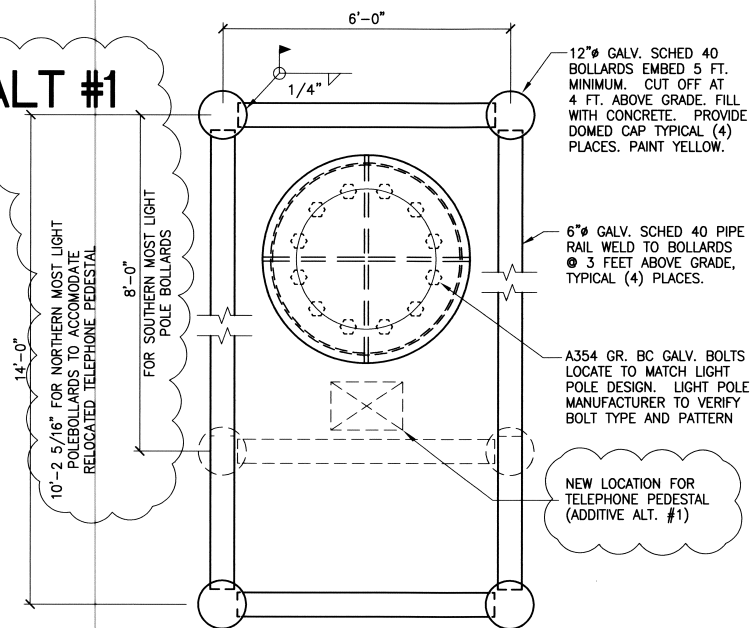
**CAP PLATE DETAIL**

4 NTS

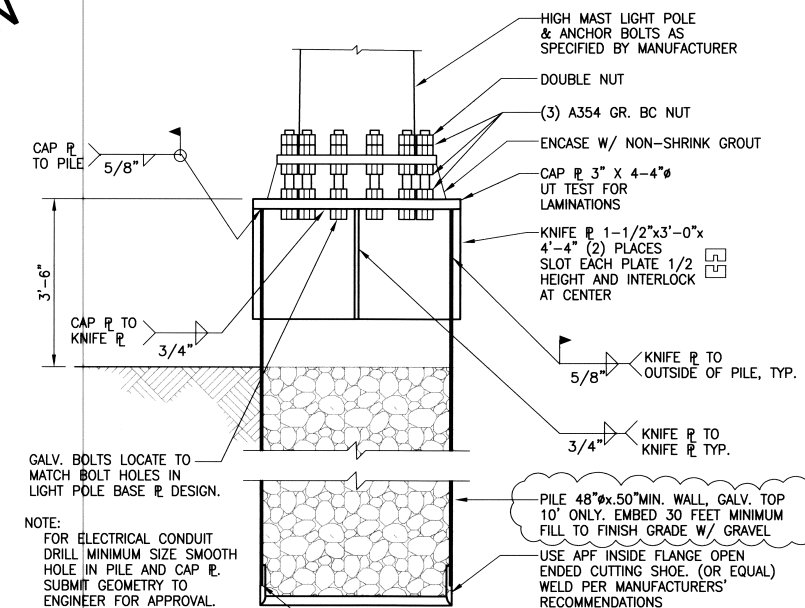


ISSUED FOR CONSTRUCTION  
1-25-00

ADD. ALT #1



**PLAN**



**TYPICAL POLE ELEVATION**

**LIGHT POLE BASE**

2 NTS

REVISED 12/21/99

**CITY OF UNALASKA SPIT  
LIGHT CARGO AND POT DOCK**

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

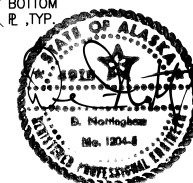
1506 West 36 th Avenue Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

Designed: CW/JWP  
Drawn: RLC  
Checked: DN  
Project No: 98058

Date: 10/26/99  
Scale: AS SHOWN

**TYPICAL DOLPHIN & LIGHT  
POLE BASE DETAILS**

sheet  
6 of 8



# GENERAL NOTES (CIVIL AND STRUCTURAL ONLY)

## DATUM

TIDAL LEVELS - ELEVATION DATUM FOR THIS PROJECT IS 0.0 MEAN LOWER LOW WATER.

TIDAL LEVELS (FROM PORT OF UNALASKA)

EXTREME HIGH WATER	+6.6 FT.
MEAN HIGHER HIGH WATER (MHHW)	+3.7 FT.
MEAN HIGH WATER (MHW)	+3.4 FT.
MEAN LOW WATER (MLW)	+1.2 FT.
MEAN LOWER LOW WATER (MLLW)	+0.0 FT.
EXTREME LOWEST WATER RECORDED	-2.7 FT.

## DESIGN PARAMETERS

LIVE LOAD -	750 PSF DISTURBED LOAD OR 80-KIP AXLE LOAD
BOLLARDS -	60 KIPS IN ANY DIRECTION
DOLPHINS -	150 KIPS IN ANY DIRECTION
WIND -	133 MPH, EXPOSURE "C" ASSUME GUSTS TO 150 MPH ARE COMMON
EARTHQUAKE -	AASHTO ZONE 3

## CORROSION

SHEET PILE PROTECTION BY ANODES. PIPE PILE PROTECTION BY GALVANIZING. STRUCTURAL STEEL SPRAY-METALLIZED AND/OR GALVANIZED. AFTER 7 YEARS OWNER SHOULD DEVELOP AN INSPECTION PROGRAM.

## MATERIALS

**STRUCTURAL STEEL** - ALL MISCELLANEOUS STEEL PLATES AND SHAPES, SHALL BE ASTM A572 GRADE 50, UNLESS NOTED OTHERWISE ON PLANS.

ALL PLATES 1-1/2 INCHES THICK, OR GREATER, SHALL BE 100% STRAIGHT BEAM ULTRASONICALLY TESTED FOR LAMINATIONS AND ANY DISCONTINUITIES FOUND SHALL REQUIRE REPLACEMENT OF THE PLATE.

STEEL ERECTION SHALL CONFORM TO AISC STANDARDS.

## STEEL PIPE PILES

DOLPHIN PILES AND LIGHT POLE BASE SHALL BE ASTM A-252, GRADE 3, WITH CARBON EQUIVALENCY NOT TO EXCEED 0.45. GALVANIZING IS NOT REQUIRED ON BOTTOM 20- FEET OF PILES. SPIRAL WELD PIPE MAY BE USED ONLY UPON ENGINEER'S APPROVAL.

ALL BOLLARD PILES SHALL BE API-5L-X60.

PILE SPLICES SHALL BE FULL-STRENGTH BUTT-WELDED WITH BACKING RINGS PER AWS SPECIFICATIONS. CARE SHALL BE TAKEN THAT PILING REMAINS IN STRAIGHT ALIGNMENT THROUGH SPLICES. NO PIECE OF PILE LESS THAN 5 FEET LONG SHALL BE SPLICED ONTO A PILE.

## UHMW PE FENDER FACING

PROTECTIVE FACING SHALL BE MADE OF 100% UHMW POLYETHYLENE WITH 2.5% BY WEIGHT UV-STABILIZATION COMPOUND AND HAVING UV-STABILIZED DYES CONFORMING TO THE FOLLOWING SPECIFICATIONS:

PROPERTY	TEST METHOD	ACCEPTANCE REQUIREMENT
MOLECULAR WEIGHT		3.0 MILLION, MIN.
ULTIMATE TENSILE STRENGTH	ASTM D638	4,000 PSI, MIN.
IZOD IMPACT, DOUBLE NOTCH	ASTM D256A	18 FT.-LBS./IN., MIN.
ABRASION WEAR (CARBON STL=100)	SAND SLURRY	18 MAX.
WATER ABSORPTION	ASTM D570	NIL
COEFFICIENT OF FRICTION	ASTM D1894	.20 MAX.

## BOLTS

ALL BOLTS CONNECTING STEEL TO STEEL OR STEEL TO CONCRETE SHALL BE ASTM A325, GALVANIZED. ALL A325 BOLTS SHALL BE INSTALLED PER AISC TURN-OF-THE-NUT TIGHTENING, OR OTHER ENGINEER APPROVED METHODS UNLESS OTHERWISE NOTED. ALL OTHER BOLTS AND LAG SCREWS SHALL BE ASTM A307, GALVANIZED. GALVANIZED WASHERS SHALL BE USED IN ALL AREAS WHERE THE BOLT HEAD OR NUT SHALL BEAR AGAINST TIMBER OR CONCRETE OR AGAINST OVERSIZED HOLES IN STEEL (I.E. MORE THAN 1/16 INCH LARGER THAN BOLT DIAMETER). GALVANIZED NUTS AND WASHERS SHALL CONFORM TO THE SPECIFICATION FOR THE CORRESPONDING BOLT. MALLEABLE IRON WASHERS OR ECONOMY HEADS ARE REQUIRED WHEREVER BOLT HEADS OR NUTS BEAR AGAINST WOOD.

## SPRAY METALLIZING

DOLPHIN CAPS, AND ALL OTHER MATERIAL SPECIFICALLY DESIGNATED TO BE SPRAY METALLIZED SHALL BE SPRAY METALLIZED WITH ALUMINUM OR ZINC PER THE STEEL STRUCTURES PAINTING COUNCIL (SSPC) GUIDE NO. 23. MINIMUM DRY COATING THICKNESS OF 6 MILS IS REQUIRED. METALLIZING AND/OR GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING TO A MINIMUM COATING THICKNESS OF 6 MILS. CONTRACTOR SHALL SUBMIT REPAIR MATERIAL AND METHOD OF REPAIR FOR REVIEW AND APPROVAL.

## GALVANIZING

ALL STRUCTURAL STEEL, INCLUDING BOLTS, NUTS AND WASHERS NOT SPECIFIED TO BE SPRAY METALLIZED, SHALL BE GALVANIZED PER ASTM A123 OR A153 AFTER FABRICATION UNLESS OTHERWISE NOTED. CONTRACTOR MAY UTILIZE SPRAY METALLIZING IN LIEU OF GALVANIZING ON ANY ITEM SPECIFIED TO BE GALVANIZED. GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING.

## LIFE RINGS

PROVIDE U.S. COAST GUARD APPROVED 30-INCH-DIAMETER, ORANGE LIFE RING WITH 100 FEET OF 1/2-INCH-DIAMETER FLEXIBLE NYLON ROPE. LOCATE LIFE RINGS AT EACH DOCK FACE AS DIRECTED BY OWNER'S REPRESENTATIVE.

**SHEET PILES** - SHEET PILES SHALL MEET REQUIREMENTS OF ASTM A572 GRADE 50 OR ENGINEER APPROVED EQUAL AND SHALL BE INSTALLED FULL LENGTH WITHOUT SPLICES UNLESS OTHERWISE APPROVED BY ENGINEER.

MINIMUM INTERLOCK TENSILE STRENGTH OF FLAT SHEET PILES SHALL BE 16,000 POUNDS PER INCH. FLAT SHEET PILE ALLOWABLE INTERLOCK SWING ANGLE SHALL BE AT LEAST 6'.

## MISCELLANEOUS PIPE

PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53 GRADE B.

## CHAIN

CHAIN SHALL BE GRADE 2 STUD LINK TYPE, GALVANIZED.

## TIMBER

ALL SAWN TIMBER SHALL BE S4S WEST COAST DOUGLAS FIR NO. 1 OR BETTER PER NORTHWEST GRADING RULES NO. 17. TIMBER SHALL BE PRESSURE TREATED WITH ACZA TO A NET DRY SALT RETENTION OF 2.5 POUNDS PER CUBIC FOOT PER AWPA STANDARD C-18. FABRICATION AND DRILLING OF TIMBER SHALL BE DONE AS MUCH AS POSSIBLE BEFORE TREATING. FIELD DRILLED HOLES, CUTS AND MINOR DAMAGED AREAS SHALL BE FIELD SWABBED WITH THE SAME PRESERVATIVE PER AWPA M-4. GALVANIZED MALLEABLE IRON WASHERS SHALL BE USED WHEREVER BOLT HEADS OR NUTS WOULD OTHERWISE BEAR ON WOOD. BOLT HOLES SHALL BE 1/8-INCH OVERSIZED EXCEPT AS OTHERWISE NOTED. EACH PIECE OF LUMBER SHALL BE STAMPED WITH A GRADE MARK. THIS STAMP SHALL IDENTIFY THE GRADING AND THE CERTIFICATION. IT SHALL BE AN INDENTATION MARK OR EQUIVALENT SO THE MARK WILL BE LEGIBLE AFTER PRESSURE TREATMENT.

## REINFORCING STEEL

ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A-615, GRADE 60 STEEL UNLESS NOTED OTHERWISE. BARS SHALL BE SUPPORTED ON APPROVED CHAIRS OR WELL-CURED CONCRETE BLOCKS. REINFORCING STEEL SHALL BE DETAILED, BENT, AND PLACED IN ACCORDANCE WITH THE LATEST ACI-318. TWO-INCH MINIMUM CLEARANCE UNLESS OTHERWISE NOTED ON THE DRAWINGS. BARS SHALL BE CLEAN AND FREE FROM CUTTING OIL OR OTHER DELETERIOUS MATERIAL.

## STORM DRAIN SYSTEMS

ALL STORM DRAIN MATERIALS SHALL CONFORM TO THE MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS AND DETAILS EXCEPT AS SPECIFICALLY NOTED ON THE PLANS AND THESE GENERAL NOTES.

## NON-SHRINK GROUT

GROUT AROUND LIGHT POLE BASE SHALL BE AN ENGINEER APPROVED NON-SHRINK, NON-METALLIC, NON-BLEEDING GROUT WITH A MINIMUM ALLOWABLE COMPRESSIVE STRENGTH OF F'C = 6,000 PSI.

## CONCRETE

CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF F'C = 4500 PSI. ENTRAINED AIR SHALL BE 5 +/- 2%. MIX DESIGN SHALL BE SUBMITTED AND APPROVED 6 WEEKS PRIOR TO SCHEDULED CONCRETE PLACEMENT.

## FILL

FILL SHALL CONSIST OF A DURABLE WELL-GRADED GRAVEL AND/OR ROCK, WITH NO MORE THAN 10% PASSING THE #200 SIEVE, AND SHALL BE FREE OF ORGANICS, ICE, SNOW, AND OTHER DELETERIOUS MATERIALS. BELOW ELEVATION +2 MATERIAL SHALL BE 18-INCH MINUS. FILL ABOVE ELEVATION +2 TO 8-INCHES BELOW THE FINISHED GRADE SHALL BE 12-INCH MINUS. CARE SHALL BE TAKEN TO AVOID PLACING LARGER ROCKS WHERE THEY MAY INTERFERE WITH SHEET AND PIPE PILE DRIVING. OVERSIZE MATERIAL MAY BE USED IN THE FILL AT THE DISCRETION OF THE ENGINEER.

THE CONTRACTOR IS RESPONSIBLE TO LOCATE A FILL SOURCE MEETING THE REQUIREMENTS SPECIFIED ABOVE.

THE DREDGE SPOILS MEETING THE DESCRIPTION OF FILL MAY BE INCORPORATED IN THE FILL.

## GRAVEL SURFACING

SURFACE MATERIAL FOR THE DOCK AREA SHALL CONSIST OF 4-INCH MINUS, WELL-GRADED GRAVEL CONFORMING TO THE REQUIREMENTS OF SUBBASE GRADING A FOR A WEARING SURFACE MATERIAL (DEGRADATION VALUE OF 45) IN PARAGRAPH 703-2.09 ALASKA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 1988 EDITION.

THE CONTRACTOR IS RESPONSIBLE TO LOCATE A GRAVEL SOURCE MEETING THE REQUIREMENTS SPECIFIED ABOVE.

**BACKFILL AROUND FORMED CONCRETE STRUCTURES AND DRAINAGE PIPE**- BACKFILL AROUND AND BEDDING UNDER FORMED CONCRETE STRUCTURES, DRAINAGE STRUCTURES AND ALL PIPES SHALL CONSIST OF A 12-INCH THICK LAYER OF 2-INCH MINUS GRAVEL FILL.

## CATHODIC PROTECTION

CATHODIC PROTECTION SHALL BE AS SPECIFIED ELSEWHERE ON THE PLANS.

## INSTALLATION

### STRUCTURAL STEEL WELDING

PER LATEST AWS D1.1 BY WELDERS QUALIFIED PER AWS FOR THE TYPE AND POSITION OF THE WELDS WELDED. ALL FILLER METAL SHALL MEET CHARPY IMPACT CRITERIA OF 20 FT-LB AT -20°F AND SHALL HAVE A MAXIMUM CARBON CONTENT OF 0.15%. ALL SMAW ELECTRODES SHALL BE PROPERLY CONDITIONED LOW HYDROGEN. SUBMIT WELDER QUALIFICATIONS AND WELDING PROCEDURES TO ENGINEER FOR APPROVAL.

THE CONTRACTOR SHALL PROVIDE AN INDEPENDENT, CERTIFIED WELDING INSPECTOR TO INSPECT ALL SHOP WELDS. THE OWNER SHALL PROVIDE WELDING INSPECTION FOR ALL FIELD WELDS AND MAY PROVIDE A WELDING INSPECTOR TO SPOT CHECK SHOP WELDS.

ALL WELDS SHALL BE 100% VISUALLY INSPECTED. IN ADDITION 10% OF ALL CJP SHOP WELDS SHALL BE TESTED BY UT EXAMINATION OR OTHER NDT METHODS APPROVED BY ENGINEER. ANY WELD FAILING INSPECTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, WHICH WILL INCLUDE THE COST FOR RETESTING.

## ROADS

ALL MATERIALS USED IN THE RE-WORKING OF BALLYHOOD RD. IN THE VICINITY OF THE NEW DOCK SHALL MEET THE CITY OF UNALASKA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF STREETS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS.

## PIPE PILE DRIVING

ALL PILES SHALL BE DRIVEN. THE CONTRACTOR SHALL SUBMIT A PLAN FOR PILE DRIVING. THE PLAN SHALL CONTAIN HAMMER TYPE AND DRIVING METHOD FOR ALL PILE TYPES. THE CONTRACTOR SHALL NOT MOBILIZE HAMMERS AND RELATED EQUIPMENT PRIOR TO RECEIVING WRITTEN APPROVAL OF THE PLAN. THE CONTRACTOR SHOULD ALLOW ONE WEEK FOR REVIEW OF THE PLAN BY THE ENGINEER. ALL PILE DRIVING METHODS SHALL MEET THE REQUIREMENTS OF THE PERMITS ISSUED FOR THIS PROJECT.

STEEL PIPE PILES SHALL BE DRIVEN WITH AN IMPACT HAMMER WITH A MINIMUM RATED ENERGY OF 80,000 FT.-LBS. ANY HAMMER THAT CAUSES DAMAGE TO THE PILES DURING DRIVING OPERATIONS SHALL BE SUBSTITUTED WITH AN ACCEPTABLE ALTERNATE HAMMER AT NO ADDITIONAL EXPENSE TO THE OWNER. IMPACT HAMMERS SHALL BE SUPPLIED WITH NEW CAP BLOCK CUSHIONS, WHICH SHALL BE CHANGED AT THE MANUFACTURER'S RECOMMENDED CYCLE. THE CONTRACTOR'S DRIVING PLAN SHALL INCLUDE MANUFACTURER'S RECOMMENDATIONS AND INFORMATION ON HAMMER CUSHION.

DRIVING METHODS FOR ALL PILES SHALL UTILIZE A DRIVING TEMPLATE.

PILES SHALL BE PLACED WITHIN 1% OF SPECIFIED VERTICAL ALIGNMENT AND WITHIN 2 INCHES OF SPECIFIED LOCATION AT CUTOFF. BATTER PILES WITH A 2V:1H SLOPE SHALL BE PLACED SO THEIR SLOPE VARIES BETWEEN 5-3/4" AND 6-1/4" HORIZONTAL TO ONE-FOOT VERTICAL AND WITHIN 2 INCHES OF LOCATION AT CUTOFF. PILES HITTING OBSTACLES, MISALIGNED PILES AND PILES THAT HAVE NOT ACHIEVED MINIMUM PENETRATION PRIOR TO REFUSAL SHALL BE PULLED BY THE CONTRACTOR WITH A VIBRATORY HAMMER AND REDRIVEN AT NO ADDITIONAL COST TO THE OWNER. A VIBRATORY HAMMER WITH A MINIMUM ECCENTRIC MOMENT OF 4,400 IN.-LBS. MUST BE AVAILABLE AND ON SITE DURING ALL PILE DRIVING OPERATIONS.

UNDERWATER DEBRIS AND OBSTRUCTIONS SUCH AS CRAB POTS, WIRE, ROCKS PILES (EMBEDDED AND EXPOSED) AND MACHINERY ARE KNOWN TO EXIST AT THE WORK SITE. THE CONTRACTOR SHALL DEVELOP ADEQUATE MEANS OF INSTALLATION OF THE PILES.

PILES SHALL BE SUPPLIED IN THE LENGTH SPECIFIED. PILES SHALL BE DRIVEN UNTIL REQUIRED PILE CAPACITY IS OBTAINED. PILE CAPACITY WILL BE DETERMINED SOLELY BY THE OWNER'S REPRESENTATIVE.

ALL PILE INSTALLATION SHALL BE CONDUCTED WITH ENGINEER PRESENT. THE CONTRACTOR SHALL ASSIST ENGINEER IN MONITORING THE PILE DRIVING. THE CONTRACTOR SHALL MARK EACH PILE WITH ONE-FOOT INCREMENTS WITH EVERY FIVE-FOOT INCREMENT NUMBERED. FOR DETERMINATION OF PILE REFUSAL OR CAPACITY, THE CONTRACTOR SHALL MARK THE PILES WITH ONE-INCH INCREMENTS DURING THE FINAL DRIVE. THE MARKS SHALL BE VISIBLE/READABLE FROM ALL SIDES OF THE PILE.

PILES SHALL BE DRIVEN TO REQUIRED PILE CAPACITY AND EMBEDMENT AS SHOWN ON THE DRAWINGS. PILE CAPACITY AND EMBEDMENT WILL BE DETERMINED SOLELY BY THE ENGINEER.

ALL STEEL PIPE PILE CUTOFFS ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE PIPE FROM THE PROJECT SITE.

## CONCRETE PLACEMENT

CONCRETE SHALL BE FORMED, BATCHED, PLACED AND CURED PER ASTM C-94.

## NON-SHRINK GROUT

GROUT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

## VIBROCOMPACTION

VIBROCOMPACTION SHALL BE USED THROUGHOUT THE SHEETPILE CELL AREA TO COMPACT THE NEW FILL MATERIAL AND THE UNDERLYING SOIL. VIBROCOMPACTION SHALL BE PERFORMED AROUND THE ENTIRETY OF THE SHEETPILE WALL STRUCTURES IN THE AREAS DESIGNATED ON THE PLANS.

VIBROCOMPACTION SHALL CONSIST OF DRIVING A STEEL PILE PROBE WITH A VIBRATORY HAMMER ON A 10 FOOT X 10 FOOT GRID THROUGHOUT THE DESIGNATED AREA. THE PILE PROBE SHALL CONSIST OF A STEEL HP14X89 PILE WITH A TIP MODIFICATION CONSISTING OF TIP REINFORCEMENT AND EIGHT 8-INCH X 8-INCH ANGLES WELDED AS OPPOSING PAIRS TO THE HP14X89 WEB AND FLANGES SPACED 5 FEET APART AS APPROVED BY THE ENGINEER. THE PROBE SHALL BE DRIVEN TO BEDROCK OR 60 FEET BELOW EXISTING GRADE, WHICHEVER OCCURS FIRST AND RAISED TO THE SURFACE FOUR TIMES AT EACH GRID LOCATION FOR EACH COVERAGE OF THE AREA. FILL MATERIAL SHALL BE PUSHED INTO ANY VOID CREATED BY THE OPERATION AS THE VIBRATION IS BEING CONDUCTED.

VIBROCOMPACTION SHALL BE PERFORMED ONCE FILL HAS REACHED THE +4 ELEV.

THE VIBRATORY HAMMER UTILIZED FOR VIBROCOMPACTION SHALL HAVE A MINIMUM ECCENTRIC MOMENT OF 4,000 IN.-LBS AND APPROVAL FROM THE ENGINEER.

## DOLPHIN PILES

DOLPHIN PILES SHALL BE DRIVEN AFTER SHEET PILE STRUCTURES HAVE BEEN BACKFILLED, VIBROCOMPACTED AND HAVE STABILIZED. THE SHEET PILE CELLS SHALL BE SURVEYED AND THE LOCATION OF THE DOLPHIN PILES SHALL BE ADJUSTED AND APPROVED BY THE ENGINEER.

PILES SHALL BE DRIVEN TO REQUIRED PILE CAPACITY AND EMBEDMENT AS SHOWN ON THE DRAWINGS. PILE CAPACITY AND EMBEDMENT WILL BE DETERMINED SOLELY BY THE ENGINEER.

## FLAT SHEET PILE DRIVING

SHEET PILES SHALL BE DRIVEN WITH A VIBRATORY AND/OR IMPACT HAMMER BY METHODS WHICH WILL ACHIEVE PENETRATION WITHOUT PILE DAMAGE. METHODS SUCH AS TRENCHING, DREDGING MAY BE REQUIRED IF DRIVING BECOMES DIFFICULT OR IF PILE DAMAGE OCCURS. PILES WILL BE DRIVEN SUCH THAT THE TIP OF ADJACENT PILE DOES NOT ADVANCE MORE THAN 5 FEET EXCEPT IN INSTANCES OF DIFFICULT DRIVING WHERE THIS DISTANCE MAY BE REDUCED TO 2 FEET. THE ENGINEER SHALL BE CONTACTED IF DIFFICULT DRIVING IS ENCOUNTERED.

FACE AND END SHEET PILES SHALL BE DRIVEN USING A TEMPLATE SUCH THAT PILES ARE DRIVEN WITHIN 3 INCHES OF PLAN LOCATION AT CUTOFF ELEVATION AND NOT MORE THAN 1/4-INCH PER FOOT OF LENGTH OUT OF PLUMB IN ANY DIRECTION. FACE AND END SHEETS SHALL BE DRIVEN AND LEFT 3 FEET ABOVE PLANNED CUT-OFF ELEVATION, AND MONITORED AS DESCRIBED BELOW BEFORE CUTOFF.

WYE SHEETS SHALL BE DRIVEN NOT MORE THAN 2 INCHES FROM PLAN LOCATION, AND NOT MORE THAN 1/4-INCH PER FOOT OF LENGTH OUT OF PLUMB.

DURING AND AFTER FILLING, THE OPEN-CELL FACE IS EXPECTED TO MOVE 12 INCHES OR MORE OUTWARD AND TO SETTLE VERTICALLY. AFTER FILLING TO WITHIN TWO FEET OF FINISHED GRADE, THE FILLING SHALL BE DISCONTINUED AND VERTICAL AND HORIZONTAL MOVEMENT OF THE CELLS WILL BE MEASURED BY THE CONTRACTOR EVERY THREE DAYS.

CELL SETTLEMENT MAY BE CONSIDERED STABILIZED WHEN SHEET PILE WYE DIRECTIONAL MOVEMENT (HORIZONTAL AND/OR VERTICAL) RATES SLOW TO A 7-DAY AVERAGE OF 0.05 FEET OR LESS PER WEEK (7 DAYS). AFTER STABILIZATION, SHEET PILE CUTOFF, SHEET PILE WELDING, AND FILLING TO FINISH ELEVATION CAN BEGIN. VERTICAL SETTLEMENT OF THE DOCK AND SHEET PILES AFTER COMPLETION IS EXPECTED. ADDITIONAL GRADING MAY BE REQUIRED TO COMPENSATE FOR THIS SETTLEMENT.

IF OBSTACLES ARE ENCOUNTERED ALONG THE CELL FACE THAT WOULD INTERFERE WITH SHEET DRIVING, THE DEBRIS SHALL BE EXCAVATED, REMOVED AND THE SUBSEQUENT VOID REFILLED. IF OBSTACLES ARE ENCOUNTERED ALONG THE TAIL WALL, THE DEBRIS WILL BE REMOVED AS PREVIOUSLY STATED, OR THE WALL ALIGNMENT SHALL BE CURVED AWAY FROM THE OBSTACLE IN A SMOOTH CURVE AS APPROVED BY THE ENGINEER.

SHOULD, ROCK OR OBSTRUCTIONS IN THE FILL BE ENCOUNTERED DURING DRIVING, THE ENGINEER SHALL BE CONTACTED. SHOULD SOFT SOILS BE ENCOUNTERED, FACE SHEETS MAY REQUIRE SUPPORT FROM THE TEMPLATE BEFORE FILLING CELL.

## SHEETPILE CELL FILLING

FILL IN THE SHEETPILE CELLS SHALL CONSIST OF THAT PREVIOUSLY DESCRIBED FOR FILL. CARE SHALL BE TAKEN TO AVOID PLACING LARGER ROCKS WHERE THEY MAY INTERFERE WITH SHEET AND PIPE PILE DRIVING. OVERSIZE MATERIAL MAY BE USED IN THE FILL AT THE DISCRETION OF THE ENGINEER.

THE INITIAL FILL FROM MUDLINE TO ELEVATION +0 MLLW SHALL NOT BE DUMPED INTO FINAL POSITION, BUT SHALL BE DUMPED ON THE TOP OF THE EMBANKMENT AND DOZED INTO PLACE IN A MANNER THAT WILL INSURE PROPER PLACEMENT IN HORIZONTAL LAYERS, SUCH THAT VOIDS, POCKETS, AND BRIDGING WILL BE REDUCED TO A MINIMUM. THE INTERVENING SPACES AND INTERSTICES SHALL BE FILLED WITH SMALLER STONES AND EARTH AS MAY BE AVAILABLE FROM EXCAVATION, SO AS TO FORM A DENSE, WELL-COMPACTED EMBANKMENT.

FILL SHALL BE PLACED IN 18-INCH-THICK MAXIMUM HORIZONTAL LIFTS ABOVE ELEVATION +2. EACH LIFT SHALL BE COMPACTED TO ACHIEVE NOT LESS THAN 90% STANDARD PROCTOR DENSITY, WITH METHODS EQUAL TO OR GREATER THAN 8 PASSES OF A 10-TON VIBRATORY ROLLER MOVING AT APPROXIMATELY 2 TO 4 MPH. DENSITY MEASUREMENT METHODS MAY BE ADJUSTED BY THE ENGINEER AS APPLICABLE FOR MATERIALS SUPPLIED. SMALLER COMPACTORS AND ADDITIONAL CARE SHALL BE USED TO COMPACT WITHIN 5 FEET OF THE DOCK FACE SHEET PILES TO PREVENT DAMAGE, DISTORTION, OR EXCESSIVE SOIL PRESSURES ON THE BULKHEAD FACE. SPECIAL CARE SHALL ALSO BE USED TO OBTAIN THOROUGH COMPACTION AGAINST ANCHOR WALL SHEET PILES.

FILL SHALL BE PLACED AS FOLLOWS AROUND SHEET PILE CELLS TO PREVENT DISTORTION OF THE BULKHEAD. PLACE FILL IN APPROXIMATELY LEVEL LIFTS ACROSS THE ENTIRE CELL AREA. FILL AROUND ANCHOR WALL SHEETS FIRST, AND THEN FILL AGAINST FACE SHEETS. THE ELEVATION OF FILL BETWEEN ADJACENT CELLS SHALL NOT DIFFER BY MORE THAN 3 FEET. THE CONTRACTOR IS CAUTIONED THAT UNEVEN FILLING OF CELLS OR FAILURE TO MAINTAIN PLAN DISTANCE BETWEEN WYES WILL RESULT IN UNDESIRABLE DISTORTIONS OF THE SHEET PILE WALL.

THE CONTRACTOR SHOULD BE AWARE THAT DURING AND AFTER FILLING, THE OPEN-CELL DOCK IS EXPECTED TO MOVE SEAWARD APPROXIMATELY 12 INCHES AND TO SETTLE VERTICALLY. THE CONTRACTOR SHALL PLACE THE FILL, VIBROCOMPACT, AND MONITOR WALL MOVEMENT AS PREVIOUSLY DESCRIBED.

1 REVISED 12/21/99

# CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK



**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

1506 West 36 th Avenue  
Anchorage, Alaska 99503

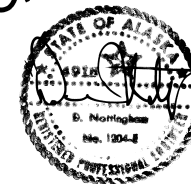
(907) 561-1011 FAX (907) 563-4220

## GENERAL NOTES PART ONE

sheet  
7 of 8

Designed:	JWP
Drawn:	RLC
Checked:	DN
Project No:	98058
Date:	10/26/99
Scale:	AS SHOWN

ISSUED FOR  
CONSTRUCTION  
1-25-00



# GENERAL NOTES (CIVIL AND STRUCTURAL ONLY)

**DREDGING** - THE CONTRACTOR SHALL DREDGE THE INDICATED AREAS WITH A CRANE EQUIPPED WITH A HEAVY DREDGING BUCKET OR BACKHOE. THE CONTRACTOR SHALL DREDGE THE MATERIAL TO THE NOTED EXTENT AND DEPTH ON THE PLANS.

USABLE DREDGED MATERIAL MAY BE INCORPORATED INTO THE CELL FILL AS APPROVED BY THE ENGINEER. UNUSABLE DREDGE MATERIAL SHALL BE PLACED ON THE CITY'S SPIT DOCK PARKING LOT AT A LOCATION AND AS DIRECTED BY THE CITY.

## SITework

**DEMOLITION** - THE CONTRACTOR SHALL REMOVE THE STRUCTURES INDICATED ON THE PLANS. THE CONTRACTOR IS ADVISED TO INSPECT THE SITE TO DETERMINE THE SCOPE OF DEMOLITION WORK PRIOR TO BIDDING.

ALL SALVAGEABLE MATERIAL, AS DETERMINED BY THE OWNER, SHALL BE STORED AS DIRECTED BY THE OWNER. FOR ALL OTHER MATERIAL, THE CONTRACTOR SHALL REMOVE THE MATERIAL FROM THE PROJECT SITE AND TRANSPORT IT TO A LEGAL DISPOSAL AREA.

**ARMOR STONE** - ARMOR STONE SHALL CONSIST OF ANGULAR STONES WITH A SPECIFIC GRAVITY >2.60 (ASTM C-127), AND WATER ABSORPTION <2.0% (ASTM C-127). THE LEAST DIMENSION OF ANY STONE SHALL BE NOT LESS THAN 1/3 ITS GREATEST DIMENSION.

**TYPE 1**  
24"-30" ARMOR STONE SHALL HAVE THE FOLLOWING GRADATION: WEIGHTS OF INDIVIDUAL STONES SHALL BE 900-1,600 LBS, WITH AT LEAST 50 PERCENT OF THE INDIVIDUAL STONES WEIGHING MORE THAN 1,250 LBS. AND SHALL BE WELL GRADED. LARGER STONES UP TO 36" ARE ACCEPTABLE.

**TYPE 2**  
45"-60" ARMOR STONE SHALL HAVE THE FOLLOWING GRADATION: WEIGHTS OF INDIVIDUAL STONES SHALL BE 4,500-12,000 LBS, WITH AT LEAST 50 PERCENT OF THE INDIVIDUAL STONES WEIGHING MORE THAN 6,000 LBS.

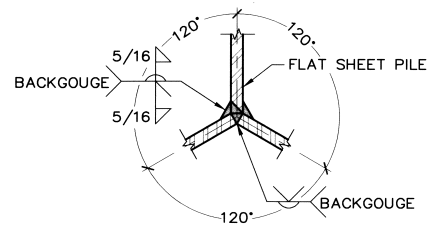
ARMOR STONE SHALL BE PLACED AND MANIPULATED WITH SUITABLE EQUIPMENT SUCH AS A CLAMSHELL BUCKET, ROCK TONGS, OR BACKHOE TO SECURE A WELL-KEYED, STABLE ROCK MASS WITH A RELATIVELY REGULAR SURFACE. ARMOR STONE SHALL NOT BE DROPPED MORE THAN THREE FEET OR PLACED USING METHODS WHICH MAY SEGREGATE OR DAMAGE THE ARMOR STONE, OR DISPLACE THE UNDERLYING MATERIAL. INDIVIDUAL STONES IN THE ARMOR SHALL NOT PROTRUDE MORE THAN 18 INCHES ABOVE THE AVERAGE LEVEL OF THE SLOPE.

THE CONTRACTOR IS RESPONSIBLE TO LOCATE A ROCK SOURCE MEETING THE REQUIREMENTS AS SPECIFIED ABOVE.

**PIPE BEDDING**- PIPE BEDDING SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE DESIGNATION	% PASSING BY WEIGHT
3 INCH	100
1 INCH	30-70
NO. 40	0-10

**SILT CURTAIN** - AS SPECIFIED IN THE COE PERMIT, THE CONTRACTOR IS REQUIRED TO HAVE A SILT CURTAIN ON-SITE AT ALL TIMES DURING FILLING OPERATIONS. THE CONTRACTOR SHALL INSTALL THE SILT CURTAIN AROUND THE DREDGING DISPOSAL SITE IF HYDRAULIC SECTION DREDGING IS UTILIZED. TEMPORARY STORM DRAIN DISCHARGES, AND/OR ELSEWHERE AS MAY BE REQUIRED TO CONTROL SEDIMENTATION CAUSED BY CONSTRUCTION. THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE CURTAIN DURING INSTALLATION AND REMOVAL, AND TO REPAIR OR REPLACE DAMAGE TO THE SILT CURTAIN AS REQUIRED.



TYPICAL WYE SECTION WELDS

## OTHER

**SUBMITTALS** - SHOP DRAWINGS FOR ALL FABRICATED MATERIALS SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO FABRICATION OR SHIPPING OF ANY ITEM. CERTIFICATIONS, MANUFACTURER'S DATA, AND OTHER INFORMATION FOR ALL MATERIALS, INCLUDING THOSE NOT SPECIFICALLY NOTED IN THE GENERAL NOTES OR SHOWN ON INDIVIDUAL DRAWINGS, SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL. ALL METHODS AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS, GENERAL NOTES, THE PLANS, GOOD WORKMANSHIP, GENERALLY ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF THREE SETS SHALL BE PROVIDED WITH EACH SUBMITTAL. THE REVIEWED COPY WILL BE RETURNED AND MARKED AS REQUIRED FOR ACCEPTANCE AND NON-ACCEPTANCE.

THE FOLLOWING IS A LIST OF REQUIRED SUBMITTALS FOR THIS PROJECT. THE ENGINEER MAY REQUIRE ADDITIONAL SUBMITTALS.

- CIVIL/STRUCTURAL SUBMITTALS:
- TIMBER GRADING CERTIFICATION INCLUDING GRADING MARK IDENTIFICATION AND PRESSURE TREATMENT CERTIFICATION FOR TIMBER.
  - STEEL CERTIFICATION FOR ALL STEEL USED INCLUDING CHEMISTRY, YIELD, AND MILL NUMBERS.
  - GALVANIZING CERTIFICATION AND/OR METALLIZING CERTIFICATION.
  - METALLIZING REPAIR METHOD AND MATERIALS.
  - AWS WELDING CERTIFICATION FOR ALL WELDERS UTILIZED ON THE PROJECT.
  - PROPOSED WELDING PROCEDURES.
  - STEEL FABRICATION DRAWINGS.
  - PILE DRIVING HAMMERS AND PILE DRIVING METHODS/PLAN.
  - TEMPLATE FABRICATION DRAWINGS.
  - RED-LINED AS-BUILT DRAWINGS.
  - DOCK AND DOLPHIN LAYOUT DIAGRAM.
  - STORM DRAIN CATCH BASIN SHOP DRAWINGS
  - REINFORCING STEEL SHOP DRAWINGS
  - CONCRETE MIX DESIGN
  - NON-SHRINK GROUT
  - UHMW SHOP DRAWINGS
  - VIBRO COMPACTION PROBE SHOP DRAWINGS
  - VIBRO COMPACTION PROCEDURE/PLAN

ELECTRICAL SUBMITTALS:

- ELECTRICAL CONDUITS AND BOXES

### "WYE" PILE FABRICATION METHOD 1:

- FOR NEW SHEETS DEVELOP AWS WELD PROCEDURES APPROPRIATE BASED ON THE MILL CERTIFICATIONS.
- STRAIGHTEN SHEETS AS REQUIRED.
- STITCH CUT FLAT SHEET "A". CUT 5' AND LEAVE 2" BETWEEN CUTS AND AT ENDS.
- HEAT 2-INCH SECTIONS WITH ROSE BUD AND BEND SHEET IN 20' INCREMENTS FROM ONE END TO THE OTHER.
- TACKWELD STOPS ON THE BENT SHEET TO HOLD THE BEND ANGLE.
- ALL WELDS ARE DONE WITH 150 DEG. F. MINIMUM PREHEAT. BACKSTEP WELD IN APPROXIMATE 6-INCH LENGTHS TO CONTROL HEAT. SLIGHT ADJUSTMENTS IN PROCEDURE MAY BE NECESSARY TO CONTROL THE BUILDUP OF HEAT.
- WELD ONLY THE ROOT PASS OF THE FULL PENETRATION V-GROOVE OF THE BENT SHEET "A". BACKGOUGE AND WELD THE OTHER SIDE. COMPLETE V-GROOVE WELD.
- DYE PENETRANT TEST THE BENT 2-INCH SECTIONS FOR CRACKS AND REPAIR CRACKS OR BACKGOUGE THE BENT SECTIONS AND WELD.
- STRAIGHTEN BENT SHEET IF NECESSARY.
- CUT FLAT SHEET "B" DOWN CENTERLINE AT A 45° ANGLE.
- WELD THE FLAT SHEET "B" TO BENT SHEET "A" WITH A SINGLE BEVEL FULL PENETRATION GROOVE WELD. BACKGOUGE AND BACK WELD THE OTHER SIDE.
- WELD REQUIRED FILLET REINFORCEMENT ON THE WELDS.
- INSPECT ALL INTERLOCKS AND REPAIR ALL TACK WELDS.
- STRAIGHTEN ALL LEGS OF THE WYE.

### "WYE" PILE FABRICATION METHOD 2:

- FOR NEW SHEETS DEVELOP AWS WELD PROCEDURES APPROPRIATE BASED ON THE MILL CERTIFICATIONS.
- STRAIGHTEN SHEETS AS REQUIRED.
- CUT THE FLAT SHEET "A" IN HALF WITH A STRAIGHT 90° CUT.
- TACKWELD SHEETS AT THE REQUIRED ANGLE TO PROVIDE A 60° BEVEL ANGLE AT THE WELD JOINT.
- ALL WELDS ARE DONE WITH 150-200 DEG. F. PREHEAT. BACKSTEP WELD IN APPROXIMATE 6-INCH LENGTHS TO CONTROL HEAT. SLIGHT ADJUSTMENTS IN PROCEDURE MAY BE NECESSARY TO CONTROL BUILDUP OF HEAT.
- WELD ONLY THE ROOT PASS OF THE FULL PENETRATION V-GROOVE OF THE BENT SHEET "A". BACKGOUGE AND WELD THE OTHER SIDE. COMPLETE V-GROOVE WELD.
- STRAIGHTEN BENT SHEET IF NECESSARY.
- CUT FLAT SHEET "B" DOWN CENTERLINE AT A 45° ANGLE.
- WELD THE FLAT SHEET "B" TO THE BENT SHEET "A" WITH A SINGLE BEVEL FULL PENETRATION GROOVE WELD. BACKGOUGE AND BACK WELD THE OTHER SIDE.
- WELD REQUIRED FILLET REINFORCEMENT ON THE WELDS.
- INSPECT ALL INTERLOCKS AND REPAIR ALL TACK WELDS.
- STRAIGHTEN ALL LEGS OF THE WYE.

### "WYE" PILE FABRICATION METHOD 3:

- FOR NEW SHEETS DEVELOP AWS WELD PROCEDURES APPROPRIATE BASED ON THE MILL CERTIFICATIONS.
- STRAIGHTEN SHEETS AS REQUIRED.
- HEAT SHEET WITH ROSE BUDS TO 100 DEG. F. MINIMUM AND BENT SHEETS.
- TACKWELD STOPS ON THE BENT SHEETS TO HOLD THE BEND ANGLE.
- DYE PENETRANT TEST (100%) THE BENT SHEETS FOR CRACKS AND REPAIR CRACKS PER AWS D1.1 PROCEDURES.
- ALL WELDS ARE DONE WITH 150 DEG. F. MINIMUM PREHEAT. BACKSTEP WELD IN APPROXIMATE 6-INCH LENGTHS TO CONTROL HEAT. SLIGHT ADJUSTMENTS IN PROCEDURE MAY BE NECESSARY TO CONTROL THE BUILDUP OF HEAT.
- CUT FLAT SHEET "B" DOWN CENTERLINE AT THE WPS SPECIFIED ANGLE.
- WELD THE FLAT SHEET "B" TO THE BENT SHEET "A" WITH A SINGLE BEVEL FULL PENETRATION GROOVE WELD. BACKGOUGE AND BACK WELD THE OTHER SIDE.
- WELD REQUIRED FILLET REINFORCEMENT ON THE WELDS.
- INSPECT ALL INTERLOCKS AND REPAIR ALL TACK WELDS.
- STRAIGHTEN ALL LEGS OF THE WYE.

ISSUED FOR CONSTRUCTION 1-25-00

REVISD 12/21/99

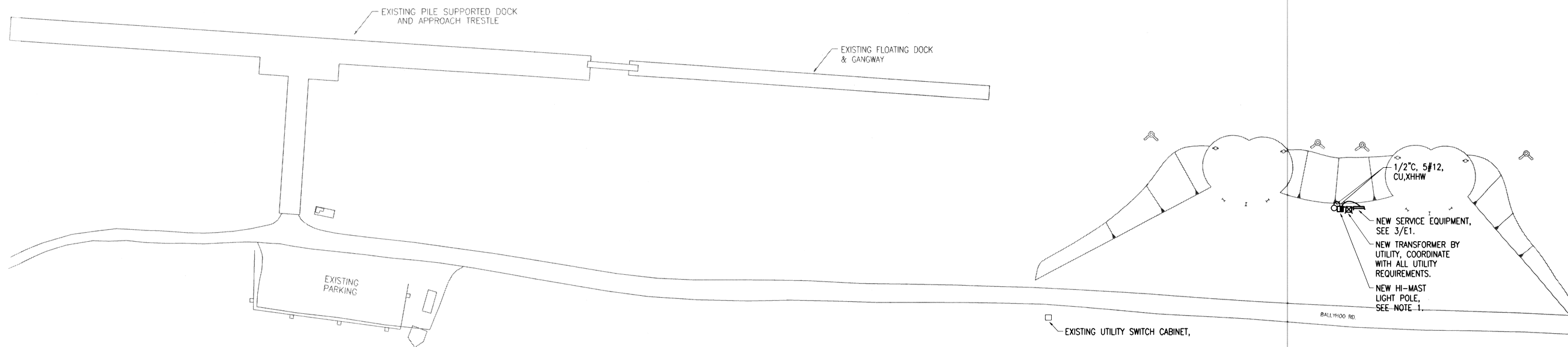


Designed: JWP  
 Drawn: RLC  
 Checked: DN  
 Project No: 98058  
 Date: 10/26/99  
 Scale: AS SHOWN

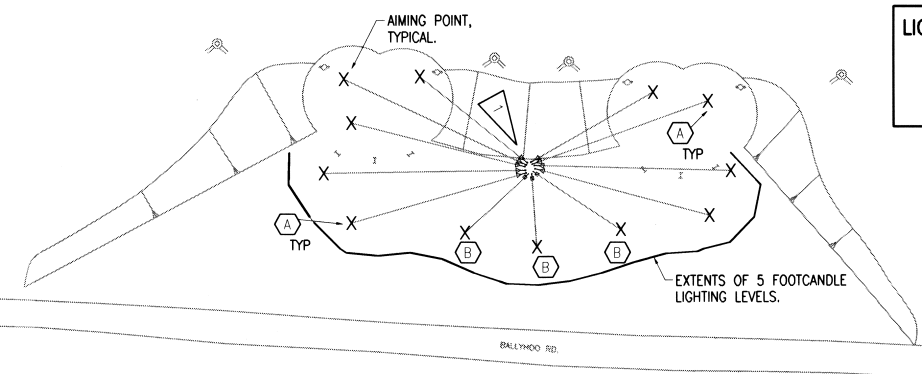
## CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK

**Peratovich, Nottingham & Drage, Inc.**  
 Engineering Consultants  
 1506 West 36 th Avenue Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

GENERAL NOTES PART TWO sheet 8 of 8



**1 ELECTRICAL SITE PLAN (BASE BID)**  
1" = 60'



**LIGHTING PLANE: DOCK**

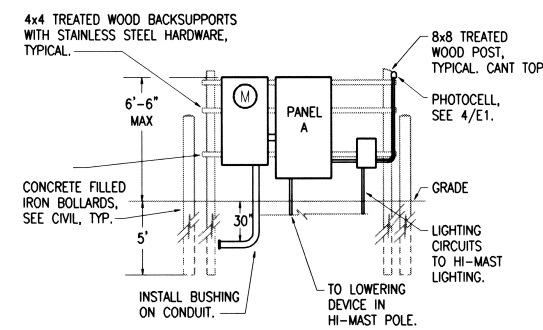
TOTAL OF 12 FIXTURES

AVG. FC: 5.29FC

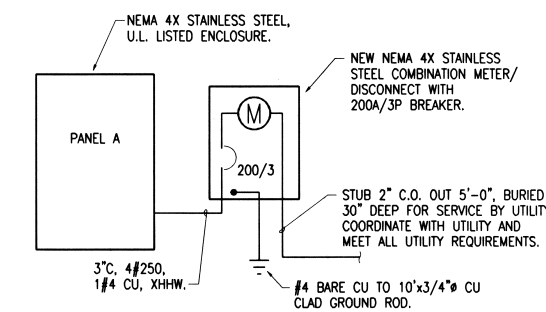
MAX FC: 14.5 FC

MIN FC: .17 FC

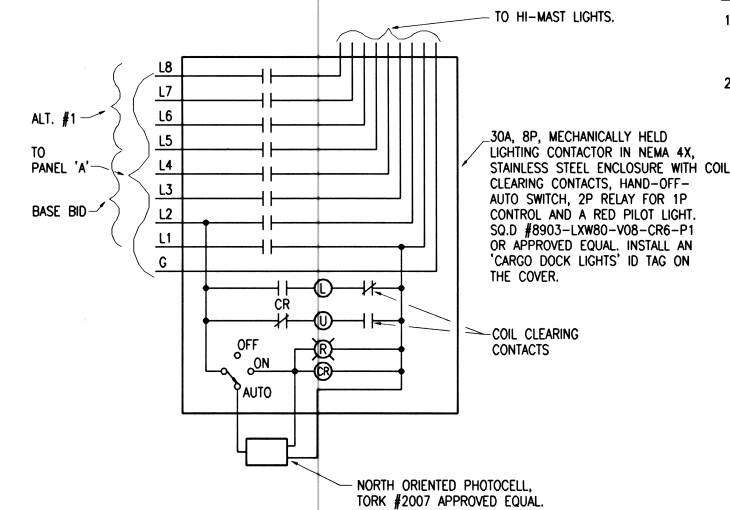
**2 DOCK LIGHT AIMING PLAN (BASE BID)**  
1" = 60'



**3 ELECTRICAL SERVICE ELEVATION**  
NTS



**4 ELECTRICAL ONE-LINE DIAGRAM**  
NTS



**4 LIGHTING CONTROL DIAGRAM**  
NTS

**NOTES:**

1. PROVIDE HI-MAST POLE WITH HOLOPHANE LOWERING DEVICE FOR 12 LUMINAIRES EACH, #HMS-120-H120MPH/1.3-GALV-12-LD5-B3-PB2-LDPM-208V OR APPROVED EQUAL.
2. PROVIDE FACTORY PROVIDED AND INSTALLED AIRCRAFT WARNING LIGHT ON TOP OF FIXTURE MOUNTING RING. CONNECT WARNING LIGHT TO DEDICATED CIRCUIT AND SEPARATE SWITCH WITHIN THE POLE.

FIXTURE SCHEDULE							
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	DESCRIPTION	MOUNTING		LAMPS	
				TYPE	HEIGHT	NO.	WATTS
A	HI-MAST	HOLOPHANE #PB2C10HP-20-33-L	1000W HP HI-MAST FIXTURE, 208V, NEMA 3x3 DISTRIBUTION, WET LABEL, LOUVER AND LAMP AND LDS LOWERING DEVICE INCLUDED. SEE NOTE 1 & 2.	POLE	120'	1	1000 HPS
B	HI-MAST	HOLOPHANE #PB2C10HP-20-65 #LD5-12	SAME AS TYPE A EXCEPT 6x5 DISTRIBUTION, NO LOUVER.	POLE	120'	1	1000 HPS

PANEL A										
S.Q.D TYPE NOOD		120/208V, 3Ø, 4W		SURFACE MTD.		225A MLO				
CIRC	POLE	AMPS	SERVICE	VOLT-AMPS			SERVICE	AMPS	POLE	CIRC
				A	B	C				
1	20		HI-MAST LIGHTING	3307	561		LOWERING DEVICE	15	2	2
2	20		HI-MAST LIGHTING		3307	561			2	4
5	20		HI-MAST LIGHTING				SPACE	NA	1	6
7	2		HI-MAST LIGHTING	3307						8
9	20		HI-MAST LIGHTING		3307					10
11	2		HI-MAST LIGHTING			3307				12
13	20		HI-MAST LIGHTING	3307						14
15	2		HI-MAST LIGHTING		3307					16
17	1	NA	SPACE							18
TOTAL V-A				10,482	10,482	6,614		27,578	VA	
TOTAL AMPS				38	38	24		33	A	
A.I.C. RATING: 10,000										

LEGEND	
○	LIGHT FIXTURE/POLE WEATHER PROOF
Ⓐ	FIXTURE TAG (LETTER INDICATES TYPE)
⊙	PHOTOCELL
—	CONDUIT, BURIED
▭	PANEL
⊕	DUPLEX RECEPTACLE
⊞	TYPE 1A JUNCTION BOX
C	CONDUIT
WP	WEATHERPROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRSC	GALVANIZED RIGID STEEL CONDUIT
1	NOTE TAG (No. INDICATES NOTE)



**CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK**

Designed: **RWM**

Drawn: **RWM**

Checked: **RPH**

Project No: **98250**

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

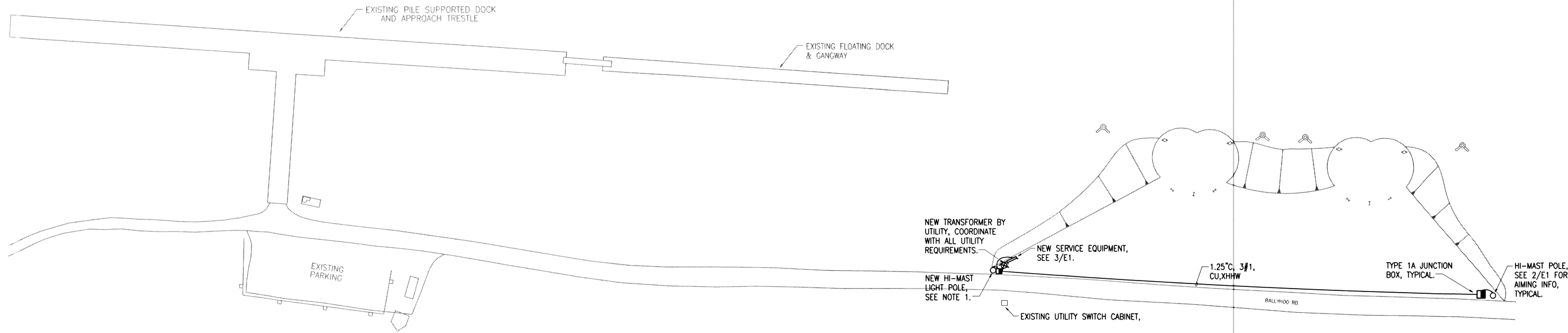
**RSA Engineering, Inc.**  
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS  
2822 ARCTIC BLVD. SUITE 200 · ANCHORAGE, AK 99503-2818 · (907)276-0821

Date: **3/11/99**

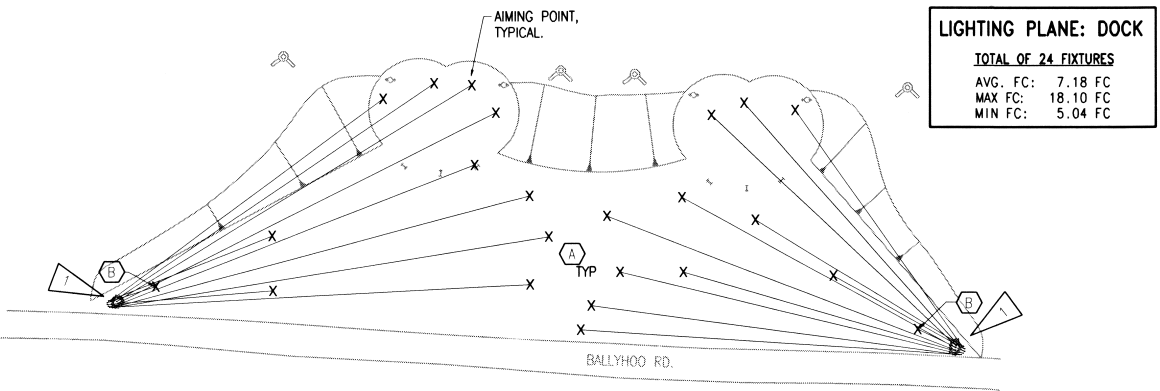
Scale: **NOTED**

**ELECTRICAL PLANS & DETAILS**

sheet  
**E1 of 2**



**1 ELECTRICAL SITE PLAN - ALTERNATE #1**  
1" = 60'



**2 DOCK LIGHT AIMING PLAN - ALTERNATE #1**  
1" = 60'

**NOTES:**

1. PROVIDE HI-MAST POLE WITH HOLOPHANE LOWERING DEVICE FOR 12 LUMINAIRES EACH, #HMS-120-H120MPH/1.3-GALV-12-LD5-B3-PB2-LDPM-208V OR APPROVED EQUAL.
2. PROVIDE FACTORY PROVIDED AND INSTALLED AIRCRAFT WARNING LIGHT ON TOP OF FIXTURE MOUNTING RING. CONNECT WARNING LIGHT TO DEDICATED CIRCUIT AND SEPARATE SWITCH WITHIN THE POLE.



**CITY OF UNALASKA SPIT  
LIGHT CARGO AND POT DOCK**

Designed: RWM  
 Drawn: RWM  
 Checked: RPH  
 Project No: 98250

**Peratrovich, Nottingham & Drage, Inc.**  
 Engineering Consultants

**RSA Engineering, Inc.**  
 MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS  
 2822 ARCTIC BLVD. SUITE 200 · ANCHORAGE, AK 99503-2826 · (907)276-0821

Date: 3/11/99  
 Scale: NOTED

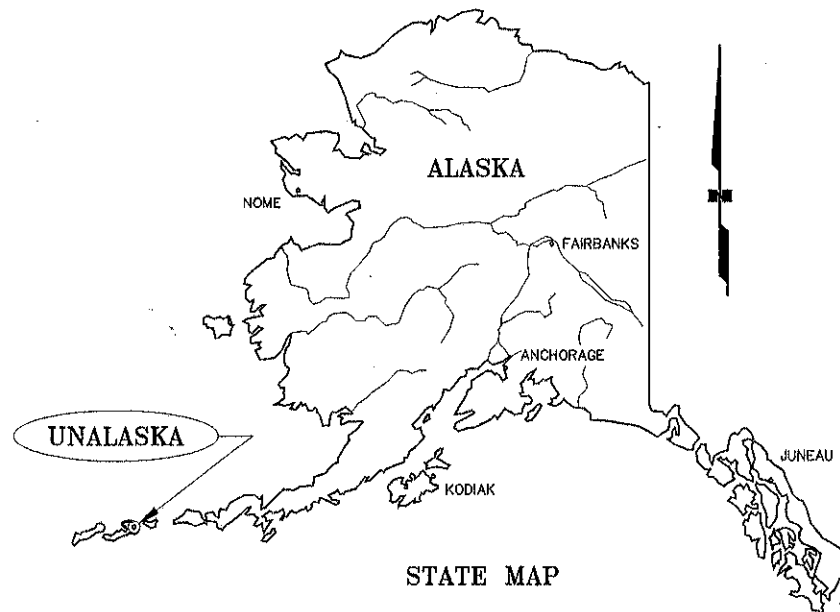
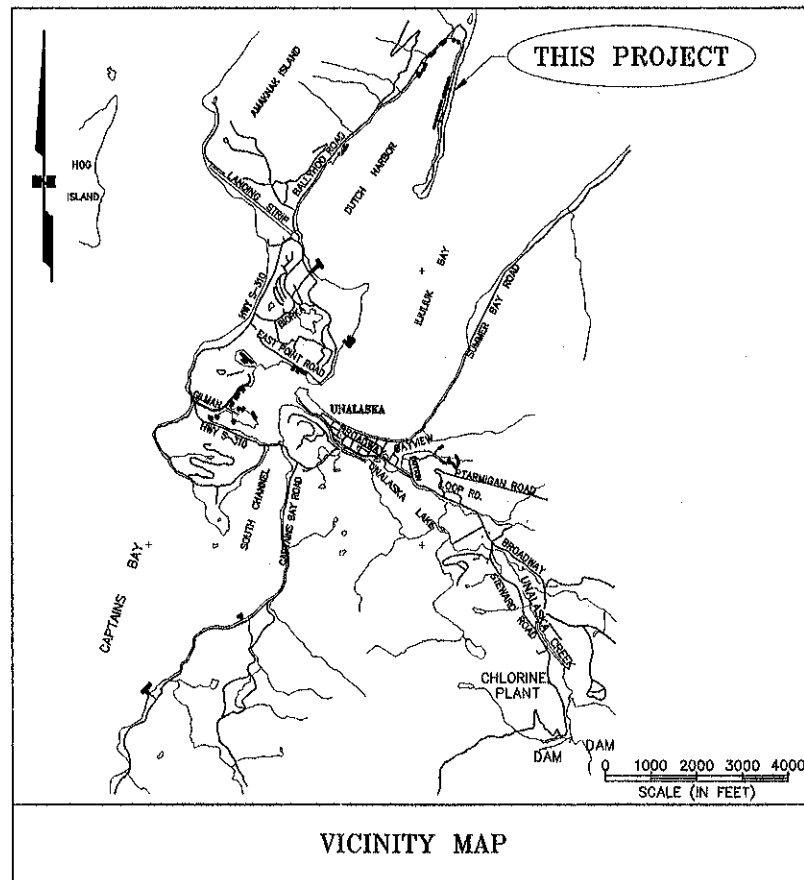
**ELECTRICAL PLANS & DETAILS**

sheet  
**E2 of 2**

# CITY OF UNALASKA

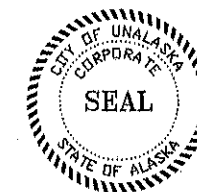
## DEPARTMENT OF PUBLIC WORKS

# LIGHT CARGO DOCK PAVING



CITY OF UNALASKA PROJECT NO.	
APPROVED BY:	
CITY OF UNALASKA DIRECTOR OF PUBLIC WORKS	DATE
APPROVED BY:	
CITY OF UNALASKA DIRECTOR OF PORTS	DATE
APPROVED BY:	
CITY OF UNALASKA BUILDING MAINTENANCE SUPERVISOR	DATE

**CITY OF UNALASKA**  
MAYOR: SHIRLEY MARQUARDT  
CITY COUNCIL  
GREGG HANSON  
KATHERINE McGLASHAN  
D.H. KRIS FLANAGAN  
ALYSSA McDONALD  
BILL BRADSHAW  
JOANNA ALDRIDGE  
DAVE KEMP, P.E., DIRECTOR OF PUBLIC WORKS

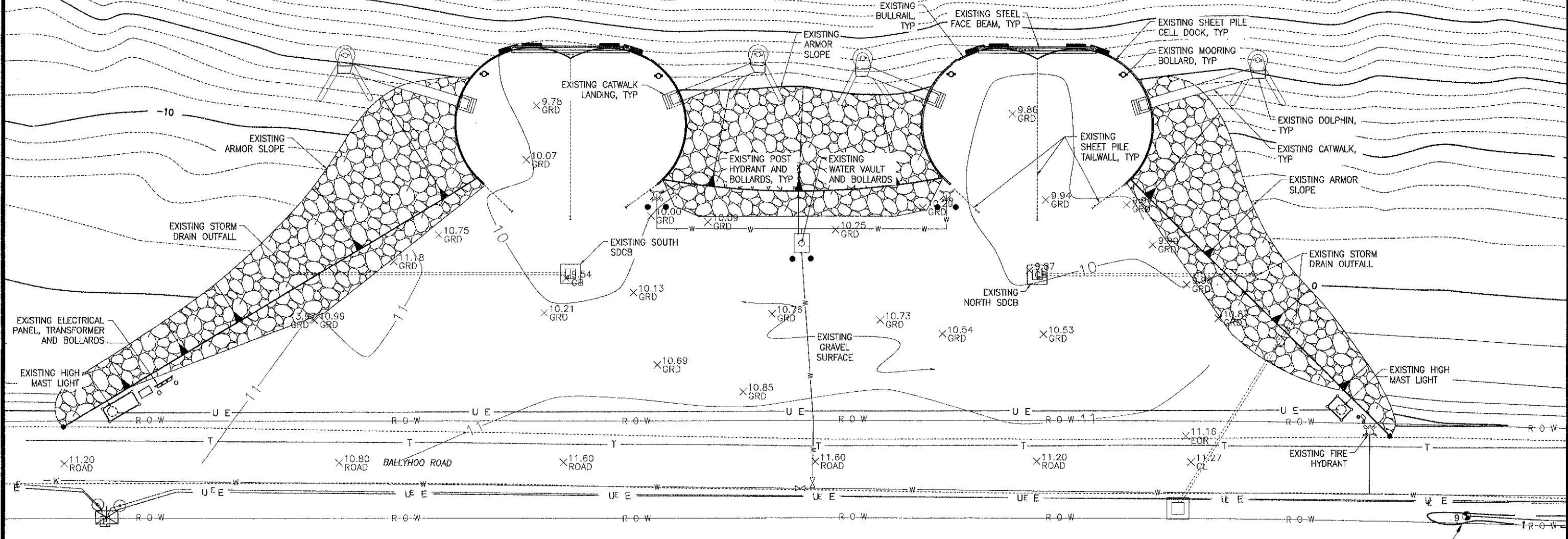
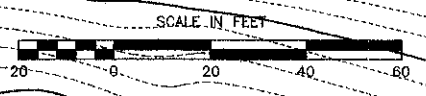


ISSUED FOR CONSTRUCTION

MAY 19, 2005

NO.	DRAWING NO./SHEET	REF. DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
1	SHEET 1 OF 6	COVER SHEET
2	SHEET 2 OF 6	EXISTING SITE PLAN
3	SHEET 3 OF 6	PAVING PLAN
4	SHEET 4 OF 6	DETAILS - 1
5	SHEET 5 OF 6	DETAILS - 2
6	SHEET 6 OF 6	GENERAL NOTES
E1	SHEET E1 OF E3	ELECTRICAL PLANS & SCHEDULES
E2	SHEET E2 OF E3	ELECTRICAL DETAILS
E3	SHEET E3 OF E3	ELECTRICAL DETAILS

PROJECT: <b>LIGHT CARGO DOCKPAVING</b> DESIGNER/PROJECT ENGINEER: <b>PND Incorporated Consulting Engineers</b> W.O. # <b>02602</b>			ENG. STAMP		DRAWING NAME: <b>CITY OF UNALASKA LIGHT CARGO DOCK PAVING COVER SHEET</b>	CAD																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESIGN/CONSTRUCTION/ASBUILT REVISION</th> <th>DWN BY/DATE</th> <th>REVIEWED (MGR/SUPV)/DATE</th> <th>APPROVED (DIRECTOR)/DATE</th> </tr> </thead> <tbody> <tr><td>R1</td><td>R1-DESIGN</td><td>DR1</td><td>RW1</td><td>APR1</td></tr> <tr><td>R2</td><td>R2-DESIGN</td><td>DR2</td><td>RW2</td><td>APR2</td></tr> <tr><td>R3</td><td>R3-DESIGN</td><td>DR3</td><td>RW3</td><td>APR3</td></tr> <tr><td>R4</td><td>R4-DESIGN</td><td>DR4</td><td>RW4</td><td>APR4</td></tr> <tr><td>R5</td><td>R5-DESIGN</td><td>DR5</td><td>RW5</td><td>APR5</td></tr> <tr><td>R6</td><td>R6-DESIGN</td><td>DR6</td><td>RW6</td><td>APR6</td></tr> <tr><td>R7</td><td>R7-DESIGN</td><td>DR7</td><td>RW7</td><td>APR7</td></tr> </tbody> </table>	NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE	R1	R1-DESIGN	DR1	RW1	APR1	R2	R2-DESIGN	DR2	RW2	APR2	R3	R3-DESIGN	DR3	RW3	APR3	R4	R4-DESIGN	DR4	RW4	APR4	R5	R5-DESIGN	DR5	RW5	APR5	R6	R6-DESIGN	DR6	RW6	APR6	R7	R7-DESIGN	DR7	RW7	APR7	REF DWG(S): <b>02602</b>		SHEET <b>1</b> OF <b>6</b>
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED (MGR/SUPV)/DATE	APPROVED (DIRECTOR)/DATE																																							
R1	R1-DESIGN	DR1	RW1	APR1																																							
R2	R2-DESIGN	DR2	RW2	APR2																																							
R3	R3-DESIGN	DR3	RW3	APR3																																							
R4	R4-DESIGN	DR4	RW4	APR4																																							
R5	R5-DESIGN	DR5	RW5	APR5																																							
R6	R6-DESIGN	DR6	RW6	APR6																																							
R7	R7-DESIGN	DR7	RW7	APR7																																							



**EXISTING SITE PLAN**

- TRAFFIC CONTROL PLAN:**
1. PLACE "SLOW MEN WORKING" SIGNS 200 FEET BEFORE PROJECT IN EACH DIRECTION
  2. PLACE TRAFFIC CONES/BARRIERS TO LIMIT TRAFFIC INGRESS/EGRESS TO SPECIFIC AREAS
  3. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL

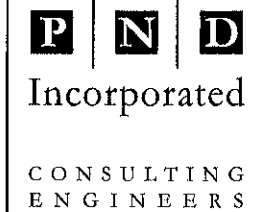
- SURVEY NOTES:**
1. SITE SURVEY COMPILED FROM SEVERAL DIFFERENT SOURCES. EXISTING ELEVATIONS/LOCATIONS ARE APPROXIMATE.

- ABBREVIATIONS:**
- SDCB - STORM DRAIN CATCH BASIN
  - X GRD - APPROX. SPOT ELEVATION
  - TYP - TYPICAL
  - CB - CATCH BASIN
  - W - WATER LINE
  - UE - UNDERGROUND ELECTRICAL
  - T - UNDERGROUND TELEPHONE LINE

Peratovich, Nottingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.



1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com



**CITY OF UNALASKA  
LIGHT CARGO DOCK PAVING**

**EXISTING SITE PLAN**

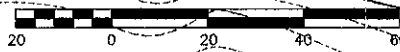
REV	DATE	DESCRIPTION

DESIGNED BY: DST	DATE: 5/19/05	SHEET NO: <b>2</b> OF 6
CHECKED BY: ABC	PROJECT NO: 041068	

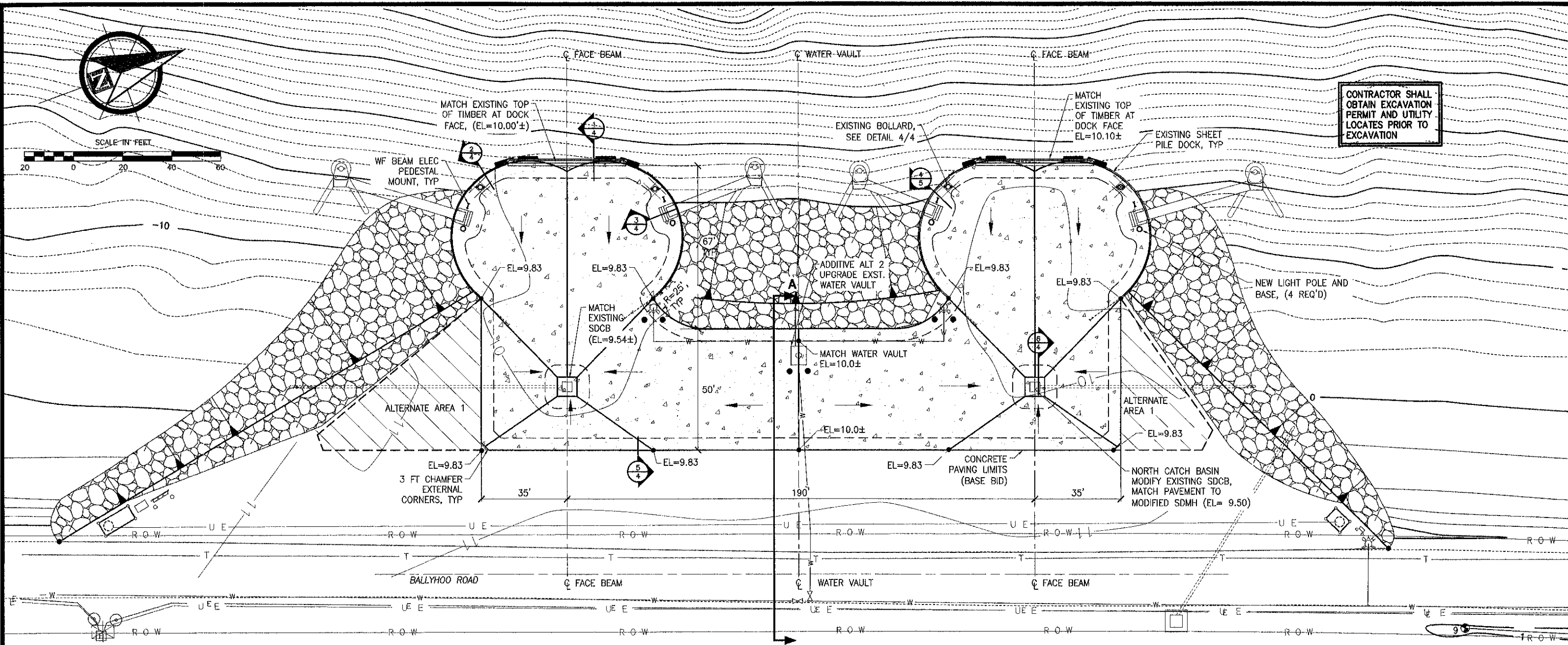




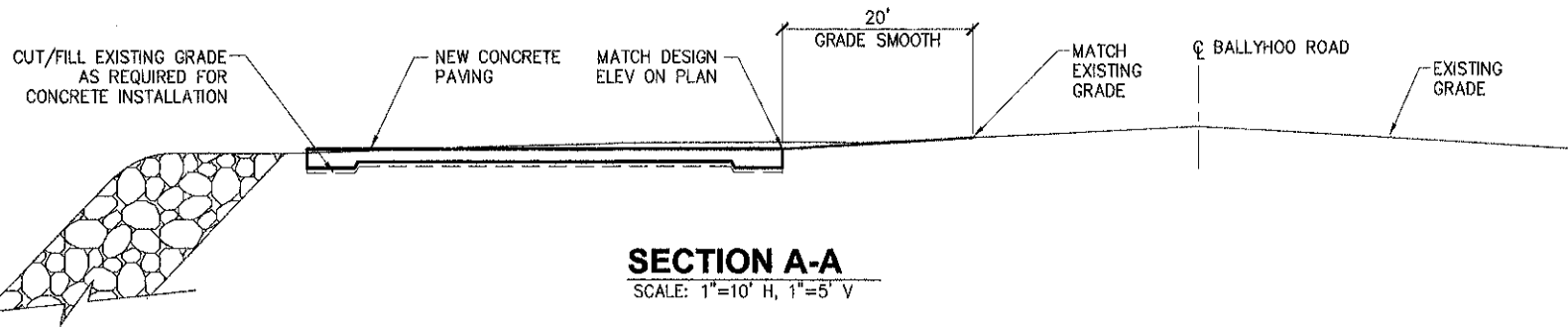
SCALE 1"=10' FEET



CONTRACTOR SHALL OBTAIN EXCAVATION PERMIT AND UTILITY LOCATES PRIOR TO EXCAVATION



**PAVING PLAN**



**SECTION A-A**  
SCALE: 1"=10' H, 1"=5' V

ESTIMATE OF QUANTITIES	
CONCRETE PAVING (BASE BID)	24,000 SF
CONCRETE PAVING (BASE BID)	650 CY
CONCRETE PAVING (ALT AREA 1)	3,600 SF
CONCRETE PAVING (ALT AREA 1)	105 CY

Perotovich, Nottingham, and Drags, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.



1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com

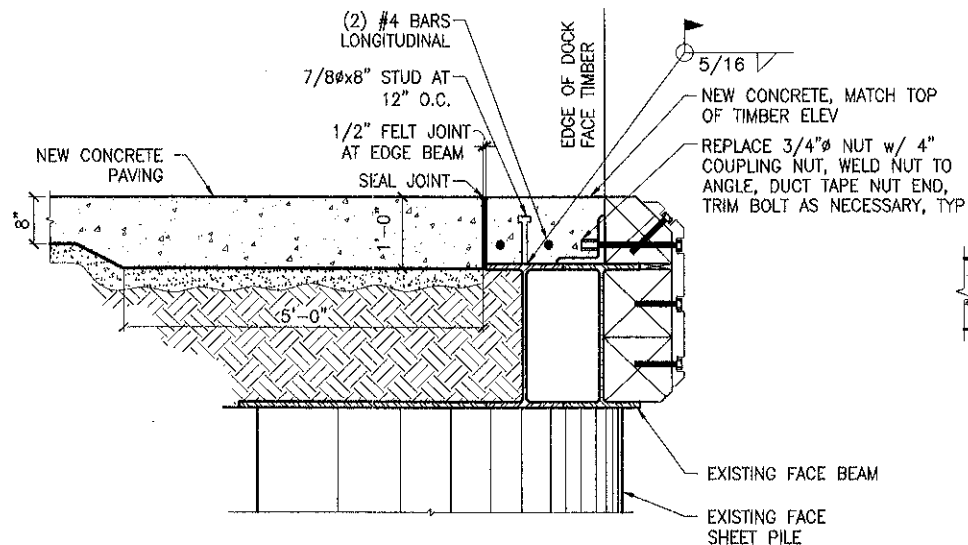
**P | N | D**  
**Incorporated**  
CONSULTING  
ENGINEERS

**CITY OF UNALASKA**  
**LIGHT CARGO DOCK PAVING**

PAVING PLAN

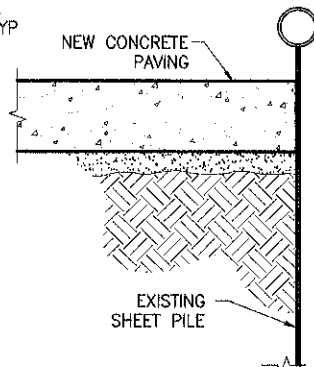
REV	DATE	DESCRIPTION

DESIGNED BY: DST	DATE: 5/19/05	SHEET NO: <b>3</b> OF 6
CHECKED BY: ABC	PROJECT NO: 041088	



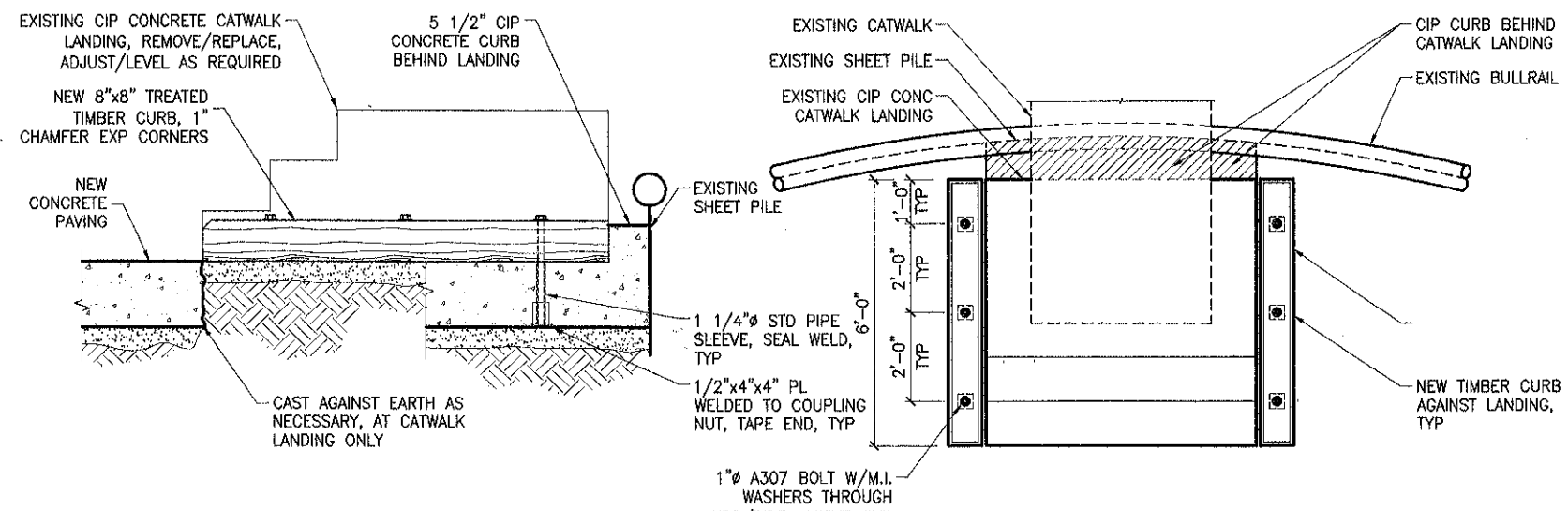
**1 DOCK FACE SECTION**

4 REINFORCING NOT SHOWN FOR CLARITY



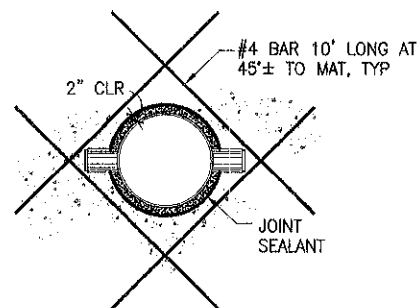
**2 SHEET PILE SECTION**

4 REINFORCING NOT SHOWN FOR CLARITY



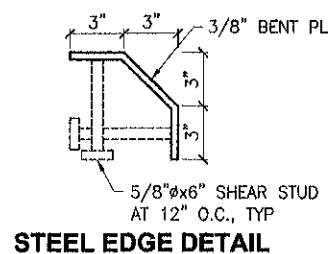
**3 CATWALK LANDING SECTION & PLAN**

4 REINFORCING & CATWALK NOT SHOWN FOR CLARITY. PROVIDE TEMPORARY CATWALK SUPPORT AS REQ'D, SUBMIT SUPPORT DETAIL FOR APPROVAL.



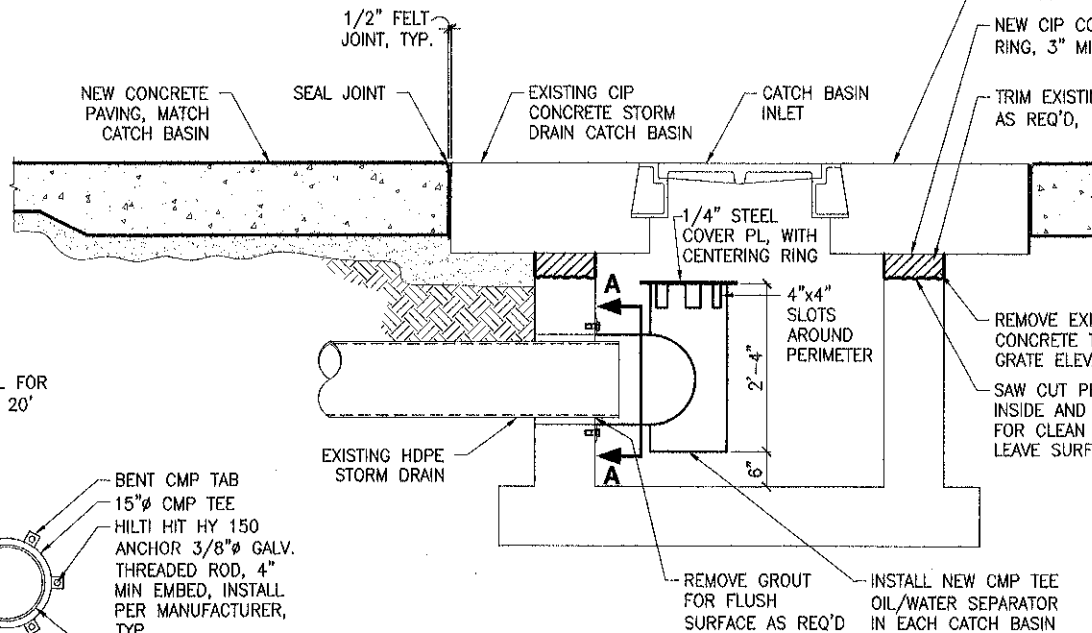
**4 BOLLARD DETAIL**

4 TYPICAL REINFORCING NOT SHOWN FOR CLARITY



**STEEL EDGE DETAIL**

STEEL EDGE AT ALL EXPOSED EDGES

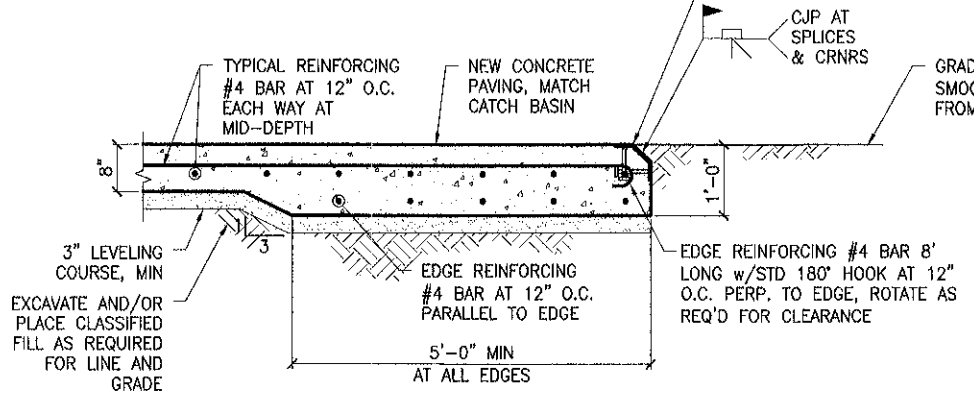


**A-A**

BENT CMP TAB  
15" CMP TEE  
HILTI HIT HY 150 ANCHOR 3/8" GALV. THREADED ROD, 4" MIN EMBED, INSTALL PER MANUFACTURER, TYP

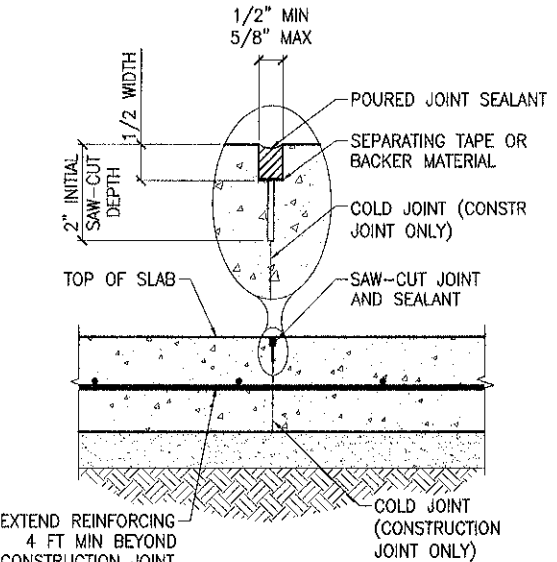
**6 STORM DRAIN SECTION**

4 SIMILAR CONSTRUCTION JOINT DETAIL AT WATER VAULT REINFORCING NOT SHOWN FOR CLARITY



**5 TYPICAL CONCRETE PAVING SECTION**

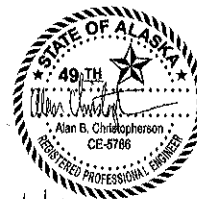
4



**7 TYPICAL JOINT SECTION**

4 TRANSVERSE CONTRACTION JOINT SPACING= 15'-0" TO 20'-0" OC LONGITUDINAL CONTRACTION JOINT SPACING= PER ENGINEER APPROVAL

Peratovich, Nottingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.



1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com

**PND**  
Incorporated  
CONSULTING ENGINEERS

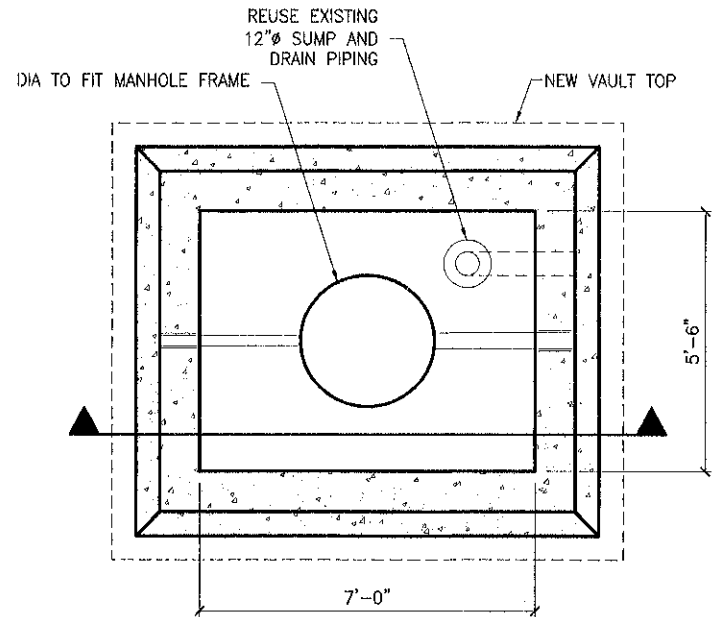
PROJECT: **CITY OF UNALASKA LIGHT CARGO DOCK PAVING**

TITLE: **DETAILS**

DESIGNED BY: DST DATE: 5/19/05  
CHECKED BY: ABC PROJECT NO: 041088

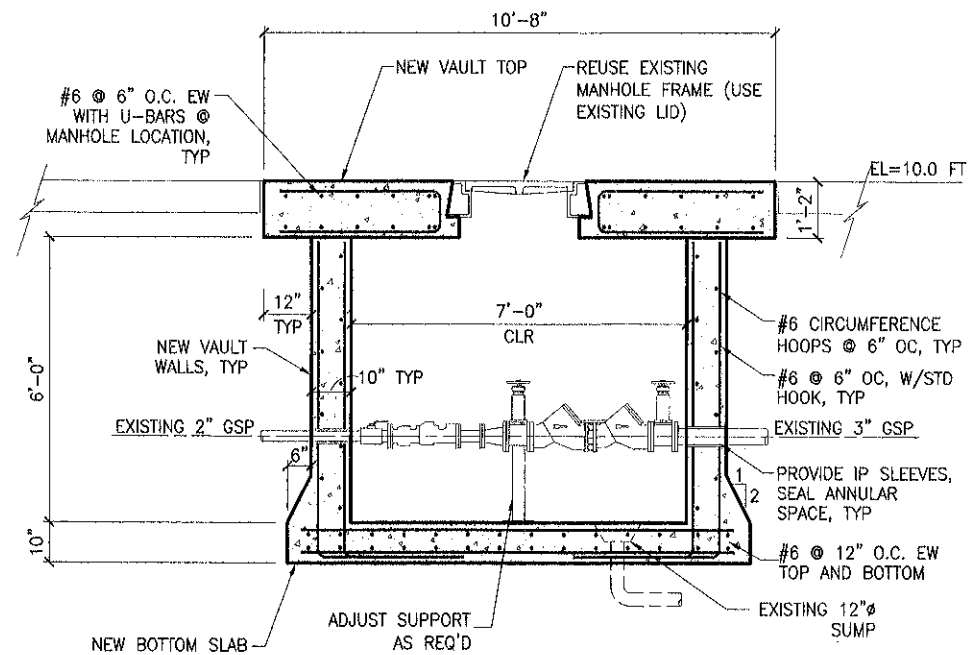
SHEET NO: **4** OF 6

REV	DATE	DESCRIPTION



**1 WATER VAULT PLAN**

5 ADDITIVE ALTERNATE

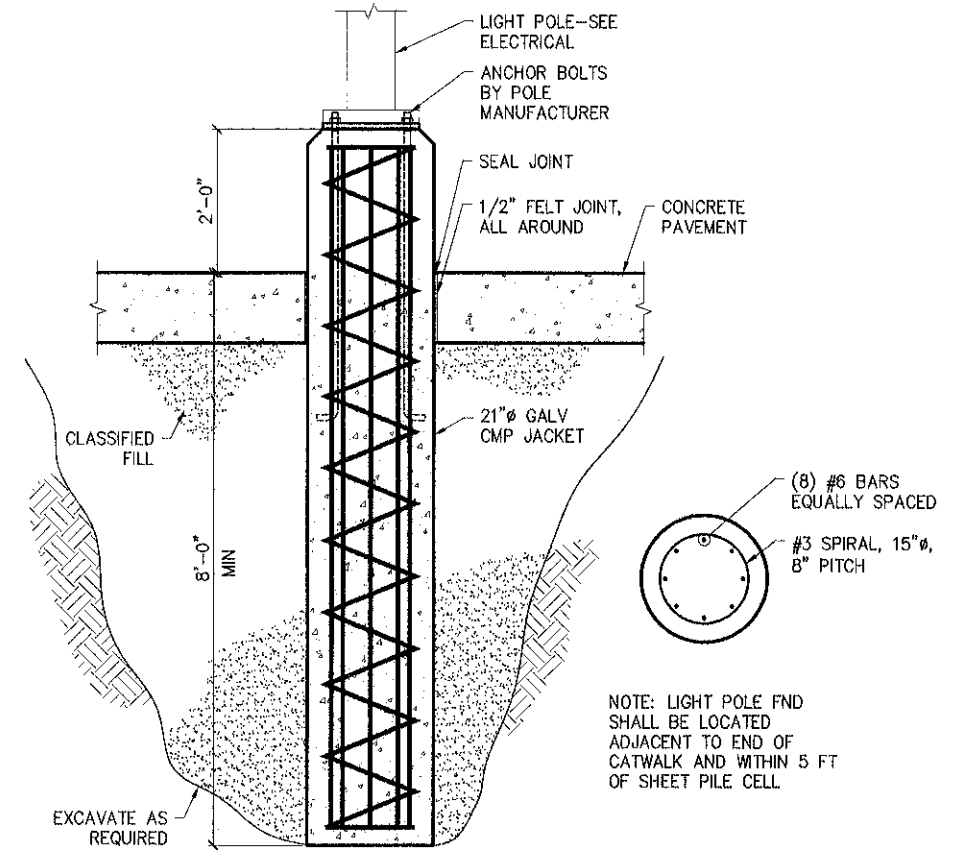


**2 WATER VAULT SECTION**

5 ADDITIVE ALTERNATE

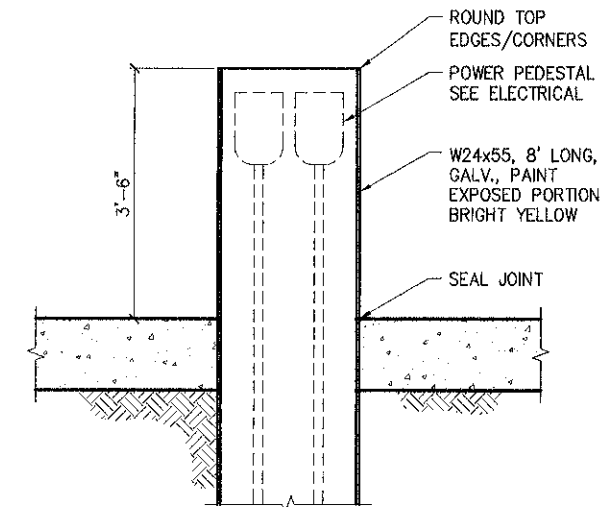
**NOTES FOR WATER VAULT**

- EXCAVATE AS NECESSARY; BACKFILL WITH EXCAVATED FILL AND/OR CLASSIFIED FILL AND COMPACT.
- REMOVE EXISTING BOLLARDS AND RELOCATE EXISTING ELECTRONIC WATER METER TO NORTH POST HYDRANT (APPX. 65 FT). INSTALL CONDUIT AND CONDUCTORS - TRENCH AS REQ'D.
- REMOVE WALLS AND TOP COVER OF EXISTING WATER VAULT. SAW-CUT OR JACK-HAMMER AROUND EXISTING 12" SUMP AND REMOVE BOTTOM SLAB. CONSTRUCT NEW VAULT AROUND EXISTING WATER UTILITIES AND SUMP.
- GROUT SEAL ALL PIPE PENETRATIONS
- PROVIDE DIAGONAL REINFORCING AT MANHOLE FRAME, LID AND PIPE PENETRATION.
- ADD ONE ADDITIONAL BAR ON EITHER SIDE OF MANHOLE FRAME, EA WAY, T&B.
- ANY REQ'D WATER UTILITY WORK AND PERMITS SHALL BE COMPLETED BY CONTRACTOR AND APPROVED BY THE CITY.



**3 LIGHT POLE BASE**

5 (4 REQUIRED)

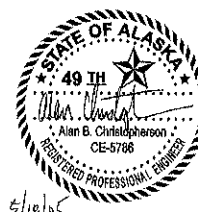


**4 ELECTRICAL PEDESTAL MOUNT**

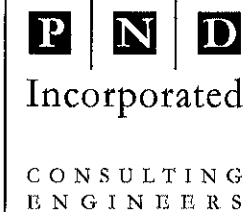
5 (4 REQUIRED)

Peratovich, Nottingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION



1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com



PROJECT:		<b>CITY OF UNALASKA LIGHT CARGO DOCK PAVING</b>	
TITLE:		DETAILS-2	
DESIGNED BY:	DST	DATE:	5/19/05
CHECKED BY:	ABC	PROJECT NO.:	041068
SHEET NO.:			<b>5</b> OF 6

**GENERAL NOTES**

ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, SPECIFICATIONS, SITE CONDITIONS, AND THESE NOTES SHALL BE REPORTED TO THE ENGINEER AT ONCE.

ANY FURTHER WORK DONE BY THE CONTRACTOR AFTER FINDING SUCH DISCREPANCIES SHALL BE DONE AT HIS OWN RISK.

**DESIGN CRITERIA**

MAXIMUM SURFACE LOAD	750 PSF
MAXIMUM SINGLE AXLE LOAD	80 KIPS
DESIGN SERVICE LIFE	25 YEARS

**DATUM**

ELEVATION DATUM FOR THIS PROJECT IS 0.0 MEAN LOWER LOW WATER.

**MATERIALS AND INSTALLATION**

**STRUCTURAL STEEL --**

ALL MISCELLANEOUS STEEL PLATES AND SHAPES, SHALL BE ASTM A572 GRADE 50, GALVANIZED UNLESS NOTED OTHERWISE ON PLANS.

ALL MISCELLANEOUS PIPE SHALL BE ASTM A53 GRADE B, TYPE E OR S, GALVANIZED.

STEEL ERECTION SHALL CONFORM TO AISC STANDARDS.

**C.I.P. CONCRETE --**

CEMENT SHALL CONFORM TO ASTM C150 TYPE II, OR TYPE I OR III WITH TRI-CALCIUM ALUMINATE CONTENT BELOW 8%. AGGREGATE SHALL CONFORM TO ASTM C33 WITH MAXIMUM SIZE OF 3/4 IN. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 6,000 PSI. ENTRAINED AIR SHALL BE 5% TO 8%. MIX DESIGN, MIXING, FORMING, PLACING, CURING, TESTING, ETC., SHALL FOLLOW THE STANDARDS SET BY ACI AND ASTM C94. A MINIMUM OF ONE SET OF FOUR CONCRETE TEST CYLINDERS SHALL BE TAKEN PER DAY OF CONCRETE PLACEMENT. AN ADDITIONAL SET SHALL BE TAKEN PER 100 CUBIC YARDS/DAY POURED.

CIP CONCRETE SHALL CONTAIN: A MINIMUM OF 6-1/2 SACKS CEMENT/CUBIC YARD; WATER/CEMENT RATIO OF 0.40 MAXIMUM; 4-IN. MAXIMUM SLUMP BEFORE ADDITION OF ANY REQUIRED HIGH-RANGE, WATER REDUCING ADMIXTURES; AND 35 LB. SILICA FUME PER CUBIC YARD OF CONCRETE. CONTRACTOR SHALL SUBMIT MIX DESIGN, TEST RESULTS AND CONCRETE PLACEMENT PLAN AT LEAST TWO WEEKS PRIOR TO POUR. CONCRETE PLACEMENT PLAN SHALL INCLUDE -- LOCATION OF BATCH PLANT, ESTIMATED TRUCK TIME, ESTIMATED VOLUME OF DAILY POURS, LOCATION AND DETAIL OF CONTRACTION JOINTS AND ANY REQUIRED CONSTRUCTION JOINTS.

WET CURING OF THE C.I.P. CONCRETE SHALL BEGIN IMMEDIATELY AFTER FINISHING ITS SURFACE. WET CURING SHALL CONSIST OF WET BURLAP OR COTTON MATS THAT ARE KEPT IN CONTINUOUS CONTACT WITH THE ENTIRE EXPOSED SURFACE OF THE CONCRETE. WET CURING MATS SHALL BE ON SITE AND READY TO BE POSITIONED PRIOR TO THE START OF CONCRETE PLACEMENT. THE CONTRACTOR SHALL MONITOR THE CURING PROCESS AND KEEP THE MATS WETTED SO THAT THE SURFACE OF THE CONCRETE APPEARS WET. WET CURE SHALL CONTINUE FOR 14 DAYS AFTER PLACEMENT OF CONCRETE. TWO UNIFORM APPLICATIONS OF DAYTON SUPERIOR SAFE CURE & SEAL (J-18) OR ENGINEER APPROVED EQUAL MAY BE USED IN LIEU OF THE CONCRETE WET CURE. APPLY PER MANUFACTURE INSTRUCTIONS.

SAW-CUT CONSTRUCTION JOINTS AND SAW-CUT CONTRACTION JOINTS SHALL BE INSTALLED WHERE APPROVED BY THE ENGINEER, OR AS SHOWN ON THE DRAWINGS. FORMS SHALL BE FREE OF WATER, SNOW AND/OR ICE PRIOR TO PLACEMENT OF CONCRETE. EUCLID COMPANY EUCO #452 EPOXY BONDING AGENT SHALL BE APPLIED AT CONSTRUCTION JOINT LOCATIONS PER MANUFACTURER'S SPECIFICATIONS. ALL EXPOSED CONCRETE SHALL RECEIVE A HEAVY BROOM FINISH IN THE DIRECTION OF FALL AFTER STEEL TOWELING. FINISHED SURFACES SHALL BE TRUE PLANES WITHIN 1/4-INCH IN 10 FEET IN ANY DIRECTION.

**REINFORCING STEEL --**

ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A706, GRADE 60 STEEL UNLESS NOTED OTHERWISE, CARBON EQUIVALENCY SHALL NOT EXCEED 0.55 (AS CALCULATED PER AWS). ALL REINFORCING BAR SHALL BE GALVANIZED AFTER ANY REQUIRED BENDING OR FABRICATION. BARS SHALL BE SUPPORTED ON APPROVED CHAIRS OR WELL-CURED CONCRETE BLOCKS. REINFORCING STEEL SHALL BE DETAILED, BENT, AND PLACED IN ACCORDANCE WITH THE LATEST ACI 318. CONCRETE REINFORCING SHALL HAVE 3-IN. MINIMUM CLEARANCE UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL BE LAP-SPLICED FOR TENSION (24" MIN.) UNLESS OTHERWISE NOTED ON THE DRAWINGS. BARS SHALL BE CLEAN AND FREE FROM CUTTING OIL OR OTHER DELETERIOUS MATERIAL.

**CONCRETE JOINT SEALANT --**

ALL JOINTS SHALL BE SEALED WITH SONNEBORN SONOMERIC 1 OR APPROVED EQUAL, INSTALL PER MANUFACTURER.

**FELT ISOLATION JOINT FILLER --**

FELT ISOLATION JOINT FILLER SHALL BE FELT-ENCASED AND CONFORM TO ASTM D1751

**BOLTS --**

ALL BOLTS SHALL BE ASTM A307, GALVANIZED. GALVANIZED WASHERS SHALL BE USED IN ALL AREAS WHERE THE BOLT HEAD OR NUT SHALL BEAR AGAINST TIMBER OR CONCRETE OR AGAINST OVERSIZED HOLES IN STEEL (I.E. MORE THAN 1/16 INCH LARGER THAN BOLT DIAMETER). GALVANIZED NUTS AND WASHERS SHALL CONFORM TO THE SPECIFICATION FOR THE CORRESPONDING BOLT. MALLEABLE IRON WASHERS OR ECONOMY HEADS ARE REQUIRED WHEREVER BOLT HEADS OR NUTS BEAR AGAINST WOOD.

**SHEAR STUDS --**

ASTM A108, GRADE 1015, WELDED PER LATEST AWS D1.1.

**GALVANIZING --**

GALVANIZING SHALL BE PER ASTM A123 OR A153 AFTER FABRICATION UNLESS OTHERWISE NOTED. GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING

**SPRAY METALLIZING --**

SPRAY METALLIZING SHALL BE WITH ALUMINUM OR ZINC PER AWS C2.23-2003 AND AWS C2.18-1993. PREPARE SURFACE TO WHITE METAL FINISH, SSPC-SP 5/NACE No. 1 WITH 2.5 MIL ANGULAR PROFILE. MINIMUM DRY COATING FILM THICKNESS OF 8 MILS IS REQUIRED. METALLIZING AND/OR GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING TO A MINIMUM DRY COATING FILM THICKNESS OF 8 MILS. CONTRACTOR SHALL SUBMIT REPAIR MATERIAL AND METHOD OF REPAIR FOR REVIEW AND APPROVAL.

**TREATED TIMBER --**

TREATED TIMBER SHALL BE DOUG FIR NO2 (S45) PER WCLIB GRADING RULES. PRESSURE TREAT TIMBER TO 0.60 POUNDS/CF OF ACZA PER AWWA C-18. TIMBER SHALL BE FABRICATED PRIOR TO TREATMENT. FIELD FABRICATION OR DAMAGE SHALL BE REPAIRED TO AWWA M-4.

**PAINTING**

PAINT SHALL BE DEVOE BAR-RUST 236 EPOXY COATING, APPLY TWO 6-8 MIL COATS. FOLLOW MANUFACTURER INSTRUCTIONS.

**CLASSIFIED FILL --**

CLASSIFIED FILL SHALL BE WELL GRADED 2 INCH MINUS GRAVEL WITH LESS THAN 8% PASSING THE #200 SIEVE. ALL FILL SHALL BE FREE OF ORGANICS, ICE, SNOW OR OTHER DELETERIOUS MATERIALS.

**LEVELING COURSE --**

LEVELING COURSE SHALL MEET THE REQUIREMENTS OF ADOT/PF D-1, EXCEPT THAT THE DEGRADATION REQUIREMENT NEED NOT BE MET. SUBGRADE SHALL BE WITHIN 0.05 FT OF PLAN GRADE.

**COMPACTION --**

SUB-BASE, ALL FILL MATERIALS AND LEVELING COURSE SHALL BE COMPACTED TO 95% PROCTOR DENSITY.

**STRUCTURAL STEEL WELDING --**

PER LATEST AWS D1.1 BY WELDERS QUALIFIED PER AWS FOR THE TYPE AND POSITION OF THE WELDS. ALL FILLER METAL SHALL HAVE A MAXIMUM CARBON CONTENT OF 0.20%. ALL SMAW ELECTRODES SHALL BE PROPERLY CONDITIONED LOW HYDROGEN. SUBMIT WELDER QUALIFICATIONS AND WELDING PROCEDURES TO ENGINEER FOR APPROVAL AT LEAST 15 DAYS PRIOR TO WELDING.

**SUBMITTALS --**

SHOP DRAWINGS FOR ALL FABRICATED MATERIALS SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO FABRICATION OR SHIPPING OF ANY ITEM. CERTIFICATIONS, MANUFACTURER'S DATA, AND OTHER INFORMATION FOR ALL MATERIALS, INCLUDING THOSE NOT SPECIFICALLY NOTED IN THE GENERAL NOTES OR SHOWN ON INDIVIDUAL DRAWINGS, SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL. ALL METHODS AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS, GENERAL NOTES, THE PLANS, GOOD WORKMANSHIP, GENERALLY ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF THREE SETS SHALL BE PROVIDED WITH EACH SUBMITTAL. THE REVIEWED COPY WILL BE RETURNED AND MARKED AS REQUIRED FOR ACCEPTANCE AND NON-ACCEPTANCE. THE ENGINEER WILL RETAIN TWO COPIES OF EACH SUBMITTAL FOR RECORDS.

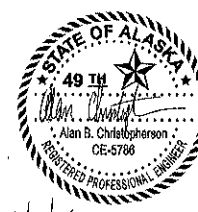
THE FOLLOWING IS A LIST OF REQUIRED SUBMITTALS FOR THIS PROJECT. THE ENGINEER MAY REQUIRE ADDITIONAL SUBMITTALS.

**CIVIL/STRUCTURAL SUBMITTALS:**

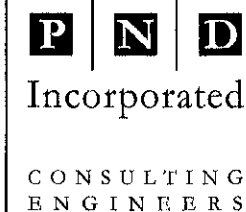
1. CONCRETE MIX DESIGN
2. CONCRETE PLACEMENT PLAN AND PROPOSED CONSTRUCTION/CONTRACTION JOINT LOCATIONS
3. REINFORCING STEEL CERTIFICATION, MILL TEST REPORTS AND SHOP DRAWINGS
4. GRADATION REPORTS AND PROCTOR DENSITY FOR FILL MATERIALS
5. GALVANIZING CERTIFICATION
6. PAINT MATERIALS AND PROCEDURE
7. SPRAY METALLIZING
8. WELDING PROCEDURES FOR ALL SHOP AND FIELD WELDS
9. AWS WELDER QUALIFICATIONS FOR ALL WELDERS UTILIZED ON THE PROJECT
10. RED-LINED AS-BUILT DRAWINGS.

Peratovich, Nottingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

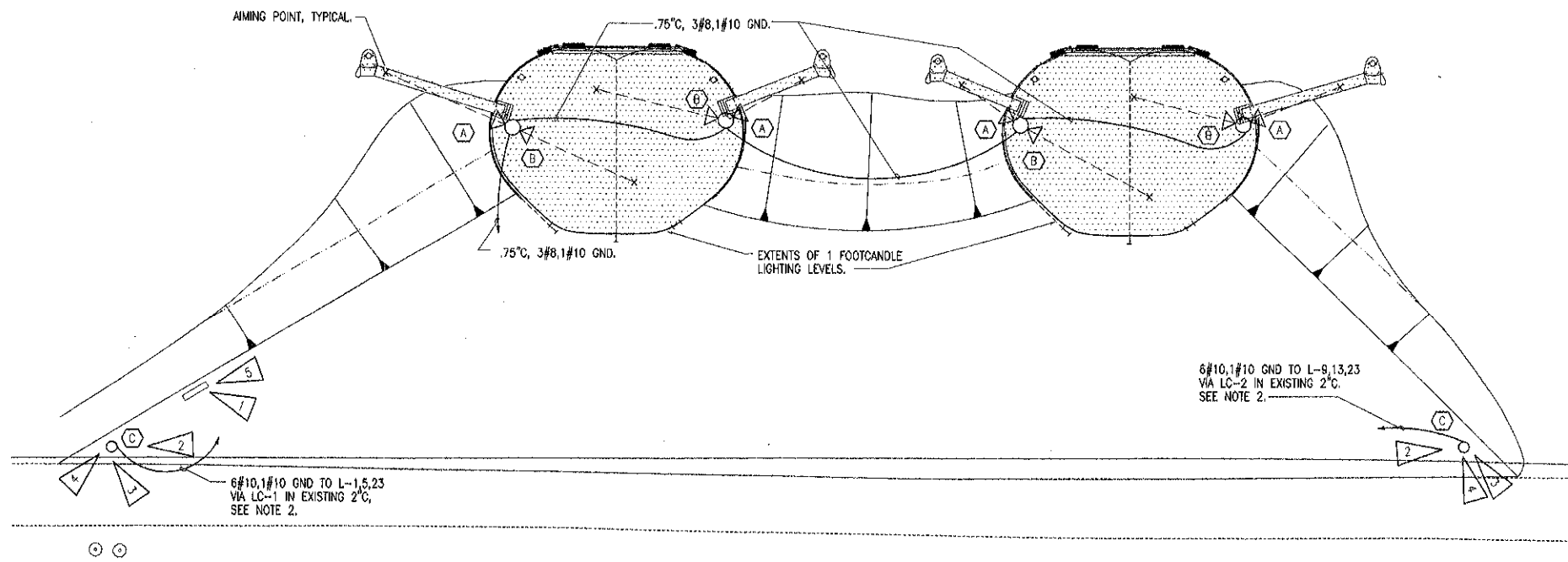
REV	DATE	DESCRIPTION



1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-aac.com



<b>CITY OF UNALASKA LIGHT CARGO DOCK PAVING</b>	
<b>GENERAL NOTES</b>	
DESIGNED BY: DST	DATE: 5/19/05
CHECKED BY: ABC	PROJECT NO: 041068
SHEET NO: <b>6</b> OF <b>6</b>	

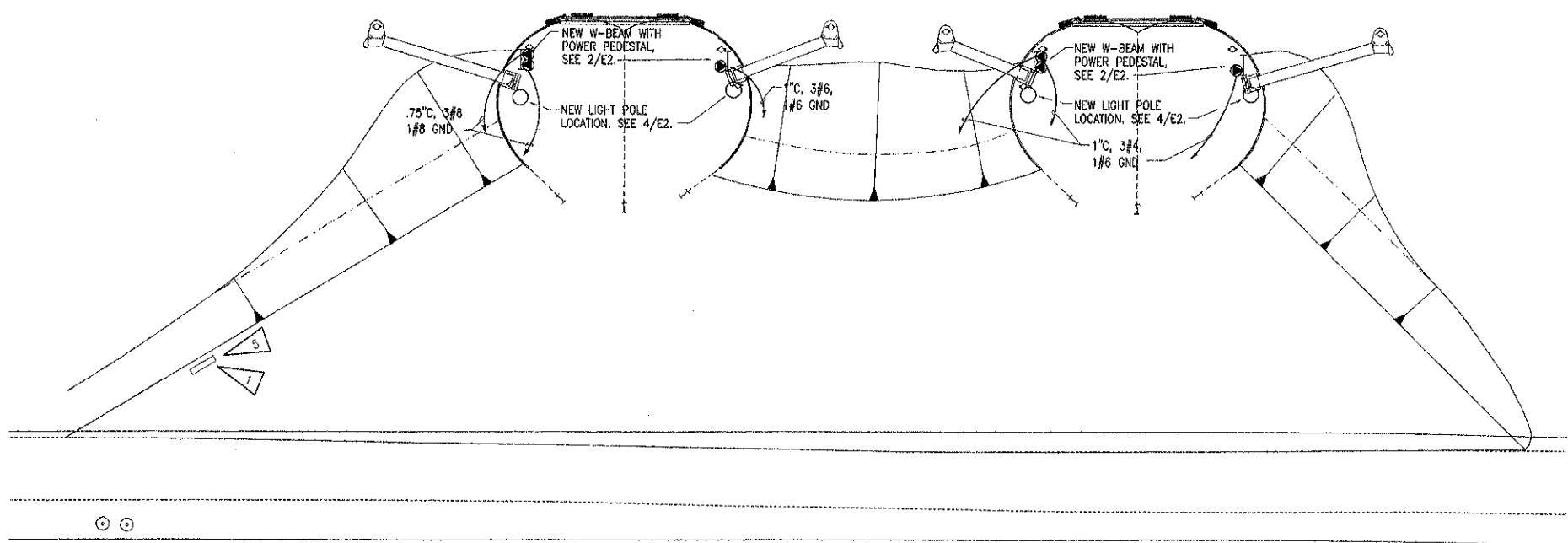


FIXTURE SCHEDULE							
TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	DESCRIPTION	MOUNTING		LAMPS	
				TYPE	HEIGHT	NO.	WATTS
A	CONCRETE LANDING	HUBBELL #MHSK250H-465-2 #THD-21-M38	HPS MINILITER IV WITH DIE CAST HOUSING, TEMPERED GLASS LENS, TOOL-FREE ENTRY FOR LAMPING, HFF 480V BALLAST, STEEL BULLHORN-TWO AT 180 DEGREES, GALVANIZED FINISH, FIXTURES-GRAY FINISH. SAME AS TYPE A EXCEPT WATTAGE.	POLE	30'	1	250 MH
B	CONCRETE LANDING	HUBBELL #MHS-K400H-465-2		POLE	30'	1	400 MH
C	OBSTRUCTION LITS ON HIGH-MAST	UNIMAR #12004-660-1R01-002 WITH TRANSFORMER	DOUBLE LED STEADY BURN OBSTRUCTION FIXTURE, MOUNTED ON EXISTING HIGH-MAST RING, REMOTE 277:120V STEP TRANSFORMER IN BASE OF POLE. THREADED 1" BOTTOM HUB. SEE NOTE 2 BELOW.	POLE TOP	POLE TOP	2	15VA LED

**LIGHTING PLANE:**  
CATWALK, DOCK AREA  
TOTAL OF 4 FIXTURES  
AVG. FC: 4.22 FC  
MAX FC: 8.1 FC  
MIN FC: 1.0 FC

LEGEND	
○	LIGHT FIXTURE/POLE WEATHER PROOF
Ⓐ	FIXTURE TAG (LETTER INDICATES TYPE)
Ⓞ	PHOTOCELL
—	CONDUIT, BURIED
▭	PANEL
Ⓜ	DUPLEX RECEPTACLE
Ⓜ	TYPE 1A JUNCTION BOX
C	CONDUIT
WP	WEATHERPROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRSC	GALVANIZED RIGID STEEL CONDUIT
1	NOTE TAG (No. INDICATES NOTE)
●	POWER PEDESTAL

**1 LIGHTING PLAN**  
1" = 30'-0"



**2 POWER PLAN**  
1" = 30'-0"

**NOTES:**

- EXISTING SERVICE ENTRANCE LOCATION. SEE 1/E2 FOR NEW SERVICE.
- EXISTING HIGH MAST LIGHTING POLE (TOTAL OF 2) WITH (12) 1000W HIGH PRESSURE SODIUM LIGHTING FIXTURES, SPAULDING #CNI-S1000-13-208-CLL. REPLACE EXISTING 208V LIGHTING FIXTURES WITH NEW 480V MH FIXTURES. INTERCEPT EXISTING CONDUIT FEED FROM EXISTING PANEL 'A'. REROUTE CONDUITS TO NEW PANEL 'L' AND PROVIDE NEW CIRCUITS TO LIGHT FIXTURES AS SHOWN. SEE 1/E3. REPLACE LOWERING DEVICE TRANSFORMER WITH 480:120V. COORDINATE WITH MANUFACTURER. PROVIDE ALL NEW WIRING FROM NEW PANEL TO EXISTING POLES AND IN POLES UP TO NEW LIGHTING FIXTURES. PROVIDE NEW HIGH MAST LIGHTING FIXTURES WITH LGD LAMP GRIP DEVICE MOUNTING HARDWARE.
- NOTE DELETED.
- REPLACE EXISTING OBSTRUCTION LIGHT WITH NEW TYPE 'C' FIXTURE.
- EXISTING PANEL 'A' SHALL BE RELOCATED. REMOVE UNUSED CONDUCTORS, CONDUITS AND PROVIDE KNOCKOUTS. EXISTING CIRCUIT BREAKERS SHALL REMAIN AS SPARES. UP DATE PANEL DIRECTORY.
- CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING BURIED LINES, CONDUITS, PIPING, ETC., TO AVOID CONFLICT WHEN DIGGING POLE FOUNDATIONS AND NEW TRENCHING. COORDINATE WITH CIVIL.

May 19, 2005 - 9:19am  
C:\2004\K4104\K4104-E1.DWG



**RSA**  
**Engineering, Inc.**  
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS  
2522 Arctic Boulevard, Suite 200  
Anchorage, AK 99503-2516  
Phone (907) 276-0521 Fax (907) 276-1751

Peratovich, Mattingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION

1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com

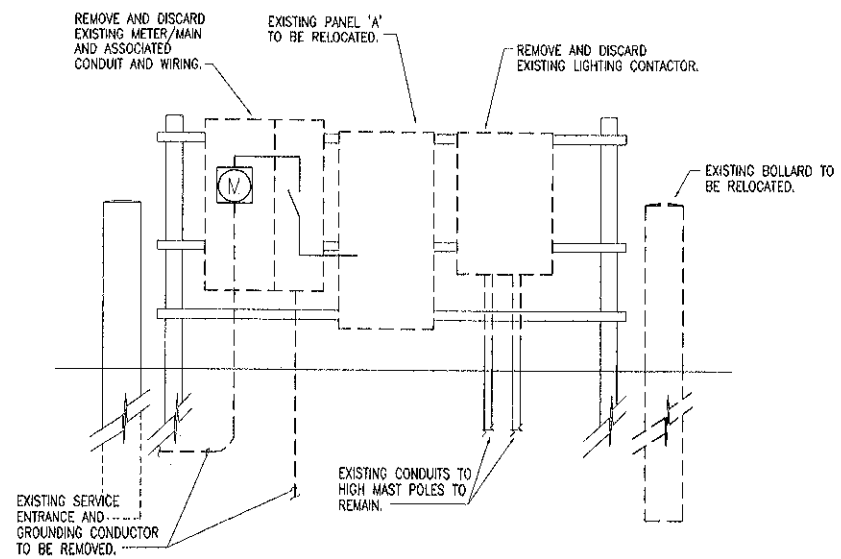
**PND**  
Incorporated  
CONSULTING ENGINEERS

PROJECT: **CITY OF UNALASKA LIGHT CARGO DOCK PAVING**

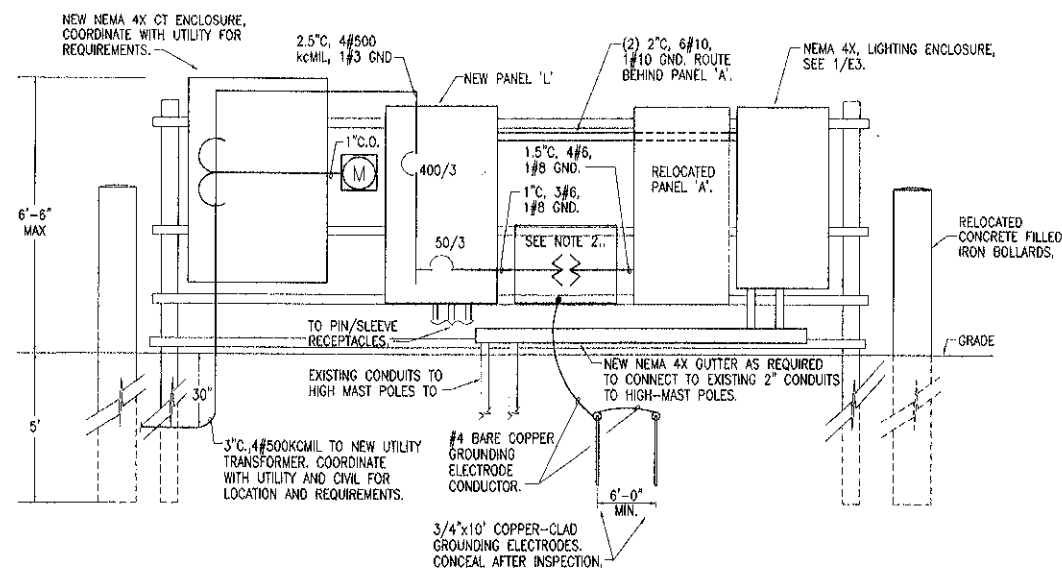
TITLE: **PLANS & SCHEDULES**

DESIGNED BY: RPH,RWM DATE: 5/19/05  
CHECKED BY: TEH PROJECT NO: 041058

SHEET NO: **E1** OF **3**



**DEMOLITION**



**REMODEL**

**DETAIL NOTES:**

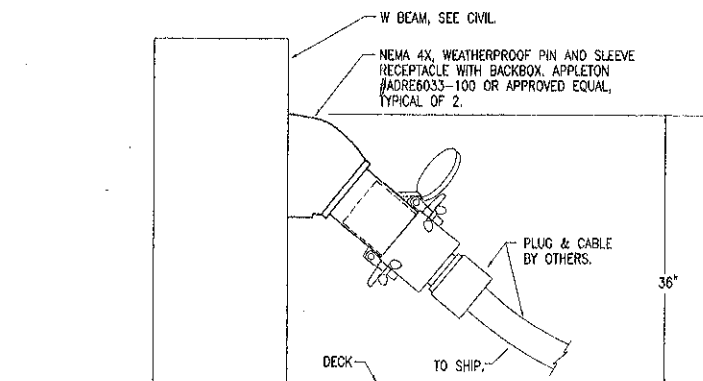
1. AT CONTRACTOR'S OPTION, ONE ENCLOSURE CAN BE SUBSTITUTED FOR THE INDIVIDUAL CONTACTOR ENCLOSURES. THE COMMON ENCLOSURE SHALL BE RATED NEMA 4X, BE LOCKABLE AND HAVE SEPARATE OVER-RIDE SWITCH WITH LABEL AND RED PILOT LIGHT FOR EACH CONTACTOR.
2. 30KVA, 480:208Y120V, NEMA 4X DRY TYPE TRANSFORMER.
3. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL ITEMS BEING REMOVED.

**DETAIL NOTES:**

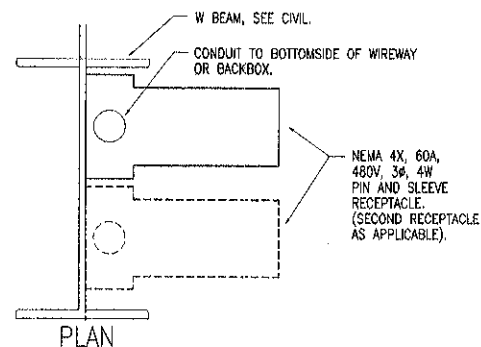
1. NOTE NOT USED.
2. ALL STRUCTURAL STEEL SHALL BE ASTM A36 GALV.
3. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY D1.1.
4. VERIFY ALL UTILITY LOCATIONS AND OBTAIN CLEARANCE FROM OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF PILES.

**1 POWER ONE-LINE DIAGRAM / ELEVATION**

NTS



**ELEVATION**



**PLAN**

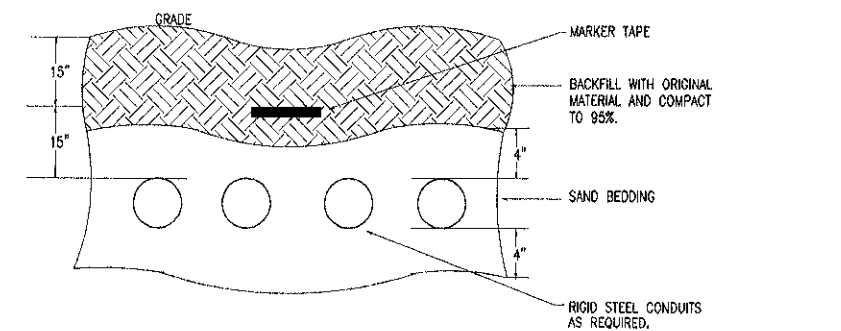
**2 POWER PEDESTAL DETAIL**

NTS

SQUAD TYPE NF		277/480V, 3Ø, 4W		SURFACE MTD.			400A MB	
DISC	POLE	AMPS	SERVICE			AMPS	POLE	DISC
			A	B	C			
1	20		3307	11080				2
3	2	20		3307	11080			4
5	2	20			3307	11080		6
7	2	20	3307	11080				8
9	2	20		3307	11080			10
11	2	20			3307	11080		12
13	2	20	3307	11080				14
15	2	20		3307	11080			16
17	1	20			200	11080		18
19	2	20	500	11080				20
21	2	20		500	11080			22
23	1	20			100	11080		24
25	2	20	1090	11080				26
27	2	20		1090	11080			28
29	1	-			11080			30
31	1	-		11080				32
33	1	-			11080			34
35	1	-			11080			36
37	1	-	1122					38
39	1	-		561				40
41	1	-			561			42
TOTAL V-A			78,113	78,552	73,955		231,620	VA
TOTAL AMPS			286	284	267		279	A
A.I.C. RATING: 25,000 AIC								

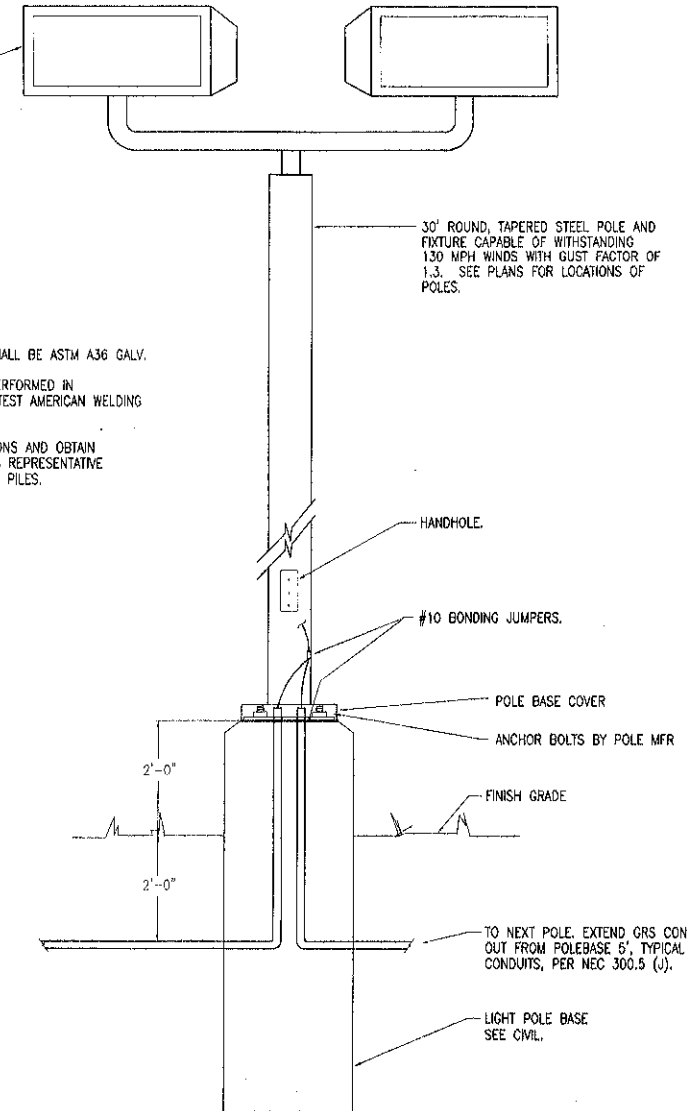
**4 LIGHT POLE DETAIL**

NTS



**3 TRENCH DETAIL**

NTS



**RSA**  
**Engineering, Inc.**  
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS  
2522 Arctic Boulevard, Suite 200  
Anchorage, AK 99503-2516  
Phone (907) 276-0521 Fax (907) 276-1751

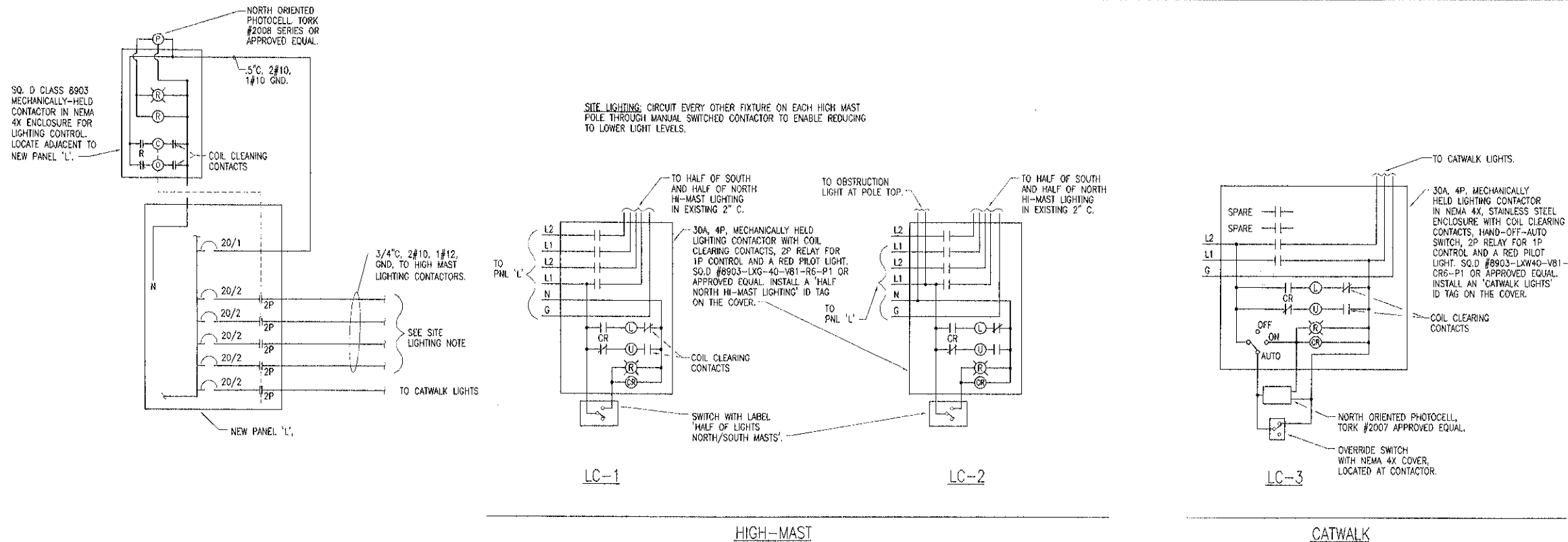
Peratovich, Nottingham, and Drage, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION

1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com

**PND**  
**Incorporated**  
CONSULTING  
ENGINEERS

PROJ. NO. CITY OF UNALASKA  
LIGHT CARGO DOCK PAVING  
FILE NO. DETAILS  
SHEET NO. E2 OF 3  
DESIGNED BY: RPH/RWM DATE: 5/19/05  
CHECKED BY: TEH PROJECT NO: 041068



**1 LIGHTING CONTROL DIAGRAMS**

SCOPE OF WORK - FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT FOR AN EXTENSION TO THE EXISTING ELECTRICAL SYSTEM AS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.

STANDARDS, CODES AND REGULATIONS - COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL FIRE CODE INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES.

DRAWINGS - THE DRAWINGS ARE DIAGRAMMATIC, NOT NECESSARILY SHOWING ALL OFFSETS OR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. UNLESS SPECIFICALLY DIMENSIONED. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR EQUIPMENT FURNISHED BY OTHER CRAFTS AFFECTING THIS SECTION. BRING QUESTIONABLE OR OBSCURE ITEMS, APPARENT CONFLICTS BETWEEN PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE ENGINEER OR PROJECT MANAGER. CODES, ORDINANCES, REGULATIONS, MANUFACTURER'S INSTRUCTIONS OR STANDARDS TAKE PRECEDENCE WHEN THEY ARE MORE STRINGENT OR CONFLICT WITH THE DRAWINGS AND SPECIFICATIONS.

RECORD DRAWINGS - MARK UP A CLEAN SET OF DRAWINGS AS THE WORK PROGRESSES TO SHOW THE DIMENSIONED LOCATION AND ROUTING OF ALL ELECTRICAL WORK WHICH WILL BECOME PERMANENTLY CONCEALED. SHOW ROUTING OF WORK IN PERMANENTLY CONCEALED UNDERGROUND. SHOW COMPLETE ROUTING AND SIZING OF ANY SIGNIFICANT REVISIONS TO THE SYSTEMS SHOWN.

WORKMANSHIP - INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS AND/OR INSTALLATION DRAWINGS AND IN ACCORDANCE WITH NECA STANDARDS, MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY STANDARDS, NEMA STANDARDS AND UNDERWRITERS LABORATORIES STANDARDS WHERE APPLICABLE.

SUBMITTALS - PROVIDE MATERIAL AND EQUIPMENT SUBMITTALS CONTAINING A COMPLETE LISTING OF MATERIAL AND EQUIPMENT SHOWN ON THE DRAWINGS. INCLUDE CATALOG NUMBERS, WIRING DIAGRAMS, ROUGH-IN DIMENSIONS AND PERFORMANCE DATA FOR ALL MATERIAL AND EQUIPMENT. SUBMITTALS SHALL BE BOUND IN HARD COVER, LOOSE-LEAF BINDERS SEPARATE FROM WORK FURNISHED UNDER OTHER DIVISIONS. INDEX AND CLEARLY IDENTIFY ALL MATERIAL AND EQUIPMENT BY ITEM, NAME OR DESIGNATION USED ON THE DRAWINGS.

SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND ARRANGEMENT ONLY AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE SUBMITTALS ARE NOT CHECKED FOR QUANTITY, DIMENSION, OR FOR PROPER OPERATION. WHERE DEVIATIONS OF A SUBSTITUTE PRODUCT OR SYSTEM PERFORMANCE HAVE NOT BEEN SPECIFICALLY NOTED IN THE SUBMITTAL BY THE CONTRACTOR, PROVISIONS OF A COMPLETE AND SATISFACTORY WORKING INSTALLATION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

OPERATION AND MAINTENANCE MANUALS - PROVIDE OPERATION AND MAINTENANCE MANUALS FOR TRAINING OF THE OWNER'S PERSONNEL. DESCRIBE THE PROCEDURES NECESSARY TO OPERATE THE SYSTEM INCLUDING START-UP, OPERATION, EMERGENCY OPERATION AND SHUTDOWN. PROVIDE INSTRUCTIONS AND A SCHEDULE OF PREVENTIVE MAINTENANCE IN TABULAR FORM FOR ALL ROUTINE CLEANING, INSPECTION AND LUBRICATION WITH RECOMMENDED LUBRICANTS. PROVIDE INSTRUCTIONS FOR MINOR REPAIR OR ADJUSTMENTS REQUIRED FOR PREVENTIVE MAINTENANCE ROUTINES. PROVIDE MANUFACTURER'S DESCRIPTIVE LITERATURE INCLUDING APPROVED SHOP DRAWINGS COVERING DEVICES USED IN ANY CONTRACTOR-PROVIDED EQUIPMENT OR SYSTEMS WITH ILLUSTRATION, EXPLODED VIEWS, ETC.

WARRANTY - THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

PERMITS - SECURE AND PAY FOR ALL FEES, PERMITS, ETC. REQUIRED BY LOCAL AND STATE AGENCIES AND ALL LOCAL UTILITIES COMPANIES. CONTRACTOR SHALL COORDINATE LINE EXTENSIONS TO THE METER WITH THE UTILITY. CONTRACTOR SHALL PROVIDE 3" CONDUIT AND FEEDER FROM THE NEW UTILITY PROVIDED AND INSTALLED PAD MOUNTED TRANSFORMER TO THE CT CAN.

REFERENCE SYMBOLS - THE ELECTRICAL "LEGEND" ON THE DRAWINGS IS A STANDARDIZED VERSION, AND ALL SYMBOLS SHOWN MAY NOT BE USED. USE THE "LEGEND" AS A REFERENCE FOR THE SYMBOLS USED ON THE DRAWINGS.

IDENTIFICATION - PROVIDE ENGRAVED THREE-LAYER LAMINATED PLASTIC NAMEPLATES WITH WHITE LETTERS ON A BLACK BACKGROUND TO IDENTIFY ALL ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT, LOADS SERVED AND AS NOTED ON THE DRAWINGS. LETTER HEIGHTS SHALL BE 1/8 INCH FOR INDIVIDUAL SWITCHES, AND LOADS

**HIGH-MAST**

**ELECTRICAL SPECIFICATIONS**

SERVED AND 1/4 INCH ON PANELBOARDS, USING THE USE OF ADHESIVES IS NOT ACCEPTABLE. SECURE NAMEPLATE TO INSIDE FACE OF PANELBOARD DOORS USING SCREWS OR RIVETS.

JUNCTION BOXES: MARK ALL CIRCUIT NUMBERS OF WIRING ON INSIDE FACE OF ALL JUNCTION BOXES.

CONDUIT - ALL WIRING SHALL BE INSTALLED IN METALLIC RACEWAY. RACEWAY SHALL BE INSTALLED CONCEALED EXCEPT AT SURFACE MOUNTED CABINETS, MOTORS AND EQUIPMENT CONNECTIONS. INSTALL AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS.

CONDUCTORS - ALL CONDUCTORS SHALL BE COPPER WITH TYPE XHHW INSULATION. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE 12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #18 AWG. PULL ALL CONDUCTORS INTO THE RACEWAY AT THE SAME TIME. USE UL LISTED WIRE PULLING LUBRICANT FOR PULLING 4 AWG AND LARGER WIRES. COLOR CODE CONDUCTORS AS FOLLOWS: 120/208 VOLT SYSTEMS: BLACK, RED, BLUE AND WHITE; 277/480 VOLT SYSTEMS: BROWN, ORANGE, YELLOW, AND WHITE WITH AN

IDENTIFIABLE COLORED STRIPE. USE PROPERLY SIZED INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #8 AWG AND SMALLER. TERMINATE #6 AWG AND LARGER CONDUCTORS WITH CRIMP OR COMPRESSION TYPE CONNECTORS INSTALLED WITH TOOL RECOMMENDED BY CONNECTION MANUFACTURER AND INSULATE WITH PROPERLY SIZED 600 VOLT RATED HEAT SHRINK TUBING.

OUTLET BOXES - PROVIDE CAST STAINLESS STEEL TYPE BOXES WITH GASKETED COVER, THREADED HUBS AND NEMA 4X RATING FOR USE IN EXTERIOR OR WET LOCATIONS.

PANELBOARDS - PROVIDE DEAD-FRONT CIRCUIT BREAKER PANELBOARDS WITH BUS SIZE, SHORT CIRCUIT RATING, NUMBER AND SIZE OF BRANCH CIRCUITS AS SHOWN ON THE DRAWINGS. CABINETS SHALL BE 6 INCHES DEEP BY 20 INCHES WIDE MINIMUM. PROVIDE WITH SURFACE FRONTS, AS NOTED ON THE DRAWINGS, WITH CONCEALED TRIM CLAMPS, CONCEALED HINGE AND FLUSHLOCK. PANELBOARD SHALL BE NEMA 4X WITH STAINLESS STEEL HOUSING. MOLDED CASE CIRCUIT BREAKERS SHALL BE BOLT-ON THERMAL MAGNETIC TRIP TYPE WITH COMMON TRIP HANDLE FOR ALL POLES. PROVIDE CIRCUIT BREAKERS UL LISTED AS TYPE SWD FOR LIGHTING CIRCUITS SWITCHED AT THE PANELBOARD. INSTALL PANELBOARDS PLUMB WITH TOP OF CABINET 6'-8" ABOVE GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS. PROVIDE TYPED CIRCUIT DIRECTORIES FOR PANELBOARD. MEASURE STEADY STATE LOAD CURRENTS OF PANELBOARD FEEDER AND REARRANGE BRANCH CIRCUITS AS REQUIRED TO MAINTAIN A MAXIMUM 20 PERCENT DIFFERENCE BETWEEN PHASES.

REVISE CIRCUIT DIRECTORY TO REFLECT CIRCUITING CHANGES REQUIRED TO BALANCE PHASE LOADS.

RECEPTACLES - PROVIDE 50A, 480V, PIN AND SLEEVE TYPE RECEPTACLES WHERE INDICATED ON THE DRAWINGS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, INSTALL RECEPTACLES 24 INCHES ABOVE GRADE, UNLESS OTHERWISE NOTED DIMENSIONS ARE TO CENTERLINE OF OUTLET.

LIGHTING EQUIPMENT - PROVIDE AND INSTALL ALL LIGHTING EQUIPMENT OR APPROVED EQUAL AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE "FIXTURE SCHEDULE". PROVIDE LIGHTING EQUIPMENT COMPLETE, WIRED, ASSEMBLED, WITH PROPER MOUNTING SUPPORTS, HARDWARE, ETC. HID LAMPS SHALL BE UNIVERSAL BURN, CLEAR, 2200K LAMPS WITH A MINIMUM CRI OF 65.

SERVICE ENTRANCE - COORDINATE WITH UTILITY COMPANY FOR PERMANENT ELECTRIC SERVICE INCLUDING PAYMENT OF UTILITY COMPANY CHARGES FOR SERVICE. INSTALL SERVICE ENTRANCE IN ACCORDANCE WITH UTILITY COMPANY'S RULES AND REGULATIONS. PROVIDE NEMA 4X STAINLESS STEEL METERING TRANSFORMER CABINET, MINIMUM SIZE 42" X 42" X 11" DEEP WITH A MEANS FOR SEALING CABINET WITH A PADLOCK. PROVIDE NEMA 4X STAINLESS STEEL SERVICE ENTRANCE RATED DISCONNECT, SIZED AS SHOWN ON DRAWINGS. COORDINATE WITH LOCAL UTILITY COMPANY FOR METERING REQUIREMENTS. PROVIDE GROUNDING AND BONDING AT SERVICE ENTRANCE AS SHOWN ON THE DRAWINGS. SPRAY ALL EXPOSED CONDUCTOR SECTIONS AND TERMINATION LUGS WITH SCOTCH #1602 IN-SPLY OR APPROVED EQUAL RED ELECTRICAL SEALER.

UNDERGROUND: INSTALL SERVICE ENTRANCE CONDUITS AND CONDUCTORS FROM THE UTILITY COMPANY'S PAD-MOUNTED TRANSFORMER TO SERVICE ENTRANCE EQUIPMENT. UTILITY COMPANY WILL CONNECT SERVICE LATERAL CONDUCTORS TO SERVICE ENTRANCE CONDUCTORS.

DRY TYPE TWO WINDING TRANSFORMER - DRY TYPE TRANSFORMERS SHALL MEET ANSI/NEMA ST 20, BE FACTORY-ASSEMBLED, AIR COOLED, DRY TYPE WITH RATINGS AS SHOWN ON THE DRAWINGS. INSULATION SYSTEM AND AVERAGE WINDING TEMPERATURE RISE FOR TRANSFORMERS RATED 16-500 KVA SHALL BE 150 DEGREES C. CASE TEMPERATURE SHALL NOT EXCEED 35 DEG. LEVELS SHALL MEET ANSI/NEMA ST 20 WITH MAXIMUM SOUND LEVELS OF 50 DB. BASIC IMPULSE LEVEL SHALL BE 10 KV. GROUND TRANSFORMER CORE AND COIL ASSEMBLY TO ENCLOSURE BY MEANS OF A VISIBLE FLEXIBLE COPPER GROUNDING STRAP. TRANSFORMER SHALL BE SUITABLE FOR FLOOR MOUNTING. COIL CONDUCTORS SHALL BE CONTINUOUS WINDING WITH

**CATWALK**



**RSA**  
**Engineering, Inc.**  
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS  
2522 Arctic Boulevard, Suite 200  
Anchorage, AK 99503-2516  
Phone (907) 276-0521 Fax (907) 276-1751

Peratrovich Nottingham, and Droge, Inc. (PND) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PND. Drawings are to not be used in any manner that would constitute a detriment directly or indirectly to PND.

REV	DATE	DESCRIPTION

1506 West 36th Avenue  
Anchorage, Alaska 99503  
Phone: 907.561.1011  
Fax: 907.563.4220  
www.pnd-anc.com

**PND**  
**Incorporated**  
CONSULTING  
ENGINEERS

**CITY OF UNALASKA**  
**LIGHT CARGO DOCK PAVING**  
**SPECIFICATIONS & DETAIL**

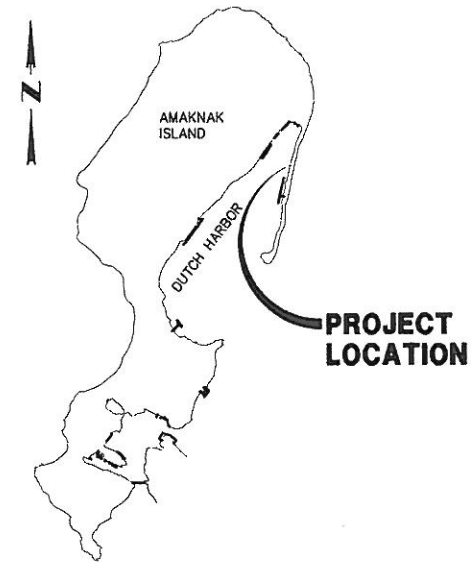
DESIGNED BY: RPH/RWM DATE: 5/19/05  
CHECKED BY: TEH PROJECT NO: 041066

SHEET NO: E3 OF 3

# CITY OF UNALASKA SPIT LIGHT CARGO AND POT DOCK CATWALKS DPW PROJECT No. 01604



**PROJECT LOCATION MAP**



**PROJECT VICINITY MAP**

**ISSUED FOR CONSTRUCTION**

DRAWING INDEX		
SHEET No.	REV No.	TITLE
1	0	COVER SHEET
2	0	CATWALK PLAN / DETAILS
3	0	DETAILS
4	0	GENERAL NOTES / BOLLARD DETAIL

Designed: CW  
 Drawn: JRH  
 Checked: JWP  
 Project No: 01050.0  
 Date: 10/1/01  
 Scale: AS SHOWN

**C.O.U. SPIT LIGHT CARGO  
AND POT DOCK CATWALKS**

 **Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

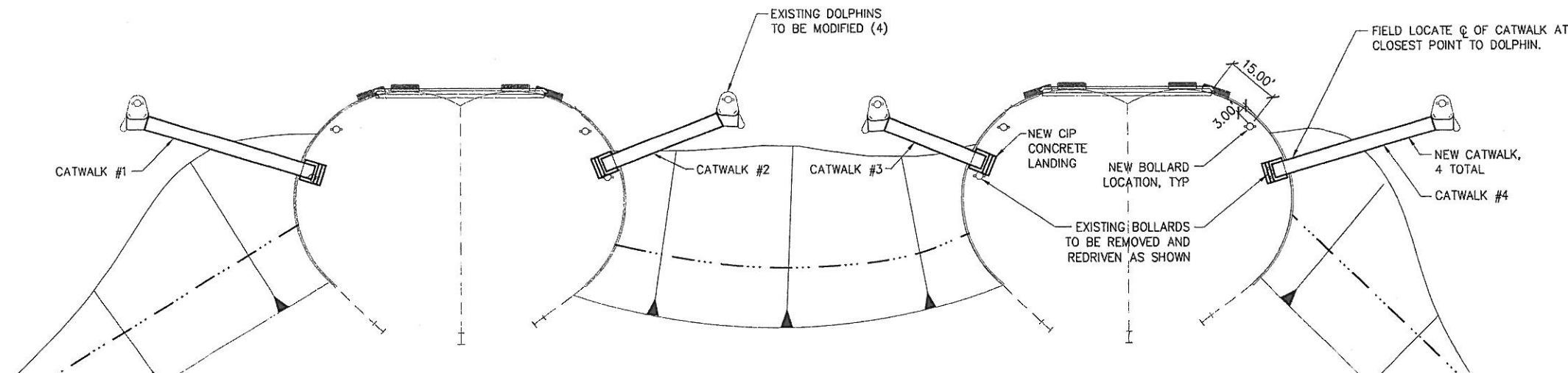
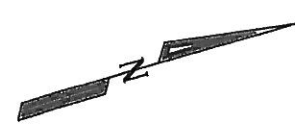
1506 West 36th Avenue,  
Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

**COVER SHEET** sheet  
1 of 4

C:\0 File: J:\2001\01050 Crab Pot Dock Catwalks\1-Cover sheet.dwg

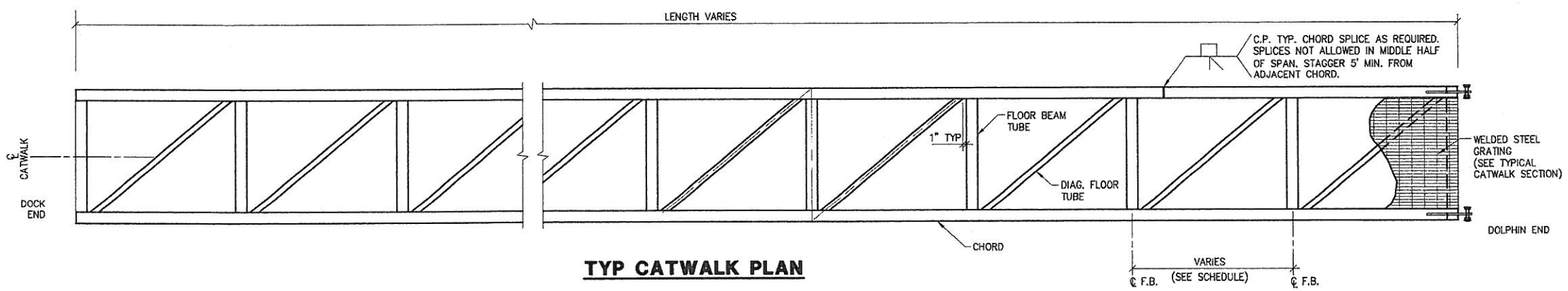
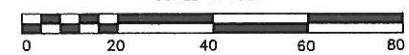
Peratrovich, Nottingham, and Drage, Inc. (PN&D) is not responsible for safety programs, methods or procedures of operation, or the construction of the design shown on these drawings. Where specifications are general or not called out, the specifications shall conform to standards of industry. Drawings are for use on this project only and are not intended for reuse without written approval from PN&D. Drawings are also not to be used in any manner that would constitute a detriment directly or indirectly to PN&D.



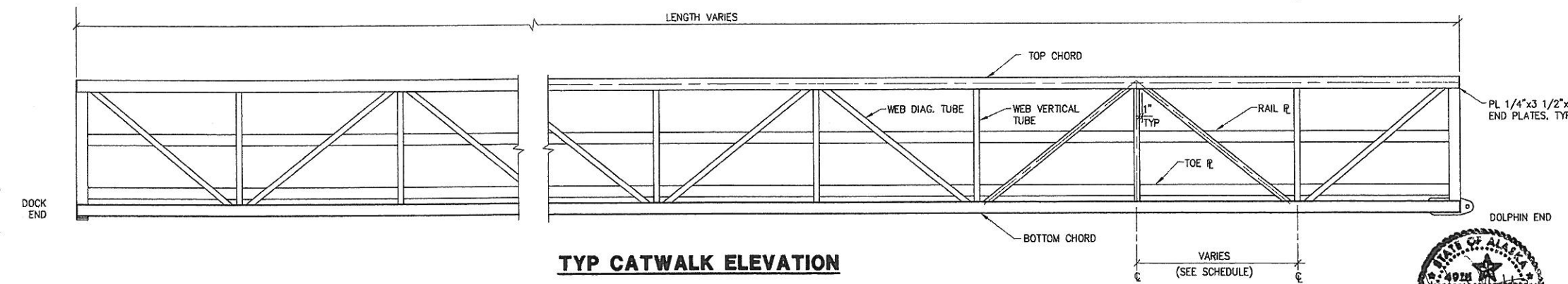


**PLAN**

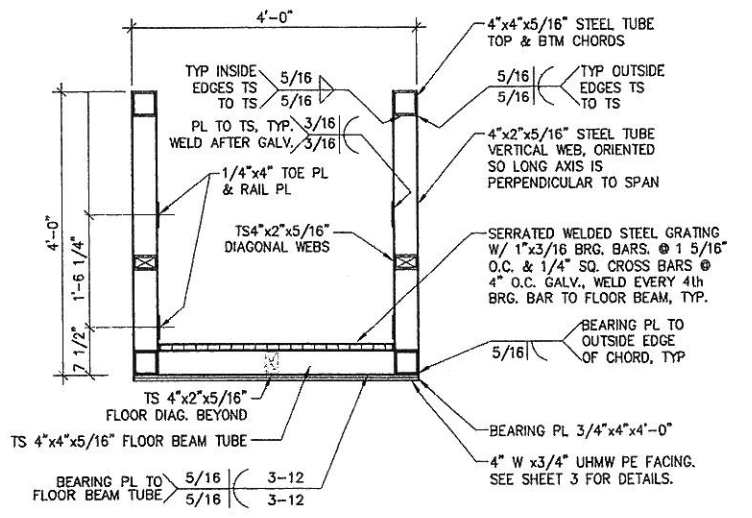
SCALE IN FEET



**TYP CATWALK PLAN**



**TYP CATWALK ELEVATION**



**DOCK END CATWALK SECTION**

- NOTES**
- FOR CATWALK FABRICATION, REPAIR HOLES IN EXCESS OF 1/4" Ø REQUIRED FOR GALVANIZING. 2 HOLES PER WEB OR F.B. PER MEMBER ALLOWED. 2 HOLES IN CHORD MEMBERS ALLOWED AT EACH WEB TO F.B. CONNECTION. HOLES ALLOWED IN BOTTOM OF MEMBERS ONLY.

CATWALK	TOTAL LENGTH *	# OF PANELS	PANEL SPACING
1	50'-2"	10	5'-0"
2	34'-10"	8	4'-4"
3	29'-8"	6	4'-11"
4	47'-8"	10	4'-9"

**CATWALK SCHEDULE**

\* ESTIMATED TOTAL LENGTH. CONTRACTOR TO VERIFY PRIOR TO SUBMITAL OF FABRICATION DRAWINGS.

**ISSUED FOR CONSTRUCTION**



Designed: CW  
 Drawn: JRH  
 Checked: JWP  
 Project No: 01050.0

Date: 10/1/01  
 Scale: AS SHOWN

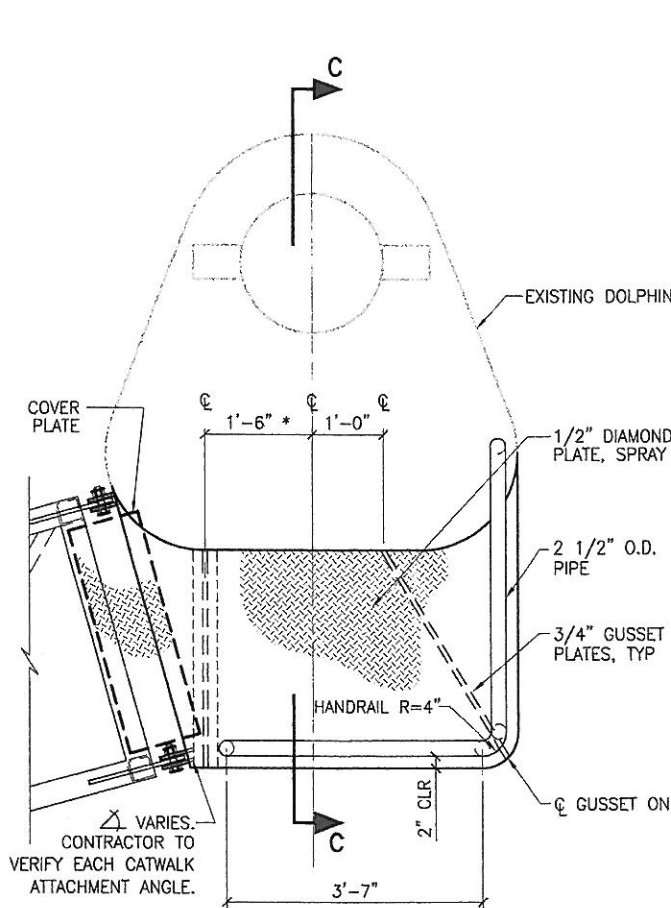
**C.O.U. SPIT LIGHT CARGO AND POT DOCK CATWALKS**

**Peratrovich, Nottingham & Drage, Inc.**  
 Engineering Consultants

1506 West 38th Avenue, Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

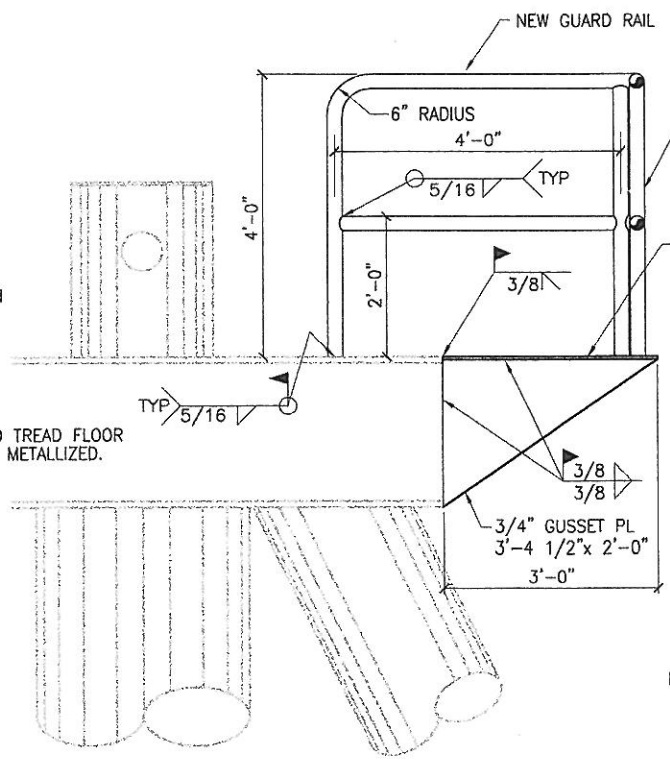
**CATWALK PLAN / DETAILS**

sheet  
**2 of 4**



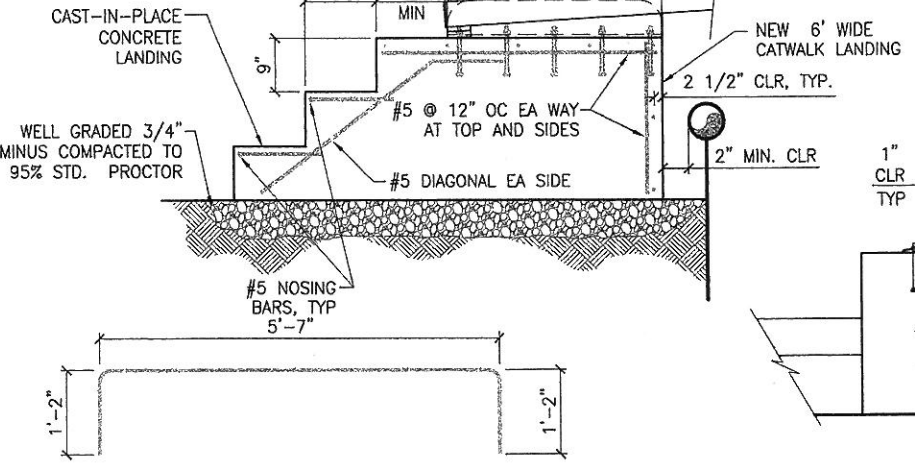
**DOLPHIN CONNECTION DETAIL**

\* SOME FIELD ADJUSTMENT BY CONTRACTOR MAY BE NECESSARY.

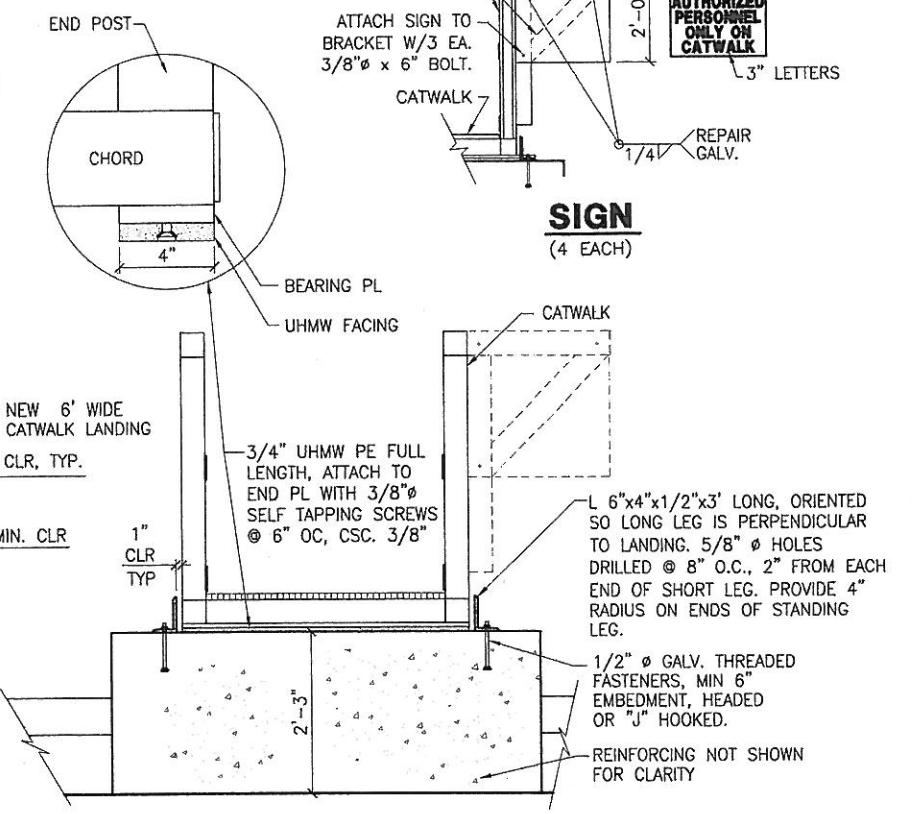


**SECTION C-C**

NOTE: SLOPE TREADS AND TOP OF LANDING TO DRAIN, 1/8" PER FOOT. TREADS AND LANDINGS SHALL RECEIVE BROOM FINISH.



**LANDING ELEVATION**



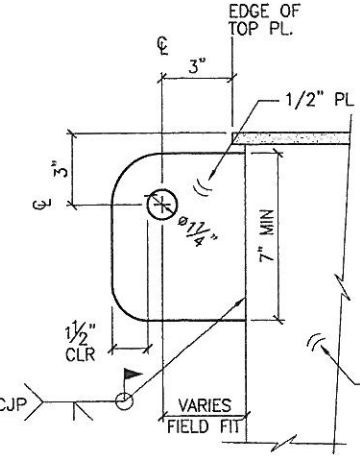
**LANDING CROSS SECTION**

SIGN NOTES:  
.080"t ALUMINUM SHEET BLACK  
BLOCK-STYLE LETTERING ON  
YELLOW BACKGROUND.

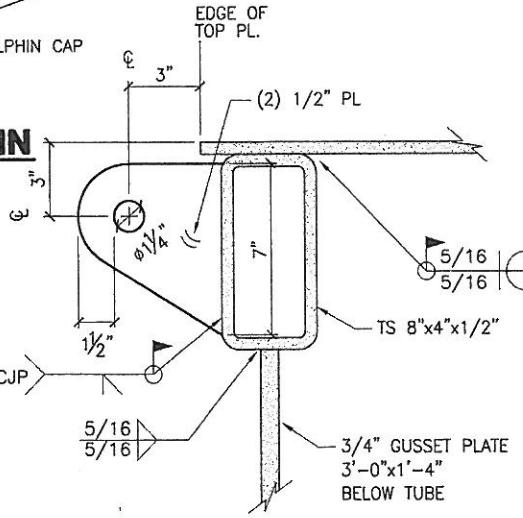


**SIGN**  
(4 EACH)

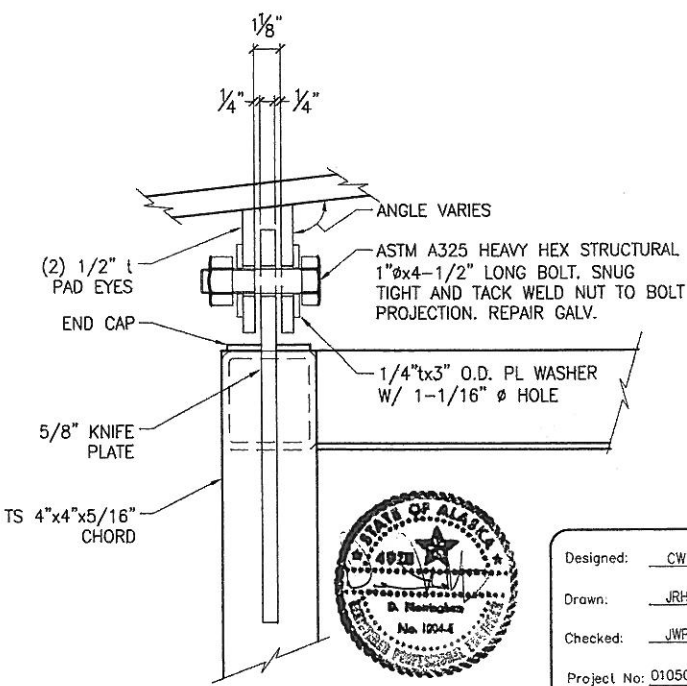
**ISSUED FOR CONSTRUCTION**



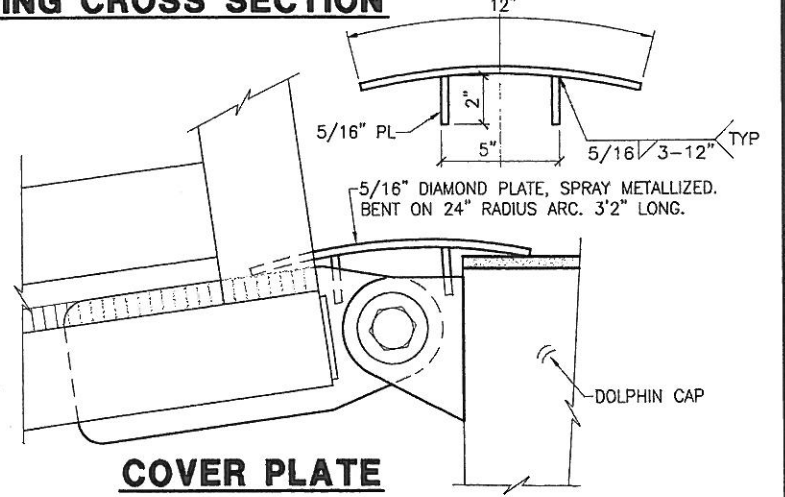
**PAD EYE/DOLPHIN CONNECTION**



**PAD EYE/TUBE CONNECTION**



**HINGE CONNECTION DETAIL**



**COVER PLATE**

**C.O.U. SPIT LIGHT CARGO AND POT DOCK CATWALKS**

**Peratrovich, Nottingham & Drage, Inc.**  
Engineering Consultants

1506 West 36th Avenue, Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

Designed: CW  
Drawn: JRH  
Checked: JWP  
Project No: 01050.0

Date: 10/1/01  
Scale: AS SHOWN

**DETAILS**

sheet  
**3 of 4**

CAD File: J:\2001\01050 Crab Pot Dock Catwalks\3-catwalk details.dwg

**GENERAL NOTES (CIVIL AND STRUCTURAL ONLY)**

ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, SPECIFICATIONS, SITE CONDITIONS, AND THESE NOTES SHALL BE REPORTED TO THE ENGINEER AT ONCE.

ANY FURTHER WORK DONE BY THE CONTRACTOR AFTER FINDING SUCH DISCREPANCIES SHALL BE DONE AT HIS OWN RISK.

**DESIGN PARAMETERS**

**CATWALKS -**  
100 PSF LIVE LOAD, 50 PSF WIND

**MATERIALS:**

**STRUCTURAL STEEL -**  
ALL MISCELLANEOUS STEEL SHAPES AND PLATES SHALL BE ASTM A36. ALL STEEL TUBE SHAPES SHALL BE ASTM A500 GRADE B. STEEL PIPE SHALL BE ASTM A-53.

STEEL ERECTION SHALL CONFORM TO AISC STANDARDS.

**C.I.P. CONCRETE -**  
CEMENT SHALL CONFORM TO ASTM C150 TYPE II, OR TYPE I OR III WITH TRI-CALCIUM ALUMINATE CONTENT BELOW 8%. AGGREGATE SHALL CONFORM TO ASTM C33 WITH MAXIMUM SIZE OF 3/4 IN. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI. ENTRAINED AIR SHALL BE 5 TO 8%. MIX DESIGN, MIXING, FORMING, PLACING, CURING, TESTING, ETC., SHALL FOLLOW THE STANDARDS SET BY ACI AND ASTM C94. CIP CONCRETE SHALL CONTAIN: A MINIMUM OF 6-1/2 SACKS CEMENT/CUBIC YARD; WATER/CEMENT RATIO OF 0.40 MAXIMUM; 4-IN. MAXIMUM SLUMP BEFORE ADDITION OF ANY REQUIRED HIGH-RANGE, WATER REDUCING ADMIXTURES. CONTRACTOR SHALL SUBMIT MIX DESIGN AND TEST TEST RESULTS PRIOR TO CONSTRUCTION.

**REINFORCING STEEL -**  
ALL REINFORCING SHALL BE NEW BILLET STOCK ASTM A615, GRADE 60 STEEL UNLESS NOTED OTHERWISE. BARS SHALL BE SUPPORTED ON APPROVED CHAIRS OR WELL-CURED CONCRETE BLOCKS. REINFORCING STEEL SHALL BE DETAILED, BENT, AND PLACED IN ACCORDANCE WITH THE LATEST ACI 318. C.I.P. CONCRETE SHALL HAVE 2-1/2 IN. MINIMUM CLEARANCE UNLESS OTHERWISE NOTED. REINFORCEMENT SHALL BE LAP-SPLICED FOR TENSION UNLESS OTHERWISE NOTED ON THE DRAWINGS. BARS SHALL BE CLEAN AND FREE FROM CUTTING OIL OR OTHER DELETERIOUS MATERIAL. REINFORCING STEEL SHOP DRAWINGS SHALL BE PREPARED ACCORDING TO ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."

**BOLTS -**  
ALL BOLTS AND THREADED FASTENERS SHALL MEET ASTM A307 OR A36 REQUIREMENTS AND SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED. CATWALK / DOLPHIN CONNECTION BOLTS SHALL BE ASTM A325.

GALVANIZED WASHERS SHALL BE USED IN ALL AREAS WHERE THE BOLT HEAD OR NUT SHALL BEAR AGAINST TIMBER OR CONCRETE OR AGAINST OVERSIZED HOLES IN STEEL (I.E., MORE THAN 1/16 IN. LARGER THAN BOLT DIAMETER). GALVANIZED NUTS AND WASHERS SHALL CONFORM TO THE SPECIFICATION FOR THE CORRESPONDING BOLT.

**SPRAY METALLIZING -**  
ALL STEEL DESIGNATED TO BE SPRAY METALLIZED SHALL BE SPRAY METALLIZED WITH ALUMINUM OR ZINC PER AWS C2.18-93. MINIMUM DRY COATING FILM THICKNESS OF 6 MILS IS REQUIRED. METALLIZING AND/OR GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING TO A MINIMUM DRY COATING FILM THICKNESS OF 6 MILS. CONTRACTOR SHALL SUBMIT REPAIR MATERIAL AND METHOD OF REPAIR FOR REVIEW AND APPROVAL. FIELD SAND BLASTING MAY BE REQUIRED TO ENSURE ADEQUATE ADHERENCE OF FIELD SPRAY METALLIZING TO BASE METAL.

**GALVANIZING -**  
ALL STRUCTURAL STEEL, INCLUDING BOLTS, NUTS AND WASHERS NOT SPECIFIED TO BE SPRAY METALLIZED, SHALL BE GALVANIZED PER ASTM A123 OR A153 AFTER FABRICATION UNLESS OTHERWISE NOTED. GALVANIZING DAMAGED FROM SHIPPING, HANDLING, WELDING, CUTTING, OR BY OTHER MEANS, SHALL BE REPAIRED BY SPRAY METALLIZING.

**INSTALLATION:**

**STRUCTURAL STEEL WELDING -**  
PER LATEST AWS D1.1 BY WELDERS QUALIFIED PER AWS FOR THE TYPE AND POSITION OF THE WELDS. ALL FILLER METAL SHALL MEET CHARPY IMPACT CRITERIA OF 20 FT.-LB. AT -20°F AND SHALL HAVE A MAXIMUM CARBON CONTENT OF 0.20%. ALL SMAW ELECTRODES SHALL BE PROPERLY CONDITIONED LOW HYDROGEN. SUBMIT WELDER QUALIFICATIONS AND WELDING PROCEDURES TO ENGINEER FOR APPROVAL AT LEAST 15 DAYS PRIOR TO WELDING.

THE CONTRACTOR SHALL PROVIDE A CERTIFIED WELDING INSPECTOR TO INSPECT ALL SHOP WELDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING FIELD WELDS. ALL WELDS SHALL BE 100% VISUALLY INSPECTED. IN ADDITION 10% OF ALL CJP SHOP WELDS SHALL BE TESTED BY UT EXAMINATION OR OTHER NDT METHODS APPROVED BY ENGINEER BY AN INDEPENDENT CERTIFIED WELDING INSPECTOR. ANY WELD FAILING INSPECTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, WHICH WILL INCLUDE THE COST FOR RETESTING, ADDITIONALLY ANOTHER 25% OF THE WELD LENGTH SHALL BE TESTED. THIS PROCESS SHALL BE REPEATED UNTIL NO REJECTABLE DISCONTINUITIES ARE FOUND. THE OWNER MAY PROVIDE ADDITIONAL INSPECTION OF SHOP AND FIELD WELDS AS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS REQUIRED AS A RESULT OF ADDITIONAL OWNER INSPECTIONS.

ACCEPTANCE CRITERIA FOR ALL WELD INSPECTIONS SHALL CONFORM TO AWS D1.1 CRITERIA FOR DYNAMICALLY LOADED STRUCTURES.

**C.I.P. CONCRETE PLACEMENT -**  
CONCRETE SHALL BE FORMED, BATCHED, PLACED AND CURED PER ASTM C-94 AND ACI STANDARDS.

**PIPE PILE DRIVING -**  
ALL PILES SHALL BE DRIVEN. THE CONTRACTOR SHALL SUBMIT A PLAN FOR PILE DRIVING. THE PLAN SHALL CONTAIN HAMMER TYPE AND DRIVING METHOD FOR ALL PILE TYPES. THE CONTRACTOR SHALL NOT MOBILIZE HAMMERS AND RELATED EQUIPMENT PRIOR TO RECEIVING WRITTEN APPROVAL OF THE PLAN. THE CONTRACTOR SHOULD ALLOW ONE WEEK FOR REVIEW OF THE PLAN BY THE ENGINEER. ALL PILE DRIVING METHODS SHALL MEET THE REQUIREMENTS OF THE PERMITS ISSUED FOR THIS PROJECT.

STEEL PIPE PILES SHALL BE DRIVEN WITH A VIBRATORY HAMMER, OR AN IMPACT HAMMER WITH A MINIMUM RATED ENERGY OF 80,000 FT.-LBS. ANY HAMMER THAT CAUSES DAMAGE TO THE PILES DURING DRIVING OPERATIONS SHALL BE SUBSTITUTED WITH AN ACCEPTABLE ALTERNATE HAMMER AT NO ADDITIONAL EXPENSE TO THE OWNER. IMPACT HAMMERS SHALL BE SUPPLIED WITH NEW CAP BLOCK CUSHIONS, WHICH SHALL BE CHANGED AT THE MANUFACTURER'S RECOMMENDED CYCLE. THE CONTRACTOR'S DRIVING PLAN SHALL INCLUDE MANUFACTURER'S RECOMMENDATIONS AND INFORMATION ON HAMMER CUSHION.

DRIVING METHODS FOR ALL PILES SHALL UTILIZE A DRIVING TEMPLATE.

PILES SHALL BE PLACED WITHIN 1% OF SPECIFIED VERTICAL ALIGNMENT AND WITHIN 2 INCHES OF SPECIFIED LOCATION AT CUTOFF. PILES HITTING OBSTACLES, MISALIGNED PILES AND PILES THAT HAVE NOT ACHIEVED MINIMUM PENETRATION PRIOR TO REFUSAL SHALL BE PULLED BY THE CONTRACTOR WITH A VIBRATORY HAMMER AND REDRIVEN AT NO ADDITIONAL COST TO THE OWNER. A VIBRATORY HAMMER WITH A MINIMUM ECCENTRIC MOMENT OF 4,400 IN.-LBS. MUST BE AVAILABLE AND ON SITE DURING ALL PILE DRIVING OPERATIONS.

UNDERWATER DEBRIS AND OBSTRUCTIONS SUCH AS CRAB POTS, WIRE, AND ROCKS ARE KNOWN TO EXIST AT THE WORK SITE. THE CONTRACTOR SHALL DEVELOP ADEQUATE MEANS OF INSTALLATION OF THE PILES.

ALL PILE REMOVAL AND INSTALLATION SHALL BE CONDUCTED WITH ENGINEER PRESENT. THE CONTRACTOR SHALL ASSIST ENGINEER IN MONITORING THE PILE DRIVING. THE CONTRACTOR SHALL MARK EACH PILE WITH ONE-FOOT INCREMENTS WITH EVERY FIVE-FOOT INCREMENT NUMBERED.

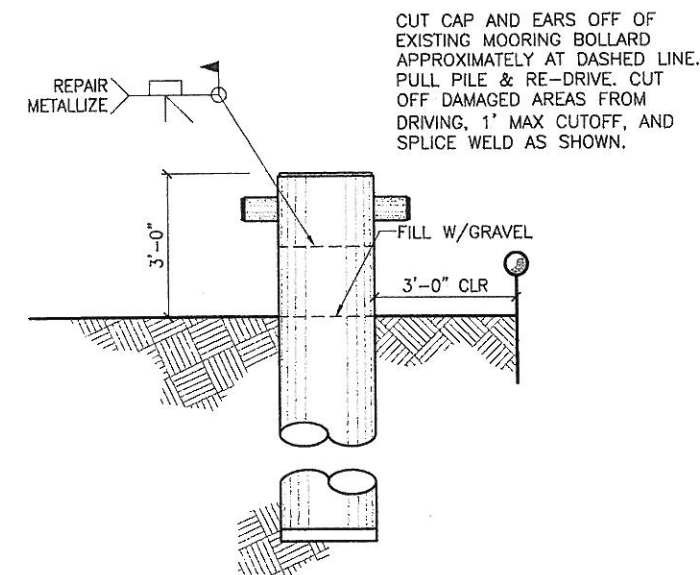
PILES SHALL BE DRIVEN TO WITHIN 1' OF CUTOFF AS SHOWN ON THE DRAWINGS. PILE CAPACITY AND EMBEDMENT WILL BE DETERMINED SOLELY BY THE ENGINEER.

ALL STEEL PIPE PILE CUTOFFS ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE PIPE FROM THE PROJECT SITE.

**SUBMITTALS -**  
SHOP DRAWINGS FOR ALL FABRICATED MATERIALS SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL PRIOR TO FABRICATION OR SHIPPING OF ANY ITEM. CERTIFICATIONS, MANUFACTURER'S DATA, AND OTHER INFORMATION FOR ALL MATERIALS, INCLUDING THOSE NOT SPECIFICALLY NOTED IN THE GENERAL NOTES OR SHOWN ON INDIVIDUAL DRAWINGS, SHALL BE SUBMITTED TO THE ENGINEER FOR WRITTEN APPROVAL. ALL METHODS AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS, GENERAL NOTES, THE PLANS, GOOD WORKMANSHIP, GENERALLY ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. A MINIMUM OF THREE SETS SHALL BE PROVIDED WITH EACH SUBMITTAL. THE REVIEWED COPY WILL BE RETURNED AND MARKED AS REQUIRED FOR ACCEPTANCE AND NON-ACCEPTANCE. THE ENGINEER WILL RETAIN TWO COPIES OF EACH SUBMITTAL FOR RECORDS.

THE FOLLOWING IS A LIST OF REQUIRED SUBMITTALS FOR THIS PROJECT. THE ENGINEER MAY REQUIRE ADDITIONAL SUBMITTALS.

- CIVIL/STRUCTURAL SUBMITTALS:**
1. STEEL CERTIFICATION FOR ALL STEEL USED INCLUDING CHEMISTRY, YIELD, AND MILL NUMBERS.
  2. GALVANIZING CERTIFICATION AND/OR METALLIZING CERTIFICATION.
  3. METALLIZING REPAIR METHOD AND MATERIALS.
  4. AWS WELDER QUALIFICATIONS FOR ALL WELDERS UTILIZED ON THE PROJECT.
  5. WELDING PROCEDURES FOR ALL SHOP AND FIELD WELDS.
  6. STEEL FABRICATION DRAWINGS.
  7. REINFORCING STEEL CERTIFICATION.
  8. C.I.P. CONCRETE MIX DESIGN.
  9. RED-LINED AS-BUILT DRAWINGS.
  10. MOORING BOLLARD REMOVAL AND RE-DRIVING PLAN.



**RE-DRIVEN MOORING BOLLARD**

**ISSUED FOR CONSTRUCTION**



**C.O.U. SPIT LIGHT CARGO AND POT DOCK CATWALKS**

Designed: CW  
 Drawn: JRH  
 Checked: JWP  
 Project No: 01050.0  
 Date: 10/1/01  
 Scale: AS SHOWN

**Peratovich, Nottingham & Drage, Inc.**  
 Engineering Consultants  
 1506 West 36th Avenue, Anchorage, Alaska 99503 (907) 561-1011 FAX (907) 563-4220

**GENERAL NOTES / BOLLARD DETAILS** sheet 4 of 4

CAD File: J:\2001\91850 Erab Pot Dock Catwalks.dwg - General Notes.dwg