Program Management Office • 1980 Anchorage Port Road • Anchorage, Alaska 99501

June 5, 2024

Attn: Kerri Hancock
Regulatory Division
Alaska District, U.S. Army Corps of Engineers
Regulatory Division
P.O. Box 689
JBER, AK 99506-0898

Subject:. Permit Application Number POA-2003-00502-M21, Knik Arm, Port of Alaska Cargo Terminal Replacement Project. Revised application.

Dear Ms Hancock:

In reference to the Port of Alaska's Section 404 permit application number POA-2003-00502-M21, Knik Arm, Port of Alaska Cargo Terminal Replacement Project, USACE Regulatory Division request for review and revision of the draft public notice, the Port is providing the attached information and revised drawings:

1. A revised ENG Form 4345.
2. Revised Appendix A – Project Description.
3. Revised Appendix B – Project Figures.

I appreciate your continued assistance as we work to advance the project. Should you have any questions, need further information, or care to discuss this application, please contact the PAMP Program Manager, Eric Adams, at 907-229-0108, or our designated agent, Mike Holley (HDR), at 907-885-5798 or Michiel.Holley@hdrinc.com.

Respectfully,

Docusigned by:
Jim Jager
E27D61B9EE034E4...

Steven Ribuffo
Director
Port of Alaska

Attachment:
Revised ENG Form 4345
Revised Appendix A
Revised Appendix B

cc: Eric Adams, Program Manager Jacobs
Mike Holley, PAMP Environmental Permitting Lead
John Daley, PAMP Engineering Manager

Date: 5 June 2024

Subject: . Permit Application Number POA-2003-00502-M21, Knik Arm, Port of Alaska Cargo Terminal Replacement Project. Revised application.

2000 Anchorage Port Road
Anchorage, Alaska 99501
907-343-6200
PortOfAlaska@AnchorageAK.gov
PortOfAlaska.com

DATE: May 31, 2024

TO: Mayor Dave Bronson

FROM: Stephen Ribuffo, Port Director SR 5/31

SUBJECT: Acting Assignment

During my absence from the office June 3 through June 7, 2024, the duties and responsibilities of the Port Director are assigned to Jim Jager, Director of External Affairs. A sample of his signature appears below to be held on file.

James Jager
Director of External Affairs

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 02-28-2022

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE EMAIL.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - Steve Middle - Last - Ribuffo	First - Mike Middle - Last - Holley
Company - Municipality of Anchorage, Port of Alaska	Company - HDR Inc.
E-mail Address - Steve.Ribuffo@anchorageak.gov	E-mail Address - Michiel.Holley@hdrinc.com
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- 2000 Anchorage Port Road	Address- 582 E 36th Ave, Suite 500
City - Anchorage State - AK Zip - 99501 Country - USA	City - Anchorage State - AK Zip - 99503 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business 907-343-6201 c. Fax	a. Residence b. Business 907-885-5798 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Mike Holley to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

DocuSigned by: Jim Jager F27D61B9FE934E4... SIGNATURE OF APPLICANT — 07-Jun-2024 DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)
Port of Alaska Cargo Terminals 1 and 2 Replacement

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Cook Inlet/Knik Arm	Address 2000 Anchorage Port Road
15. LOCATION OF PROJECT	City - Anchorage State- AK Zip- 99501
Latitude: ◦N 61.233499 Longitude: ◦W -149.985068	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality Municipality of Anchorage

Section - 7 Township - 13N Range - 3W, Seward Meridian

17. DIRECTIONS TO THE SITE

From 5th Avenue and A Street, Head North on A Street. Take the exit toward the Port and continue onto West Loop Road. West Loop Road turns slightly right and becomes Ocean Dock Road (partially restricted usage road). Make slight right onto Anchorage Port Road (restricted use road). Destination will be on the left 0.4 miles.

18. Nature of Activity (Description of project, include all features)

See attached Appendix A for Project Description.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

See attached Appendix A for Project Purpose.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Sidecast sediment: Allow the placement of concrete to increase the strength and life-span of select trestle piles.
Excavated sediment: Silty material will be replaced with suitable material (sand/gravel) to allow the area to be paved and used as a staging area.
Fill: Gravel and armor rock will be placed for shoreline stabilization.

See Appendix A for more detail.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Sidecast = 1,000cy sediment	Excavated = 50,000cy sediment	Fill = 121,100cy gravel and armor rock

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres (0.09-acre (ac) per permanent pile x 44) = 4.0 ac side-cast + 3.7 ac upland expansion + 3.6 ac work pads = 11.3 ac total

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

Please see attached Appendix C for Description of Avoidance, Minimization and Compensation.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- Mr. Bill O'Leary, President Alaska Railroad Corp., 327 W Ship Creek Avenue

City - Anchorage State - AK Zip - 99501

b. Address- COL Kirsten Aguilar, Commander, 673 Air Base Wing, 10471 20th Street, Suite 139

City - JBER State - AK Zip - 99506

c. Address- See attached list for additional property owners

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
USACE	Section 408	Pending			
NMFS	LOA	Pending			
ADEC	401 WQ Cert	Pending			
MOA	Flood Hazard	Pending			

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

DocuSigned by: Jim Jager
E27D61B9FF934E4

SIGNATURE OF APPLICANT — DATE: 07-Jun-2024

Holley, Michiel Edward — Digitally signed by Holley, Michiel Edward Date: 2023.07.20 11:49:10 -08'00'

SIGNATURE OF AGENT — DATE: 2023-07-20

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

PORT OF ALASKA MODERNIZATION PROGRAM

Appendix A:
Cargo Terminals Replacement Project
Project Description

Revised June 2024

Prepared for
Port of Alaska

Jacobs HDR

Appendix A
Project Description

This page is intentionally left blank.

Section 1. Project Purpose and Need

The Port of Alaska (Port) seeks to replace the existing cargo terminals as part of the Port of Alaska Modernization Project (PAMP) or (Project). This Project is urgently needed due to corrosion of the foundation piles and deteriorating structural conditions at Terminals 1, 2, and 3. The existing terminals are more than 50 years old, have exceeded their useful service life, and the remaining service life is unknown. Using nationally accepted engineering inspection standards approximately 50% of the piling have "Major Damage" (or worse) due to corrosion resulting in a facility condition rating of "Serious". Multiple engineering investigations have highlighted the increased risk of wharf and trestle structure failure during a major seismic event. These facilities must be replaced with new resilient terminals for the Port to continue to meet its critical role serving the Municipality of Anchorage and State of Alaska's general cargo needs, as well as supporting national defense and military readiness capabilities.

The purpose and need statement for the Project is as follows:

> *The purpose of the General Cargo Terminals Replacement project (the Project) is to replace Anchorage's aging docks and related infrastructure before it fails, to: improve operational safety and efficiency; accommodate modern shipping operations; and improve resiliency – to survive extreme seismic events and sustain ongoing cargo operations.*

The Port of Alaska (Port), located on Knik Arm in upper Cook Inlet (Figure 1 in Appendix B), provides critical infrastructure for Anchorage and a majority of State of Alaska residents. The original Port terminal (Terminal 1) was constructed in the late 1950s, with a 20-year design life. Marine-side infrastructure and facilities at the Port that were constructed largely in the 1960s and early 1970s are in need of replacement because they are substantially past their design life and in poor and deteriorating structural condition. Those facilities include three general cargo terminals (Terminals 1, 2, and 3) and two petroleum terminals. The North Extension, which includes a dry barge landing and an upland sheet-pile-supported storage and work area, was created under the Port Intermodal Expansion Project (PIEP) (Department of the Army [DA] permit POA-2003-502-2) in 2008 - 2009. The United States (U.S.) Maritime Administration (MARAD) partially funded the North Extension development and evaluated it in a 2005 Environmental Assessment (EA). The North Extension project was deemed a failure in 2015 and is in need of partial demolition and stabilization.

Their use has continued to the present day, which is well beyond their respective design lifespans. Many elements of the Port's existing infrastructure have deteriorated to the point that they are near or below design standards under normal conditions, and they are significantly below design standards for seismic events.

To address deficiencies, the Port is modernizing its marine terminals through the Port of Alaska Modernization Program (PAMP) to enable safe, reliable, and cost-effective Port operations. The PAMP would support infrastructure resilience in the event of a natural disaster during its 75-year design life. The geographical isolation of Alaska, as well as the Port's role as the containerized logistic hub and distribution center for much of the state, make the cargo docks a critical lifeline for the Southcentral region and Alaska. No other ports with the cargo capacity, proximity to Alaska's population centers, and intermodal transportation capabilities can support the logistic missions sustained by the Port, including commerce, national defense, and earthquake resiliency/disaster response and recovery. The PAMP is critical to maintaining food and fuel security for the state. At PAMP's completion, the Port would have modern,

safe, resilient, and efficient facilities through which more than 90 percent of Alaskans will continue to obtain food, supplies, tools, vehicles, and fuel.

The proposed Cargo Terminal Replacement (CTR) Project is part of the PAMP and includes new construction of Terminal 1 (T1) and Terminal 2 (T2), which include planned wharves and access trestles. The two new terminals will be located 140 feet (ft) seaward of the existing Terminals 1, 2, and 3. It is anticipated that this more seaward location of the new terminals will reduce sedimentation, improve room for handling of berthing ships, and allow construction of the new terminals while the existing terminals remain in use.

The CTR Project proposes demolition of existing cargo terminal (Terminals 1, 2, and 3) petroleum, oil, and lubricants terminal 1 (POL1), and the construction of the newly configured general cargo terminals (T1 and T2) including ground improvement for shoreline stabilization, shoreline expansion and protection, onshore utilities, and replacement of storm drain outfall. The adjacent marine terminals (POL2, terminal 2 and terminal 3) will be in operation during all phases of construction of T1 and T2.

This page is intentionally left blank.

Section 2. Revised Project Scope

During further design and construction work planning, the following changes were made to the Project:

- Potential emergency access trestles have been removed from the current design. Analysis results during the original design showed that the permanent access trestle would suffer significant damage after the design earthquake event, and the extensive repairs that would be required could not be achieved in a 7-day period. The inclusion of emergency trestles that could be rapidly deployed after an earthquake event were included in the original design to support the rapid repair requirement. The current design instead includes ground improvement through soil replacement with cementitious materials using deep-soil mixing, or a similar technique, within the near-shore area. This ground improvement mitigates earthquake damage, eliminating the need for emergency trestles. Eliminating the emergency access trestles reduces the Project footprint by up to 16 48-inch piles.
- By modifying the current Project design to use 72-inch-diameter piles (instead of 48-inch-diameter piles), the total number of permanent piles is reduced from more than 752 to 363.
- Additional modifications to the design include a new dolphin design composed of 144-inch-diameter monopiles. This new design eliminates the need for 16 of the deepest driven piles used in the previous design.
- Templates for the main access trestle, loading platform, and dolphins will be used in the current design, minimizing pile misplacement and, therefore, soil disturbance.
- Catwalks to the dolphins constructed north and south of the terminals will be composed of prefabricated, high-strength-steel segments designed to maximize span distances, therefore minimizing the number of piles required.

The overall scope of the Project includes:

1. Ground improvements like deep soil mixing (DSM) for shoreline stabilization
2. Shoreline expansion and protection
3. General cargo terminal (new Terminals 1 and 2) construction
4. Demolition of the existing Petroleum, Oil, and Lubricants Terminal 1 (POL1) and general cargo terminals (Terminals 1, 2, and 3)
5. Onshore utilities and storm drain outfall replacement

2.1 Ground Improvement Stabilization of the Shoreline

Due to the potential for liquefaction within the tidal silts at the site and the likelihood of large ground deformations, soil improvements will be required at trestle abutments to mitigate the potential for seismically induced slope failure that could result in catastrophic structural failure of the access trestles. Cement DSM (or jet grouting) soil improvement is effective at reducing ground movements and kinematic soil loads on the access trestle structure during seismic loading. This ground improvement mitigates earthquake damage and eliminates the need for emergency trestles.

The DSM/jet grouting method involves the construction of vertical DSM cement panels/columns formed in an overlapping cellular pattern arrangement. At the site of each of the five trestle abutments, DSM will create a block of treated soil extending from near the final surface grade down through the in-situ soil approximately 85 feet below the crest of the foreshore slope to the top of the Bootlegger Cove Foundation (BCF) clay layer. Based upon initial estimates of in-situ soil composition and strength, an approximate cement to soil replacement ratio of 25 percent is anticipated as the requirement to form a “block” of

treated soil that is strong enough to resist the movement of the up-slope soils. Once formed, the block remains buried in-place as a permanent element of the Project.

To create enough contact area with the BCF clay layer to restrain and significantly reduce the overall ground movements of the liquefiable soils, the DSM panels/columns will need to be extended approximately 80 feet (ft) seaward and shoreward of the crest of the slope and approximately 30-ft on either side of the trestle structure (Figure 3 in Appendix B).

Because the DSM equipment requires a relatively level work pad during operation, a sand and gravel pad will need to be constructed on the face of the foreshore slope at each trestle. The work pad dimensions vary for each trestle and are shown on Figures 8 and 23 (Appendix B). Temporary armoring will protect the pad from water forces while in use. Some of the soil will be removed, and the foreshore will be graded to the finished slope for installation of armor rock upon completion of the DSM work. Sizes of the five pads will vary slightly from approximately 0.68 to 0.73 acre, for a total of 3.6 acres (61,100 cubic yards [yd^3]) of fill placed below the high tide line (HTL). Table 2-1 shows the approximate volumes of fill for each work pad that will be placed below HTL and mean high water (MHW). Quantities of temporary discharges are unknown; therefore, all DSM work pads are assumed permanent as a conservative estimate of total fill placed for the Project.

Table 2-1. Details of Temporary Work Pads

Work Pad	Surface Area (acres)	Volume Below HTL (cubic yards)	Volume Below MHW (cubic yards)
Work Pad 1	0.72	12,000	8,800
Work Pad 2	0.72	14,000	10,400
Work Pad 3	0.68	8,800	4,200
Work Pad 4	0.72	10,600	5,100
Work Pad 5	0.73	15,700	10,900

The DSM method will require containment and collection of the cement/soil slurry and spoils during construction. Drying beds will be constructed within the backlands/uplands to contain the excess slurry until it can be disposed offsite or incorporated into other portions of the Project within the uplands.

2.2 Shoreline Expansion and Protection

Select areas behind Terminals 1, 2, and 3 will be filled to provide additional container storage area (Figure 3 in Appendix B). The top of the fill will be paved, with the elevations matched into the existing backland pavements. The water side slope of the new fill area will be protected with rip-rap material of a size similar to adjacent rip-rap slopes.

Shoreline expansion and protection will consist of excavation of approximately 50,000 cubic yards of silt material to be disposed offshore in the Anchorage Harbor Open Water Disposal Site. The silt material is not suitable for shoreline protection and is to be replaced by discharge of 60,000 cubic yards of fill material below the High Tide line into 3.7-acres of waters of the U.S. at select areas behind Terminals 1, 2, and 3 to protect an upland area to provide additional container storage area.

Approximate amount of total fill (including armor rock) is 60,000 yd^3 and approximately 3.7 acres (Figure 6 in Appendix B). Approximately 30,000 yd^3 of armor rock will be placed to protect the shoreline (Figure 7 in Appendix B). Additionally, approximately 30,000 yd^3 of silt will need to be excavated and replaced. The material is being replaced because the silty material is not compactible and could liquify during major seismic activity. The excavated material will be disposed offshore at the Anchorage Harbor Open Water Disposal Site.

2.3 General Cargo Terminals Construction

New Terminals 1 and 2 will be pile-supported structures, and will be constructed as adjoining wharves on a continuous berthline located parallel and approximately 140 ft seaward of existing Terminals 1, 2, and 3. The continuous wharf face will be fixed at +44 ft mean-low-low-water (MLLW), and will provide flexibility for military, cruise/passenger ships, and cargo functions. It will incorporate two separate terminals with distinct cargo loading and unloading options to serve current and future Port needs. The reinforced concrete deck structure for the terminals will be designed to 1,000-pound-per-square-foot load capacity. Storm drain outfalls, maintenance holes, and utilities (for example, electric, water, gas) will be removed and replaced for the new terminals.

The designs of both new terminals accommodate a 75-year service life and operational resiliency provisions to address government-modeled sea-level-rise with 500-year storm surge and the corrosive environment of the Anchorage Harbor. The current concept will accommodate near-term harbor depth of -39 ft MLLW and long-term harbor deepening to -45 ft MLLW. The terminal design is intended to meet the minimum damage seismic performance standard of being able to return the new terminals to full operational service within 10 days after the design earthquake seismic event. Specific dimensions and features of the new terminals are as follows:

2.3.1 Terminal 1

The current concept consists of an 870-ft by 120-ft wharf and will be accessed from the shore by two 36-ft-wide trestles. The southern trestle will be 270 ft long, and the northern trestle will be 318 ft long. A 144-inch-diameter mooring dolphin and catwalk will be constructed on the southern end of the terminal to help secure and control vessel movements while berthed (Figure 8 in Appendix B). The terminal structure will be designed to support load on, load off (LO-LO)-related cargo handling operations using three ship-to-shore, 100-gauge, rail-mounted gantry cranes. The initial design vessels include the Matson vessel *Maunalei* (682-ft length overall (LOA), 98-ft beam) and the Matson vessel *Matson Tacoma* (710-ft LOA, 78-ft beam). The typical pile spacing is approximately 39 ft on center (o.c.) in the longitudinal direction. For piles supporting the crane rail beams, the spacing is reduced to 19.5 ft o.c. due to the higher axial load imposed by the cranes. The typical transverse pile spacing is 33.3 ft. It is estimated that 139 72-inch-diameter piles are required to support the Terminal 1 wharf for this alternative. The pile length is expected to be 260 ft maximum for typical piles, and 230 ft maximum for piles supporting the crane rails beams (rows A and D). The pile wall thickness is expected to be 2.25 inches maximum.

The terminal will also include structural, in-deck, and surface features to support the three cranes. Utilities, including electrical power and water, will be installed for terminal operations and connected to the existing public utility infrastructure. Lighting, communications, and signal equipment will be added to support the terminal.

2.3.2 Terminal 2

The current design concept consists of a 932-ft-long by 120-ft-wide wharf with three access trestles each approximately 300 ft long (Figure 22 in Appendix B). The southern and northern access trestles will be 54 ft wide. The middle trestle will be 76 ft wide to provide an additional vehicle access lane. The trestle positions will be configured to support the cargo portals for the TOTE Orca Class vessels *MV North Star* and *MV Midnight Sun* (both 839-ft LOA, 118-ft beam). A 144-inch-diameter mooring dolphin and catwalk will be constructed on the northern end of the terminal to help secure and control the movements of the vessels while berthed. The typical pile spacing is 40 ft o.c. in the longitudinal direction and 33 ft o.c. in the transverse direction. A total of 145 72-inch-diameter piles is required to support the Terminal 2 wharf. The pile length is expected to be 220 ft. The pile wall thickness is expected to be 1.75 inches.

The terminal will include structural, in-deck, and surface features to support roll on, roll off (RO-RO) and LO-LO operations (rail-mounted gantry cranes and associated appurtenances for future users). Power, lighting, communications, signal infrastructure, and water utilities will be installed to support terminal operations.

2.3.3 Access Trestles

Each trestle consists of bents spaced typically at approximately 61 to 69 feet o.c. The pile cap at the first bent for the abutment will be supported by three or four 48-inch diameter piles and the remaining bents will be supported by three or four 72-inch- diameter piles spaced at 22 feet o.c. in the transverse direction. A total of 16 48-inch diameter piles and 61 72-inch-diameter piles is required to support the five 5 access trestles. The pile length varies and is expected to reach 200 feet at the maximum. The pile wall thickness is expected to be 2.0 inches maximum.

Sediment inside the first four (4) hollow steel piles per row of the access trestles will be hydraulically removed to a depth of 20 to 25 feet below mudline. This will allow the placement of reinforced concrete to start below the mudline and continue to the top of the pile once installation is complete. This will greatly increase the strength and life-span of these piles. The water/sediment slurry (approximately 1,000 cyd^3) will be side-cast at low tide onto the estuarine substrate below the Cook Inlet HTL of Cook Inlet and will cover approximately 4.0 acres. As the slurry mixes with the waters of Knik Arm/Cook Inlet at high tide, no noticeable raise in the bottom elevation will be evident. The impact of the side-cast sediment to waters of the United States will be minor and temporary since the sediment will be dispersed through Knik Arm by the strong tidal currents as evidenced by similar activity on the Petroleum and Cement Terminal.

2.3.4 Temporary Terminal Construction Activities

The existing terminals will be used to support construction equipment and staging, as feasible. Demolition of the existing terminals will be phased with construction. Existing user operations currently occur on existing Terminals 2 and 3, and their operations will continue while Terminal 1 and POL1 are demolished and constructed.

LO-LO user operations will shift from the existing Terminal 2 to Terminal 1 when it is completed, so Terminal 2 construction can commence. RO-RO user operations will be located on Terminal 3 while Terminal 2 construction occurs.

Construction of the wharves and trestles will require installation and removal of temporary steel pipe piles, including template piles, and installation of permanent steel pipe piles. During construction, approximately 690 24- and 36-inch-diameter temporary piles will be used to anchor templates for the driving of permanent piles and to support temporary access trestles. Pile installation will occur in water depths that range from a few feet, or dry conditions nearest the shore, to approximately 70 ft at the outer face of the wharves, depending on tidal stage. The total count for both permanent and temporary piles to be installed during the Project are shown in Table 2-2.

Vibratory and impact hammers will be used for installation of the larger, permanent piles. Vibratory drivers will be used for installation and removal of the 36-inch-diameter temporary piles. Where conditions are possible, temporary and permanent steel pipe piles will be installed or removed in the dry, depending on construction sequencing and tide heights.

Table 2-2. Cargo Terminals 1 and 2 Pile Specifications

Pile Type	Quantity	Outside Diameter (inches)	Approximate Area of Impact (square feet)
Access Trestle Abutments	16	48	201
Access Trestles/Platform Piles/Mooring Dolphin	345	72	10,009
Monopiles	2	144	114
Temporary Piles[a]	690	24–36	3,994

[a] Includes template piles

2.4 Demolition of the Existing POL1 and General Cargo Docks (Terminals 1, 2, and 3)

Once the new Terminals 1 and 2 are complete and operational, any remaining existing Terminals 1, 2, and 3 as well as POL1 platforms and trestles will be dismantled. All temporary work structures will be removed. Existing and temporary piles will be cut and removed or left in place to avoid/minimize potential impacts on marine mammals. The selection of construction equipment by the contractor, including cranes and barges, will determine the final plans and sequencing for demolition. Portions of the existing terminals may be used for construction phasing and support wharves for new construction, as feasible.

Demolition will take place above the water, and demolished decking, pipes, and other superstructure materials will be contained before they fall into the water following best management practices. Demolished materials will be removed by barge or truck and stored or disposed properly in an approved landfill or salvage yard.

Relic anode sleds used for cathodic protection would be abandoned in place. The only exception would be if the old anode sled was located where a new pile will be placed, then the old anode sled would be removed.

2.5 Onshore Utilities and Storm Drain Outfall Replacement

Onshore utilities and utilities connections will be removed and replaced, including fiber optic, electrical, water, and gas. Additionally, shore stabilization activities will require the removal and replacement of up to four existing storm drain outfalls and associated maintenance holes.

2.6 Material Source

Granular fill used for shoreline expansion will come from stockpiled material from the Port North Extension Stabilization Step 1 Project. The material will be tested for contaminants and found to be clean before being used on the CTR Project. Armor rock used for shoreline stabilization will be obtained from a commercial source. Only clean fill will be used during construction of the cargo terminals.

2.7 Anticipated Construction Schedule

Construction on the landside portion (that is, the DSM and utilities) of the Project is expected to begin in fall 2025, while marine construction will begin in spring 2026. Total Project construction time is anticipated to be approximately 6 to 7 years.

2.8 Project-Related Navigational Dredging

The Project is not expected to include any dredging for navigation beyond what is already authorized for transitional dredging by the Port or normal dredging operations at the Port of Alaska Navigation Channel performed under the U.S. Army Corps of Engineers Civil Works Program. The Port has submitted a request for authorization of this work under Section 408 of the Rivers and Harbors Act of 1899. The Port recently applied for a 10-year Supplemental Maintenance Dredging permit under separate Section 10/404 and 408 applications.

2.9 Figures/Drawings

Appendix B of this application provides concept-level drawings of Project components. Included in the drawings is the vicinity map showing the location of Terminals 1 and 2, and typical section view drawings of the access trestles and cargo docks. Also included are detail drawings of the wharves (that is, docks) and trestles with pile and pile cap layout.

This page is intentionally left blank.

PORT OF ALASKA MODERNIZATION PROGRAM

Appendix B: Cargo Terminals Replacement Project Project Drawings

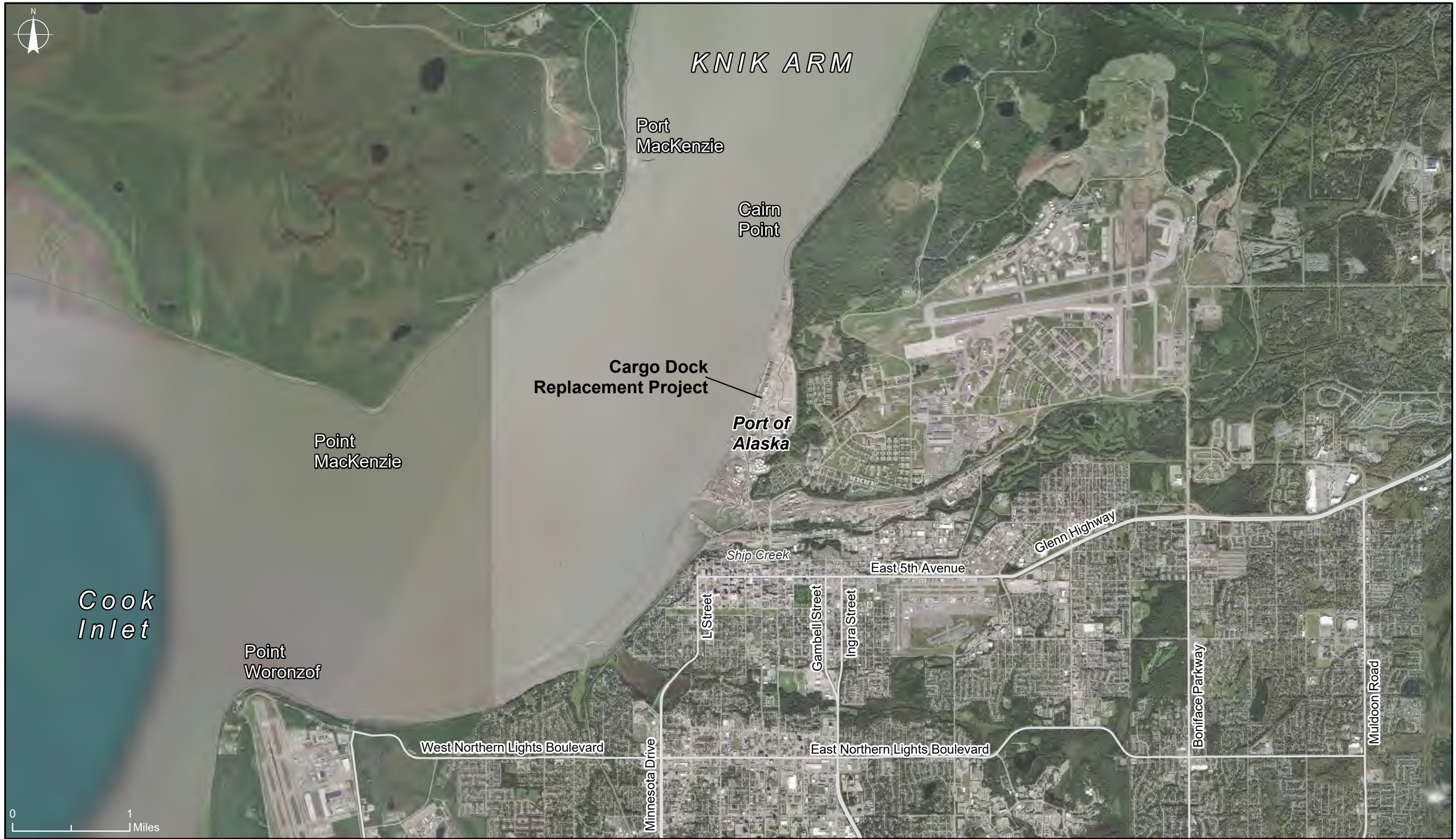
Revised June 2024

Prepared for
Port of Alaska

Jacobs HDR

Appendix B
Cargo Terminals Replacement Project
Project Drawings

This page is intentionally left blank.

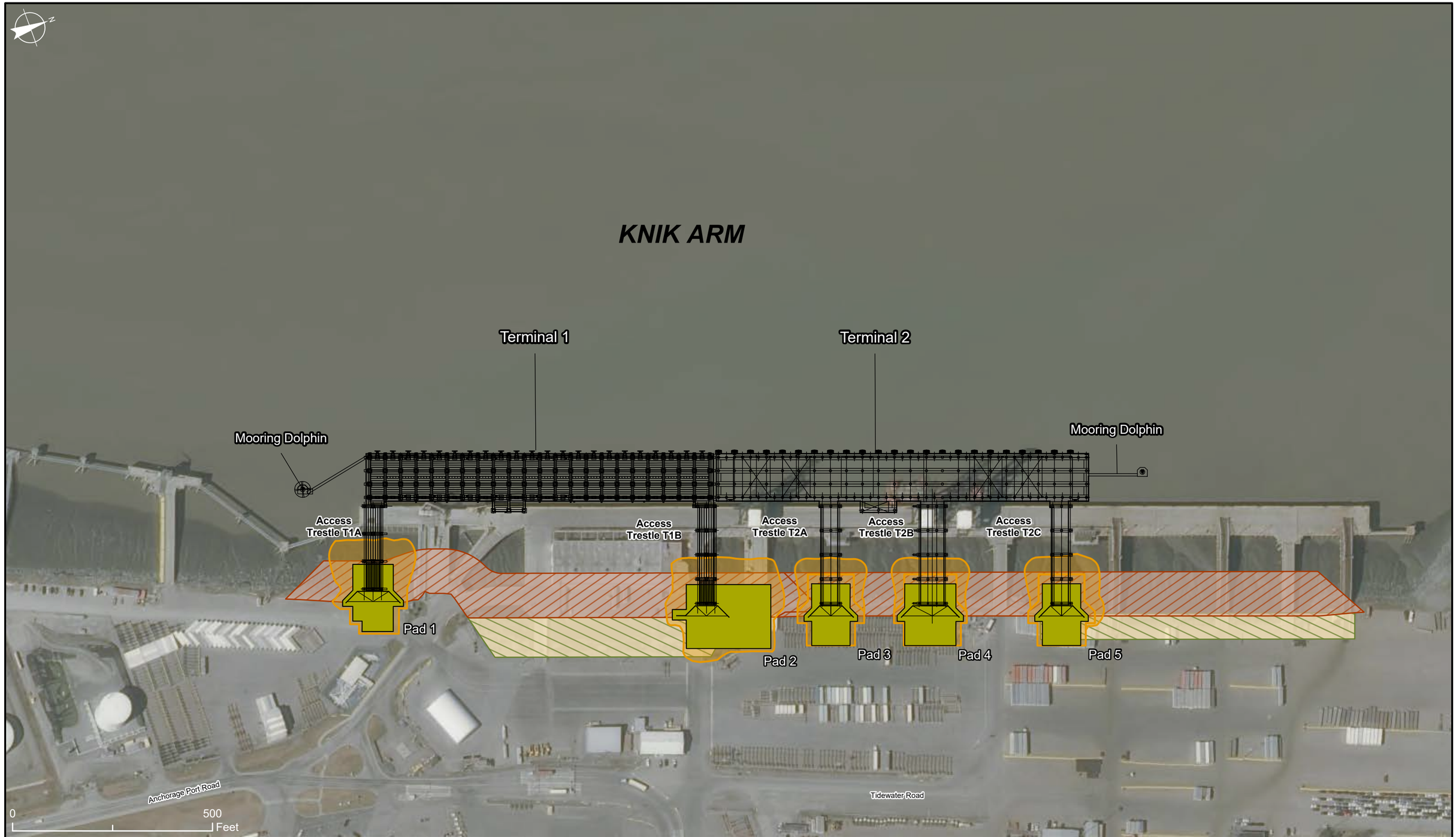


APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 1 of 28, Site Location and Vicinity

APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 2 of 28, Existing Facilities



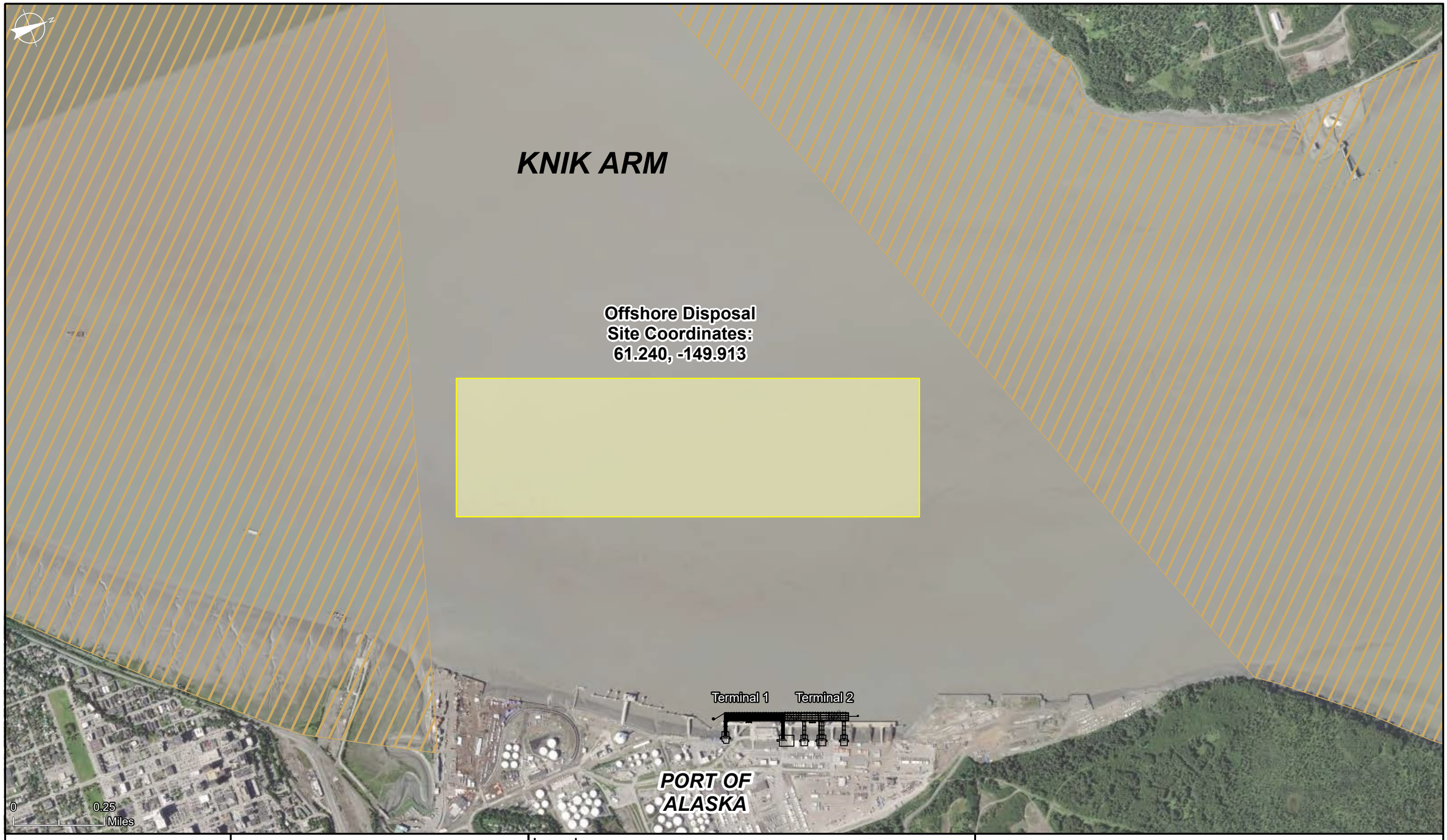
APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

Legend

Project Components		Ground Improvements Area	
Shoreline Protection		Approximate Ground Improvements Work Pad	
Shoreline Expansion Area			

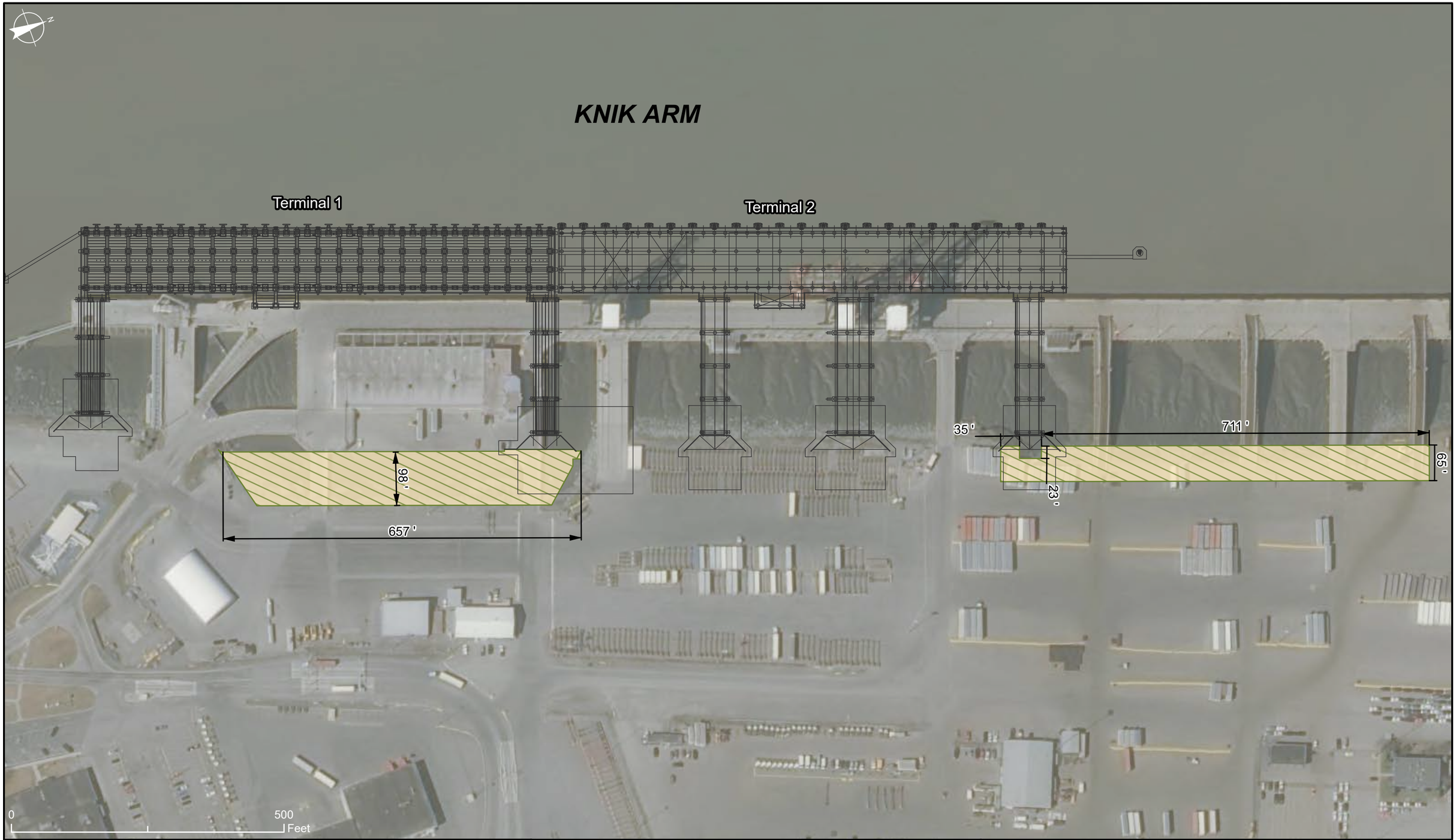
WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 3 of 28, Facilities to be Constructed

PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Demolition Area	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 4 of 28, Structures to be Demolished



PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Components Anchorage Dredged Material Disposal Area Beluga Critical Habitat	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 5 of 28, Offshore Disposal Site

KNIK ARM



APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

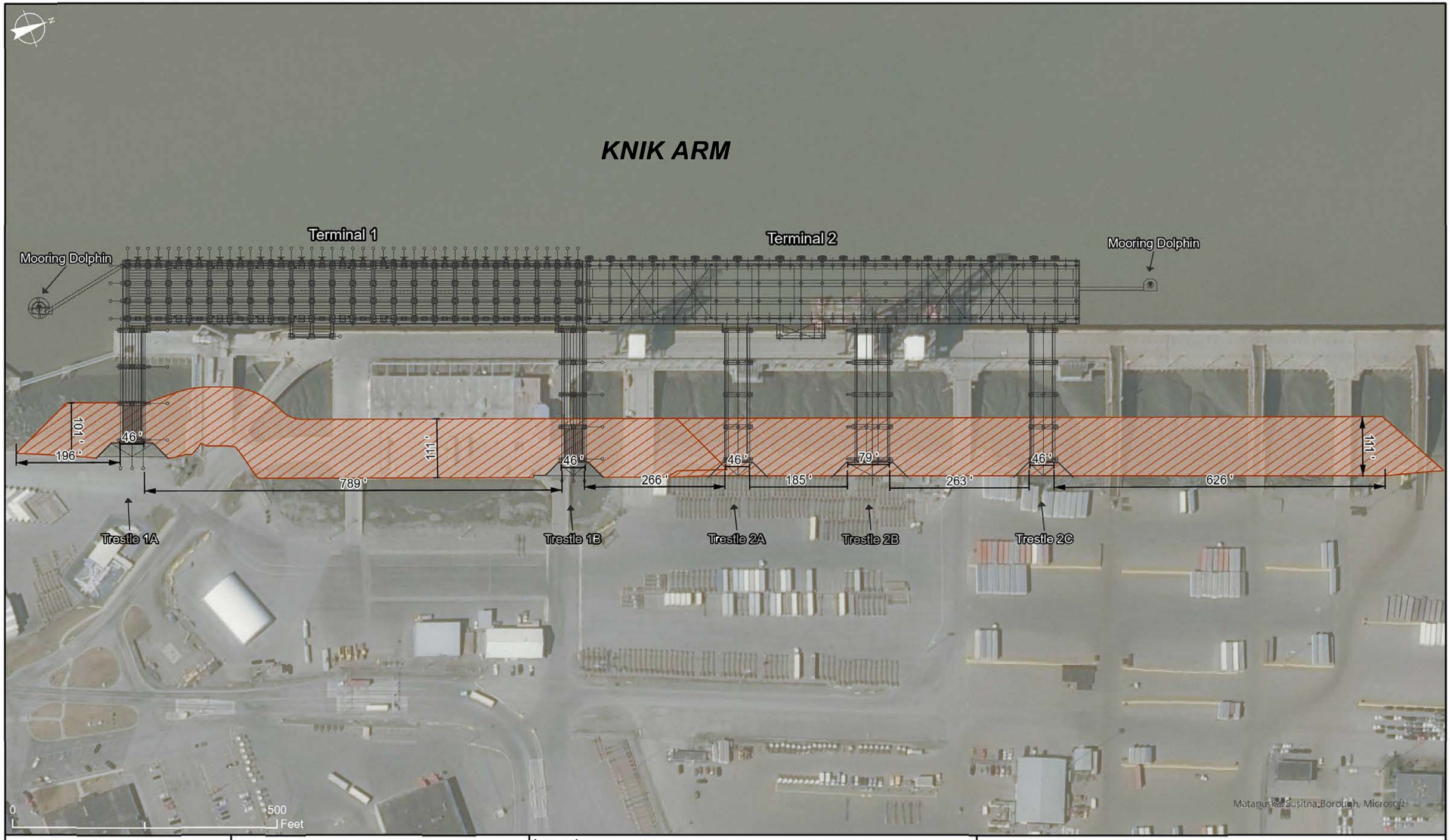
Legend

Project Components

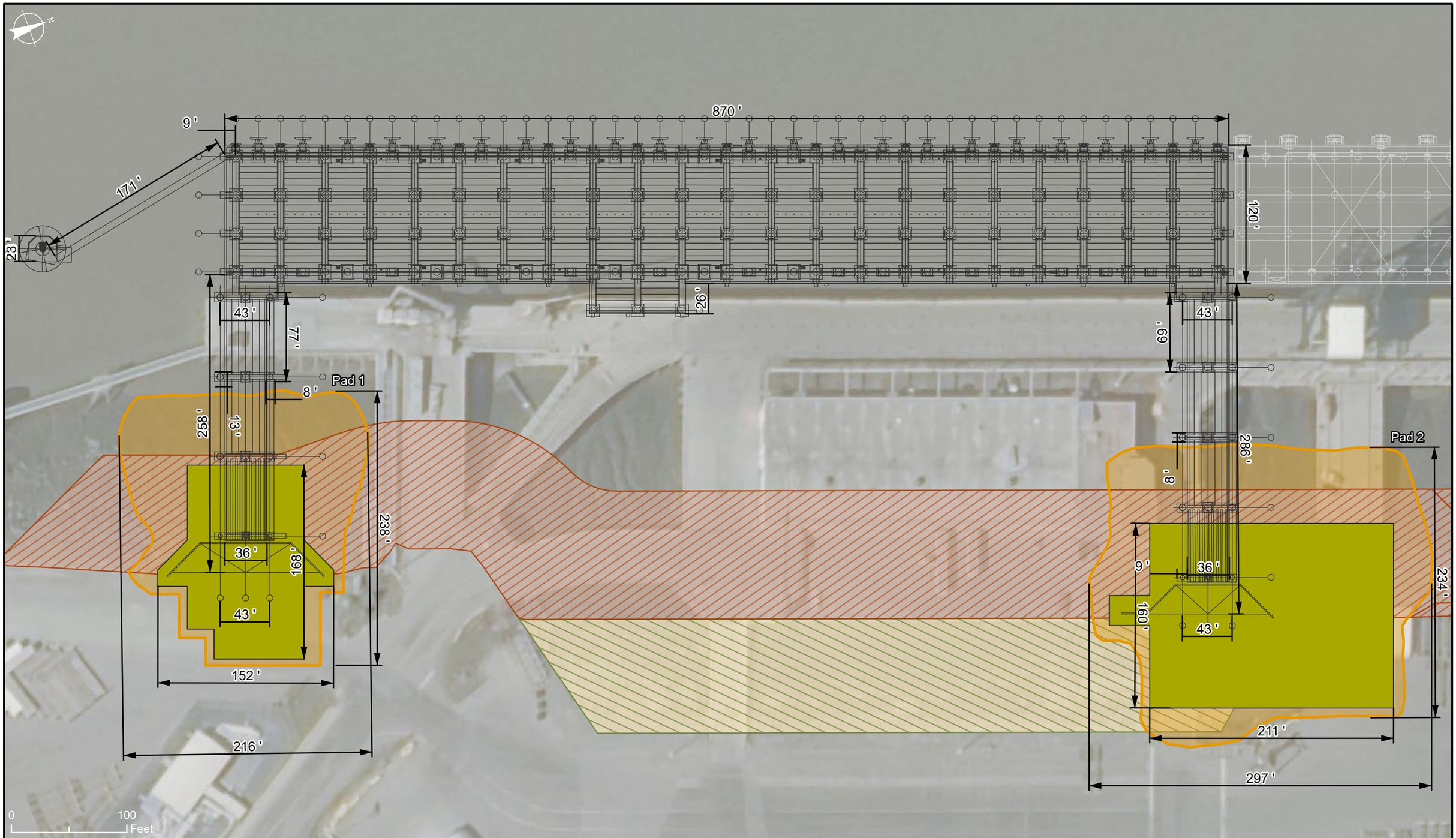
Shoreline Expansion Area

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 6 of 28, Shoreline Expansion Area

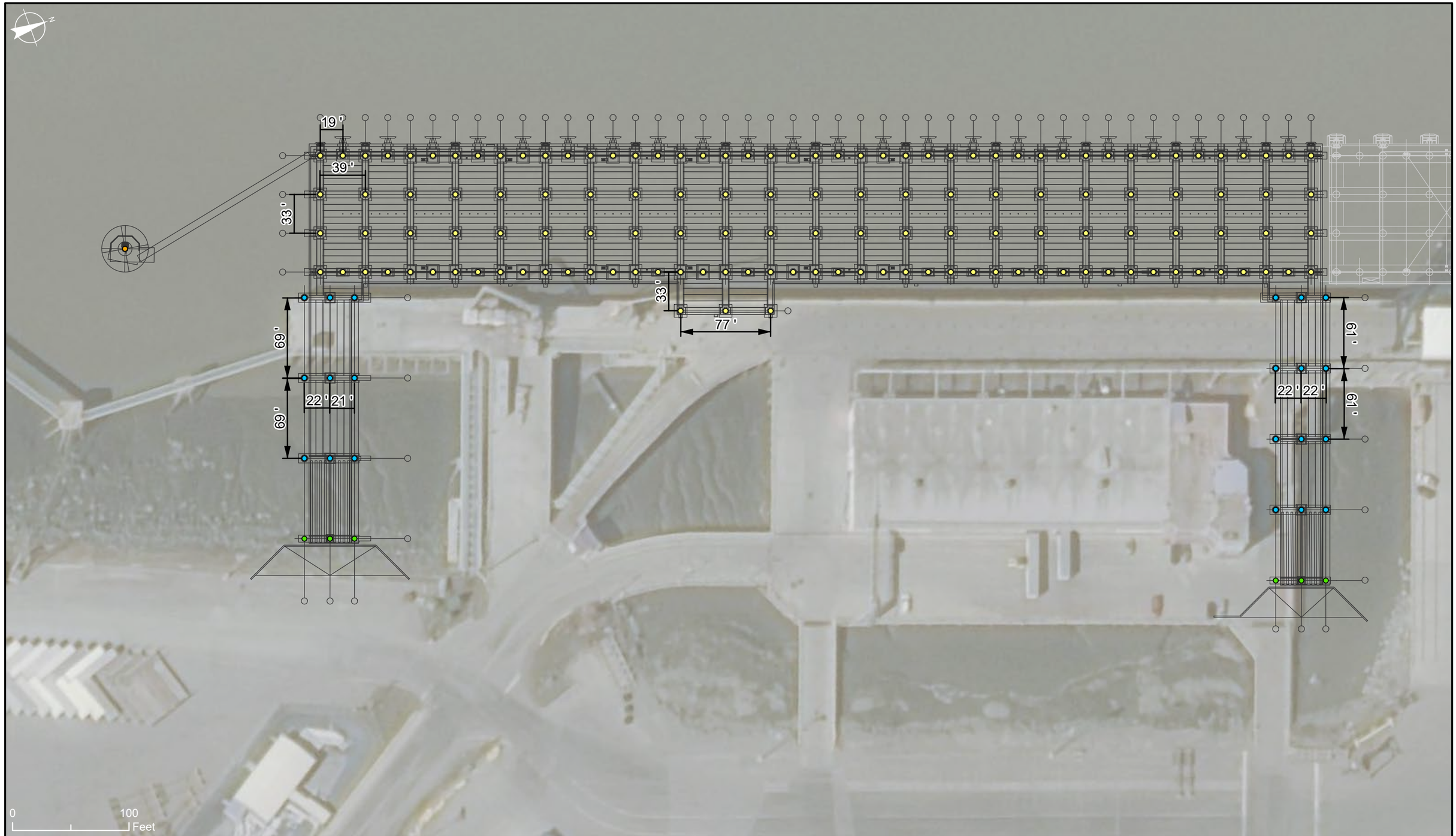
KNIK ARM



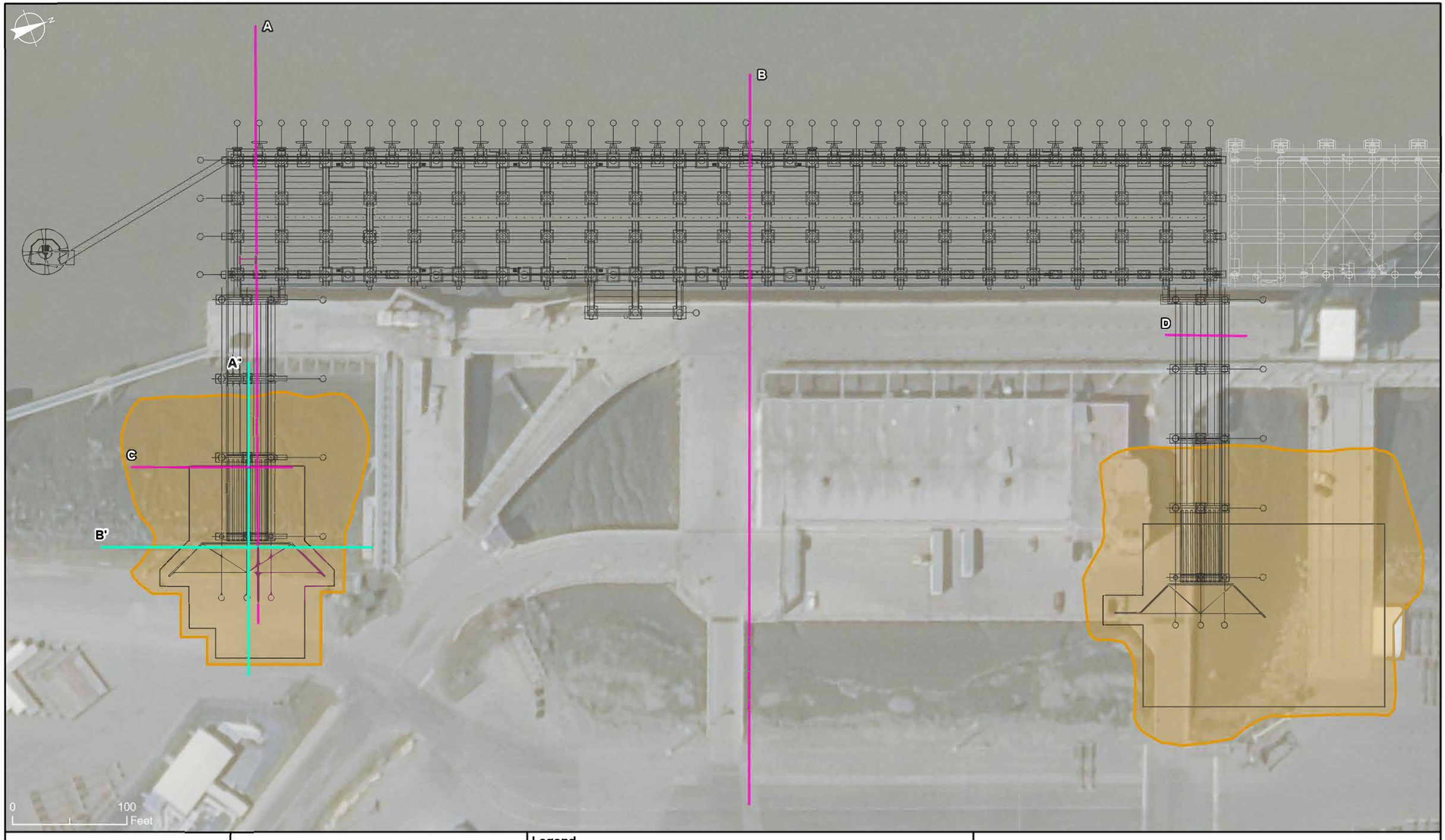
	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Components Shoreline Protection	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 7 of 28, Shoreline Protection



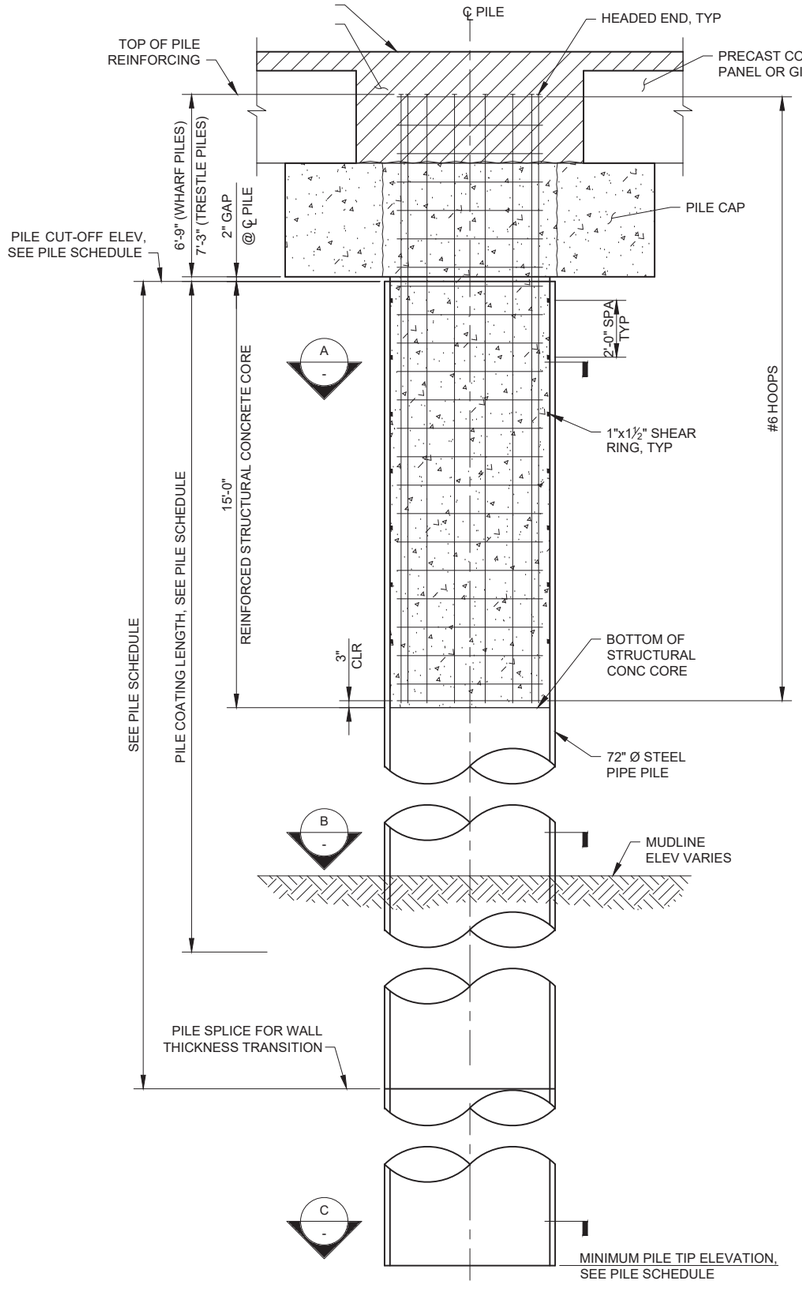
	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project — Components Shoreline Protection Shoreline Expansion Area Ground Improvements Area Approximate Ground Improvements Work Pad	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 8 of 28, Terminal 1 Site Figure* **Figure based on 30% design drawings*



	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Components 48" Pile - Trestle 72" Pile - Wharf 72" Pile - Trestle 144" Dolphin Monopile	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 9 of 28, Terminal 1 Pile Locations* **Figure based on 30% design drawings*

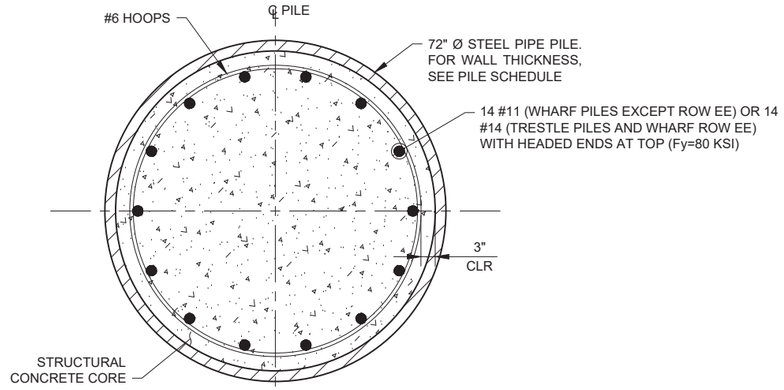


PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Components Terminal 1 Cross Section Ground Improvements Work Pad Cross Section Approximate Ground Improvements Work Pad	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 10 of 28, Terminal 1 Structural - General Layout* **Figure based on 30% design drawings*



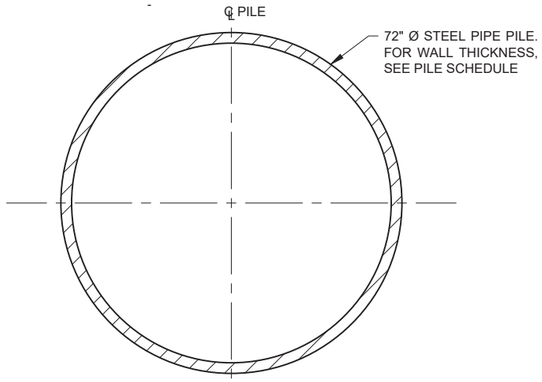
TYPICAL PILE ELEVATION

SCALE: 3/8" = 1'-0"



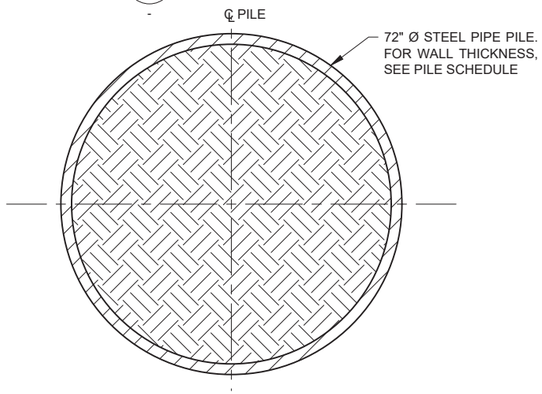
A PILE SECTION

SCALE: 3/4" = 1'-0"



B PILE SECTION

SCALE: 3/4" = 1'-0"



C PILE SECTION

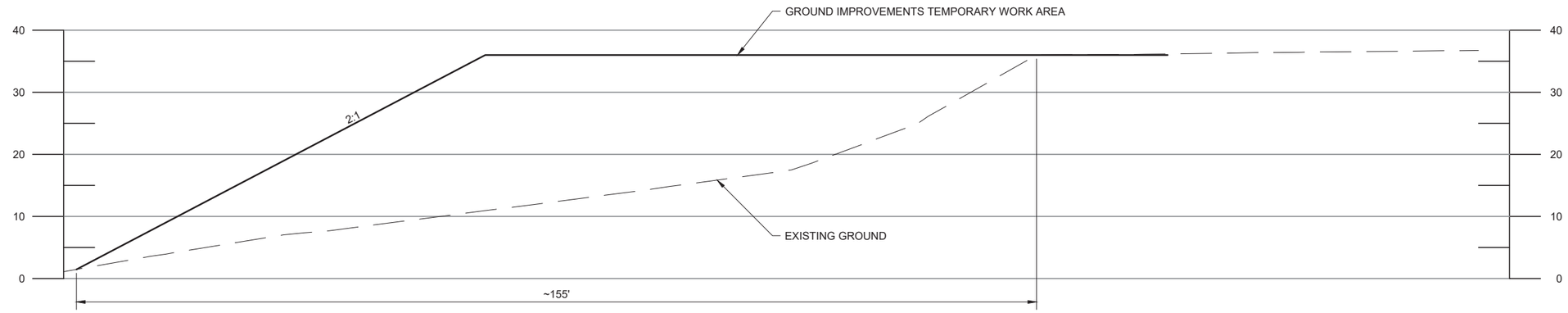
SCALE: 3/4" = 1'-0"

30% DESIGN - NOT FOR CONSTRUCTION

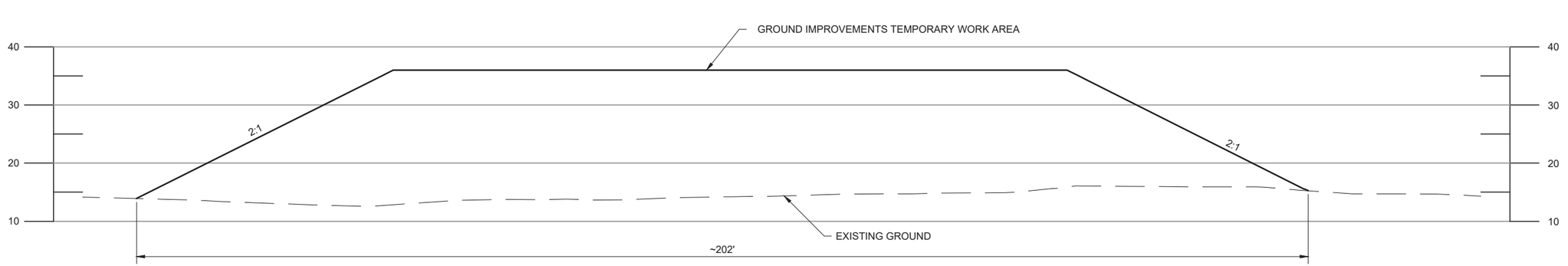
CONCEPTUAL

APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 11 of 28, Pile Details



SECTION A'



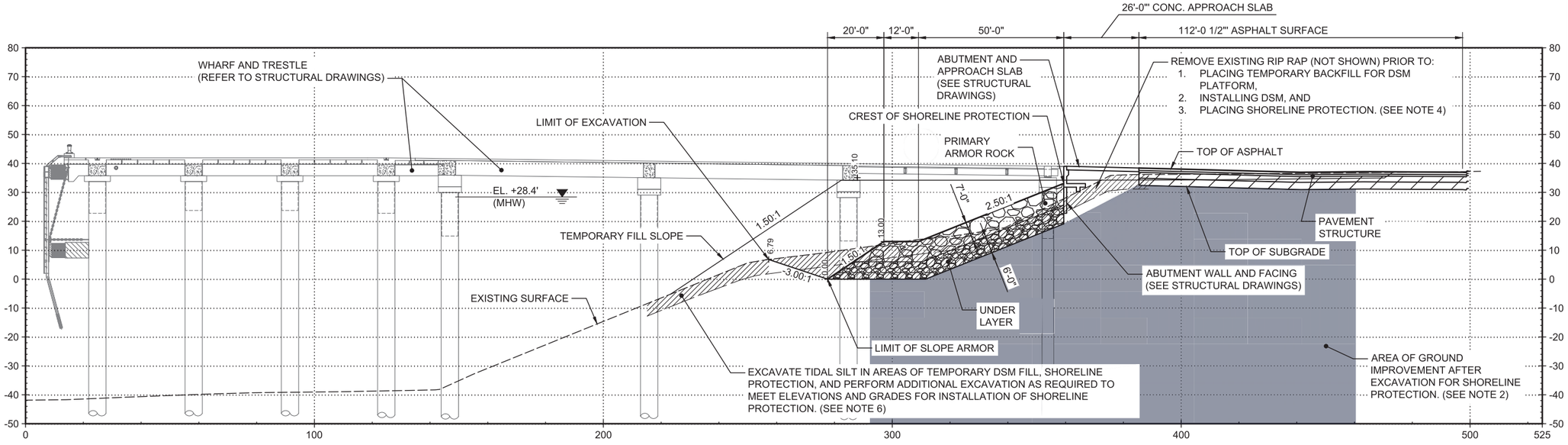
SECTION B'

CONCEPTUAL

PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 12 of 28, Ground Improvements Work Pad Cross Sections

GENERAL CIVIL NOTES

1. UNSUITABLE MATERIAL (ORGANICS OR SILT) WITHIN THE AREA OF THE SHORELINE INFILL ARE TO BE EXCAVATED, REMOVED, AND DISPOSED OF.
2. REFER TO GROUND IMPROVEMENTS DESIGN DRAWINGS (T1-B-301, T1-B-302, T1-B-303).
3. REFER TO SHEET T1-W-543 FOR ICCP CATHODE CABLE INSTALLATION.
4. NES1 STOCKPILE IS ASSUMED TO BE SUITABLE FOR USE AS TYPE III FILL.
5. REMOVE AND DISPOSE OR RECYCLE EXISTING RIP RAP (IN ITS ENTIRETY) IN AREA OF SHORELINE PROTECTION AND AREA OF DSM INSTALLATION. EXTENT OF EXISTING RIP RAP AREA IS NOT FULLY VISIBLE DUE TO SILT COVERING EXISTING ROCK, AND DEPTH OF RIP RAP VARIES (OVER 5-FT IN PLACES). IN AREAS OUTSIDE OF DSM BOUNDARIES, FIELD VERIFY FULL EXTENT OF RIP RAP AND COMPLETELY REMOVE. WITHIN DSM BOUNDARIES, REFER TO DRAWINGS T1-B-202 AND T1-B-203. FOR BASIS OF BID, ASSUME 10,000 CY OF EXISTING RIP RAP TO BE REMOVED.
6. THE OWNER'S GEOTECHNICAL REPRESENTATIVE MUST BE PRESENT ONSITE DURING EXCAVATION OF TIDAL SILT AND WILL DETERMINE THE EXCAVATION DEPTH REQUIRED BASED ON MATERIAL WITNESSED IN THE FIELD. NOTIFY OWNER'S REPRESENTATIVE A MINIMUM OF 48 HOURS PRIOR TO BEGINNING OF WORK. DEPTH OF TIDAL SILT VARIES ALONG THE SHORELINE (OVER 5-FT IN AREAS). FOR BASIS OF BID, ASSUME 50,000 CY OF EXISTING TIDAL SILT TO BE EXCAVATED. THIS MATERIAL MAY BE DISPOSED OFFSHORE (NOT DEEP WATER) IF ALLOWED BY PERMITS.



A TERMINAL 1

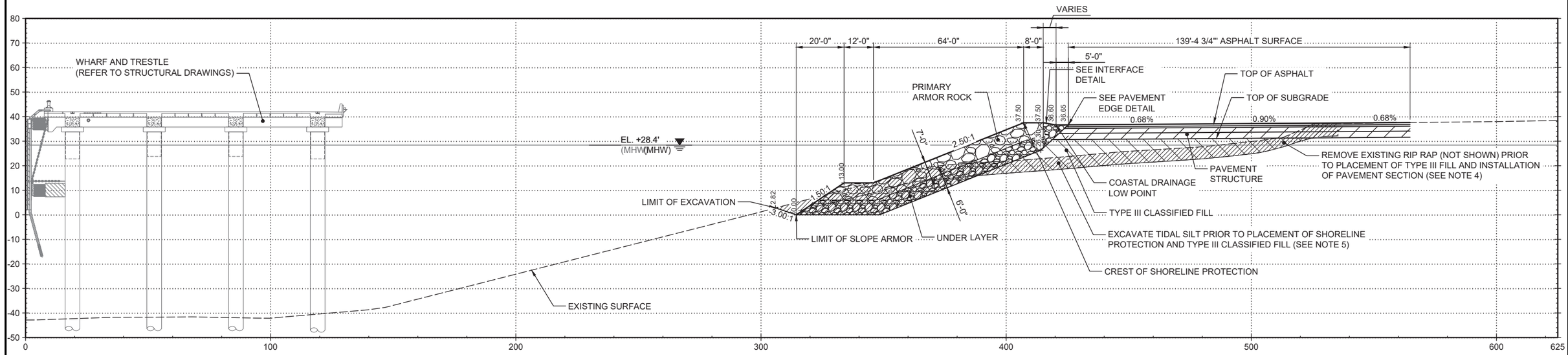
T1-C-2001, T1-C-2801

1" = 20' scale 20 0 20 40 feet

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 13 of 28, Terminal 1 Typical Section

GENERAL CIVIL NOTES

1. UNSUITABLE MATERIAL (ORGANICS OR SILT) WITHIN THE AREA OF THE SHORELINE INFILL ARE TO BE EXCAVATED, REMOVED, AND DISPOSED OF.
2. REFER TO DRAWING T1-W-543 FOR ICCP CATHODE CABLES INSTALLATION.
3. NES1 STOCKPILE IS ASSUMED TO BE SUITABLE FOR USE AS TYPE III FILL.
4. REMOVE AND DISPOSE OR RECYCLE EXISTING RIP RAP (IN ITS ENTIRETY) IN AREA OF SHORELINE PROTECTION AND AREA OF DSM INSTALLATION. EXTENT OF EXISTING RIP RAP AREA IS NOT FULLY VISIBLE DUE TO SILT COVERING EXISTING ROCK, AND DEPTH OF RIP RAP VARIES (OVER 5-FT IN PLACES). IN AREAS OUTSIDE OF DSM BOUNDARIES, FIELD VERIFY FULL EXTENT OF RIP RAP AND COMPLETELY REMOVE. WITHIN DSM BOUNDARIES, REFER TO DRAWINGS T1-B-202 AND T1-B-203. FOR BASIS OF BID, ASSUME 10,000 CY OF EXISTING RIP RAP TO BE REMOVED.
5. THE OWNER'S GEOTECHNICAL REPRESENTATIVE MUST BE PRESENT ONSITE DURING EXCAVATION OF TIDAL SILT AND WILL DETERMINE THE EXCAVATION DEPTH REQUIRED BASED ON MATERIAL WITNESSED IN THE FIELD. NOTIFY OWNER'S REPRESENTATIVE A MINIMUM OF 48 HOURS PRIOR TO BEGINNING OF WORK. DEPTH OF TIDAL SILT VARIES ALONG THE SHORELINE (OVER 5-FT IN AREAS). FOR BASIS OF BID, ASSUME 50,000 CY OF EXISTING TIDAL SILT TO BE EXCAVATED. THIS MATERIAL MAY BE DISPOSED OFFSHORE (NOT DEEP WATER) IF ALLOWED BY PERMITS.



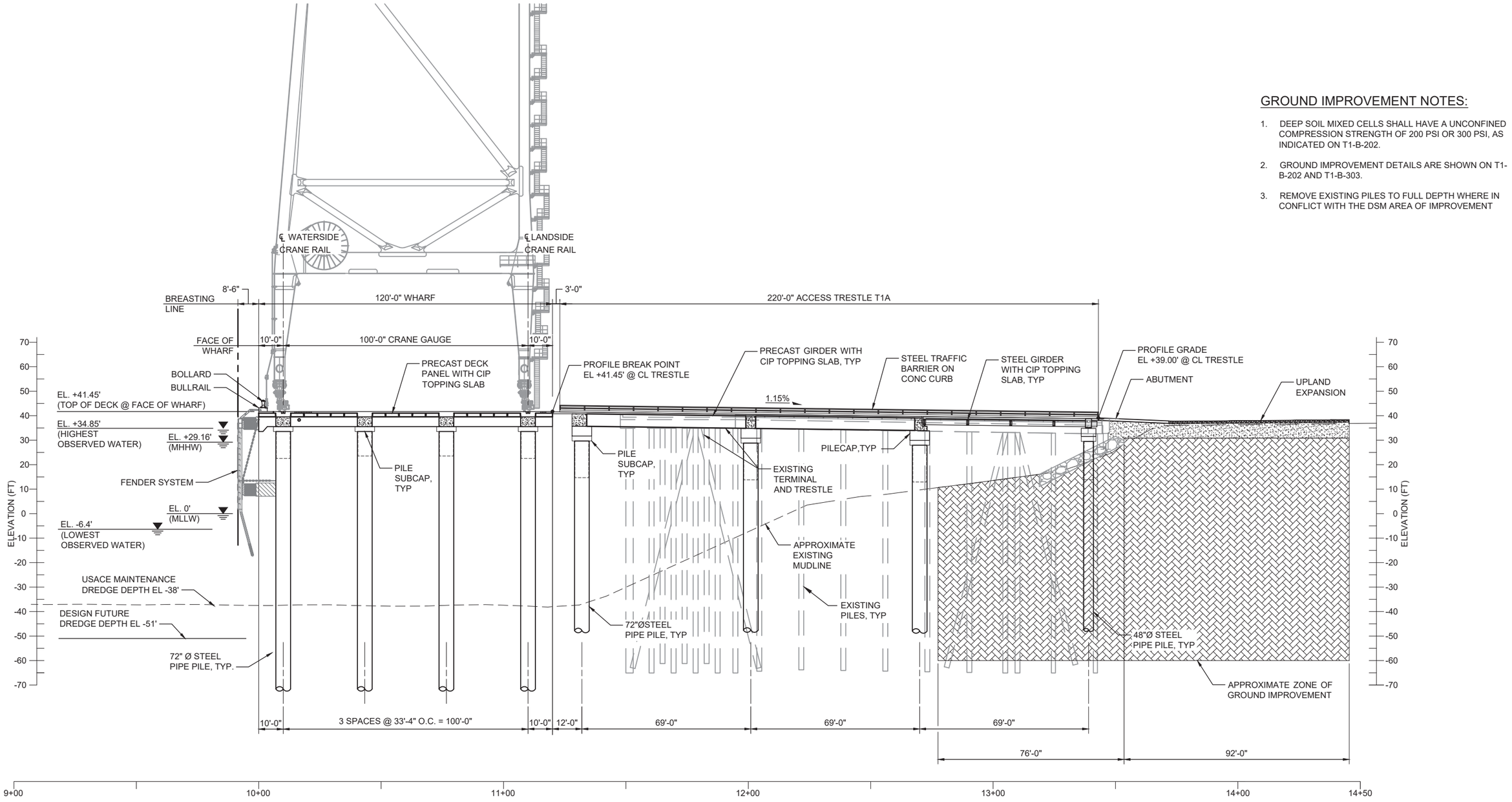
B SECTION - UPLAND EXPANSION

1" = 20' scale 20 0 20 40 feet

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 14 of 28, Upland Expansion Typical Section

GROUND IMPROVEMENT NOTES:

1. DEEP SOIL MIXED CELLS SHALL HAVE A UNCONFINED COMPRESSION STRENGTH OF 200 PSI OR 300 PSI, AS INDICATED ON T1-B-202.
2. GROUND IMPROVEMENT DETAILS ARE SHOWN ON T1-B-202 AND T1-B-303.
3. REMOVE EXISTING PILES TO FULL DEPTH WHERE IN CONFLICT WITH THE DSM AREA OF IMPROVEMENT



TYPICAL ELEVATION - TRESTLE 1A

SCALE: 1" = 20' T1-B-201

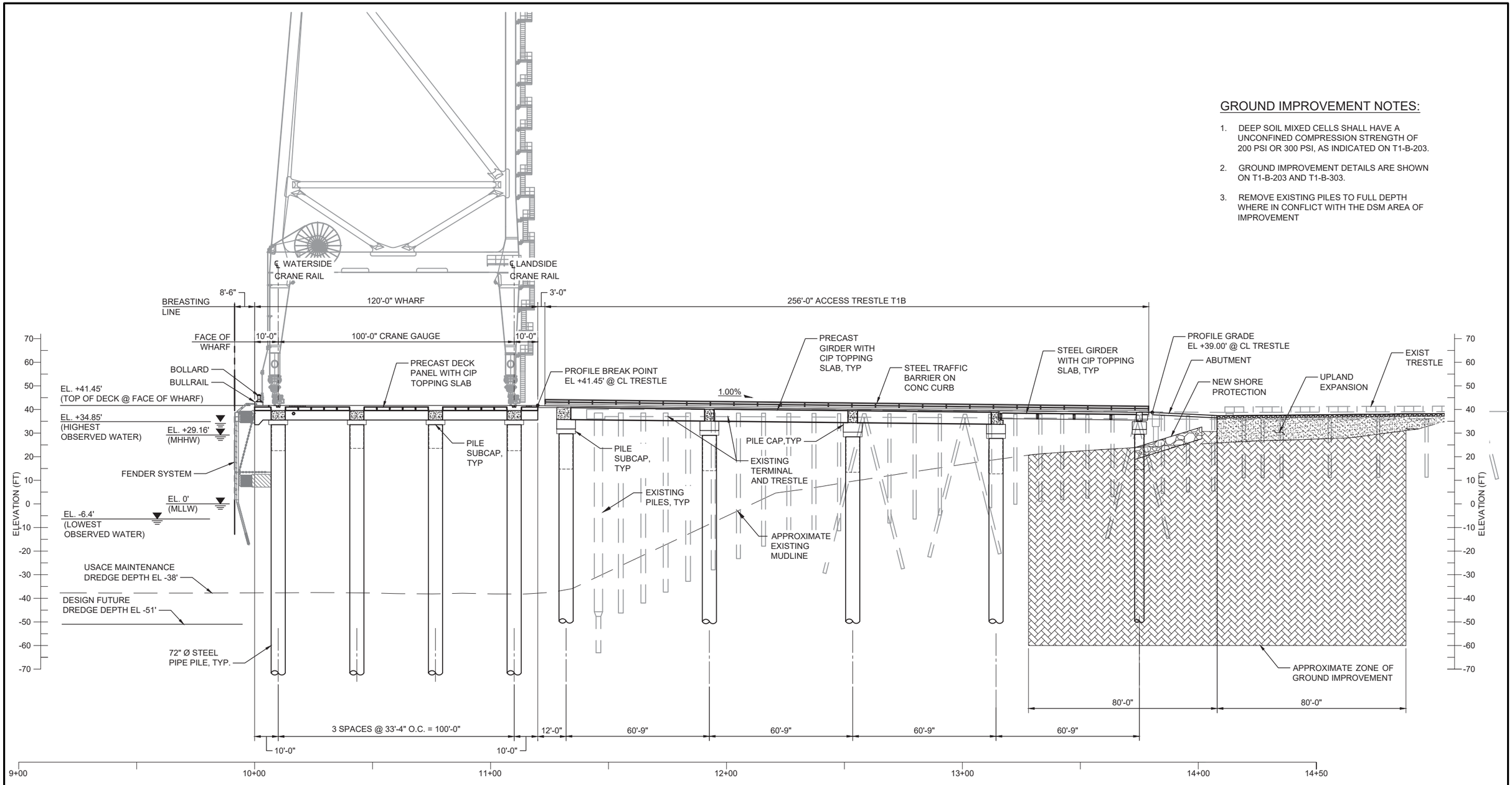
1" = 20' scale 20 0 20 40 feet

APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian
DATE: April, 2024
FIGURE 15 of 28, Terminal 1 Typical Elevation - Access Trestle T1A

GROUND IMPROVEMENT NOTES:

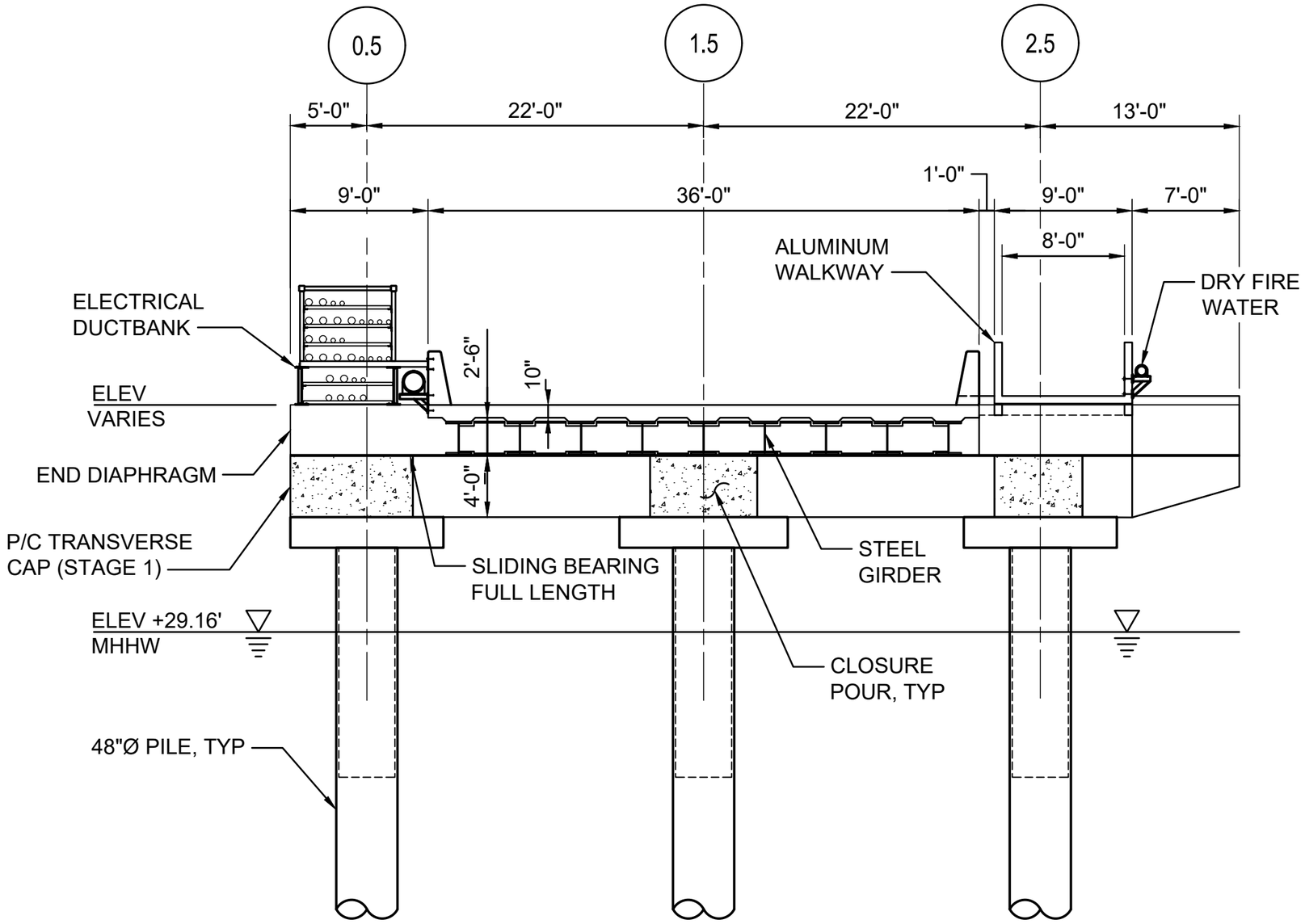
1. DEEP SOIL MIXED CELLS SHALL HAVE A UNCONFINED COMPRESSION STRENGTH OF 200 PSI OR 300 PSI, AS INDICATED ON T1-B-203.
2. GROUND IMPROVEMENT DETAILS ARE SHOWN ON T1-B-203 AND T1-B-303.
3. REMOVE EXISTING PILES TO FULL DEPTH WHERE IN CONFLICT WITH THE DSM AREA OF IMPROVEMENT



TYPICAL ELEVATION - TRESTLE 1B
SCALE: 1" = 20' T1-B-201

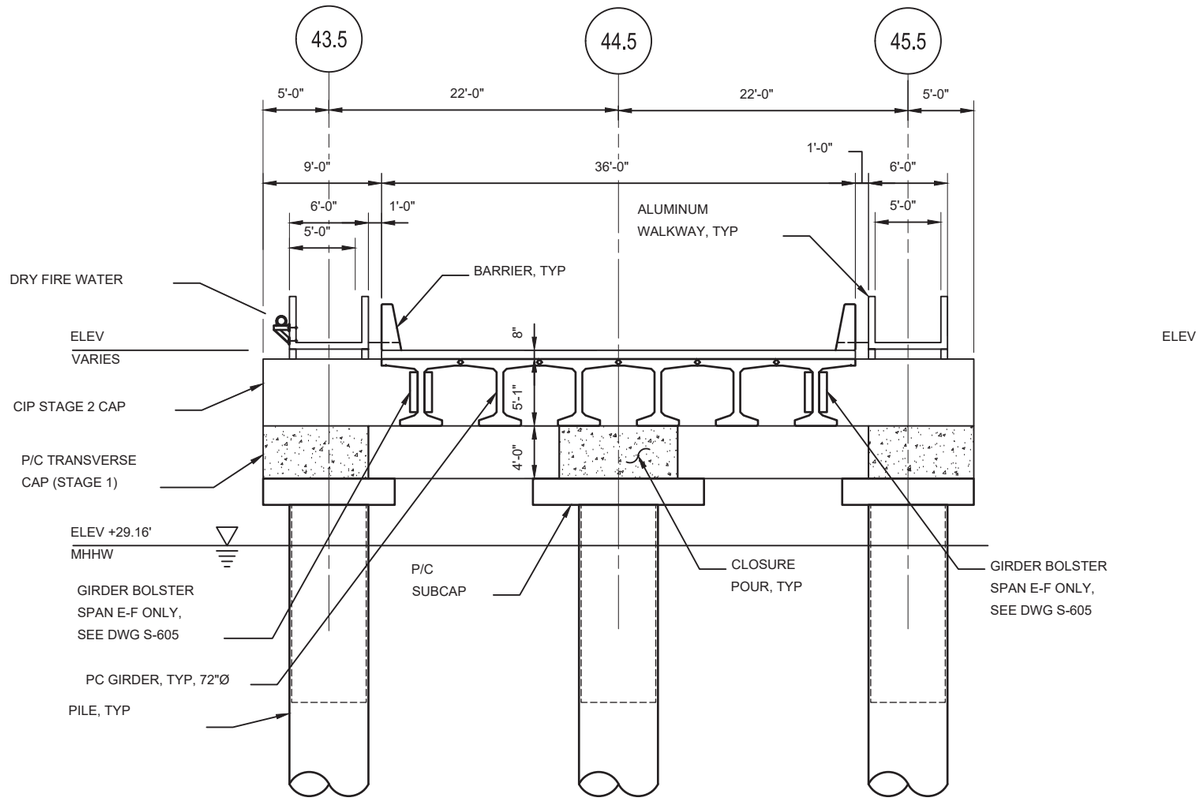
1" = 20' scale 20 0 20 40 feet

PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 16 of 28, Terminal 1 Typical Elevation - Access Trestle T1B



C **SECTION - TRESTLE 1A**
SCALE: 1/8" = 1'-0"

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 17 of 28, Terminal 1 Access Trestle Typical Section C

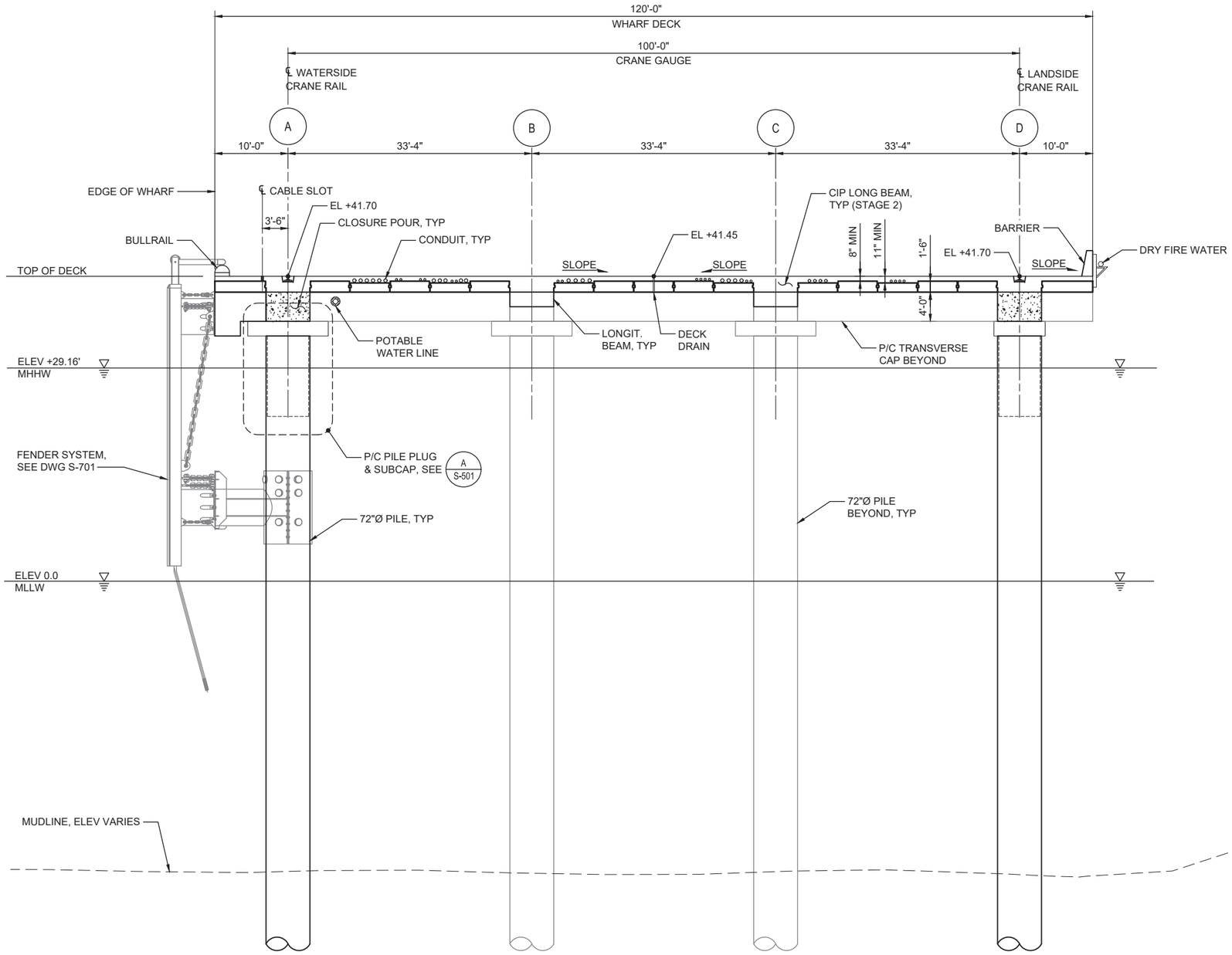


ELEV

D SECTION - TRESTLE 1B

SCALE: 1/8" = 1'-0"

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 18 of 28, Terminal 1 Access Trestle Typical Section D



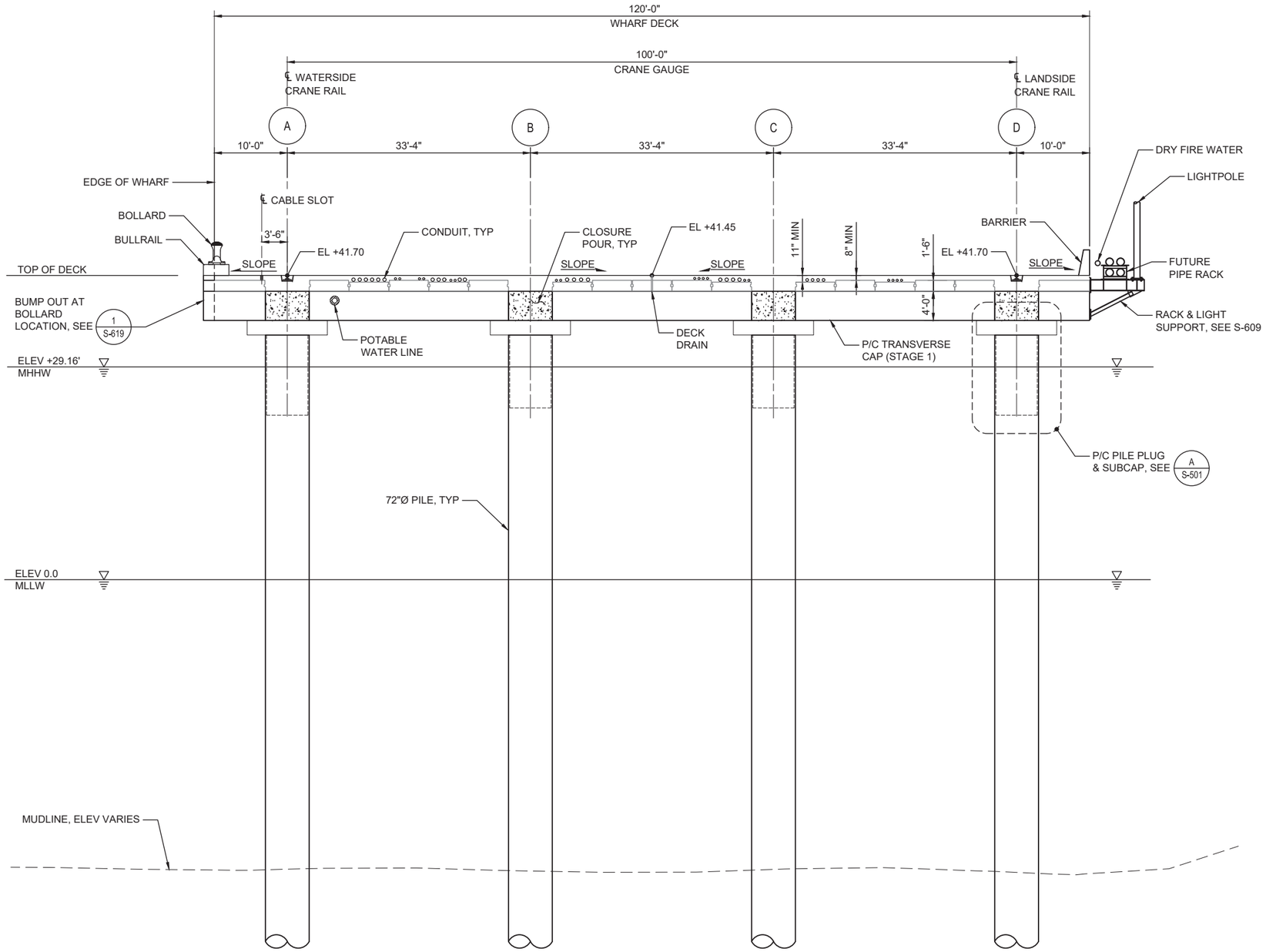
TYPICAL SECTION - WHARF @ FENDER LOCATIONS

SCALE: 1/8" = 1'-0"

1/8" = 1'-0" scale 8 0 8 16 feet

APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward
Meridian DATE: April, 2024
FIGURE 19 of 28, Terminal 1 Wharf Deck Typical Cross Section



TYPICAL SECTION - WHARF @ BOLLARD LOCATIONS

SCALE: 1/8" = 1'-0"

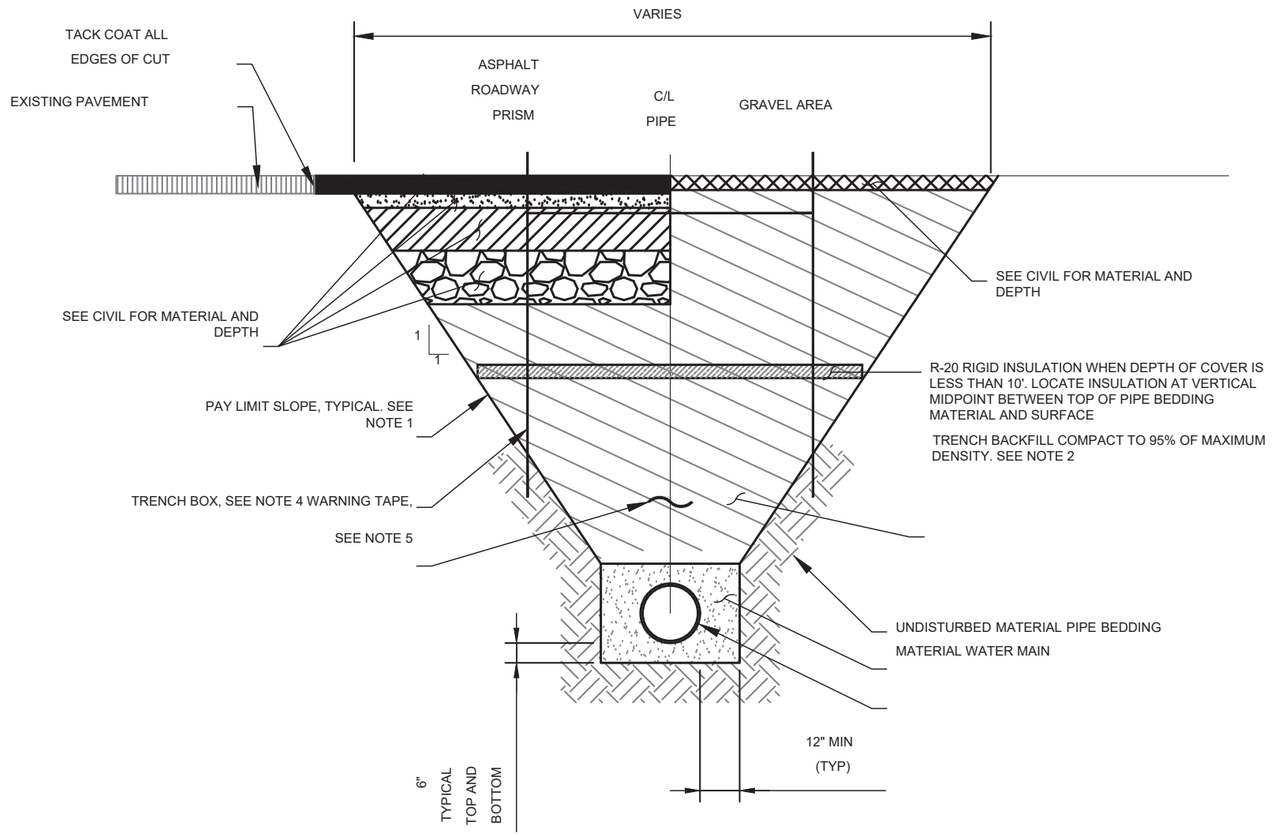
CONSTRUCTION SEQUENCE NOTES:

1. DRIVE PILES AS INDICATED IN PLANS AND IN ACCORDANCE WITH SPECIFICATION REQUIREMENTS
2. INSTALL PRECAST PILE PLUGS & SUBCAPS
3. SET PRECAST PILE CAPS AND BEAMS
4. POUR STAGE 1 CLOSURE POURS
5. SET PRECAST DECK PANELS
6. POUR STAGE 2 CLOSURE POURS
7. POUR TOPPING SLAB, BARRIERS, BULLRAIL
8. INSTALL APPURTENANCES AND SURFACE MOUNT FEATURES.

1/8" = 1'-0" scale: 8 0 8 16 feet

APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward
Meridian DATE: April, 2024
FIGURE 20 of 28, Terminal 1 Wharf Dock Typical Cross Section

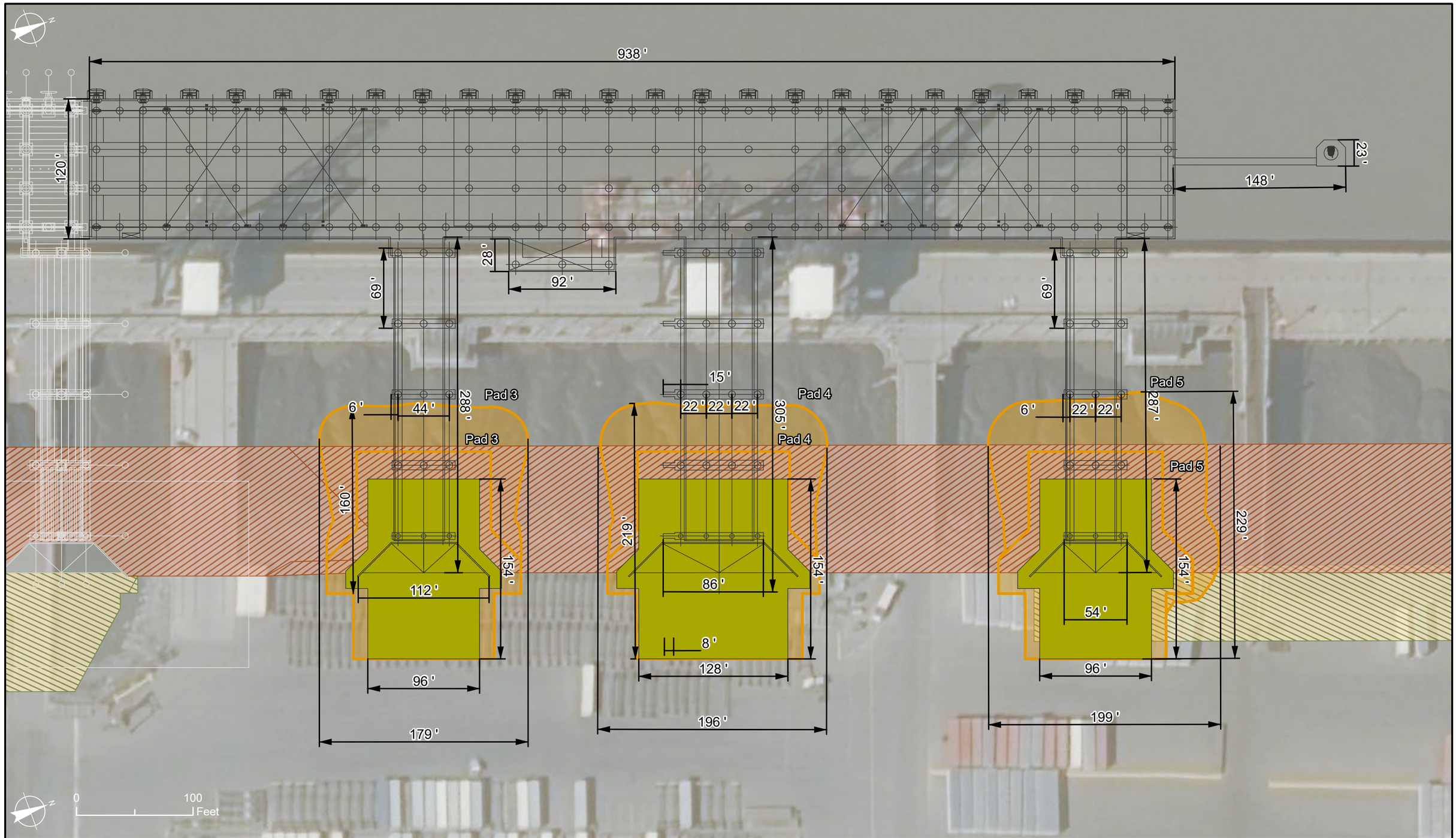


2 TYPICAL UTILITY TRENCH SECTION

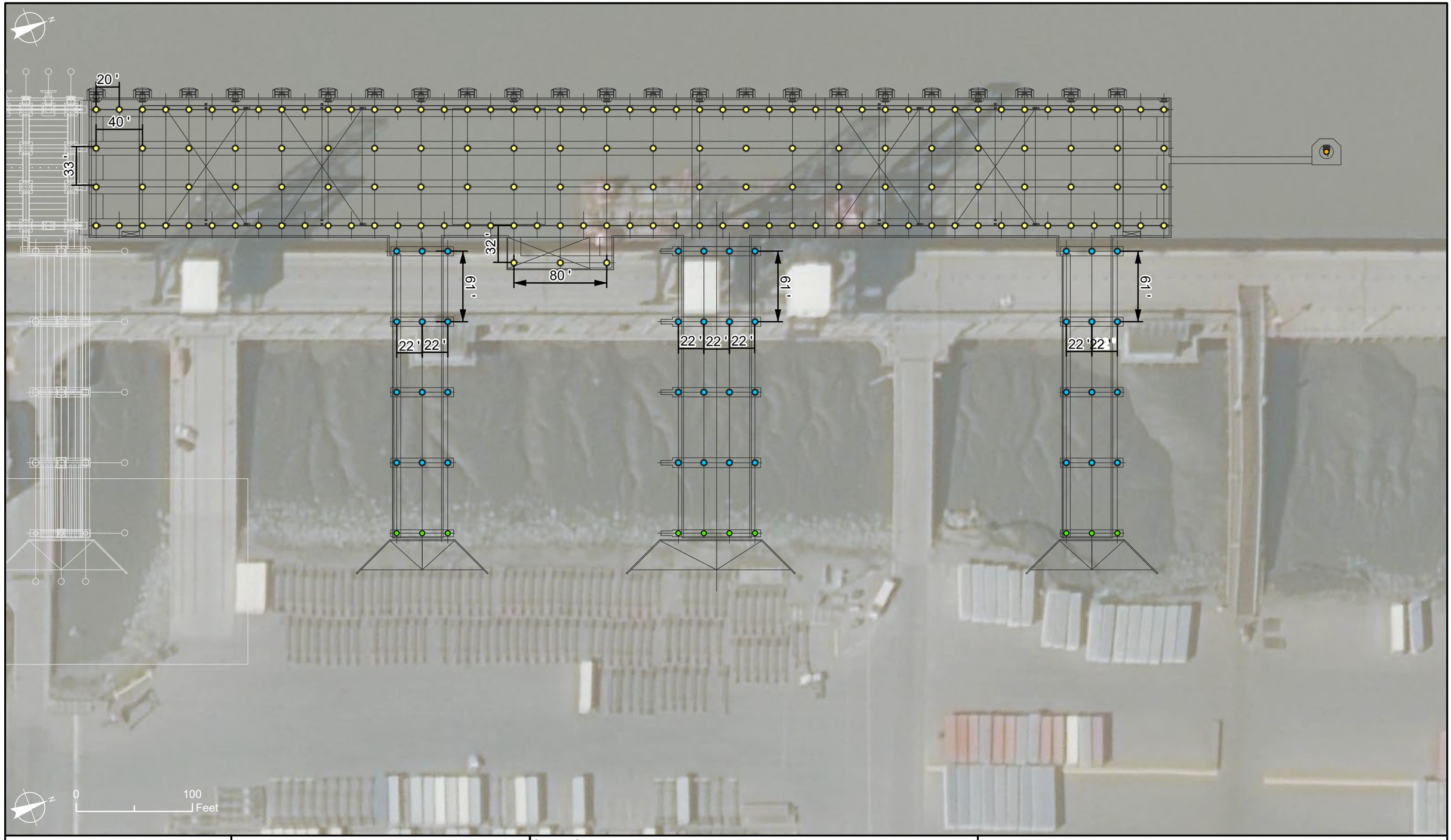
SCALE:

TRENCH SECTION NOTES:

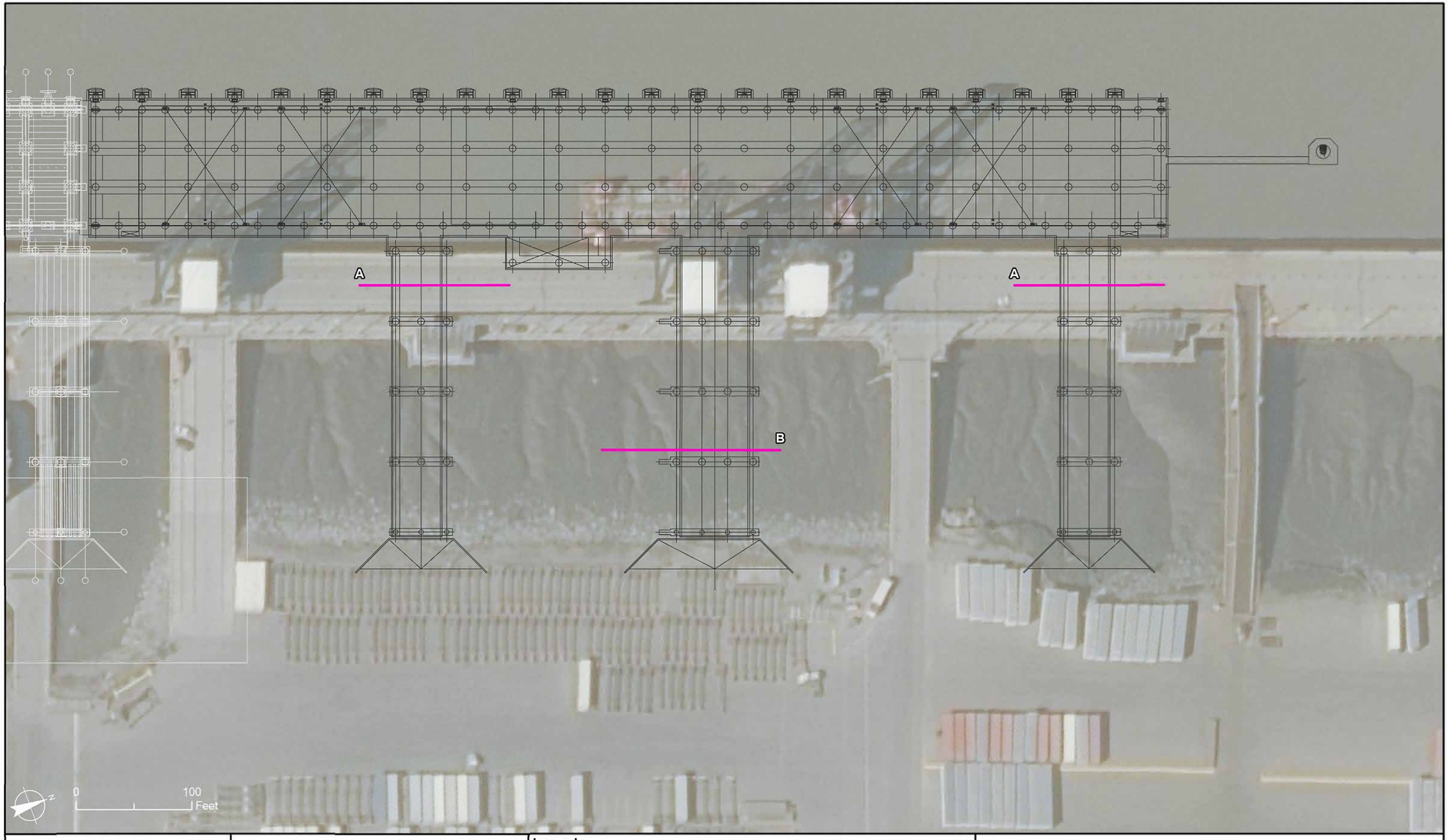
1. TRENCH EXCAVATION AND SHORING SHALL COMPLY WITH ALL LOCAL, STATE AND OSHA REGULATIONS AND REQUIREMENTS. INDICATED SLOPE IS FOR PAY QUANTITY DETERMINATIONS ONLY. CONTRACTOR SHALL SHORE EXCAVATIONS AS NECESSARY TO KEEP EXCAVATIONS WITHIN EXISTING RIGHT-OF-WAY AND EASEMENTS AND TO PROTECT EXISTING UTILITIES AND STRUCTURES.
2. TRENCH BACKFILL SHALL BE EXISTING NATIVE MATERIAL MEETING TYPE III CLASSIFIED FILL AND BACKFILL CLASSIFICATION (MINIMUM) AS APPROVED BY ENGINEER. NATIVE MATERIAL MOT MEETING TYPE III CLASSIFIED FILL AND BACKFILL CLASSIFICATION SHALL BE REMOVED AND REPLACED WITH TYPE IIA CLASSIFIED FILL AND BACKFILL. REUSING MATERIAL IS CONSIDERED INCIDENTAL TO CONTRACT. CONTRACTOR MAY NEED TO HAUL AND STORE EXISTING MATERIAL AT SOIL STOCKPILE AREA.
3. REMOVE AND PROPERLY DISPOSE OF ALL ORGANIC MATERIALS IN ACCORDANCE WITH MASS SECTION 20.13.
4. TRENCH BOX SHALL BE UTILIZED TO MINIMIZE TRENCH WIDTH, REDUCE IMPACTS TO ADJACENT PROPERTIES AND TO REMAIN WITHIN EXISTING ROW OR EASEMENTS.
5. INSTALL DETECTABLE WARNING TAPE AT LEAST 18 INCHES BUT NO MORE THAN 36 INCHES ABOVE THE CROWN OF THE PIPE.
6. CONTRACTOR SHALL COMPLY WITH OSHA SAFETY STANDARDS BASED ON SOIL CHARACTERISTICS AND MASS SECTION 10.06 ARTICLE 6.8 - SAFETY.
7. FOUNDATION BACKFILL SHALL BE PLACED IN AREAS WHERE EXISTING SOILS DO NOT PROVIDE SUITABLE SUPPORT OF BEDDING MATERIAL AS DIRECTED BY THE ENGINEER, DEPTH MAY VARY.
8. SUITABLE CONTAMINATED SOIL MEETING THE REQUIREMENTS OF EXISTING NATIVE MATERIAL DEFINED IN NOTE 2 WILL BE ALLOWED TO BE REUSED AS TRENCH BACKFILL. UNSUITABLE CONTAMINATED SOIL SHALL BE HANDLED AND DISPOSED OF AS SPECIFIED IN THE SPECIFICATIONS.
9. A DEWATERING PLAN MUST BE AUTHORIZED PRIOR TO ANY EXCAVATION.



	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Shoreline Protection Components Shoreline Expansion Area Ground Improvements Area Approximate Ground Improvements Work Pad	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2023 FIGURE 22 of 28, Terminal 2 Site Figure* **Figure based on 15% design drawings*



PORT OF ALASKA MODERNIZATION PROGRAM	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	**Legend** Project Components 48" Pile - Trestle 72" Pile - Wharf 72" Pile - Trestle 144" Dolphin Monopile	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2023 FIGURE 23 of 28, Terminal 2 Pile Locations* **Figure based on 15% design drawings*



APPLICANT: Municipality of Anchorage,
Port of Alaska
Cargo Dock Replacement Project
FILE NO: POA-2003-00502-M21, Knik Arm

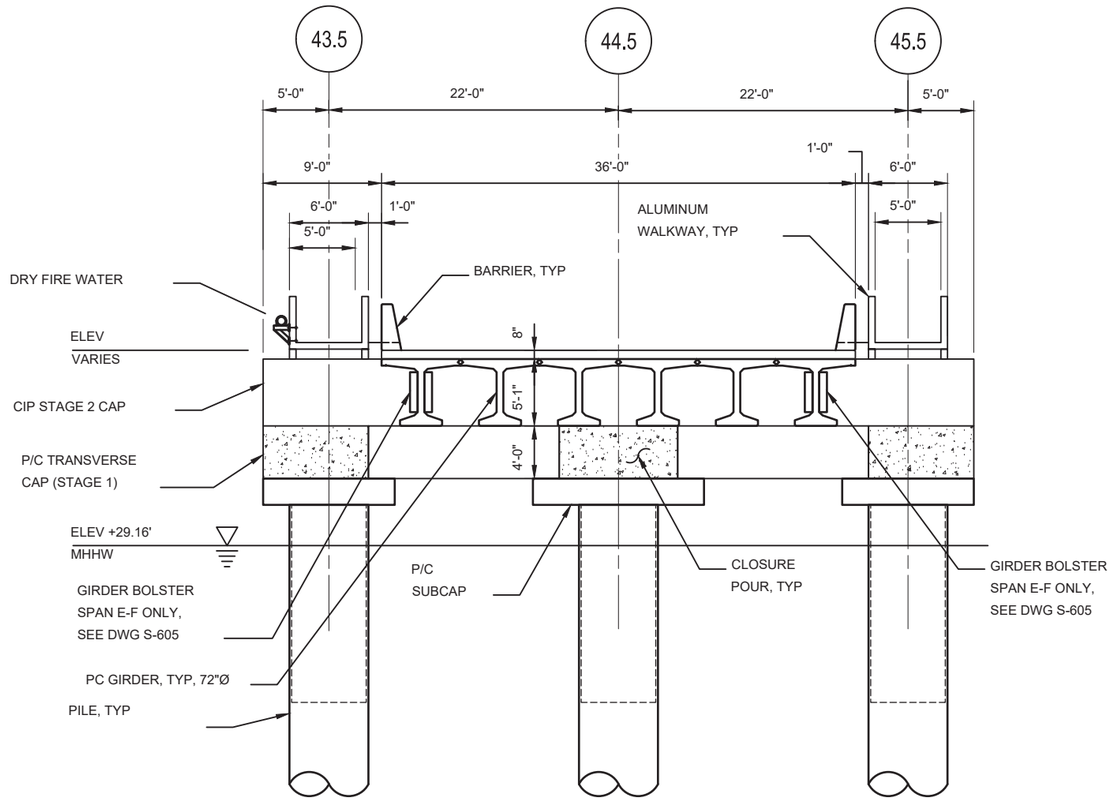
Legend

Project Components

Cross Section

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian
DATE: April, 2024
FIGURE 24 of 28, Terminal 2 Structural - General Layout*

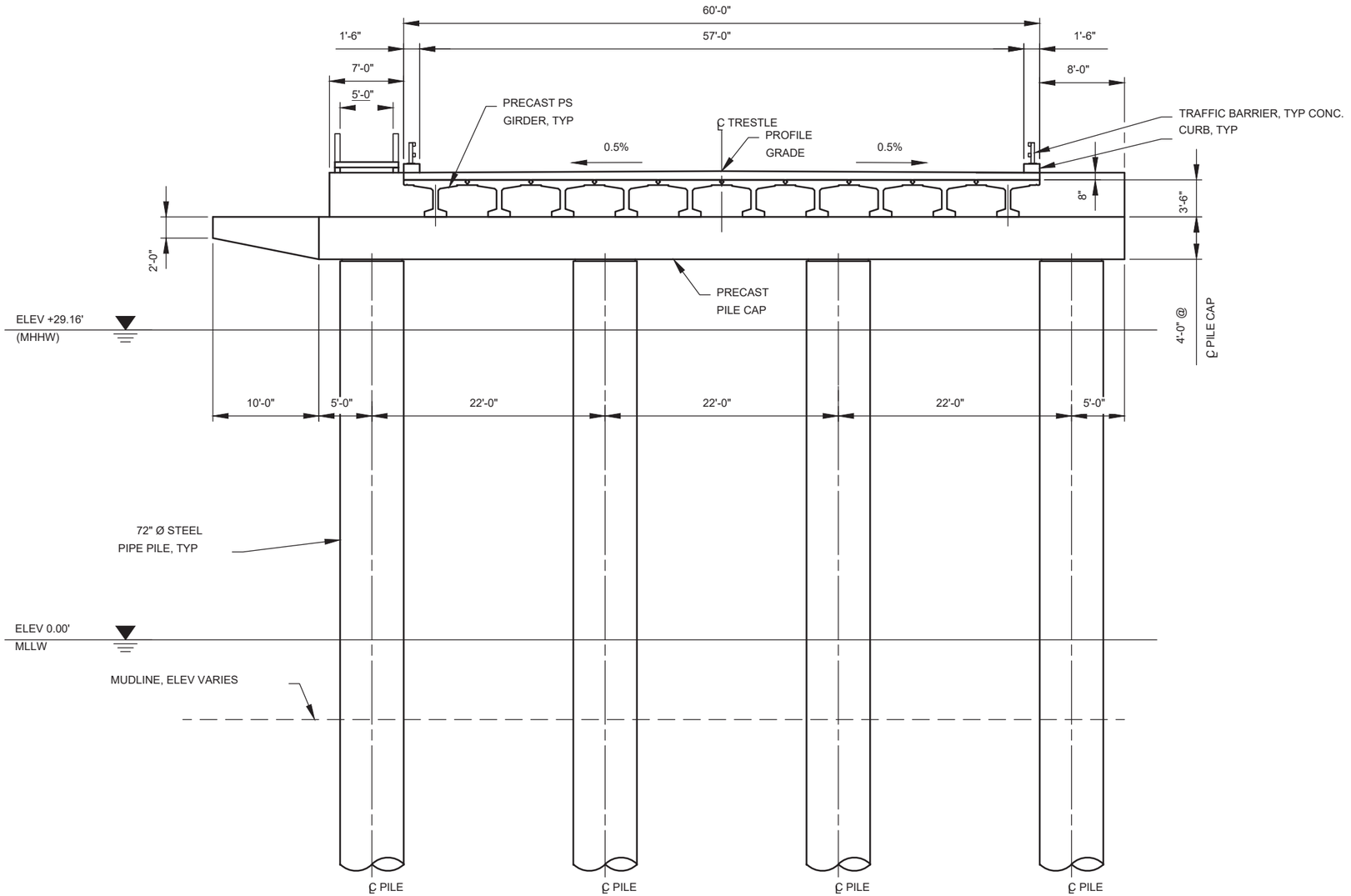
**Figure based on 15% design drawings*



ELEV

A **SECTION - Trestles 2A and 2C**
SCALE: 1/8" = 1'-0"
T2-S-011

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 25 of 28, Terminal 2 Access Trestle Section A - Trestles T2A & T2C



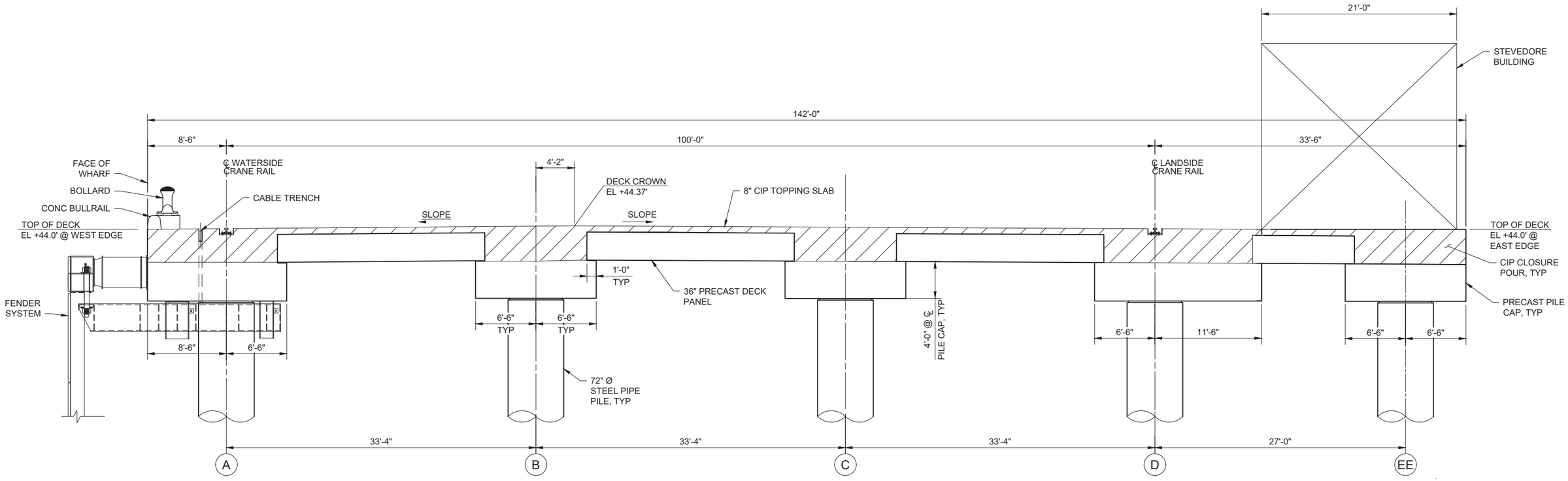
B TYPICAL SECTION - TRESTLE T2B

SCALE: 1/8" = 1'-0"

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 26 of 28, Terminal 2 Access Trestle Typical Section B - Trestle 2B



TYPICAL SECTION @ STEVEDORE BUILDING

3/16" = 1'-0"

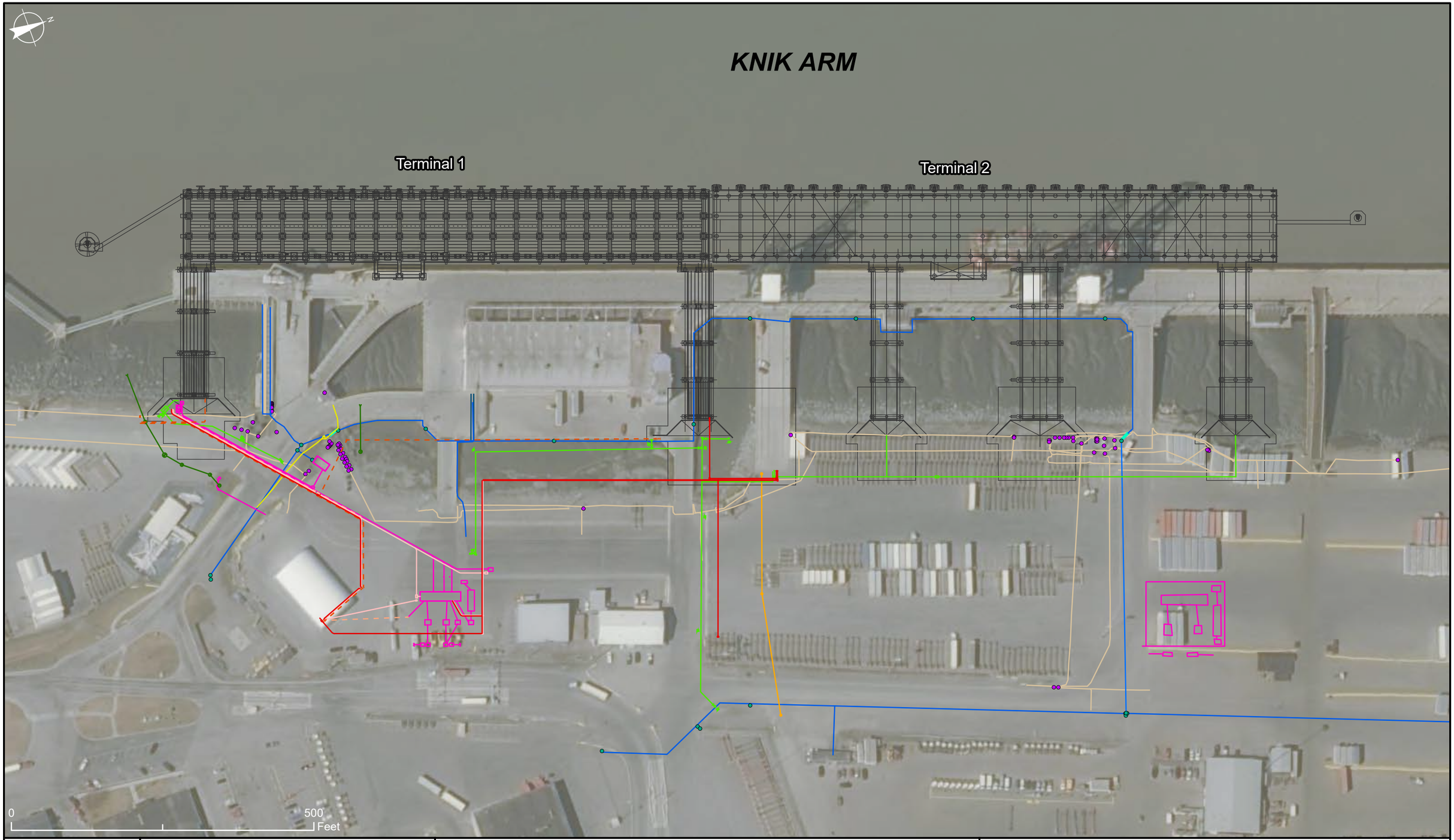
15% DESIGN - NOT FOR CONSTRUCTION

T2-S-011

CONCEPTUAL

	APPLICANT: Municipality of Anchorage, Port of Alaska Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm	WATERWAY: Knik Arm LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024 FIGURE 27 of 28, Terminal 2 Wharf Deck Typical Sections

KNIK ARM



APPLICANT: Municipality of Anchorage, Port of Alaska
Cargo Dock Replacement Project FILE NO: POA-2003-00502-M21, Knik Arm

Legend

- Project Components
- Proposed
  - Fiber Optic
  - CC TV
  - Data Comm
  - Communication
  - Storm Water
  - Water Line
  - Sewer Line
- Existing
  - Electric
  - Natural Gas Line
  - Water Utility Feature
  - Water Pipe
  - Water Line
  - Electric Underground Line
  - Electric Overhead Line

WATERWAY: Knik Arm
LOCATION: Section 7, Township 13N, Range 3W, Seward Meridian DATE: April, 2024
FIGURE 28 of 28, T1 and T2 Utility Plan