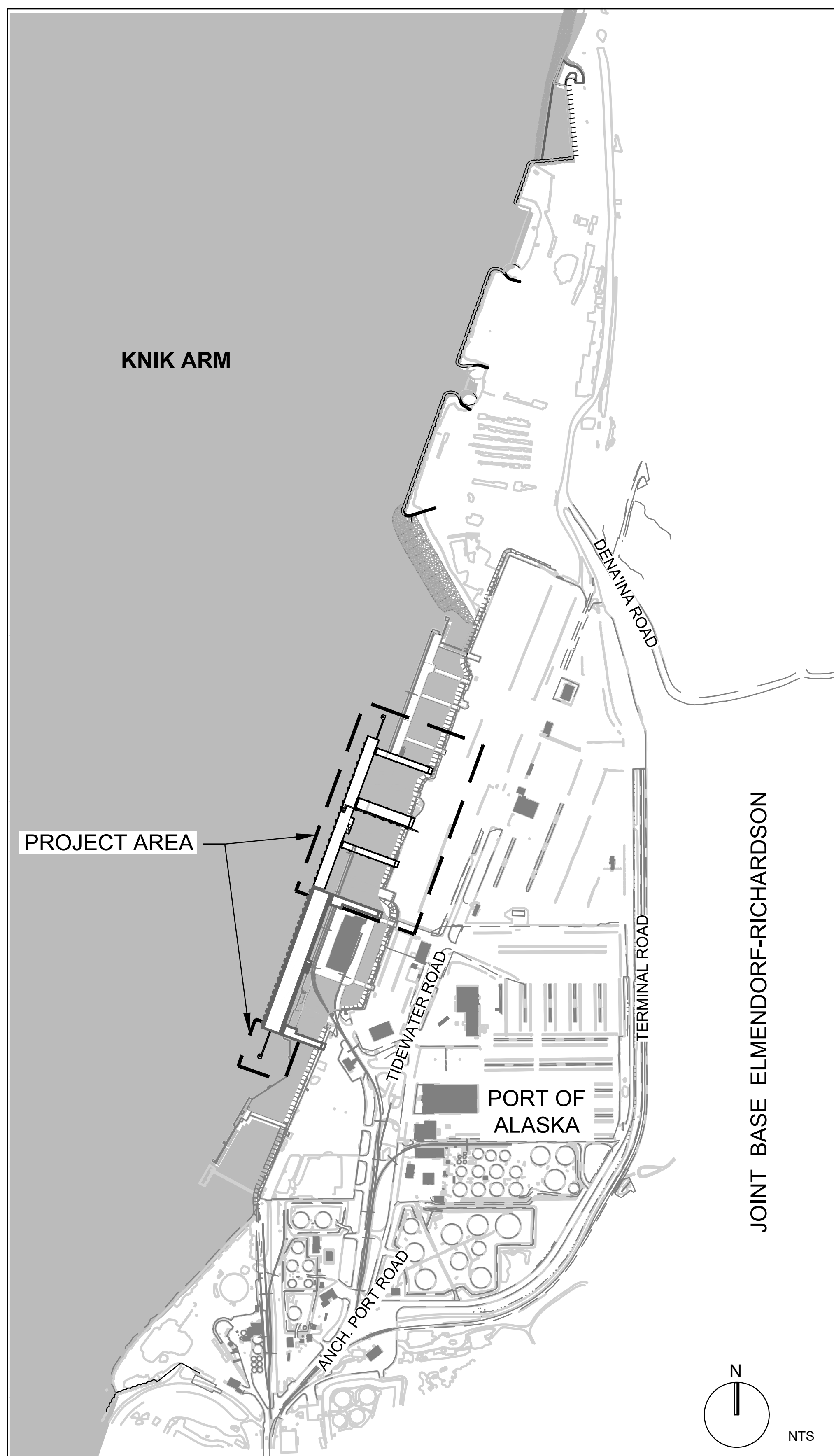
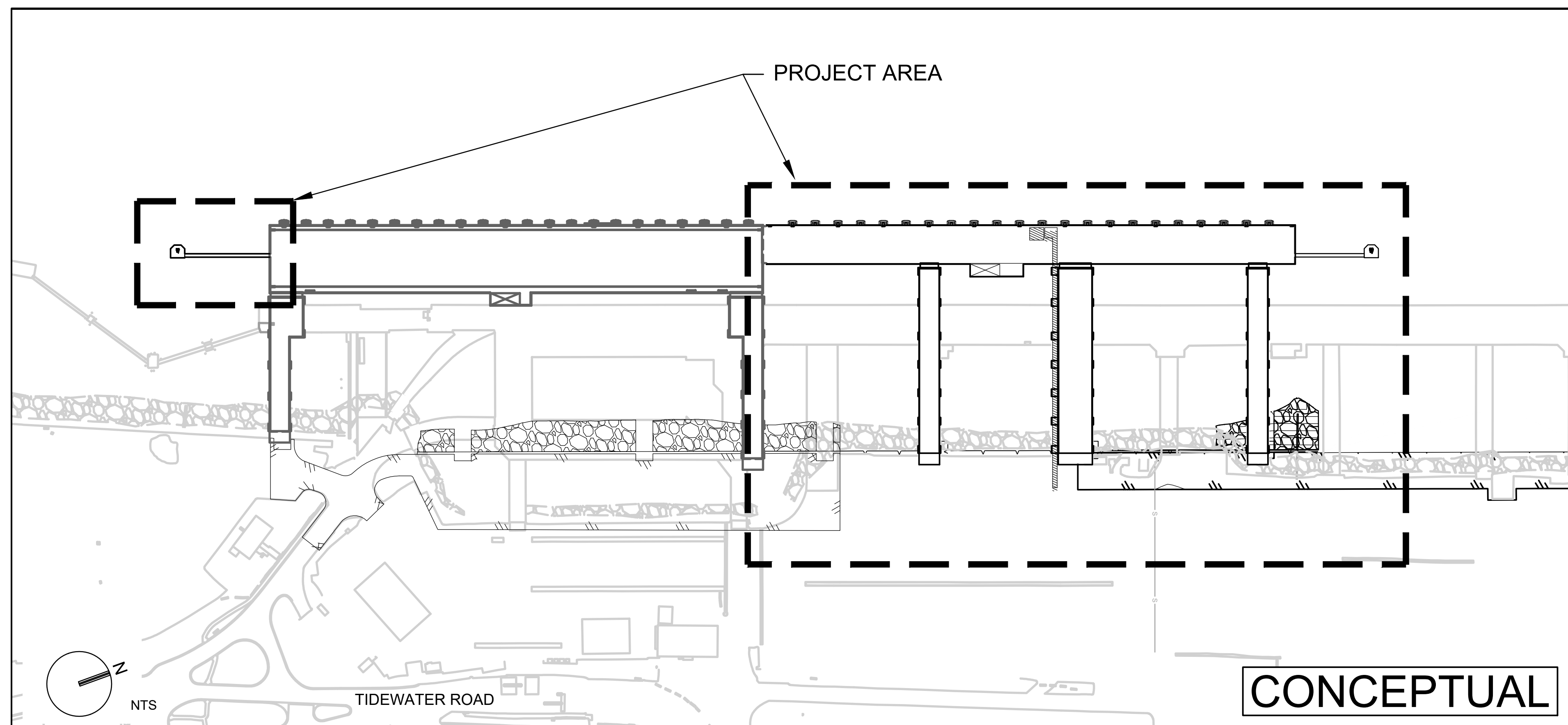


PORT OF ALASKA MODERNIZATION PROGRAM

TERMINAL 2 15% DESIGN



VICINITY MAP



LOCATION MAP

CONCEPTUAL

NOT FOR
CONSTRUCTION

STANDARD ABBREVIATIONS

@	AT	MFR	MANUFACTURER, MANUFACTURED
∅	DIAMETER	MHW	MEAN HIGH WATER
		MIL	0.001 INCHES
		MIN	MINIMUM
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	MLLW	MEAN LOWER LOW WATER
AC	ASPHALT CONCRETE	MOA	MUNICIPALITY OF ANCHORAGE
ACI	AMERICAN CONCRETE INSTITUTE	MOTEMS	MARINE OIL TERMINAL ENGINEERING AND MAINTENANCE STANDARDS
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MPH	MILES PER HOUR
APPROX	APPROXIMATE	N/A	NOT APPLICABLE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	NIC	NOT IN CONTRACT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NO.	NUMBER
AWS	AMERICAN WELDING SOCIETY	NTS	NOT TO SCALE
AWWA	AMERICAN WATER WORKS ASSOCIATION	N	NORTH, NORTHING
		OC	ON CENTER
BLDG	BUILDING	OD	OUTSIDE DIAMETER
BM	BENCHMARK	OG	ORIGINAL GROUND
BOT	BOTTOM	OLE	OPERATIONAL LEVEL EARTHQUAKE
BRG	BEARING	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
⊕, ⊖	CENTERLINE	%	PERCENT
CF	CUBIC FOOT(FEET)	PCC	PORTLAND CEMENT CONCRETE
CIP	CAST-IN-PLACE	PCF	POUNDS PER CUBIC FOOT
CLE	CONTINGENCY LEVEL EARTHQUAKE	PE	POLYETHYLENE
CMP	CORRUGATED METAL PIPE	PERF	PERFORATED
CONC	CONCRETE	PG	PROFILE GRADE
CONT	CONTINUED, CONTINUOUS	PI	POINT OF INTERSECTION
COPRI	COASTS, OCEANS, PORTS, AND RIVERS INSTITUTE	PIANC	WORLD ASSOCIATION FOR WATERBORNE TRANSPORT INFRASTRUCTURE
CP	CATHODIC PROTECTION	PL	PLATE
CPEP	CORRUGATED POLYETHYLENE PIPE	PLF	POUNDS PER LINEAR FOOT
CTR	CENTER	POA	PORT OF ALASKA
CY	CUBIC YARDS	POL	PETROLEUM, OIL, AND LUBRICANTS
		PS	PRESTRESSED
°F	DEGREES FAHRENHEIT	PSF	POUNDS PER SQUARE FOOT
DC	DEAD LOAD – COMPONENTS AND ATTACHMENTS	PSI	POUNDS PER SQUARE INCH
DE	DESIGN EARTHQUAKE	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER		
DIM	DIMENSION	QRH	QUICK RELEASE HOOK
DSM	DEEP SOIL MIXING		
DW	DEAD LOAD – WEARING SURFACE AND UTILITIES		
DWG	DRAWING		
		R	RADIUS
E	EAST, EASTING	REQD	REQUIRED
EA	EACH	RO-RO	ROLL-ON ROLL-OFF
EG	EXISTING GROUND	RO/RO	ROLL-ON ROLL-OFF
EL	ELEVATION	ROW, R/W	RIGHT OF WAY
ELEV	ELEVATION	RT	RIGHT
EOP	EDGE OF PAVEMENT		
ESCP	EROSION AND SEDIMENT CONTROL PLAN	S	SOUTH
EW	EACH WAY	SC	SURVEY CONTROL MONUMENT
EX, EXST	EXISTING	SCH	SCHEDULE
		SDM	SEISMIC DESIGN MANUAL
FG	FINISH GRADE	SDR	STANDARD DIMENSION RATIO
FT	FOOT (FEET)	SF	SQUARE FEET
F	FLOWLINE	SI	SYSTEM INTERNATIONAL (METRIC UNITS)
		SQ	SQUARE
GA	GAUGE	SST	STAINLESS STEEL
GALV	GALVANIZED	STA	STATION
GR	GRADE	STD	STANDARD
		STL	STEEL
HDG	HOT DIP GALVANIZED	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
HDPE	HIGH DENSITY POLYETHYLENE		
HORIZ	HORIZONTAL	T1	TERMINAL 1
HSS	HOLLOW STRUCTURAL SECTION	T2	TERMINAL 2
HT	HEIGHT	TOPO	TOPOGRAPHY
HTL	HIGH TIDE LINE	TYP	TYPICAL
		UFC	UNIFIED FACILITIES CRITERIA
ICCP	IMPRESSED CURRENT CORROSION PROTECTION	UNO	UNLESS NOTED OTHERWISE
ID	INSIDE DIAMETER	UPG	UNDERGROUND POWER
IE	INVERT ELEVATION	USACE	UNITED STATES ARMY CORPS OF ENGINEERS
IM	IMPERIAL UNITS	USC	UNITED STATES CODE
IN	INCH (INCHES)	USGS	UNITED STATES COAST AND GEODETIC SURVEY
		V	VELOCITY
KG	KILOGRAM	VERT	VERTICAL
KLF	KIPS PER LINEAR FOOT		
KSI	KIPS PER SQUARE INCH		
		W	WEST
LB	POUND	W/	WITH
LF	LINEAR FEET	W/OUT	WITHOUT
LRFD	LOAD AND RESISTANCE FACTOR DESIGN	WT	WEIGHT
LT	LEFT		
MAX	MAXIMUM		
MCE	MAXIMUM CONSIDERED EARTHQUAKE		

15% DESIGN - NOT FOR CONSTRUCTION

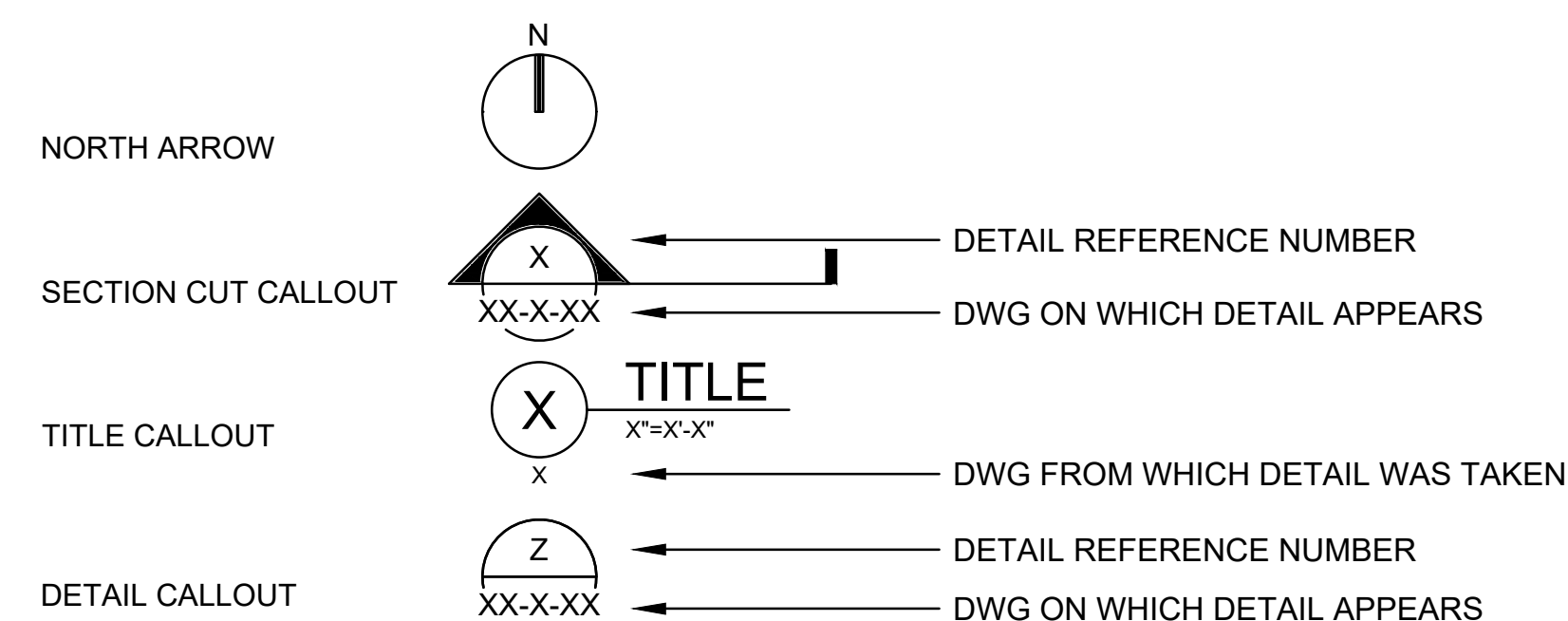
GENERAL NOTES

- THE LOCATIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES SHOULD BE CONSIDERED APPROXIMATE AND NOT NECESSARILY COMPLETE. VERIFY ACCURACY OF ALL UTILITY LOCATIONS AND FURTHER DISCOVER ANY OTHER UTILITIES NOT SHOWN WHICH MAY BE IMPACTED BY CONSTRUCTION. OBTAIN THE REQUIRED PERMITS THAT VERIFY THE TRUE AND CORRECT LOCATION PRIOR TO CONSTRUCTION SO AS TO AVOID DAMAGE OR DISTURBANCE. AVOID AND PROTECT ALL UTILITIES IN USE DURING CONSTRUCTION.
- IN GENERAL, EXISTING STRUCTURES AND FACILITIES ARE NOTED AS "EXISTING" AND ARE SHOWN IN LIGHT LINE WEIGHTS, DASHED LINE TYPE OR AS SCREENED BACKGROUND. NEW FEATURES ARE SHOWN IN HEAVY LINE WEIGHTS.
- THE HORIZONTAL COORDINATE SYSTEM IS LOCATED WITHIN THE LOCAL COORDINATE SYSTEM, ANCHORAGE BOWL 2000 ADJUSTMENT AND THE VERTICAL DATUM FOR THE PROJECT IS MEAN LOWER LOW WATER (MLLW=0.00'). FOR THE PORT OF ALASKA MODERNIZATION PROJECT SURVEY CONTROL DRAWING, REFERENCE ANCHORAGE RECORDING DISTRICT PLAT 2015-142.
- EXISTING GROUND INFORMATION SHOWN IN PLANS REPRESENT DATA FROM MULTIPLE SOURCES. TOPOGRAPHY AT TIME OF CONSTRUCTION WITHIN THE PROJECT LIMITS MAY VARY FROM THAT SHOWN. SOURCE OF BATHYMETRY DATA (GROUND DATA BELOW 0.0' MLLW): SEPTEMBER 2014 USACE SURVEY. SOURCE OF UPLAND TOPOGRAPHY DATA (GROUND DATA ABOVE 0.0' MLLW): SUMMER 2015 AERIAL LIDAR AND TERRESTRIAL TOPOGRAPHIC SURVEYS.

INDEX OF DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DRAWING TITLE
		<u>GENERAL</u>
1	T2-G-001	VICINITY MAP AND LOCATION MAP
2	T2-G-002	ABBREVIATIONS, GENERAL NOTES AND INDEX OF DRAWINGS
3	T2-G-201	CONSTRUCTION SEQUENCING PLAN - STEP 1A & 1B
4	T2-G-202	CONSTRUCTION SEQUENCING PLAN - STEP 2A & 2B
		<u>STRUCTURAL</u>
5	T2-S-001	GENERAL NOTES (1 OF 2)
6	T2-S-002	GENERAL NOTES (2 OF 2)
7	T2-S-011	GENERAL LAYOUT
8	T2-S-012	TYPICAL ELEVATION - STEP 2A
9	T2-S-013	TYPICAL ELEVATION - STEP 2B
10	T2-S-101	PILE AND PILE CAP LAYOUT
11	T2-S-102	PILE DETAILS
12	T2-S-211	WHARF - DECK TYPICAL SECTIONS (1 OF 2)
13	T2-S-212	WHARF - DECK TYPICAL SECTIONS (2 OF 2)
14	T2-S-251	ACCESS TRESTLE - TYPICAL SECTIONS (1 OF 3)
15	T2-S-252	ACCESS TRESTLE - TYPICAL SECTIONS (2 OF 3)
16	T2-S-253	ACCESS TRESTLE - TYPICAL SECTIONS (3 OF 3)

GENERAL LEGEND



CONCEPTUAL

Drawing: T2-G-002.DWG
Date: Aug 23, 2022 - 5:08pm

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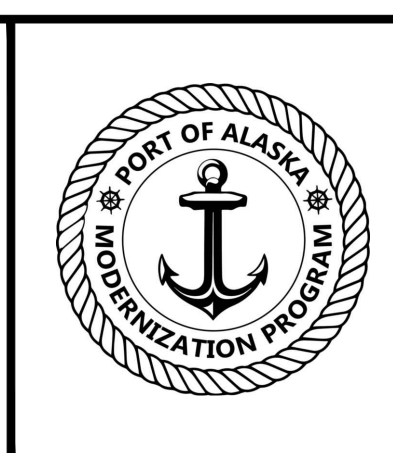
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BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DSGN	DR	CHK	APVD
H. GUAN	D. MONK	S. CHEUNG	D. PLAYER

CONSULTANT

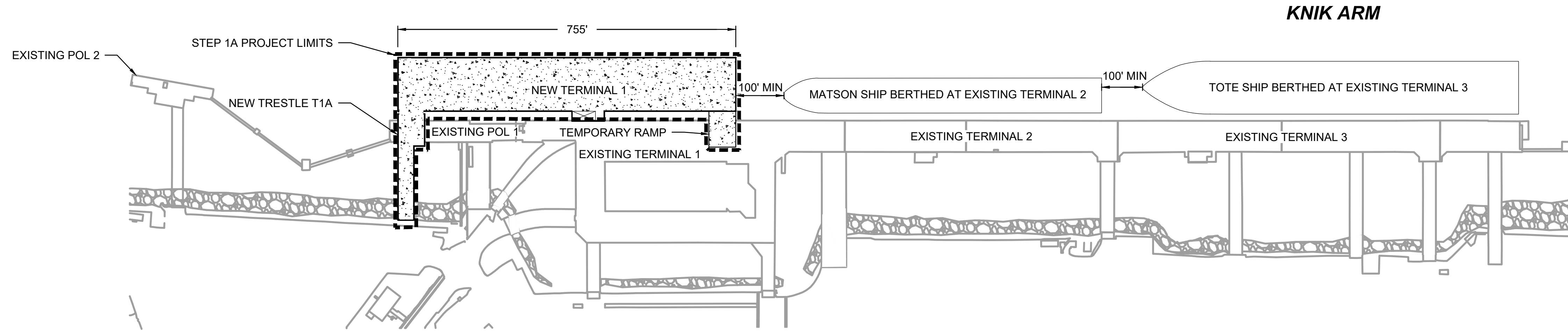
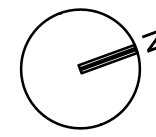
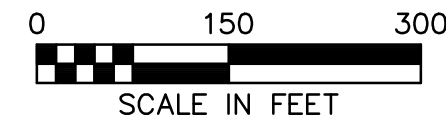
NOT FOR CONSTRUCTION

SEAL



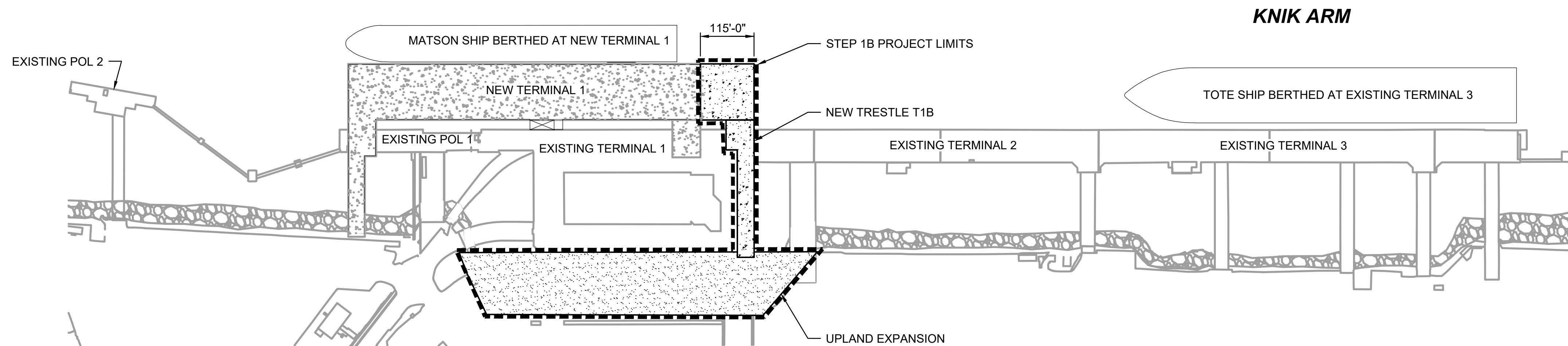
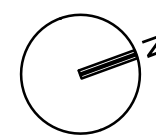
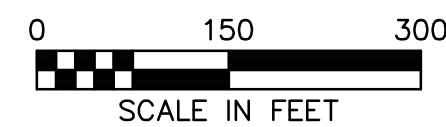
GENERAL
ABBREVIATIONS, GENERAL NOTES AND
INDEX OF DRAWINGS

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: N/A	DATE:	T2-G-002
VERT SCALE: N/A	SHEET: 2 OF 16	



STEP 1A

- MAINTAIN MATSON OPERATIONS AT EXISTING TERMINAL 2.
- CONSTRUCT THE SOUTHERN 755-FT PORTION OF NEW CONTAINER TERMINAL 1. DEMOLISH EXISTING PARTIAL TERMINAL 1 AND POL 1 WITHIN PROJECT LIMITS.
- CONSTRUCT TEMPORARY TRUCK RAMP TO PROVIDE T1 TERMINAL ACCESS DURING CONSTRUCTION.



STEP 1B

- RELOCATE MATSON OPERATIONS TO NEW TERMINAL 1 BUILT IN STEP 1A.
- COMPLETE T1 BETWEEN MATSON SAILINGS. CONTRACTOR TO RELINQUISH WORK AREA TO MATSON FOR TWICE WEEKLY LANDINGS.

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

REV	DATE	DESCRIPTION	BY	APVD
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BAR IS ONE INCH ON ORIGINAL DRAWING				
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				
REVISIONS				

Jacobs

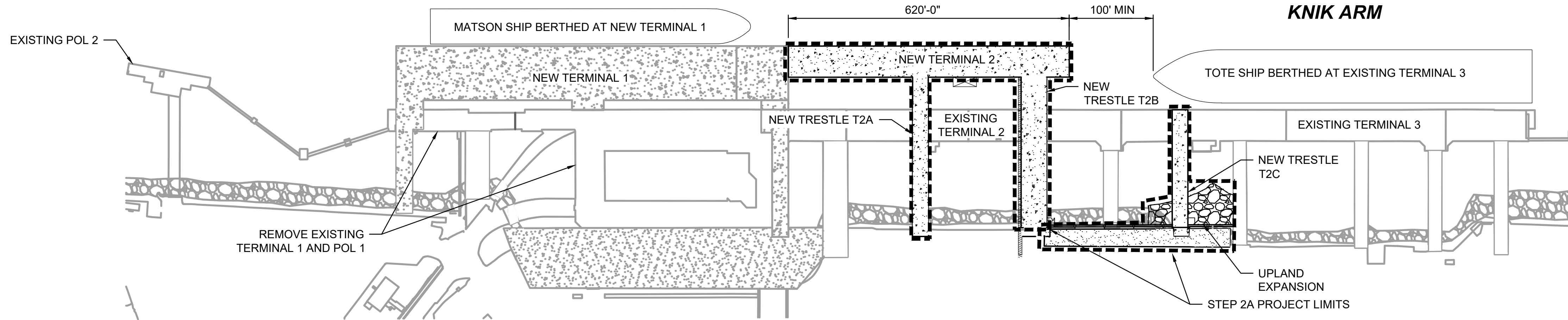
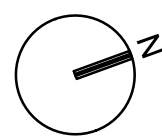
DSGN	DR	CHK	APVD
H. GUAN	D. MONK	S. CHEUNG	D. PLAYER
CONSULTANT			

NOT FOR CONSTRUCTION



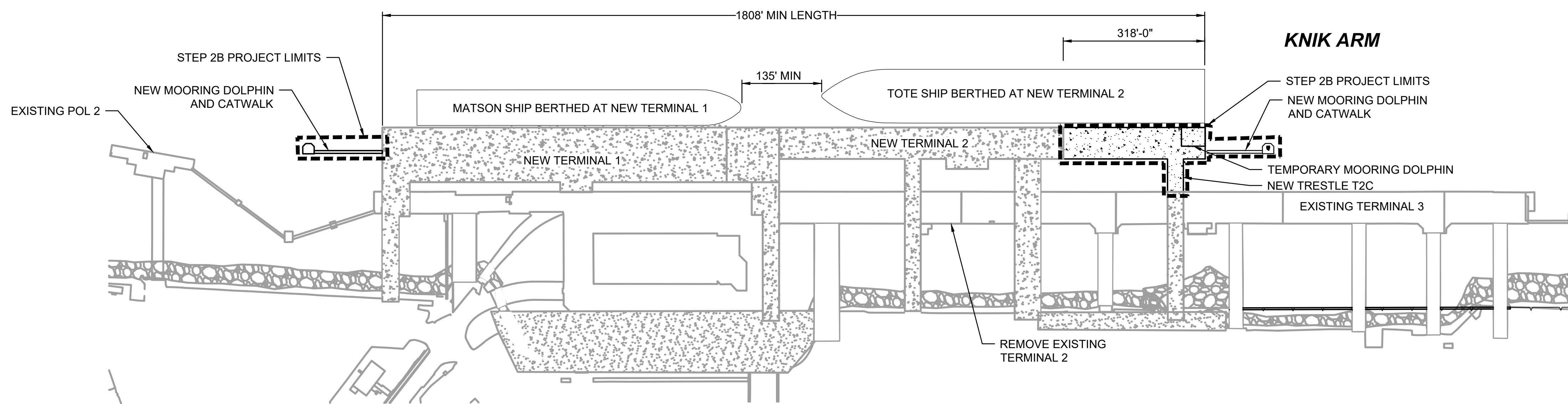
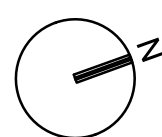
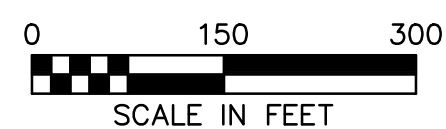
GENERAL
CONSTRUCTION SEQUENCING PLAN
STEP 1A & 1B

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-G-201
VERT SCALE: N/A	SHEET: 3 OF 16	



STEP 2A

- CONSTRUCT THE SOUTHERN 620-FT PORTION OF NEW TERMINAL 2.
- CONSTRUCT TRESTLES T2A AND T2B.
- CONSTRUCT TRESTLE T2C OUT TO EXISTING BERTH LINE.
- REMOVE EXISTING TERMINAL 1 AND POL 1.



STEP 2B

- CONSTRUCT TEMPORARY MOORING DOLPHIN AT THE NORTHWEST CORNER OF T2 BETWEEN TWO TOTE SAILINGS.
- COMPLETE T2 BETWEEN TOTE SAILINGS, CONTRACTOR TO RELINQUISH WORK AREA TO TOTE FOR TWICE WEEKLY LANDINGS.
- CONSTRUCT NEW MOORING DOLPHINS SOUTH OF NEW T1 AND NORTH OF NEW T2.
- REMOVE EXISTING TERMINAL 2.

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-G-202.DWG
Date: Aug 26, 2022 - 1:12pm

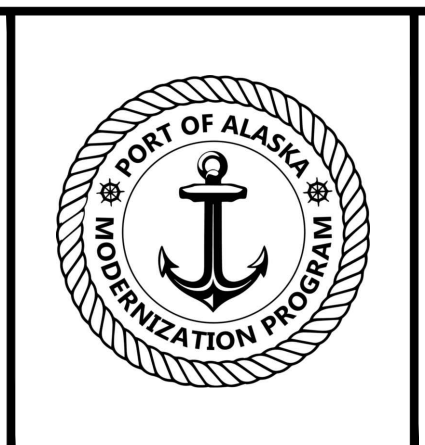
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
CONSULTANT			

NOT FOR CONSTRUCTION

SEAL



GENERAL
CONSTRUCTION SEQUENCING PLAN
STEP 2A & 2B

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-G-202
VERT SCALE: N/A	SHEET: 4 OF 16	

STRUCTURAL GENERAL NOTES

1. DESIGN SPECIFICATIONS, CODES, STANDARDS, AND REFERENCES

- 1.1 DESIGN OF THE MARINE STRUCTURES HAS BEEN PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
 - ANCHORAGE PORT MODERNIZATION PROGRAM SEISMIC DESIGN MANUAL, REV. 03, 2019.
 - ASCE/COPRI 61-14, SEISMIC DESIGN OF PIERS AND WHARFS, 2014.
 - CALIFORNIA BUILDING CODE, CHAPTER 31F, MARINE OIL TERMINALS, 2016.
 - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2019.
- 1.2 DESIGN OF BUILDING STRUCTURES HAS BEEN PERFORMED IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS:
 - INTERNATIONAL BUILDING CODE, 2018, AS AMENDED BY THE MUNICIPALITY OF ANCHORAGE LOCAL AMENDMENTS.
 - ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, LATEST EDITION.
- 1.3 STEEL DESIGN, FABRICATION, AND ERECTION SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, UNLESS OTHERWISE NOTED.
- 1.4 WELDING OF STRUCTURAL STEEL SHALL CONFORM TO AWS D1.1, STRUCTURAL WELDING CODE - STEEL, LATEST EDITION.
- 1.5 WELDING OF REINFORCING STEEL SHALL CONFORM TO AWS D1.6, STRUCTURAL WELDING CODE - REINFORCING STEEL, LATEST EDITION.
- 1.6 REINFORCED CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE ACI 318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

2. DESIGN SERVICE LIFE

TERMINAL 2 STRUCTURES HAVE BEEN DESIGNED FOR THE DESIGN SERVICE LIFE (DSL) GIVEN IN THE FOLLOWING TABLE:

STRUCTURE	DSL (YEARS)
WHARF	75
ACCESS TRESTLE	75
DOLPHINS	50
FENDER SYSTEM AND COMPONENTS	25

3. DESIGN DREDGE DEPTH

TERMINAL 2 STRUCTURES HAVE BEEN DESIGNED FOR THE FOLLOWING DESIGN DREDGE DEPTHS:

- 3.1 CURRENT USACE HARBOR MAINTENANCE DREDGE DEPTH
 - -38 FT MLLW WITH 2 FT OVERDREDGE ALLOWANCE.
- 3.2 FUTURE DREDGE DEPTH
 - -45 FT MLLW WITH 2 FT OVERDREDGE AND 4 FT STORAGE DREDGING ALLOWANCE.

4. DESIGN VESSEL

TERMINAL 2 HAS BEEN DESIGNED FOR THE FOLLOWING DESIGN VESSEL CHARACTERISTICS:

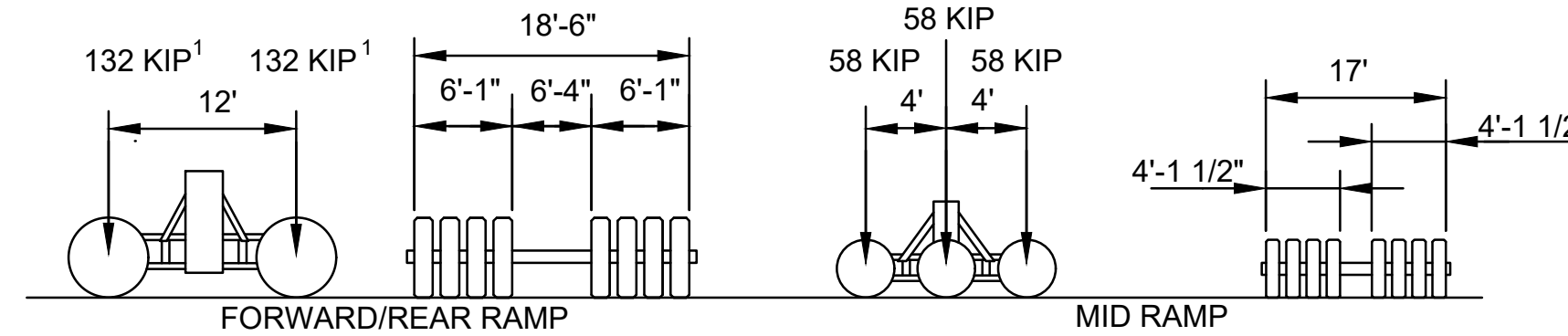
DESIGN VESSEL CHARACTERISTICS	CONTAINER VESSEL	MILITARY VESSEL (LARGE, MEDIUM SPEED, RO-RO)
LENGTH (FT)	1,000	950
BEAM (FT)	140	106
DRAFT (FT)	45	36
DISPLACEMENT (DEADWEIGHT LONG TONS)	76,000	62,000
APPROACH SPEED PERPENDICULAR TO WHARF (FT/SEC)	0.46	0.50
APPROACH ANGLE (DEGREES)	10	10

5. DESIGN LOADS

5.1 LIVE LOADS

- A. **UNIFORMLY DISTRIBUTED LIVE LOAD**
- FOR WHARF AND TRESTLES: 1000 PSF,
- B. **TRUCK LOAD**
- AASHTO HS25 TRUCK W/ 33% IMPACT FACTOR
- C. **ROLL-ON/ROLL-OFF RAMP**
- EACH RO/RO RAMP CONSISTS OF 4 (MID RAMP) OR 5 (FORWARD/REAR RAMP) AXLES SPACED AT APPROX. 58 FT ON CENTER. THE MAXIMUM AXLE LOAD FOR EACH RAMP ARE SHOWN IN THE FIGURE BELOW.

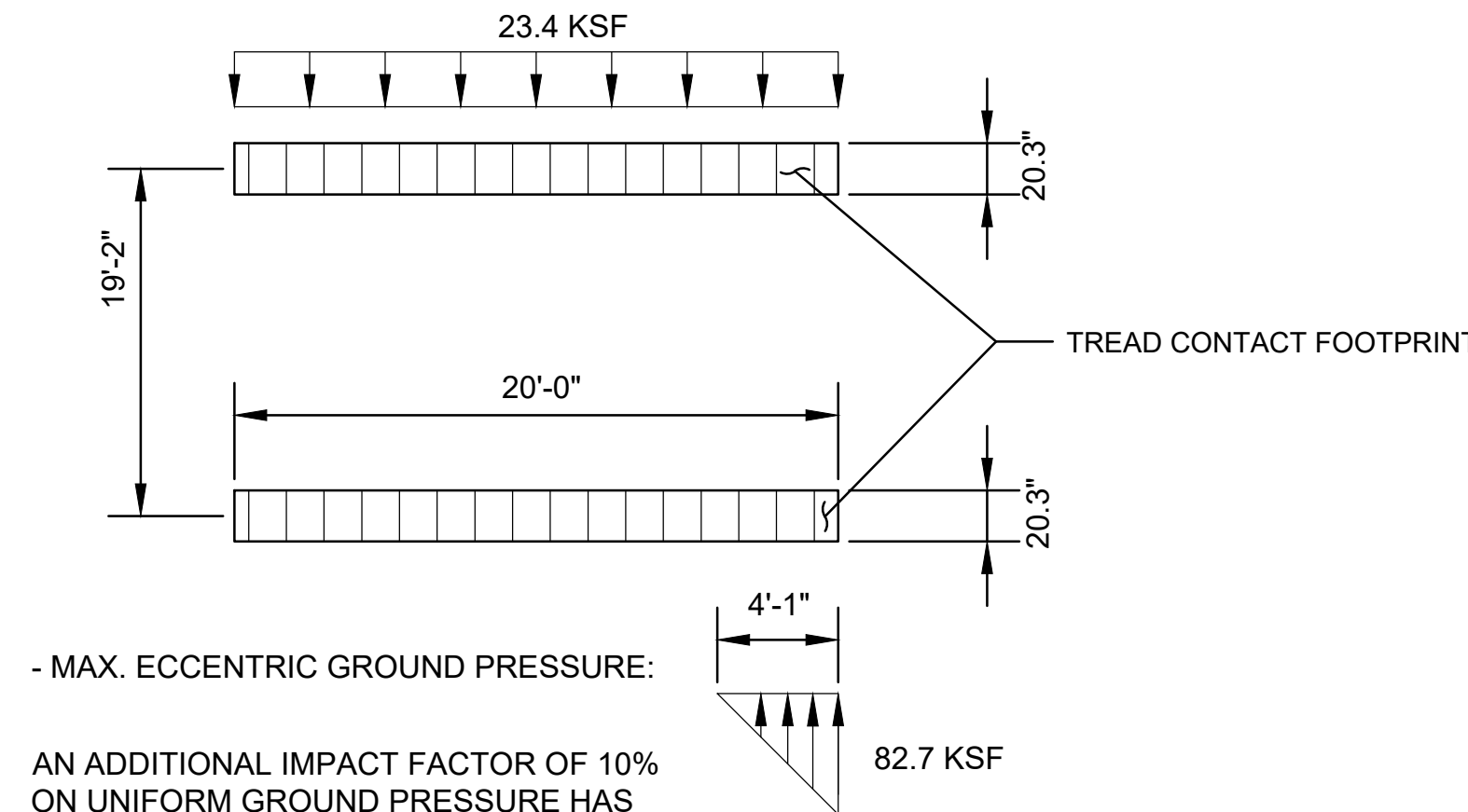
- MAX UNFACTORED AXLE LOADS AND WHEEL DIMENSIONS:



NOTE: AXLE LOADS SHOWN ARE BASED ON AS-BUILT DRAWING "TERMINAL NO. 3, DOLPHIN & TRESTLES", DATED MARCH 1978 AND SUN SHIPBUILDING & DRYDOCK CO. RO-RO RAMP SHOP DRAWINGS DATED MAY 1975.
*BASED ON DEAD LOAD + OVERLOAD (16.5 KIP PER TIRE)

D. 275-TON CAPACITY CRAWLER CRANE (UNFACTORED, BASED ON MANITOWOC 999)

- MAXIMUM UNIFORM GROUND PRESSURE:

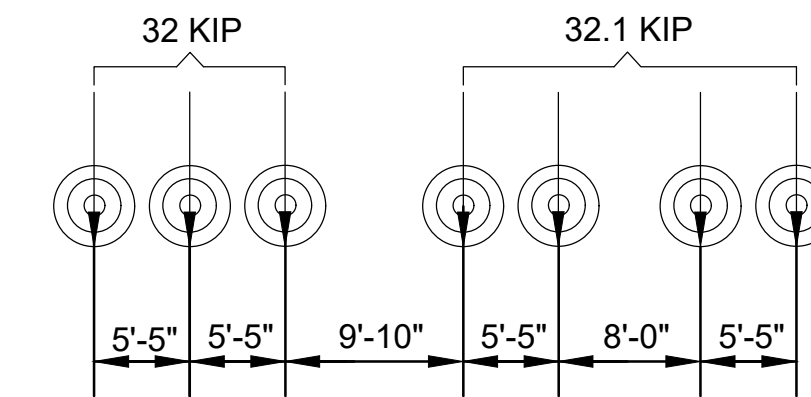


- MAX. ECCENTRIC GROUND PRESSURE:

AN ADDITIONAL IMPACT FACTOR OF 10% ON UNIFORM GROUND PRESSURE HAS BEEN INCLUDED IN THE DESIGN.

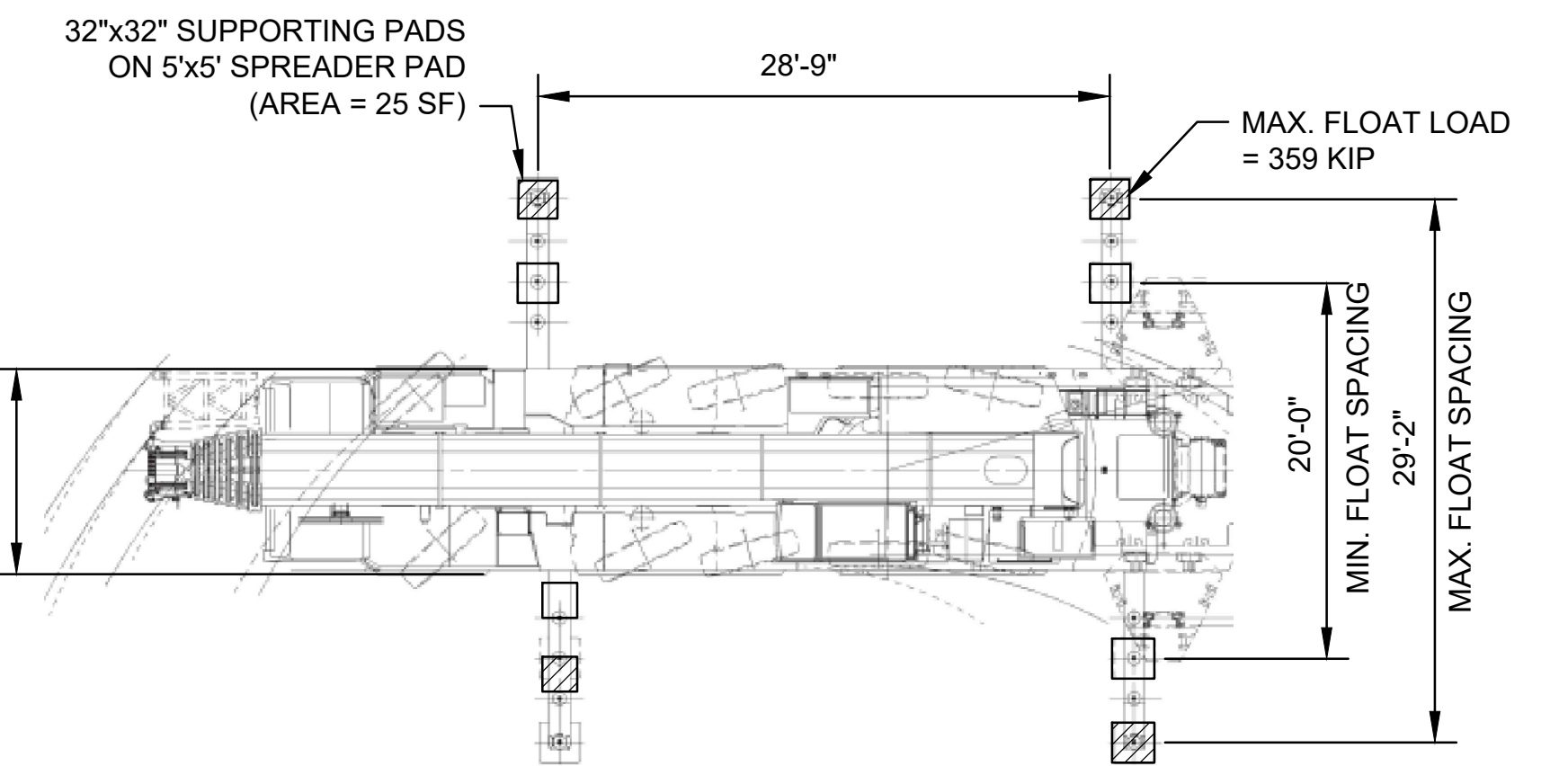
E. 275-TON CAPACITY MOBILE TRUCK CRANE (UNFACTORED, BASED ON GROVE GMK7550)

- AXLE LOADS:

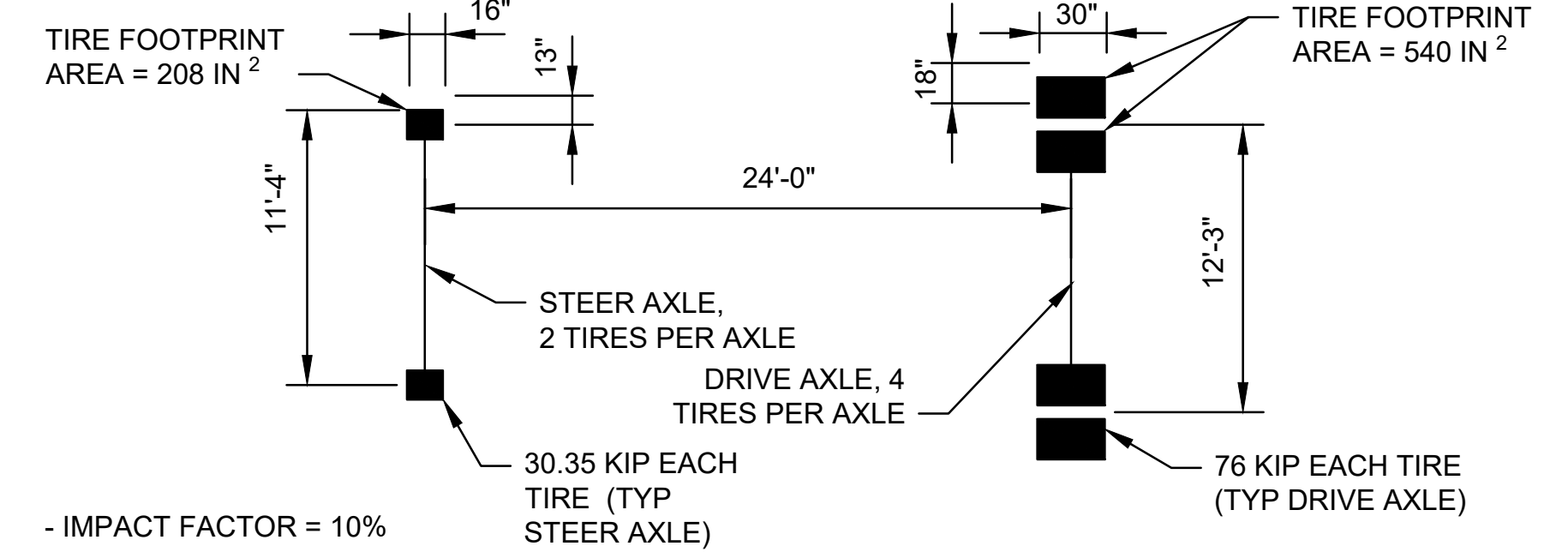


AN ADDITIONAL IMPACT FACTOR OF 10% ON AXLE LOADS HAS BEEN INCLUDED IN THE DESIGN.

- OUTRIGGER FLOAT LOADS:



F. CONTAINER HANDLER (BASED ON TAYLOR TETCP-1100I, UNFACTORED)



5.2 ICE LOADS

- A. **HORIZONTAL ICE LOADS ARE COMPUTED USING THE FOLLOWING ICE CHARACTERISTICS**
 - MAX DESIGN ICE FLOE SIZE = 750 FEET
 - DESIGN ICE THICKNESS = 36 INCHES
 - DESIGN ICE CRUSHING STRENGTH = 300 PSI
 - DESIGN ICE FLEXURAL STRENGTH = 100 PSI
- B. **VERTICAL ICE LOADS DUE TO ACCRETION ARE COMPUTED USING THE FOLLOWING CRITERIA:**
 - MAX ICE ACCRETION ON CYLINDRICAL PILES = 3 FEET RADIAL GROWTH

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REV	DATE	DESCRIPTION	BY	APVD		NOT FOR CONSTRUCTION			STRUCTURAL GENERAL NOTES (1 OF 2)	PORT OF ALASKA			
	PORT OF ALASKA MODERNIZATION PROGRAM			TERMINAL 2							ANCHORAGE, ALASKA			
	HORIZ SCALE: AS SHOWN			DATE:							T2-S-001			
VERT SCALE: N/A			SHEET: 5 OF 16											

Drawing: T2-S-001.DWG
 Date: Aug 26, 2022 - 1:21pm

STRUCTURAL GENERAL NOTES (CONT.)

6. SEISMIC DESIGN CRITERIA

6.1 SEISMIC PERFORMANCE CRITERIA

TERMINAL 2 STRUCTURES HAVE BEEN DESIGNED TO MEET THE PERFORMANCE REQUIREMENTS OF SEISMIC BERTH IN ACCORDANCE WITH POA SDM.

SEISMIC PERFORMANCE REQUIREMENTS		
STRUCTURES	SEISMIC HAZARD LEVEL	SEISMIC PERFORMANCE LEVEL
PILE-SUPPORTED WHARVES, AND TRESTLE	OLE	MINIMAL DAMAGE
	CLE	MINIMAL DAMAGE
	DE	MINIMAL DAMAGE/CONTROLLED AND REPAIRABLE DAMAGE ¹

NOTES:

OLE = OPERATING LEVEL EARTHQUAKE, 72-YEAR RETURN PERIOD.

CLE = CONTINGENCY LEVEL EARTHQUAKE, 475-YEAR RETURN PERIOD.

DE = DESIGN EARTHQUAKE, 975-YEAR RETURN PERIOD.

¹ WITH THE PROVISION TO BRING THE FACILITIES BACK INTO SERVICE WITHIN 1 WEEK AFTER THE EARTHQUAKE.

6.2 DESIGN RESPONSE SPECTRA

THE SPECTRAL ACCELERATION FOR DESIGN EARTHQUAKE AT GROUND SURFACE FOR A STRUCTURE WITH A 5% DAMPING, IS GIVEN IN THE TABLE BELOW.

PERIOD (s)	DE SPECTRAL ACCELERATION (g)	
	WHARF	TRESTLE
0.01	0.40	0.65
0.25	1.25	1.25
0.45	1.35	1.63
0.62	0.81	1.13
1.00	0.81	1.08
1.25	0.48	0.53
2.00	0.25	0.31
3.00	0.11	0.14
4.00	0.06	0.09
5.00	0.05	0.06

7. MATERIALS

7.1 CONCRETE

UNLESS OTHERWISE NOTED, THE 28-DAY COMPRESSIVE STRENGTH OF CONCRETE ($f'c$) SHALL CONFORM TO THE FOLLOWING:

- PRECAST CONCRETE DECK PANELS AND GIRDERS: $f'c$ = 10,000 PSI.
- CAST-IN-PLACE CONCRETE: $f'c$ = 4,000 PSI.
- CAST-IN-PLACE OR PRECAST CONCRETE PILE CAP: $f'c$ = 5,000 PSI.

7.2 REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A706, LOW-ALLOY STEEL BARS FOR CONCRETE REINFORCEMENT, USING THE FOLLOWING GRADES, UNLESS OTHERWISE NOTED:

- LONGITUDINAL PILE REINFORCING GRADE 80
- LONGITUDINAL PILE CAP AND TOPPING SLAB REINFORCING GRADE 80
- STIRRUPS, TIES AND SPIRALS GRADE 60
- ALL OTHER LOCATIONS (UNO) GRADE 60

7.3 STRUCTURAL STEEL




UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

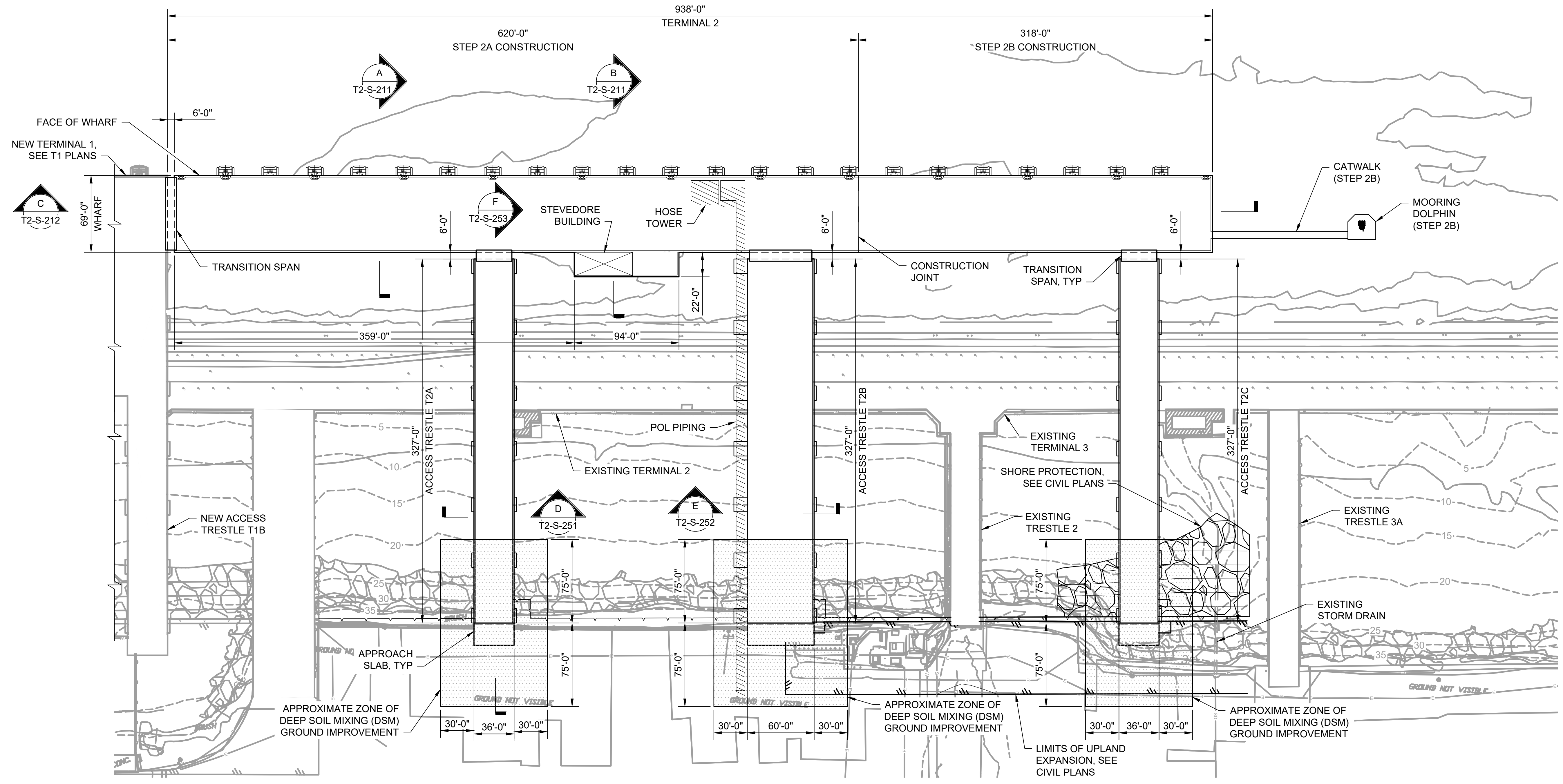
- STEEL PIPE PILE: API 5L X52, OR AWWA C200 WITH ASTM A572 GR 50 MATERIAL.

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-S-002.DWG
Date: Aug 26, 2022 - 1:27pm

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REV	DATE	DESCRIPTION	BY	APVD	 DSGN H. GUAN DR D. MONK CHK S. CHEUNG APVD D. PLAYER CONSULTANT	NOT FOR CONSTRUCTION			STRUCTURAL GENERAL NOTES (2 OF 2)	PORT OF ALASKA		
											PORT OF ALASKA MODERNIZATION PROGRAM		
											TERMINAL 2		
											ANCHORAGE, ALASKA		
										HORIZ SCALE: AS SHOWN	DATE:	T2-S-002	
										VERT SCALE: N/A	SHEET: 6 OF 16		



15% DESIGN - NOT FOR CONSTRUCTION

PLAN

SCALE: 1"=50'-0"

CONCEPTUAL

Drawing: T2-S-011.DWG
Date: Aug 26, 2022 - 1:53pm

REV	DATE	DESCRIPTION	BY	APVD

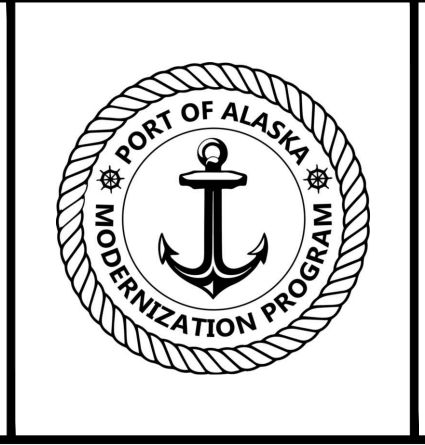
REVISIONS

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
CONSULTANT			

NOT FOR CONSTRUCTION

SEAL

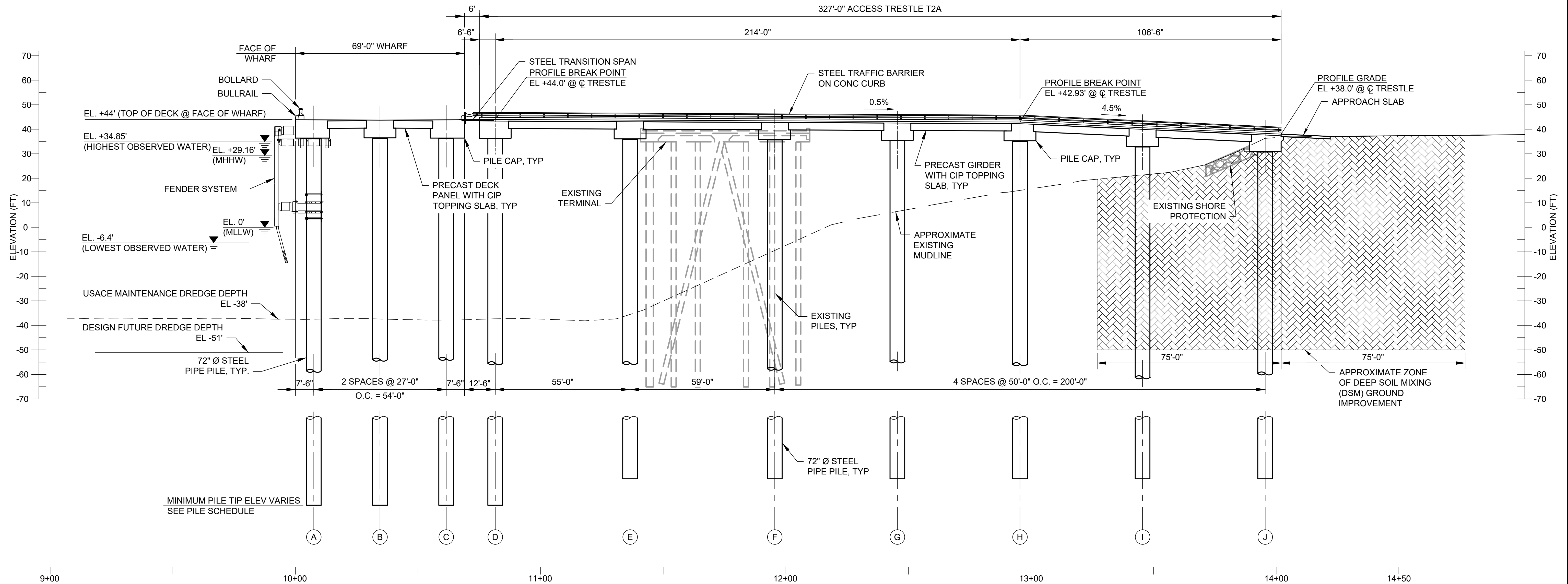


STRUCTURAL
GENERAL LAYOUT

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-011
VERT SCALE: NA	SHEET: 7 OF 16	

GROUND IMPROVEMENT NOTES:

1. DEEP SOIL MIXED CELLS SHALL HAVE A MINIMUM 28-DAY UNCONFINED COMPRESSION STRENGTH OF 300 PSI.
2. CONSTRUCT CONTINUOUS SOIL-CEMENT STRUCTURES IN WALLS/PANELS TO ACHIEVE REPLACEMENT RATIO OF 25%.
3. GROUND IMPROVEMENT SHALL EXTEND TO BCF CLAY LAYER.
4. FINAL DIMENSIONS AND REPLACEMENT RATIO OF GROUND IMPROVEMENT ZONE SHALL BE DETERMINED BY FINAL DESIGNER.



TYPICAL ELEVATION - STEP 2A
SCALE: 1" = 20'-0"

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

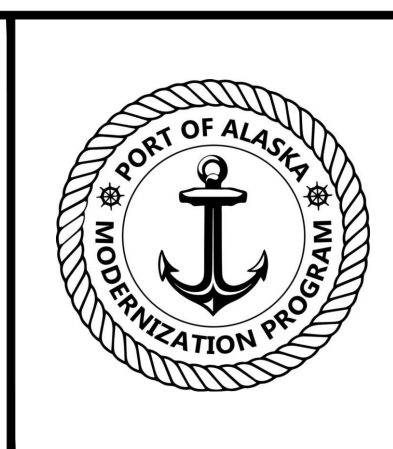
Drawing: T2-S-012.DWG
Date: Aug 25, 2022 - 4:24pm

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
CONSULTANT			

NOT FOR CONSTRUCTION



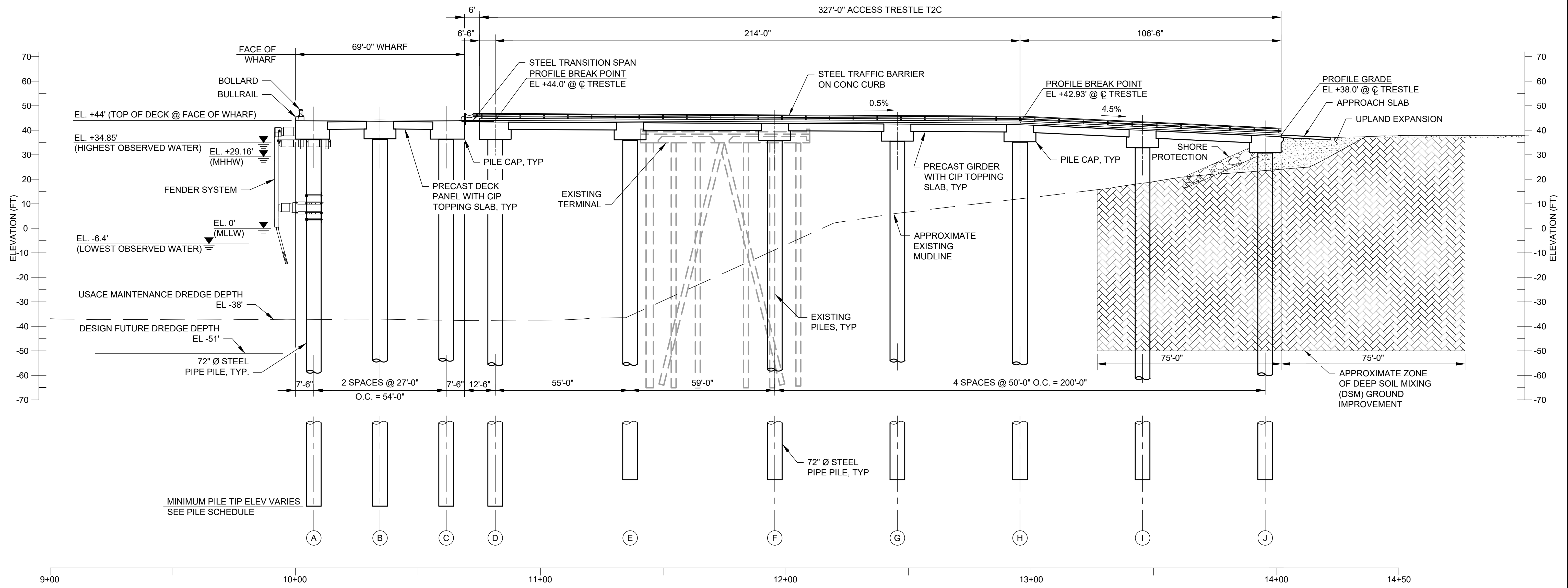
STRUCTURAL
TYPICAL ELEVATION
STEP 2A

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
TERMINAL 2
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T2-S-012
VERT SCALE: NA	SHEET: 8 OF 16	

GROUND IMPROVEMENT NOTES:

1. DEEP SOIL MIXED CELLS SHALL HAVE A MINIMUM 28-DAY UNCONFINED COMPRESSION STRENGTH OF 300 PSI.
2. CONSTRUCT CONTINUOUS SOIL-CEMENT STRUCTURES IN WALLS/PANELS TO ACHIEVE REPLACEMENT RATIO OF 25%.
3. GROUND IMPROVEMENT SHALL EXTEND TO BCF CLAY LAYER.
4. FINAL DIMENSIONS AND REPLACEMENT RATIO OF GROUND IMPROVEMENT ZONE SHALL BE DETERMINED BY FINAL DESIGNER.



TYPICAL ELEVATION - STEP 2B
SCALE: 1" = 20'-0"

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

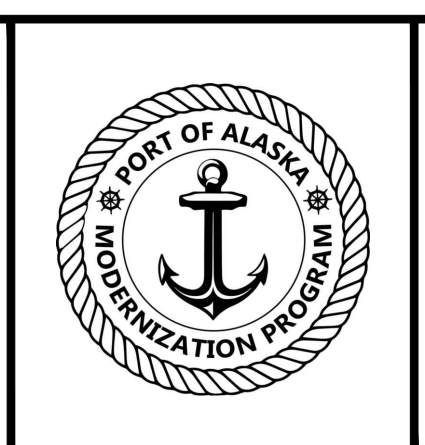
REV	DATE	DESCRIPTION	BY	APVD

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
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CONSULTANT

NOT FOR CONSTRUCTION

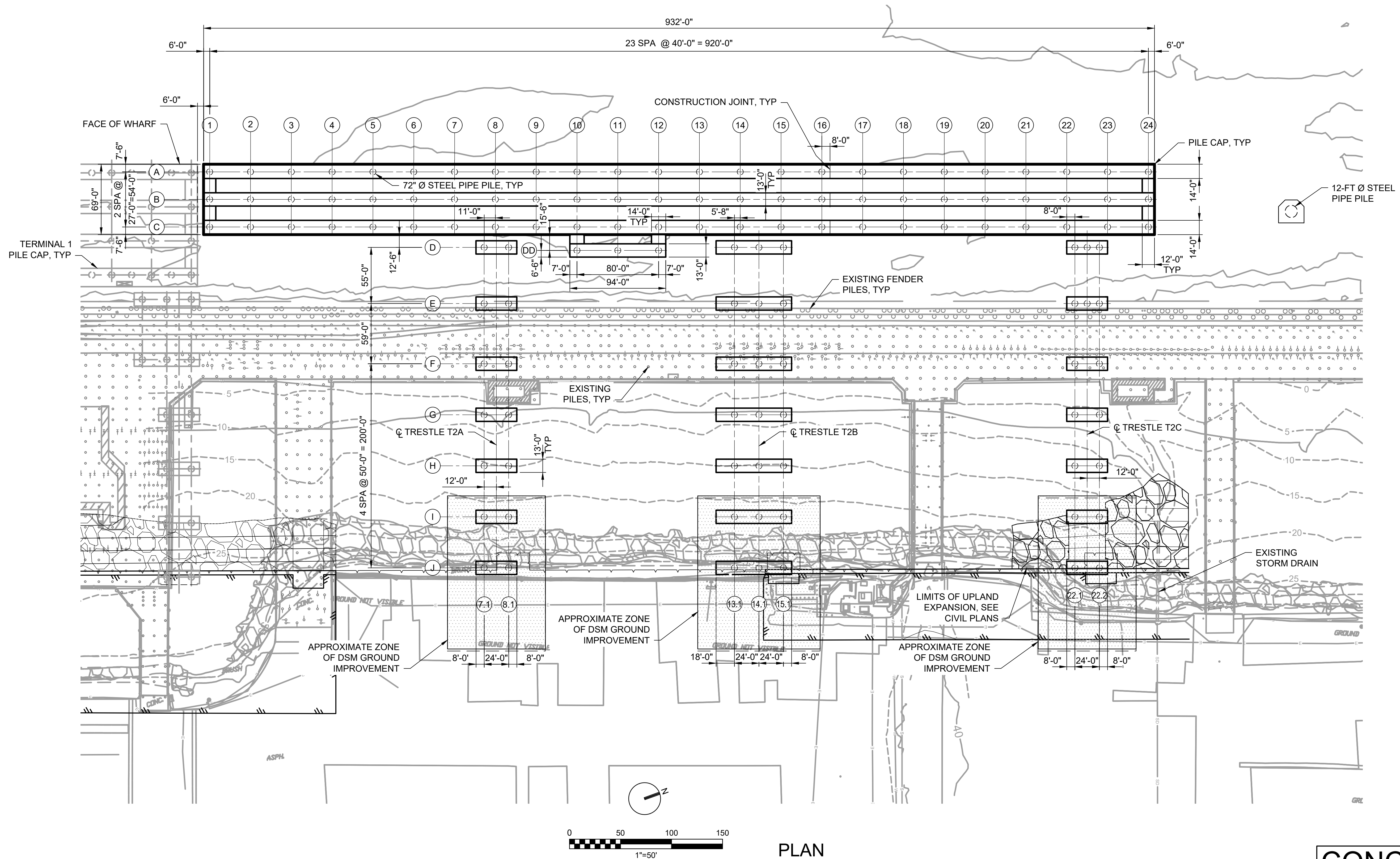


STRUCTURAL
TYPICAL ELEVATION
STEP 2B

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
TERMINAL 2
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE:	T2-S-013
VERT SCALE: NA	SHEET: 9 OF 16	

Drawing: T2-S-013.DWG
Date: Aug 26, 2022 - 1:58pm



15% DESIGN - NOT FOR CONSTRUCTION

PLAN
SCALE: 1"=50'-0"

CONCEPTUAL

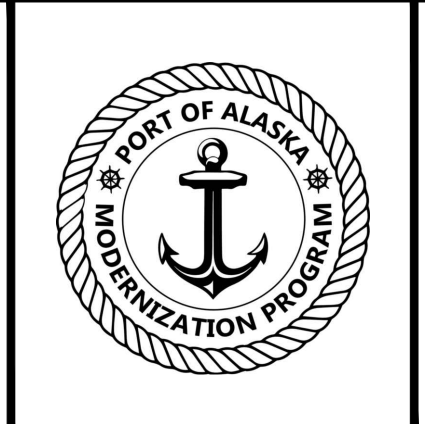
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
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CONSULTANT

NOT FOR CONSTRUCTION

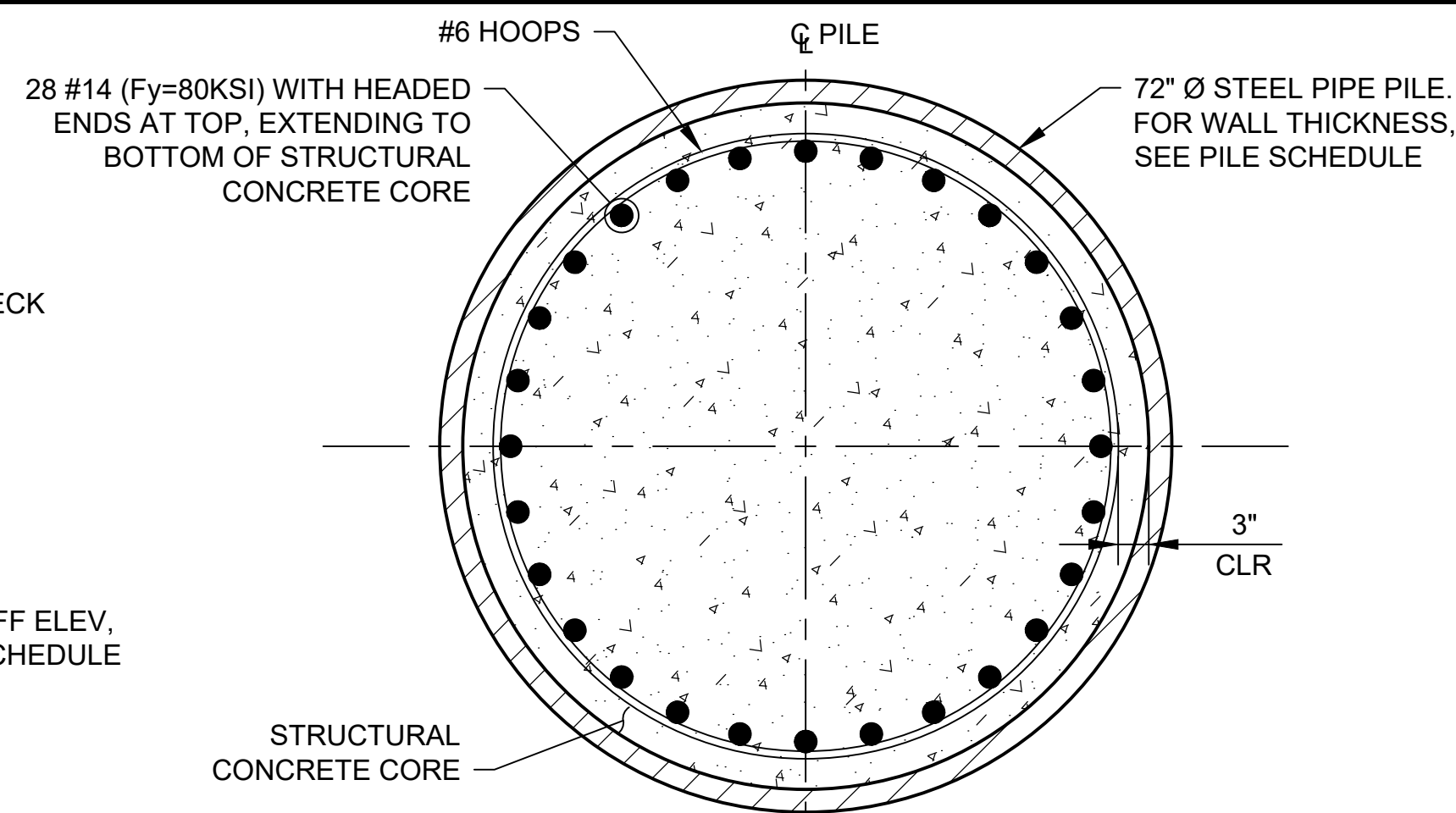
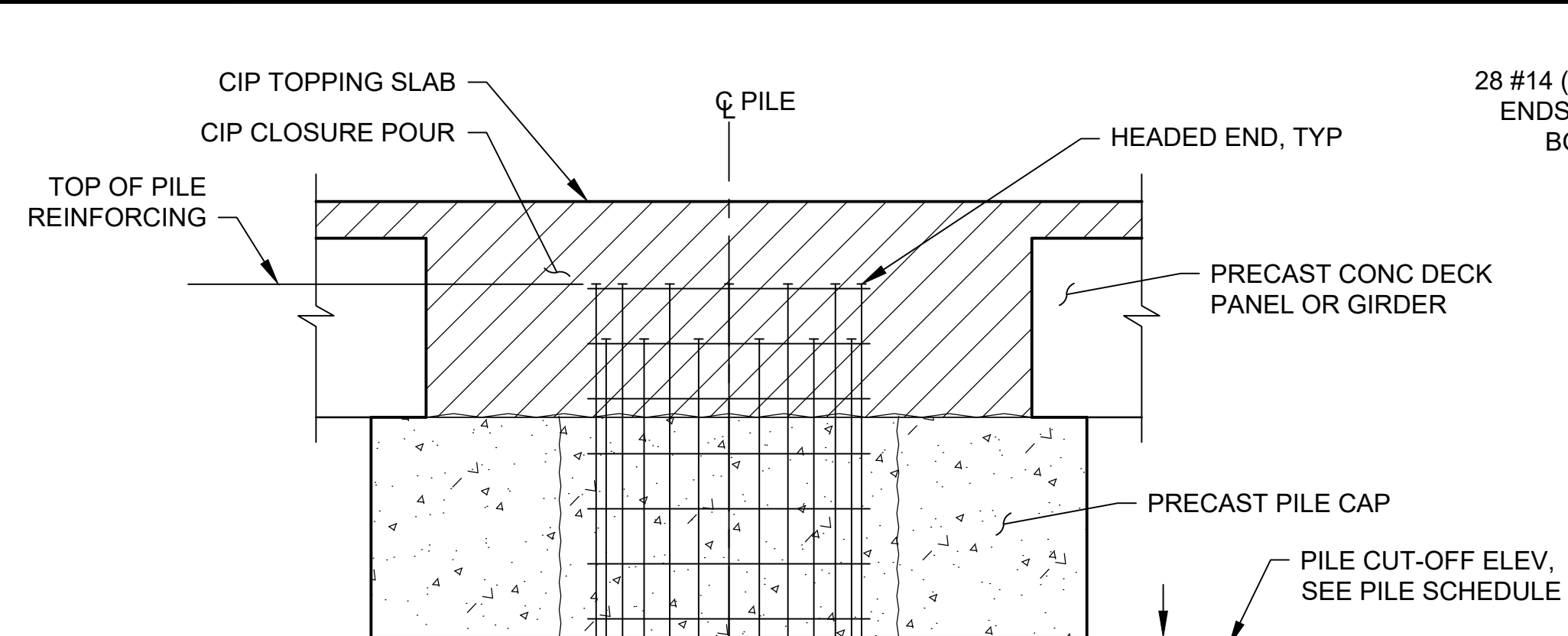


STRUCTURAL
PILE AND PILE CAP LAYOUT

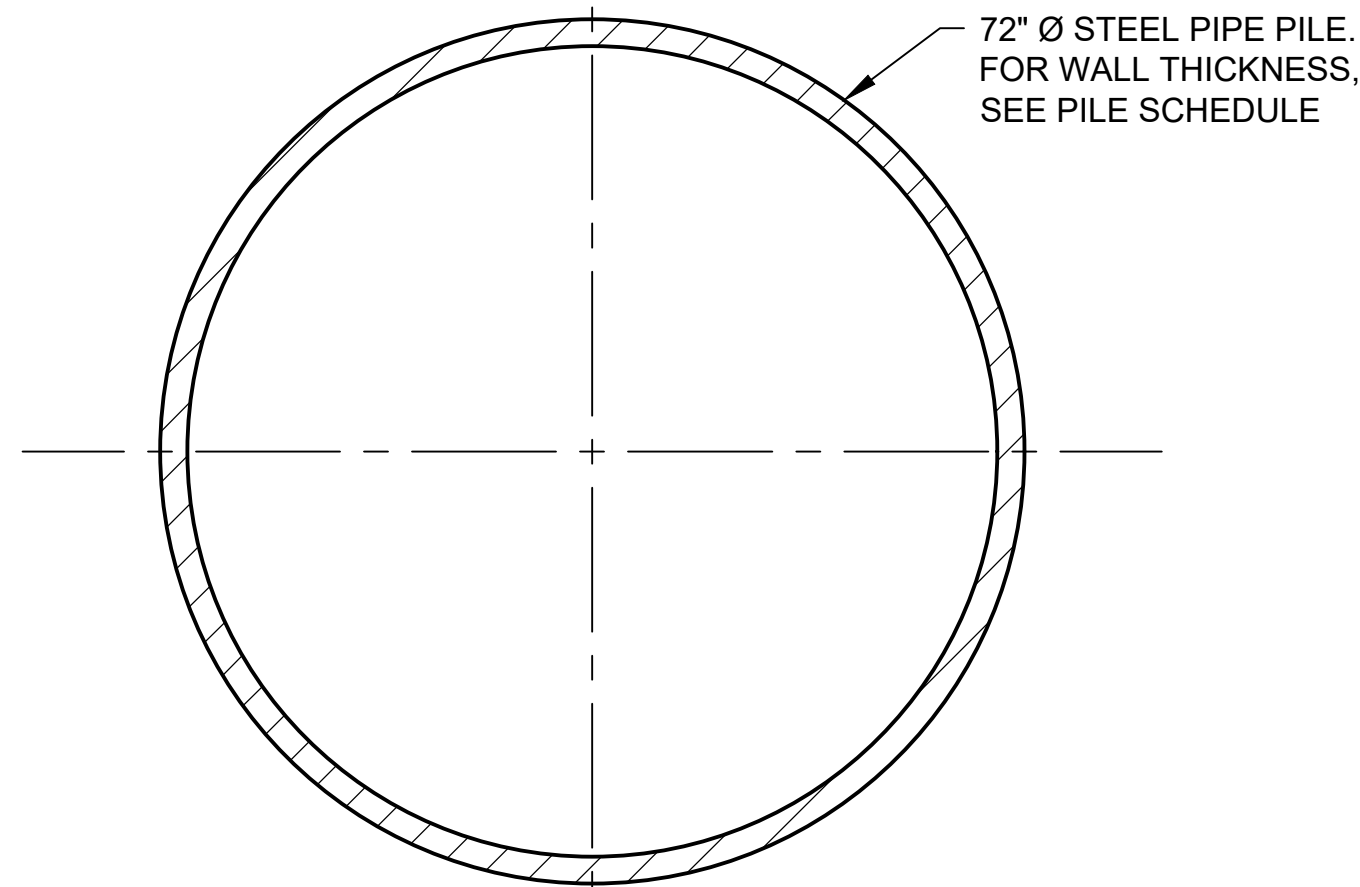
PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-101
VERT SCALE: NA	SHEET: 10 OF 16	

Drawing: T2-S-101.DWG
Date: Aug 25, 2022 - 1:18pm

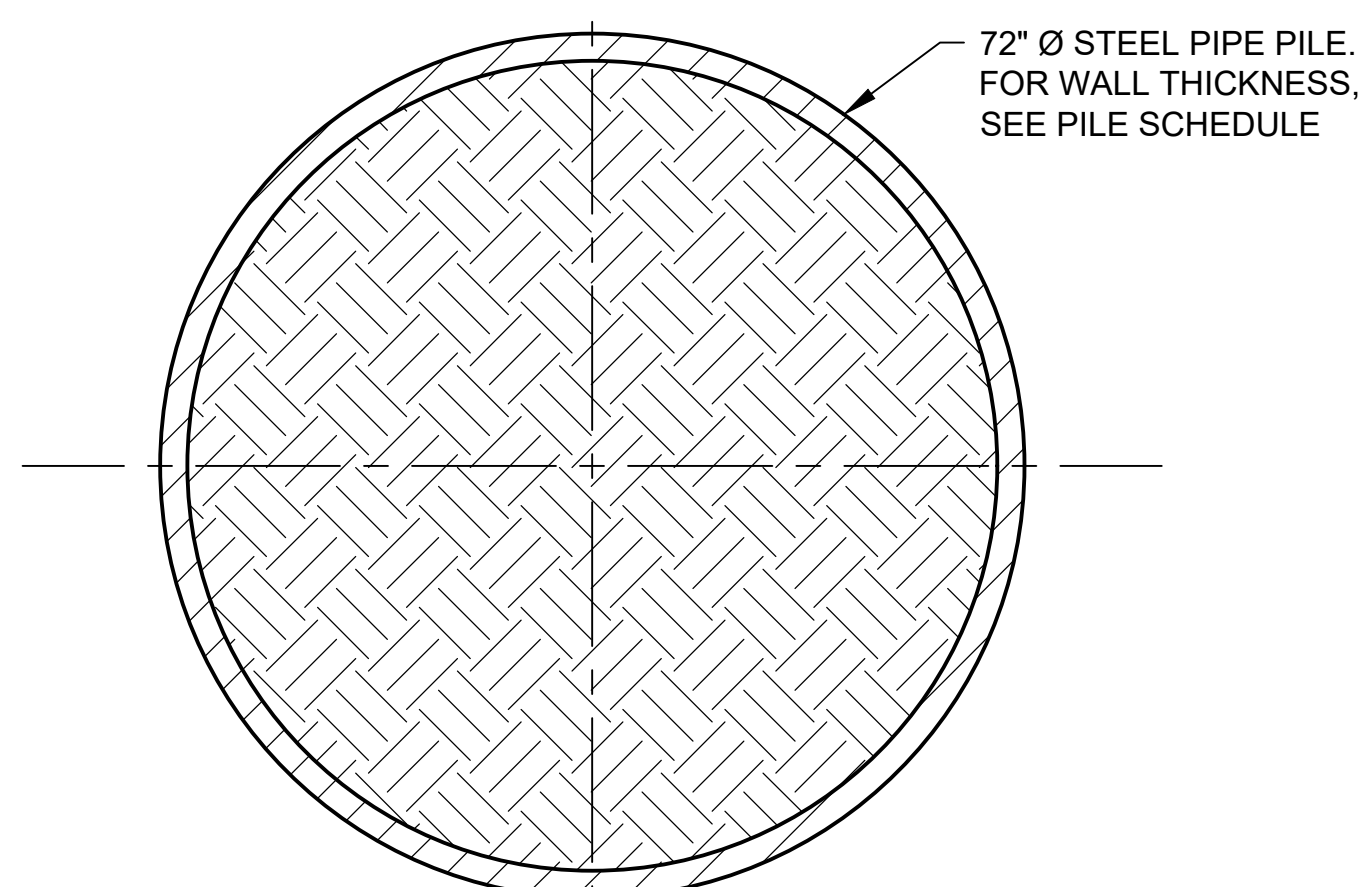
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



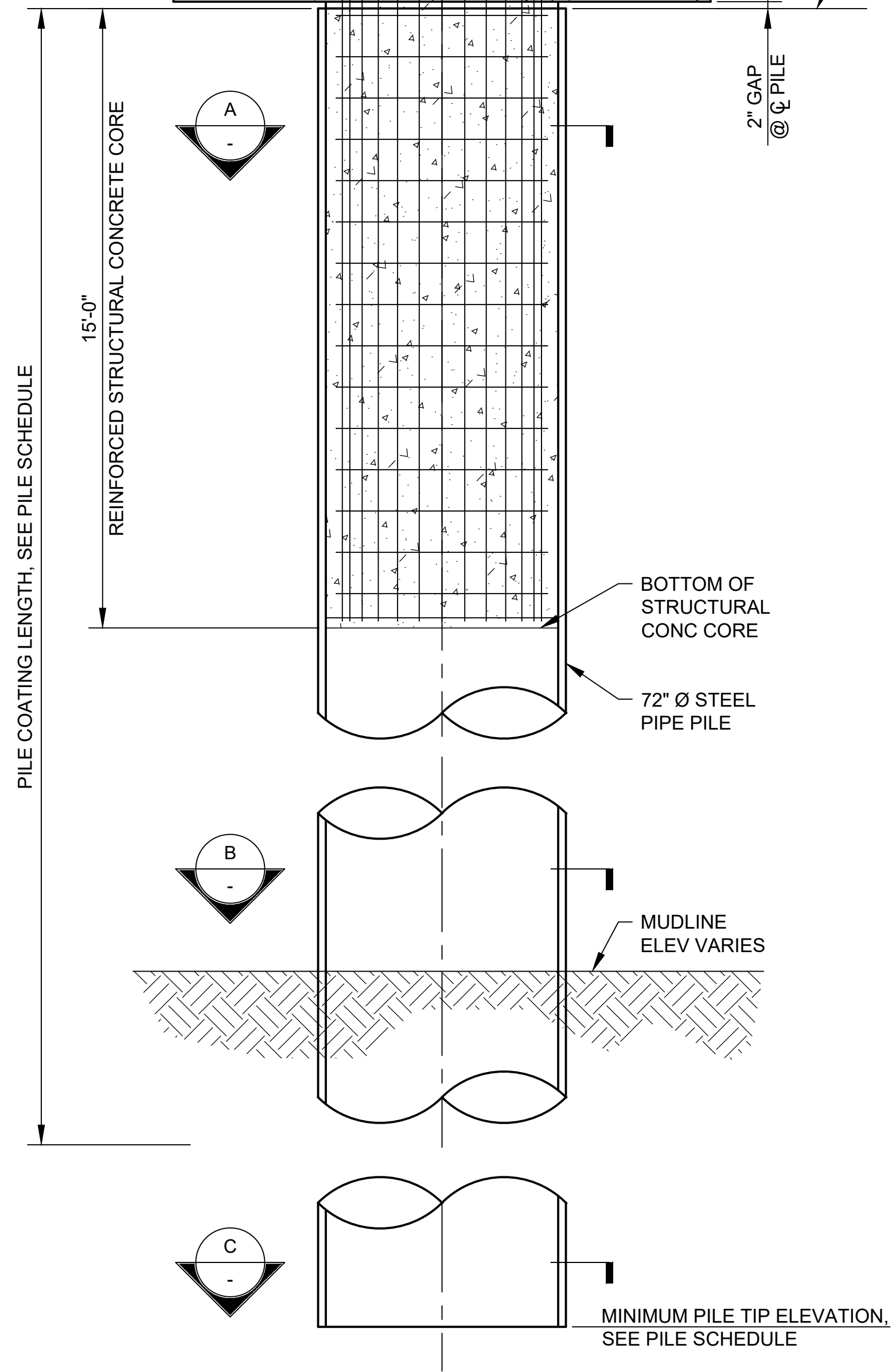
A PILE SECTION
SCALE: 3/4" = 1'-0"



B PILE SECTION
SCALE: 3/4" = 1'-0"



C PILE SECTION
SCALE: 3/4" = 1'-0"



TYPICAL PILE ELEVATION
SCALE: 3/8" = 1'-0"

PILE SCHEDULE

TERMINAL 2 WHARF							
PILE ROW	PILE GRID	PILE DIAMETER OD (IN)	PILE WALL THICKNESS (IN)	PILE CUT-OFF ELEVATION (FT)	MINIMUM PILE TIP ELEVATION (FT)	PILE COATING LENGTH (FT)	PILE LENGTH ¹ (FT)
A	1 - 24	72	2.25	36.12	-213	130	260
B	1 - 24	72	2.25	36.26	-193	120	240
C	1 - 24	72	2.25	36.12	-193	120	240
DD	10/11/12	72	2.25	36.12	-161	110	210

ACCESS TRESTLE T2A							
PILE ROW	PILE GRID	PILE DIAMETER OD (IN)	PILE WALL THICKNESS (IN)	PILE CUT-OFF ELEVATION (FT)	MINIMUM PILE TIP ELEVATION (FT)	PILE COATING LENGTH (FT)	PILE LENGTH ¹ (FT)
D	7.1/8.1	72	2.25	35.75	-148	110	200
E	7.1/8.1	72	2.25	35.48	-140	100	190
F	7.1/8.1	72	2.25	35.18	-138	90	190
G	7.1/8.1	72	2.25	34.93	-138	70	190
H	7.1/8.1	72	2.25	34.68	-136	60	190
I	7.1/8.1	72	2.25	32.43	-138	50	190
J	7.1/8.1	72	2.25	30.04	-122	40	170

ACCESS TRESTLE T2B							
PILE ROW	PILE GRID	PILE DIAMETER OD (IN)	PILE WALL THICKNESS (IN)	PILE CUT-OFF ELEVATION (FT)	MINIMUM PILE TIP ELEVATION (FT)	PILE COATING LENGTH (FT)	PILE LENGTH ¹ (FT)
D	13.1/14.1/15.1	72	2.25	35.75	-148	110	200
E	13.1/14.1/15.1	72	2.25	35.48	-140	100	190
F	13.1/14.1/15.1	72	2.25	35.18	-138	90	190
G	13.1/14.1/15.1	72	2.25	34.93	-138	70	190
H	13.1/14.1/15.1	72	2.25	34.68	-136	60	190
I	13.1/14.1/15.1	72	2.25	32.43	-138	50	190
J	13.1/14.1/15.1	72	2.25	30.04	-122	40	170

ACCESS TRESTLE T2C							
PILE ROW	PILE GRID	PILE DIAMETER OD (IN)	PILE WALL THICKNESS (IN)	PILE CUT-OFF ELEVATION (FT)	MINIMUM PILE TIP ELEVATION (FT)	PILE COATING LENGTH (FT)	PILE LENGTH ¹ (FT)
D	22.1/22.2	72	2.25	35.75	-148	110	200
E	22.1/22.2	72	2.25	35.48	-140	100	190
F	22.1/22.2	72	2.25	35.18	-138	90	190
G	22.1/22.2	72	2.25	34.93	-138	70	190
H	22.1/22.2	72	2.25	34.68	-136	60	190
I	22.1/22.2	72	2.25	32.43	-138	50	190
J	22.1/22.2	72	2.25	30.04	-122	40	170

NOTES:
¹PILE LENGTH INCLUDES 10 FT CONTINGENCY AND IS ROUNDED UP TO THE NEAREST 10 FT.

CONCEPTUAL

15% DESIGN - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

Jacobs

DSGN: H. GUAN | DR: D. MONK | CHK: S. CHEUNG | APVD: D. PLAYTER

NOT FOR CONSTRUCTION

PORT OF ALASKA MODERNIZATION PROGRAM

STRUCTURAL PILE DETAILS

PORT OF ALASKA MODERNIZATION PROGRAM

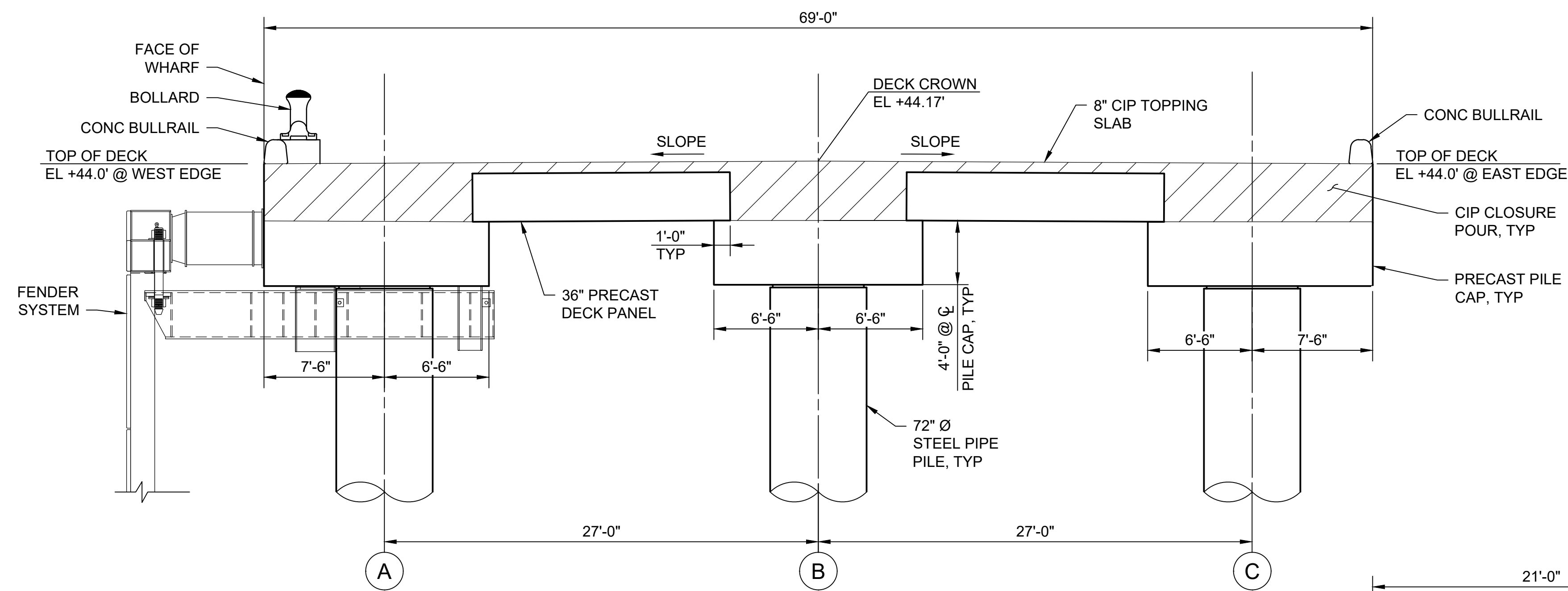
STRUCTURAL PILE DETAILS

PORT OF ALASKA
 PORT OF ALASKA MODERNIZATION PROGRAM
 TERMINAL 2
 ANCHORAGE, ALASKA

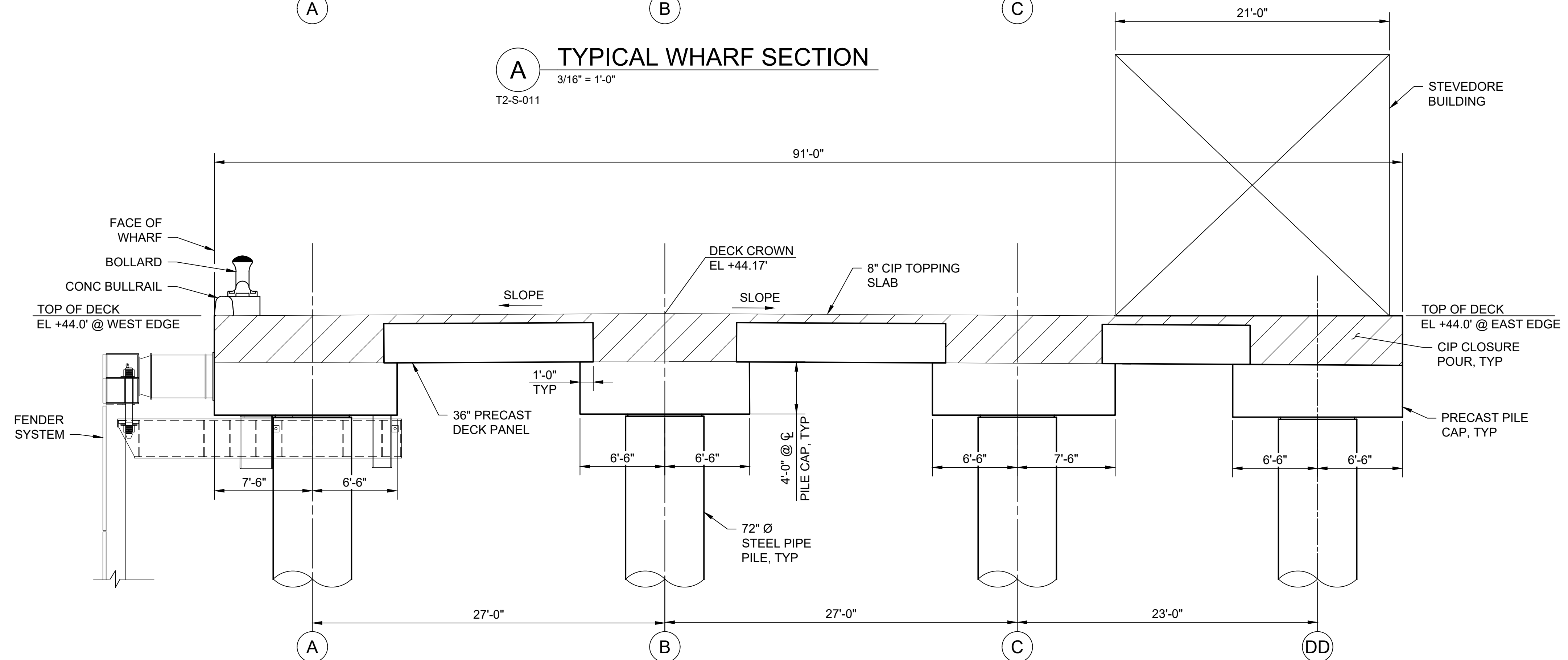
HORIZ SCALE: AS SHOWN | DATE: | SHEET: 10 OF 16

VERT SCALE: NA

T2-S-102



A TYPICAL WHARF SECTION
 3/16" = 1'-0"
 T2-S-011



B SECTION @ STEVEDORE BUILDING
 3/16" = 1'-0"
 T2-S-011

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

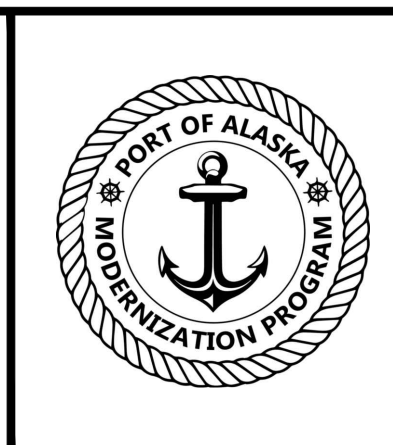
Drawing: T2-S-211.DWG
Date: Aug 25, 2022 - 4:43pm

REV	DATE	DESCRIPTION	BY	APVD

Jacobs

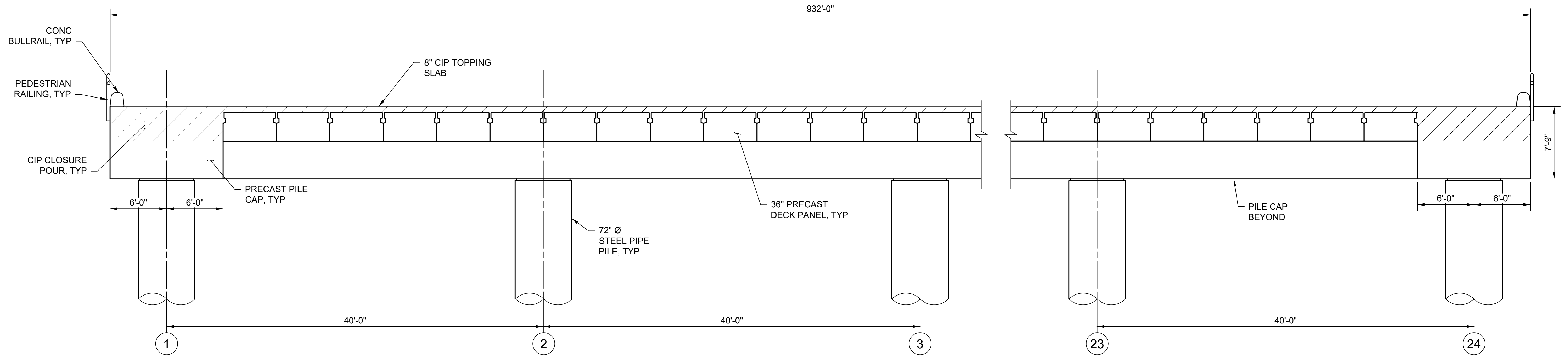
DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
CONSULTANT			

NOT FOR CONSTRUCTION



STRUCTURAL
 WHARF
 DECK TYPICAL SECTIONS (1 OF 2)

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-211
VERT SCALE: NA	SHEET: 12 OF 16	




C TYPICAL WHARF LONGITUDINAL SECTION
 3/16" = 1'-0"
 T2-S-011

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-S-212.DWG
Date: Aug 25, 2022 - 4:54pm

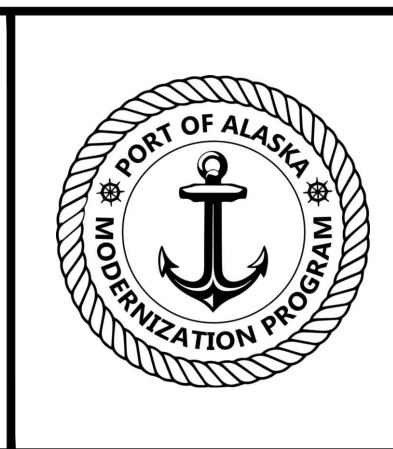
REV	DATE	DESCRIPTION	BY	APVD
VERIFY SCALES				
BAR IS ONE INCH ON ORIGINAL DRAWING				
0  1"				
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYTER
CONSULTANT			

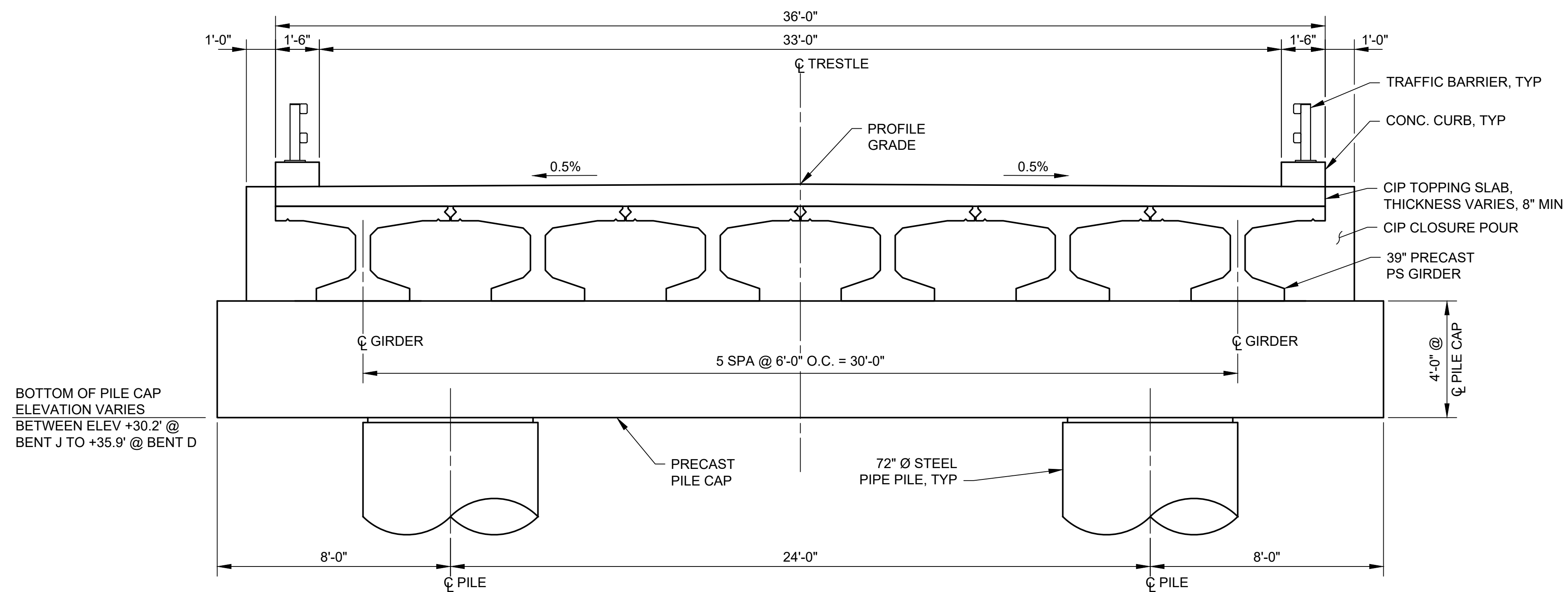
NOT FOR CONSTRUCTION

SEAL



STRUCTURAL
 WHARF
 DECK TYPICAL SECTIONS (2 OF 2)

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-212
VERT SCALE: NA	SHEET: 13 OF 16	



D TYPICAL SECTION - TRESTLES T2A & T2C
SCALE: 3/8" = 1'-0"
T2-S-011

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-S-251.DWG
Date: Aug 25, 2022 - 4:49pm

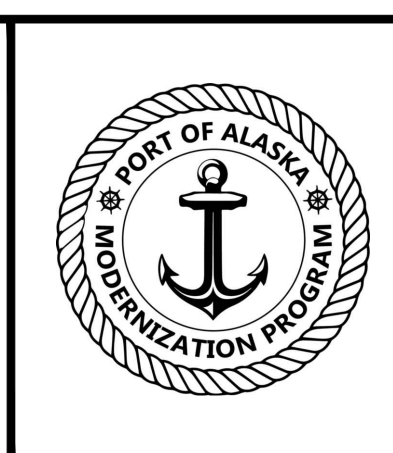
REV	DATE	DESCRIPTION	BY	APVD
VERIFY SCALES				
BAR IS ONE INCH ON ORIGINAL DRAWING				
0 1"				
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.				
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYTER
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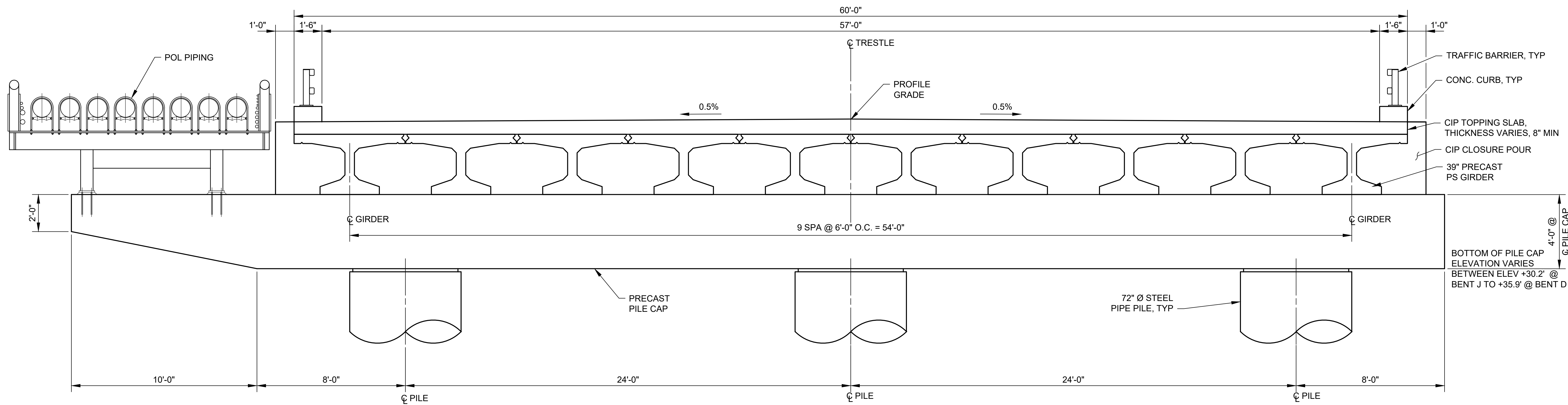
CONSULTANT

NOT FOR CONSTRUCTION



STRUCTURAL
ACCESS TRESTLE
TYPICAL SECTIONS (1 OF 3)

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-251
VERT SCALE: NA	SHEET: 14 OF 16	



E TYPICAL SECTION - TRESTLE T2B
 SCALE: 3/8" = 1'-0"
 T2-S-011

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-S-252.DWG
Date: Aug 25, 2022 - 4:56pm

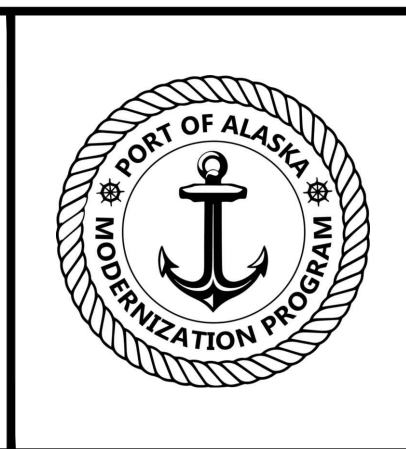
REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

Jacobs

DSGN H. GUAN	DR D. MONK	CHK S. CHEUNG	APVD D. PLAYER
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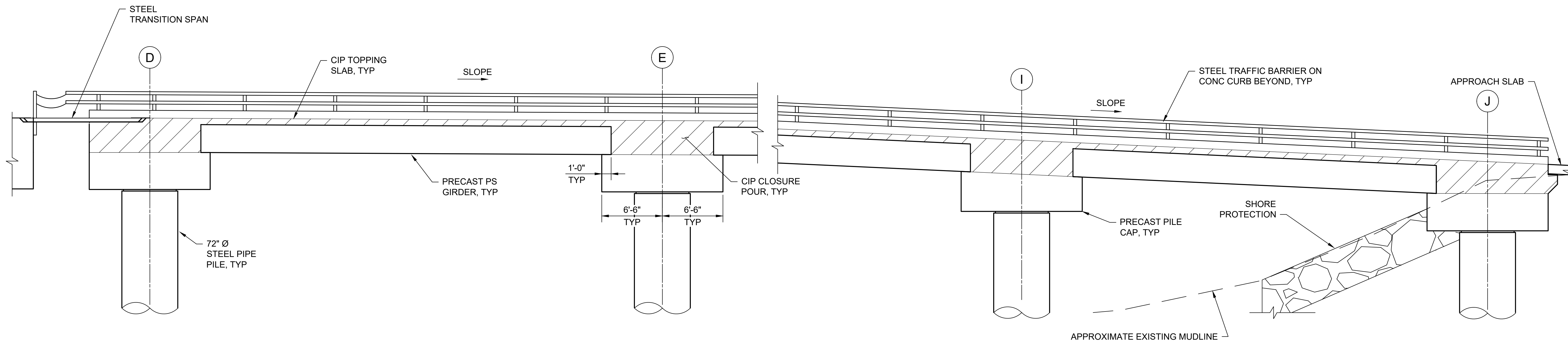
CONSULTANT

NOT FOR CONSTRUCTION



STRUCTURAL
ACCESS TRESTLE
TYPICAL SECTIONS (2 OF 3)

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-252
VERT SCALE: NA	SHEET: 15 OF 16	



F TYPICAL TRESTLE LONGITUDINAL SECTION
 3/16" = 1'-0"
 T2-S-011 NOTE: TRESTLE T2A SHOWN, T2B & T2C SIMILAR.

15% DESIGN - NOT FOR CONSTRUCTION

CONCEPTUAL

Drawing: T2-S-253.DWG Date: Aug 25, 2022 - 5:08pm

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

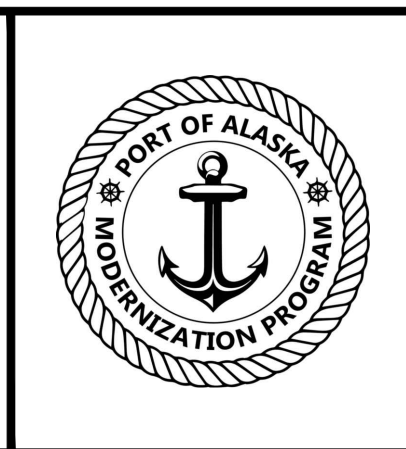
Jacobs

DSGN	DR	CHK	APVD
H. GUAN	D. MONK	S. CHEUNG	D. PLAYER

CONSULTANT

NOT FOR CONSTRUCTION

SEAL



STRUCTURAL
 ACCESS TRESTLE
 TYPICAL SECTIONS (3 OF 3)

PORT OF ALASKA		
PORT OF ALASKA MODERNIZATION PROGRAM		
TERMINAL 2		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE:	T2-S-253
VERT SCALE: NA	SHEET: 16 OF 16	