

# **Municipality of Anchorage**

**Port of Alaska**

**ENVIRONMENTAL SITE ASSESSMENT SERVICES  
REQUEST FOR PROPOSAL NO. 2022P034**

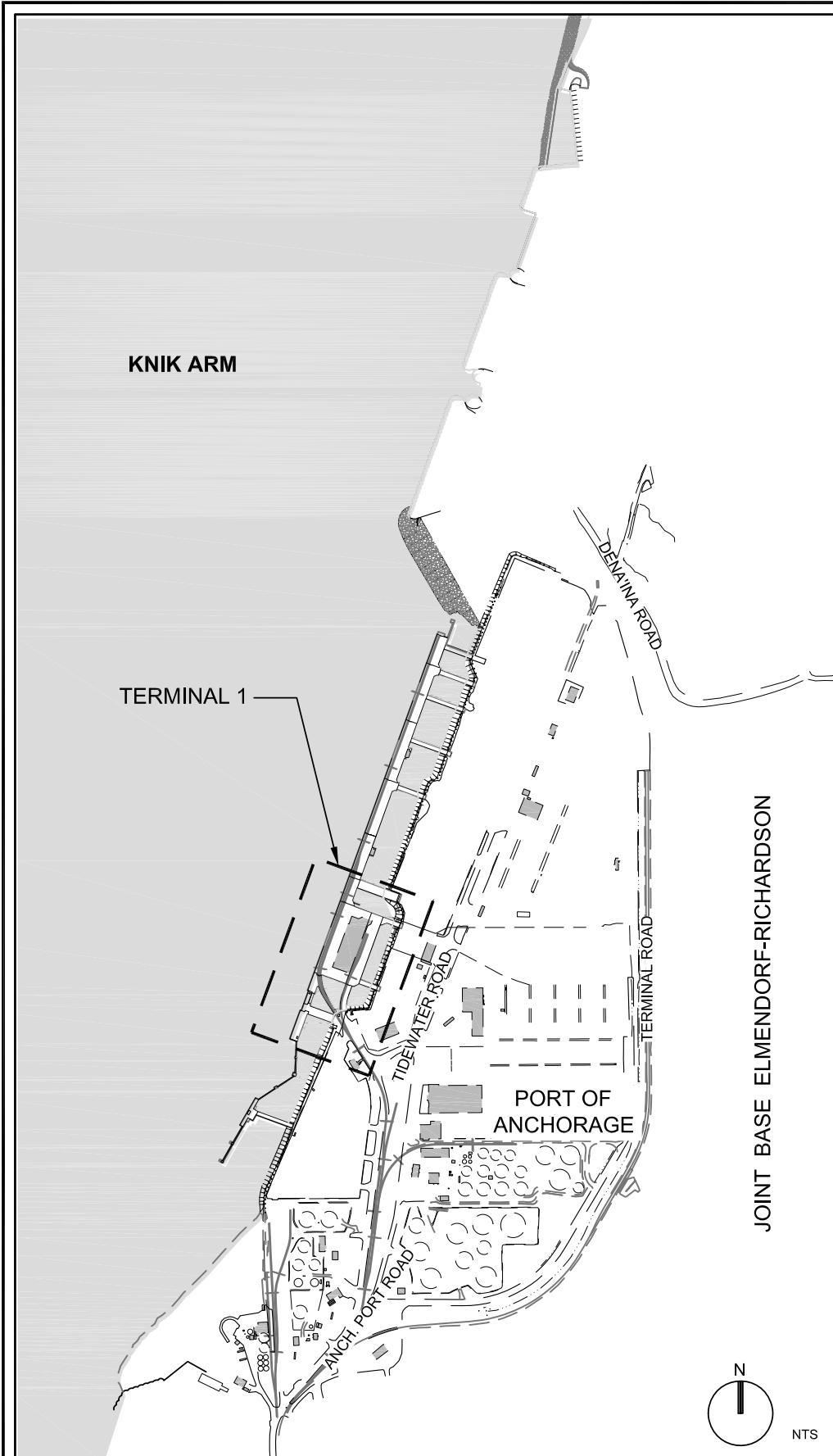
**ATTACHMENT 04**

**Terminal 1 (T1) Preliminary Design Plans**

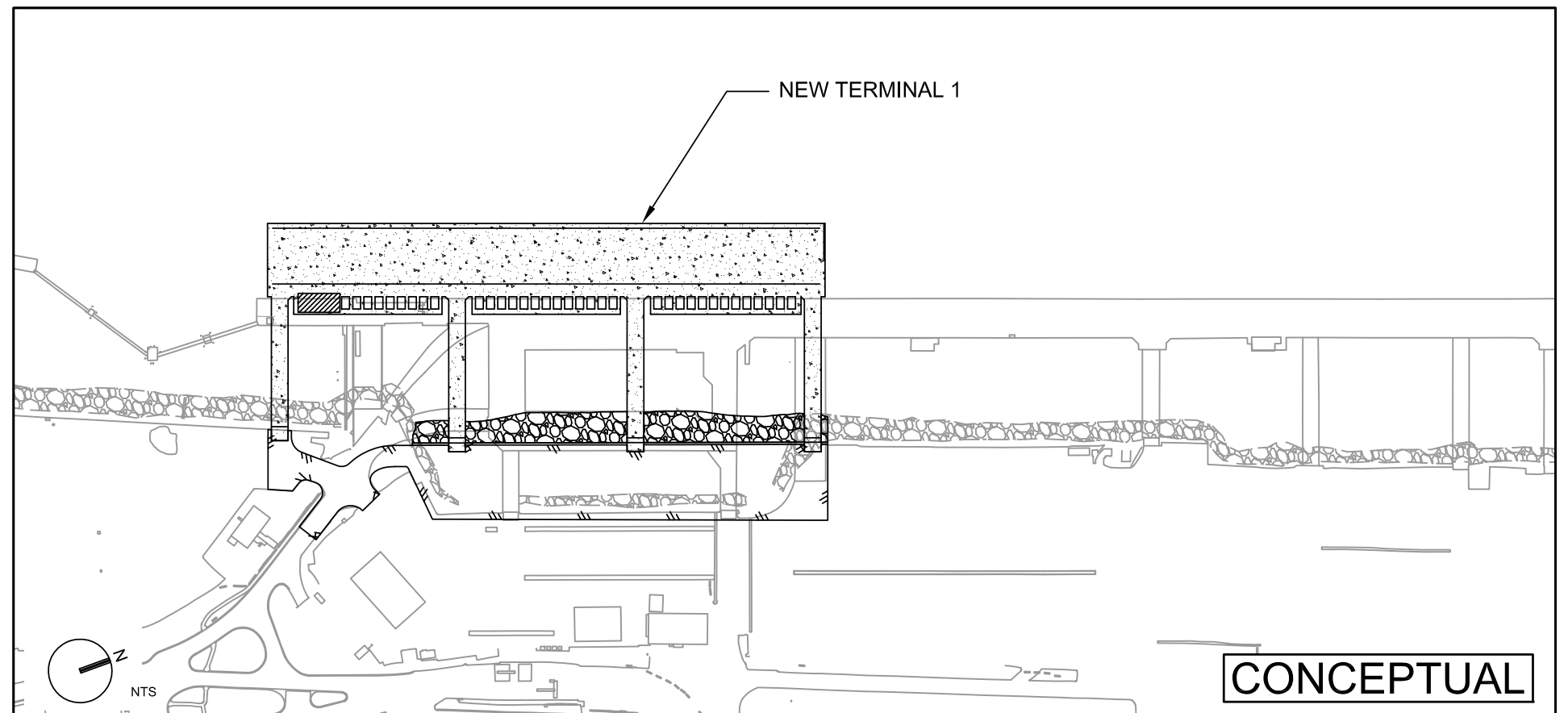


# ANCHORAGE PORT MODERNIZATION PROGRAM

## TERMINAL 1 (T1) PROJECT (NUMBER)



VICINITY MAP



LOCATION MAP

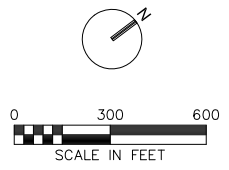
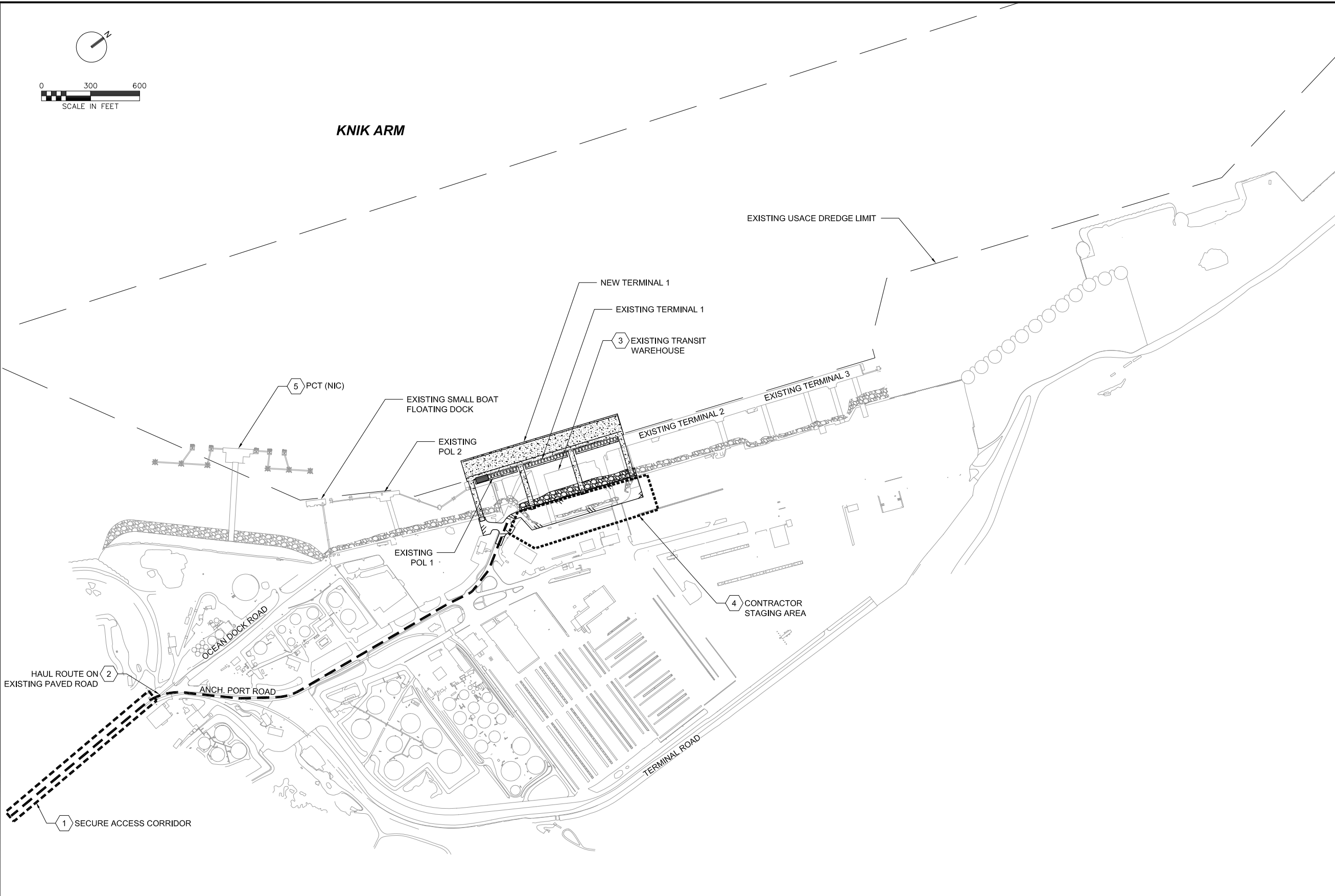
**CONCEPTUAL**

NOT FOR  
CONSTRUCTION



**SHEET KEYNOTES**

1. THE PORT OF ANCHORAGE IS A RESTRICTED FACILITY AND SECURITY CLEARANCE IS REQUIRED FOR PROJECT ACCESS. PORT ACCESS MAY BE LIMITED OR RESTRICTED AT ANY TIME. COORDINATE AND COMPLY WITH CONTRACTOR ACCESS AND SECURITY PROTOCOLS THROUGHOUT CONSTRUCTION.
2. MUNICIPAL AND STATE LOAD RESTRICTIONS APPLY. ALL LOADS ARE TO BE SECURED TO PREVENT DEBRIS FROM SCATTERING ON ROADWAYS. MANAGE FUGITIVE DUST FROM EARTH MOVING OPERATIONS ACCORDING TO THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
3. CONFIRM THAT ALL OPERATIONS FROM EXISTING TRANSIT WAREHOUSE ARE RELOCATED PRIOR TO DEMOLITION OF EXISTING TERMINAL 1.
4. AREA SHOWN IS APPROXIMATE. LIMITED CONTRACTOR STAGING WILL BE AVAILABLE WITHIN THE PROJECT LIMITS. COORDINATE FINAL STAGING AREA LAYOUT WITH THE OWNER'S REPRESENTATIVE PRIOR TO MOBILIZATION. DO NOT STAGE EQUIPMENT OR MATERIALS OUTSIDE OF THE DESIGNATED STAGING AREA WITHOUT OBTAINING PERMISSION FROM THE OWNER'S REPRESENTATIVES SO AS NOT TO INTERRUPT EXISTING OPERATIONS.
5. CONSTRUCTION OF NEW PETROLEUM AND CEMENT TERMINAL (PCT) TO BE COMPLETED PRIOR TO NEW TERMINAL 1 CONSTRUCTION IN ACCORDANCE WITH APMP PHASING.



**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN M. HAAPALA	DR E. VILCE	CHK J. TAYLOR	APVD D. PLAYER
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CONSULTANT

**NOT FOR CONSTRUCTION**



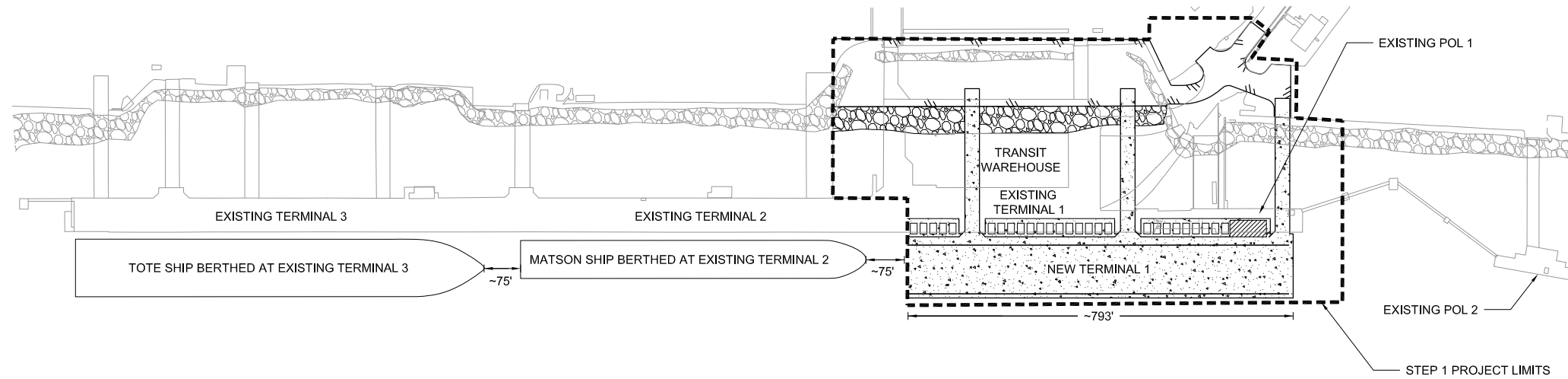
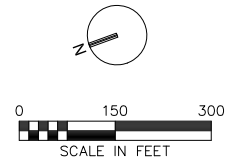
**GENERAL**  
OVERALL SITE PLAN, HAUL ROUTES AND TRAFFIC CONTROL

PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	T1-G-2001
VERT SCALE: N/A	SHEET: 3 OF 38	

Drawing: DE-DWG-20161028-T1-G2001.DWG  
Date: May 13, 2017 - 11:12am

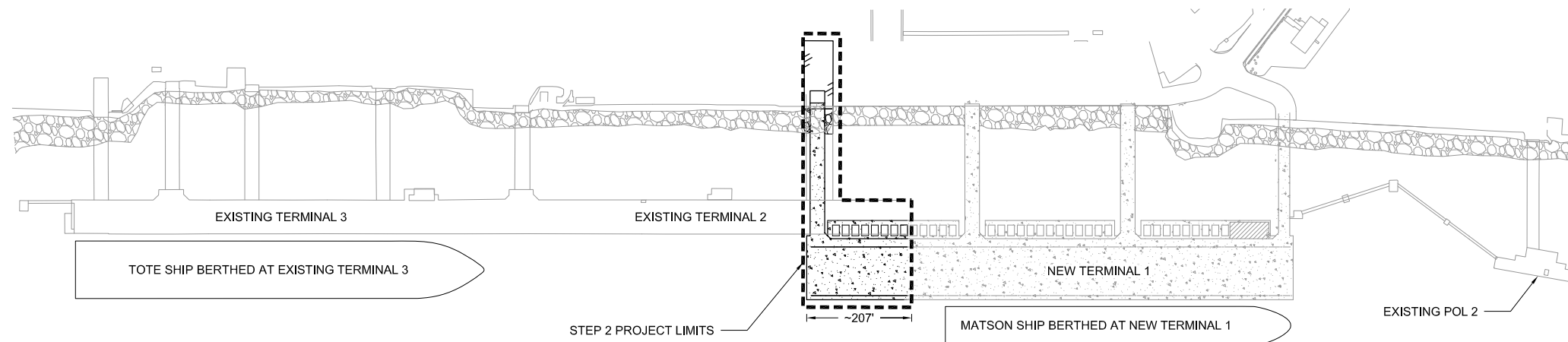
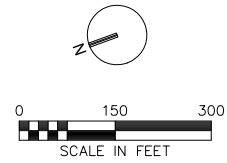
FILE NO.-



**KNIK ARM**

**STEP 1**

- MAINTAIN MATSON OPERATIONS AT EXISTING TERMINAL 2.
- CONSTRUCT 793 LF OF NEW CONTAINER TERMINAL 1. DEMOLISH EXISTING TERMINAL 1 AND POL 1 WITHIN PROJECT LIMITS.



**KNIK ARM**

**STEP 2**

- RELOCATE MATSON OPERATIONS TO NEW TERMINAL 1 BUILT IN STEP 1.
- COMPLETE NEW TERMINAL 1. DEMOLISH EXISTING TERMINALS 1 AND 2 WITHIN PROJECT LIMITS.

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1-G2002.DWG  
Date: May 13, 2017 - 11:13am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN M. HAAPALA	DR E. VILCE	CHK J. TAYLOR	APVD D. PLAYER
CONSULTANT			

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SEAL



**GENERAL**  
CONSTRUCTION SEQUENCING PLAN

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	<b>T1-G-2002</b>
VERT SCALE: N/A	SHEET: 4 OF 38	

FILE NO.-

CIVIL LEGEND

UTILITIES LEGEND

EXISTING	THIS CONTRACT	EXISTING	THIS CONTRACT	
x 157.7	● 158.5			SPOT ELEVATION
				CONTOUR LINE
				EMBANKMENT AND SLOPE
				DRAINAGE OR DITCH
				CATCH BASIN OR INLET
				TRENCH DRAIN
				SIGN
o	○ OR ⊙			MANHOLE
	• BM			BENCH MARK
				SURVEY CONTROL POINT OR POINT OF INTERSECTION
				BUCH / TREE LINE
				TREE
				PROPERTY LINE
				CENTER LINE, BUILDING, ROAD, ETC.
				STAGING OR WORK AREA LIMITS
	N 1000.00 E 1000.00			STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
● B-1	● B-1			BORING LOCATION AND NUMBER
				MONITORING WELL AND NUMBER
				DOUBLE SWING GATE
				SLIDING GATE
				GUARD RAIL
				CHAIN LINK FENCE
				SHEET PILE WALL
				WIRE FENCE
				ELECTRICAL MANHOLE
				UTILITY DUCT
o	•			POST OR BALLARD
→	→			GUY ANCHOR
				FIRE HYDRANT
o	o			UTILITY POLE
*	*			LIGHT POLE
	• 1			SAMPLE LOCATION
	■ TP-2			TEST PIT LOCATION / NUMBER
	▽ P-3			PIEZOMETER LOCATION / NUMBER
				DEMOLITION
				BREAKLINE
				LIMIT OF CUT SLOPE
				LIMITS OF FILL SLOPE
				USACE DREDGE LIMIT

— E-OVH —	OVERHEAD ELECTRICAL LINES
— UE —	UNDERGROUND ELECTRIC LINES
— POL —	PETROLEUM, OIL, LUBRICANT LINE
— S —	SANITARY SEWER
— SD —	STORM DRAIN
— UT —	BURIED COMMUNICATION LINE
— FO —	BURIED FIBER OPTICS LINE
— W —	BURIED WATER/STEAM LINE
—	CONTAMINATED SITE BOUNDARY
— GAS —	NATURAL GAS LINE
— UE/L —	UNDERGROUND ELECTRIC LIGHTING LINE
— UC/S —	UNDERGROUND COMMUNICATION / SECURITY
— UE/CR —	UNDERGROUND ELECTRIC / CRANE RAIL

GENERAL CIVIL NOTES

1. MANY OF THE SYMBOLS ON THIS LEGEND ARE USED ONLY WHERE THEY PROVIDE CLARITY AND ARE NOT NECESSARILY USED AT ALL APPLICATIONS. SOME DRAWINGS IN THE CONTRACT DOCUMENTS HAVE ADDITIONAL LEGENDS APPLICABLE TO THOSE SPECIFIC DRAWINGS.
2. TYPICAL DETAILS APPLY TO ALL CONDITIONS WHERE MATERIALS INDICATED CONNECT AND THAT ARE SIMILAR UNLESS DETAILED OTHERWISE.
3. CONTRACTOR TO PROVIDE 14 CALENDAR DAY NOTICE TO THE ENGINEER OF ANY INTERRUPTION TO EXISTING UTILITIES, TRAFFIC PATTERNS OR EXISTING SERVICES.

CONCEPTUAL

Drawing: DE-DWG-20161028-T1-C0001.DWG  
Date: May 13, 2017 - 11:14am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN M. HAAPALA	DR E. VILCE	CHK J. TAYLOR	APVD D. PLAYER
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CONSULTANT

NOT FOR CONSTRUCTION



CIVIL  
LEGEND, ABBREVIATIONS AND  
GENERAL NOTES

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: N/A	DATE: 5/15/2017	T1-C-0001
VERT SCALE: N/A	SHEET: 5 OF 38	

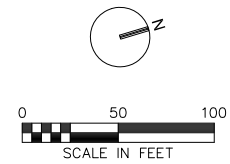
FILE NO.-

**GENERAL NOTES**

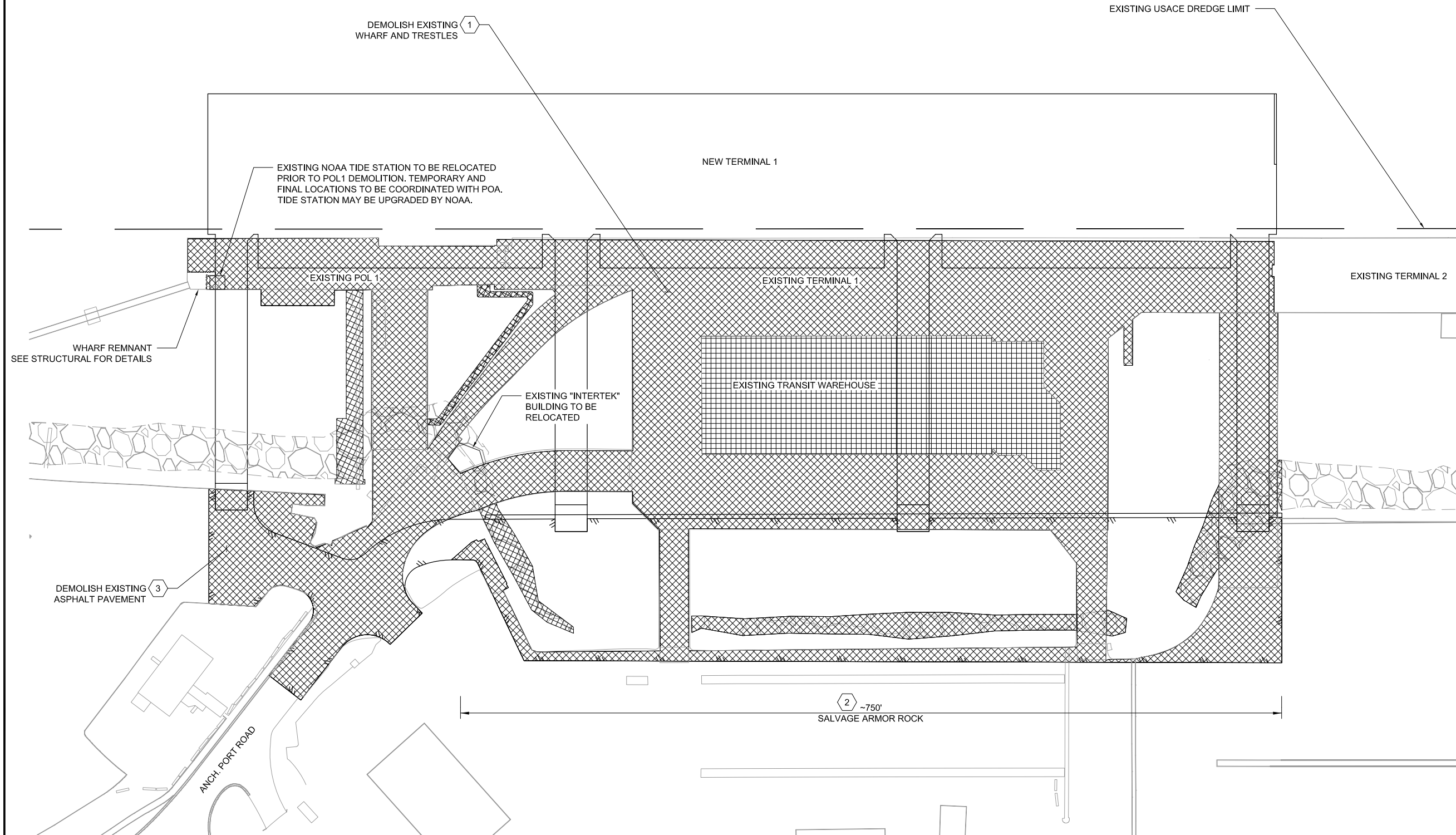
1. DEMOLITION OF UTILITY SERVICE LINES ALONG THE EXISTING WHARF AND TRESTLES IS REQUIRED, BUT IS OMITTED FOR CLARITY. REFER TO THE UTILITY PLAN (T1-C-2801) FOR MORE INFORMATION.

**SHEET KEYNOTES**

1. DEMOLISH CONCRETE WHARF AND TRESTLES. SEE T1-S-1001 FOR DETAILS. CONFIRM OPERATIONS FROM THE EXISTING TRANSIT WAREHOUSE ARE RELOCATED PRIOR TO DEMOLITION OF EXISTING TERMINAL 1.
2. SALVAGE 2,250 CY OF ARMOR ROCK. ASSUMED DEPTH IS 3 FEET.
3. DEMOLISH 39,000 SF OF EXISTING ASPHALT PAVEMENT



**KNIK ARM**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1C1001.DWG Date: May 15, 2017 - 1:52pm

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN M. HAAPALA	DR E. VILCE	CHK J. TAYLOR	APVD D. PLAYER
CONSULTANT			

**NOT FOR CONSTRUCTION**



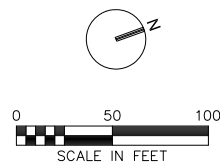
**CIVIL  
DEMOLITION PLAN**

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	<b>T1-C-1001</b>
VERT SCALE: N/A	SHEET: 6 OF 38	

FILE NO.-





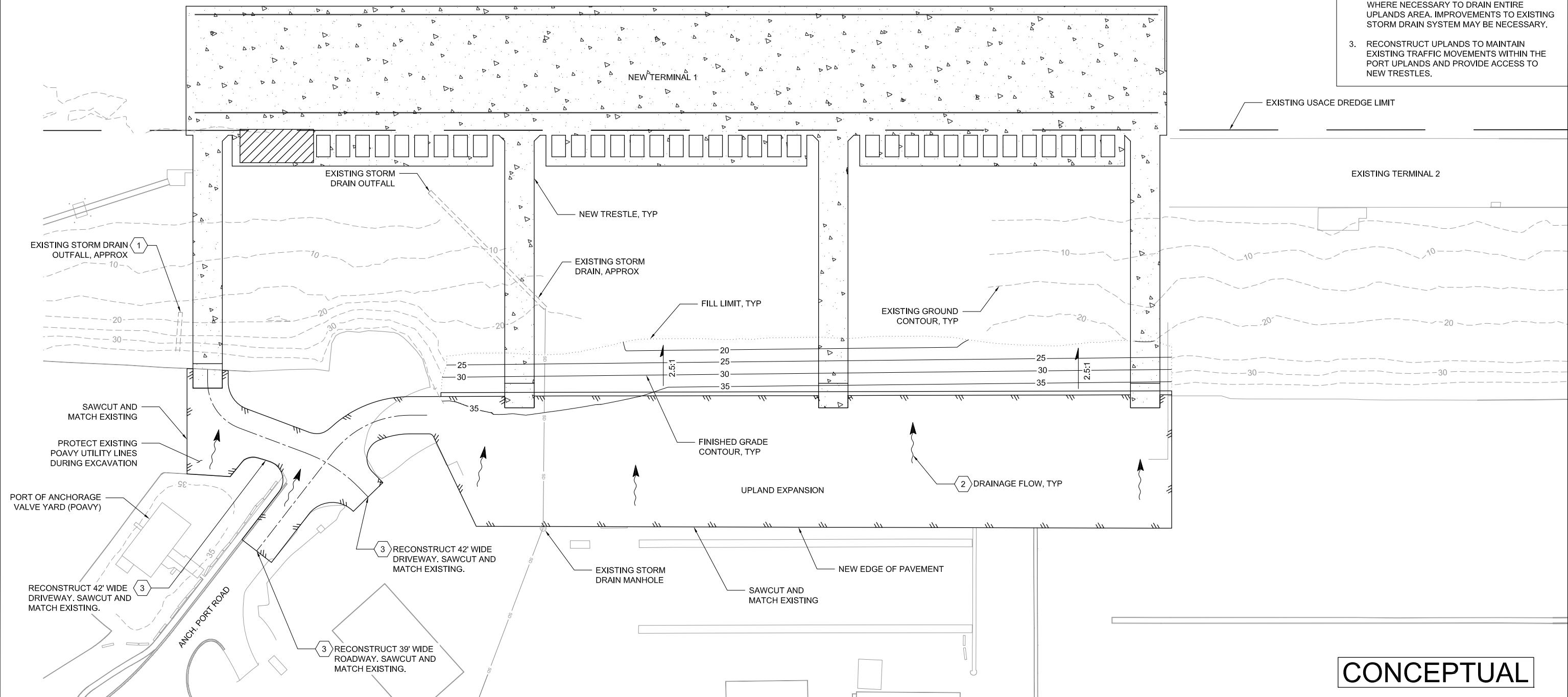


**KNIK ARM**

APPROXIMATE EARTHWORK SUMMARY	
ITEM	QUANTITY
ARMOR STONE	6,400 CY
AC PAVEMENT (CLASS E)	800 CY
AC PAVEMENT (CLASS A)	2,000 CY
LEVELING COURSE	3,200 CY
EXCAVATION	17,300 CY
TYPE II CLASSIFIED FILL	36,000 CY

- GENERAL SHEET NOTES**
1. CONSTRUCT NEW UPLANDS AND FINISHED GRADE SLOPES AS SHOWN.
  2. CONTOURS ARE SHOWN AT 5' INTERVALS.
  3. SHORE PROTECTION IS NOT SHOWN FOR CLARITY. SEE SHEET T1-C-3001 FOR UPLAND EXPANSION TYPICAL SECTION.

- SHEET KEYNOTES**
1. EXISTING STORM DRAIN OUTFALL WAS NOT LOCATED DURING SURVEY.
  2. CONSTRUCT GRADE OF UPLAND EXPANSION TO DRAIN SEAWARD. EXPAND LIMITS OF IMPROVEMENT INTO THE EXISTING UPLANDS WHERE NECESSARY TO DRAIN ENTIRE UPLANDS AREA. IMPROVEMENTS TO EXISTING STORM DRAIN SYSTEM MAY BE NECESSARY.
  3. RECONSTRUCT UPLANDS TO MAINTAIN EXISTING TRAFFIC MOVEMENTS WITHIN THE PORT UPLANDS AND PROVIDE ACCESS TO NEW TRESTLES.



**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN: M. HAAPALA | DR: E. VILCE | CHK: J. TAYLOR | APVD: D. PLAYER

CONSULTANT

**NOT FOR CONSTRUCTION**



**CIVIL GRADING PLAN**

PORT OF ANCHORAGE

ANCHORAGE PORT MODERNIZATION PROGRAM

TERMINAL 1 (T1)

ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN | DATE: 5/15/2017 | T1-C-2002

VERT SCALE: N/A | SHEET: 8 OF 38

Drawing: DE-DWG-20161028-T1-C2002.DWG  
Date: May 15, 2017 - 11:52am

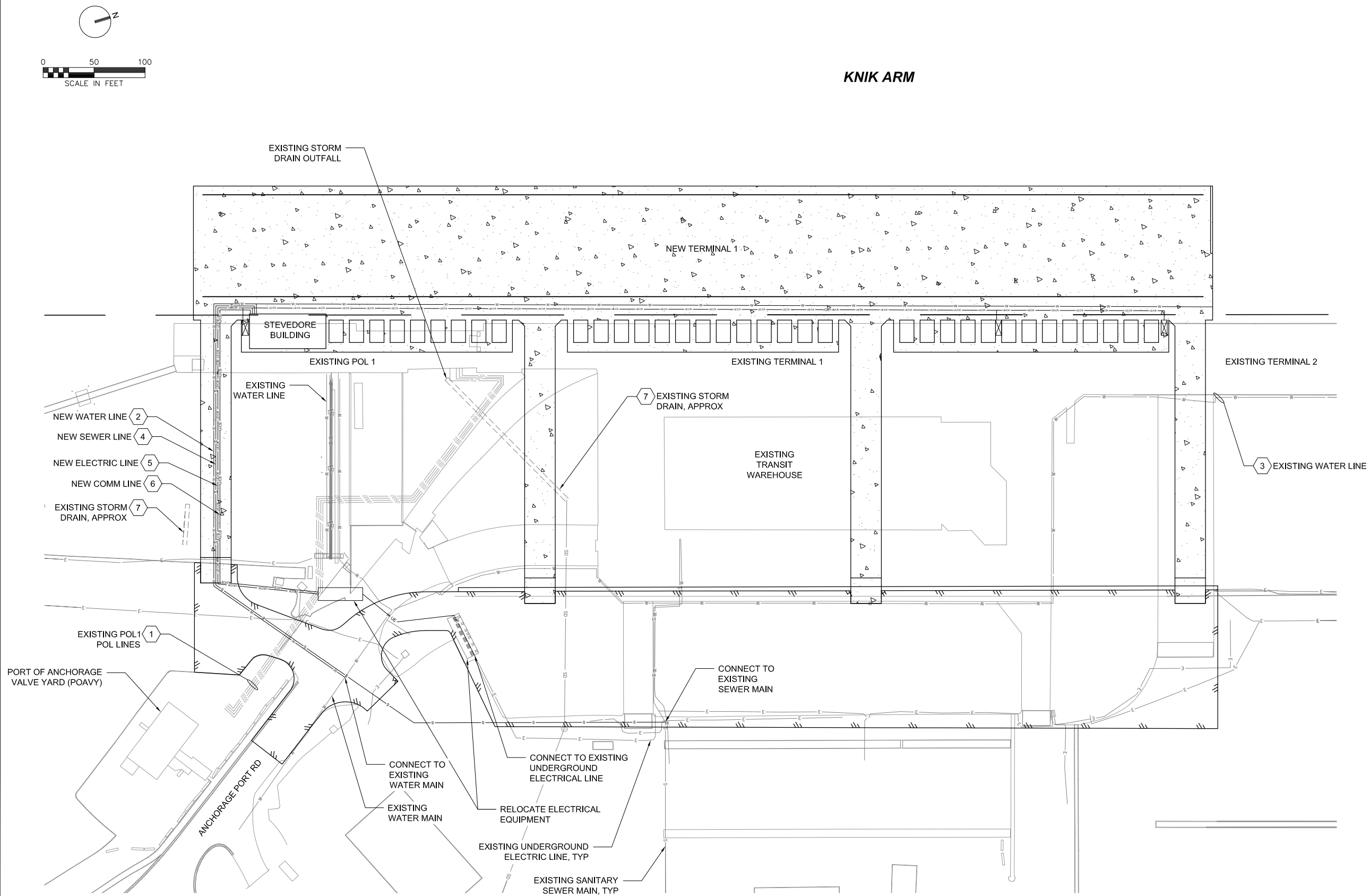
**GENERAL SHEET NOTES**

1. REMOVE UTILITY SERVICE LINES ALONG THE EXISTING WHARF AND TRESTLES AS NECESSARY. MAINTAIN EXISTING TERMINALS AND ASSOCIATED UTILITY SERVICES AS NEEDED TO MAINTAIN OPERATIONS PER THE SEQUENCING PLAN.
2. PROPOSED UTILITY ROUTING IS CONCEPTUAL IN NATURE. FINAL DESIGN, INCLUDING BUT NOT LIMITED TO LINE, GRADE, UTILITY SIZE, AND TIE-IN LOCATION TO BE DETERMINED BY THE DESIGNER OF RECORD.
3. TRESTLE, WHARF, AND CATWALKS TO BE PROVIDED WITH ILLUMINATION.

**SHEET KEYNOTES**

1. REMOVE EXISTING POL LINES FROM EXISTING TERMINAL TO POAVY.
2. INSTALL NEW DOMESTIC AND FIRE WATER LINES FROM EXISTING WATER MAIN AND ROUTE ALONG NEW TERMINAL 1. CONNECT TO NEW STEVEDORE BUILDING AND CAP NEW WATER LINES AT NORTH END FOR FUTURE CONNECTION TO TERMINAL 2.
3. REMOVE EXISTING WATER LINE WITHIN PROJECT LIMITS AND INSTALL CAP AT EDGE OF IMPROVEMENTS.
4. INSTALL NEW SEWER LINE FROM EXISTING SEWER MAIN AND CONNECT TO NEW STEVEDORE BUILDING.
5. INSTALL NEW ELECTRIC SERVICE AND CRANE RAIL POWER LINES TO STEVEDORE BUILDING AND ELECTRICAL VAULTS.
6. INSTALL NEW COMMUNICATION LINES FROM UPLANDS TO STEVEDORE BUILDING.
7. EXISTING STORM DRAIN PIPES MAY BE LOCATED IN PROXIMITY OF THE NEW TRESTLE PILES. MAINTAIN AND/OR RECONSTRUCT EXISTING STORM DRAIN SYSTEMS AS REQUIRED.

**KNIK ARM**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1-C2801.DWG  
Date: May 13, 2017 - 11:30am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN M. HAAPALA	DR E. VILCE	CHK J. TAYLOR	APVD D. PLAYER
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CONSULTANT

**NOT FOR CONSTRUCTION**

SEAL



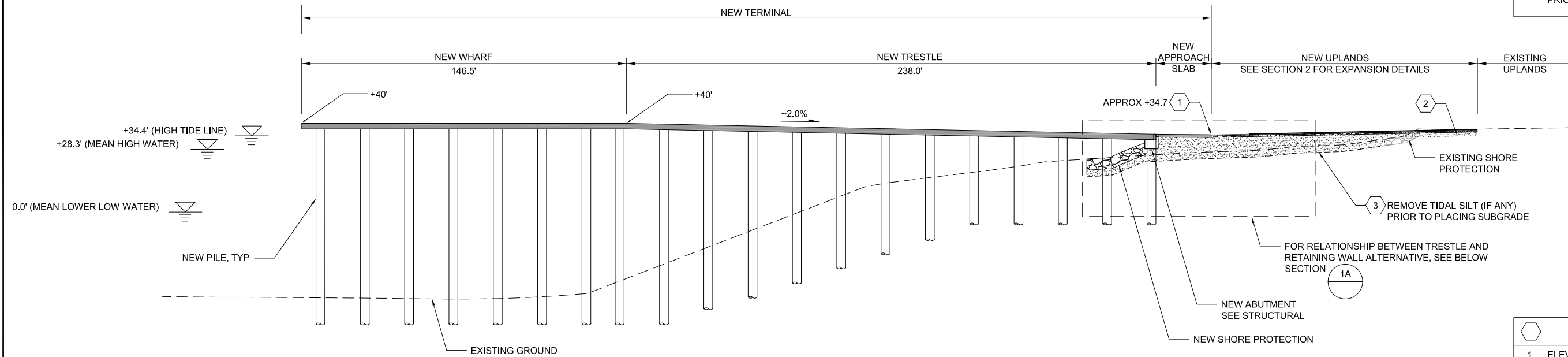
**CIVIL**  
UTILITY PLAN

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	T1-C-2801
VERT SCALE: N/A	SHEET: 9 OF 38	

FILE NO.-

GENERAL SHEET NOTES

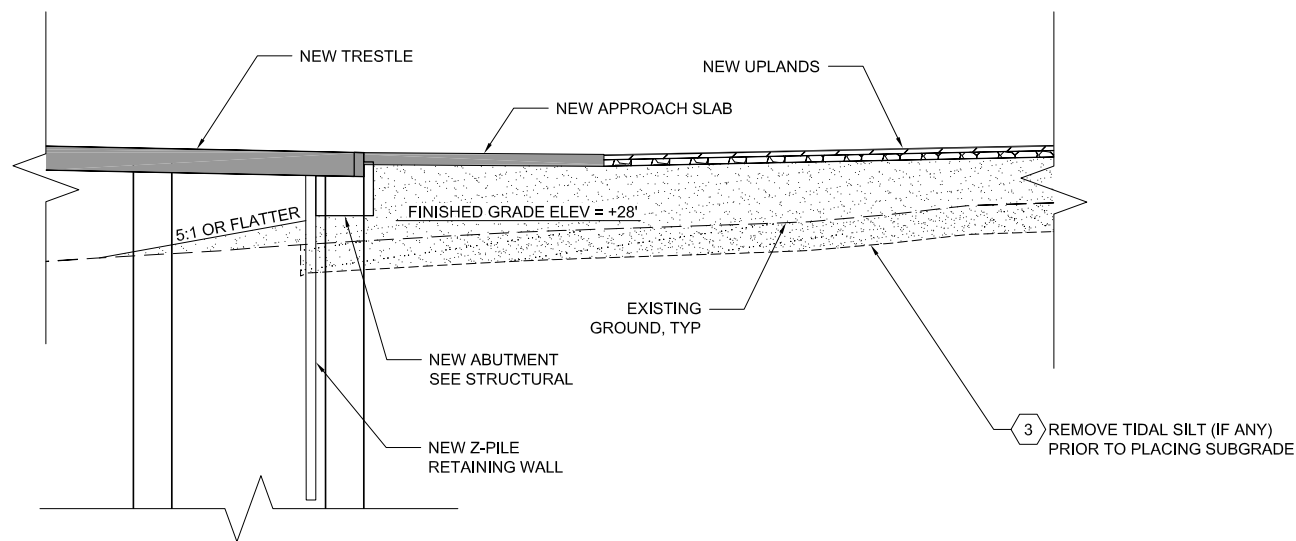
1. NEW TERMINAL IS SHOWN FOR REFERENCE ONLY AND IS NOT TO SCALE. SEE STRUCTURAL FOR DETAILS.
2. REFER TO SECTION 2 ON T1-C-3002 FOR PAVEMENT STRUCTURAL SECTION.
3. UPLAND RETAINING WALL SHOWN IS AN ALTERNATIVE DESIGN. VERIFY FINAL DESIGN CONCEPT WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.



**1** **TERMINAL 1**  
1" = 25'  
T1-C-2001

SHEET KEYNOTES

1. ELEVATION VARIES. SEE GRADING PLAN.
2. KEY NEW UPLANDS INTO EXISTING SLOPE.
3. ESTIMATED DEPTH OF 3' SUBEXCAVATION - CONTRACTOR TO CONFIRM.



**1A** **UPLAND RETAINING WALL ALTERNATIVE - TRESTLE**  
1" = 10'

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1-C3001.DWG  
Date: May 13, 2017 - 11:32am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN: M. HAAPALA | DR: E. VILCE | CHK: J. TAYLOR | APVD: D. PLAYER

CONSULTANT

NOT FOR CONSTRUCTION

SEAL



CIVIL  
TYPICAL SECTIONS

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	T1-C-3001
VERT SCALE: AS SHOWN	SHEET: 10 OF 38	

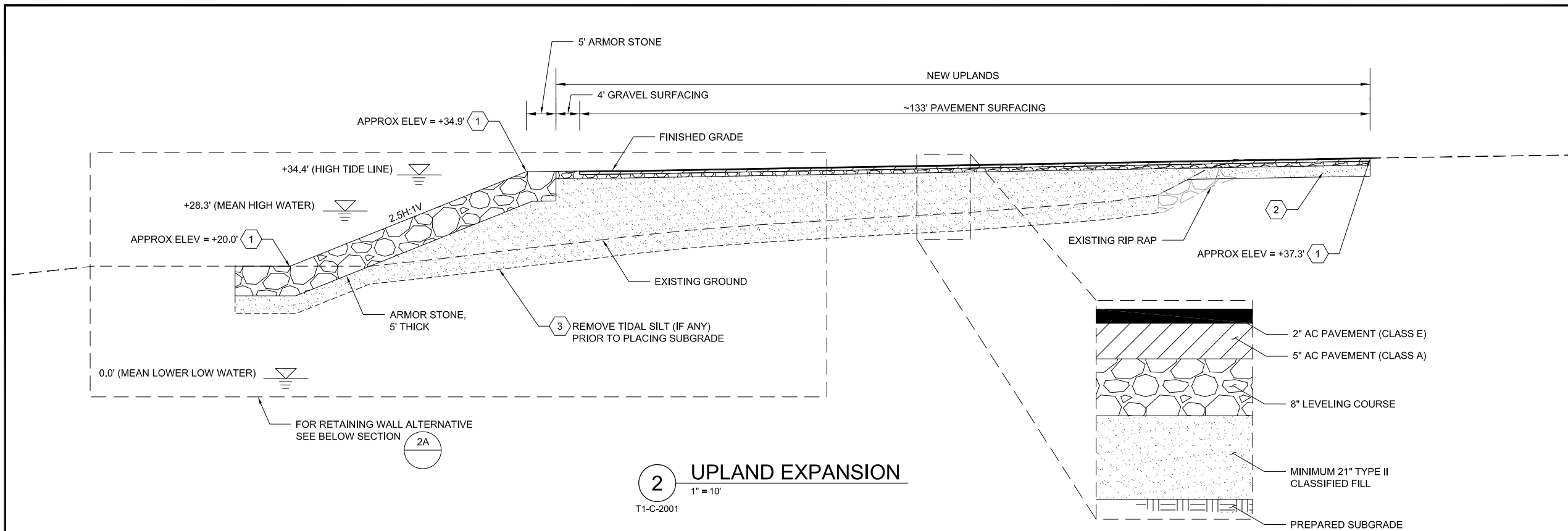
FILE NO.-

GENERAL SHEET NOTES

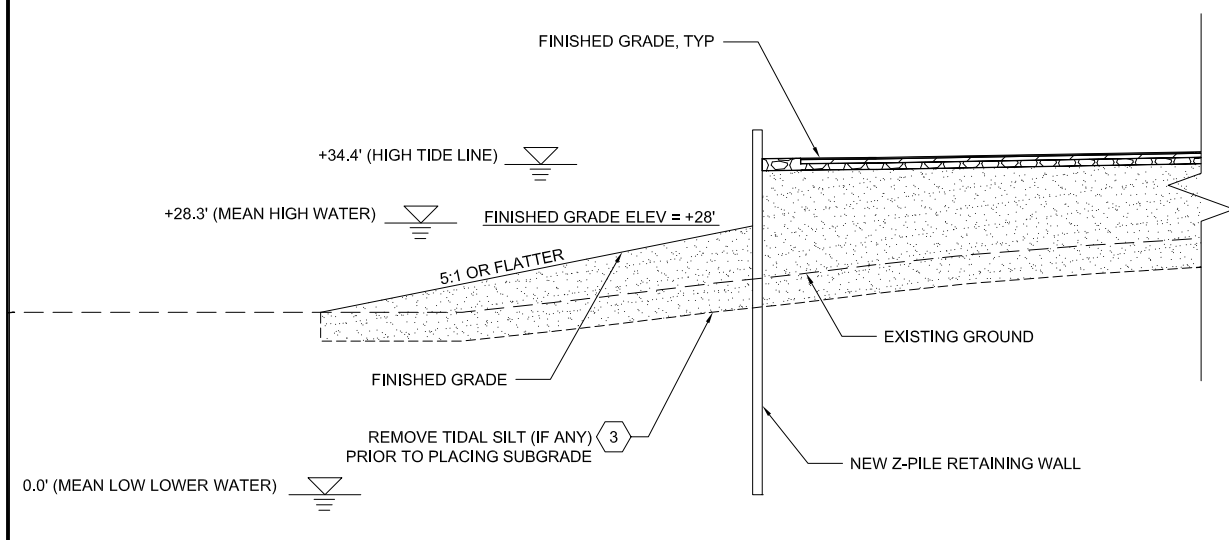
1. STRUCTURAL SECTION SHOWN IS CONCEPTUAL. DESIGNER OF RECORD TO CONFIRM. QUANTITIES ON T1-C-2002 ASSUME THIS STRUCTURAL SECTION IS USED THROUGHOUT THE PROJECT LIMITS.
2. UPLAND RETAINING WALL SHOWN IS AN ALTERNATIVE DESIGN. VERIFY FINAL DESIGN CONCEPT WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

SHEET KEYNOTES

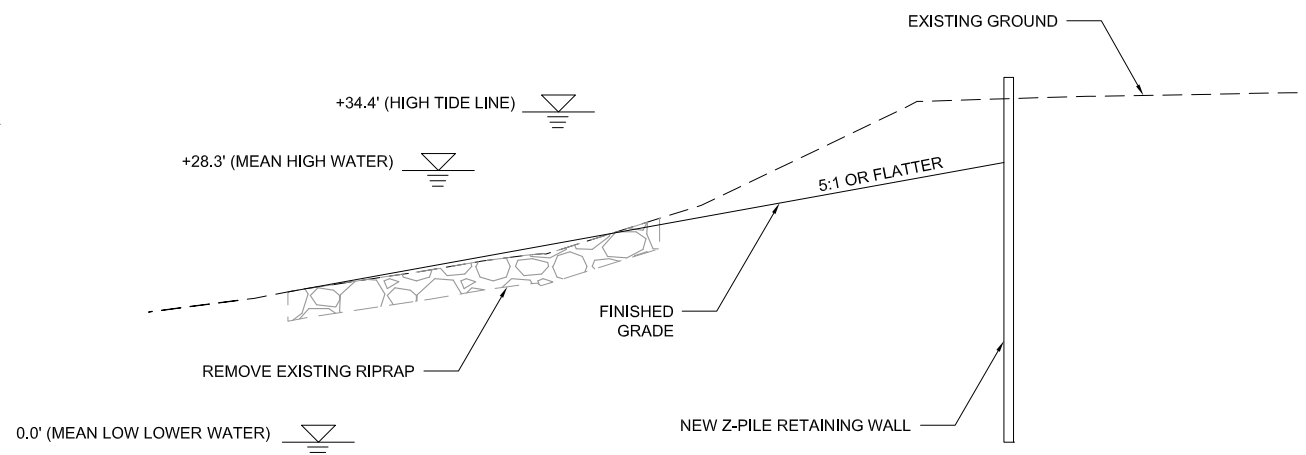
1. ELEVATION VARIES. SEE GRADING PLAN.
2. KEY NEW UPLANDS INTO EXISTING SLOPE.
3. ESTIMATED DEPTH OF 3' SUBEXCAVATION - CONTRACTOR TO CONFIRM.



**2 UPLAND EXPANSION**  
1" = 10'  
T1-C-2001



**2A UPLAND EXPANSION RETAINING WALL ALTERNATIVE - UPLAND EXPANSION**  
1" = 10'



**3 UPLAND EXPANSION RETAINING WALL ALTERNATIVE - EXISTING SLOPE**  
1" = 10'  
T1-C-2001

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1-C3002.DWG Date: May 13, 2017 - 11:33am

REV	DATE	DESCRIPTION	BY	APVD

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

**ch2m**

DSGN: M. HAAPALA    DR: E. VILCE    CHK: J. TAYLOR    APVD: D. PLAYER  
CONSULTANT

NOT FOR CONSTRUCTION

SEAL



CIVIL  
TYPICAL SECTIONS

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 5/15/2017	T1-C-3002
VERT SCALE: AS SHOWN	SHEET: 11 OF 38	

FILE NO.-

**DESIGN CODES AND REFERENCES**

- ASCE/COPRI 61-14, SEISMIC DESIGN OF PIERS AND WHARVES, 2014.
- CALIFORNIA BUILDING CODE, TITLE 24, PART 2, MARINE OIL TERMINAL ENGINEERING AND MAINTENANCE STANDARDS, 2016.
- ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2010.
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION (AASHTO LRFD SPECS), 2014.
- NFPA 307, STANDARD FOR THE CONSTRUCTION AND FIRE PROTECTION OF MARINE TERMINALS, PIERS AND WHARVES, 2011.
- ACI 318-11, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2011.
- AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION, 2011.
- AWS D1.5, BRIDGE WELDING CODE, 6TH EDITION, 2010.
- AWS D1.1, STRUCTURAL WELDING CODE - STEEL, 22ND EDITION, 2010
- APMP SEISMIC DESIGN MANUAL, 2015.

**SERVICE LIFE**

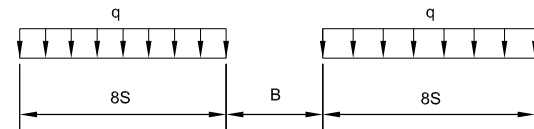
- DESIGN SERVICE LIFE FOR WHARF AND TRESTLES = 75 YEARS.
- DESIGN SERVICE LIFE FOR FENDERS = 25 YEARS.

**DESIGN LOADS**

**LIVE LOADS**

- UNIFORM LIVE LOAD: 1000 PSF
- TRUCK LOAD: AASHTO HS25 TRUCK
- RAIL MOUNTED CONTAINER GANTRY CRANE

EQUIVALENT UNIFORM LOAD:



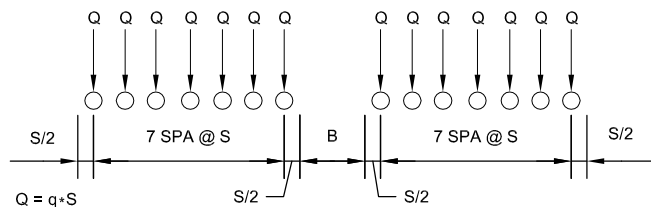
NOTE:

- S = 4'-11" B = 8'-6"
- FOR VALUES OF q, SEE TABLE BELOW.

		SERVICE LOAD q (KLF)		STRENGTH LOAD q (KLF)	
		LANDSIDE	WATERSIDE	LANDSIDE	WATERSIDE
WHARF OPERATING AREAS	VERTICAL	32	35	40	44
	LATERAL TO CRANE RAIL	1.8	1.8	2.2	2.2
CRANE STORAGE AREAS*	VERTICAL	43	39	64	59
	LATERAL TO CRANE RAIL	3.4	3.4	5.1	5.1

\* STOWED WIND, WITH STOW PINS AND TIE DOWNS ENGAGED.

WHEEL LOADS:



TIE DOWN LOADS:

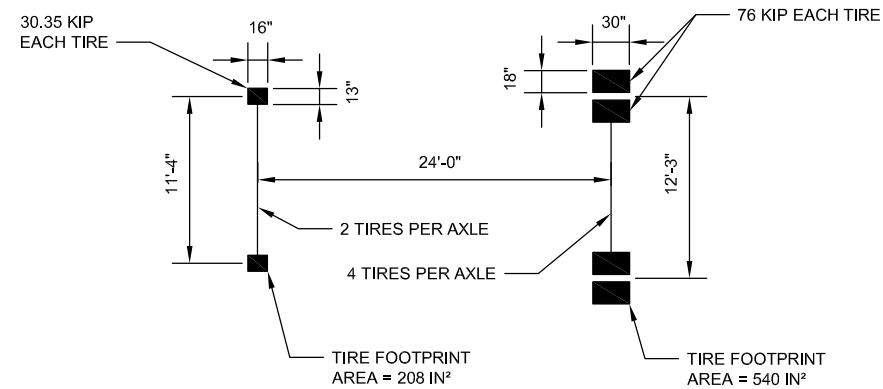
- MAX. UPLIFT @ EACH CORNER = 485 KIP (SERVICE)/778 KIP (STRENGTH)

STOWAGE PIN LOADS:

- MAX. STOWAGE PIN LOADS @ EACH RAIL (LONGITUDINAL PARALLEL TO CRANE RAILS) = 280 KIP (SERVICE)/450 KIP (STRENGTH)

**D. LOADED CONTAINER HANDLER (BASED ON TAYLOR TETCP-11001)**

- IMPACT FACTOR = 10%



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S0001.DWG Date: May 11, 2017 - 10:49am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

DSGN H. GUAN	DR T. CHANCELLOR	CHK K. JUMPAWONG	APVD D. PLAYER
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NOT FOR CONSTRUCTION



STRUCTURAL  
GENERAL NOTES  
(1 OF 2)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-0001
VERT SCALE: N/A	SHEET: 12 OF 38	

FILE NO.-

**DESIGN LOADS (CONT.)**

**2. BERTHING LOADS**

SHIP CHARACTERISTICS:	CONTAINER	MILITARY VESSEL
	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

**3. MOORING LOADS**

MOORING BOLLARD CAPACITY = 200 METRIC TONS

**4. THERMAL LOADS**

A. FOR CONCRETE SUPERSTRUCTURE:

MAX DESIGN TEMPERATURE = 80°F

MIN DESIGN TEMPERATURE = -30°F

B. FOR STEEL SUPERSTRUCTURE AND STEEL/CONCRETE COMPOSITE SUPERSTRUCTURE:

MAX DESIGN TEMPERATURE = 90°F

MIN DESIGN TEMPERATURE = -35°F

**5. 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

- MAX ICE ACCRETION ON CYLINDRICAL PILES = 3 FEET RADIAL GROWTH

**6. EARTHQUAKE LOADS**

SUMMARY OF DESIGN EARTHQUAKE PARAMETERS				
EARTHQUAKE	RETURN PERIOD (YEARS)	PEAK HORIZONTAL GROUND ACCELERATION (g)		
		WATERSIDE	MID-SLOPE	LANDSIDE
OLE	72	0.21	0.21	0.14
CLE	475	0.29	0.36	0.31
MCE <sub>R</sub>	2,475	0.53	0.76	0.39

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

NOTES:

OLE = OPERATING LEVEL EARTHQUAKE.

CLE = CONTINGENCY LEVEL EARTHQUAKE.

DE = DESIGN EARTHQUAKE =  $\frac{2}{3}$  x MCE<sub>R</sub>

MCE<sub>R</sub> = RISK TARGETED MAXIMUM CONSIDERED EARTHQUAKE.

**DESIGN RESPONSE SPECTRA**

WATERSIDE LOCATION			
PERIOD (sec)	OLE SA (g)	CLE SA (g)	DE SA (g)
0	0.21	0.29	0.43
0.05	0.7	1.1	1.23
0.15	0.7	1.1	1.23
0.4	0.7	1.1	1.26
0.5	0.4	1.1	1.27
1	0.1	0.38	0.81
1.25	0.1	0.28	0.69
1.5	0.08	0.2	0.58
2	0.05	0.12	0.43
3	0.04	0.08	0.29
4	0.03	0.06	0.21
5	0.02	0.04	0.17

MID-SLOPE LOCATION			
PERIOD (sec)	OLE SA (g)	CLE SA (g)	DE SA (g)
0	0.21	0.36	0.62
0.05	0.45	1	1.55
0.15	0.8	1.5	1.55
0.4	0.8	1.5	1.59
0.5	0.4	0.85	1.61
1	0.25	0.45	0.9
1.25	0.2	0.4	0.69
1.5	0.15	0.35	0.58
2	0.05	0.18	0.43
3	0.04	0.08	0.29
4	0.03	0.06	0.21
5	0.02	0.04	0.17

LANDSIDE LOCATION			
PERIOD (sec)	OLE SA (g)	CLE SA (g)	DE SA (g)
0	0.14	0.31	0.32
0.05	0.5	1	1.23
0.15	0.5	1	1.23
0.4	0.5	1	1.26
0.5	0.4	0.9	1.27
1	0.3	0.7	0.9
1.25	0.25	0.65	0.82
1.5	0.2	0.6	0.73
2	0.05	0.3	0.65
3	0.04	0.08	0.29
4	0.03	0.06	0.21
5	0.02	0.04	0.17

**LOAD FACTORS FOR LOAD COMBINATIONS**

LRFD LOAD FACTORS FOR ALL LOAD COMBINATIONS SHALL BE AS SHOWN BELOW.

LOAD TYPE	VACANT CONDITION		MOORING & BREASTING CONDITION	BERTHING CONDITION	EARTHQUAKE CONDITION	
	MAX	MIN			MAX	MIN
DEAD LOAD (D)	1.2	0.9	1.2	1.2	1.0+k <sup>a</sup>	1.0-k <sup>a</sup>
LIVE LOAD (L)	1.6 <sup>b</sup>	-	1.6 <sup>b</sup>	1.0	0.1 <sup>c</sup>	-
THERMAL LOAD (T) <sup>d</sup>	1.0	1.0	1.0	1.0	-	-
SHRINKAGE (SH) <sup>d</sup>	1.0	1.0	1.0	1.0	-	-
CREEP (CR) <sup>d</sup>	1.0	1.0	1.0	1.0	-	-
BUOYANCY (B)	1.2	1.0	1.2	1.2	1.2 <sup>a</sup>	0.9 <sup>a</sup>
EARTH PRESSURE ON STRUCTURE (H) <sup>e</sup>	1.6	1.6	1.6	1.6	1.6 <sup>e</sup>	1.6 <sup>e</sup>
WIND ON STRUCTURE (W)	1.6	1.6	1.6	1.6	-	-
CURRENT ON STRUCTURE (C)	1.2	1.2	1.2	1.2	1.2	0.9
WAVE ON STRUCTURE (C)	1.2	1.2	1.2	1.2	1.2	0.9
SNOW LOAD (S)	1.6	-	1.6	1.0	-	-
ICE LOAD (ICE)	1.0	1.0 <sup>f</sup>	1.0	1.0 <sup>f</sup>	1.0 <sup>f</sup>	-
MOORING/BREASTING LOAD (M)	-	-	1.6	-	-	-
BERTHING LOAD (B <sub>g</sub> )	-	-	-	1.6	-	-
EARTHQUAKE LOAD (E)	-	-	-	-	1.0	1.0

a. THE K FACTOR (k = 0.5 (PGA) AND BUOYANCY (B) WILL BE APPLIED TO THE VERTICAL DEAD LOAD (D) ONLY, AND NOT TO THE INERTIAL MASS OF THE STRUCTURE.

b. THE LOAD FACTOR FOR CRANE RAIL LIVE LOAD WILL BE 1.3. THE LIVE LOAD (L) FACTOR MAY BE REDUCED TO 1.3 FOR THE MAXIMUM OUTRIGGER FLOAT LOAD FROM A TRUCK CRANE.

c. THE 0.1 LOAD FACTOR APPLIES TO UNIFORM LIVE LOADS ONLY.

d. THE LOAD FACTORS ASSOCIATED WITH SUPERIMPOSED DEFORMATION (T, SH, CR) SHOULD BE USED WITH EFFECTIVE SECTION PROPERTIES.

e. AN EARTH PRESSURE ON THE STRUCTURE FACTOR (H) OF 1.0 MAY BE USED FOR PILE OR BULKHEAD STRUCTURE.  
MAX = MAXIMUM  
MIN = MINIMUM

f. FOR VERTICAL ICE LOAD ONLY. HORIZONTAL ICE CRUSHING LOAD SHOULD NOT BE COMBINED W/ MOORING, BERTHING OR EARTH REDUCING LOADS.

**MATERIALS**

**1. CONCRETE**

- 1.1 CONCRETE USED FOR STRUCTURES SHALL CONFORM TO REQUIREMENTS OF ACI 318.
- 1.2 THE 90-DAY CHLORIDE PERMEABILITY FOR THE CONCRETE MIX USED IN WHARF, TRESTLE, PILE, AND OTHER MAJOR STRUCTURAL COMPONENTS SHALL NOT EXCEED 1,000 COULOMBS.
- 1.3 THE CLASS OF CONCRETE SHALL BE THE FOLLOWING, UNLESS SHOWN OTHERWISE:
  - A. PRECAST CONCRETE PANELS: f'c = 10,000 PSI.
  - B. CAST-IN-PLACE CONCRETE PILE: f'c = 4,000 PSI.
  - C. CAST-IN-PLACE OR PRECAST CONCRETE PILE CAP: f'c = 4,000 PSI.

**2. REINFORCING STEEL**

- 2.1 ASTM A706, LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT, SHALL BE USED FOR ALL CAST-IN-PLACE CONCRETE CONSTRUCTION UNLESS OTHERWISE NOTED.
- 2.2 CONFINEMENT STEEL (SPIRALS AND HOOPS) SHALL CONFORM TO ASTM A706.
- 2.3 ALL REINFORCING STEEL FOR PILE, WHARF, AND TRESTLE SHALL BE EPOXY COATED.
- 2.4 UNLESS OTHERWISE SPECIFIED THE MINIMUM CLEAR COVER FROM THE FACE OF CONCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE AS FOLLOWS:
  - A. DIRECT EXPOSURE TO SALT WATER AND CAST-IN-PLACE CONCRETE PILE: 4-INCH.
  - B. OTHER: 3 1/2-INCH.

**3. PRESTRESSING STEEL**

- 3.1 PRESTRESSING REINFORCEMENT SHALL BE HIGH-TENSILE-STRENGTH, SEVEN WIRE LOW-RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF AASHTO M203, GRADE 270.

**4. STRUCTURAL STEEL AND MISCELLANEOUS METAL**

- 4.1 ROLLED WIDE FLANGE SHAPES: ASTM A992.
- 4.2 HP SHAPES, CHANNELS, ANGLES, AND PLATES: ASTM A572, GRADE 50.
- 4.3 STEEL PIPE PILES: ASTM A572, GRADE 50.
- 4.4 STEEL SHEET PILES: ASTM A572, GRADE 50. STEEL SHEET PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A328 STEEL SHEET PILING AND ASTM A6 GENERAL REQUIREMENTS FOR ROLLED STRUCTURAL STEEL BARS, PLATES, SHAPES, AND SHEET PILING. ALL INTERLOCK GROUP TEST SHALL PROVIDE A MINIMUM OF 20,000 LBS PER LINEAR INCH ULTIMATE INTERLOCK TENSILE STRENGTH.
- 4.5 HOLLOW STRUCTURAL SHAPES: ASTM A500, GRADE B. WELDING OF HOLLOW STRUCTURAL SECTION SHALL BE PER AWS D1.1. HSS SHALL NOT BE USED FOR DYNAMIC LOADING CONDITIONS WITHOUT ADDITIONAL MINIMUM CVN REQUIREMENTS BEING SPECIFIED.
- 4.6 STRUCTURAL BOLTS: AASHTO M164 OR ASTM A325 WITH RECOMMENDED NUTS, WASHERS AND DIRECT TENSION INDICATORS.
- 4.7 ANCHOR BOLTS: ASTM F1554, HOT DIPPED GALVANIZED PER ASTM A153A OR AASHTO M232 WITH RECOMMENDED NUTS AND WASHERS. BOLT GRADES WITH TENSILE STRENGTHS OVER 145 KSI SHALL BE TESTED FOR EMBRITTLEMENT IN ACCORDANCE WITH ASTM A143.
- 4.8 GALVANIZING: HOT DIP GALVANIZING FOR STEEL PIPE PILES (FOR DOLPHINS), STEEL SHEET PILES AND OTHER STRUCTURAL STEEL ATTACHMENTS SHALL CONFORM TO ASTM A123 OR ASTM A153 AS APPLICABLE.

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S0002.DWG Date: May 11, 2017 - 10:47am

REV	DATE	DESCRIPTION	BY	APVD

VERIFY SCALES  
BAR IS ONE INCH ON ORIGINAL DRAWING  
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DSGN H. GUAN	DR T. CHANCELLOR	CHK K. JUMPAWONG	APVD D. PLAYER
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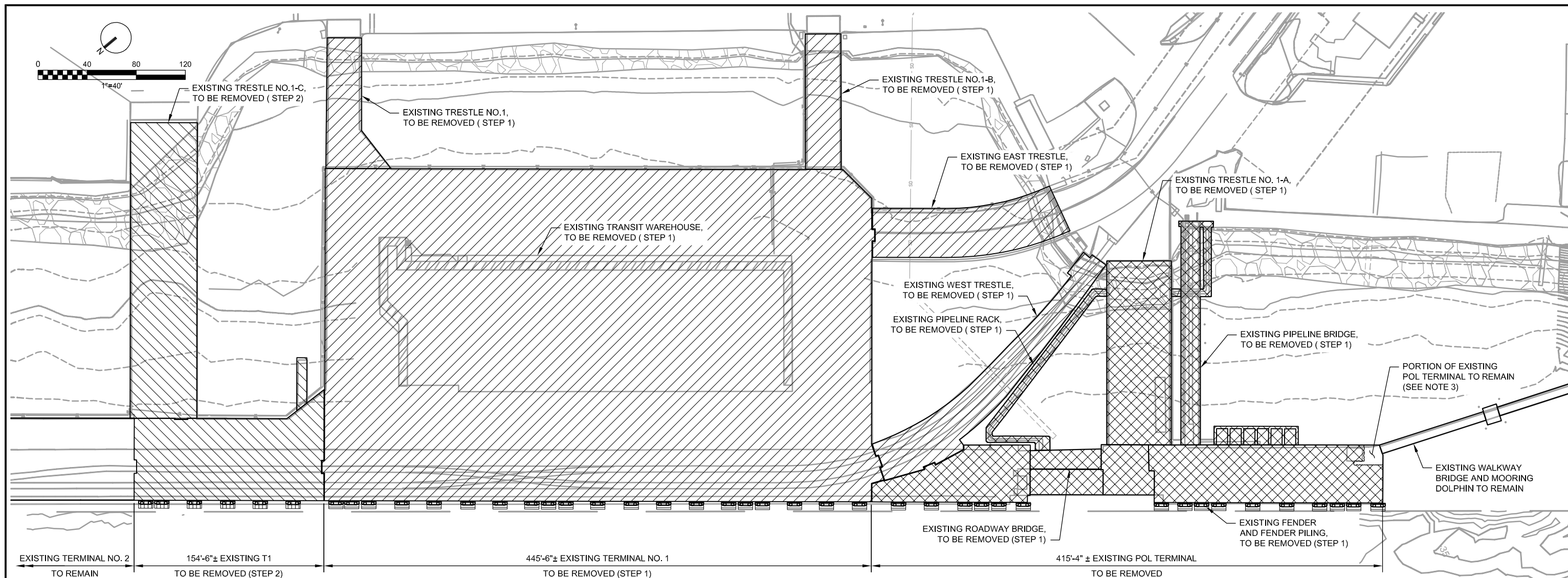
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




**STRUCTURAL**  
GENERAL NOTES  
(2 OF 2)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	<b>T1-S-0002</b>
VERT SCALE: N/A	SHEET: 13 OF 38	



**DEMOLITION PLAN**

**DEMOLITION LEGEND:**


-  REMOVE EXISTING POL TERMINAL, TRESTLE NO. 1-A, ROADWAY BRIDGE AND PIPELINE BRIDGE (STEP 1), SEE NOTE 2.
-  REMOVE PART OF EXISTING TERMINAL NO. 1, TRANSIT WAREHOUSE, EAST TRESTLE, WEST TRESTLE, TRESTLE NO. 1 & 1-B (STEP 1), SEE NOTE 4.
-  REMOVE EXISTING FENDER AND FENDER PILE (STEP 1), SEE NOTE 5.
-  REMOVE PART OF EXISTING TERMINAL NO. 1, EXISTING TRESTLE NO. 1, AND TRESTLE NO. 1-C (STEP 2), SEE NOTE 6.
-  REMOVE EXISTING FENDER AND FENDER PILE (STEP 2), SEE NOTE 7.

**NOTES:**

1. FOR CONSTRUCTION SEQUEENCING, SEE SHEET CT1-G-2002.
2. EXISTING STRUCTURES TO BE DEMOLISHED CONSIST OF THE FOLLOWING:  
 POL TERMINAL: APPROX. 13120 SF OF REINFORCED CONCRETE DECK AND OF REINFORCED CONC. PILE CAP, 43 22"Ø X 7/16" WALL STEEL PIPE PILES, 10 22"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 23 24"Ø X 7/16" WALL STEEL PIPE PILES, 10 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 28 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H:3V BATTER), 14 42"/24"Ø X 7/16" WALL CONC. FILLED PIPE PILES, AND 9 42"Ø X 7/16" WALL CONC. FILLED PIPE PILES. TRESTLE NO. 1-A: APPROX. 10030 SF OF REINFORCED CONCRETE DECK AND PILE CAP, 4 24"Ø X 7/16" WALL STEEL PIPE PILES, 10 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 7 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H: 3V BATTER), 12 20"Ø X 7/16" WALL STEEL PIPE PILES, 10 20"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 12 20"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H: 3V BATTER), AND 8 HP14X73 STEEL PILES. ROADWAY BRIDGE: APPROX. 2720 SF OF 9" REINFORCED CONCRETE DECK SLAB SUPPORTED ON STEEL GIRDERS. PIPELINE BRIDGE: APPROX. 2800 SF OF STEEL BRIDGE CONSISTING OF STEEL GIRDERS AND FLOOR BEAMS, APPROX. 40 LF OF REINFORCED CONCRETE PILE CAP, 4 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H:3V BATTER), 2 22"Ø X 7/16" WALL STEEL PIPE PILES, AND 2 22"Ø X 7/16" WALL PIPE PILES (1H:4V BATTER). PIPELINE RACK: APPROX. 340 LF OF STEEL PIPELINE RACK.
3. PORTION OF EXISTING POL TERMINAL SOUTH OF THE PILE CAP AT GRID LINE 3 AND EAST OF THE PILE CAP AT GRID LINE W (INCLUDE PILE CAP W) TO REMAIN. SAW CUT EXISTING DECK AND PILE CAP AT THE BOUNDARY.
4. EXISTING STRUCTURES TO BE DEMOLISHED CONSIST OF THE FOLLOWING:  
 PORTION OF TERMINAL NO. 1: APPROX. 121650 SF OF REINFORCED CONCRETE DECK AND PILE CAP, 575 16"Ø X 7/16" WALL STEEL PIPE PILES, 136 20"Ø X 7/16" WALL STEEL PIPE PILES, 138 24"Ø X 7/16" WALL STEEL PIPE PILES, 30 42"Ø X 7/16" WALL CONC. FILLED PIPE PILES, AND 176 14BP117 STEEL PILES (1H:3V BATTER). EAST AND WEST TRESTLE: APPROX. 12620 SF OF REINFORCED CONCRETE DECK AND PILE CAP, 22 16"Ø X 7/16" WALL STEEL PIPE PILES, 32 16"Ø X 7/16" WALL STEEL PIPE PILES (1H:5V BATTER), 6 20"Ø X 7/16" WALL STEEL PIPE PILES (1H: 5V BATTER), 6 24"Ø X 7/16" WALL STEEL PIPE PILES, 6 24"Ø X 7/16" WALL STEEL PIPE PILES (1H:5V BATTER), 12 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H:5V BATTER), AND 12 14BP117 STEEL PILES (1H:3V BATTER). TRESTLE NO. 1: APPROX. 4000 SF OF REINFORCED CONCRETE DECK AND PILE CAP, AND UNKNOWN NUMBER OF STEEL PILES. TRESTLE NO. 1-B: APPROX. 3225 SF OF REINFORCED CONCRETE DECK AND PILE CAP, 9 20"Ø X 7/16" WALL STEEL PIPE PILES, 6 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 6 20"Ø X 7/16" WALL STEEL PIPE PILES (1H:3V BATTER), AND 3 24"Ø X 7/16" AND 3/8" WALL CONC. FILLED PIPE PILES (1H:3V BATTER). TRANSIT WAREHOUSE: APPROX. 52100 SF OF STEEL FRAME BUILDING. CRANE BUSWAY: APPROX. 380 LF OF STEEL CRANE BUSWAY.
5. DEMOLISH 26 FENDER UNITS AND 52 27"Ø X 1/2" WALL STEEL PIPE PILES.
6. EXISTING STRUCTURES TO BE DEMOLISHED CONSIST OF THE FOLLOWING:  
 PORTION OF TERMINAL NO. 1: APPROX. 10900 SF OF REINFORCED CONCRETE DECK AND PILE CAP, 30 24"Ø X 7/16" WALL STEEL PIPE PILES, 15 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES, 12 24"Ø X 7/16" WALL STEEL PIPE PILES (1H:3V BATTER), 16 24"Ø X 7/16" WALL CONC. FILLED PIPE PILES (1H:3V BATTER), 17 20"Ø X 7/16" WALL STEEL PIPE PILES, AND 12 42"Ø X 7/16" WALL CONC. FILLED PIPE PILES. TRESTLE NO. 1-C: APPROX. 12400 SF OF REINFORCED CONCRETE DECK AND PILE CAP, AND UNKNOWN NUMBER OF STEEL PILES. CRANE BUSWAY: APPROX. 155 LF OF STEEL BUSWAY TRUSS AND SUPPORT COLUMNS.
7. DEMOLISH 6 FENDER UNITS AND 12 27"Ø X 1/2" WALL STEEL PIPE PILES.
8. ALL PILES ARE TO BE CUT OFF AT THE MUDLINE UNLESS CONFLICTING WITH NEW PILE INSTALLATION, IN WHICH CASE THE COMPLETE PILE SHOULD BE REMOVED.

**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				



DSGN H. GUAN	DR R. BENFIELD	CHK K. JUMPAWONG	APVD D. PLAYER
CONSULTANT			

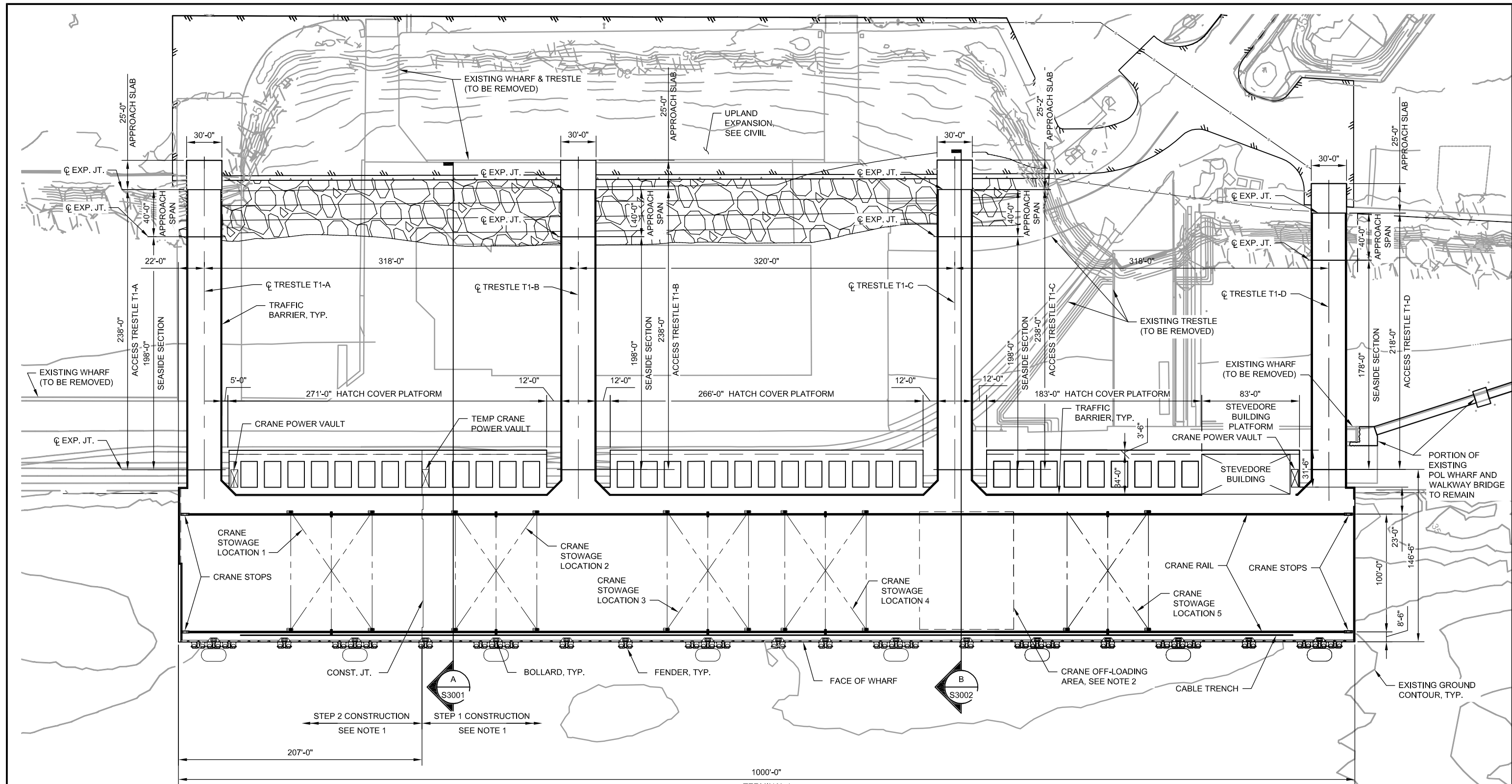
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**STRUCTURAL**  
DEMOLITION PLAN

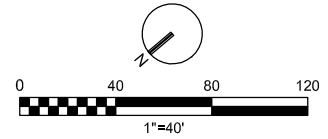
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ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-1001
VERT SCALE: NA	SHEET: 14 OF 38	

Drawing: DE-DWG-20161028-T1S1001.DWG  
Date: May 11, 2017 - 7:04am



- NOTES:
- FOR CONSTRUCTION SEQUENCING, SEE T1-G-2002.
  - CRANE OFF-LOADING AREA DESIGNED FOR ASSUMED LOADS ASSOCIATED WITH OFF-LOADING RAIL-MOUNTED CONTAINER GANTRY CRANES FROM TRANSPORT SHIP. FINAL DESIGNER OF RECORD TO VERIFY ACTUAL OFF-LOADING SCHEME AND LOADING.

**CONCEPTUAL**



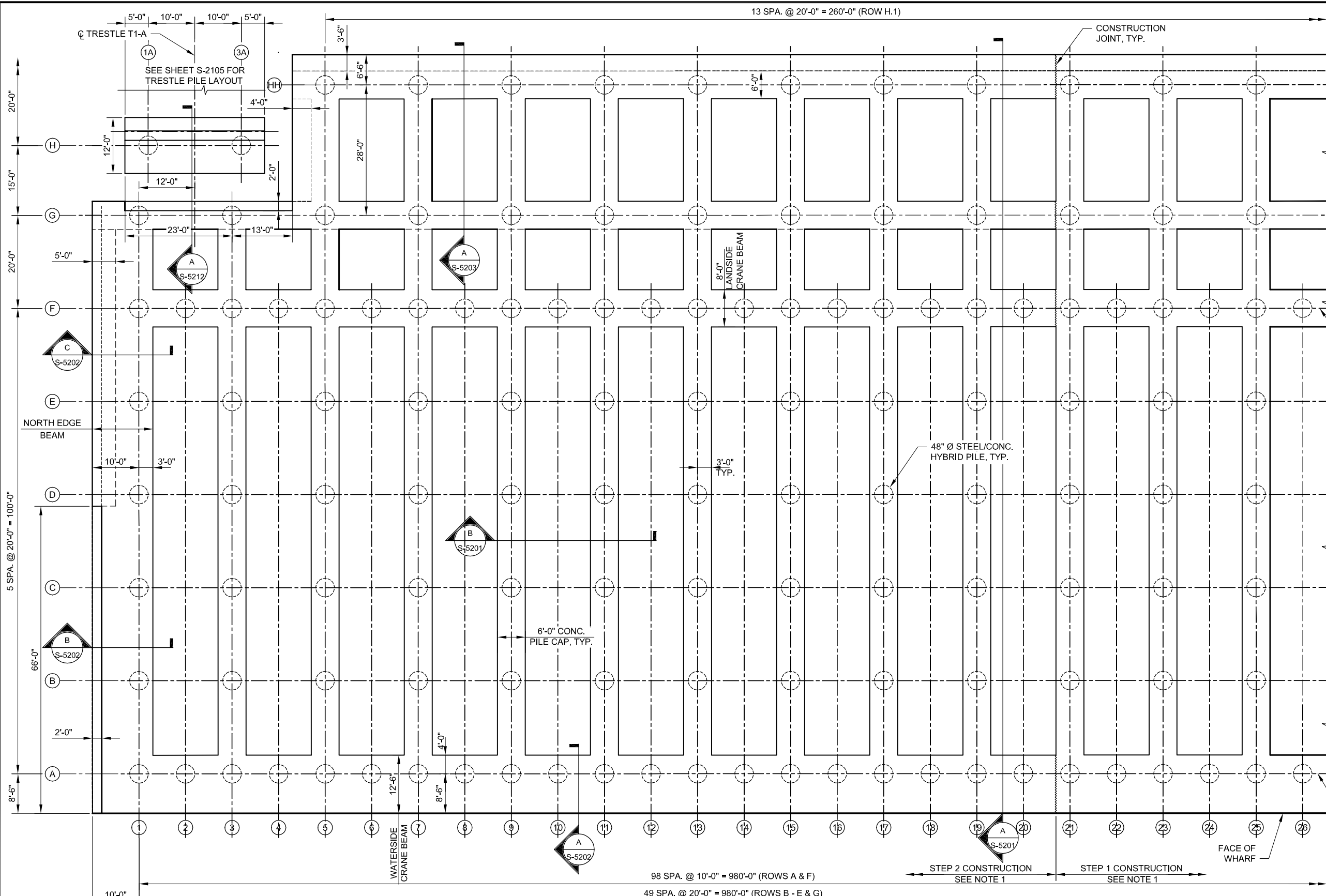
VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	REV	DATE	DESCRIPTION	BY	APVD		NOT FOR CONSTRUCTION			STRUCTURAL GENERAL PLAN	PORT OF ANCHORAGE						
	ANCHORAGE PORT MODERNIZATION PROGRAM																
	TERMINAL 1 (T1) ANCHORAGE, ALASKA																
REVISIONS		DSGN H. GUAN		DR D. MONK		CHK K. JUMPAWONG		APVD D. PLAYER		SEAL		HORIZ SCALE: AS SHOWN VERT SCALE: NA		DATE: 10/28/2016 SHEET: 15 OF 38		T1-S-2001	

FILE NO.-

Drawing: DE-DWG-20161028-T1S2001.DWG  
 Date: May 11, 2017 7:25am



13 SPA. @ 20'-0" = 260'-0" (ROW H.1)



NOTES:  
1. FOR CONSTRUCTION SEQUENCING, SEE T1-G-2002.

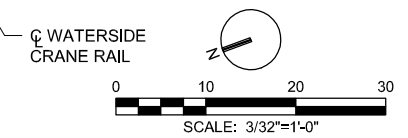
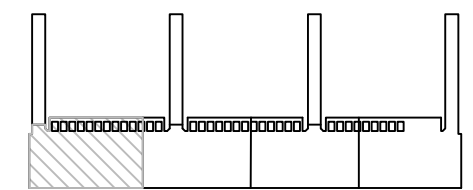
CL LANDSIDE CRANE RAIL

MATCH SHEET S-2102

48" Ø STEEL/CONC. HYBRID PILE, TYP.

6"-0" CONC. PILE CAP, TYP.

KEYPLAN



**CONCEPTUAL**

98 SPA. @ 10'-0" = 980'-0" (ROWS A & F)  
49 SPA. @ 20'-0" = 980'-0" (ROWS B - E & G)

STEP 2 CONSTRUCTION SEE NOTE 1  
STEP 1 CONSTRUCTION SEE NOTE 1

FACE OF WHARF

Drawing: DE-DWG-20161028-T1S2101.DWG  
Date: May 11, 2017 - 9:02am

REV	DATE	DESCRIPTION	BY	APVD

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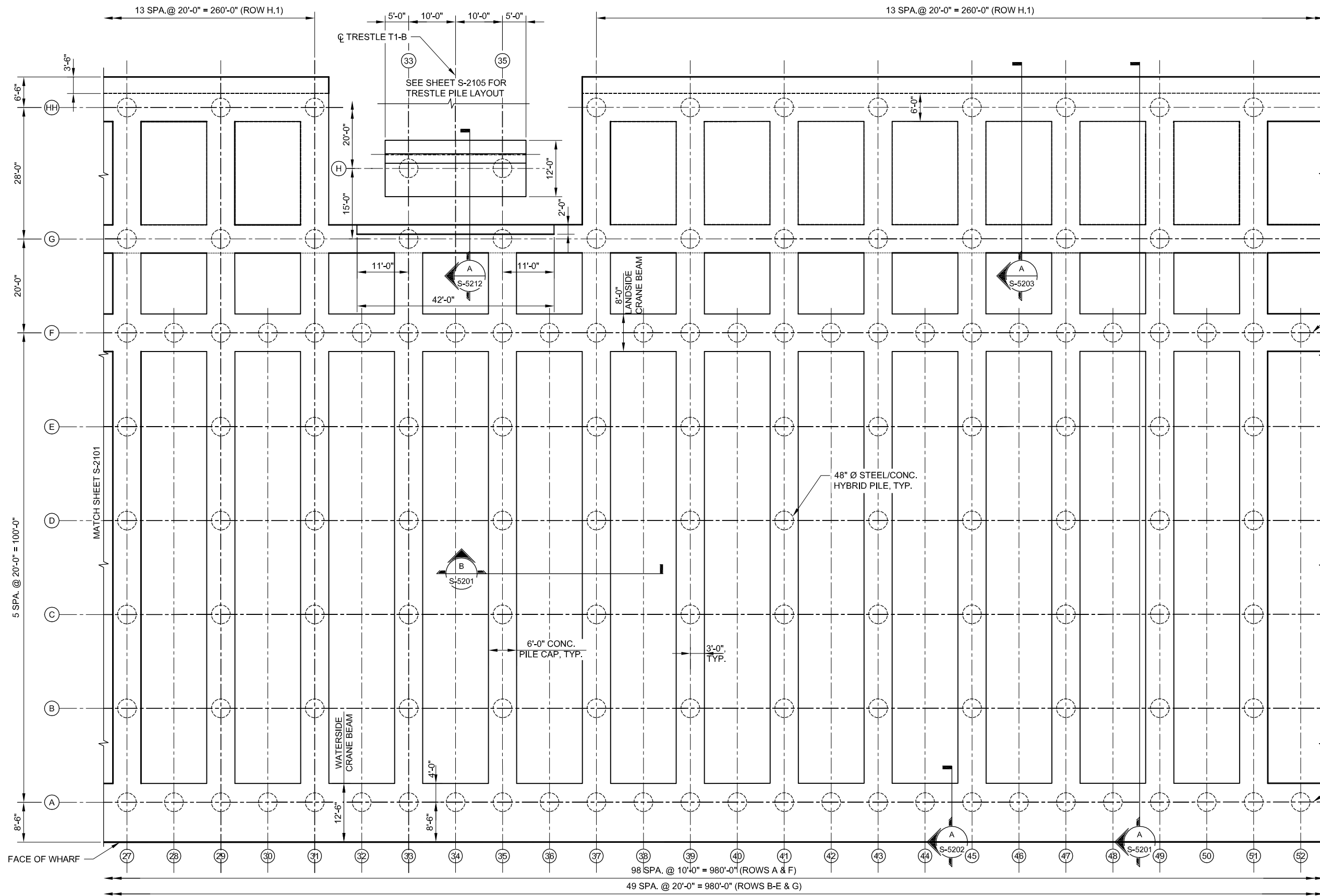
STRUCTURAL  
PARTIAL PILE & PILE CAP LAYOUT  
(1 OF 6)

PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN    DATE: 10/28/2016  
VERT SCALE: N/A    SHEET: 16 OF 38

T1-S-2101

FILE NO.-

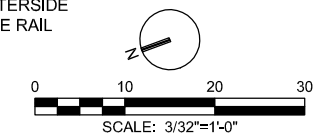
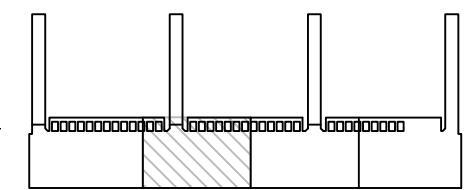


CL LANDSIDE CRANE RAIL

MATCH SHEET S-2103

CL WATERSIDE CRANE RAIL

**KEYPLAN**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2102.DWG  
Date: May 11, 2017 - 9:03am

REV	DATE	DESCRIPTION	BY	APVD

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CONSULTANT

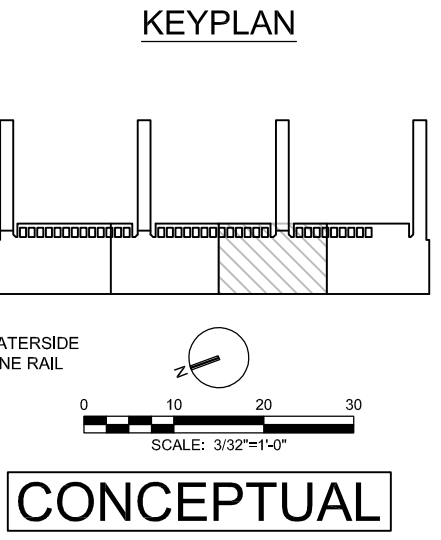
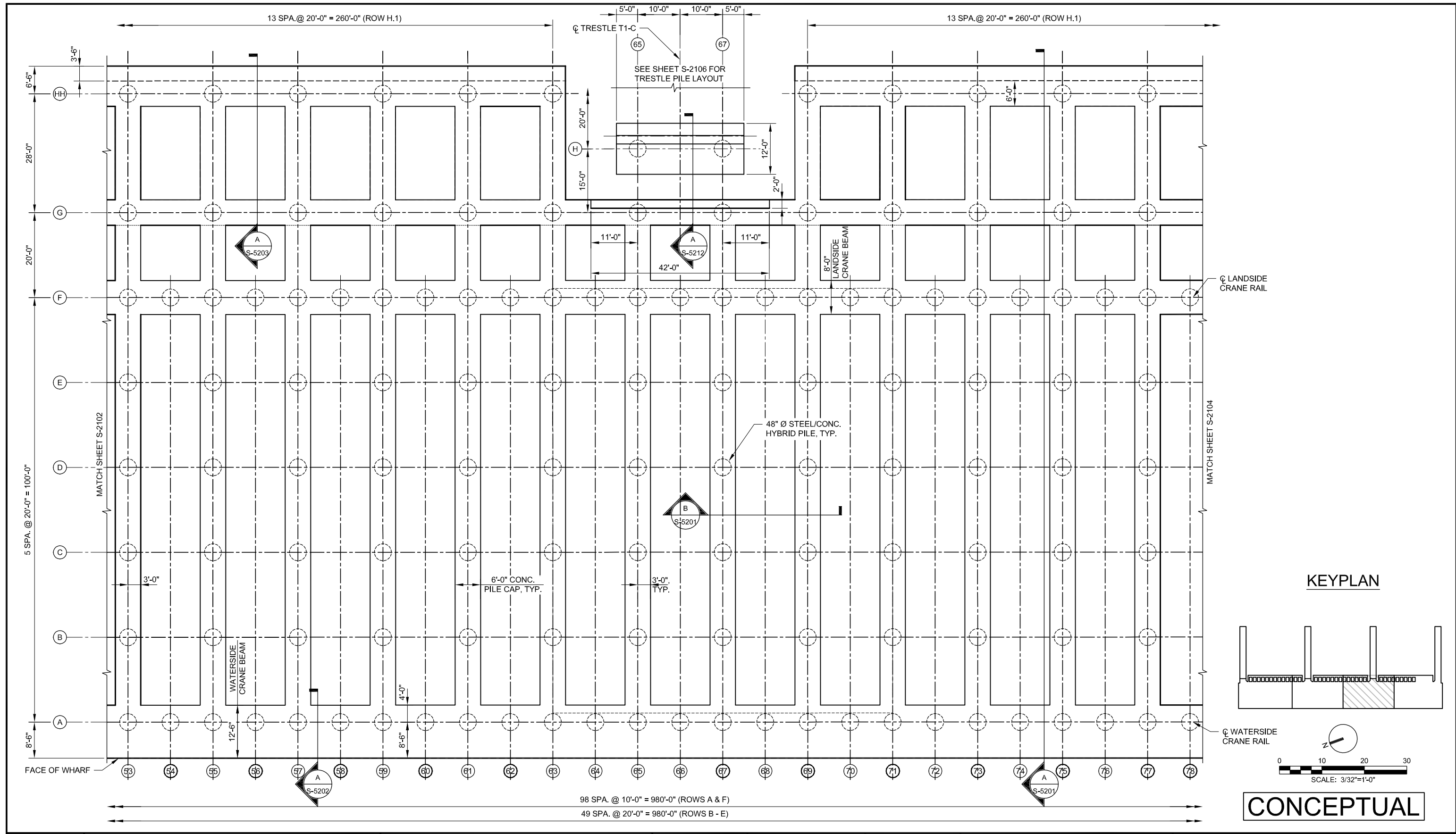
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**STRUCTURAL**  
PARTIAL PILE & PILE CAP LAYOUT  
(2 OF 6)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2102
VERT SCALE: N/A	SHEET: 17 OF 38	

FILE NO.-



Drawing: DE-DWG-20161028-T1S2103.DWG  
Date: May 11, 2017 - 9:02am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
CONSULTANT			

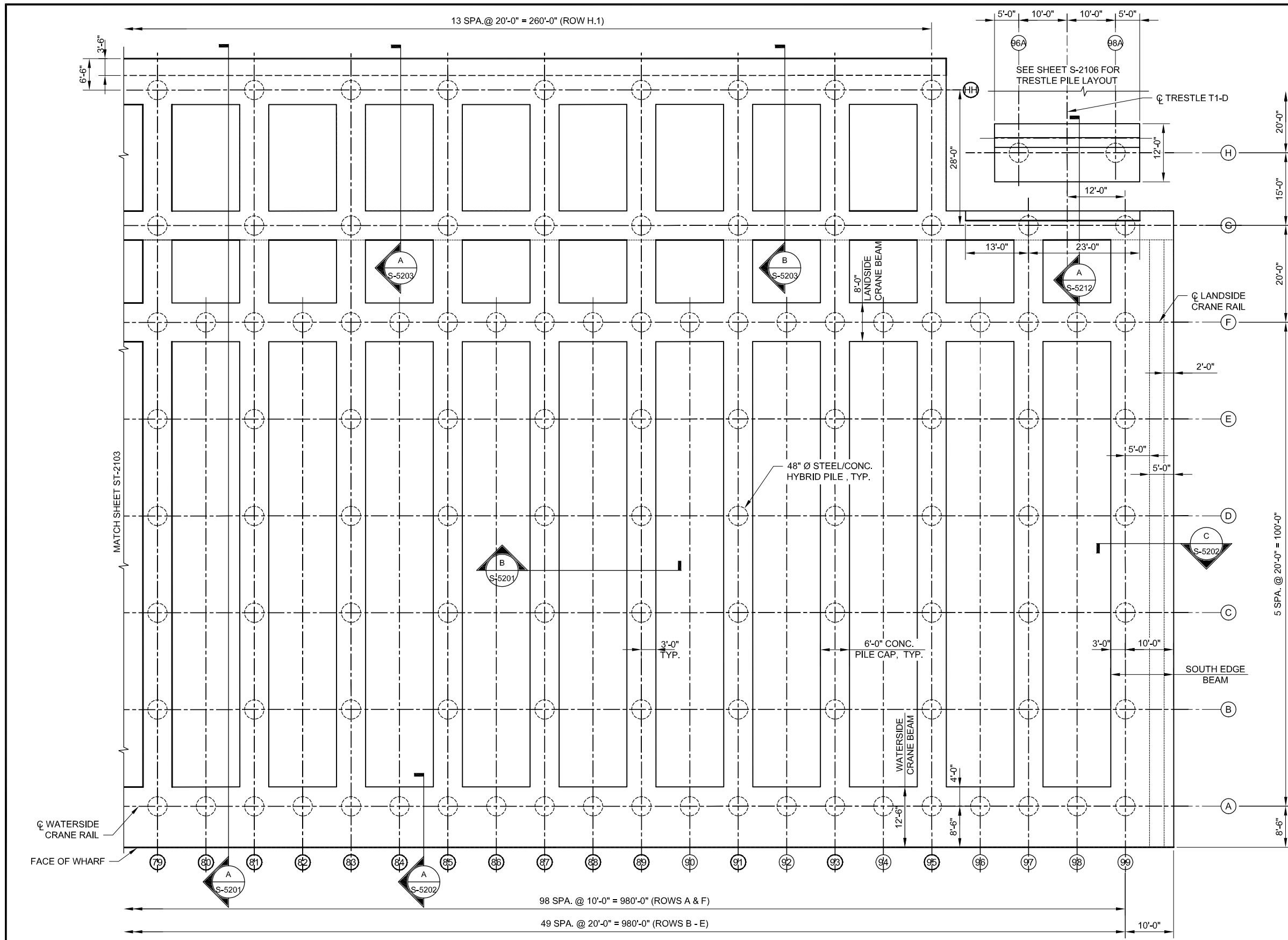
**NOT FOR CONSTRUCTION**



**STRUCTURAL**  
PARTIAL PILE & PILE CAP LAYOUT  
(3 OF 6)

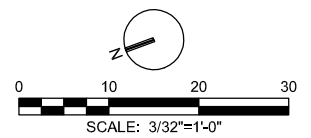
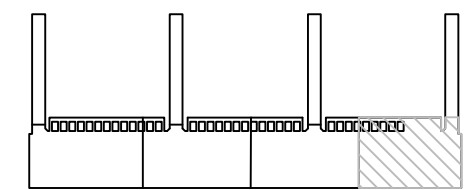
PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	<b>T1-S-2103</b>
VERT SCALE: N/A	SHEET: 18 OF 38	

FILE NO.-



5 SPA. @ 20'-0" = 100'-0"

**KEYPLAN**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2104.DWG  
Date: May 11, 2017 - 9:08am

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

DSGN: H. GUAN  
 DR: D. MONK  
 CHK: K. JUMPWONG  
 APVD: D. PLAYER  
 CONSULTANT

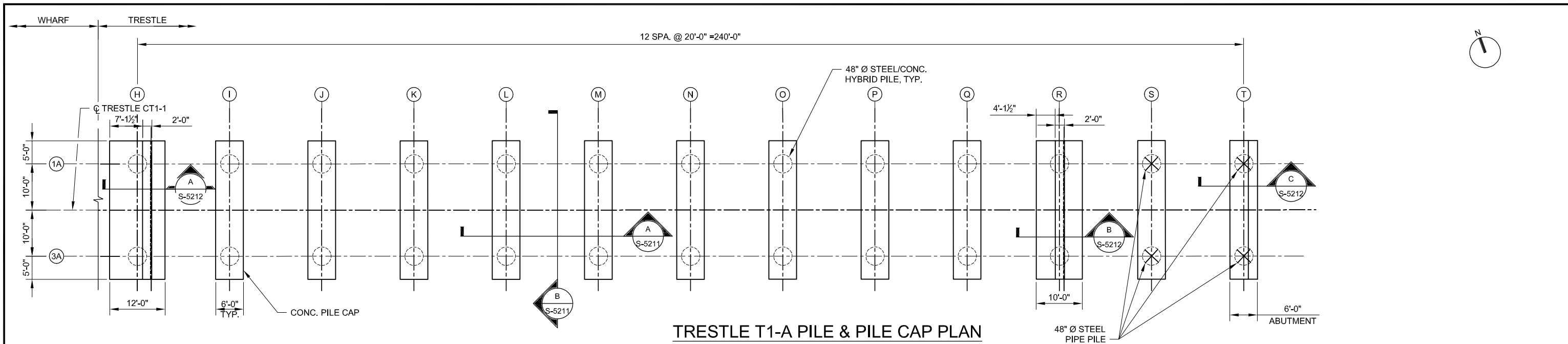
**NOT FOR CONSTRUCTION**



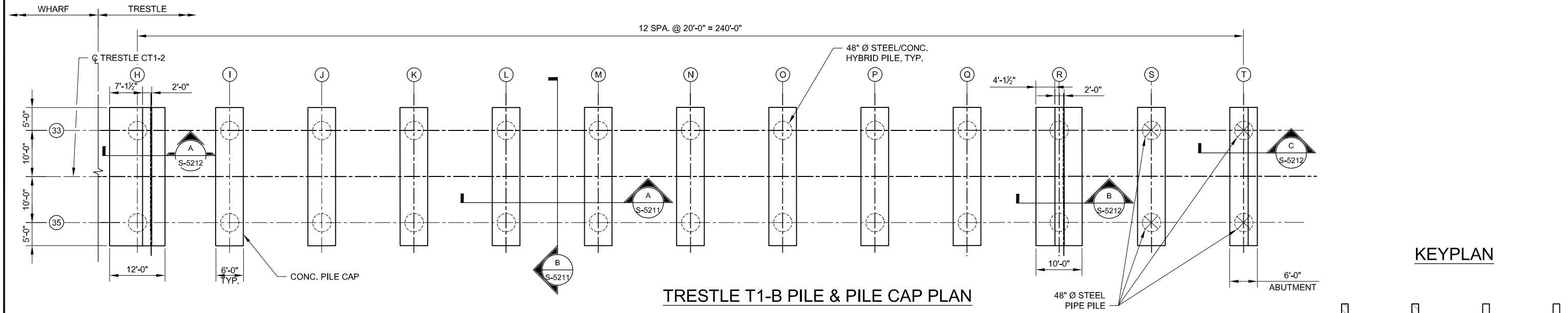
**STRUCTURAL**  
PARTIAL PILE & PILE CAP LAYOUT  
(4 OF 6)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2104
VERT SCALE: N/A	SHEET: 19 OF 38	

FILE NO.-

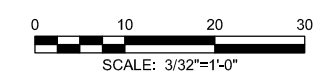
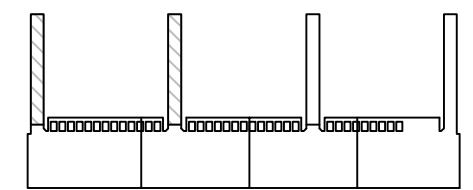


TRESTLE T1-A PILE & PILE CAP PLAN



TRESTLE T1-B PILE & PILE CAP PLAN

KEYPLAN



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2105.DWG  
Date: May 11, 2017 - 9:11am

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
-----------------	---------------	---------------------	-------------------

CONSULTANT

**NOT FOR CONSTRUCTION**

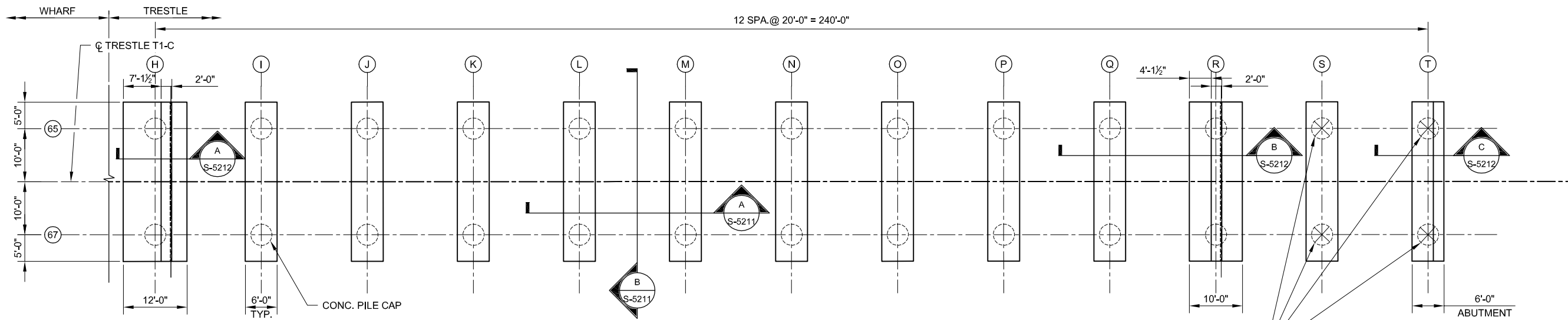


**STRUCTURAL**  
PARTIAL PILE & PILE CAP LAYOUT  
(5 OF 6)

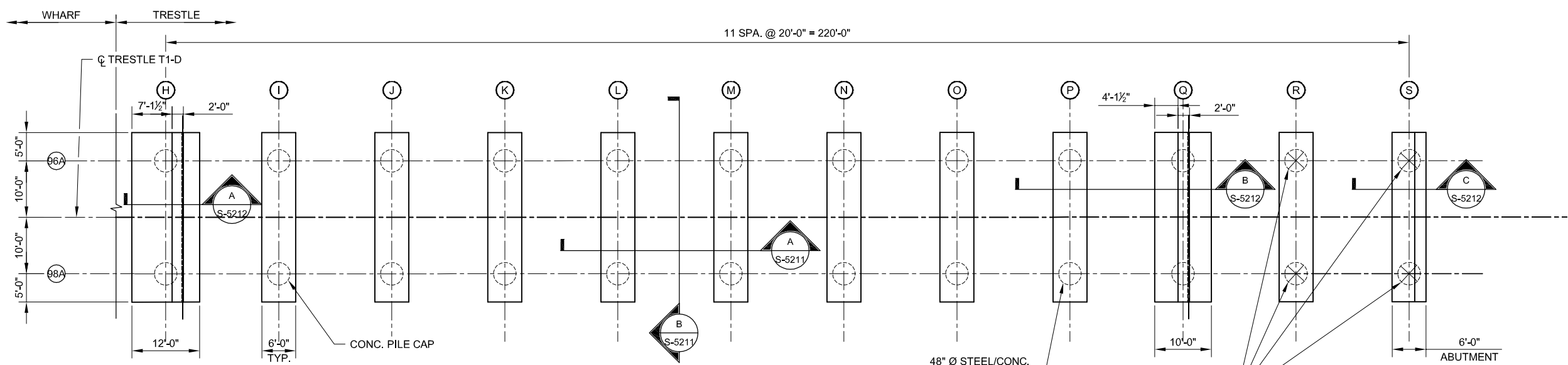
PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2105
VERT SCALE: N/A	SHEET: 20 OF 38	

FILE NO.-

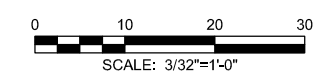
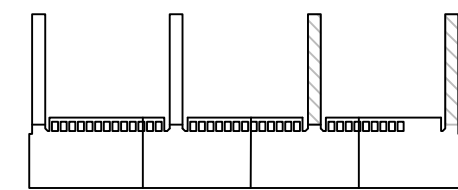


TRESTLE T1-C PILE & PILE CAP PLAN



TRESTLE T1-D PILE & PILE CAP PLAN

KEYPLAN



CONCEPTUAL

Drawing: DE-DWG-20161028-T1S2-106.DWG Date: May 11, 2017 - 9:10am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
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CONSULTANT

NOT FOR CONSTRUCTION

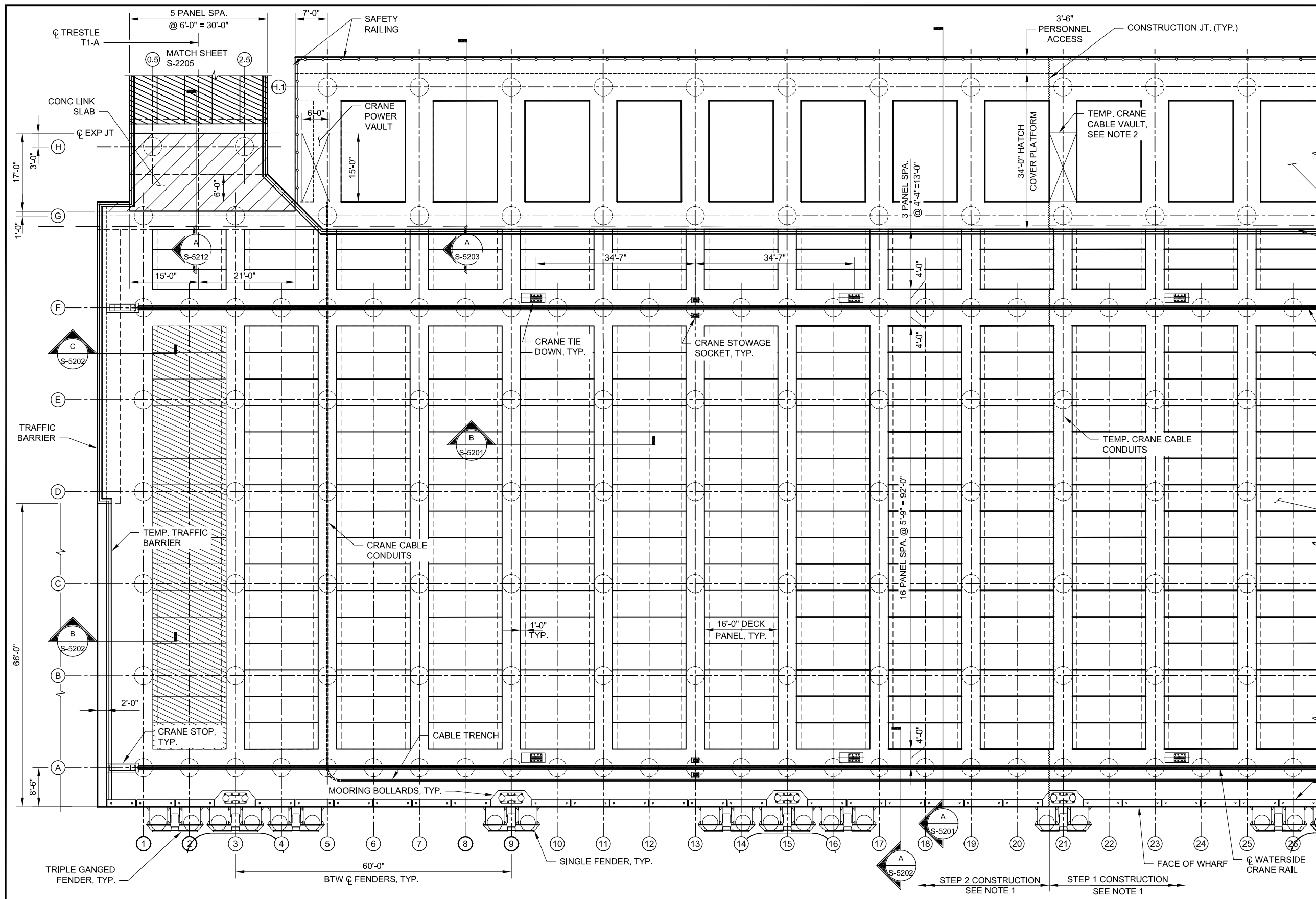


STRUCTURAL  
PARTIAL PILE & PILE CAP LAYOUT  
(6 OF 6)

PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2106
VERT SCALE: N/A	SHEET: 21 OF 38	

FILE NO.-



**LEGEND**

- 24" PRECAST CONCRETE HUNCHED DECK PANEL
- 24" PRECAST CONCRETE FLAT DECK PANEL
- CONCRETE LINK SLAB
- TRAFFIC BARRIER
- SAFETY RAILING
- BULL RAIL

OPEN CONCRETE FRAME, TYP.

TRAFFIC BARRIER

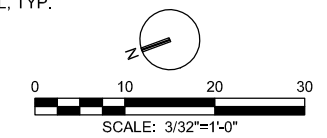
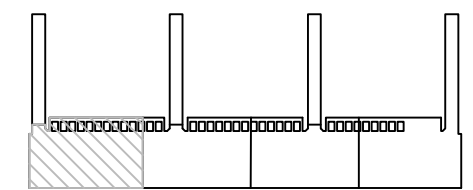
Q LANDSIDE CRANE RAIL

MATCH SHEET S-2202

PRECAST DECK PANELS, TYP.

- NOTES:
1. FOR CONSTRUCTION SEQUENCING, SEE T1-G-2002.
  2. TEMPORARY CRANE CABLE VAULT TO BE REMOVED AFTER THE COMPLETION OF STEP 2 CONSTRUCTION.

**KEYPLAN**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2201.DWG  
Date: May 11, 2017 - 9:14am

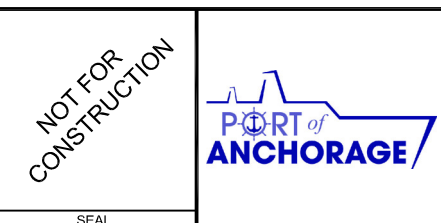
REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

NOT FOR CONSTRUCTION

DSGN H. GUAN	DR D. MONK	CHK K. JUMPWONG	APVD D. PLAYER
-----------------	---------------	--------------------	-------------------

CONSULTANT




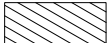
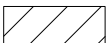
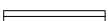
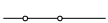

**STRUCTURAL**  
PARTIAL DECK PANEL LAYOUT  
(1 OF 6)

PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2201
VERT SCALE: N/A	SHEET: 22 OF 38	

FILE NO.-

**LEGEND**

-  24" PRECAST CONCRETE HUNCHED DECK PANEL
-  24" PRECAST CONCRETE FLAT DECK PANEL
-  CONCRETE LINK SLAB
-  TRAFFIC BARRIER
-  SAFETY RAILING
-  BULL RAIL

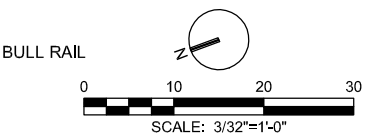
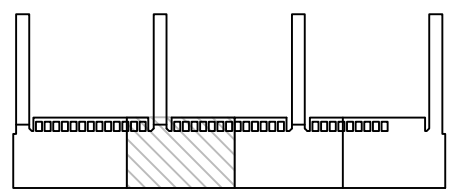
OPEN CONCRETE FRAME, TYP.

TRAFFIC BARRIER

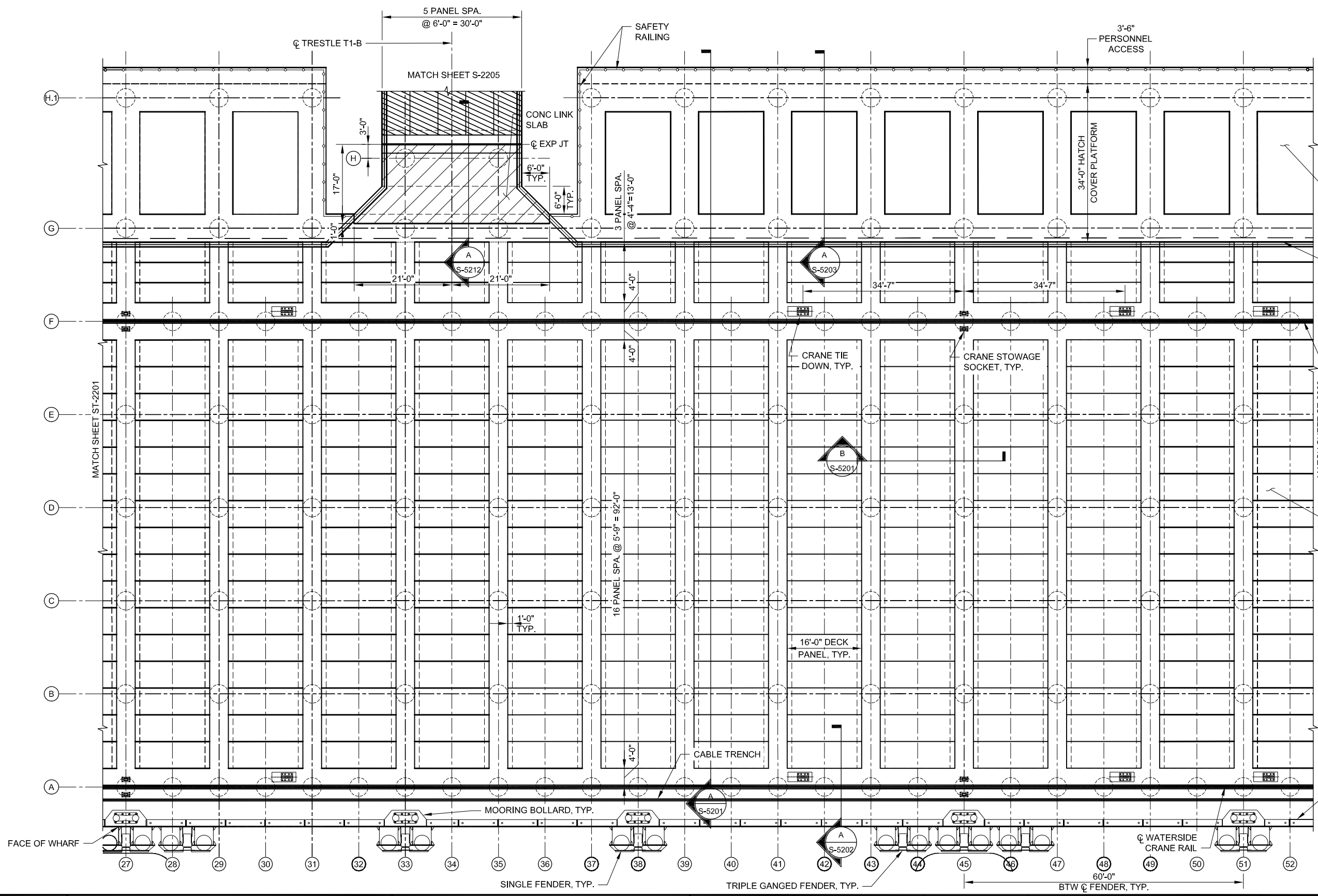
LANDSIDE CRANE RAIL

PRECAST DECK PANELS, TYP.

**KEYPLAN**



**CONCEPTUAL**



PORT OF ANCHORAGE  
 ANCHORAGE PORT MODERNIZATION PROGRAM  
 TERMINAL 1 (T1)  
 ANCHORAGE, ALASKA  
 HORIZ SCALE: AS SHOWN DATE: 10/28/2016  
 VERT SCALE: N/A SHEET: 23 OF 38

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN: H. GUAN    DR: D. MONK    CHK: K. JUMPWONG    APVD: D. PLAYER

CONSULTANT

NOT FOR CONSTRUCTION



STRUCTURAL  
 PARTIAL DECK PANEL LAYOUT  
 (2 OF 6)

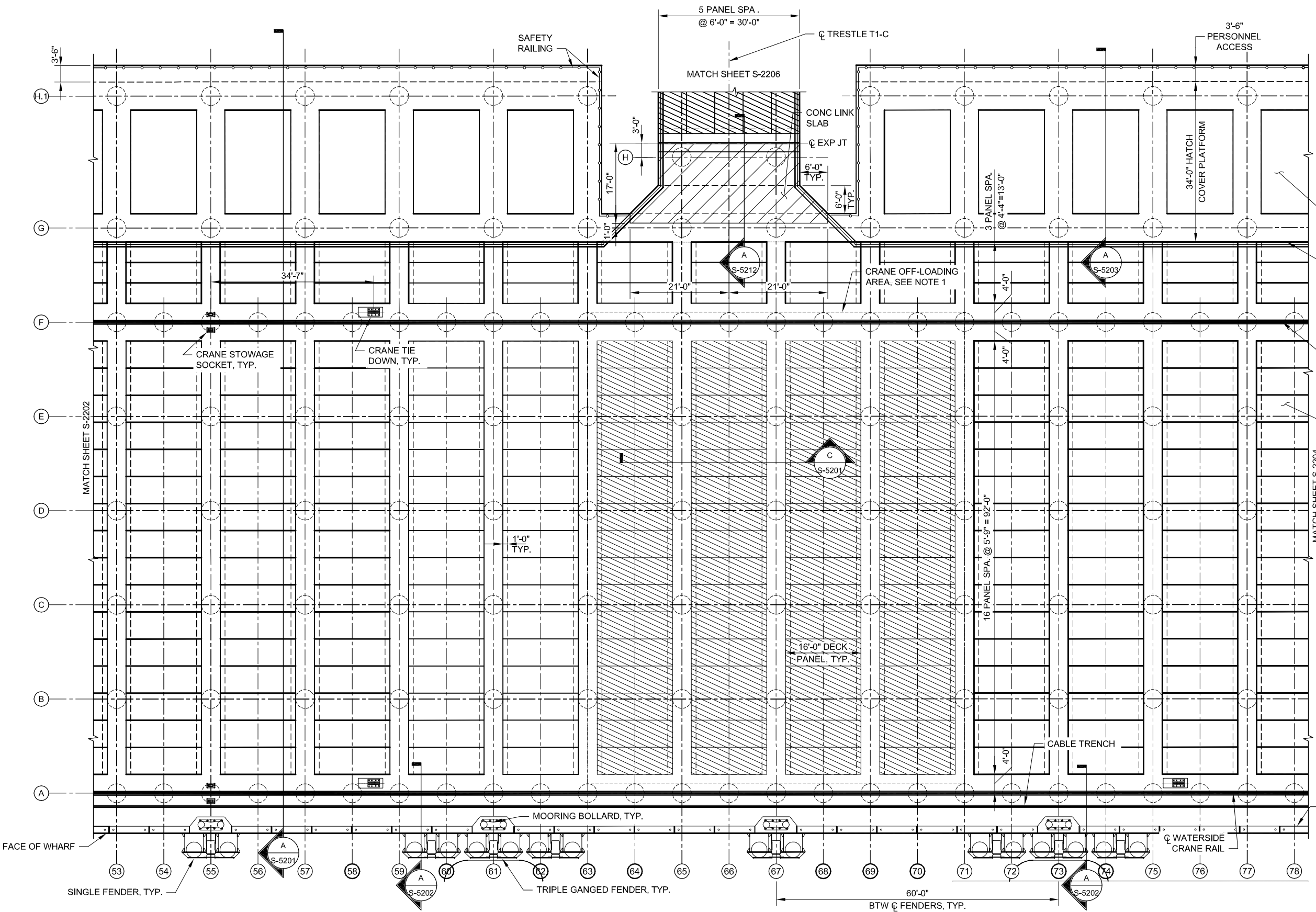
T1-S-2202

Drawing: DE-DWG-20161028-T1S2202.DWG  
 Date: May 11, 2017 - 9:28am

FILE NO.-



Drawing: DE-DWG-20161028-T1S2203.DWG  
 Date: May 11, 2017 - 9:14am



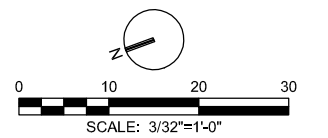
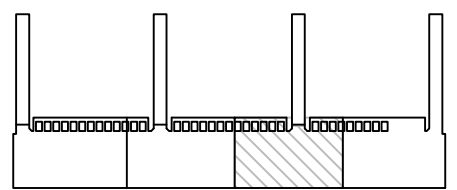
**LEGEND**

- 24" PRECAST CONCRETE HUNCHED DECK PANEL
- 24" PRECAST CONCRETE FLAT DECK PANEL
- CONCRETE LINK SLAB
- TRAFFIC BARRIER
- SAFETY RAILING
- BULL RAIL

- OPEN CONCRETE FRAME, TYP.
- TRAFFIC BARRIER
- LANDSIDE CRANE RAIL
- PRECAST DECK PANELS, TYP.

NOTE:  
 1. CRANE OFF-LOADING AREA DESIGNED FOR ASSUMED LOADS ASSOCIATED WITH OFF-LOADING RAIL-MOUNTED CONTAINER GANTRY CRANES FROM TRANSPORT SHIP. FINAL DESIGNER OF RECORD TO VERIFY ACTUAL OFF-LOADING SCHEME AND LOADING.

**KEYPLAN**



**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS	

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
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NOT FOR CONSTRUCTION

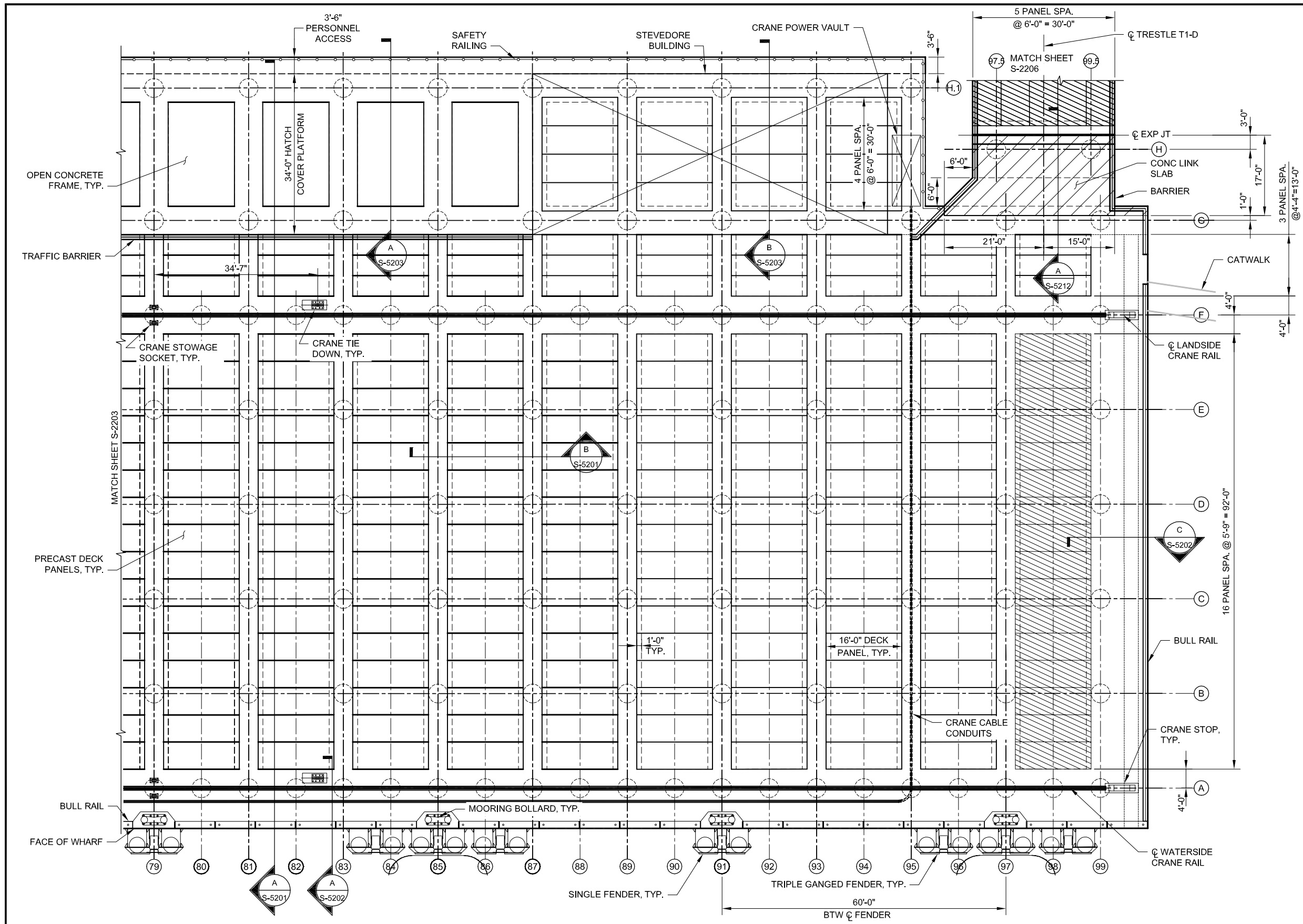


**STRUCTURAL**  
 PARTIAL DECK PANEL LAYOUT  
 (3 OF 6)

**PORT OF ANCHORAGE**  
 ANCHORAGE PORT MODERNIZATION PROGRAM  
 TERMINAL 1 (T1)  
 ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2203
VERT SCALE: N/A	SHEET: 24 OF 38	

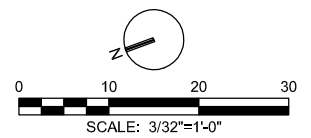
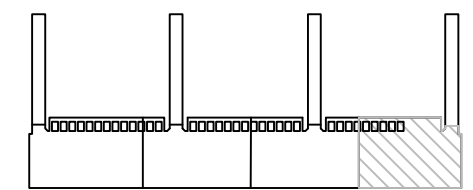
FILE NO.-



**LEGEND**

- 24" PRECAST CONCRETE HUNCHED DECK PANEL
- 24" PRECAST CONCRETE FLAT DECK PANEL
- CONCRETE LINK SLAB
- TRAFFIC BARRIER
- SAFETY RAILING
- BULL RAIL

**KEYPLAN**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2204.DWG  
Date: May 11, 2017 - 9:30am

REV	DATE	DESCRIPTION	BY	APVD

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

**ch2m**

DSGN: H. GUAN    DR: D. MONK    CHK: K. JUMPAWONG    APVD: D. PLAYER

CONSULTANT

**NOT FOR CONSTRUCTION**







**STRUCTURAL**  
PARTIAL DECK PANEL LAYOUT  
(4 OF 6)

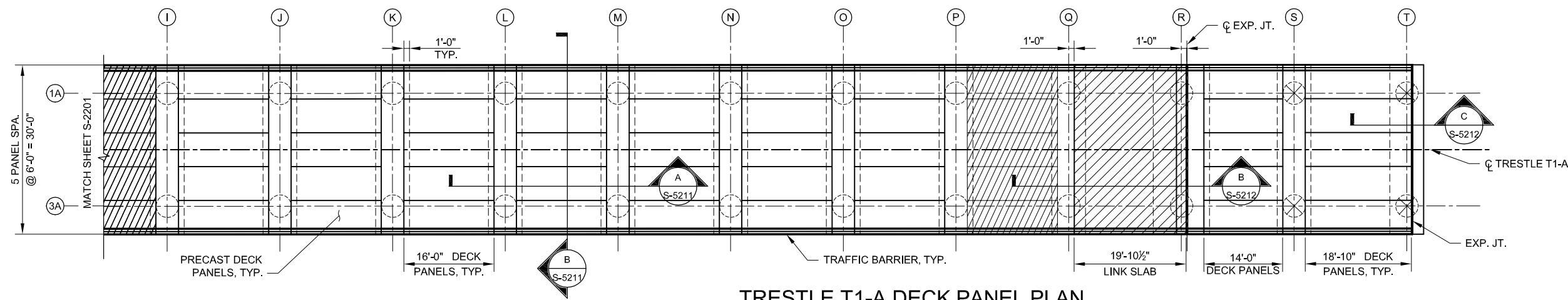
PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2204
VERT SCALE: N/A	SHEET: 25 OF 38	

FILE NO.-

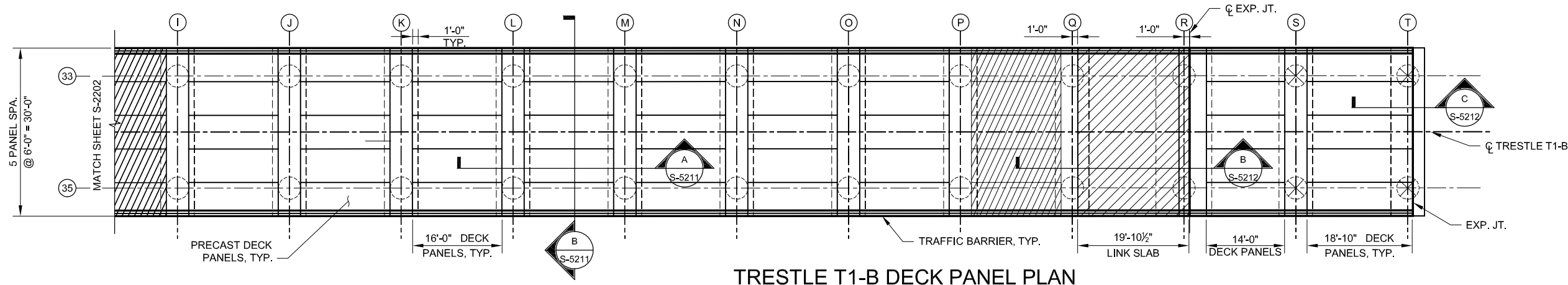


**LEGEND**

-  24" PRECAST CONCRETE HAUNCHED DECK PANEL
-  24" PRECAST CONCRETE FLAT DECK PANEL
-  TRAFFIC BARRIER
-  CONCRETE LINK SLAB

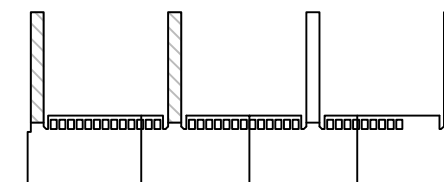


**TRESTLE T1-A DECK PANEL PLAN**



**TRESTLE T1-B DECK PANEL PLAN**

**KEYPLAN**



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2205.DWG  
Date: May 11, 2017 - 9:31am

REV	DATE	DESCRIPTION	BY	APVD

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

REVISIONS



DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
-----------------	---------------	---------------------	-------------------

CONSULTANT

**NOT FOR CONSTRUCTION**

SEAL



**STRUCTURAL**  
PARTIAL DECK PANEL LAYOUT  
(5 OF 6)

PORT OF ANCHORAGE  
ANCHORAGE PORT MODERNIZATION PROGRAM  
TERMINAL 1 (T1)  
ANCHORAGE, ALASKA

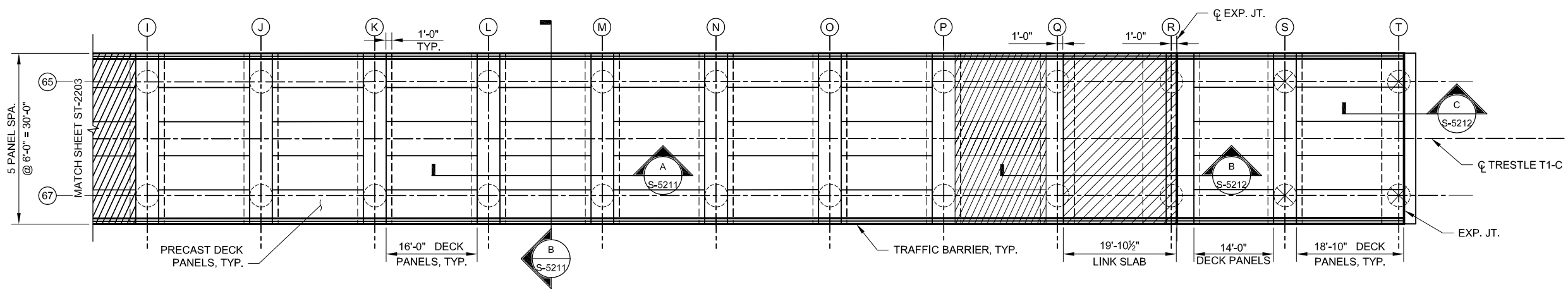
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2205
VERT SCALE: N/A	SHEET: 26 OF 38	

FILE NO.-

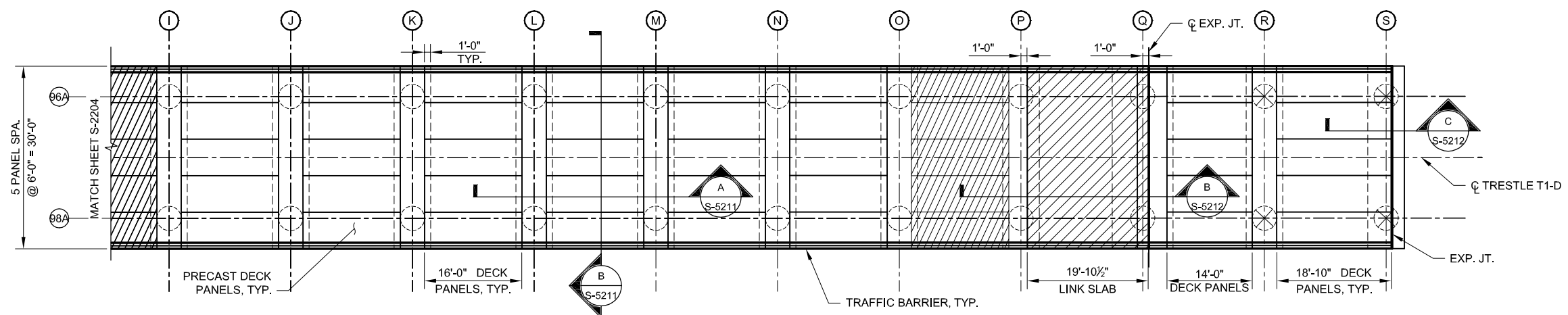


### LEGEND

- 24" PRECAST CONCRETE HAUNCHED DECK PANEL
- 24" PRECAST CONCRETE FLAT DECK PANEL
- TRAFFIC BARRIER
- CONCRETE LINK SLAB

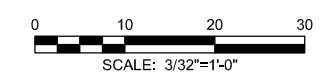
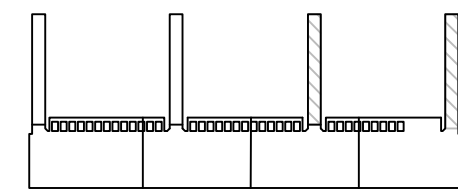


TRESTLE T1-C DECK PANEL PLAN



TRESTLE T1-D DECK PANEL PLAN

### KEYPLAN



**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S2206.DWG  
Date: May 11, 2017 - 9:36am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
CONSULTANT			

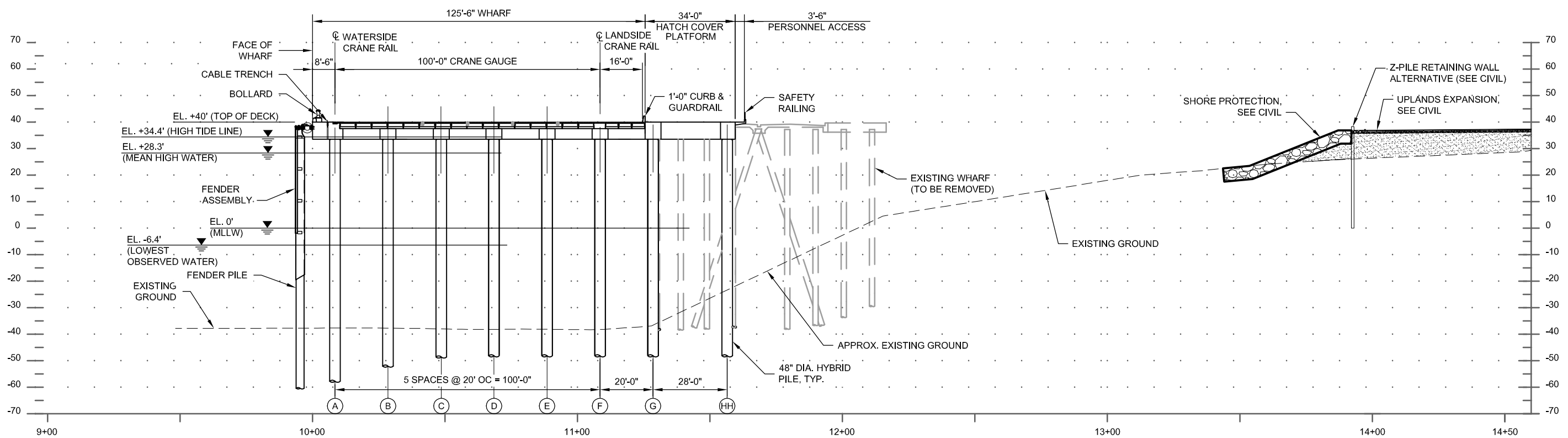
NOT FOR CONSTRUCTION



STRUCTURAL  
PARTIAL DECK PANEL LAYOUT  
(6 OF 6)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-2206
VERT SCALE: N/A	SHEET: 27 OF 38	

FILE NO.-



**(A) TYPICAL SECTION**  
 1" = 20'-0"  
 S-2001

**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR T. HEDGLIN	CHK K. JUMPAWONG	APVD D. PLAYER
-----------------	------------------	---------------------	-------------------

CONSULTANT

**NOT FOR CONSTRUCTION**

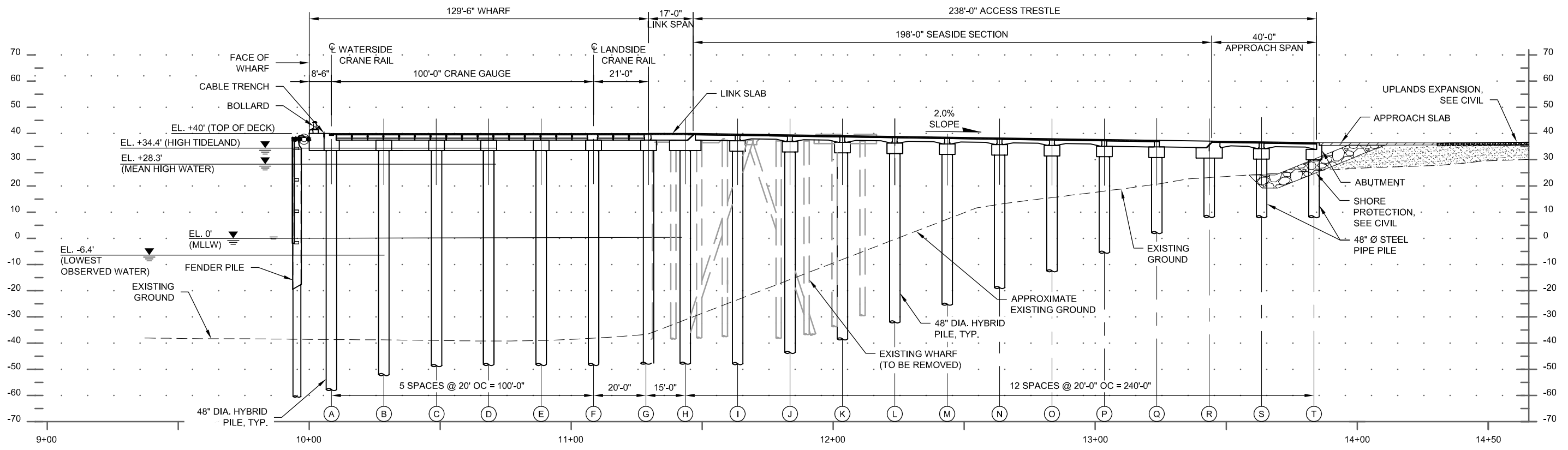


STRUCTURAL  
 TYPICAL SECTION  
 (1 OF 2)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-3001
VERT SCALE: AS SHOWN	SHEET: 28 OF 38	

Drawing: DE-DWG-20161028-T1S3001.DWG  
 Date: May 11, 2017 7:49am

FILE NO.-



**B** SECTION THROUGH ACCESS TRESTLE  
 1" = 20'-0"  
 S-2001

**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR T. HEDGLIN	CHK K. JUMPAWONG	APVD D. PLAYER
-----------------	------------------	---------------------	-------------------

CONSULTANT

NOT FOR  
CONSTRUCTION



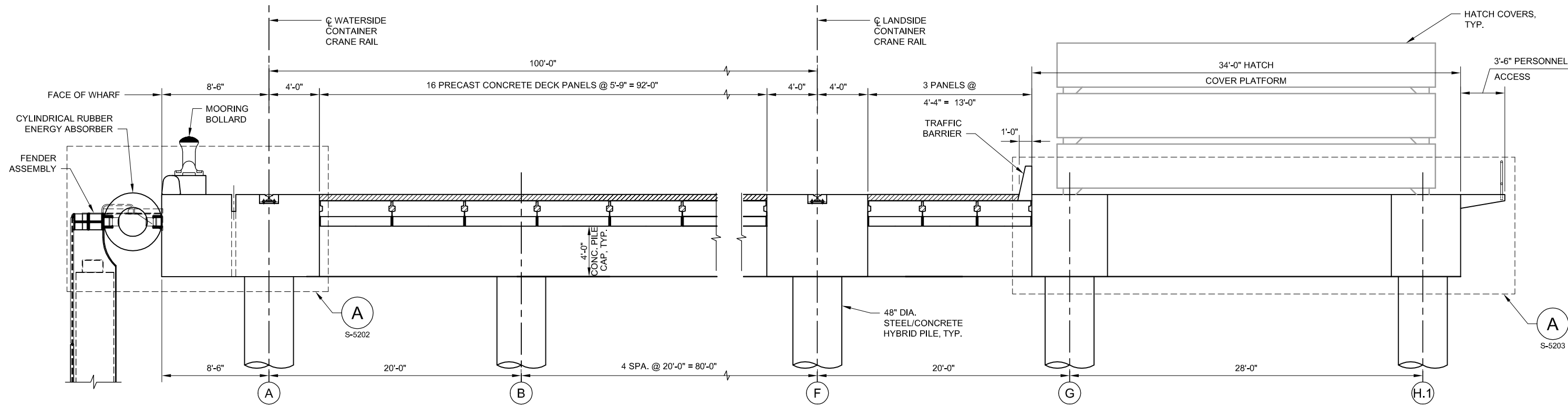
STRUCTURAL  
TYPICAL SECTION  
(2 OF 2)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-3002
VERT SCALE: AS SHOWN	SHEET: 29 OF 38	

Drawing: DE-DWG-20161028-T1S3002.DWG  
Date: May 11, 2017 7:43am

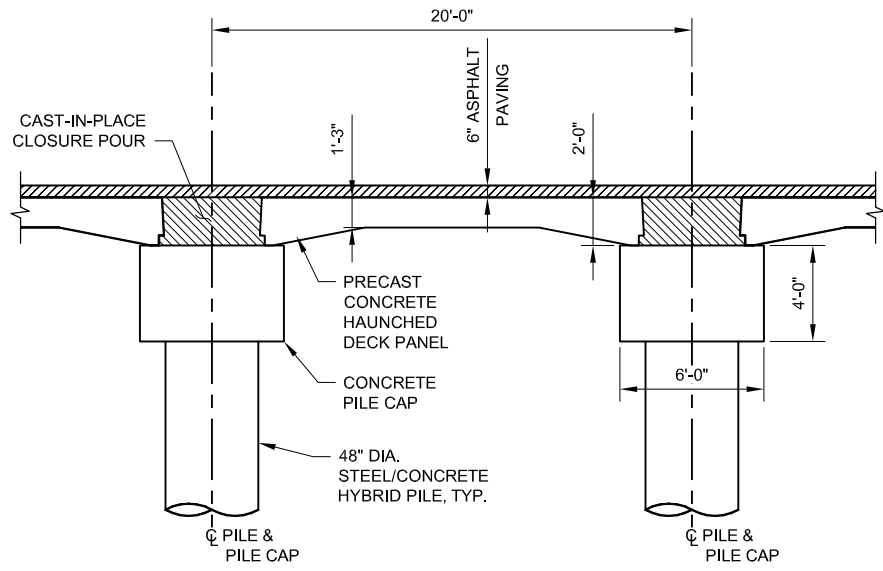
FILE NO.-





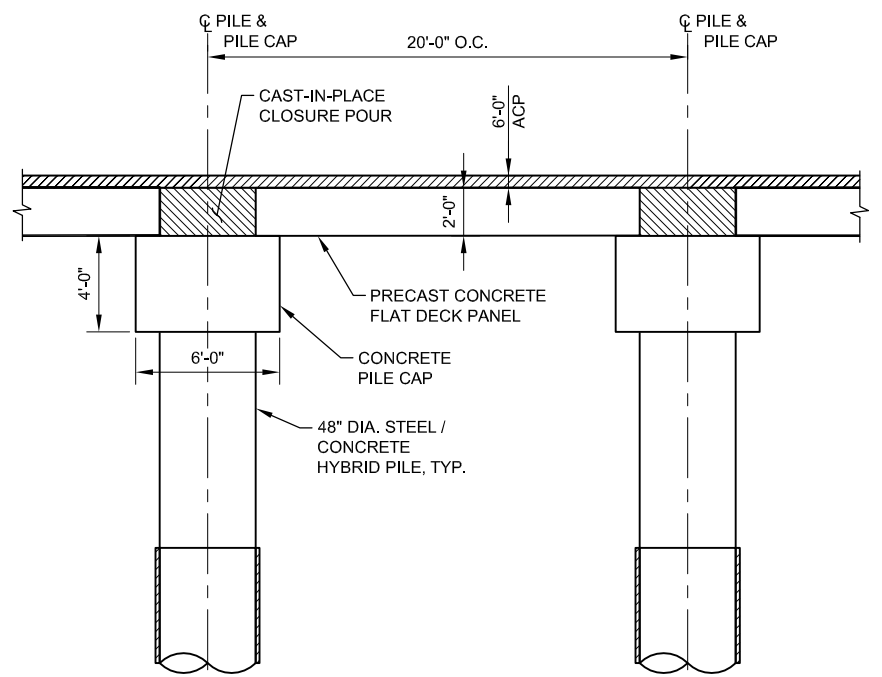
**(A) TYPICAL WHARF TRANSVERSE SECTION**  
 1/4" = 1'-0"

S-2101, S-2102, S-2103, S-2104  
 S-2201, S-2202, S-2203, S-2204



**(B) TYPICAL WHARF LONGITUDINAL SECTION**  
 1/4" = 1'-0"

S-2101, S-2102, S-2104  
 S-2201, S-2202, S-2204



**(C) CRANE OFF-LOADING AREA LONGITUDINAL SECTION**  
 1/4" = 1'-0"

S-2103, S-2203

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5201.DWG Date: May 11, 2017 - 7:55am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN: H. GUAN    DR: D. MONK    CHK: K. JUMPAWONG    APVD: D. PLAYER

CONSULTANT

NOT FOR CONSTRUCTION

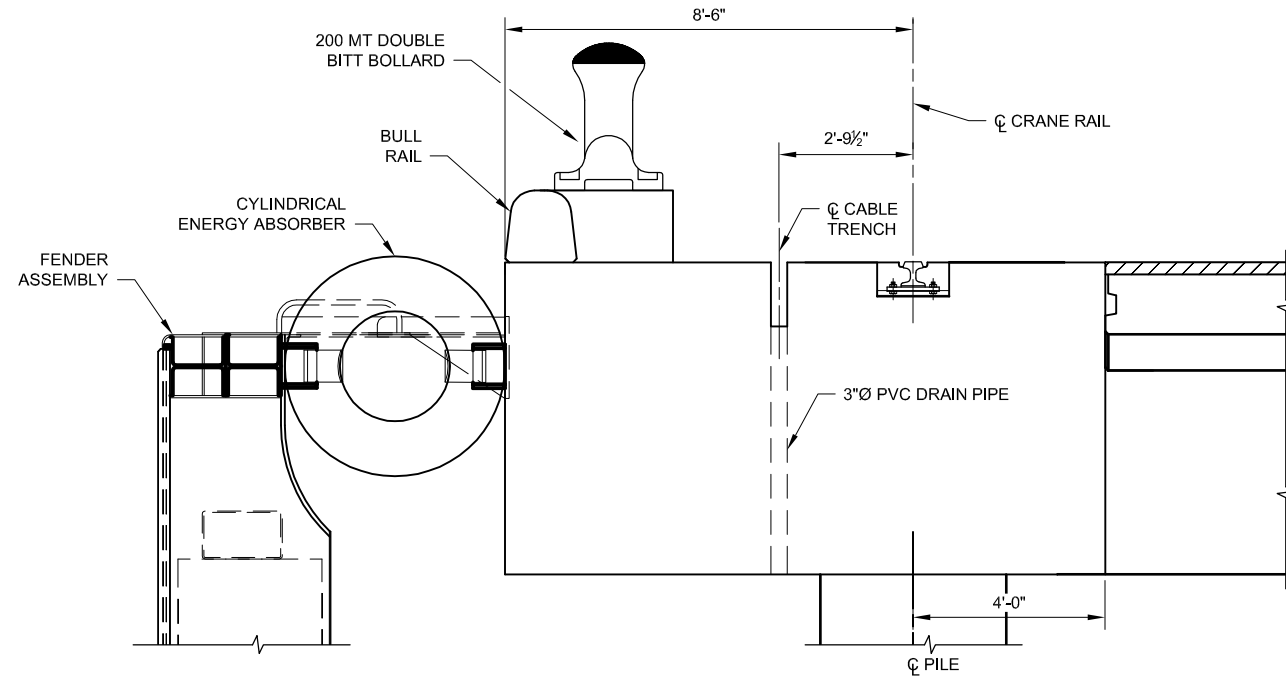


STRUCTURAL  
 WHARF SECTION & DETAILS  
 (1 OF 3)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-5201
VERT SCALE: AS SHOWN	SHEET: 31 OF 38	

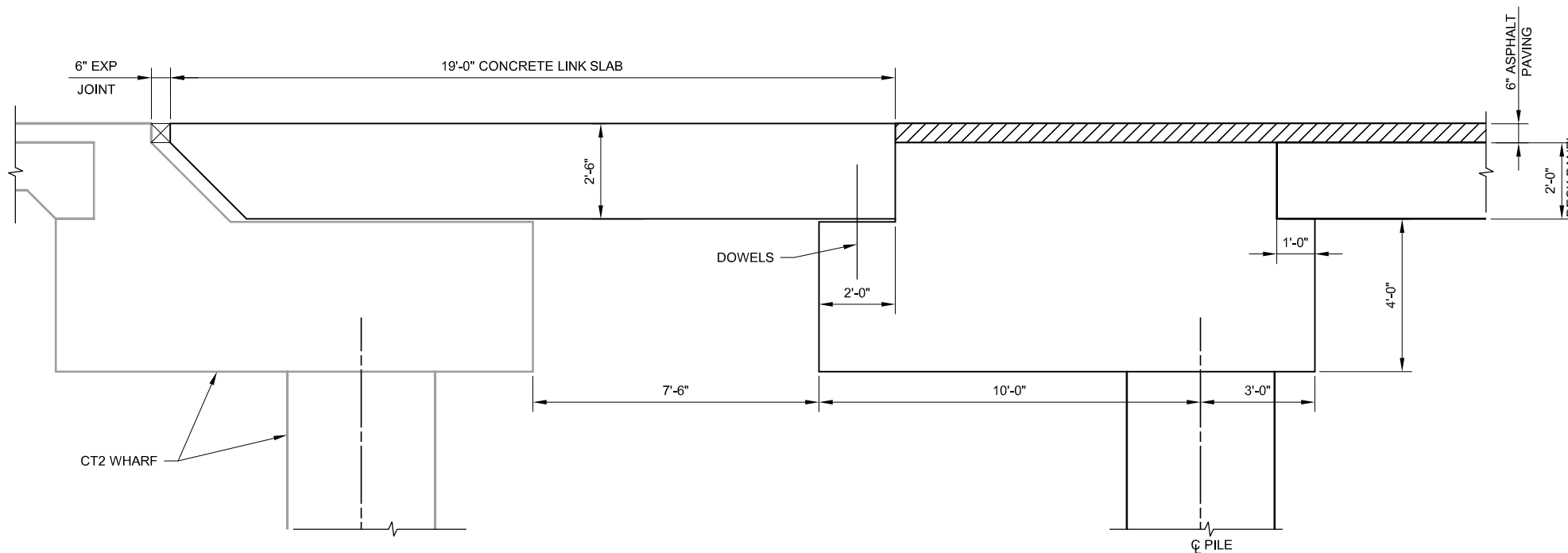
FILE NO.-





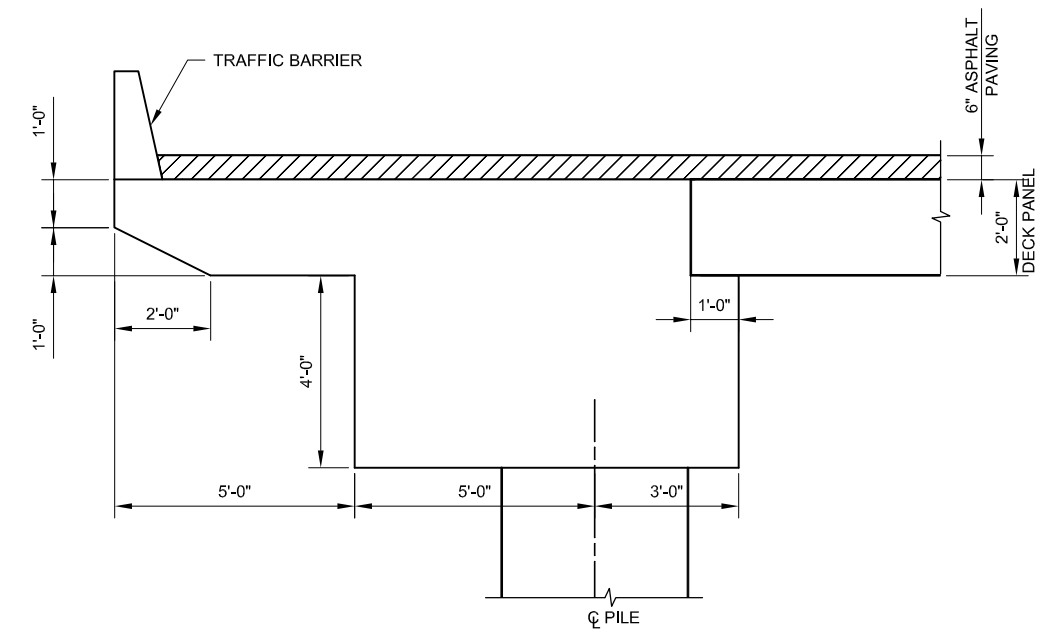
**A** SECTION AT WATERSIDE CRANE BEAM  
1/2" = 1'-0"

S-2101, S-2102, S-2103, S-2104  
S-2201, S-2202, S-2203, S-2204, S-5201



**B** LINK SLAB SECTION  
1/2" = 1'-0"

S-2101, S-2201



**C** NORTH/SOUTH EDGE BEAM SECTION  
1/2" = 1'-0"

S-2101, S-2104, S-2201, S-2204

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5202.DWG  
Date: May 11, 2017 7:55am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN	DR	CHK	APVD
H. GUAN	D. MONK	K. JUMPAWONG	D. PLAYER

CONSULTANT

**NOT FOR CONSTRUCTION**

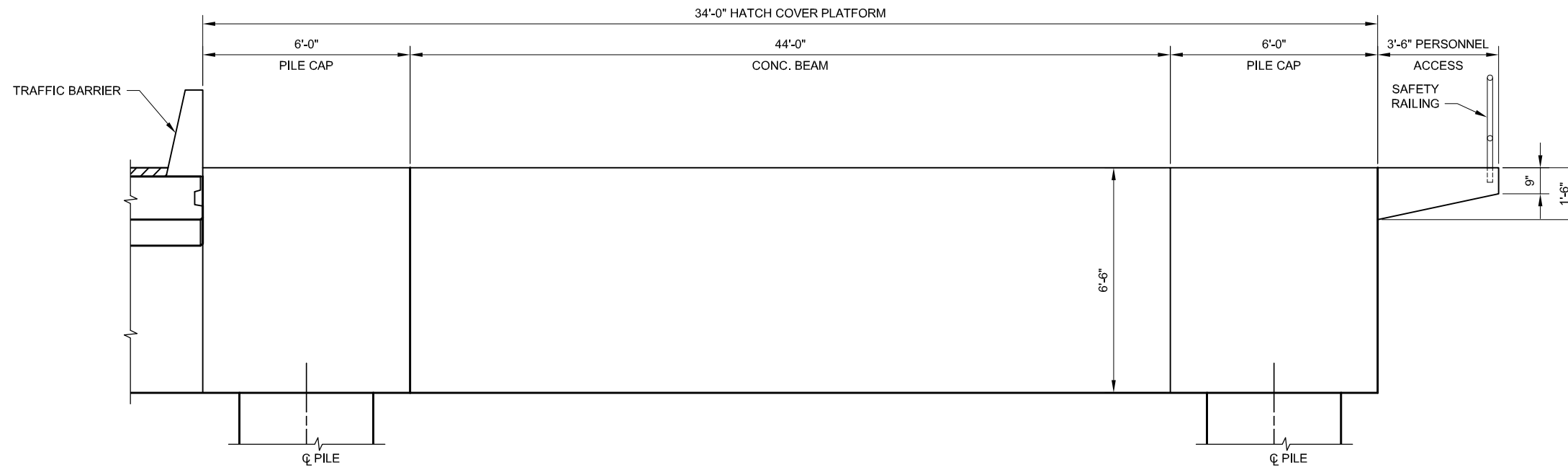
SEAL



**STRUCTURAL**  
WHARF SECTION & DETAILS  
(2 OF 3)

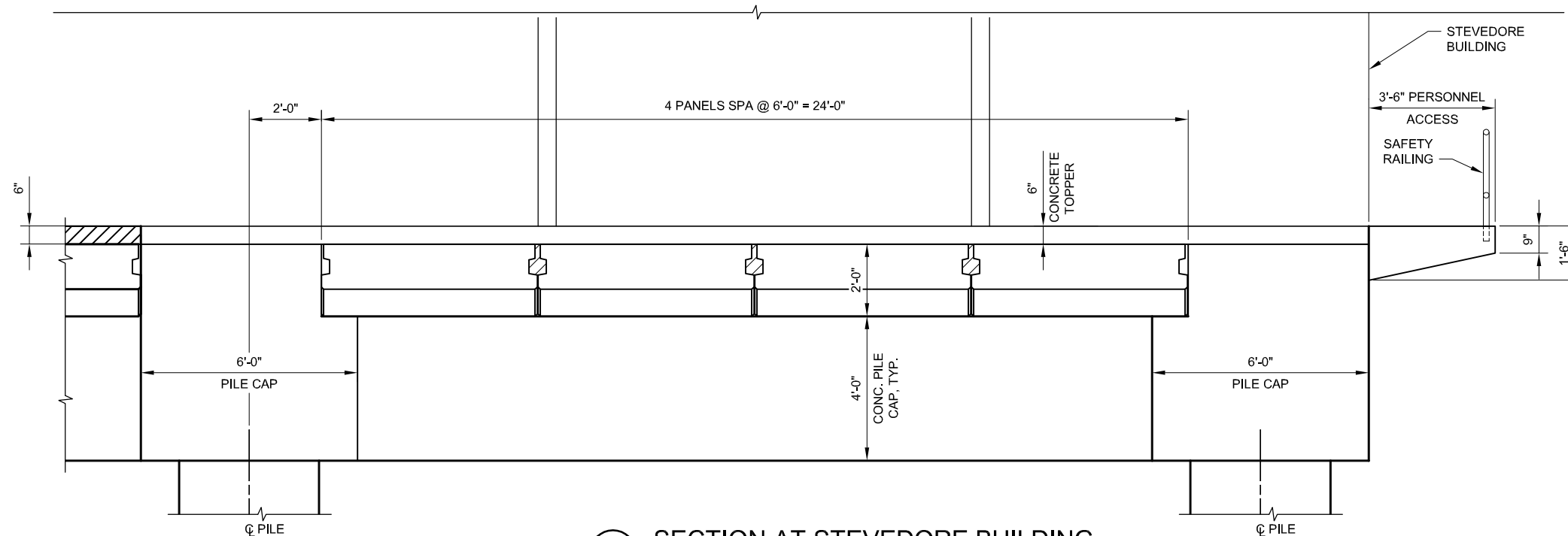
PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-5202
VERT SCALE: AS SHOWN	SHEET: 32 OF 38	

FILE NO.-



**(A) SECTION AT HATCH COVER PLATFORM**  
1/2" = 1'-0"

S-2101, S-2102, S-2103, S-2104  
S-2201, S-2202, S-2203, S-2204, S-5201



**(A) SECTION AT STEVEDORE BUILDING**  
1/2" = 1'-0"

S-2101, S-2102, S-2103, S-2104  
S-2201, S-2202, S-2203, S-2204, S-5201

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5203.DWG  
Date: May 11, 2017 - 8:23am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
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CONSULTANT

**NOT FOR CONSTRUCTION**

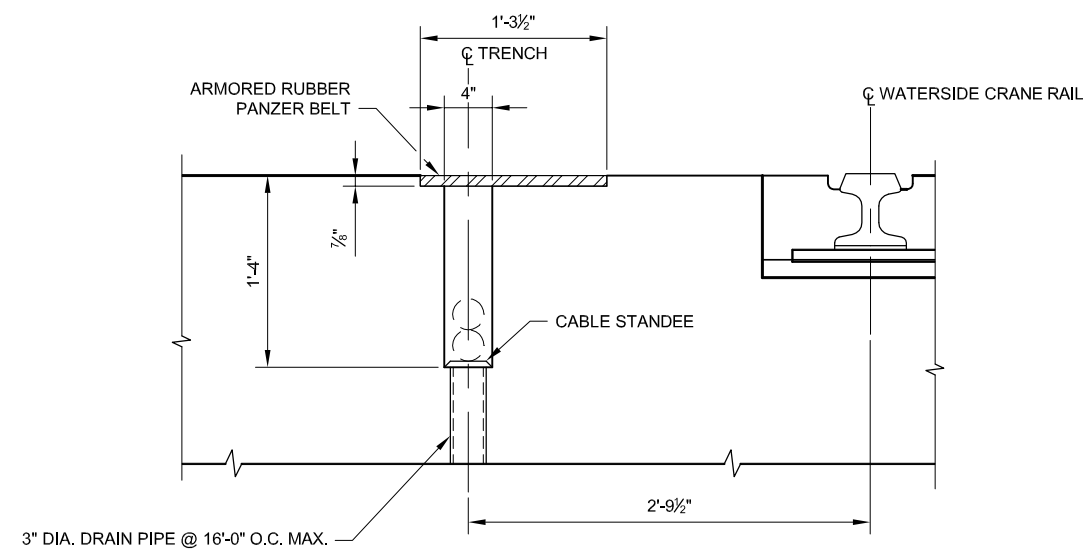
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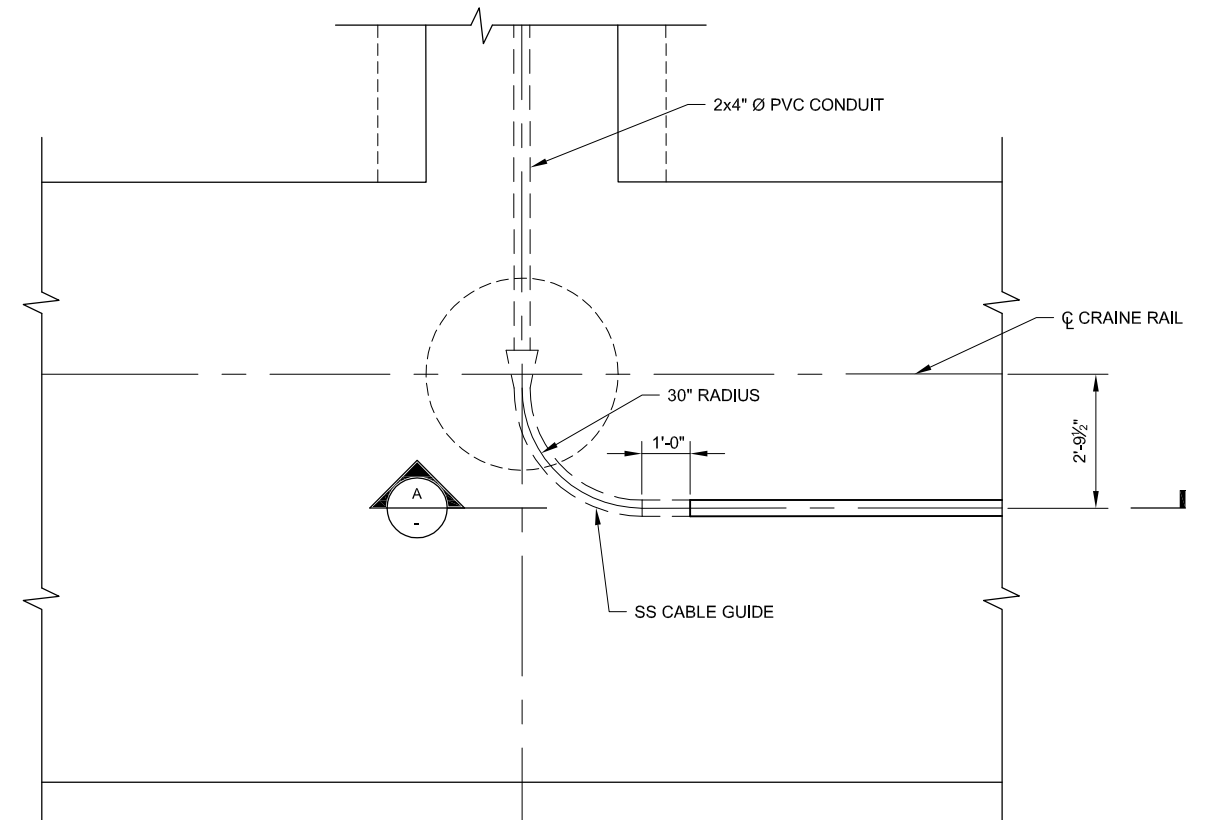
**STRUCTURAL**  
WHARF SECTION & DETAILS  
(3 OF 3)

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-5203
VERT SCALE: AS SHOWN	SHEET: 33 OF 38	

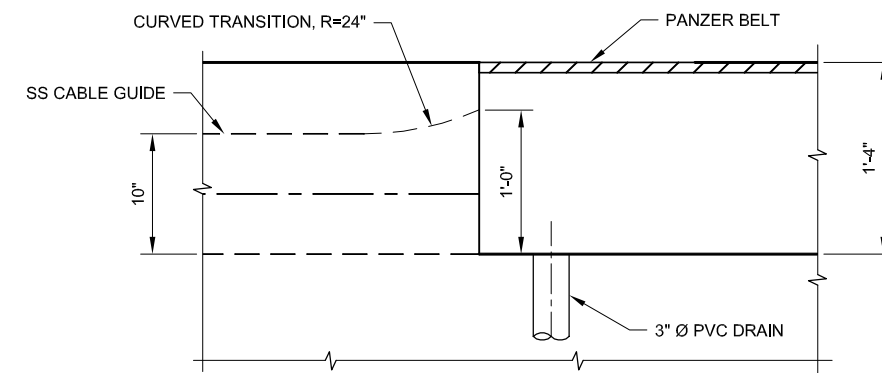
FILE NO.-



**CABLE TRENCH TYPICAL SECTION**  
1 1/2" = 1'-0"



**CABLE TRENCH END DETAIL - PLAN**  
1/2" = 1'-0"



**A SECTION**  
1 1/2" = 1'-0"

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5204.DWG  
Date: May 11, 2017 - 8:21am

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

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
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CONSULTANT

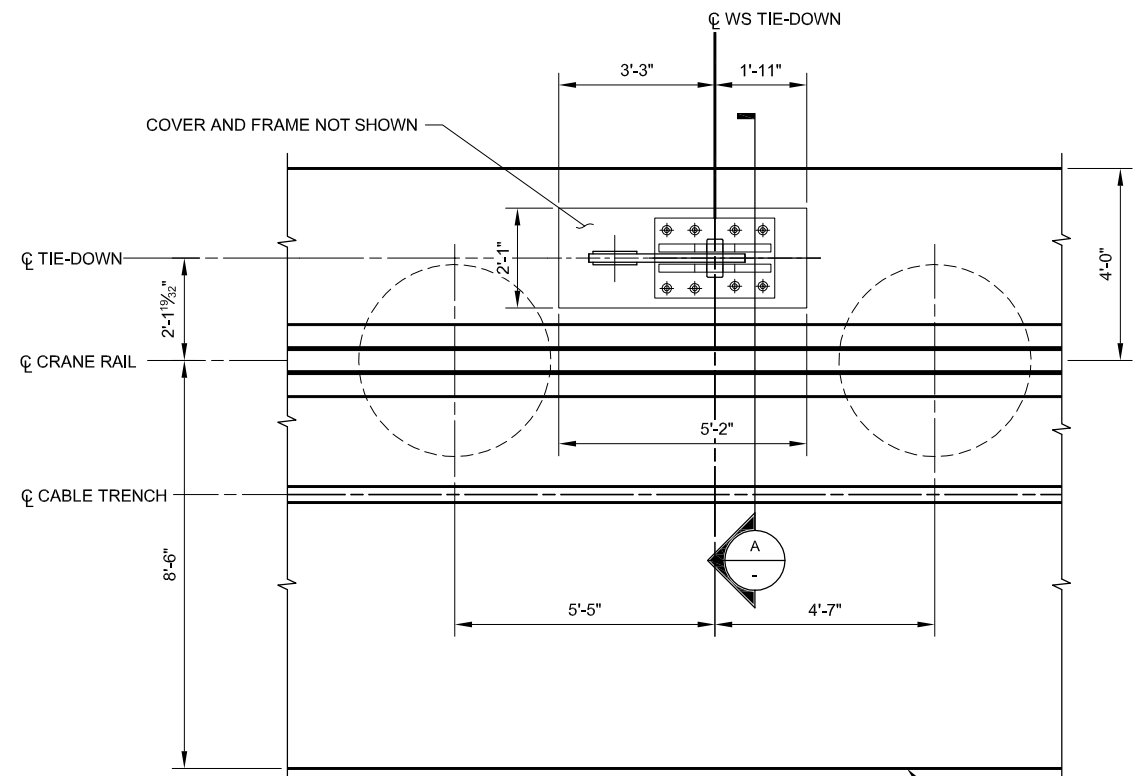
**NOT FOR CONSTRUCTION**



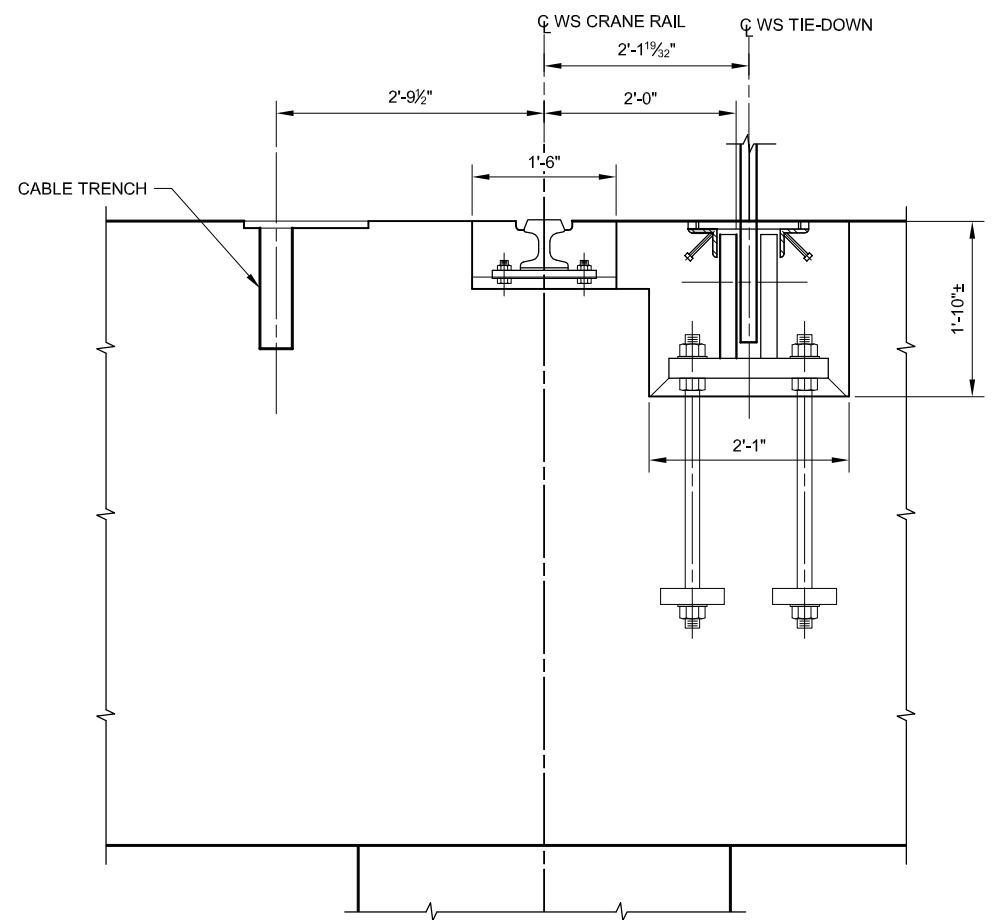
**STRUCTURAL**  
CABLE TRENCH DETAILS

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-5204
VERT SCALE: AS SHOWN	SHEET: 34 OF 38	

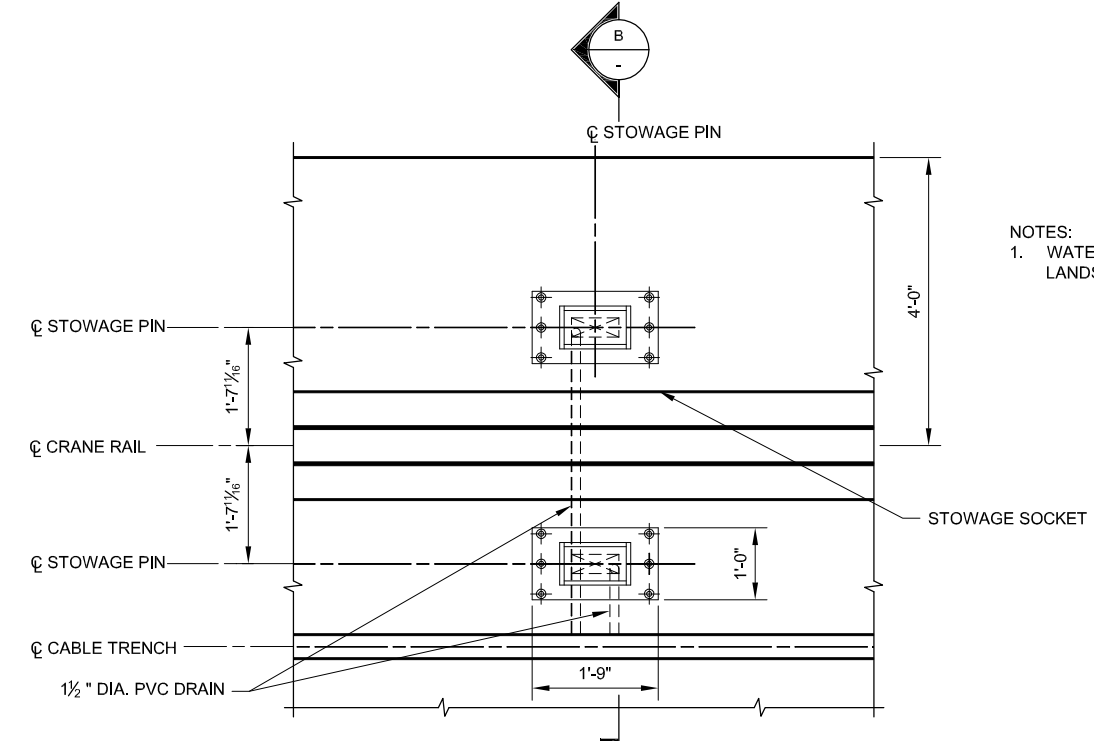
FILE NO.-



**1 CRANE TIE-DOWN PLAN**  
 1/2" = 1'-0" SEE NOTE 1

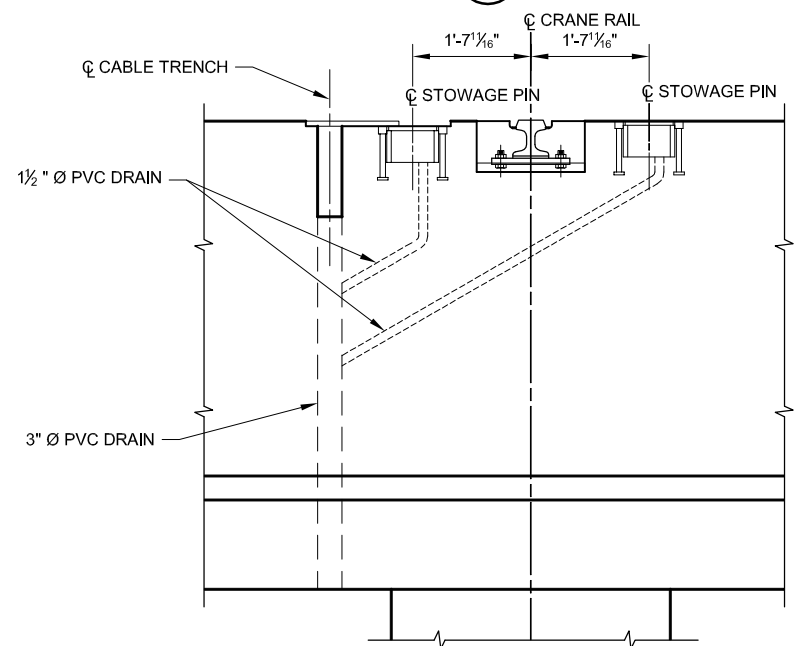


**A SECTION**  
 1/2" = 1'-0"



**2 CRANE STOWAGE SOCKET PLAN**  
 3/4" = 1'-0" SEE NOTE 1

NOTES:  
 1. WATERSIDE CRANE BEAM SHOWN.  
 LANDSIDE CRANE BEAM SIMILAR.



**B SECTION**  
 3/4" = 1'-0"

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5205.DWG  
 Date: May 11, 2017 - 8:22am

REV	DATE	DESCRIPTION	BY	APVD

**ch2m**

DSGN H. GUAN	DR D. MONK	CHK K. JUMPAWONG	APVD D. PLAYER
CONSULTANT			

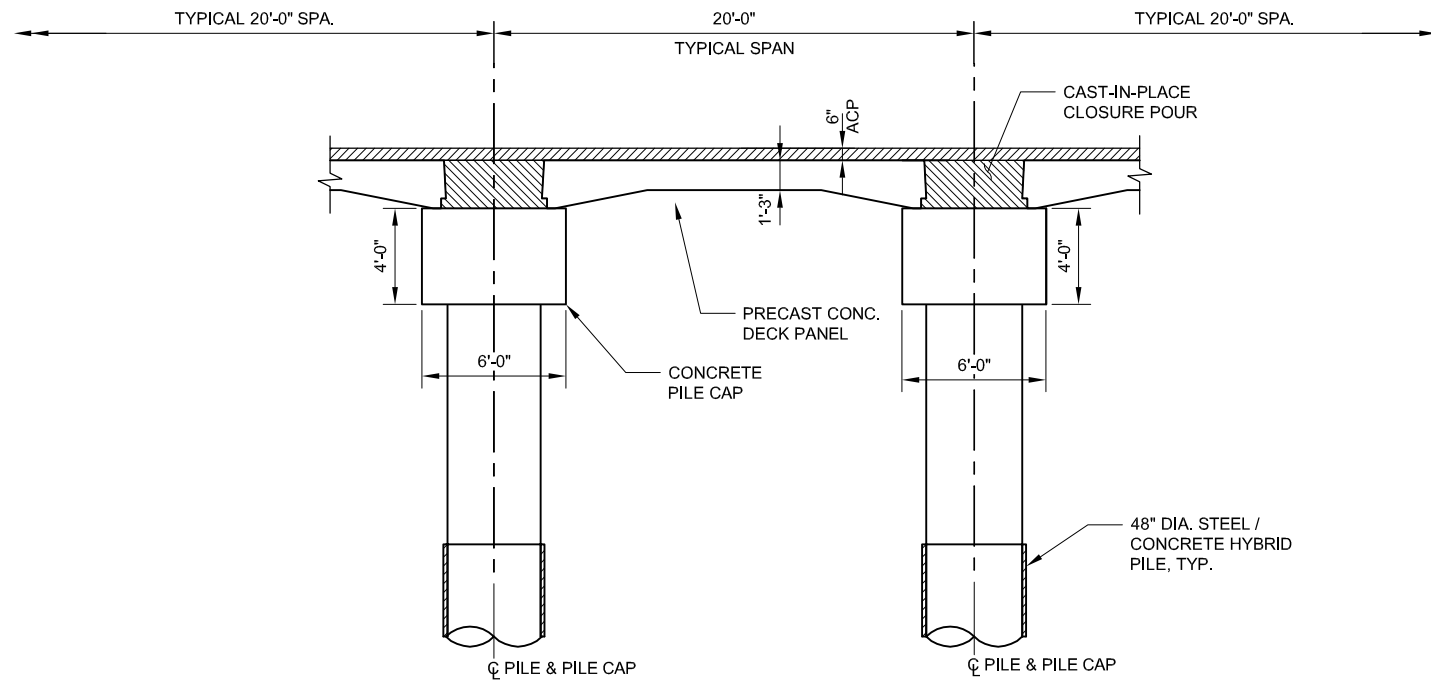
NOT FOR  
 CONSTRUCTION  
 SEAL



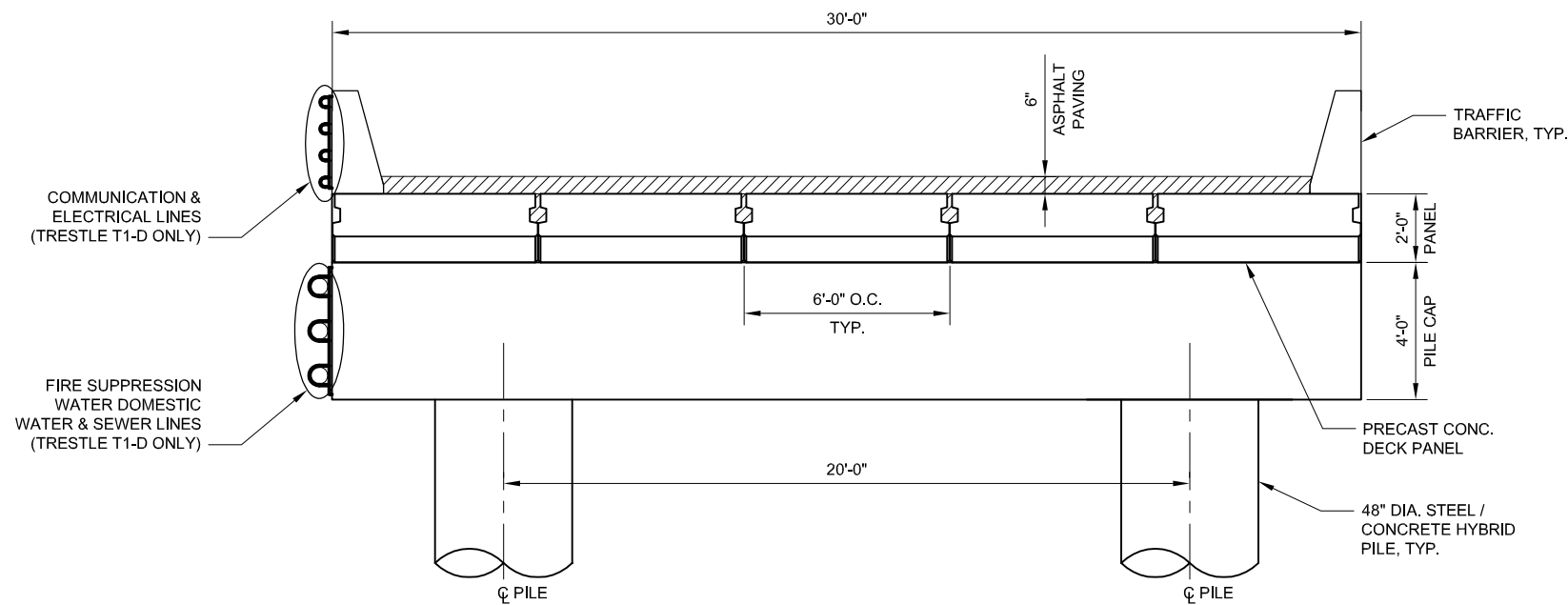
**STRUCTURAL**  
 CRANE BEAM SECTIONS & DETAILS

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	<b>T1-S-5205</b>
VERT SCALE: AS SHOWN	SHEET: 35 OF 38	

FILE NO.-



**(A) TYPICAL TRESTLE LONGITUDINAL SECTION**  
 3/16" = 1'-0"  
 S-2001



**(B) TYPICAL TRESTLE TRANSVERSE SECTION**  
 3/8" = 1'-0"  
 S-2001

**CONCEPTUAL**

Drawing: DE-DWG-20161028-T1S5211.DWG  
Date: May 11, 2017 - 8:20am

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

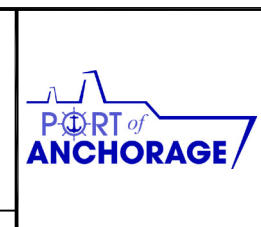
**ch2m**

DSGN H. GUAN	DR T. HEDGLIN	CHK K. JUMPAWONG	APVD D. PLAYER
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CONSULTANT

**NOT FOR CONSTRUCTION**

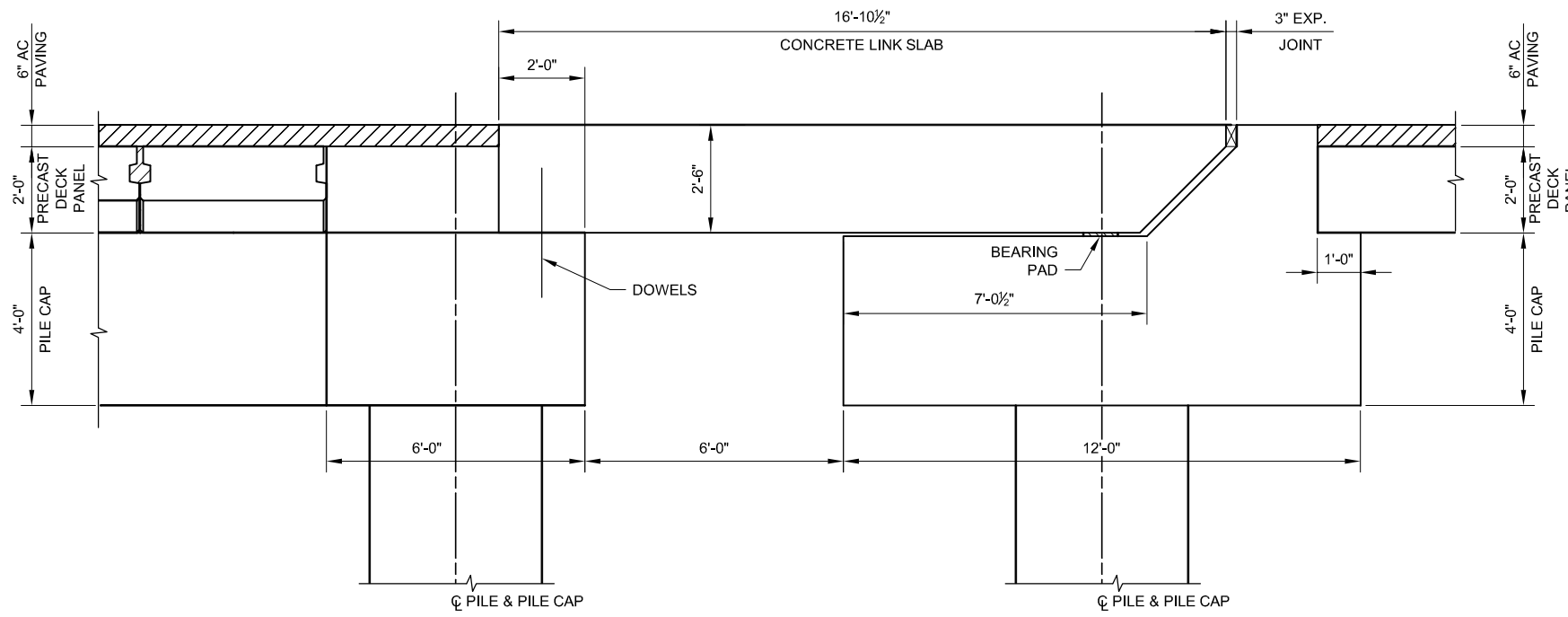
SEAL



**STRUCTURAL**  
 TRESTLE SECTIONS & DETAILS  
 (1 OF 2)

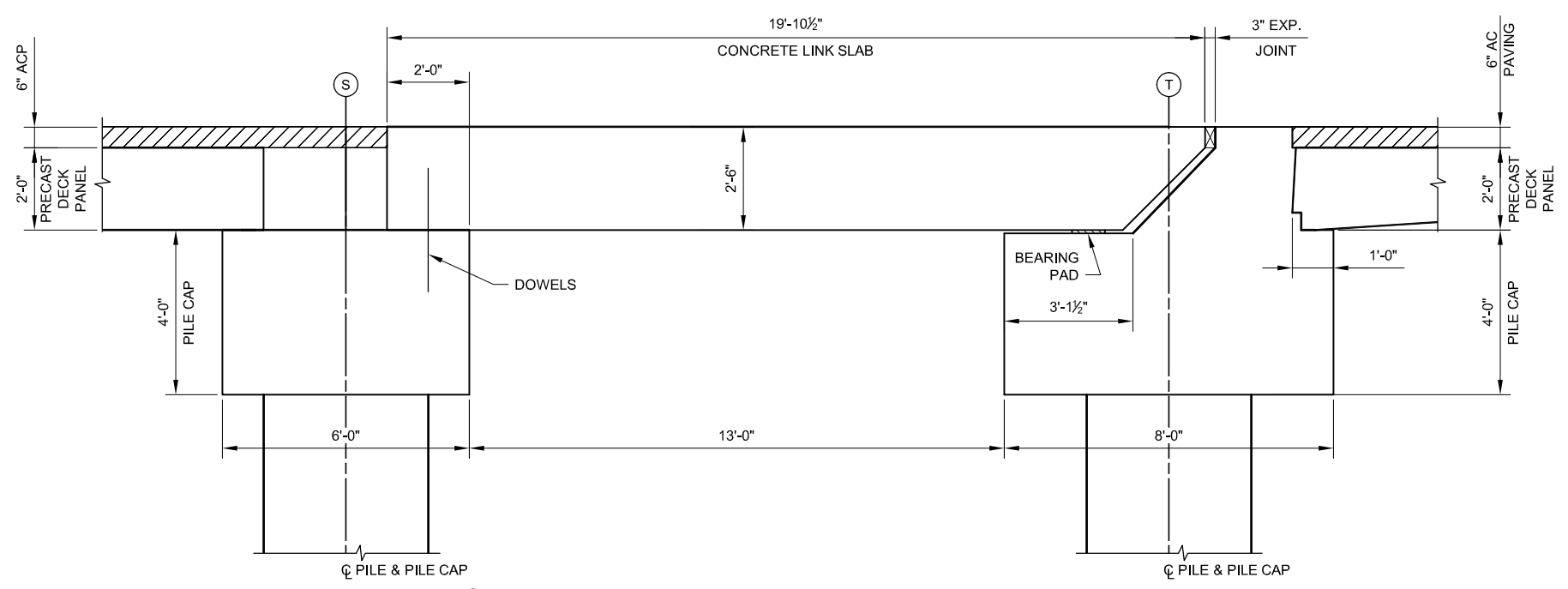
PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	T1-S-5211
VERT SCALE: AS SHOWN	SHEET: 36 OF 38	

FILE NO.-



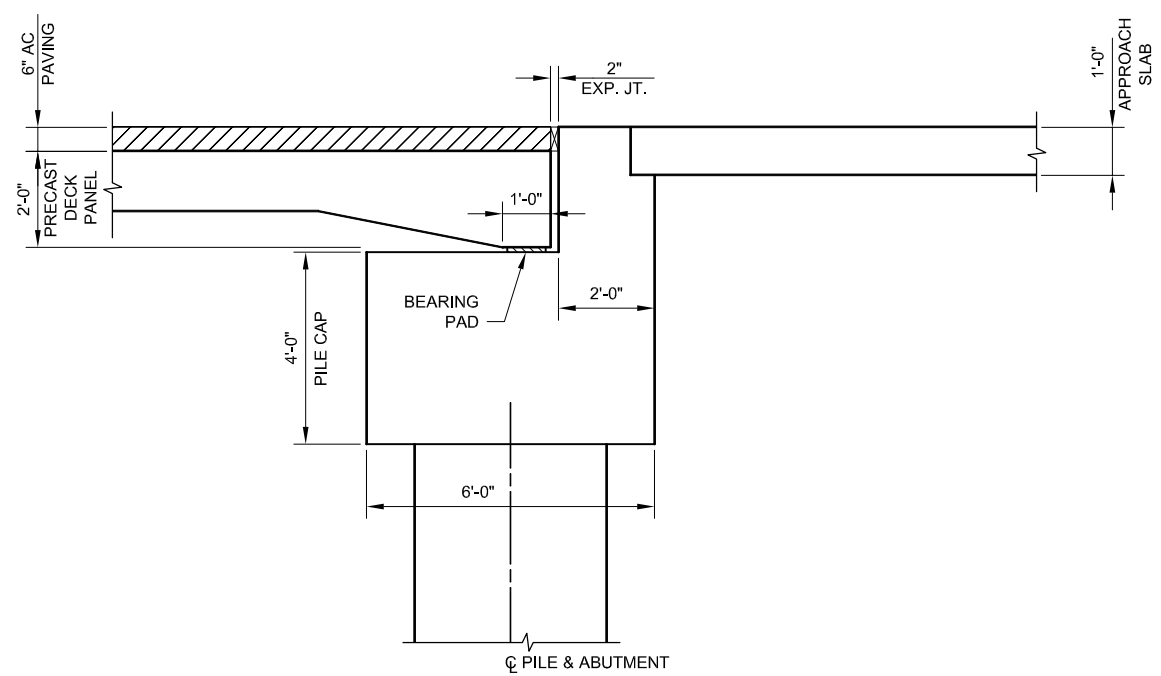
**A** TRESTLE LINK SLAB SECTION  
1/2" = 1'-0"

S-2101, S-2102, S-2103, S-2104, S-2105, S-2106  
S-2201, S-2202, S-2203, S-2204



**B** TRESTLE LINK SLAB SECTION @ GRID LINE R  
1/2" = 1'-0"

S-2104, S-2106, S-2108  
S-2204, S-2205, S-2206



**C** TRESTLE ABUTMENT SECTION  
1/2" = 1'-0"

S-2105, S-2106, S-2205, S-2206

**CONCEPTUAL**

REV	DATE	DESCRIPTION	BY	APVD



DSGN: H. GUAN    DR: D. MONK    CHK: K. JUMPAWONG    APVD: D. PLAYER

CONSULTANT

NOT FOR CONSTRUCTION

SEAL



**STRUCTURAL**  
TRESTLE SECTIONS & DETAILS  
(2 OF 2)

PORT OF ANCHORAGE

ANCHORAGE PORT MODERNIZATION PROGRAM

TERMINAL 1 (T1)

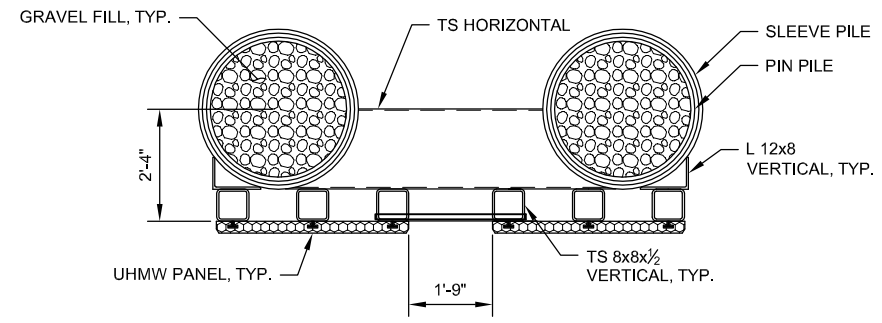
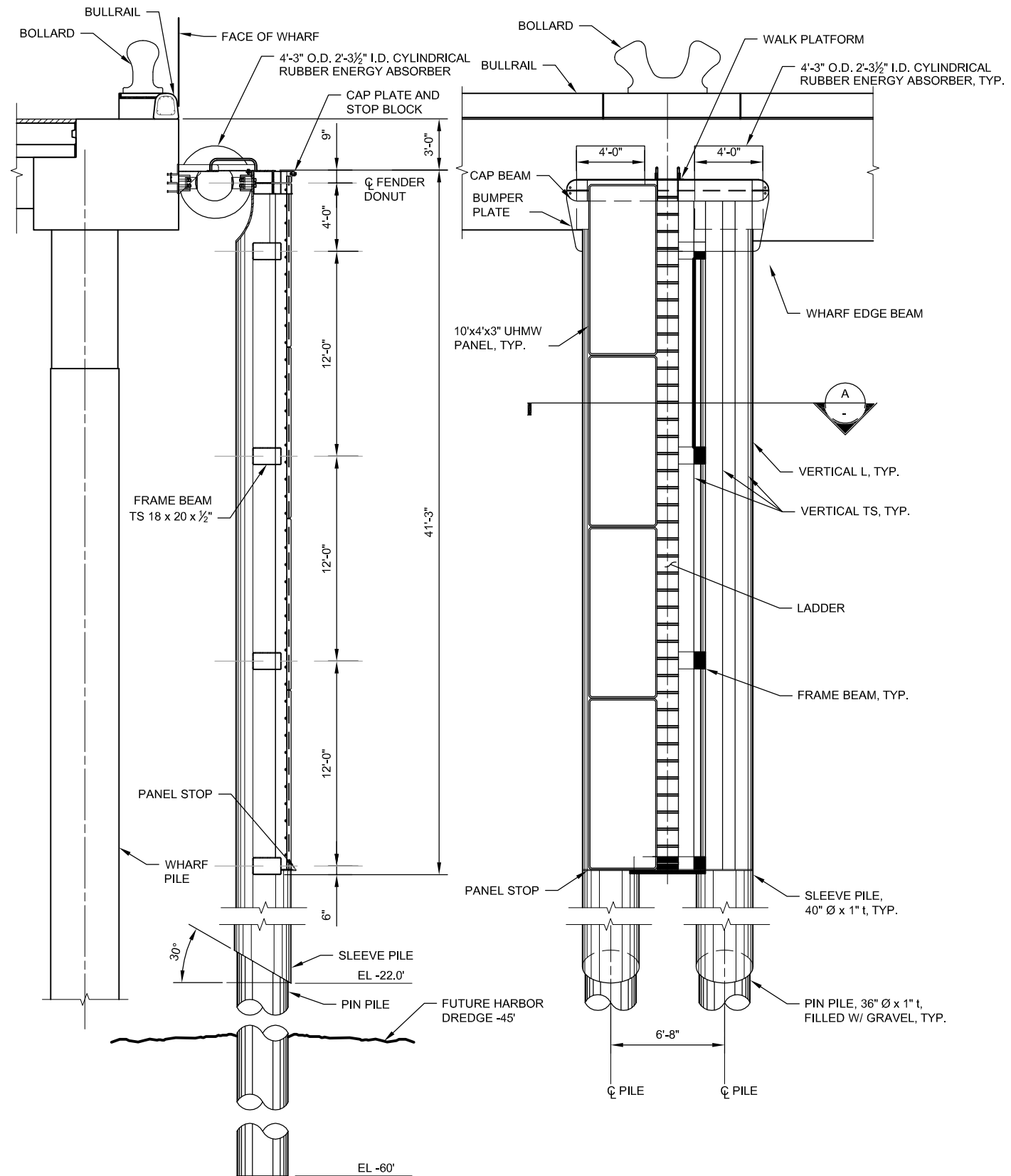
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN    DATE: 10/28/2016  
VERT SCALE: AS SHOWN    SHEET: 37 OF 38

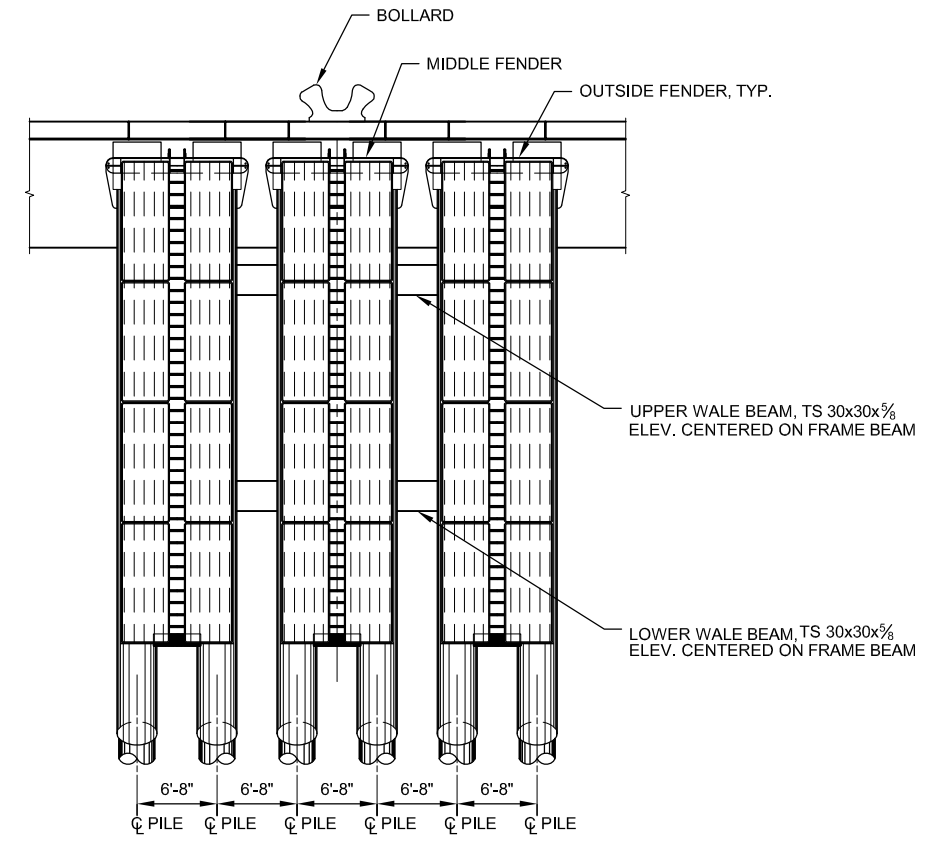
T1-S-5212

Drawing: DE-DWG-20161028-T1S5212.DWG  
Date: May 11, 2017 - 8:56am

FILE NO.-



**A SECTION**  
1/2" = 1'-0"



**TRIPLE GANGED FENDER FRONT ELEVATION**

1/8" = 1'-0"  
NOTE: GANGED FENDERS ARE THE SAME AS SINGLE FENDERS EXCEPT AS NOTED.

**CONCEPTUAL**

**FENDER SIDE ELEVATION**

1/4" = 1'-0"

**FENDER FRONT ELEVATION**

1/4" = 1'-0"

Drawing: DE-DWG-20161028-T1S5301.DWG  
Date: May 11, 2017 - 8:56am

REV	DATE	DESCRIPTION	BY	APVD
REVISIONS				

**ch2m**

DSGN H. GUAN	DR T. HEDGLIN	CHK K. JUMPAWONG	APVD D. PLAYER
CONSULTANT			

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**STRUCTURAL**  
FENDER DETAILS

PORT OF ANCHORAGE		
ANCHORAGE PORT MODERNIZATION PROGRAM		
TERMINAL 1 (T1)		
ANCHORAGE, ALASKA		
HORIZ SCALE: AS SHOWN	DATE: 10/28/2016	<b>T1-S-5301</b>
VERT SCALE: AS SHOWN	SHEET: 38 OF 38	

FILE NO.-