

FILE \\pdrdesfrs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-01.dwg  
 DATE 4/17/2020 17:05  
 LAYOUT 1  
 DESIGNED JR  
 CHECKED RJ  
 DRAFTED DM

# STATE OF ALASKA

## DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFH00154/0952020	2019	1	17

### PLAN SET B

## KETCHIKAN GRAVINA FREIGHT FACILITY

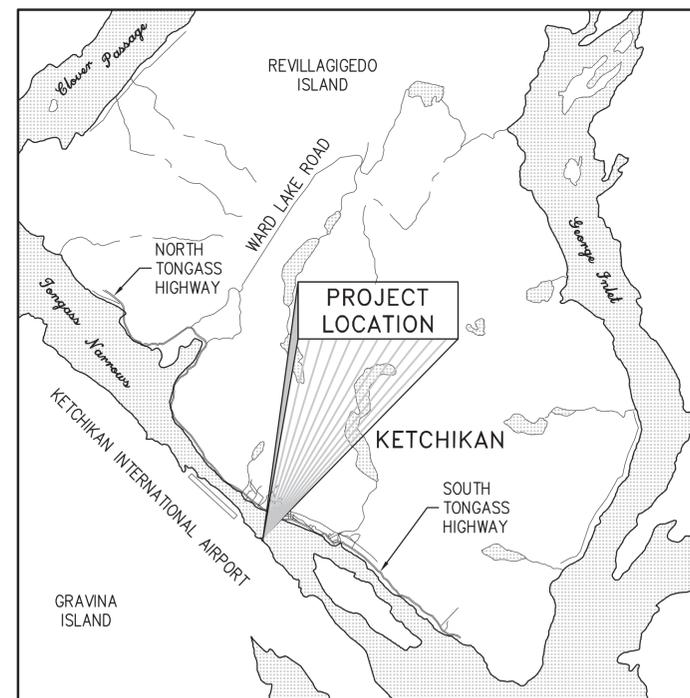
PROJECT DESIGNATION SFHWY00154/0952020



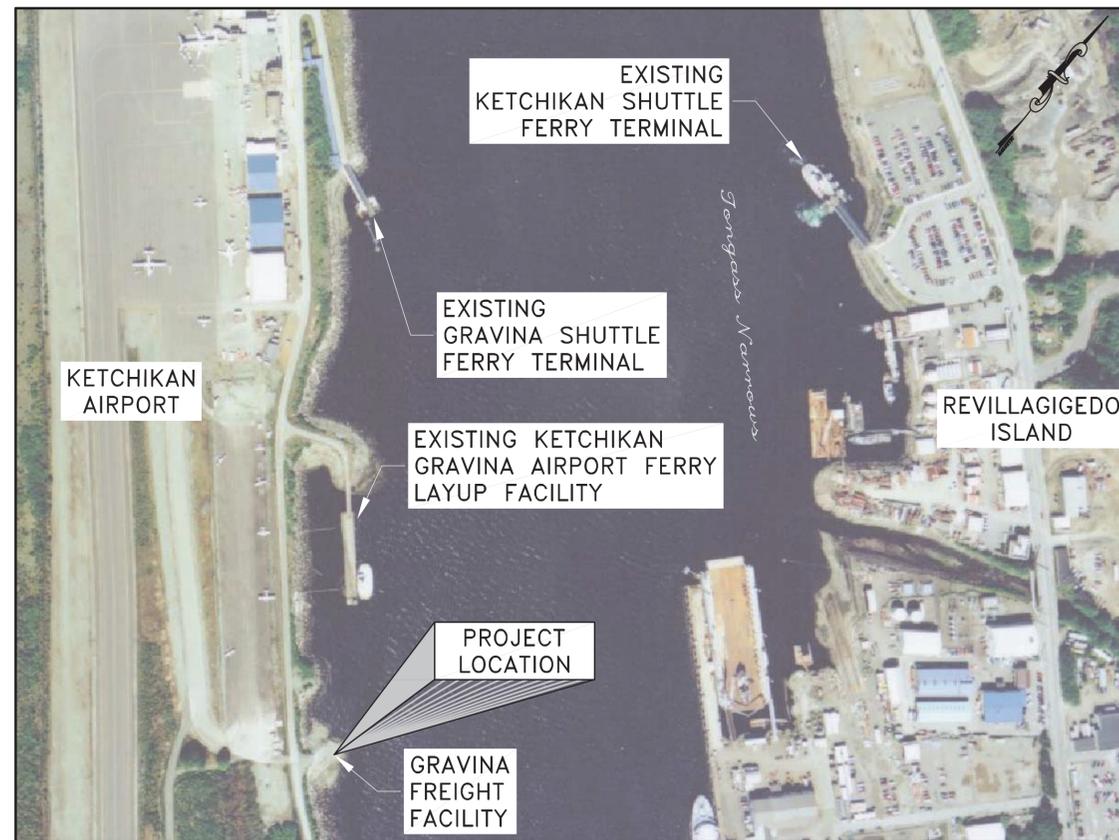
TIDAL DATA	
EHW	+21.3
HTL	+19.7'
MHW	+14.6'
MLLW	0.0'
ELW	-5.3'

**As-Built**  
 Contractor: Pacific Pile & Marine, LP Project  
 Engineer: Patty Lont  
 Start Date: June 1, 2021  
 End Date: June 29, 2023

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES, ABBREVIATIONS, AND ESTIMATE OF QUANTITIES
3	SITE PLAN AND SURVEY CONTROL
4	FREIGHT FACILITY SITE PLAN
5	MOORING RAMP PROFILE AND SECTION
6	PLAN & ELEVATION S1, S2, & S3 DOLPHIN
7	PILE CAP DETAILS S1, S2, & S3 DOLPHIN
8	DETAILS S1, S2, & S3 DOLPHIN
9	PLAN & ELEVATION S4 DOLPHIN
10	DOLPHIN CAP DETAIL S4 DOLPHIN
11	CAP AND INTERMEDIATE AND LOWER WALE DETAILS S4 DOLPHIN
12	DECK SURFACE, HANDRAIL, AND LADDER S4 DOLPHIN
13	FENDER PANEL FRAME BREASTING DOLPHIN S4 DOLPHIN
14	UHMW & PAD EYE DETAILS S4 DOLPHIN
15	PILE AND FENDER ANODE DETAILS
16	PILE TENSION ANCHOR
17	PILE SCHEDULE



VICINITY MAP



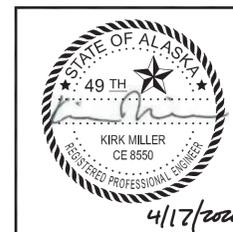
SITE MAP

DIGITAL SIGNATURE:

THIS DRAWING SET WAS CREATED AS AN ELECTRONIC DOCUMENT. IF THE ELECTRONIC DOCUMENT DOES NOT INCLUDE A VERIFIABLE DIGITAL SIGNATURE IN THE BOX ABOVE, PLEASE CONTACT THE ENGINEER OF RECORD FOR THE ORIGINAL CERTIFIED ELECTRONIC DOCUMENT.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Patty Lont 7/8/25



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PLAN SET B  
 KETCHIKAN GRAVINA FREIGHT FACILITY

TITLE SHEET

FILE \\pdrdesrfs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-02-05.dwg  
 DATE 4/17/2020 17:07 LAYOUT 2 DESIGNED JR CHECKED RJ DRAFTED DM

## ABBREVIATIONS

AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
BVC	BEGINNING OF VERTICAL CURVE
BTM	BOTTOM
CJP	COMPLETE PENETRATION WELD
☉	CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
E	EAST
EA	EACH
EHW	EXTREME HIGH WATER
EL	ELEVATION
ELW	EXTREME LOW WATER
EQ	EQUAL
EQUIV	EQUIVALENT
EVC	END OF VERTICAL CURVE
FF	FINISH FLOOR
GALV	GALVANIZED
GR	GRADE
HSS	HOLLOW STRUCTURAL SECTION
HTL	HIGH TIDE LINE
LF	LINEAR FEET
LS	LUMP SUM
MHW	MEAN HIGH WATER
MLLW	MEAN LOWER LOW WATER
N	NORTH
NIC	NOT IN CONTRACT
OC	ON CENTER
OD	OUTSIDE DIAMETER
PCS	PIECES
PL	PLATE
PVI	POINT OF VERTICAL INFLECTION
R	RADIUS
REQ'D	REQUIRED
S	SOUTH
SPECS	SPECIFICATIONS
SS	STAINLESS STEEL
STA	STATION
STD	STANDARD
STIFF	STIFFENER
SYM	SYMMETRIC
t	THICK
TYP	TYPICAL
UHMW	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE PLASTIC
W	WEST

## GENERAL NOTES

### DESIGN SPECIFICATIONS

DESIGN STANDARDS: AISC STEEL CONSTRUCTION MANUAL 14TH ED. LRFD  
 ASCE/SEI STANDARD 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2010  
 AWS D1.1 STRUCTURAL WELDING CODES, CURRENT EDITIONS.

DESIGN VESSELS: VARIOUS FREIGHT & FUEL BARGE AS SHOWN IN PLANS.

### MATERIALS

STEEL SHAPE & PLATES: BUY AMERICA PROVISIONS APPLY  
 PLATES & SHAPES - ASTM A36, UNLESS OTHERWISE NOTED  
 HSS - ASTM A500 GR B  
 HP - ASTM A572 GR 50  
 PIPE - ASTM A53 GR B  
 STAINLESS STEEL - ASTM A276 TYPE 316  
 W - ASTM A992, ASTM A709

PILING: PER SPECS

UHMW: PER SPECS

FASTENERS: PER SPECS

### PROTECTIVE COATINGS

ALL STEEL, PILING, & WELDMENTS: GALVANIZED AFTER FABRICATION PER SPECS, UNLESS OTHERWISE NOTED

FIELD REPAIR OF EXISTING COATINGS: DAMAGED GALVANIZED AND PAINT COATINGS SHALL BE REPAIRED PER SPEC 504-3.03.

### PILING

DIAMETER & WALL THICKNESS AS PER PILING TABLE & PLANS  
 DRIVING SHOES REQUIRED ON ALL PILES: (INSIDE OR OUTSIDE FLANGE PER DETAILS) OPEN END CUTTING SHOE

### WELDS

ALL WELDING SHALL BE PERFORMED BY CERTIFIED PERSONS IN ACCORDANCE WITH AWS D1.1.

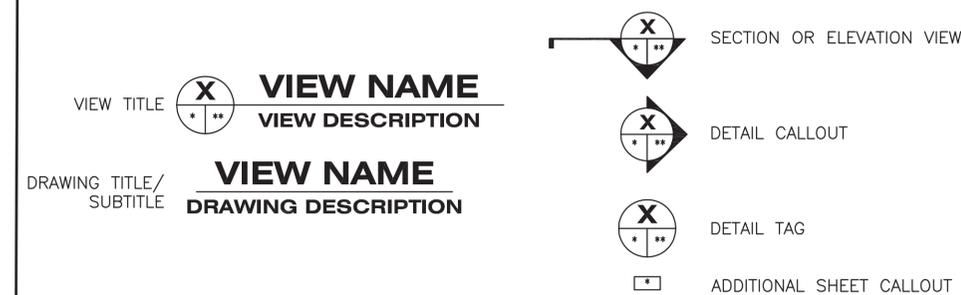
**See CO 7 and CO 12 that removed  
 Porous Backfill Material and  
 Replaced with Shotrock**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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## ESTIMATE OF QUANTITIES

ITEM NUMBER	PAY ITEM	PAY UNIT	QUANTITY
203.0003.0000	Unclassified Excavation	CY	200
205.0004.0000	Porous Backfill Material	<del>CY</del> LS	800
504.MF70.0021	Dolphin Cap - Mooring Dolphins (S1, S2 & S3)	EACH	3
504.MF70.0022	Dolphin Cap - Berthing Dolphin (S4)	EACH	1
504.MF80.0021	Fender System - Mooring Dolphins (S1, S2 & S3)	EACH	3
504.MF80.0022	Fender System - Berthing Dolphin (S4)	EACH	1
505.MF01.2004	Pile, Furnished 20" x 0.500"	LF	440
505.MF01.2406	Pile, Furnished 24" x 0.750"	LF	210
505.MF01.3004	Pile, Furnished 30" x 0.500"	LF	380
505.MF02.2004	Pile, Driven 20" x 0.500"	EACH	6
505.MF02.2406	Pile, Driven 24" x 0.750"	EACH	3
505.MF02.3004	Pile, Driven 30" x 0.500"	EACH	4
505.MF21.2400	Drilled Rock Socket - 24" Pipe Pile	EACH	3
505.MF21.3000	Drilled Rock Socket - 30" Pipe Pile	EACH	2
514.MF01.0021	Cathodic Protection - 200 lb Pile Anodes	EACH	26
518.MF01.0022	Tension Pile Anchor	EACH	13
611.0001.0003	Riprap, Class III	CY	1,500
640.0001.0000	Mobilization and Demobilization	LS	All Required
640.0004.0000	Worker Meals and Lodging, or Per Diem	LS	All Required
642.MF01.0001	Construction Surveying	LS	All Required
645.0001.0000	Training Program, 1 Trainee/Apprentice	LH	500
646.0001.0000	CPM Scheduling	LS	All Required
654.MF01.0001	Marine Mammal Monitoring	LS	All Required

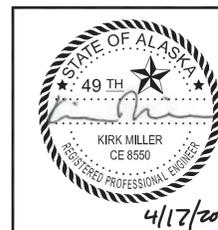
## REFERENCE LEGEND



IN VIEW TITLE:

- \* SHEET NUMBER WHERE THE CALLOUT CUT IS MADE OR DASH MARK WHEN ON THE SAME SHEET
- \*\* SHEET NUMBER WHERE DETAIL IS LOCATED WHEN ON A DIFFERENT SHEET OR DASH MARK WHEN ON THE SAME SHEET

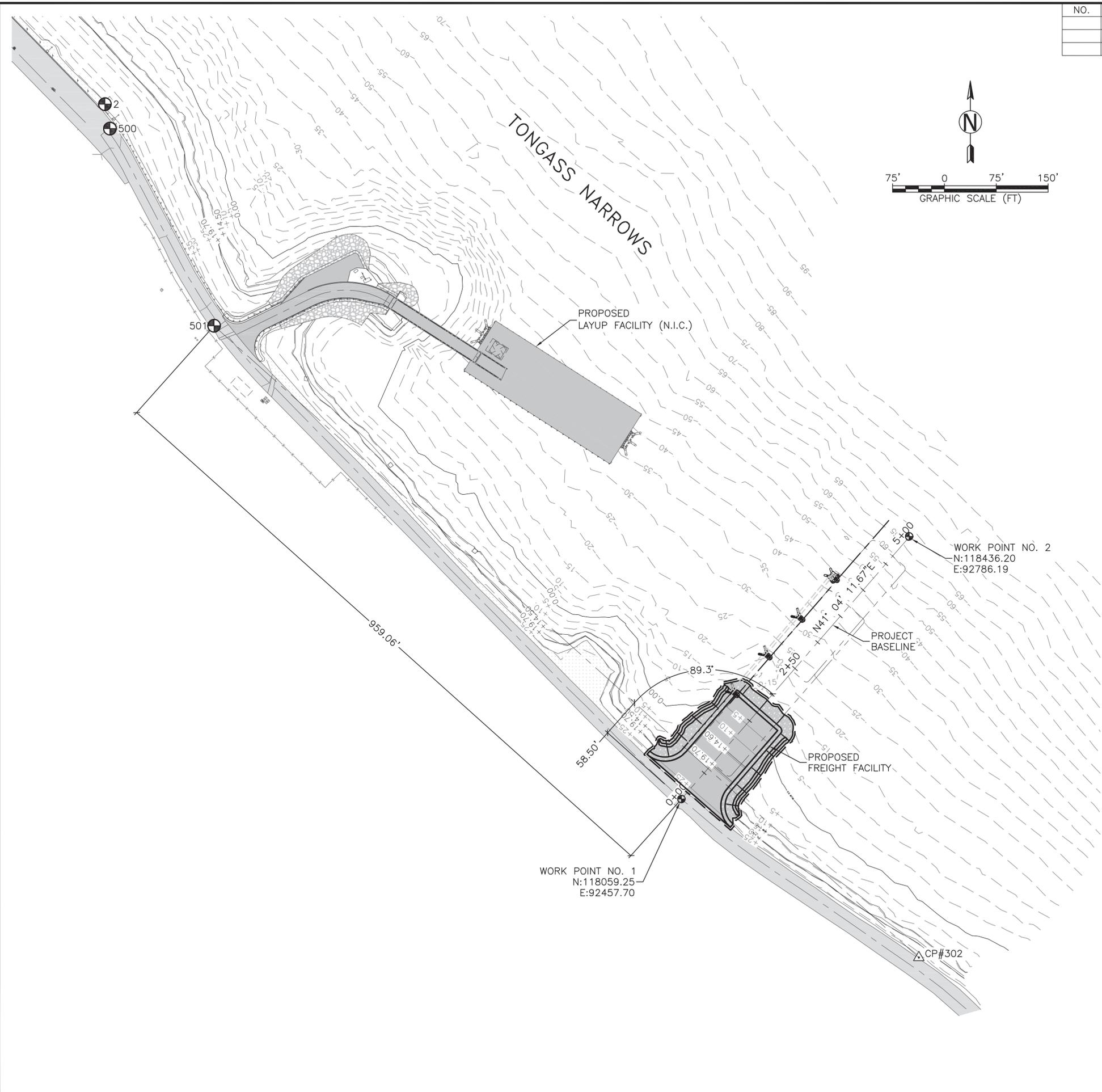
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 Project Engineer, and represent to the best of  
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 PE Patty Lont 7/8/25



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION  
 AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA**  
**FREIGHT FACILITY**  
 GENERAL NOTES, ABBREVIATIONS,  
 AND ESTIMATE OF QUANTITIES

FILE \\pdrdesrfs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-02-05.dwg DATE 4/17/2020 17:07 LAYOUT 3 DESIGNED JR CHECKED RJ DRAFTED DM

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			ALASKA	SFHWHY00154/0952020	2019	3	17



### SURVEY CONTROL NOTES

BASE MAP SURVEY "67698\_BASEMAP\_REV4.DWG" PROVIDED BY ALASKA DOT.

#### HORIZONTAL CONTROL

THE HORIZONTAL CONTROL FOR THIS PROJECT IS BASED ON THE LDP KTN GRID 2016.

IT RELATES TO AKSPC ZONE 1 NAD83 2011 THROUGH THE FOLLOWING PARAMETERS:  
 GRID SCALE FACTOR: 1.000002  
 ROTATION: 0.000000

#### VERTICAL CONTROL

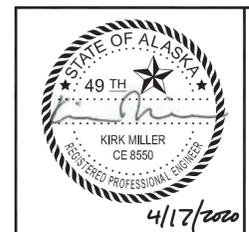
THE VERTICAL CONTROL FOR THE KTN GRID IS MEAN LOWER LOW WATER (MLLW) = 0.00FT. BASED ON NATIONAL OCEAN SERVICE TIDAL BENCHMARK STATION 9450460.

LOCAL SYSTEM COORDINATES				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	118059.2462'	92457.6996'	27.39'	BC2"_AKDOT-2_SET
2	118436.2005	92786.1893'	67.00'	BC2"_AKDOT-2_SET
500	119026.4965'	91630.9670'	45.61'	BC2.5"_FND_S/R_C.L.P.I_8
501	118742.0325'	91781.6665'	33.77'	BC2.5"_FND_S/R_C.L.P.I_9
CP#302	117830.6931'	92801.1500'	27.34'	CP#302

NAD83 GEOGRAPHIC			
POINT NO.	NORTHING	EASTING	DESCRIPTION
1	N55° 21' 10.79"	W131° 42' 10.47"	BC2"_AKDOT-2_SET
2	N55° 21' 14.51"	W131° 42' 04.79"	BC2"_AKDOT-2_SET
500	N55° 21' 20.3187"	W131° 42' 24.7837"	BC2.5"_FND_S/R_C.L.P.I_8
501	N55° 21' 17.5158"	W131° 42' 22.1738"	BC2.5"_FND_S/R_C.L.P.I_9
CP#302	N55° 21' 08.5389"	W131° 42' 04.5293"	CP#302

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Patty Lont 7/8/25



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**

**KETCHIKAN GRAVINA FREIGHT FACILITY**

SITE PLAN AND SURVEY CONTROL

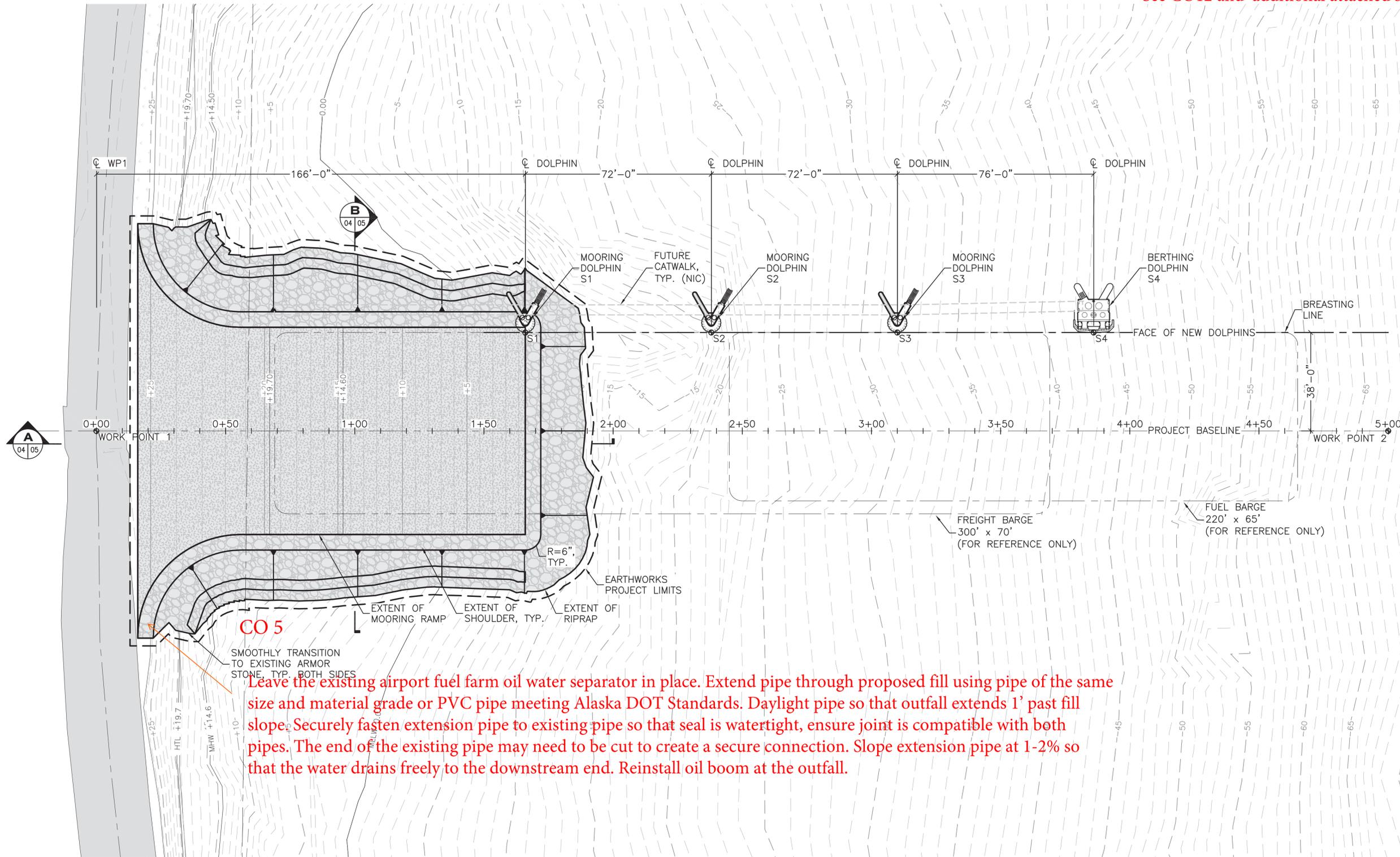
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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See CO12 and additional attached sheets



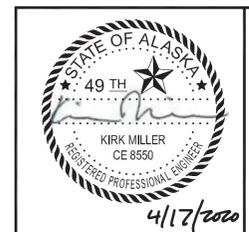
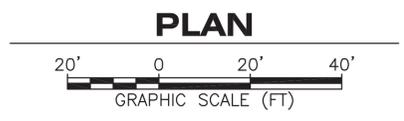
**LEGEND**

- EXISTING ASPHALT PAVEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED CLASS III RIPRAP
- POROUS BACKFILL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EARTHWORKS PROJECT LIMITS



**CO 5**  
 Leave the existing airport fuel farm oil water separator in place. Extend pipe through proposed fill using pipe of the same size and material grade or PVC pipe meeting Alaska DOT Standards. Daylight pipe so that outfall extends 1' past fill slope. Securely fasten extension pipe to existing pipe so that seal is watertight, ensure joint is compatible with both pipes. The end of the existing pipe may need to be cut to create a secure connection. Slope extension pipe at 1-2% so that the water drains freely to the downstream end. Reinstall oil boom at the outfall.

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 PE *Patty Lont* 7/8/25

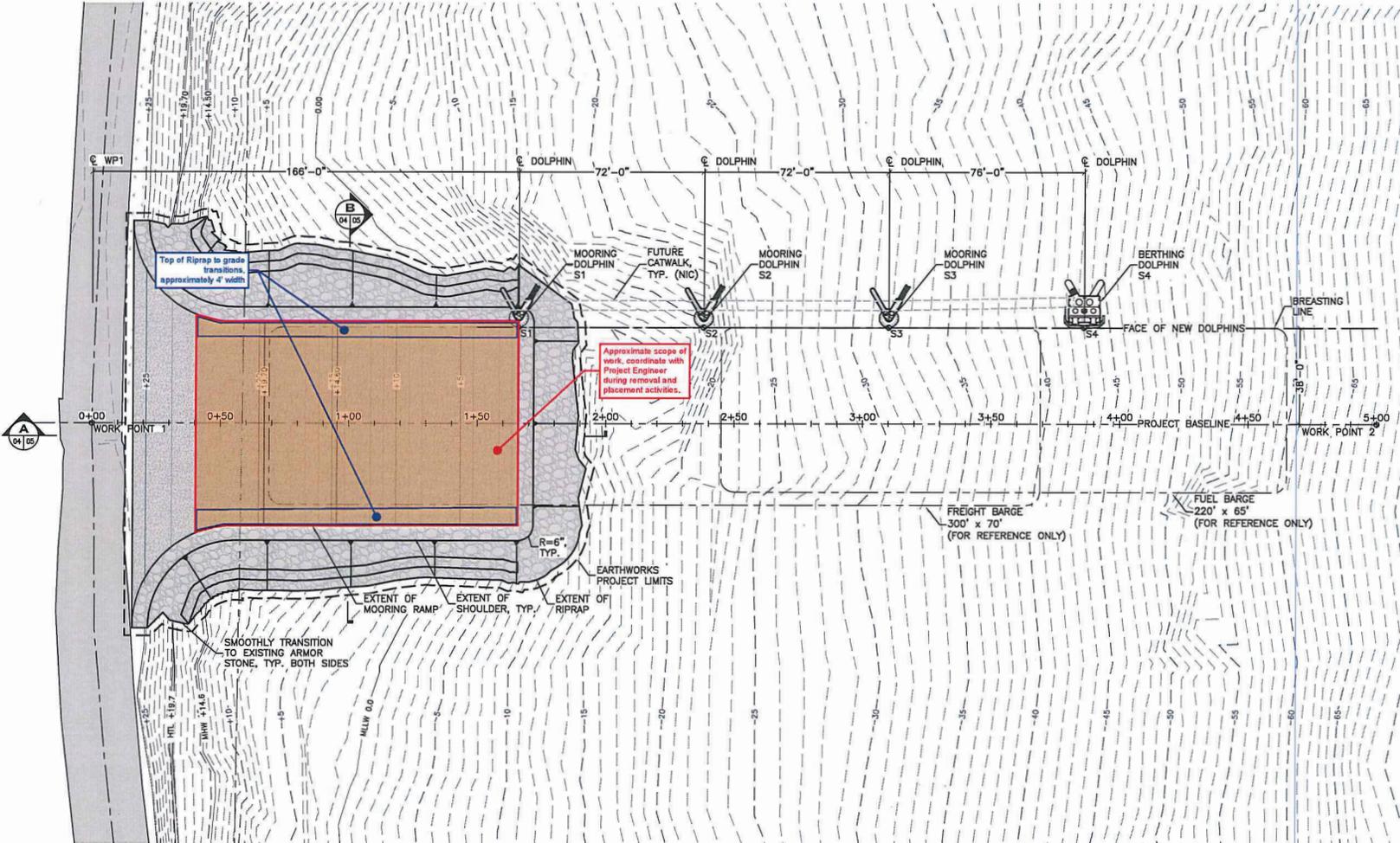


STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
 FREIGHT FACILITY SITE PLAN

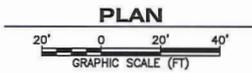
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWO0154/0952020	2019	4	17



- LEGEND**
- EXISTING ASPHALT PAVEMENT
  - EXISTING MAJOR CONTOUR
  - EXISTING MINOR CONTOUR
  - PROPOSED CLASS III RIPRAP
  - POROUS BACKFILL
  - PROPOSED MAJOR CONTOUR
  - PROPOSED MINOR CONTOUR
  - EARTHWORKS PROJECT LIMITS



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PE *Patty Lont* 7/9/25



STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**

**KETCHIKAN GRAVINA**

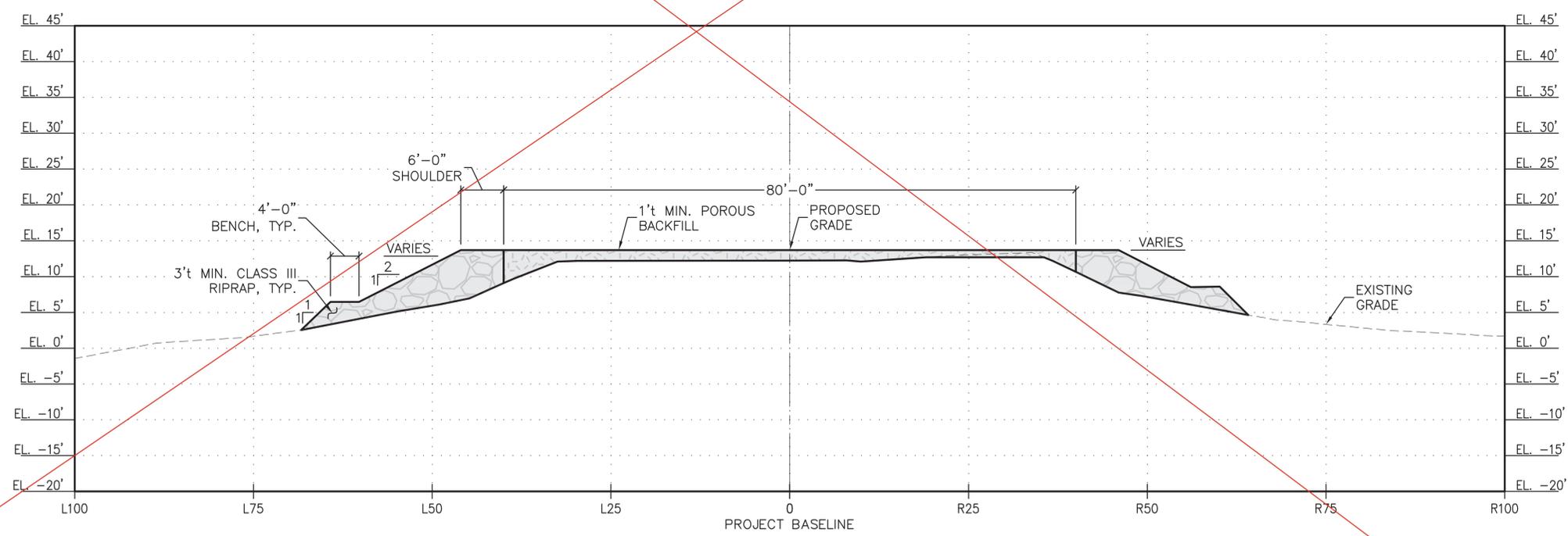
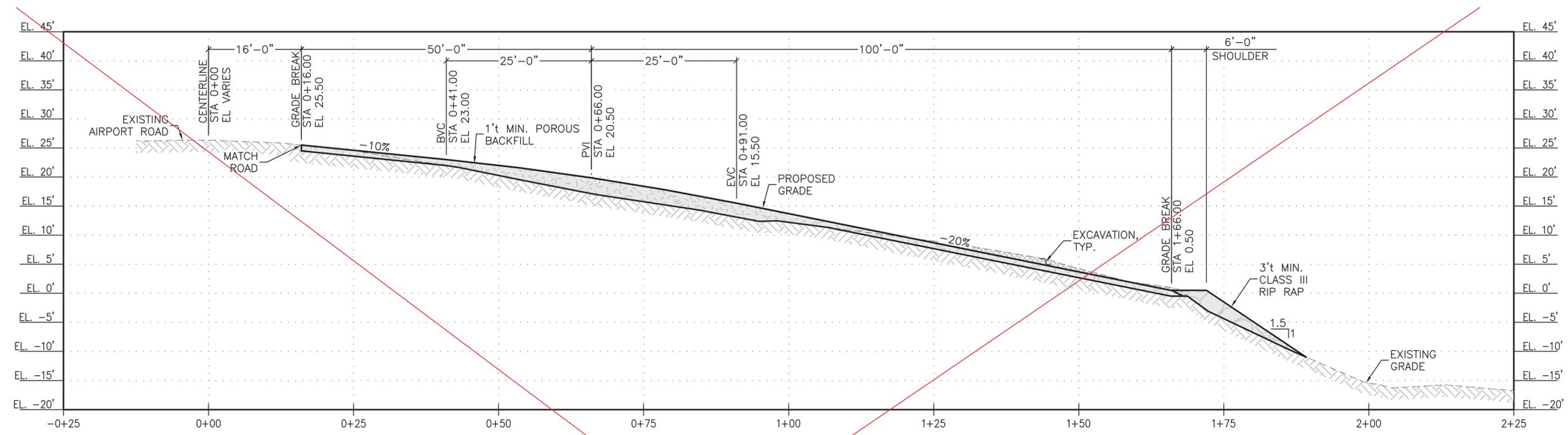
**FREIGHT FACILITY**

**FREIGHT FACILITY**

**SITE PLAN**

4/17/2020

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**LEGEND**

- PROPOSED EXCAVATION
- PROPOSED RIPRAP
- POROUS BACKFILL
- EXISTING GROUND

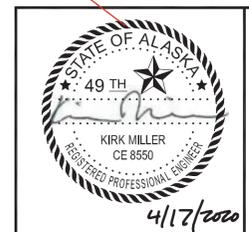
**QUANTITY TABLE**

ITEM	CUT / FILL (CU. YD.)
EXCAVATION	-200
POROUS BACKFILL	+800
RIPRAP	+1500

See next sheet

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STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**

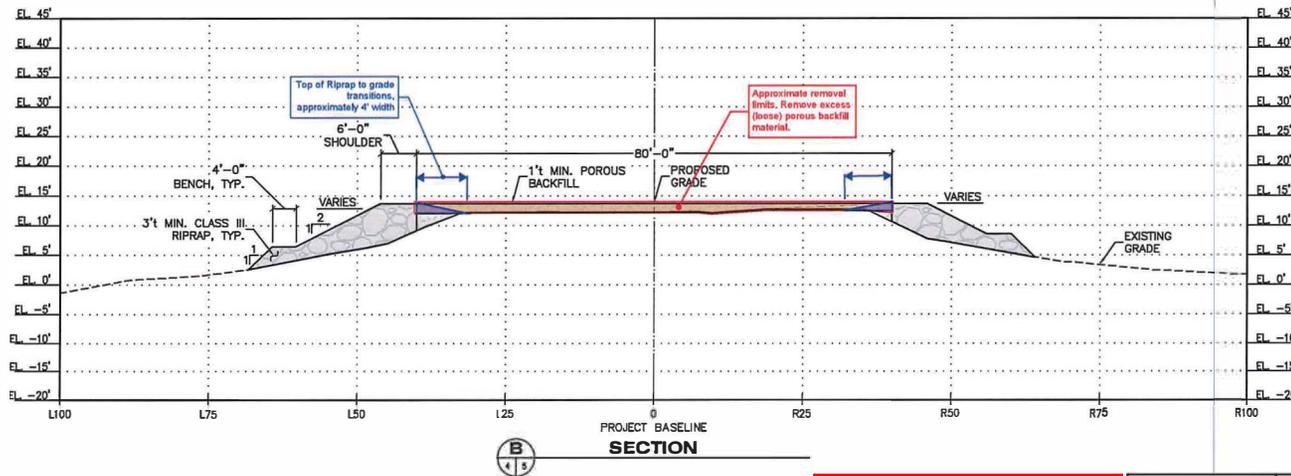
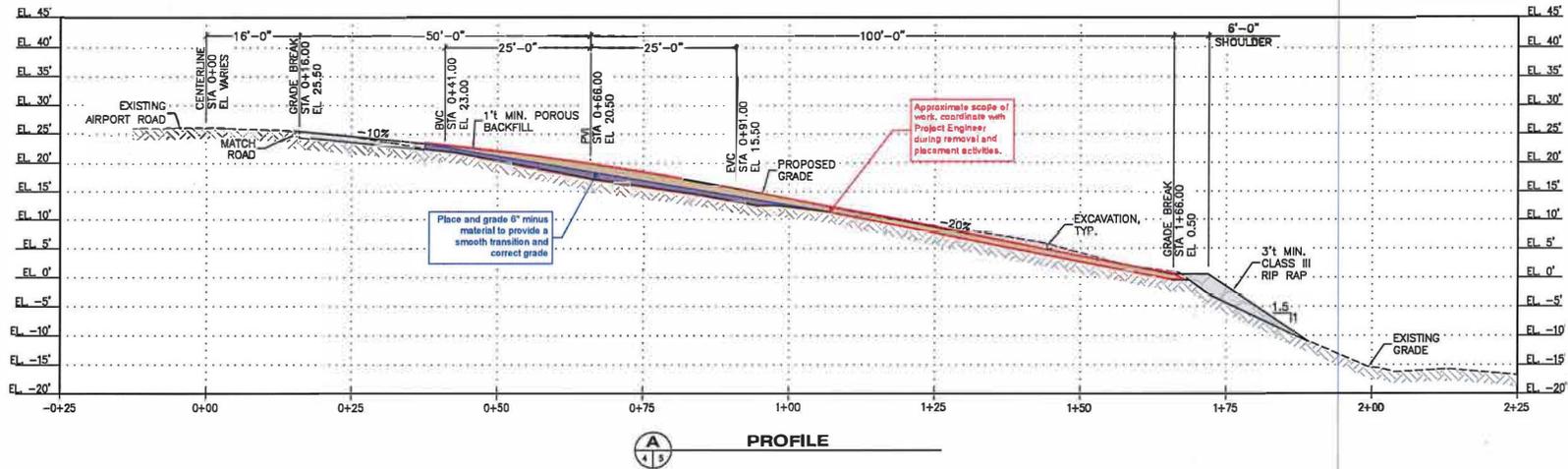
**KETCHIKAN GRAVINA FREIGHT FACILITY**

MOORING RAMP PROFILE AND SECTION

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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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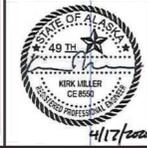
**LEGEND**

- PROPOSED EXCAVATION
- PROPOSED RIPRAP
- POROUS BACKFILL
- EXISTING GROUND

QUANTITY TABLE	
ITEM	CUT / FILL (CU. YD.)
EXCAVATION	-200
POROUS BACKFILL	+800
RIPRAP	+1500

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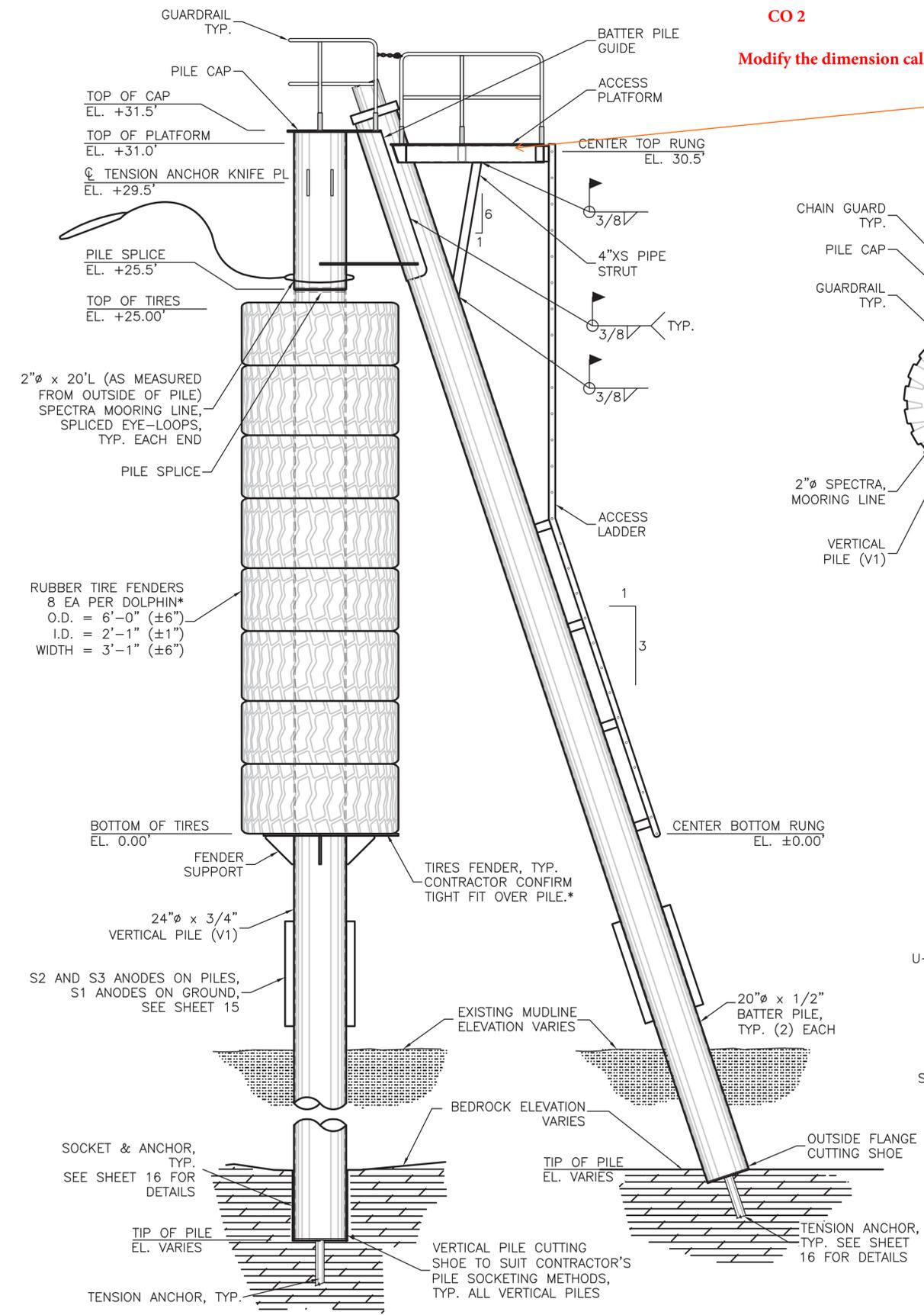
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**  
**KETCHIKAN GRAVINA**  
**FREIGHT FACILITY**

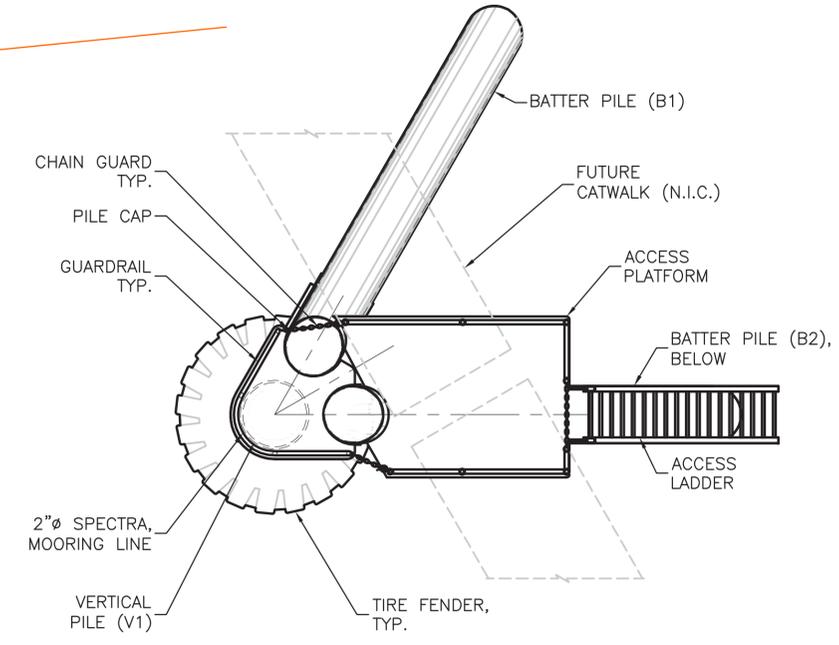
**MOORING RAMP**  
**PROFILE AND SECTION**

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	6	17

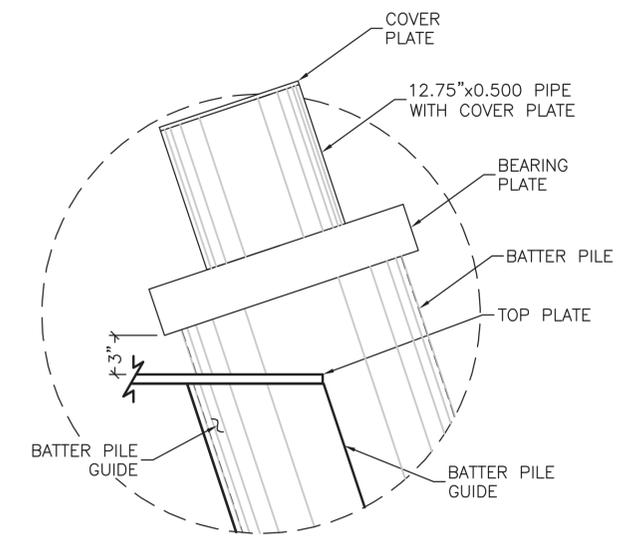
**CO 2**  
 Modify the dimension callouts Plan Set B Sheet 7 ACCESS PLATFORM replace 6'-8 1/4" x 4'-3" with 6'-10" x 4'-8".



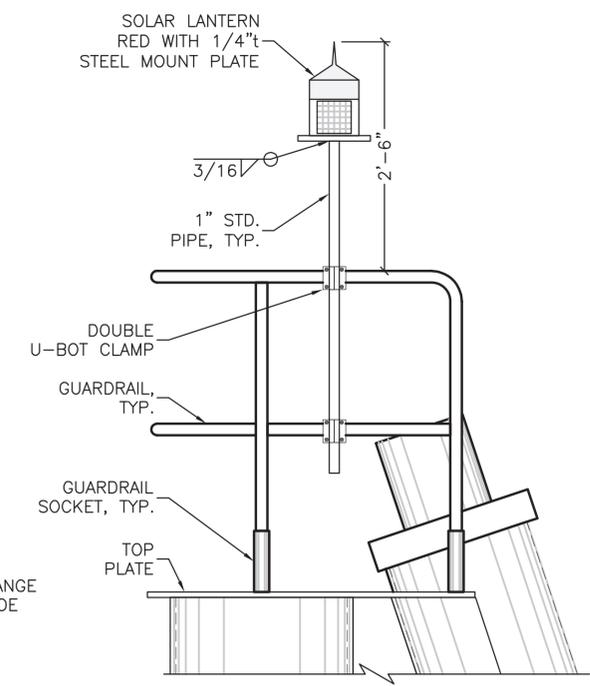
**DOLPHIN ELEVATION**  
 \*NOTE:  
 SUBMIT TIRE DIMENSIONS PRIOR TO INSTALLATION.  
 TOTAL NUMBER OF TIRES AND ELEVATION OF TIRE SUPPORT MAY VARY BASED ON ACTUAL TIRE SIZE.



**DOLPHIN PLAN**

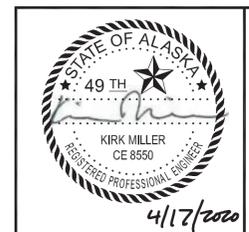


**BATTER DETAIL**



**MARKER LIGHT**

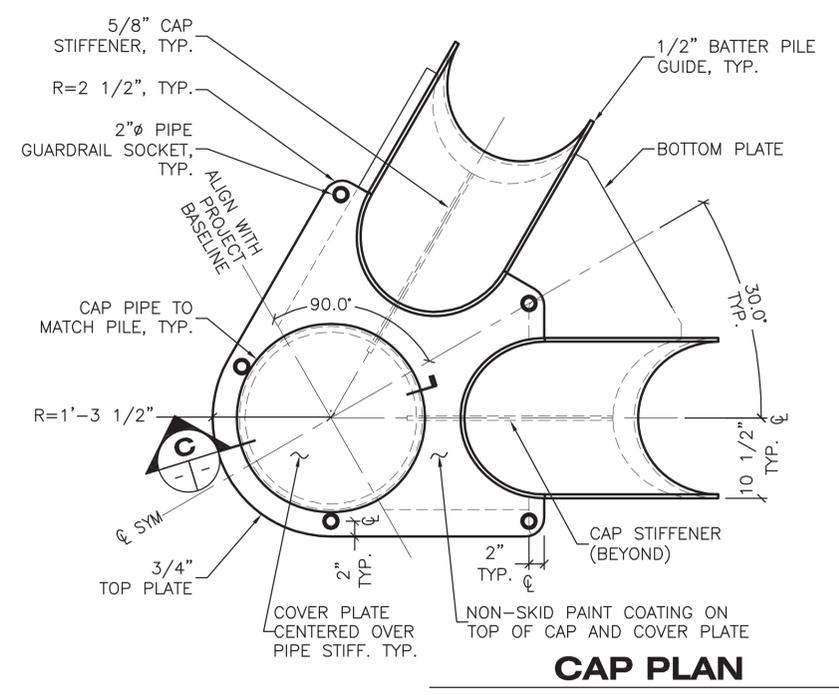
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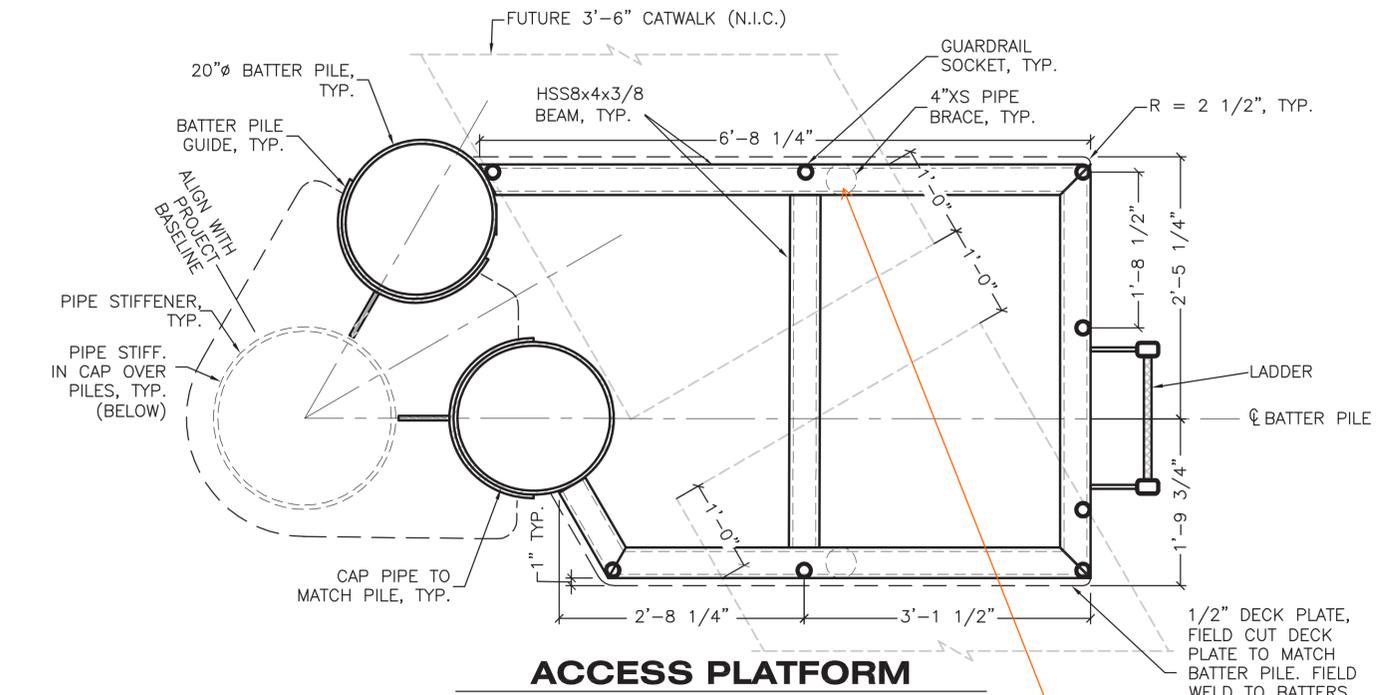
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
 PLAN & ELEVATION  
 S1, S2, & S3 DOLPHIN

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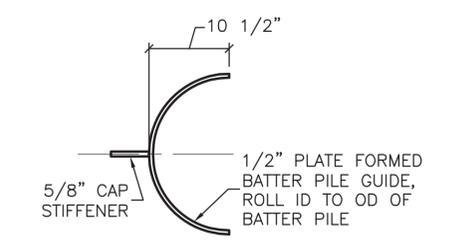
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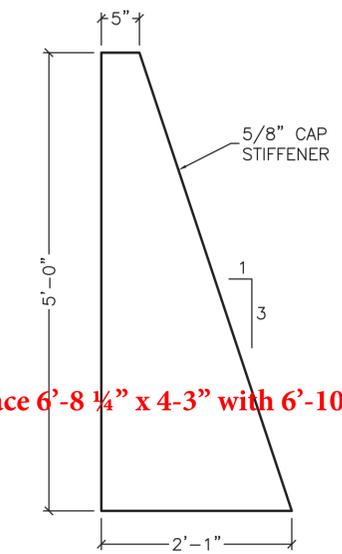
**CAP PLAN**



**ACCESS PLATFORM**  
INSTALL AFTER BATTER PILE DRIVING AND TENSION ANCHORS INSTALLED

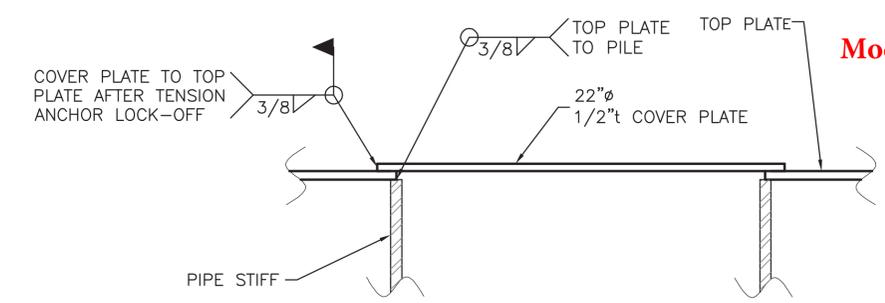


**BATTER PILE GUIDE**

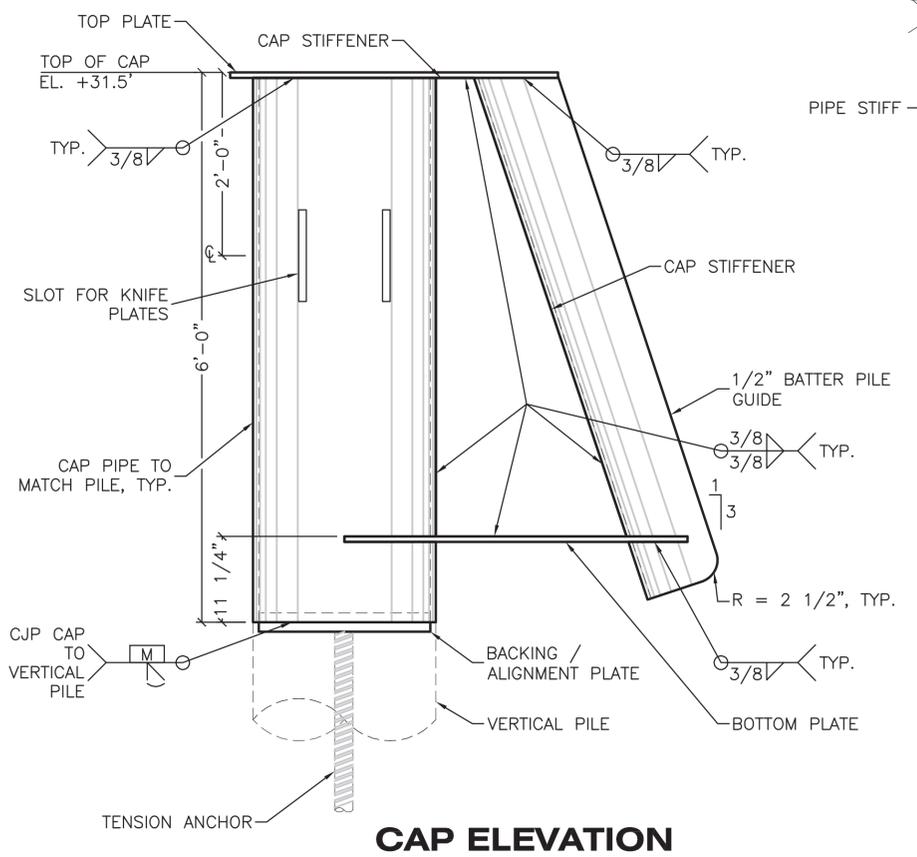


**CAP STIFFENER**

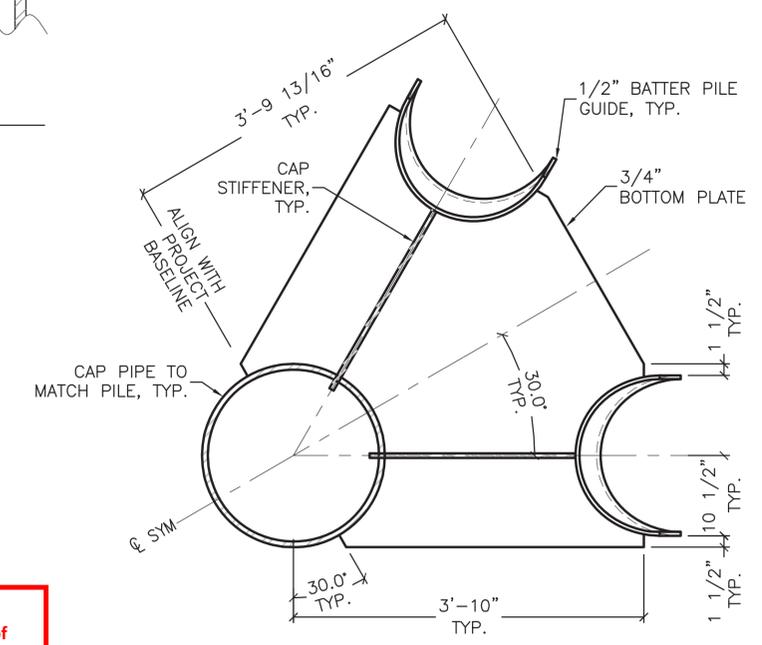
Modify the dimension callouts Plan Set B Sheet 7 ACCESS PLATFORM replace 6'-8 1/4" x 4'-3" with 6'-10" x 4'-8".



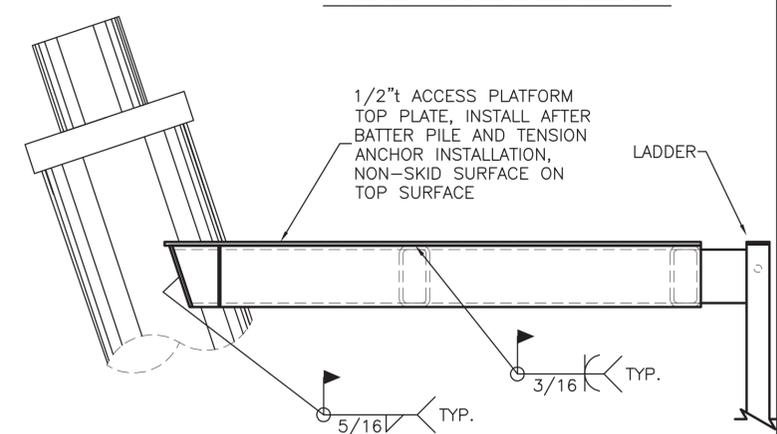
**SECTION**



**CAP ELEVATION**

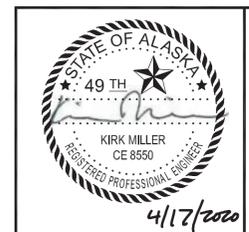


**BOTTOM PLATE**



**ACCESS PLATFORM ELEVATION**

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PE Patty Lont 7/8/25

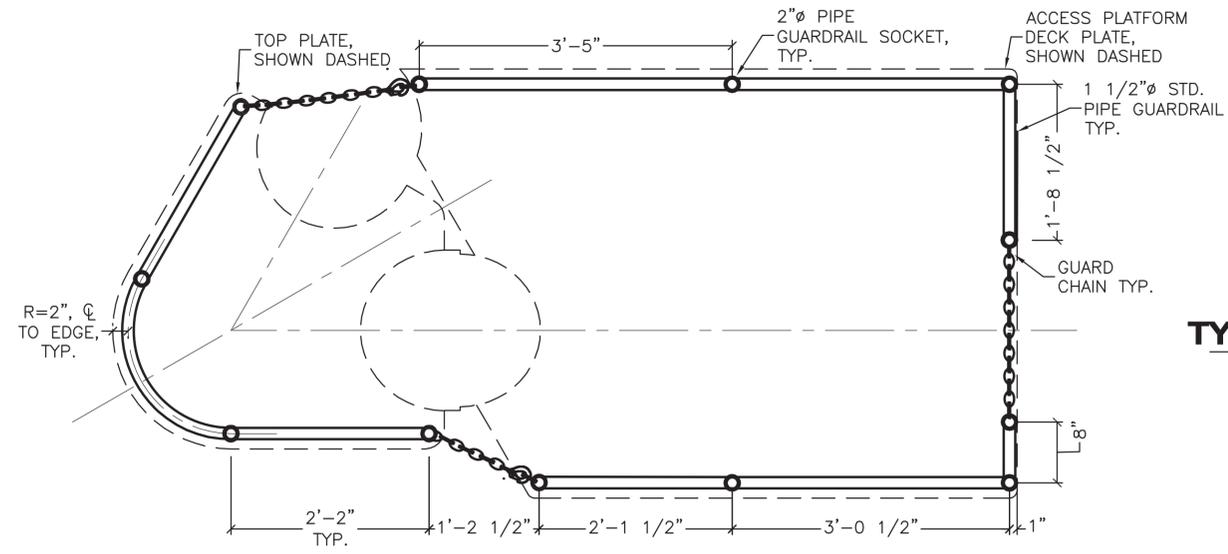


STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
PILE CAP DETAILS  
S1, S2, & S3 DOLPHIN

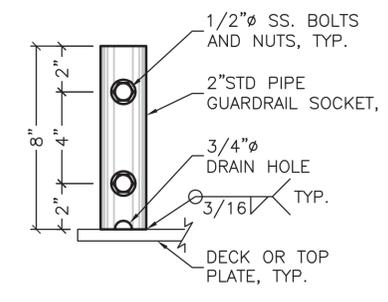
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FILE \\pndrscf01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-06-08.dwg DATE 4/7/2020 17:06 LAYOUT 8 DESIGNED JR CHECKED RJR DRAFTED DM

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	8	17

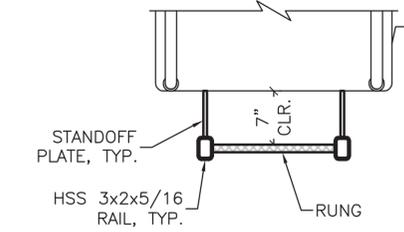


**RAIL PLAN**

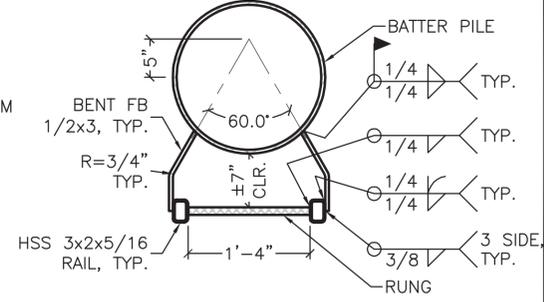


**TYP. GUARDRAIL SOCKET**

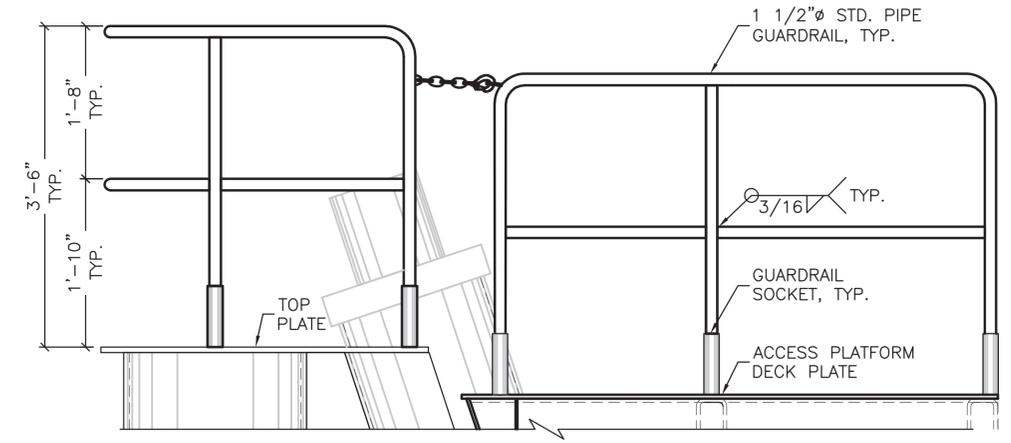
NOTE: FLARE BEVEL WELD BOTH SIDES OF SOCKET TO SIDE PLATE WHEN SOCKET IS ADJACENT.



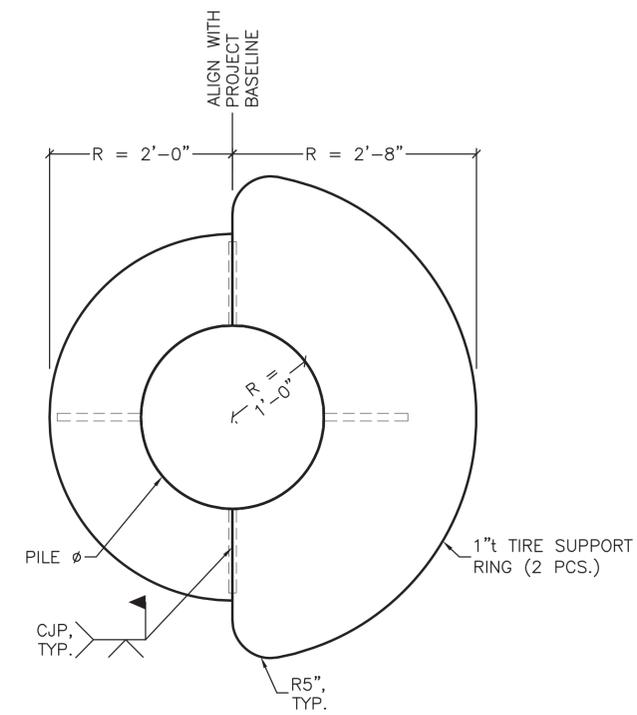
**TOP VIEW**



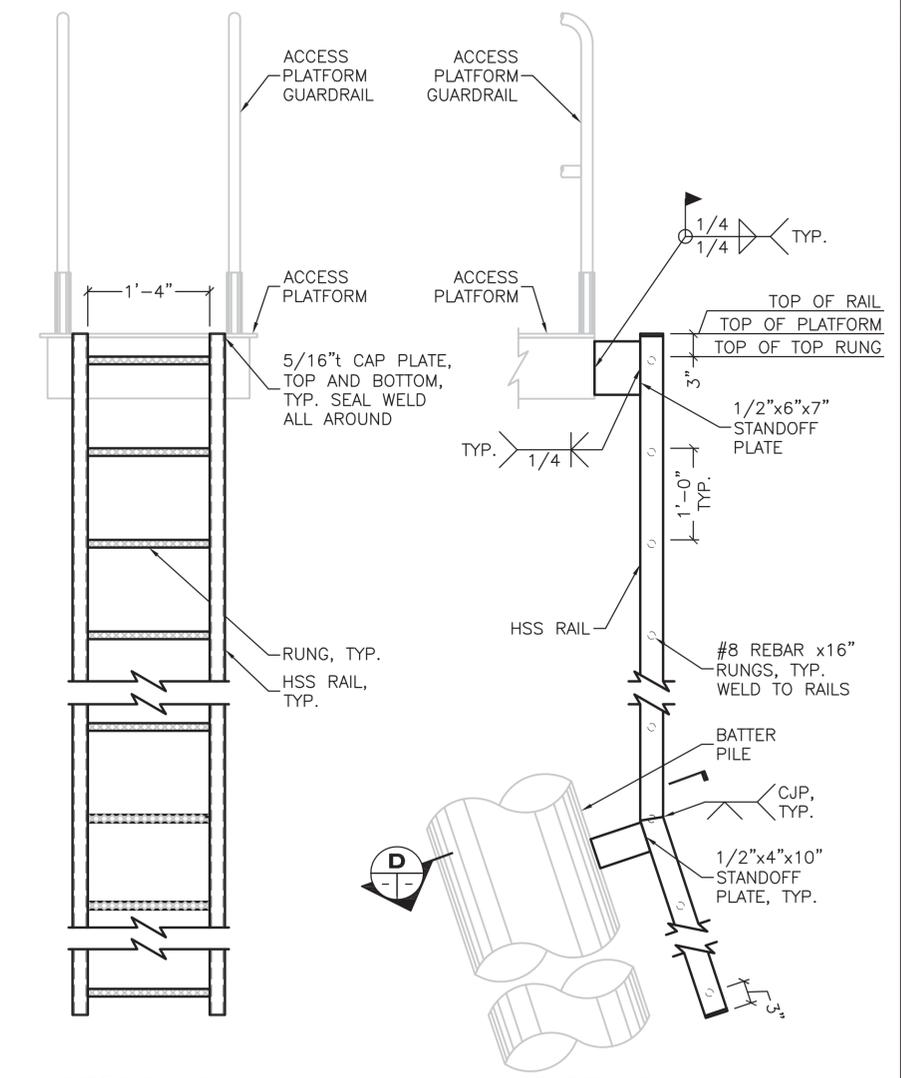
**SECTION**



**RAIL SIDE ELEVATION**



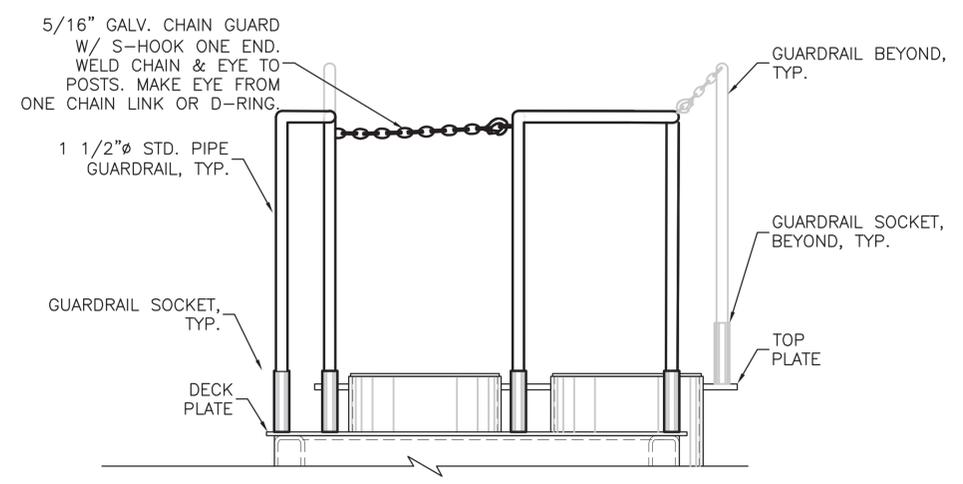
**FENDER SUPPORT PLAN**



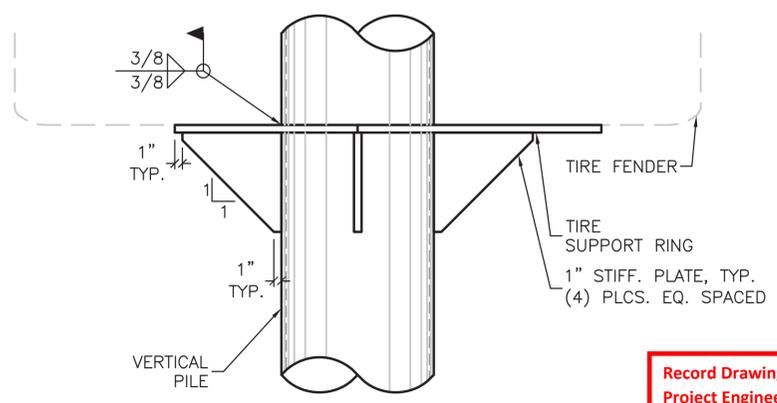
**FRONT VIEW**

**SIDE VIEW**

**ACCESS LADDER**

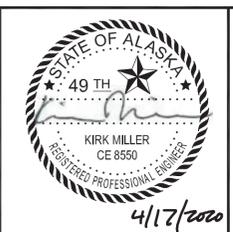


**RAIL ROLLED-OUT BACK ELEVATION**



**FENDER SUPPORT ELEV.**

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
 PE *Patty Lont* 7/18/25

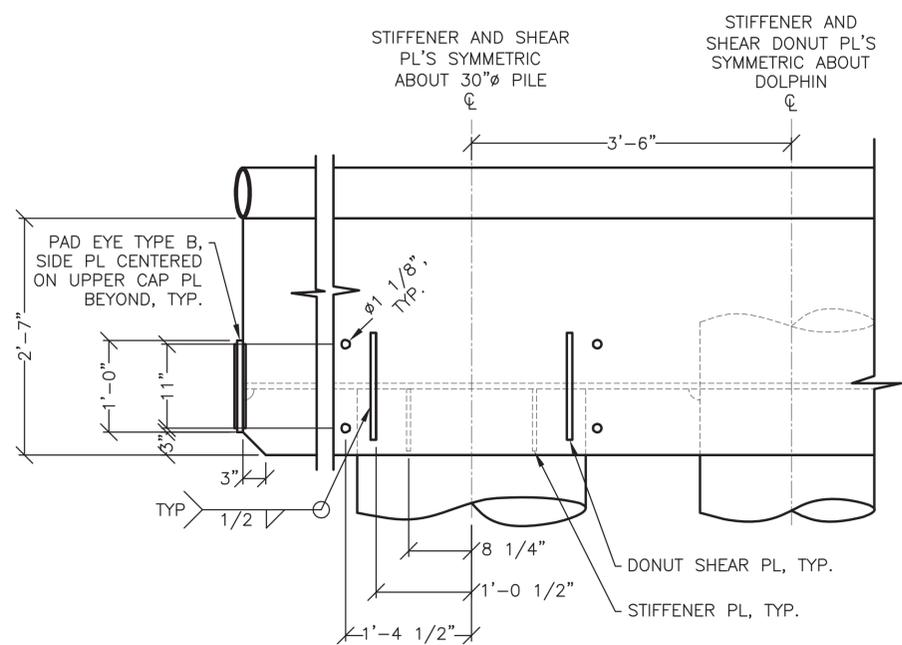


STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
 DETAILS  
 S1, S2, & S3 DOLPHIN

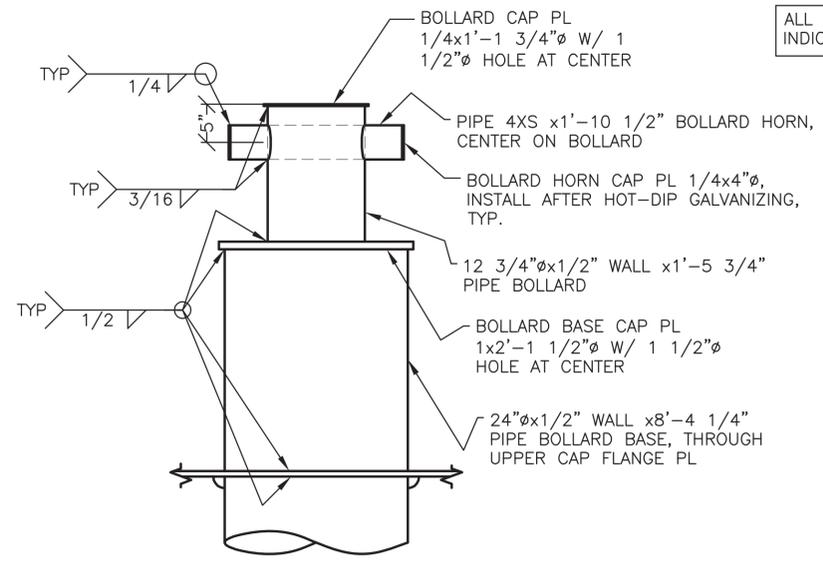


NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	11	17

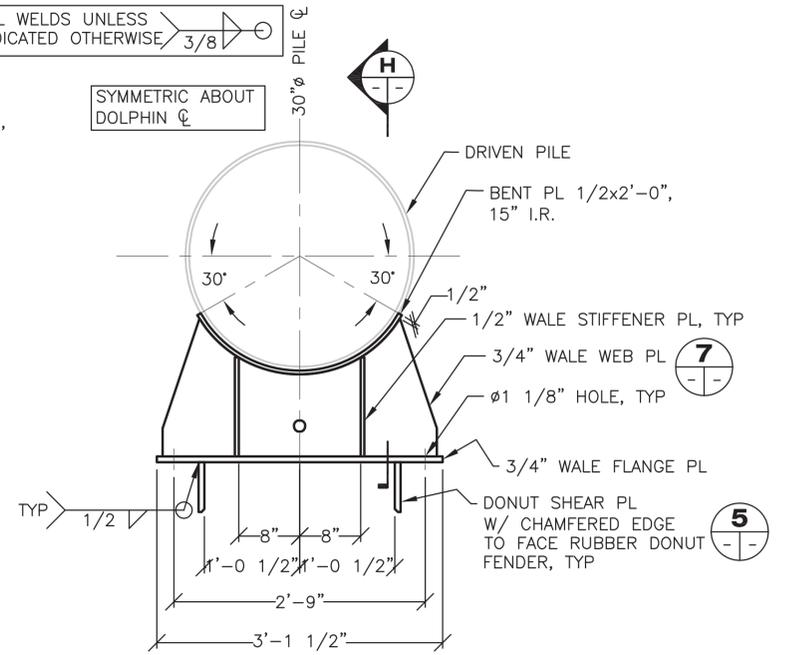
FILE \\pdrdesfrs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-09-15.dwg  
 DATE 4/17/2020 17:06 LAYOUT 11 DESIGNED JR CHECKED RJU DRAFTED DM



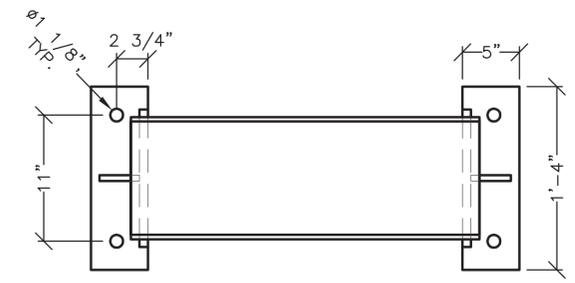
**G SECTION**



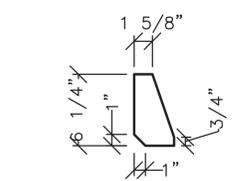
**3 BOLLARD DETAIL**  
NOTE: FRONT PL. NOT SHOWN FOR CLARITY



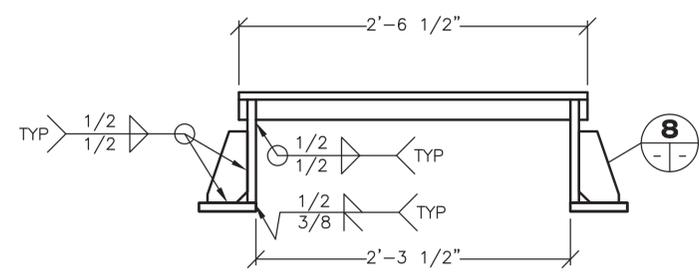
**INTERMEDIATE & LOWER WALE ASSEMBLY**



**FRONT ELEVATION**

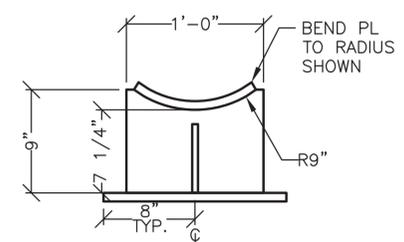


**8 DETAIL**

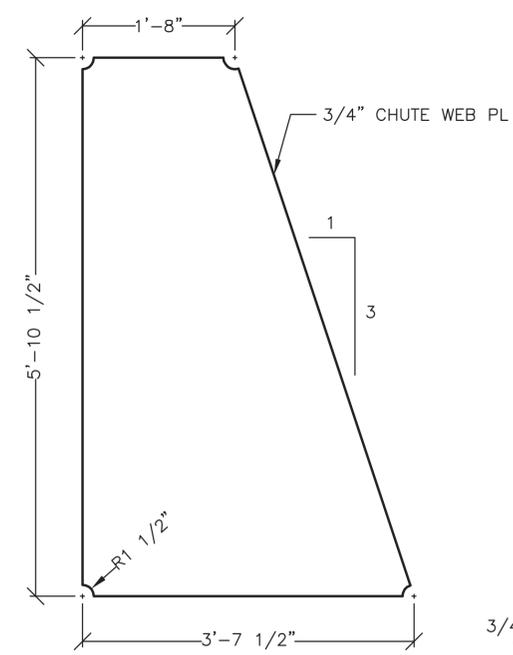


**PLAN**

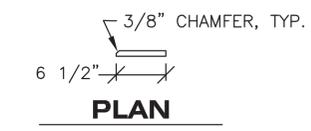
**DONUT FENDER MOUNT BRACKET**  
ALL PLATE 3/4



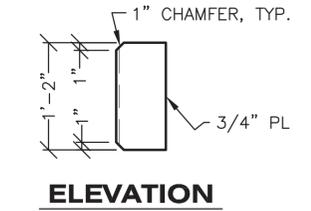
**ELEVATION**



**4 DETAIL**

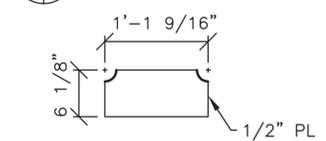


**PLAN**

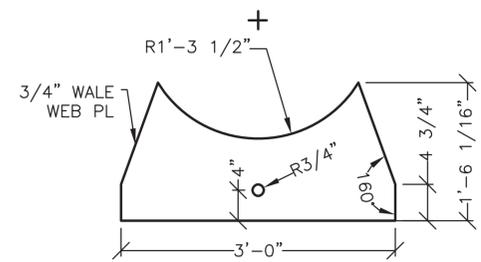


**ELEVATION**

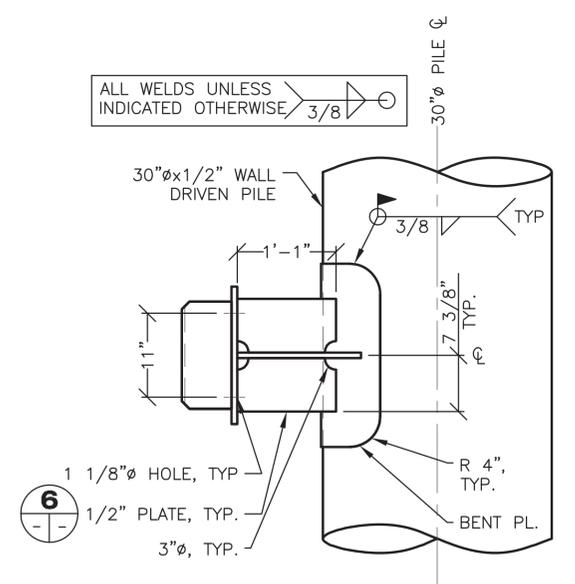
**5 DETAIL**



**6 DETAIL**

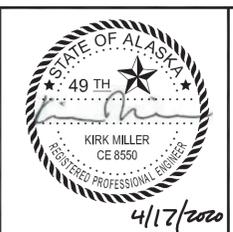


**7 DETAIL**



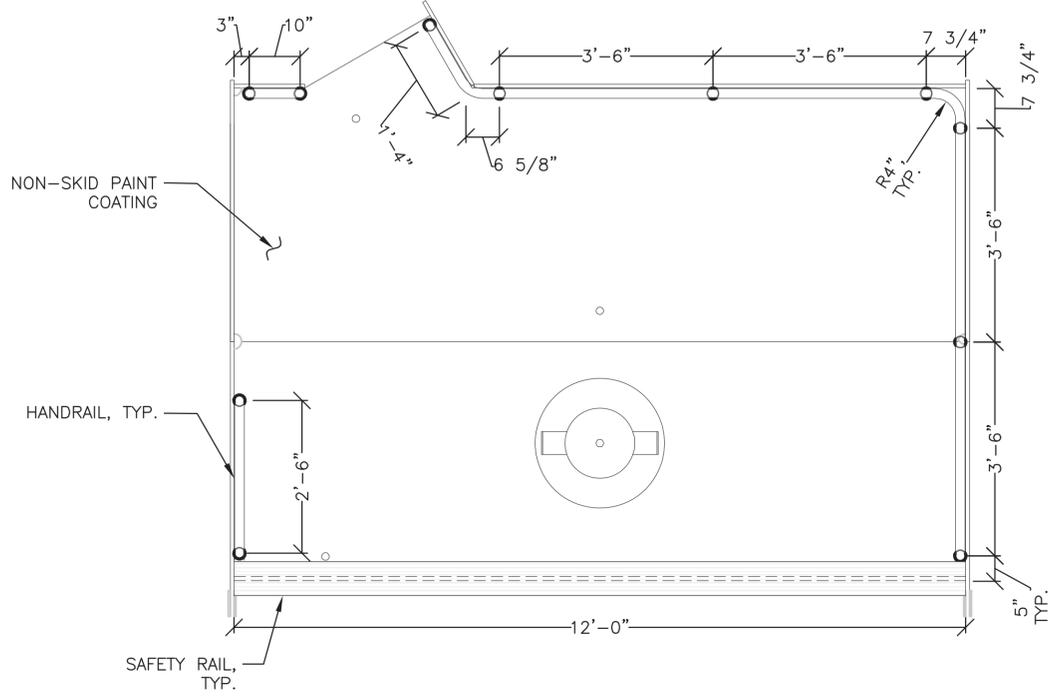
**H SECTION**

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
 PE *Patty Lont* 7/8/25

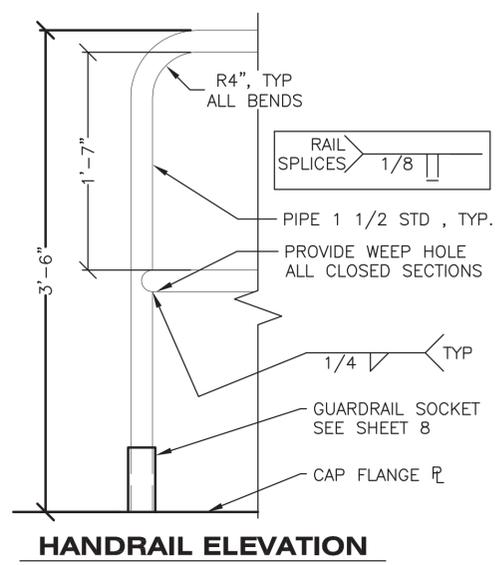


STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
 CAP AND INTERMEDIATE AND LOWER WALE DETAILS  
 DOLPHIN S4

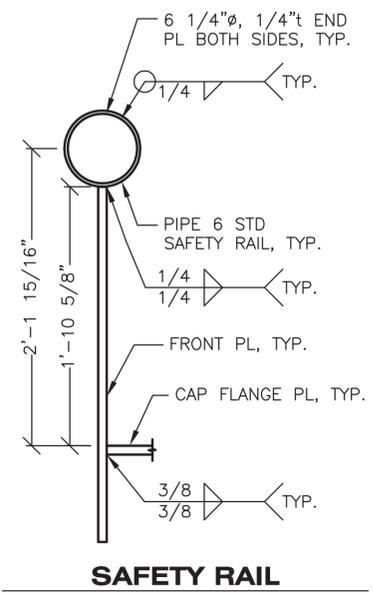
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	12	17



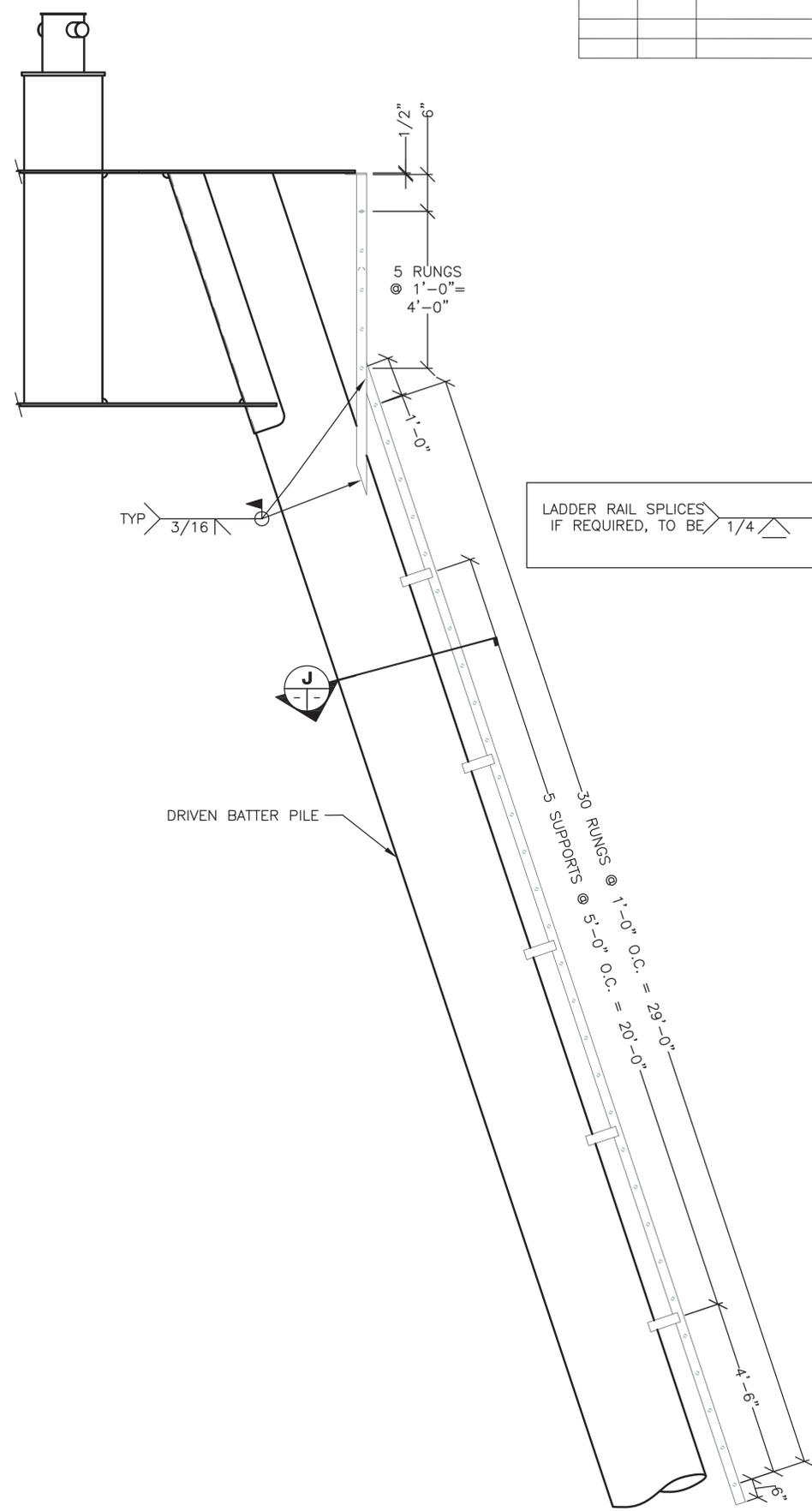
**RAILING AND SOCKET PLAN**  
DOLPHIN S4



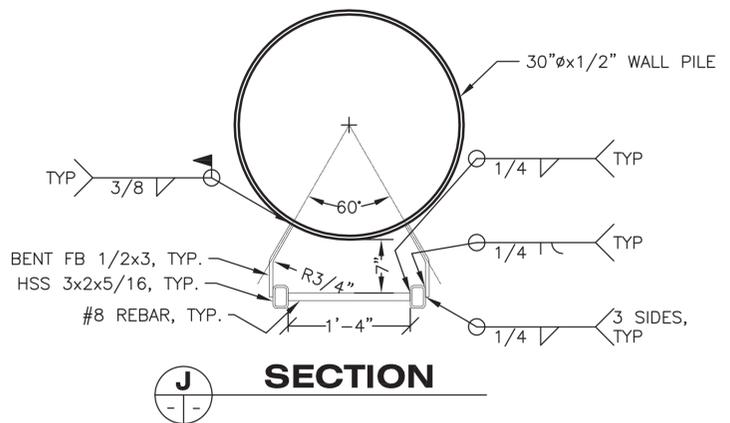
**HANDRAIL ELEVATION**



**SAFETY RAIL**



**LADDER ELEVATION**



**SECTION J**

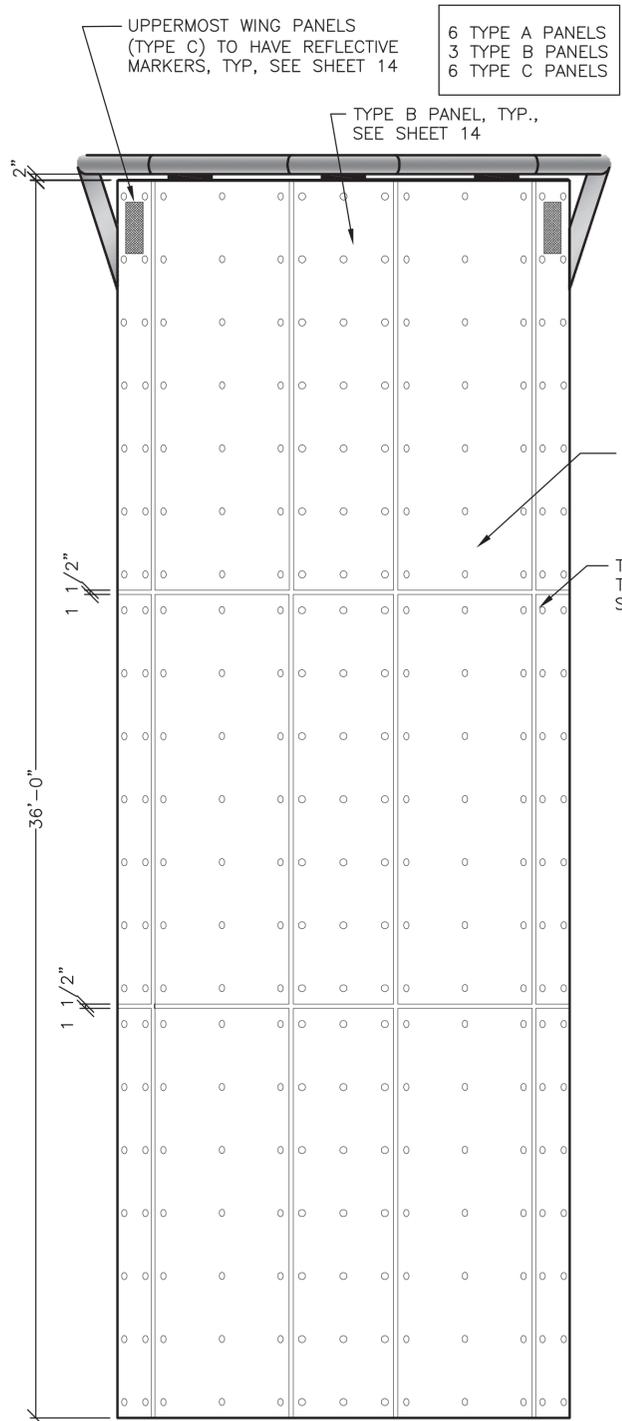
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PE *Patty Lent* 7/8/25



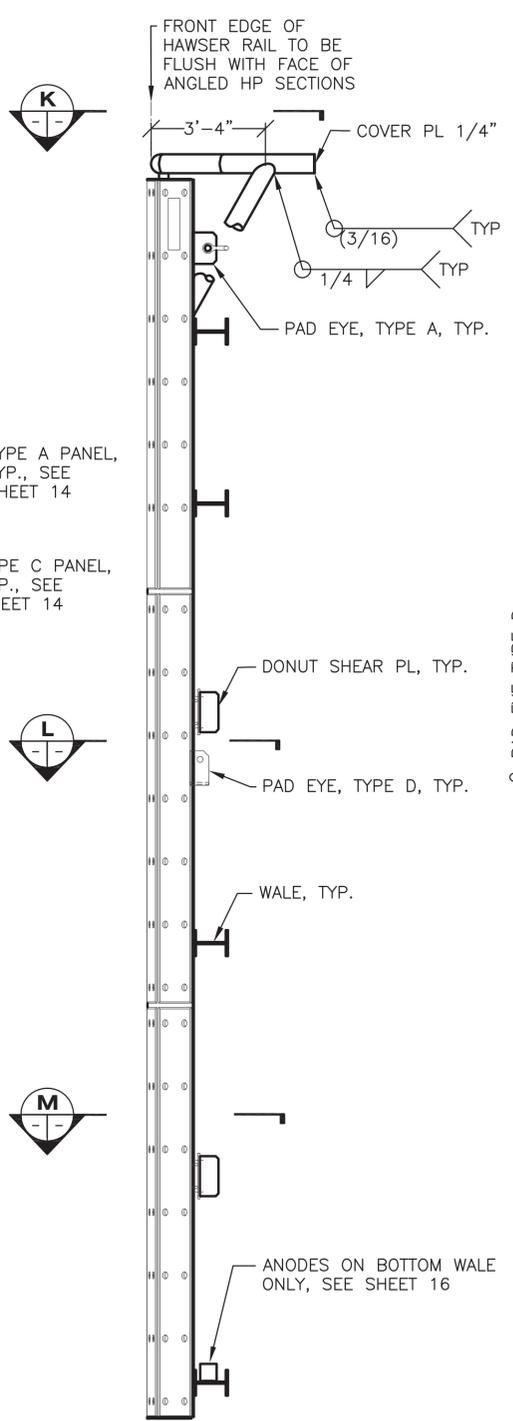
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
DECK SURFACE, HANDRAIL AND LADDER  
DOLPHIN S4

FILE \\pdrdesfrs01\Drawings\2018\184025 - KTN Gravina Freight Deck\DRAWINGS\184025-09-15.dwg DATE 4/17/2020 17:06 LAYOUT 12 DESIGNED JR CHECKED RJ DRAFTED DM

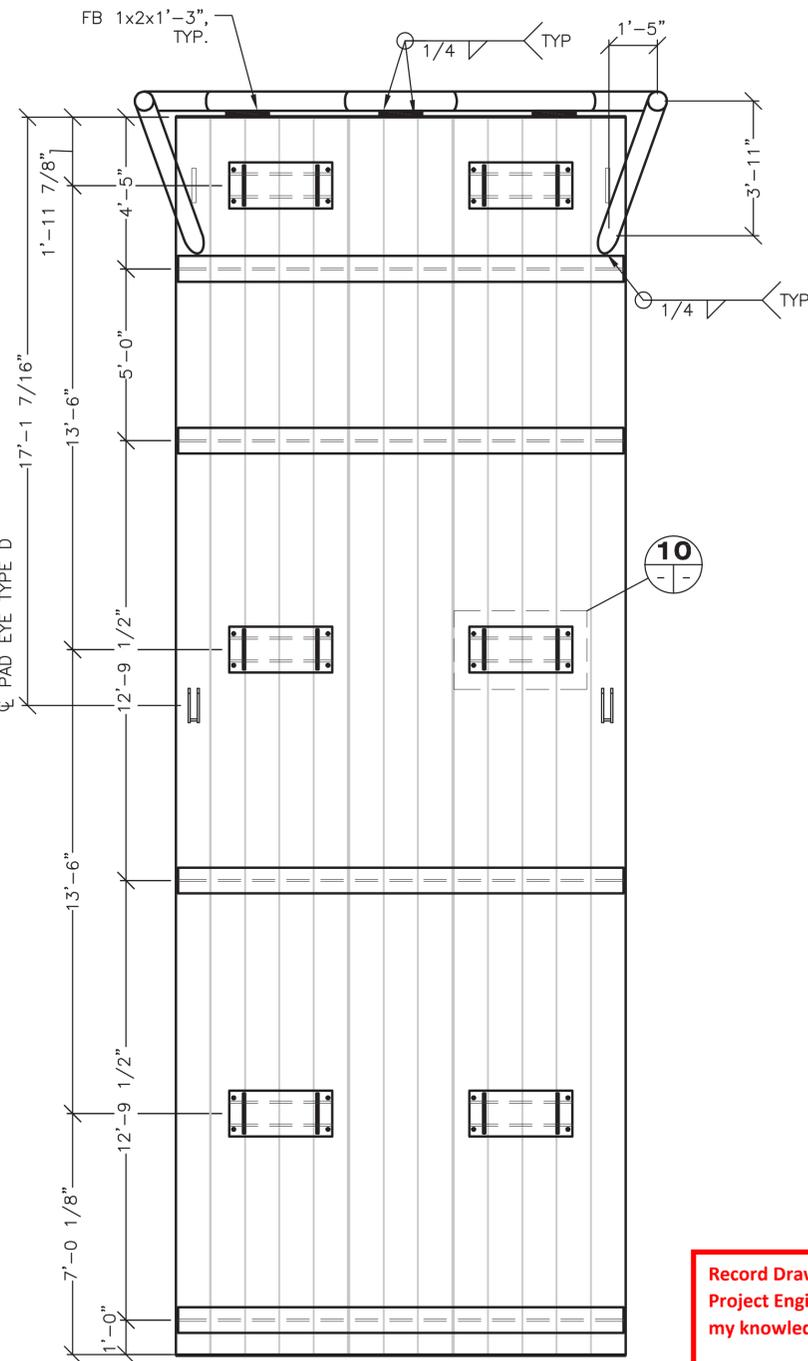
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	13	17



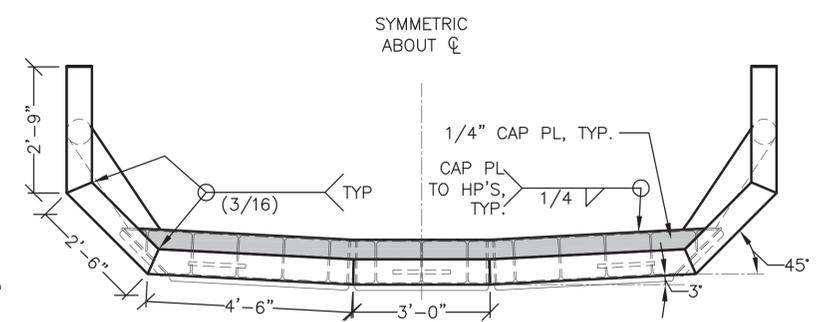
**FRONT ELEVATION**



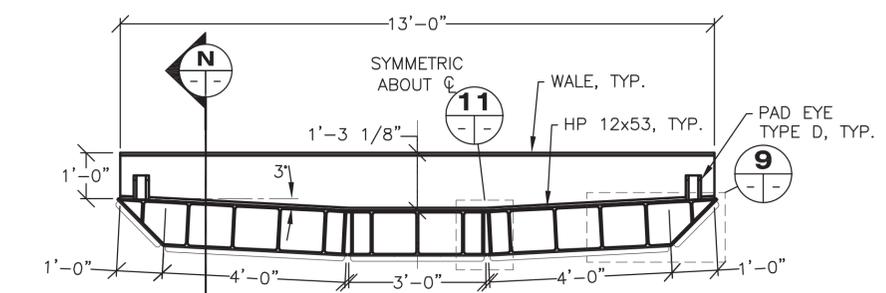
**SIDE ELEVATION**



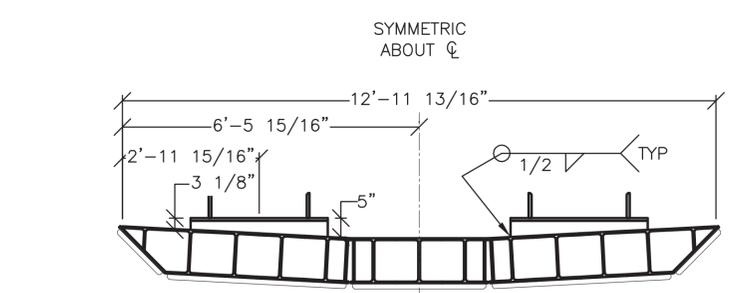
**REAR ELEVATION**



**SECTION K**

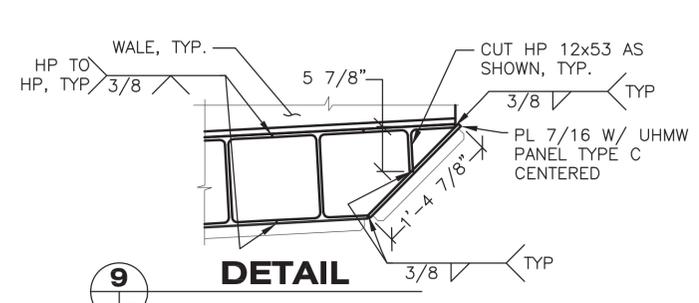


**SECTION L**

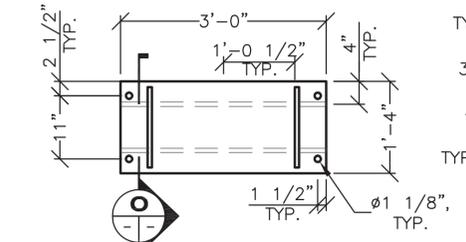


**SECTION M**

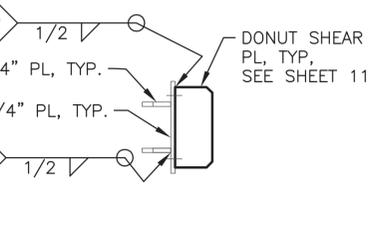
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PE *Patty Lont* 7/8/25



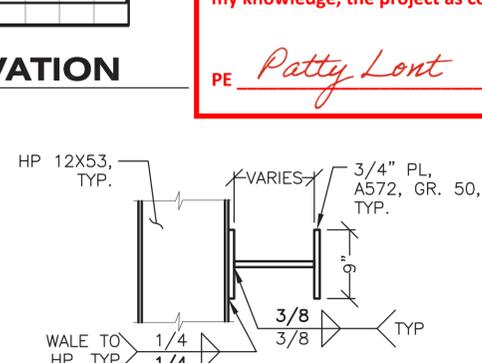
**DETAIL 9**



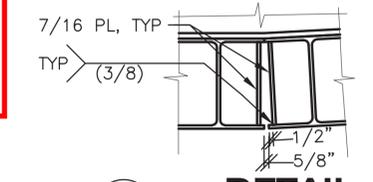
**DETAIL 10**  
(FENDER NOT SHOWN FOR CLARITY)



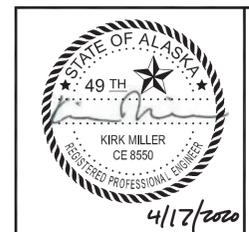
**SECTION O**



**WALE SECTION N**



**DETAIL 11**



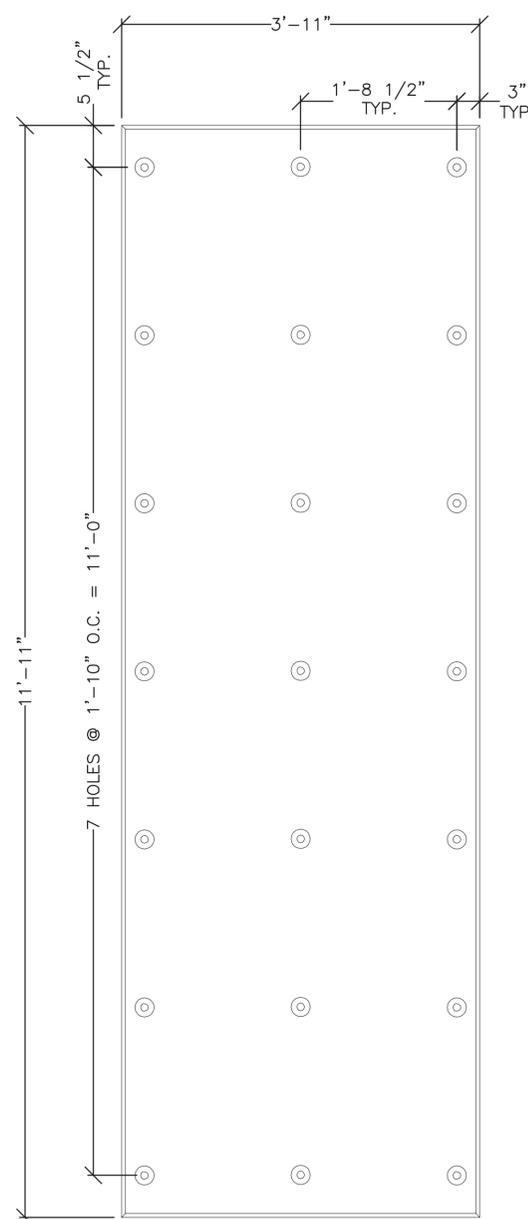
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
FENDER PANEL FRAME  
BREASTING DOLPHIN  
DOLPHIN S4

FILE \\pdrdesrfs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-09-15.dwg DATE 4/17/2020 17:06 LAYOUT 13 DESIGNED JR CHECKED IRJ DRAFTED DM

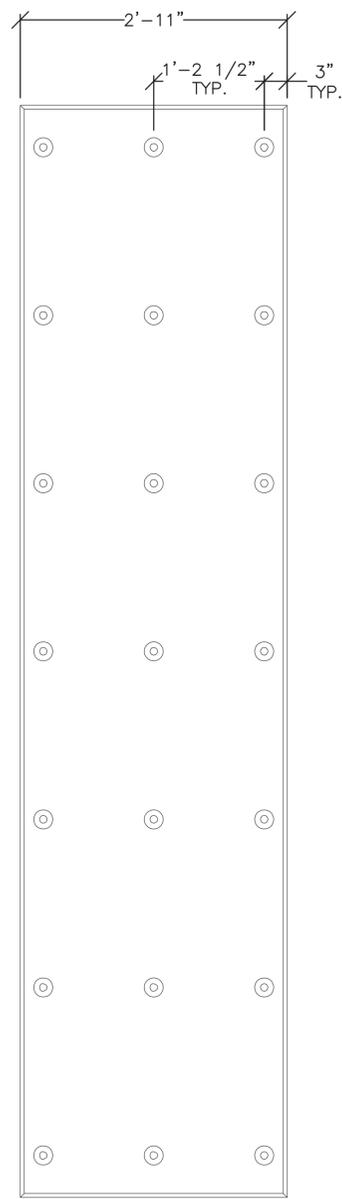
FILE \\pntdesrfs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-09-15.dwg DATE 4/17/2020 17:06 LAYOUT 14 DESIGNED JR CHECKED IRJ DRAFTED DM

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	14	17

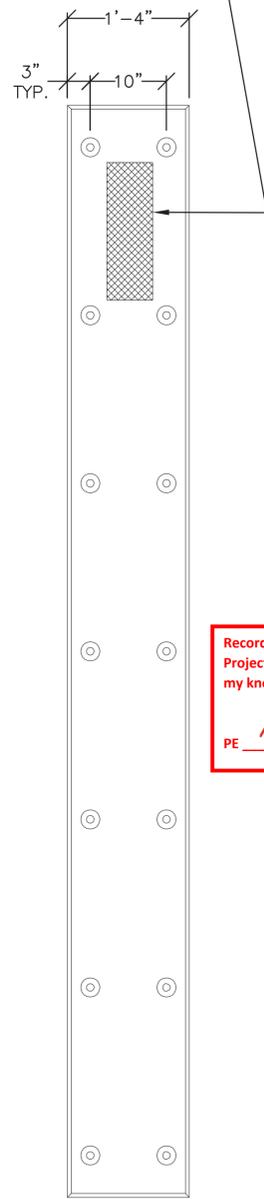
18x6 YELLOW REFLECTIVE MARKERS ON UPPERMOST WING PANELS ONLY. CENTER BETWEEN UPPER FOUR BOLT HOLES. RECESS 1/4 INTO UHMW AND SET WITH SS SCREWS, TYP.



**TYPE A**  
(BLACK IN COLOR)

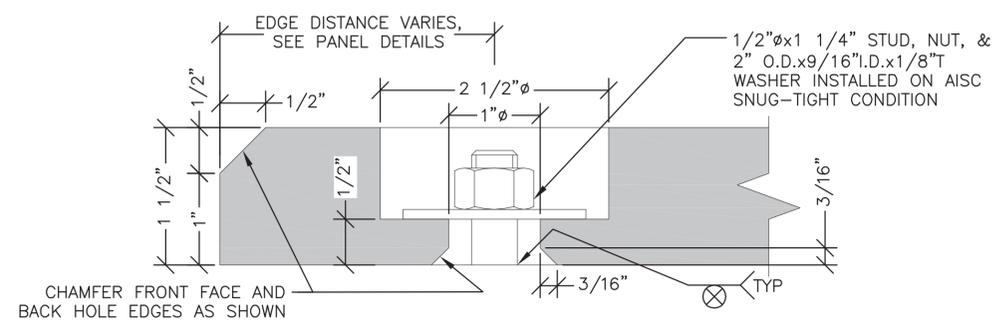


**TYPE B**  
(BLACK IN COLOR)

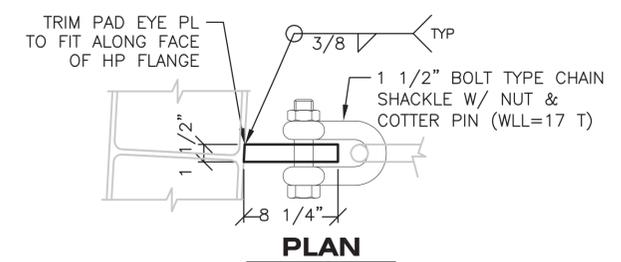


**TYPE C**  
(YELLOW IN COLOR)

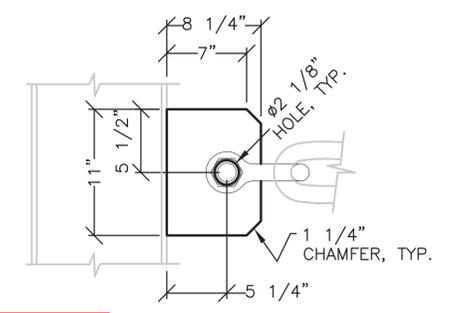
**1 1/2" UHMW FENDER PANELS**



**UHMW FASTENER HOLES & EDGE CHAMFERS**

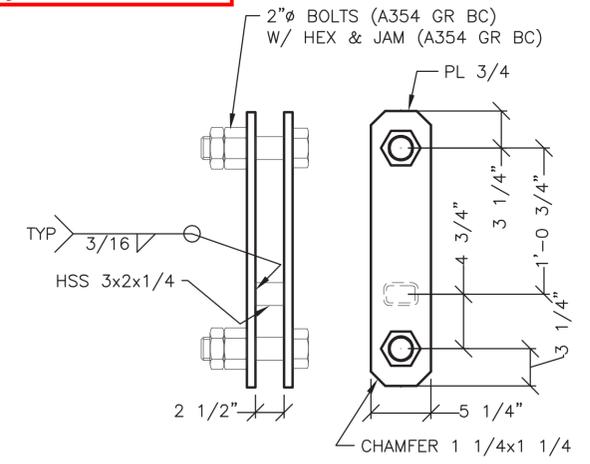


**PLAN**

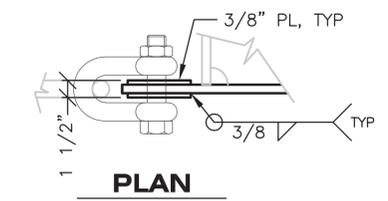


**ELEVATION**  
PAD EYE TYPE A

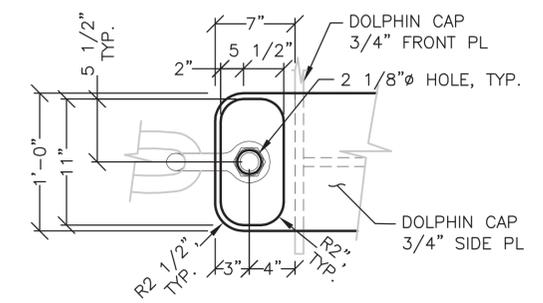
Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.  
PE *Patty Lont* 7/8/25



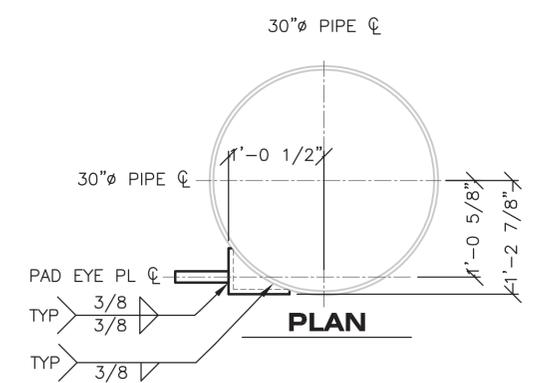
**PLATE SHACKLE DETAIL**



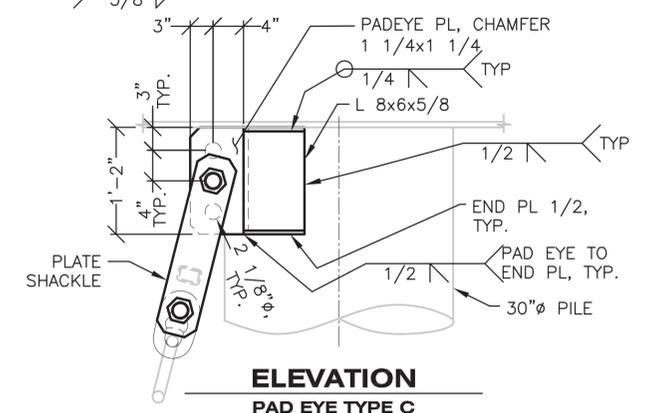
**PLAN**



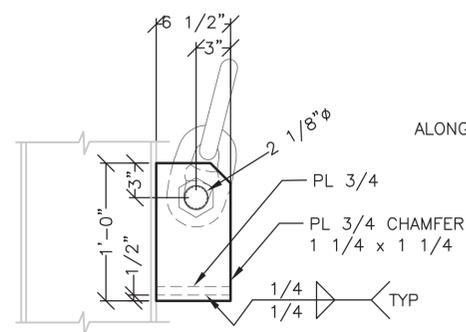
**ELEVATION**  
PAD EYE TYPE B



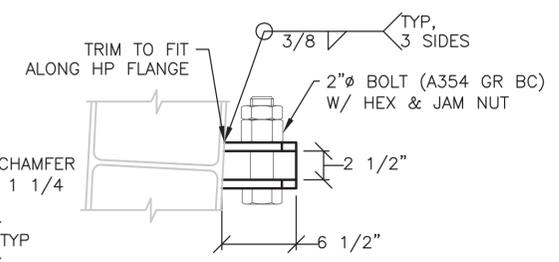
**PLAN**



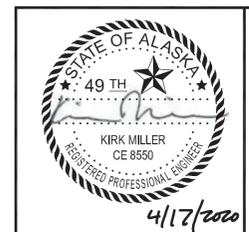
**ELEVATION**  
PAD EYE TYPE C



**ELEVATION**  
PAD EYE TYPE D



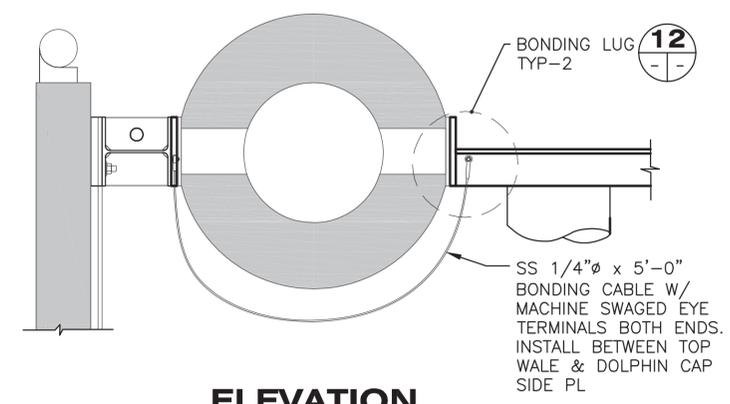
**PLAN**  
PAD EYE TYPE D



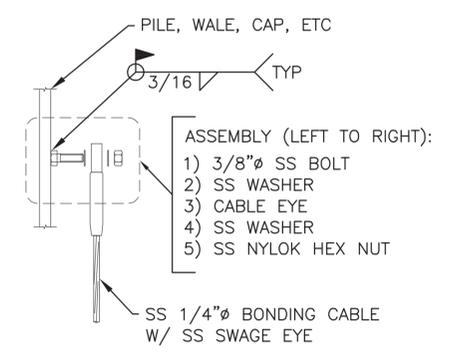
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
UHMW & PAD EYE DETAILS  
DOLPHIN S4

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	15	17

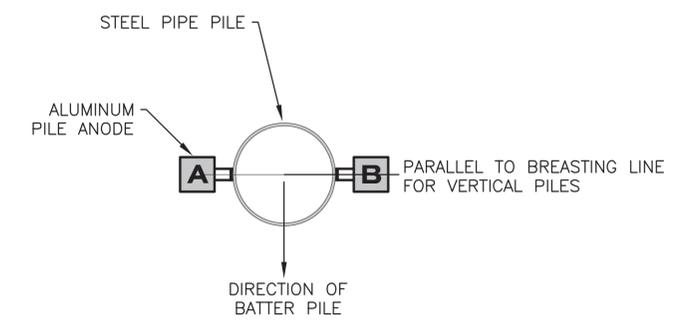
FILE \\pntdesrfs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-09-15.dwg DATE 4/17/2020 17:06 LAYOUT 15 DESIGNED JR CHECKED RJ DRAFTED DM



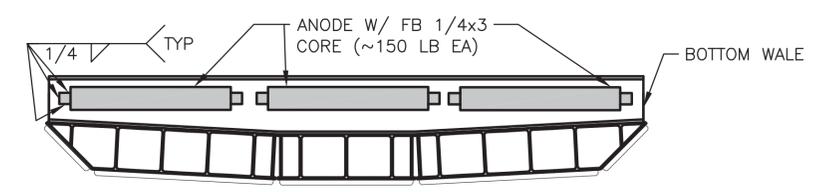
**ELEVATION**  
**FENDER PANEL**  
**BONDING CABLE**



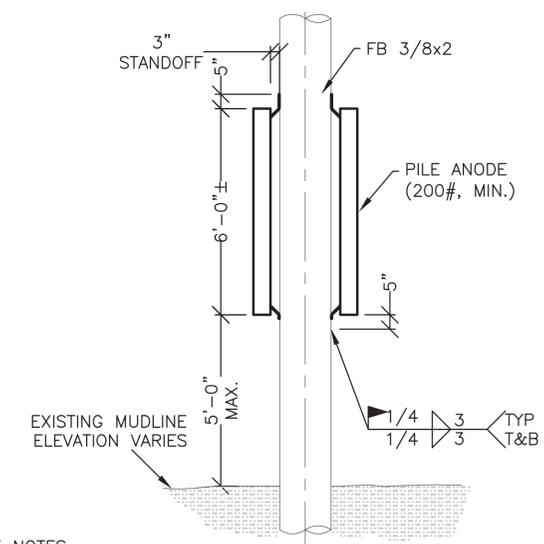
**12**  
**DETAIL**



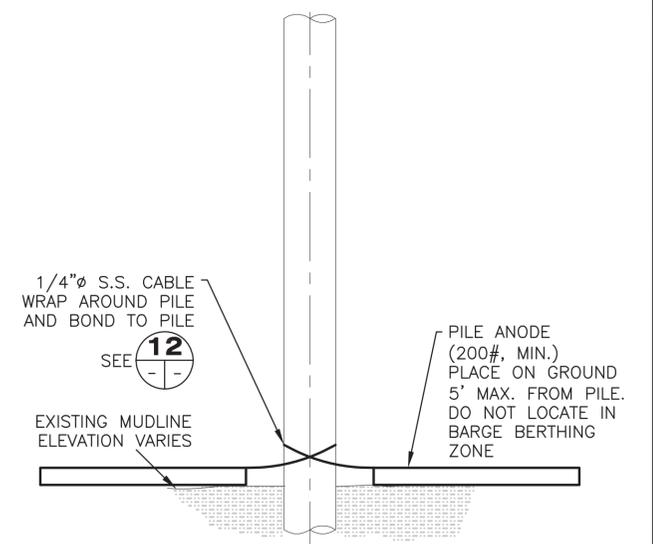
**PLAN**



**FENDER PANEL ANODES**



**ELEVATION**  
**PILE ANODES**  
TYP. ALL PILES EXCEPT S1 DOLPHIN PILES.

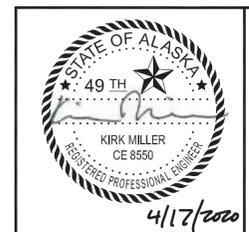


**ELEVATION**  
**PILE ANODES**  
S1 DOLPHIN PILES.

PILE ANODE NOTES:  
INSTALL 2 ANODES ON ALL PILES.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Patty Lont 7/8/25



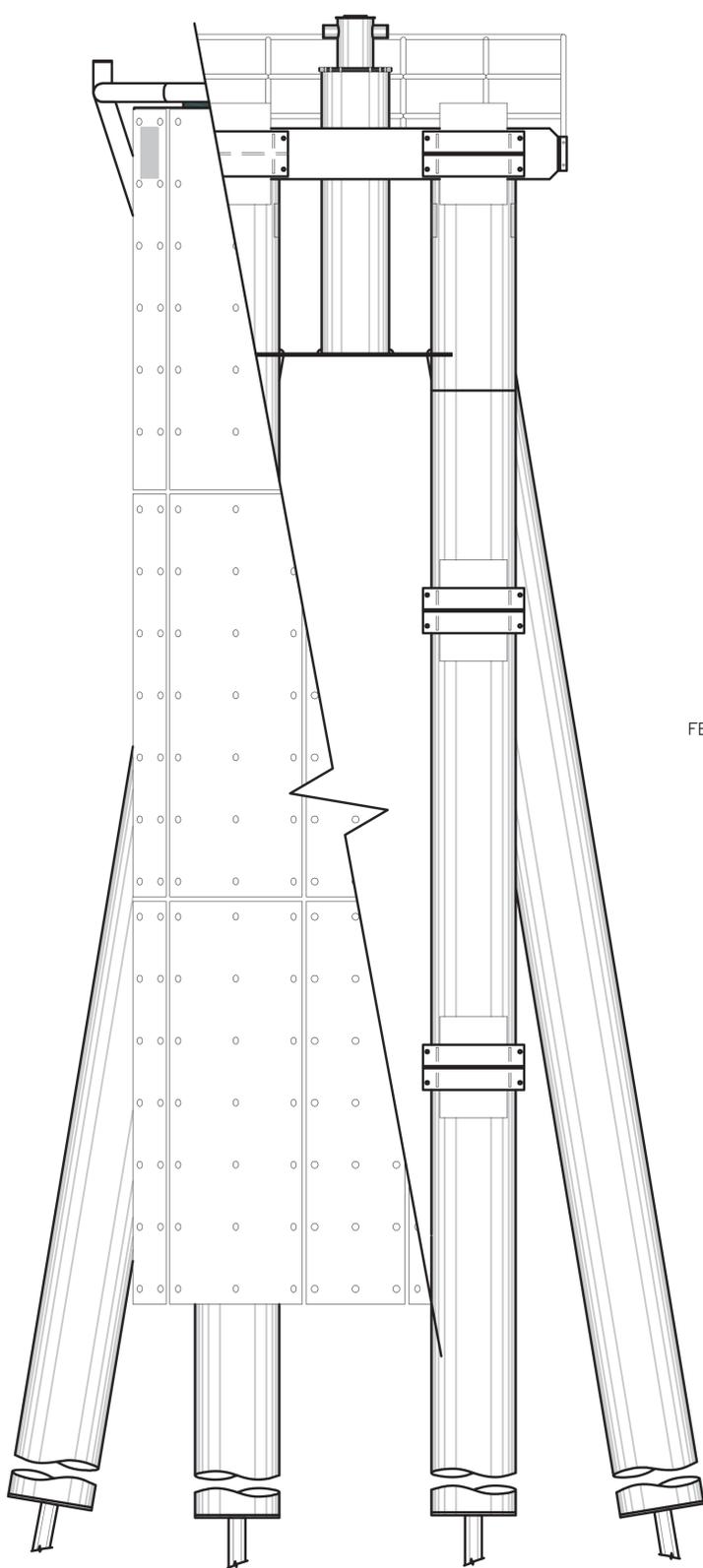
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**  
**KETCHIKAN GRAVINA**  
**FREIGHT FACILITY**  
PILE AND FENDER ANODE DETAILS

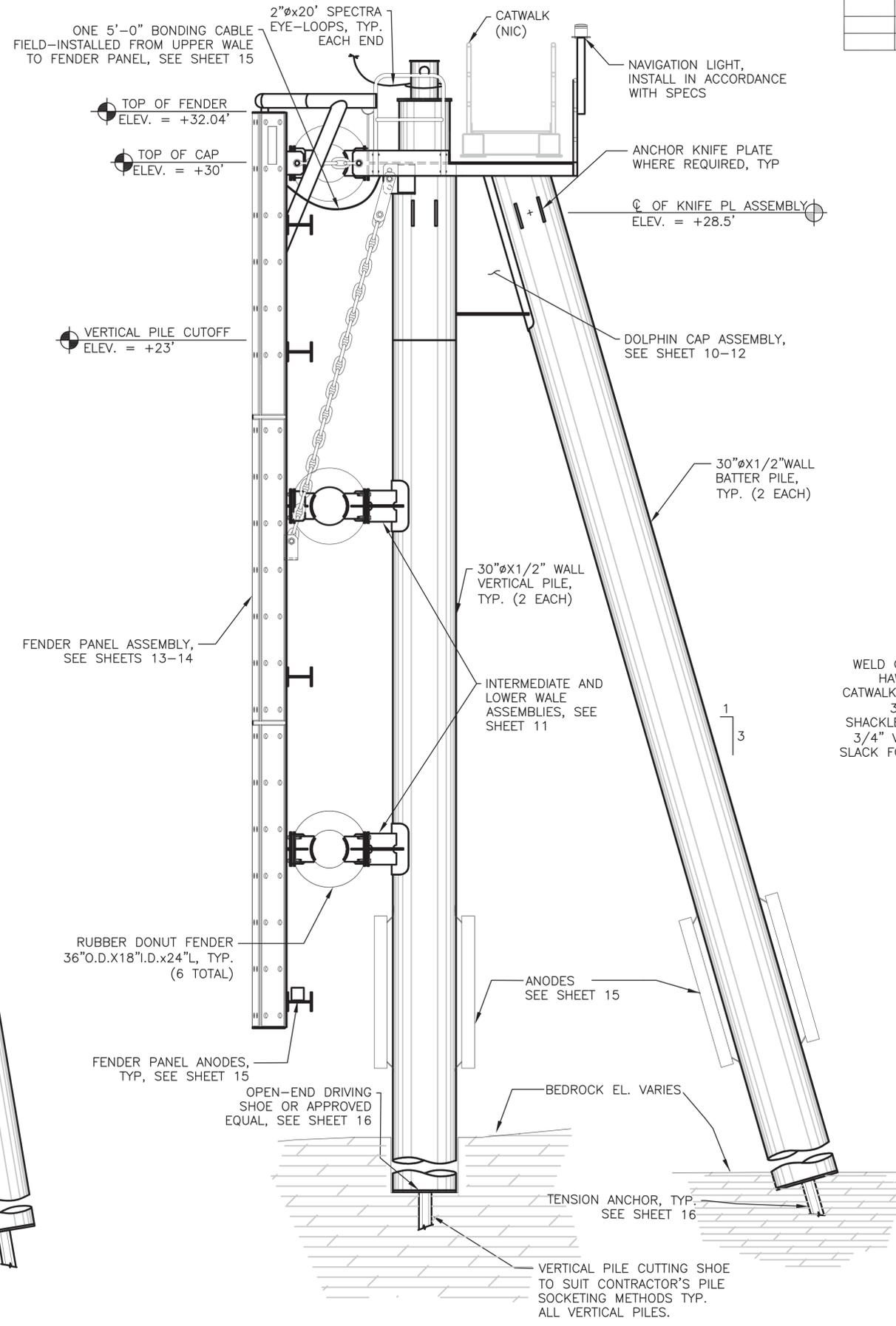
FILE \\pdrdesfrs01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-09-15.dwg DATE 4/17/2020 17:06 LAYOUT 9 DESIGNED JR CHECKED IRJ DRAFTED DM

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	9	17

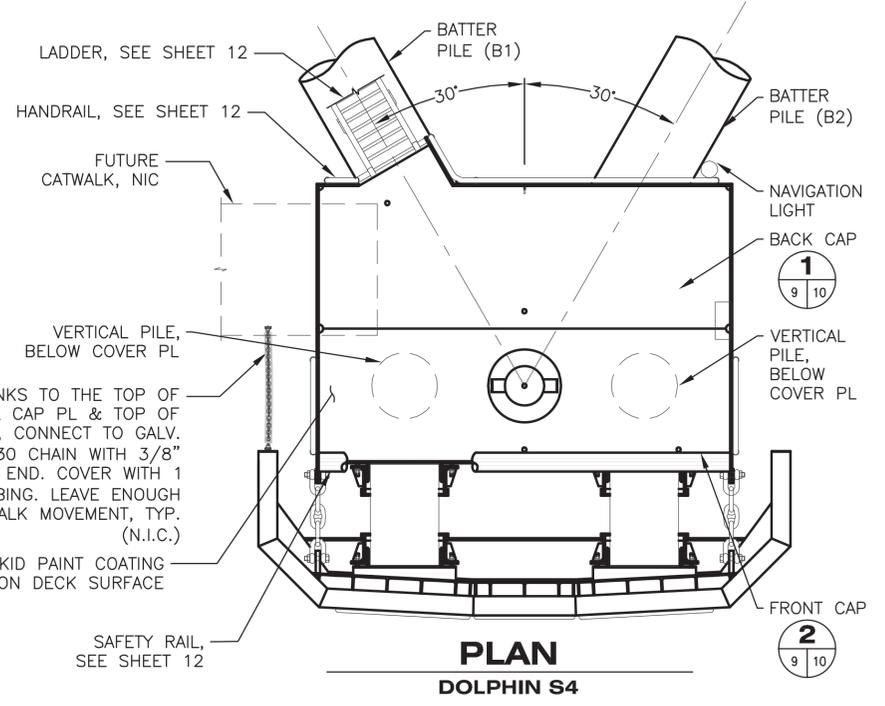
CO 2



**FRONT ELEVATION**  
DOLPHIN S4



**SIDE ELEVATION**  
DOLPHIN S4



**PLAN**  
DOLPHIN S4

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Patty Lont 7/18/25



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**

PLAN & ELEVATION  
DOLPHIN S4



FILE \\pndsecf01\Drawings\2018\184025 - KTN Gravina Freight Dock\DRAWINGS\184025-16-17.dwg DATE 4/17/2020 17:06 LAYOUT 17 DESIGNED JR CHECKED RJ DRAFTED DM

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	SFHWHY00154/0952020	2019	17	17

PILE SCHEDULE										
PILE LOCATION	PILE DIAMETER (in)	WALL THICKNESS (in)	PILE TIP	PILE BATTER	ESTIMATED MUDLINE ELEVATION (ft)	ESTIMATED BEDROCK ELEVATION (ft)	MINIMUM SUPPLY LENGTH (ft)	DESIGN LOAD		
								COMPRESSION (kips)	TENSION (kips)	
S1 DOLPHIN	V1	24	0.750	SOCKET & ANCHOR	V	-11.0	-16.0	60.0	75.0	75.0
	B1	20	0.500	TENSION ANCHOR	3V:1H	-10.0	-15.0	60.0	75.0	75.0
	B2	20	0.500	TENSION ANCHOR	3V:1H	-12.0	-17.0	60.0	75.0	75.0
S2 DOLPHIN	V1	24	0.750	SOCKET & ANCHOR	V	-20.0	-26.0	70.0	75.0	75.0
	B1	20	0.500	TENSION ANCHOR	3V:1H	-20.0	-27.0	80.0	75.0	75.0
	B2	20	0.500	TENSION ANCHOR	3V:1H	-25.0	-31.0	80.0	75.0	75.0
S3 DOLPHIN	V1	24	0.750	SOCKET & ANCHOR	V	-31.0	-37.0	80.0	75.0	75.0
	B1	20	0.500	TENSION ANCHOR	3V:1H	-29.0	-35.0	80.0	75.0	75.0
	B2	20	0.500	TENSION ANCHOR	3V:1H	-32.0	-39.0	80.0	75.0	75.0
S4 DOLPHINS	V1	30	0.500	SOCKET & ANCHOR	V	-42.0	-52.0	90.0	100.0	100.0
	V2	30	0.500	SOCKET & ANCHOR	V	-44.0	-53.0	90.0	100.0	100.0
	B1	30	0.500	TENSION ANCHOR	3V:1H	-42.0	-50.0	100.0	100.0	100.0
	B2	30	0.500	TENSION ANCHOR	3V:1H	-45.0	-55.0	100.0	100.0	100.0

62.7' - Top of cap 31.5  
 55.45'  
 61.41'  
 75.42' - Top of cap 31.5  
 62.37'  
 64.9'  
 80.27' - Top of cap 31.5  
 70.09'  
 78.10'  
 92.92' - Top of cap 30.00  
 92.81' - Top of cap 30.00  
 81.8'  
 91.9'

1. REFERENCE SPECIAL PROVISIONS, SECTION 518 FOR TENSION PILE ANCHOR TESTING AND INSTALLATION REQUIREMENTS NOT INDICATED.
2. PERFORMANCE TESTING WILL BE REQUIRED FOR THE FIRST ANCHORS THAT ARE INSTALLED IN THE 24" DIAMETER AND 30" DIAMETER PILE ANCHOR TENSION INSTALLATIONS, RESPECTIVELY (2 TOTAL).
3. PROOF LOAD TESTING IS REQUIRED ON ALL ANCHORS.
4. TEST LOAD (PROOF)= 1.33 X DESIGN LOAD
5. LOCK-OFF LOAD= 0.75 X DESIGN LOAD
6. TWELVE (12) TEMPORARY PILES UP TO 20" DIA. HAVE BEEN PERMITTED FOR USE ON THIS PROJECT TO AID IN THE CONSTRUCTION OF NEW WORK AS NEEDED. REFERENCE SPECIAL PROVISIONS APPENDIX B.

Record Drawings have been reviewed by the Project Engineer, and represent to the best of my knowledge, the project as constructed.

PE Patty Lont 7.19.2025



STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
**PLAN SET B**  
**KETCHIKAN GRAVINA FREIGHT FACILITY**  
 PILE SCHEDULE