



ALASKA RAILROAD CORPORATION

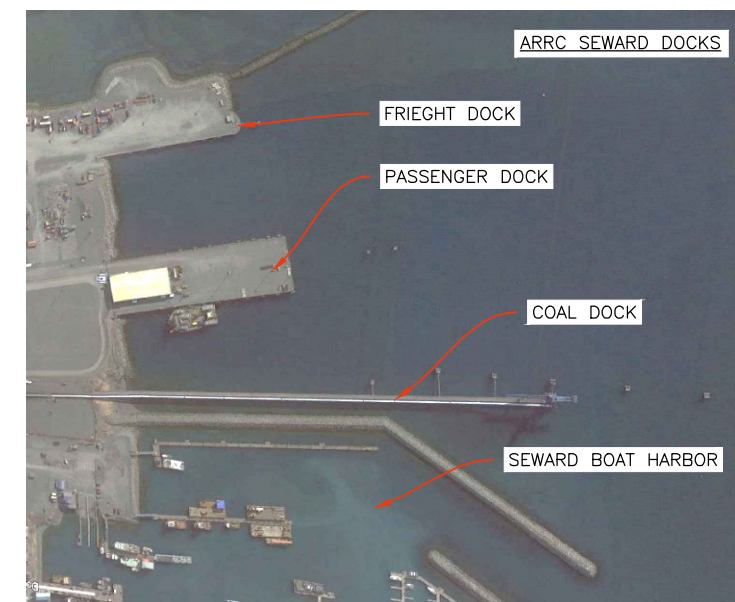
ENGINEERING SERVICES

P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500


SEWARD PASSENGER DOCK PILE REPAIR SEWARD, AK

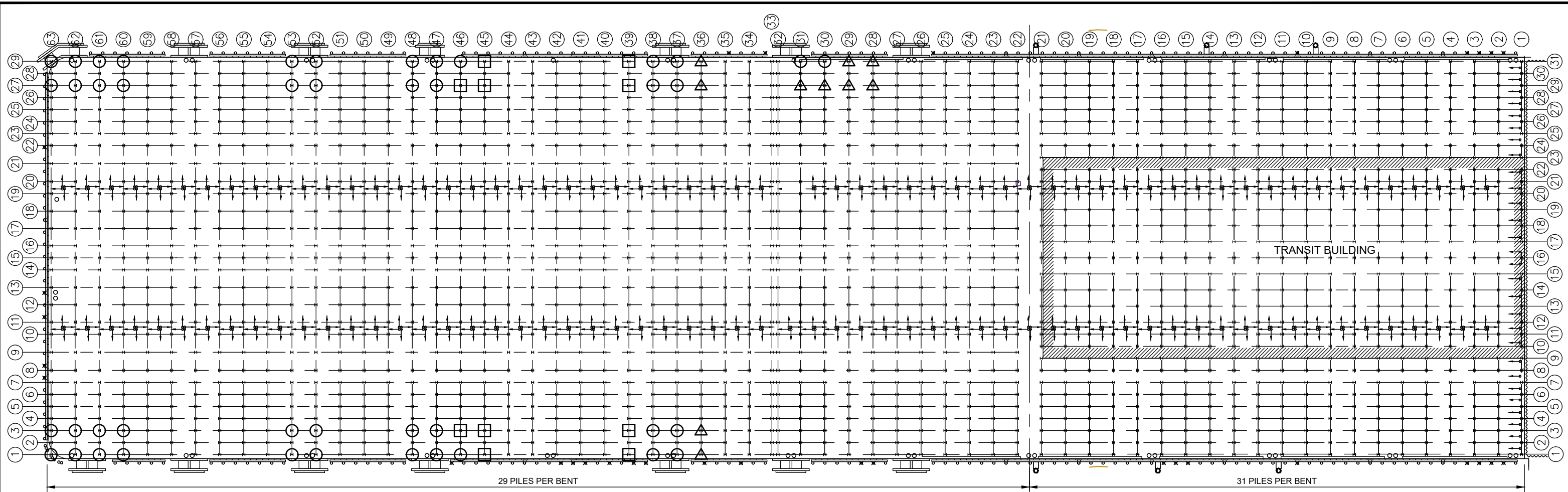
SPECIFICATIONS AND GENERAL NOTES

- 1) MATERIALS
 - A. STRUCTURAL STEEL. ALL STEEL AND HARDWARE FOR CLAMPS SHALL BE SUPPLIED BY OWNER.
 1. ALL STRUCTURAL PLATE SHALL BE ASTM A36.
 2. ALL HSS TUBE SHALL BE ASTM A500 GRADE B.
 3. BOLTS: ASTM F3125 GRADE A325, TYPE 1
 4. NUTS: ASTM A563
 5. WASHERS: ASTM F436
 - B. WELD ELECTRODES: WELD ELECTRODES SHALL BE COMPATIBLE WITH BASE METAL PROPERTIES AND HAVE A MINIMUM TENSILE STRENGTH OF 70,000 PSI.
 - C. ANODES: OWNER SUPPLIED ANODES TO BE FLUSH MOUNT CONFIGURED ALUMINUM ALLOY IN CONFORMANCE WITH MILITARY SPECIFICATION MIL-A-24779 AS MANUFACTURED BY HARBOR ISLAND SUPPLY OR FARWEST CORROSION CONTROL SUPPLY COMPANY OR APPROVED EQUAL.
 1. HARBOR: P-4424, 38 LBS ALUMINUM, 24 INCHES LONG OR
 2. FARWEST: 29FM, 26 LBS ALUMINUM, 24 INCHES LONG
- 2) SHOP WELDING
 - A. ALL WELDERS SHALL BE QUALIFIED FOR THE WELD PROCEDURE PER AWS D1.1.
 - B. ALL WELDING SURFACES SHALL BE PREPARED PER SSPC-SP11; POWER-TOOL CLEANING TO BARE METAL.
 - C. ALL WELD TESTING SHALL BE IN ACCORDANCE WITH AWS D1.1.
 1. ALL FILLET WELDS SHALL BE 100% VISUALLY INSPECTED AND AT LEAST 25% MAGNETIC PARTICLE TESTED BY A CERTIFIED WELD INSPECTOR.
- 3) FIELD WELDING
 - A. ALL WELDERS SHALL BE QUALIFIED FOR THE WELD PROCEDURE PER AWS D1.1 OR AWS D3.6 AS WARRANTED BY FIELD CONDITIONS.
 - B. ALL FIELD WELDS SHALL BE 100% VISUALLY INSPECTED AND ARE EXEMPT FROM FURTHER TESTING AS THEY ARE NOT STRUCTURAL IN NATURE.
 - C. CONTRACTOR TO PROVIDE VERIFICATION OF FIELD WELDS THROUGH VISUAL DOCUMENTATION VIA PHOTOS OR VIDEO.
- 4) SURFACE PREPARATION FOR PILE CLAMP REPAIR
 - A. APPROXIMATELY 8 LINEAL FEET OF PILE SURFACES TO BE CLEANED AT EACH LOCATION (4 FEET TOP AND BOTTOM OF CENTERLINE OF SEVERE CORROSION). ALL RUST AND MARINE LIFE TO BE REMOVED FROM PILE FLANGES TO ASSURE GOOD CLAMPING SURFACE. SURFACES TO BE CLEANED BY UTILIZING MECHANICAL OR HIGH PRESSURE HIGH-VOLUME JET BLASTING EQUIPMENT.
 - B. PILE CLAMPS SHALL BE INSTALLED WITHIN 7 DAYS OF INITIAL CLEANING AND SURFACE PREPARATION.
 - C. CONTRACTOR TO PROVIDE VISUAL DOCUMENTATION VIA PHOTOS OR VIDEO OF ALL PILE AFTER SURFACE PREPARATION.
- 5) PILE CLAMP INSTALLATION
 - A. PILE CLAMP SYSTEM ASSEMBLY AND POSITIONING AROUND THE PILE SHALL BE PERFORMED BY THE CONTRACTOR IN SUCH A MANNER AS TO ASSURE THAT NO DAMAGE TO PILE OR ASSEMBLY OCCURS AND THAT THERE WILL BE NO DETRIMENTAL MOVEMENT OF THE CLAMP PRIOR TO TIGHTENING THE BOLTS. IF UNFORESEEN OBSTACLES ARE PRESENT AT PILE LOCATIONS DETAILED IN PLAN SET THAT PREVENT INSTALLATION, ENGINEER SHALL BE NOTIFIED SUCH THAT AN ALTERNATE LOCATION CAN BE SPECIFIED.
 - B. FLANGE BLOCKS ARE TO BE MEASURED AFTER PILE CLEANING AND CUT TO SIZE AND WELDED TOGETHER. FLANGE BLOCK LENGTHS SHALL BE NO LESS THAN 1/8" OF THE OPENING BETWEEN THE FLANGES. THE FLANGE BLOCK SHALL BE POSITIONED BETWEEN 1/4" AND 1/2" FROM THE EDGE OF THE FLANGE. WELDING OF THE TOP FLANGE BLOCK TO THE PILE FLANGES SHALL BE DONE AFTER THE CLAMPING HAS OCCURRED.
 - C. RIG BOTH SIDES OF THE PILE CLAMP AT THE PROVIDED PAD EYE LOCATION AND PLACE THEM OUTSIDE THE H-PILE AT THE SPECIFIED VERTICAL INSTALL LOCATION. DRAW BOTH SIDES OF THE PILE CLAMP IN UNTIL CONTACT IS MADE WITH THE FLANGE SURFACE. ENSURE THE PILE CLAMP IS INSTALLED AT THE CORRECT SPECIFIED ELEVATION.
 - D. ALL BOLTS, NUTS, AND WASHERS SHALL BE INSTALLED AND SNUGGED BY HAND. INSTALL BOLTS WITH A WASHER UNDER BOTH BOLT HEAD AND NUT. CLAMPS SHALL THEN BE TIGHTENED STARTING WITH THE CENTER HOLES FIRST AND WORKING OUTWARD UNTIL THE REQUIRED TORQUE IS ACHIEVED. THE BOLTS SHALL BE TENSIONED TO A MINIMUM OF 51,000 LBS. VERIFICATION OF BOLT TENSIONING PROCEDURE SHALL BE VIA SKIDMORE-WILHELM CALIBRATOR OR AN ACCEPTABLE EQUIVALENT TENSION-MEASURING DEVICE.
 - E. ALL PNEUMATIC OR HYDRAULIC WRENCHES SHALL BE CALIBRATED AT LEAST ONCE EACH SHIFT. CALIBRATION SHALL BE CHECKED WITH A MANUAL TORQUE WRENCH AND EACH CALIBRATION RECORDED. IF PNEUMATIC WRENCHES ARE USED THE AIR PRESSURE SHALL BE CLOSELY REGULATED. PROVISIONS SHALL BE MADE TO ADJUST PNEUMATIC WRENCHES.
 - F. CONTRACTOR TO PROVIDE VISUAL DOCUMENTATION VIA PHOTOS OR VIDEO OF ALL PILE CLAMP INSTALLATIONS.
- 6) SUBMITTALS
 - A. SUBMITTALS LISTED BELOW MUST BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORK.
 1. ALL WELD PROCEDURES FOR APPROVAL.
 2. WELDER CERTIFICATION FOR ALL WELDERS ON PROJECT TO SHOW COMPLIANCE.
 3. QUALITY CONTROL PLAN FOR BOLT TENSIONING AND TESTING.
 4. DIVER CERTIFICATION IF APPLICABLE.
 5. SITE SAFETY PLAN.
 - B. SUBMITTALS LISTED BELOW MUST BE PROVIDED TO THE ENGINEER BEFORE PROJECT COMPLETION.
 1. ALL SKIDMORE-WILHELM CALIBRATION AND BOLT TENSIONING TEST RESULTS.
 2. ALL VISUAL DOCUMENTATION OF PILE PREPARATION, PILE CLAMP INSTALLATION, FLANGE BLOCK WELDING AND ANODE BAR WELDING.



A WORK LOCATION
1 SCALE: N.T.S.

 ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT: SEWARD PASSENGER DOCK PILE REPAIR		
TITLE: TITLE PAGE, SPECIFICATIONS, GENERAL NOTES AND WORK LOCATION		
DESIGNED BY: <u>DJS</u>	SCALE: AS NOTED	AFE NO.:
DRAWN BY: <u>DJS</u>	DATE: 10/18/19	ACAD FILE:
CHECKED BY: <u>BAO</u>		DWG NO. 1 OF 4
APPROVED BY: _____		



- ⊕ (44) PRIORITY 1 PILE LOCATIONS FOR CLAMP REPAIR
- ⊞ (10) PRIORITY 2 PILE LOCATIONS FOR CLAMP REPAIR
- △ (10) PRIORITY 3 PILE LOCATIONS FOR CLAMP REPAIR

NORTH →

A DOCK PLAN VIEW
2 SCALE: N.T.S.

PRIORITY 1 PILE CLAMP LOCATIONS

- BENT 30, PILE 29
- BENT 31, PILE 30
- BENT 37, PILE 1
- BENT 37, PILE 3
- BENT 37, PILE 27
- BENT 37, PILE 29
- BENT 38, PILE 1
- BENT 38, PILE 3
- BENT 38, PILE 27
- BENT 38, PILE 29
- BENT 46, PILE 1
- BENT 46, PILE 29
- BENT 47, PILE 1
- BENT 47, PILE 3
- BENT 47, PILE 27
- BENT 47, PILE 29
- BENT 48, PILE 1
- BENT 48, PILE 3
- BENT 48, PILE 27
- BENT 48, PILE 29
- BENT 52, PILE 1
- BENT 52, PILE 3
- BENT 52, PILE 27
- BENT 52, PILE 29
- BENT 53, PILE 1
- BENT 53, PILE 3
- BENT 53, PILE 27
- BENT 53, PILE 29
- BENT 60, PILE 1
- BENT 60, PILE 3
- BENT 60, PILE 27
- BENT 60, PILE 29
- BENT 61, PILE 1
- BENT 61, PILE 3
- BENT 61, PILE 27
- BENT 61, PILE 29
- BENT 62, PILE 1
- BENT 62, PILE 3
- BENT 62, PILE 27
- BENT 62, PILE 29
- BENT 63, PILE 1
- BENT 63, PILE 3
- BENT 63, PILE 27
- BENT 63, PILE 29

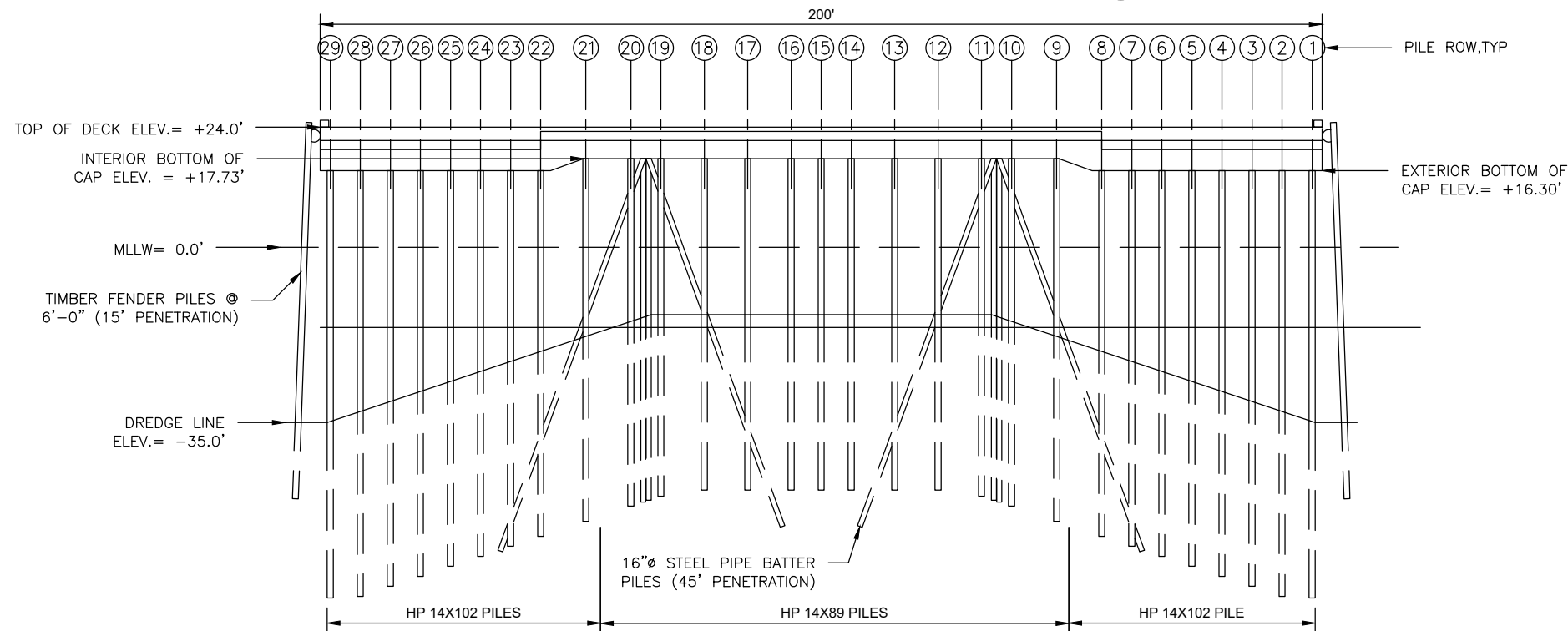
PRIORITY 2 PILE CLAMP LOCATIONS

- BENT 39, PILE 1
- BENT 39, PILE 3
- BENT 39, PILE 27
- BENT 39, PILE 29
- BENT 45, PILE 1
- BENT 45, PILE 3
- BENT 45, PILE 27
- BENT 45, PILE 29
- BENT 46, PILE 3
- BENT 46, PILE 27

PRIORITY 3 PILE CLAMP LOCATIONS

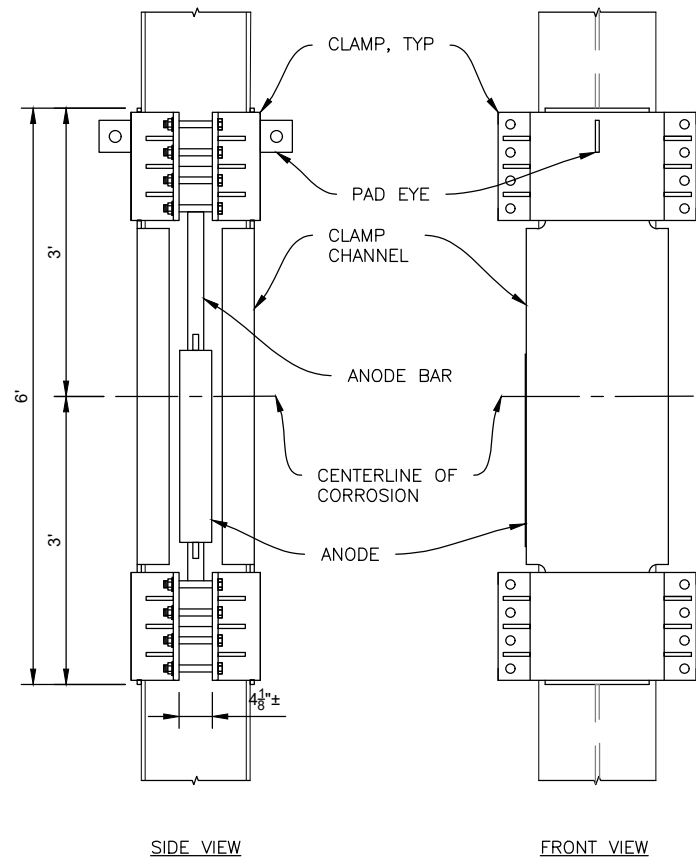
- BENT 28, PILE 27
- BENT 28, PILE 29
- BENT 29, PILE 27
- BENT 29, PILE 29
- BENT 30, PILE 27
- BENT 31, PILE 27
- BENT 36, PILE 1
- BENT 36, PILE 3
- BENT 36, PILE 27
- BENT 36, PILE 29

NOTE: PRIORITY 2 AND 3 CLAMP REPAIR LOCATIONS ARE INTENDED FOR ADDITIVE ALTERNATE REPAIRS.

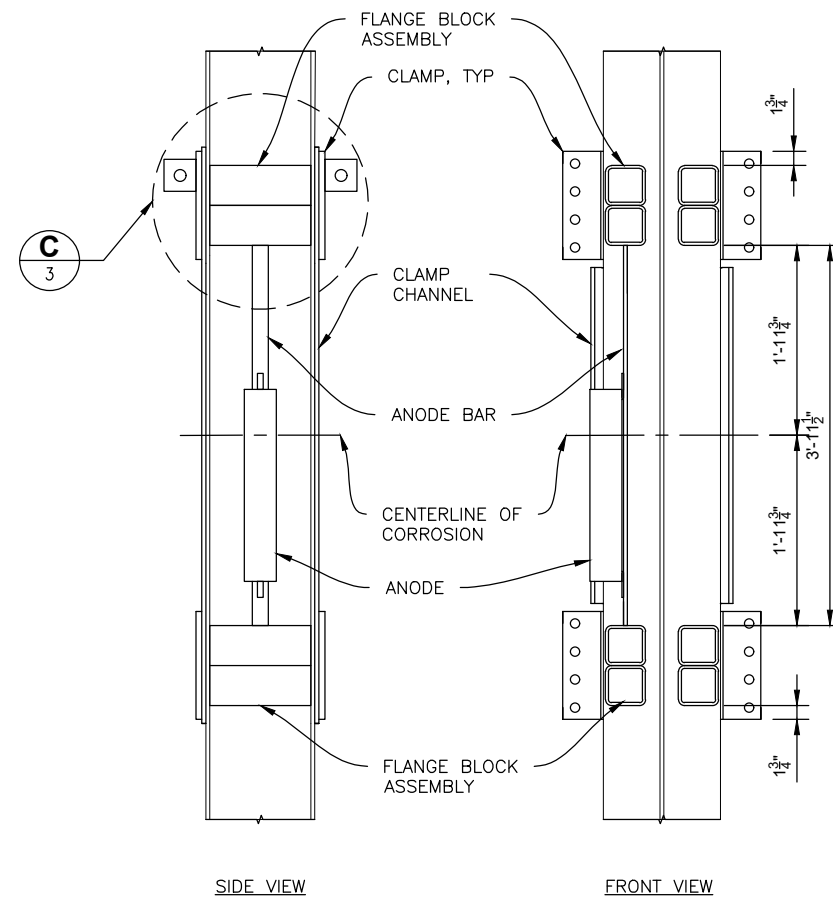


B SECTION VIEW BENTS 22-63
2 SCALE: N.T.S.

<p>ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500</p>		
<p>PROJECT: SEWARD PASSENGER DOCK PILE REPAIR</p>		
<p>TITLE: DOCK LAYOUT AND PILE LOCATIONS</p>		
DESIGNED BY: DJS	SCALE: AS NOTED	AFE NO.:
DRAWN BY: DJS	DATE: 10/18/19	ACAD FILE:
CHECKED BY: BAO		DWG NO. 2 OF 4
APPROVED BY:		

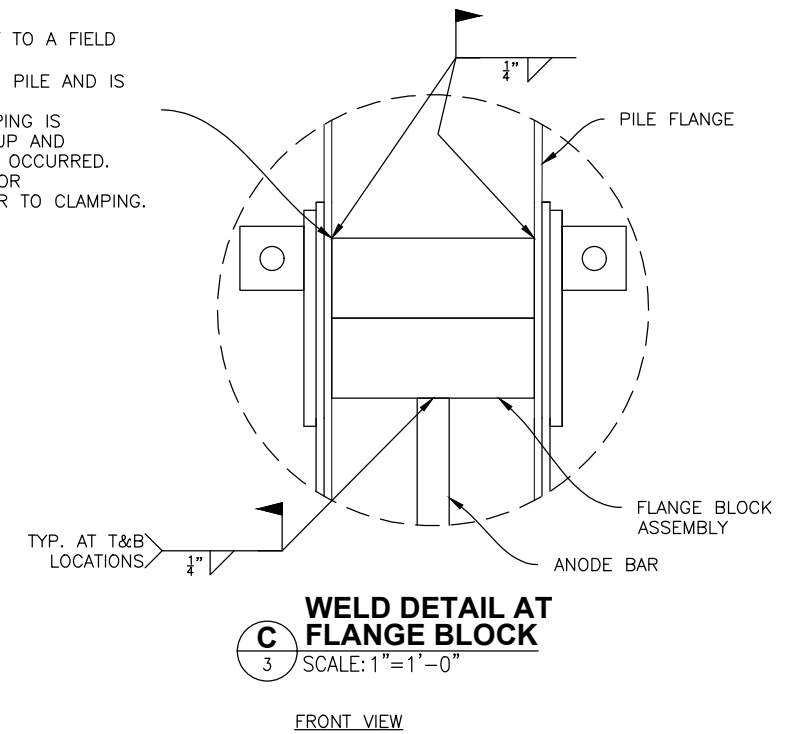


A PILE CLAMP
3 SCALE: 1/2" = 1'-0"




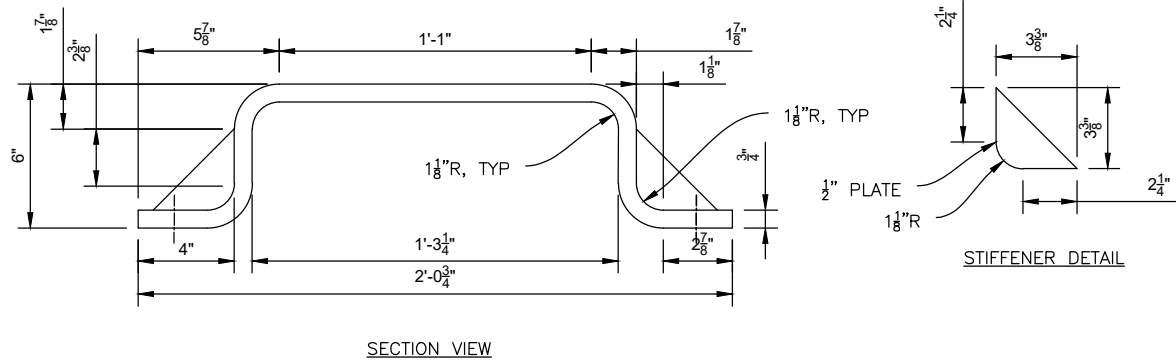
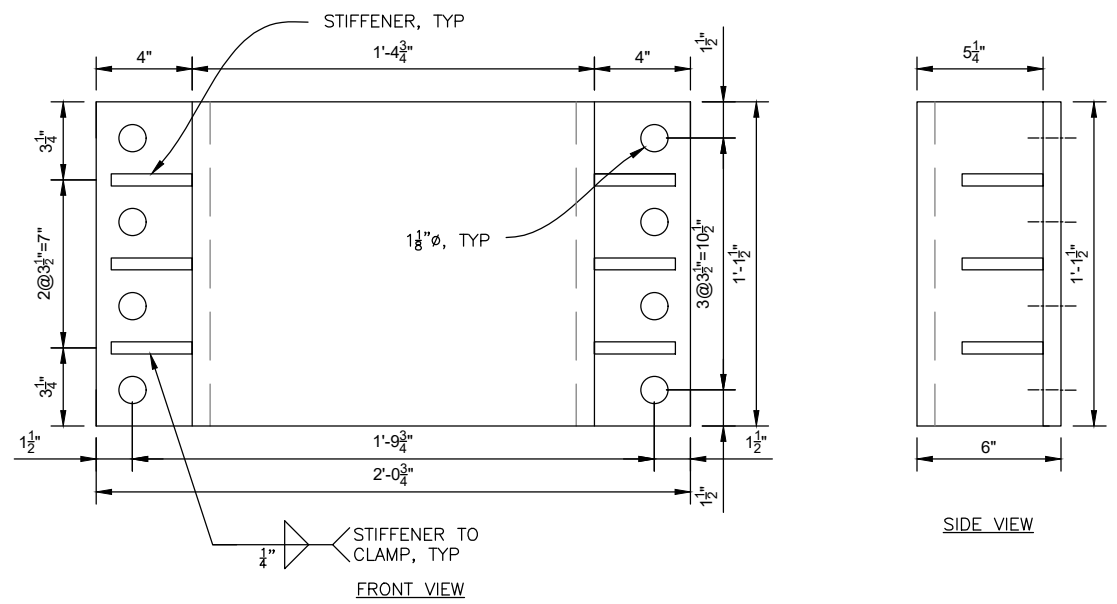
B SECTION VIEW
3 SCALE: 1/2" = 1'-0"

NOTE:
 1. DESIGN INTENT IS TO HAVE THE FLANGE BLOCKS CUT TO A FIELD TIGHT FIT (FRICTION FIT) PRIOR TO CLAMPING.
 2. WELDING IS NECESSARY FOR ANODE CONNECTIVITY TO PILE AND IS NOT INTENDED TO BE STRUCTURAL.
 3. WELDING FLANGE BLOCK TO FLANGE PRIOR TO CLAMPING IS ALLOWED ON ONE FLANGE ONLY TO AID IN CLAMP FIT-UP AND SUBSEQUENTLY COMPLETING WELD AFTER CLAMPING HAS OCCURRED.
 4. WELDING OF BOTTOM FLANGE BLOCK IS PERMITTED FOR CONVENIENCE TO CONTRACTOR FOR AID IN FIT-UP PRIOR TO CLAMPING.



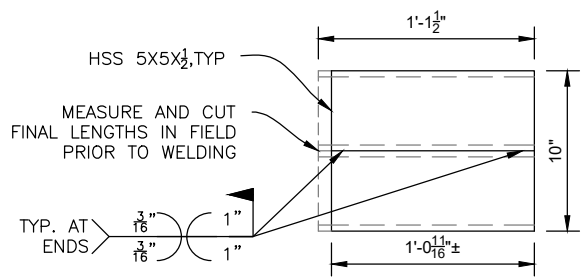
C WELD DETAIL AT FLANGE BLOCK
3 SCALE: 1" = 1'-0"

 ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT: SEWARD PASSENGER DOCK PILE REPAIR		
TITLE: PILE CLAMP LAYOUT		
DESIGNED BY: <u>DJS</u>	SCALE: AS NOTED	AFE NO.:
DRAWN BY: <u>DJS</u>	DATE: 10/18/19	ACAD FILE:
CHECKED BY: <u>BAO</u>		DWG NO. 3 OF 4
APPROVED BY: _____		

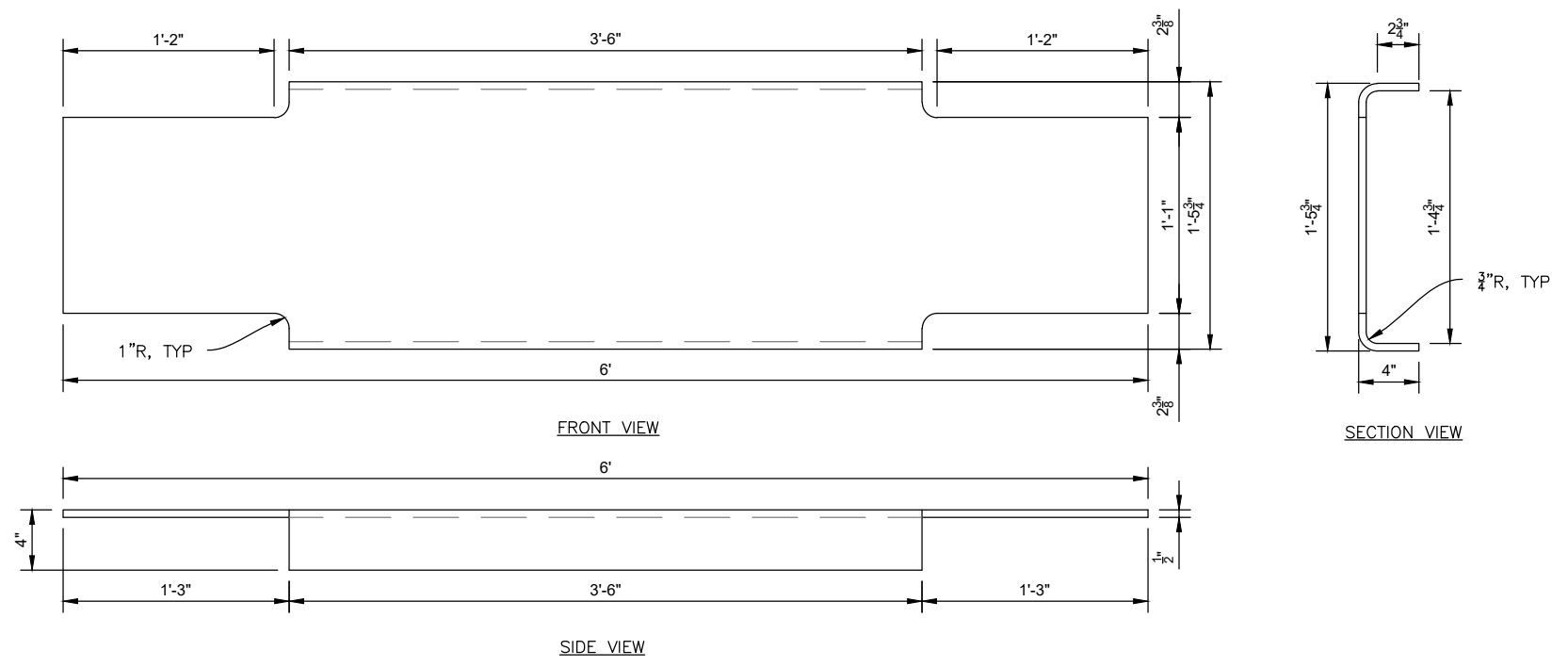
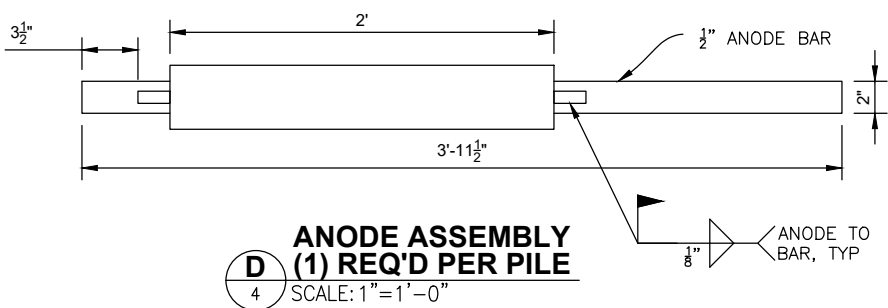


A PILE CLAMP
(4) REQ'D PER PILE
SCALE: 1 1/2" = 1'-0"

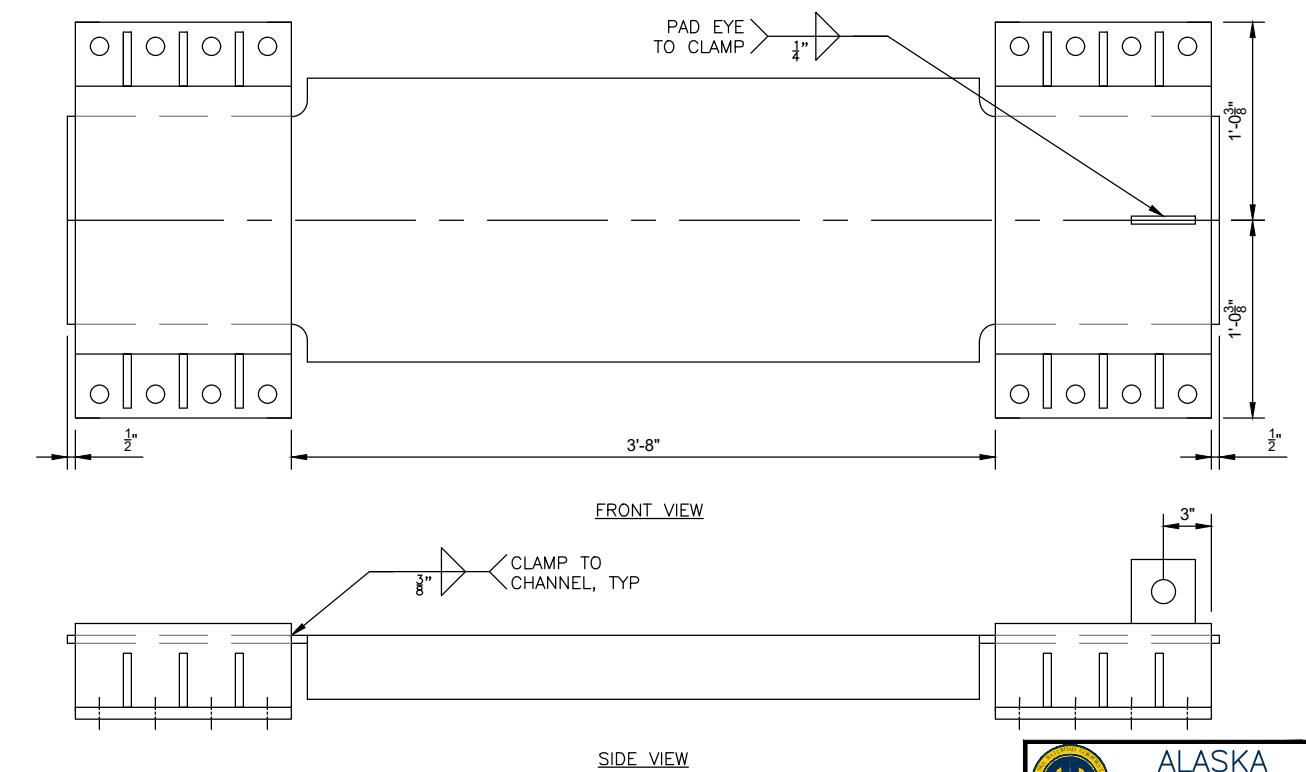
NOTE: (16) 1"ØX7" BOLTS NEEDED PER PILE



C FLANGE BLOCK ASSEMBLY
(4) REQ'D PER PILE
SCALE: 1" = 1'-0"



E CLAMP CHANNEL
(2) REQ'D PER PILE
SCALE: 1" = 1'-0"



F CLAMP ASSEMBLY
(2) REQ'D PER PILE
SCALE: 1" = 1'-0"
EST. WEIGHT = 400 LBS

NOTE: ALL CLAMP MATERIAL, HARDWARE, AND ANODES TO BE SUPPLIED BY OWNER.

ALASKA RAILROAD CORPORATION ENGINEERING SERVICES P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500		
PROJECT: SEWARD PASSENGER DOCK PILE REPAIR		
TITLE: PILE CLAMP PARTS DETAIL		
DESIGNED BY: <u>DJS</u>	SCALE: AS NOTED	AFE NO.:
DRAWN BY: <u>DJS</u>	DATE: 10/18/19	ACAD FILE:
CHECKED BY: <u>BAO</u>		DWG NO. 4 OF 4
APPROVED BY: _____		