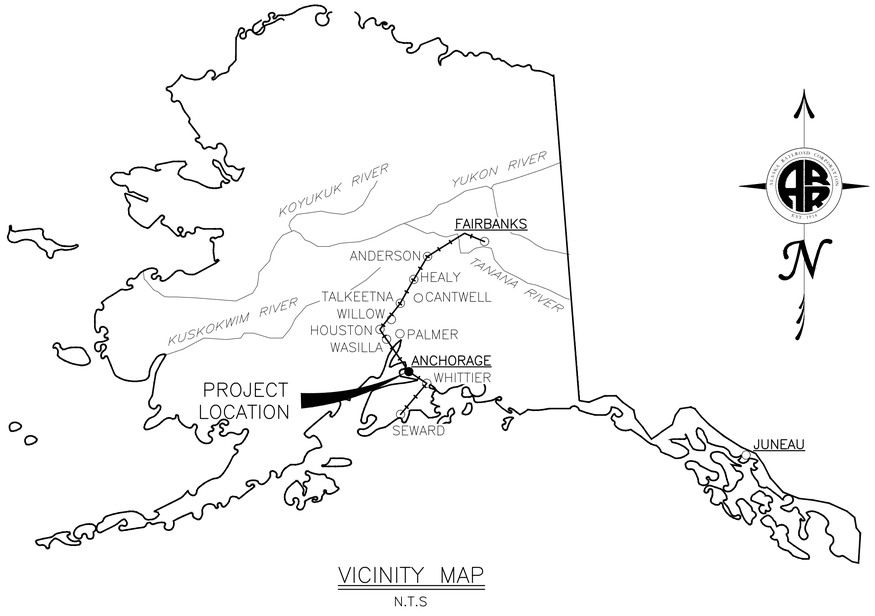
ALASKA RAILROAD CORPORATION

CAPITAL PROJECTS

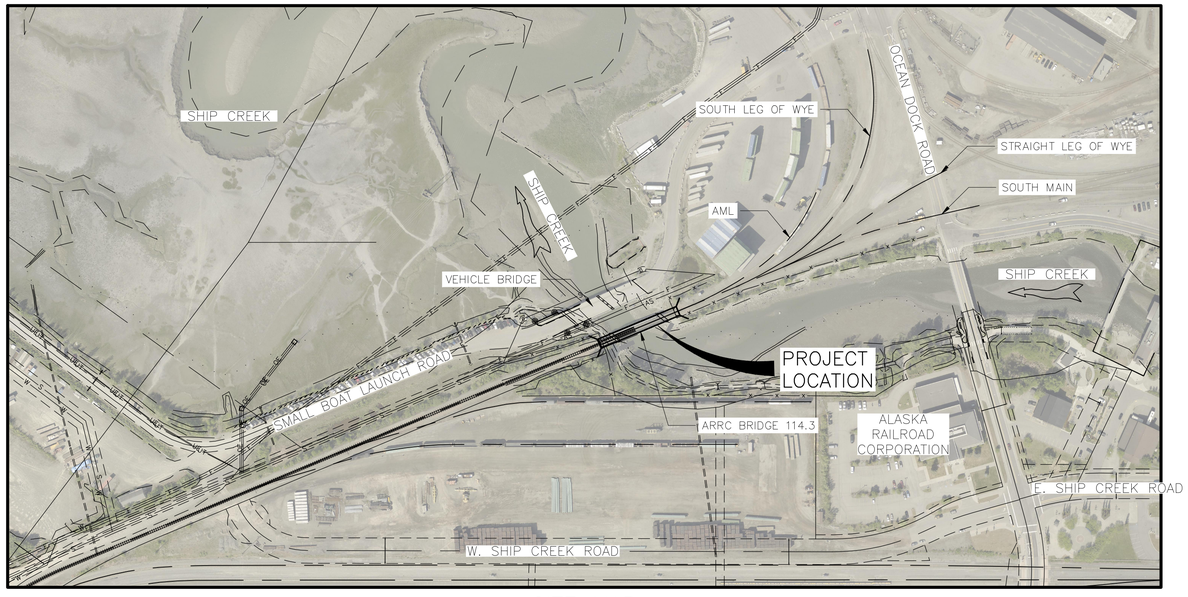
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

BRIDGE 114.3 OVER SHIP CREEK
BRIDGE REPLACEMENT
ISSUE FOR BID

MARCH 5, 2025



VICINITY MAP
N.T.S



SITE MAP
N.T.S.

SHEET INDEX

ARRC STANDARD PLAN REFERENCES

ALASKA RAILROAD CORPORATION, STANDARD PLANS, BALLAST AND TRACK WORK, LATEST VERSION

ARRC – FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN – FEBRUARY 2025

OTHER PLAN REFERENCES

STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, DOWNTOWN TRAIL CONNECTION, SURVEY CONTROL DIAGRAM – R&M CONSULTANTS, INC., JANUARY 27, 2022, SHEETS 1 THRU 2 (PRELIMINARY).

STATE OF ALASKA DOT&PF, ALASKA STANDARD PLAN, CHAIN LINK FENCE, F-01.04, JULY 17, 2020.

AS-BUILT PLAN REFERENCES

ARRC – BRIDGE NO. 114.3 ON FREIGHT MAIN – SHEETS 1 THRU 4 – SEPT 1951

DESIGNED BY:	AGH
CHECKED BY:	KK
DRAFTED BY:	MEM

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DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: COVER SHEET

AFE NO.	11228
YEAR	2025
SHEET	01 OF 32

PUBLISHED	CTB
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ABBREVIATIONS

ABT	ABOUT (APPROXIMATELY)
A.C. MON.	BLM ALUMINUM CAP MONUMENT
AEP	ANNUAL EXCEEDANCE PROBABILITY
AH	AHEAD ON STATION
AK DNR	ALASKA DEPARTMENT OF NATURAL RESOURES
AKDOT & PF	ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
APPROX.	APPROXIMATE
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION
ARRC	ALASKA RAILROAD CORPORATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BD	BALLAST DECK
BK	BACK ON STATION
BMP	BEST MANAGEMENT PRACTICE
BP	ALIGNMENT BEGINNING
BR	BRIDGE
B.S.	BOTH SIDES
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
℄	CENTERLINE
C–C	CENTER–TO–CENTER
CIP	CAST IN PLACE
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMGC	CONSTRUCTION MANAGER GENERAL CONTRACTOR
CMP	CORRUGATED METAL PIPE
C.P.	CONTROL POINT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CS	POINT OF CURVE TO SPIRAL
Dc	DEGREE OF CURVATURE, CENTRAL CURVE
DIA	DIAMETER
DPG	STEEL DECK PLATE GIRDER
DS	DESIGN OF SPEED
E OR EXP	EXPANSION
Ea	SUPERELEVATION ACTUAL
E.F.	EACH FACE
ELEV. OR EL.	ELEVATION
EQ	EQUAL
Eu	SUPERELEVATION UNBALANCED
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX	EXISTING
F OR FIX	FIXED
FG	FINISHED GRADE
FO	FIBER OPTIC
F.S.	FAR SIDE
GALV.	GALVANIZED
GR	GRADE

ABBREVIATIONS (CONT.)

HORIZ.	HORIZONTAL
H.S.	HIGH STRENGTH
HTL	HIGH TIDE LINE
I	TOTAL CENTRAL ANGLE
INV.	INVERT
K	"K" VALUE
LC	LENGTH OF CENTRAL CURVE
LF	LINEAR FEET
LS	LENGTH OF SPIRAL CURVE
LT	CURVE LEFT
LVC	LENGTH OF VERTICAL CURVE
MHHW	MEAN HIGHER HIGH WATER
MIN.	MINIMUM
MK	MARK
MP	MILEPOST
N.S. OD	NEAR SIDE OPEN DECK
OE	OVERHEAD ELECTRICAL LINE
OHWM	ORDINARY HIGH WATER MARK
O–O	OUT–TO–OUT
OTM	OTHER TRACK MATERIAL
PC	POINT OF CURVATURE; ALIGNMENT TANGENT–CURVE INTERSECT
PCC	POINT OF COMPOUND CURVE
PCF	POUNDS PER CUBIC FOOT
PI	ALIGNMENT TANGENT–TANGENT INTERSECT
PT	CURVE–TANGENT INTERSECT
PTFE	POLYTETRAFLUOROETHYLENE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PVI	POINT OF VERTICAL INTERSECTION
r	RATE OF CHANGE OF VERTICAL CURVE
R	RADIUS
R/W OR ROW	RIGHT OF WAY
RT	CURVE RIGHT
SBM	STEEL BEAM
SC	POINT OF SPIRAL TO CURVE
SPA	SPACES OR SPACING
SSPC	STEEL STRUCTURES PAINTING COUNCIL
ST	POINT OF SPIRAL TO TANGENT
STA.	STATION
ΔT	TOTAL ANGLE OF DIVERGENCE
T	TANGENT LENGTH
TF	TRACK FOOT
T/XXX	TOP OF XXX (T/TIE, T/CAP, ETC.)
TOR	TOP OF RAIL
TS	POINT OF TANGENT TO SPIRAL
TYP.	TYPICAL
V	VELOCITY
VC	VERTICAL CURVE
VERT.	VERTICAL

LEGEND

GENERAL

	EXISTING	PROPOSED
SIGN		
SWITCH		
TEST HOLE		
CONTROL POINT	40	
RIGHT OF WAY		
GROUNDLINE		
TRACK ℄		
TOP OF RAIL		
SHIFT TRACK		
ROADWAY ℄		
CHAIN LINK FENCE	x x	x x
FILL LIMITS		
CUT EXCAVATION LIMITS		
STRUCTURE		
EXISTING STRUCTURE TO BE REMOVED		
CULVERT		
FLOWLINE		
SILT FENCE		
CONCRETE		
RIPRAP		
SUBBALLAST		

UTILITIES

	EXISTING	PROPOSED
POWER POLE		
ELECTRICAL PEDISTAL	U.E.	U.E.
GUY ANCHOR		
FIBER OPTIC VAULT	FO	FO
ELECTRICAL VAULT	E	E
LIGHT POLE		
OVERHEAD POWER	OE	OE
FIBEROPTIC LINE	FO FO FO	FO FO FO
COMMUNICATIONS LINE	C C	C C
UNDERGROUND POWER	UE	UE
UNDERGROUND FUEL LINE	F F	F F
ABANDONED SEWER	AS	

TOPOGRAPHY

	EXISTING	PROPOSED
MAJOR CONTOUR	100'	100'
MINOR CONTOUR		
FLOW DIRECTION		
GRADING DIRECTION		2:1 TOP OF CUT OR FILL
ORDINARY HIGH WATER (OHW)	OHW	OHW
HIGH TIDE LINE (HTL)	HTL	HTL
1% ANNUAL EXCEEDANCE PROBABILITY (AEP)	AEP	AEP
MEAN HIGHER HIGH WATER (MHHW)	MHHW	MHHW

LETTER SERIES / SHEET NUMBER
SECTION DESIGNATION

LETTER SERIES / SHEET NUMBER
DETAIL DESIGNATION

509–8
BAR SIZE
LENGTH FEET
LENGTH INCHES
STRAIGHT BARS

5B1
BAR SIZE
BEND TYPE
SEQUENTIAL NUMBERING
BENT BARS

REBAR NAMING CONVENTION

DESIGNED BY:	ML
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CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK
BRIDGE REPLACEMENT

SHEET TITLE: LEGEND AND ABBREVIATIONS

AFE NO.	11228
YEAR	2025
SHEET	02 OF 32

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ESTIMATE OF QUANTITIES

PAY ITEM	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
201.0003.1	CLEARING	ACRE	0.5
202.0001.1	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
205.0001.1	EXCAVATION FOR STRUCTURES	CY	660
301.0005.1	RAILROAD SUB-BALLAST, GRADING C-1	TON	25
304.0002.1	SUBBASE, GRADING A	TON	118
309.0001.1	RAILROAD BALLAST, TYPE 3	TON	815
309.0001.2	RAILRAOD BALLAST, TYPE 5	TON	157
501.0001.1	CLASS A CONCRETE	LS	1
501.0008.1	PRECAST CONCRETE, MEMBER (ALL)	LS	1
501.0009.1	CLASS DS CONCRETE, 42 INCH DIA. PIPE FILL (4,000 PSI)	LF	400
501.0009.2	CLASS DS CONCRETE, 48 INCH DIA. PIPE FILL (4,000 PSI)	LF	440
503.0001.1	REINFORCING STEEL	LS	1
504.0001.1	STRUCTURAL STEEL	LS	1
505.0005.1	FURNISH STRUCTURAL STEEL PIPE PILE, 42 INCH DIA.	LF	636
505.0005.2	FURNISH STRUCTURAL STEEL PIPE PILE, 48 INCH DIA.	LF	914
505.0005.3	FURNISH STRUCTURAL STEEL PILE, HP14x89	LF	120
505.0006.1	DRIVE STRUCTURAL STEEL PILES, 42 INCH DIA.	EA	4
505.0006.2	DRIVE STRUCTURAL STEEL PILES, 48 INCH DIA.	EA	6
505.0006.3	DRIVE STRUCTURAL STEEL PILE, HP14x89	EA	4
508.0001.1	WATERPROOFING MEMBRANE	LS	1
607.0003.1	CHAIN LINK FENCE, 8-FOOT TALL	LF	505
611.0001.1	RIPRAP, CLASS II	CY	203
618.0004.1	SEEDING	SY	2,247
620.0001.1	TOPSOIL	SY	2,247
630.0002.1	GEOTEXTILE, STABILIZATION, CLASS 1	SY	122
640.0001.1	MOBILIZATION AND DEMOBILIZATION	LS	1
641.0001.1	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMIN	LS	1
641.0003.1	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL	CS	ALL REQ'D
642.0002.1	CONSTRUCTION SURVEYING AND MONUMENTS	LS	1
643.0002.1	TRAFFIC MAINTENANCE	LS	1
691.0001.1	TEMPORARY SITE ACCESS AND STRUCTURES	LS	1
802.0001.1	TRACK WORK, 115# RE RAIL	TF	240
802.0005.1	TRACK TAMPING, SURFACING, AND FINAL DRESSING	TF	4,200

TABLE OF ESTIMATING FACTORS

PAY ITEM	ITEM DESCRIPTION	ESTIMATING FACTOR
301.0005.1	RAILROAD SUB-BALLAST, GRADING C-1	144 LB/FT^3
304.0002.1	SUBBASE, GRADING A	144 LB/FT^3
309.0001.1	RAILROAD BALLAST, TYPE 3	125 LB/FT^3
309.0001.2	RAILROAD BALLAST, TYPE 5	135 LB/FT^3

SUMMARY OF ESTIMATED QUANTITIES FURNISHED BY ARRC

DESCRIPTION	UNIT	QUANTITY
79' STEEL DPG SPAN	EA	2
30' STEEL BEAM SPAN	EA	1
FASTENERS FOR FIELD ASSEMBLY OF SPANS	LOT	3
ELASTOMERIC BEARINGS FOR 79' DPG SPAN	LOT	2
ELASTOMERIC BEARINGS FOR 30' SBM SPAN	LOT	1
HANDRAIL PANEL MK HP6L	EA	2
HANDRAIL PANEL MK HP6R	EA	2
HANDRAIL PLATE MK HPP	EA	8
TIMBER APPROACH CROSS TIES 7"x 9"x10'-0"	EA	20
TIMBER TRACK CROSS TIES 7"x 9"x 8'-6"	EA	280
NEW 115# RE RAIL, JOINTED	LF	480
OTM		
TIE PLATES, 7¾"X14" 8-HOLE, FOR 115# RAIL	EA	600
JOINT BARS FOR 115# RAIL	EA	13
TIE SPIKES	EA	2,400

TABLE OF ESTIMATED LIFTING WEIGHTS

ITEM DESCRIPTION	WEIGHT (LBS)
PRECAST CONCRETE BACKWALL MK PCBW1	20,250
PRECAST CONCRETE BACKWALL MK PCBW2	29,650
PRECAST CONCRETE WINGWALL PANEL MK PCWW1	8,450
PRECAST CONCRETE WINGWALL PANEL MK PCWW2	6,250
79' DPG SPAN (FULLY ASSEMBLED*)	278,500
30' SBM SPAN (FULLY ASSEMBLED*)	61,200

* SEE STEEL PROCUREMENT PLANS FOR BREAKDOWN OF COMPONENT PARTS FOR DPG AND SBM SPAN SUB-ASSEMBLIES AND FIELD INSTALLED COMPONENTS.

ESTIMATED QUANTITY NOTES:

1. QUANTITIES ARE ESTIMATED, CONTRACTOR TO FIELD VERIFY ALL CONTRACTOR FURNISHED QUANTITIES BASED ON SITE CONDITIONS INCLUDING VERIFICATION MEASUREMENTS, PROPOSED CONSTRUCTION METHODS, AND DETAILS NOTED ON PLANS PRIOR TO ORDERING MATERIAL OR STARTING CONSTRUCTION.
2. FOR DESCRIPTION OF PAY ITEMS, REFER TO PROJECT SPECIFICATIONS.

ITEMS FURNISHED BY ARRC:

1. TRACK MATERIALS INCLUDING TRACK CROSS TIES, NEW RAIL, TIE PLATES, AND OTM SHALL BE FURNISHED BY ARRC. CONTRACTOR IS RESPONSIBLE FOR COORDINATING TRANSPORT OF MATERIAL FROM ARRC YARD, PROVIDING STORAGE OF MATERIAL, AND PLACEMENT OF MATERIAL.
2. REMOVED TRACK MATERIAL SHALL BE RETURNED TO ARRC IN A REUSABLE CONDITION. SALVAGED MATERIAL SHALL BE TRANSPORTED TO AND STOCKPILED BY THE CONTRACTOR AT ARRC'S BIRCHWOOD YARD.
3. STEEL SUPERSTRUCTURE, ELASTOMERIC BEARINGS, ANCHOR RODS, HANDRAIL, AND WALKWAY MATERIAL SHALL BE FURNISHED BY ARRC. CONTRACTOR IS RESPONSIBLE FOR COORDINATING TRANSPORT OF MATERIAL FROM ARRC YARD, PROVIDING STORAGE OF MATERIAL, ASSEMBLING SPANS, AND INSTALLING ALL MATERIAL IN THE STRUCTURE.

DESIGNED BY:	KK
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LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK
BRIDGE REPLACEMENT

SHEET TITLE: ESTIMATED QUANTITIES AND SUMMARY TABLES

AFE NO. 11228

YEAR 2025

SHEET 03 OF 32

ITEM 201.0003.1 – CLEARING		
DESCRIPTION	UNIT	QUANTITY
NORTH LAYDOWN AND STAGING AREAS	ACRE	0.1
SOUTH LAYDOWN AND STAGING AREAS	ACRE	0.4
TOTAL CLEAR	ACRE	0.5

ITEM 202.0001.1 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS		
DESCRIPTION	UNIT	QUANTITY
REMOVAL OF EXISTING OD STEEL SUPERSTRUCTURE	LF	194
REMOVAL OF TRACK	TF	240
REMOVAL OF EXISTING CONCRETE ABUTMENT	EA	2
REMOVAL OF EXISTING CONCRETE PIER	EA	2

ITEM 205.0001.1 – STRUCTURAL EXCAVATION			
DESCRIPTION	UNIT	EXCAVATION QUANTITY	BACKFILL QUANTITY
TEMPORARY SHORING	LS	ALL REQ'D	
ABUTMENT 1 AND BENT 2	CY	850	160
ABUTMENT 4	CY	180	210
TOTAL STRUCTURAL EXCAVATION AND BACKFILL	CY	1,030	370
NET STRUCTURAL EXCAVATION	CY	660	

ITEM 501.0001.1 – CLASS A CONCRETE		
DESCRIPTION	UNIT	QUANTITY
CONCRETE ABUTMENT 1 CAP	CY	36
BENT 2 CAP	CY	38
BENT 3 CAP	CY	45
ABUTMENT 4 CAP	CY	36
TOTAL CLASS A CONCRETE	CY	155

ITEM 501.0008.1 – PRECAST CONCRETE, MEMBER (ALL)		
DESCRIPTION	UNIT	QUANTITY
ABUTMENT 1 BACKWALL MK PCBW1	EA	1
ABUTMENT 4 BACKWALL MK PCBW2	EA	1
WINGWALL PANEL MK PCWW1	EA	4
WINGWALL PANEL MK PCWW2	EA	2
1¼" DIA. x 5'–10$^{9}/_{16}$" THREADED ROD, ASTM F1554 GR. 105 w/HEAVY HEX NUT	EA	8
1¼" DIA. x 7'–7$^{5}/_{16}$" THREADED ROD, ASTM F1554 GR. 105 w/HEAVY HEX NUT	EA	16
1¼" DIA. x 7'–4$^{7}/_{8}$" THREADED ROD, ASTM F1554 GR. 105 w/HEAVY HEX NUT	EA	8
1¼" DIA. x 9'–1$^{5}/_{16}$" THREADED ROD, ASTM F1554 GR. 105 w/HEAVY HEX NUT	EA	16
½"x5"x5" PLATE WASHER w/1$^{3}/_{8}$" DIA. HOLE, ASTM A709 GR 50	EA	48

ITEM 503.0001.1 – REINFORCING STEEL			
DESCRIPTION	UNIT	QUANTITY (GRADE 60)	QUANTITY (GRADE 80)
CONCRETE–FILLED PIPE PILES	LBS	169,345	–
CAST–IN–PLACE CONCRETE ABUTMENT 1 CAP	LBS	5,100	3,710
CAST–IN–PLACE CONCRETE BENT 2 CAP	LBS	5,430	4,000
CAST–IN–PLACE CONCRETE BENT 3 CAP	LBS	5,835	3,950
CAST–IN–PLACE CONCRETE ABUTMENT 4 CAP	LBS	5,100	3,710
TOTAL REINFORCING STEEL	LBS	190,810	15,370

ITEM 504.0001.1 – STRUCTURAL STEEL		
DESCRIPTION	UNIT	QUANTITY
ERECT STRUCTURAL STEEL SUPERSTRUCTURE	LS	1
ERECT WINGWALL HANDRAIL PANELS	LS	1
WINGWALL BRACKETS	LB	2,370
L4x4x$^{1}/_{2}$ WINGWALL SUPPORT ANGLE	LB	70
PLATE WASHER MK PW, GALV.	LB	30
MACHINE BOLT, 7/8" DIA. X 1'–1 3/4" w/ NUT AND WASHER, ASTM A307, GR B, GALV.	EA	16
MACHINE BOLT, 1 1/4" DIA. X 1'–9" w/ NUT AND WASHER, ASTM A307, GR B, GALV.	EA	8
EXPANSION ANCHOR BOLT, 1" DIA. X 9" MIN. w/ WASHER, ASTM A307, GR B., GALV.	EA	10
TOTAL STRUCTURAL STEEL	LB	2,506

ITEM 618.0005.1 – SEEDING AND ITEM 620.0001.1 – TOPSOIL		
DESCRIPTION	UNIT	QUANTITY
NORTH LAYDOWN AND STAGING AREAS	SY	522
SOUTH LAYDOWN AND STAGING AREAS	SY	1,725
TOTAL SEEDING AND TOPSOIL	SY	2,247

ITEM 630.0002.1 – GEOTEXTILE, STABILIZATION, CLASS 1		
DESCRIPTION	UNIT	QUANTITY
ABUTMENT 1, POROUS BACKFILL SEPARATION MAT	SY	17
ABUTMENT 4, POROUS BACKFILL SEPARATION MAT	SY	22
ABUTMENT 4, RIPRAP SEPARATION MAT	SY	83
TOTAL GEOTEXTILE	SY	122

ITEM 802.0005.1 – TRACK TAMPING, SURFACING, AND FINAL DRESSING		
DESCRIPTION	UNIT	QUANTITY
TRACK RAISE AND INITIAL SURFACING	TF	1,900
INTERIM SURFACING (AFTER BRIDGE SPAN CHANGEOUT)	TF	400
FINAL SURFACING (AFTER PASSAGE OF 5 TRAINS)	TF	1,900
TOTAL	TF	4,200

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ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: ESTIMATED SUMMARY TABLES (CONTINUED)

AFE NO. 11228
YEAR 2025
SHEET 04 OF 32

PUBLISHED CTB
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GENERAL NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL ARRC, LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS AND THE PROJECT SPECIFICATIONS FOR THIS CONTRACT.
2. NEW CONSTRUCTION SHWON AS HEAVY LINES. EXISTING STRUCTURE TO REMAIN SHOWN AS LIGHT SOLID LINES. EXISTING STRUCTURE TO BE REMOVED SHOWN AS LIGHT DASHED LINES.
3. WORK REQUIREMENTS SHOWN ON THESE DRAWINGS AND NOT OTHERWISE DETAILED SHALL BE ACCOMPLISHED AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND THE 2024 EDITION OF THE AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION (AREMA) MANUAL FOR RAILWAY ENGINEERING.
4. GEOTECHNICAL INFORMATION IS BASED ON GEOTECHNICAL DATA REPORT BY R&M CONSULTANTS, DATED 27, DECEMBER 2024.
5. HYDRAULIC INFORMATION IS BASED ON HYDRAULIC AND HYDROLOGY REPORT BY HDR ENGINEERING, INC. DATED 28, FEBRUARY 2025.
6. LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO STARTING CONSTRUCTION.
7. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ARRC MINIMUM SAFETY REQUIREMENTS AND COORDINATE WITH ARRC FOR FLAGGING SERVICES.
8. CONTRACTOR TO PROVIDE, IMPLEMENT, AND MAINTAIN A TEMPORARY EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, ENVIRONMENTAL PERMITS AND STATE OF ALASKA BMPS.
9. POSITIVE DRAINAGE MUST BE MAINTAINED AT ALL TIMES TO PREVENT PONDING OF WATER ON SITE.
10. CONTRACTOR SHALL MAINTAIN A 2-WEEK LOOK AHEAD SCHEDULE AND COORDINATE WITH ARRC OR THEIR REPRESENTATIVE FOR RAILROAD FLAGGING NEEDS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
11. RAIL TRAFFIC DISRUPTIONS SHALL BE KEPT TO A MINIMUM. DISRUPTIONS IN RAIL TRAFFIC THAT MAY BE REQUIRED SHALL BE COORDINATED WITH ARRC BEFOREHAND. NO SUCH WORK SHALL BE PERMITTED TO START WITHOUT APPROVAL OF ARRC.
12. FOR WORK REQUIRING EXTENDED TRACK OUTAGES, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR REVIEW AN HOUR-BY-HOUR WORK PLAN WHICH DETAILS THE WORK TO BE COMPLETED, INCLUDING RESTORATION AND INSPECTION OF TRACK PRIOR TO PLACING THE RAIL BACK IN SERVICE.
13. THE CONTRACTOR SHALL NOT PLACE MATERIAL AND/OR EQUIPMENT WITHIN 25 FEET OF AN ACTIVE TRACK AT ANY TIME WITHOUT PRIOR APPROVAL OF ARRC.
14. EXISTING RAILROAD SIGNAGE SHALL BE MAINTAINED DURING THE CONSTRUCTION PERIOD. ALL RAILROAD SIGNAGE SHALL BE FULLY RESTORED UPON COMPLETION OF EACH DAYS WORK IN ACCORDANCE WITH ARRC STANDARDS.
15. SIGNS SHOWN TO BE RELOCATED SHALL BE PROTECTED FROM DAMAGE AND RELOCATED IN ACCORDANCE WITH ARRC STANDARDS.

SURVEY NOTES:

1. SURVEY INFORMATION SHOWN IN THESE PLANS IS COMPRISED OF THE FOLLOWING SURVEY DATA:
   A. DETAILED STRUCTURE AND RAIL SURVEY PERFORMED BY KUNA ENGINEERING FROM JANUARY 9, 2023 THROUGH JANUARY 11, 2023.
   B. TOPOGRAPHIC AND SITE SURVEY PERFORMED BY KUNA ENGINEERING FROM OCTOBER 17, 2023 THROUGH OCTOBER 18, 2023.
   C. SUPPLEMENTARY TOPOGRAPHIC AND SITE SURVEY, INCLUDING UTILITY INFORMATION, PERFORMED BY R&M CONSULTANTS, INC. FROM NOVEMBER 23, 2021 THROUGH DECEMBER 22, 2021 AS PART OF THE AMATS DOWNTOWN TRAIL CONNECTION PROJECT. TOPOGRAPHIC INFORMATION SUPPLEMENTED BY 2015 MUNICIPALITY OF ANCHORAGE LIDAR DATA.
2. AERIAL IMAGERY FROM ESRI PUBLICLY AVAILABLE GIS DATA.
3. HORIZONTAL DATUM: NAD83 (2011), ALASKA STATE PLANE COORDINATE SYSTEM, ZONE 4, US SURVEY FEET.
   A. SUPPLEMENTAL SURVEY DATA FROM R&M CONSULTANTS, INC. HORIZONTAL DATUM: DOT&PF BOWL2000. REFER TO AMATS DOWNTOWN TRAIL CONNECTION PROJECT DOCUMENTS FOR ADDITIONAL DETAILS. DATA CONVERTED TO NAD83 USING STATED CONVERSION FACTORS ON R&M SURVEY CONTROL DIAGRAM.
   B. KUNA SURVEY HORIZONTAL DATA (NAD83) BASED ON OPUS SOLUTION TRANSLATED TO MATCH R&M SURVEY (NAD83 CONVERTED) BASED ON TIES TO PUBLISHED HORIZONTAL CONTROL. OBSERVED SHIFT OF KUNA DATA BASED ON COINCIDENT HORIZONTAL CONTROL POINT #310 (R&M) AND POINT #1 (KUNA):

      SUBTRACT 1.093' FROM NORTHINGS
      ADD 6.178' TO EASTINGS.
4. VERTICAL DATUM: MUNICIPALITY OF ANCHORAGE (MOA) 1972 NGS ADJUSTMENT.
5. SURVEY ELEVATIONS BASED ON PUBLISHED NATIONAL GEODECTIC SURVEY (NGS) VERTICAL BENCHMARK 945 5920 TIDAL 1 WITH A PUBLISHED ELEVATION OF 25.37 FEET IN MOA72 VERTICAL DATUM BENCHMARK NETWORK. CORRESPONDING TIDAL ELEVATIONS ARE BASED ON NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) TIDE STATION 945 5920 FOR ANCHORAGE, AK ADJUSTED TO MOA72 DATUM PER "MUNICIPALITY OF ANCHORAGE, AK FEMA FLOOD INSURANCE STUDY". SEE H&H REPORT FOR ADDITIONAL TIDAL DATUM INFORMATION.
6. BRIDGE AND MAIN TRACK STATIONING BASED ON INSIDE FACE OF EXISTING RAILROAD SOUTH BACKWALL AS STATION 100+00. STATIONING FOR ADDITIONAL TRACKS BASED ON TURNOUT POINT FROM MAIN TRACK AS THE FOLLOWING STATIONS:
   A. AML LEAD: 200+00
   B. SOUTH LEG OF WYE: 300+00
   C. STRAIGHT LEG OF WYE: 400+00

SITE CLEARING AND RESTORATION NOTES:

1. CONTRACTOR TO COMPLETE ALL CLEARING OUTSIDE OF THE MIGRATORY BIRD CLEARING WINDOWS IN ACCORDANCE WITH THE ENVIRONMENTAL PERMITS AND PROJECT SPECIFICATIONS.
2. CONTRACTOR TO RETURN SITE TO PRE-CONSTRUCTION OR BETTER CONDITIONS AS NOTED IN THE PLANS.
3. VEGETATED AREAS CLEARED DURING CONSTRUCTION SHALL HAVE TOPSOIL PLACED AND BE RESEEDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
4. TOPSOIL SHALL BE EITHER NATIVE MATERIAL STOCKPILED DURING STRIPPING ACTIVITIES OR IMPORTED MATERIAL. PLACE TOPSOIL TO A MINIMUM THICKNESS OF 4 INCHES AFTER COMPACTION VIA TRACK WALKING.

RIPRAP NOTES:

1. CONTRACTOR TO PROVIDE AND INSTALL RIPRAP AND SUBBASE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS TO THE LINES AND GRADES NOTED IN THE PLANS.
2. GEOTEXTILE STABILIZATION FABRIC SHALL BE PLACED UNDER ALL PERMANENT RIPRAP.
3. CARE SHALL BE TAKEN WHEN PLACING RIPRAP AROUND NEW CONCRETE SUBSTRUCTURES AND STEEL PILES TO AVOID DAMAGING STRUCTURES.

TRACK WORK NOTES:

1. CONTRACTOR TO COMPLETE ALL TRACK WORK IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ARRC STANDARD BALLAST AND TRACK PLANS TO THE LINES AND GRADES NOTED IN THE PLANS.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL AGGREGATE MATERIAL INCLUDING BALLAST AND SUBBALLAST. TRACK MATERIAL FROM THE TIES UP INCLUDING TIES, RAIL, AND OTM WILL BE SUPPLIED BY ARRC.
3. ALL TRACK SHALL BE INSPECTED BY A QUALIFIED TRACK INSPECTOR AND RAILROAD BRIDGE SUPERVISOR IDENTIFIED AND APPROVED BY ARRC PRIOR TO ANY TRAIN TRAFFIC PASSING THROUGH THE PROJECT SITE AFTER ANY OCCASION IN WHICH THE TRACK HAS BEEN DISTURBED.

CHAIN LINK FENCE NOTES:

1. CHAIN LINK FENCES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND PROJECT SPECIFICATIONS.
2. FOR DETAILS OF CHAIN LINK FENCE MATERIALS AND INSTALLATION REQUIREMENTS, REFER TO AK DOT&PF STANDARD PLAN F-01.04.
3. NEW CHAIN LINK FENCES SHALL BE 8-FEET TALL REGARDLESS OF EXISTING FENCE SIZE.
4. SET ALL NEW FENCE POSTS IN CONCRETE. WHERE FENCES ARE PRESENT IN AREAS OF NEW RIPRAP, CONCRETE FOOTINGS SHALL BE SET BELOW THE RIPRAP LAYER AND EXTENDED FENCE POSTS USED UP TO THE REQUIRED HEIGHT ABOVE GROUND.

BR 114.3 PROPOSED WORK SEQUENCE:

THE FOLLOWING WORK SEQUENCE IS SUGGESTED FOR ILLUSTRATION OF MAJOR COMPONENTS OF WORK ONLY. CONTRACTOR WILL DETERMINE FINAL MEANS AND METHODS FOR CONSTRUCTION. A DETAILED WORK PLAN SHAL BE DEVELOPED BY THE CONTRACTOR AND SUBMITTED TO ARRC FOR APPROVAL PRIOR TO BEGINNING WORK. TRACK OUTAGES ARE LIMITED TO A MAXIMUM OF 36 HOURS AND REQUESTED OUTAGE DURATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO ARRC FOR APPPROVAL.

1. MOBILIZE TO SITE, CONSTRUCT TEMPORARY ACCESS AND ESTABLISH STAGING AREAS FOR EQUIPMENT, MATERIALS, AND GENERAL FACILITIES AND ESTABLISH ENVIRONMENTAL CONTROLS.
2. WORK COMPLETED PRIOR TO IN-WATER WORK WINDOW (PROJECT START THROUGH NOVEMBER 30).
   A. COMPLETE TRACK RAISE AND RAISE/JACK EXISTING BRIDGE TO MATCH TRACK PROFILE. EXTENDED TRACK OUTAGE AVAILABILITY WILL BEGIN AFTER ARRC PASSENGER SEASON, TYPICALLY AROUND SEPTEMBER 15.
   B. CONSTRUCT TEMPORARY SHORING AND INSTALL A TEMPORARY JUMP SPAN TO CONSTRUCT PROPOSED ABUTMENT 1.
   C. DRIVE PILES FOR ABUTMENTS AND BENT 2. ALL PILES DRIVEN PRIOR TO IN-WATER WORK WINDOW START SHALL BE DRIVEN "IN-THE-DRY."
   D. CONSTRUCT CAST-IN-PLACE CONCRETE ABUTMENT AND BENT CAPS.
   E. DRIVE WINGWALL EXTENSION PILES.
3. WORK COMPLETED DURING IN-WATER WORK WINDOW (DECEMBER 1 THROUGH MARCH 31).
   A. CONTINUE WORK NOT COMPLETED PRIOR TO IN-WATER WORK WINDOW SUCH AS CAP CONSTRUCTION AND ABUTMENT AND BENT 2 PILE DRIVING.
   B. CONSTRUCT TEMPORARY TRESTLE ACROSS SHIP CREEK.
   C. DRIVE IN-WATER PILES AT BENT 3.
   D. CONSTRUCT CAST-IN-PLACE CONCRETE CAP AT BENT 3.
   E. PRE-ASSEMBLE NEW SPANS AND STAGE FOR SPAN CHANGEOUT.
   F. DURING PRE-PLANNED, EXTENDED TRACK OUTAGE:
      i. COMPLETE CHANGEOUT OF EXISTING SPANS WITH NEW SPANS
      ii. INSTALL PRECAST CONCRETE BACKWALLS AND WINGWALLS
      iii. REMOVE JUMP SPAN AT ABUTMENT 1
      iv. COMPLETE BACKFILLING OF ABUTMENTS 1 AND 2
      v. APPLY BRIDGE WATERPROOFING MEMBRANE
      vi. PLACE BALLAST ON BRIDGE ALONG WITH PRE-ASSEMBLED TRACK PANELS
      vii. SURFACE, LINE, AND DRESS TRACK AND RESTORE TRACK SERVICE
   G. FINISH EXISTING SPAN DEMOLITION AND REMOVE EXISTING CONCRETE PIERS AND EXISTING PEDESTRIAN ACCESS STAIRS.
   H. IF IN-WATER WORK IS COMPLETE BY MARCH 31, REMOVE TEMPORARY TRESTLE WITHIN OHW LIMITS. PORTIONS OF TEMPORARY TRESTLE ABOVE OHW MAY BE REMOVED AFTER THE IN-WATER WORK WINDOW DURING LOW TIDES. PORTION OF THE TRESTLE WHICH ARE NOT REMOVED PRIOR TO MARCH 31 MUST REMAIN UNTIL THE FOLLOWING SEASON.
4. WORK COMPLETED AFTER IN-WATER WORK WINDOW (APRIL 1 THROUGH PROJECT COMPLETION).
   A. COMPLETE REMOVAL OF EXISTING ABUTMENTS.
   B. PLACE RIPRAP REVETMENT AT ABUTMENT 4 DURING LOW TIDES.
   C. COMPLETE FINAL TRACK SURFACING AFTER SUFFICIENT PASSAGE OF FREIGHT THROUGH THE PROJECT LIMITS.
   D. REMOVE REMAINDER OF TEMPORARY ACCESS FACILITIES AND RE-INSTALL CHAIN LINK FENCE. RESTORE FACILITIES AFFECTED BY TEMPORARY WORKS TO PRE-CONSTRUCTION OR BETTER CONDITIONS SUCH AS GUARDRAIL, SIGNS, ETC.
   E. PLACE TOPSOIL ON DISTURBED, PREVIOUSLY VEGETATED AREAS AND SEED.
   F. FINAL SITE CLEANUP AND DEMOBILIZATION.

NOTICE TO BIDDER

PROVIDE A PROPOSED CONSTRUCTION SEQUENCE AND PRELIMINARY SCHEDULE WITH BID TO DEMONSTRATE UNDERSTANDING OF KEY DATES AND CONSTRUCTION PHASING OR PROVIDE ALTERNATIVE CONSTRUCTION METHODS WHICH ALLOW FOR WORK TO BE COMPLETED WITHIN THE ENVIRONMENTAL WINDOWS.

CALL BEFORE YOU DIG

CONTRACTOR SHALL CALL A MINIMUM OF 3 DAYS IN ADVANCE OF CONSTRUCTION

ALASKA DIGLINE....907-278-3121
OR 800-478-3121

CALL OR GO TO WWW.AKONECALL.COM/STATEWIDE.HTM FOR MEMBER LIST OF WHO WILL BE NOTIFIED

DESIGNED BY:	KK
CHECKED BY:	AGH
DRAFTED BY:	MEM

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF BIDDING UNDER THE AUTHORITY OF ANTHONY HAFNER, P.E. #188080. IT IS NOT TO BE USED FOR CONSTRUCTION

SIGNATURE: _____

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: GENERAL NOTES

AFE NO. 11228

YEAR 2025

SHEET 05 OF 32

RECOVERED CONTROL AND MONUMENTS				
Point #	Description	Elevation	Northing	Easting
1	FD BRASS CAP 3.5"	23.59	2639209.26	1659464.97
703	FD TBM HYDRANT	22.45	2638426.26	1659883.32

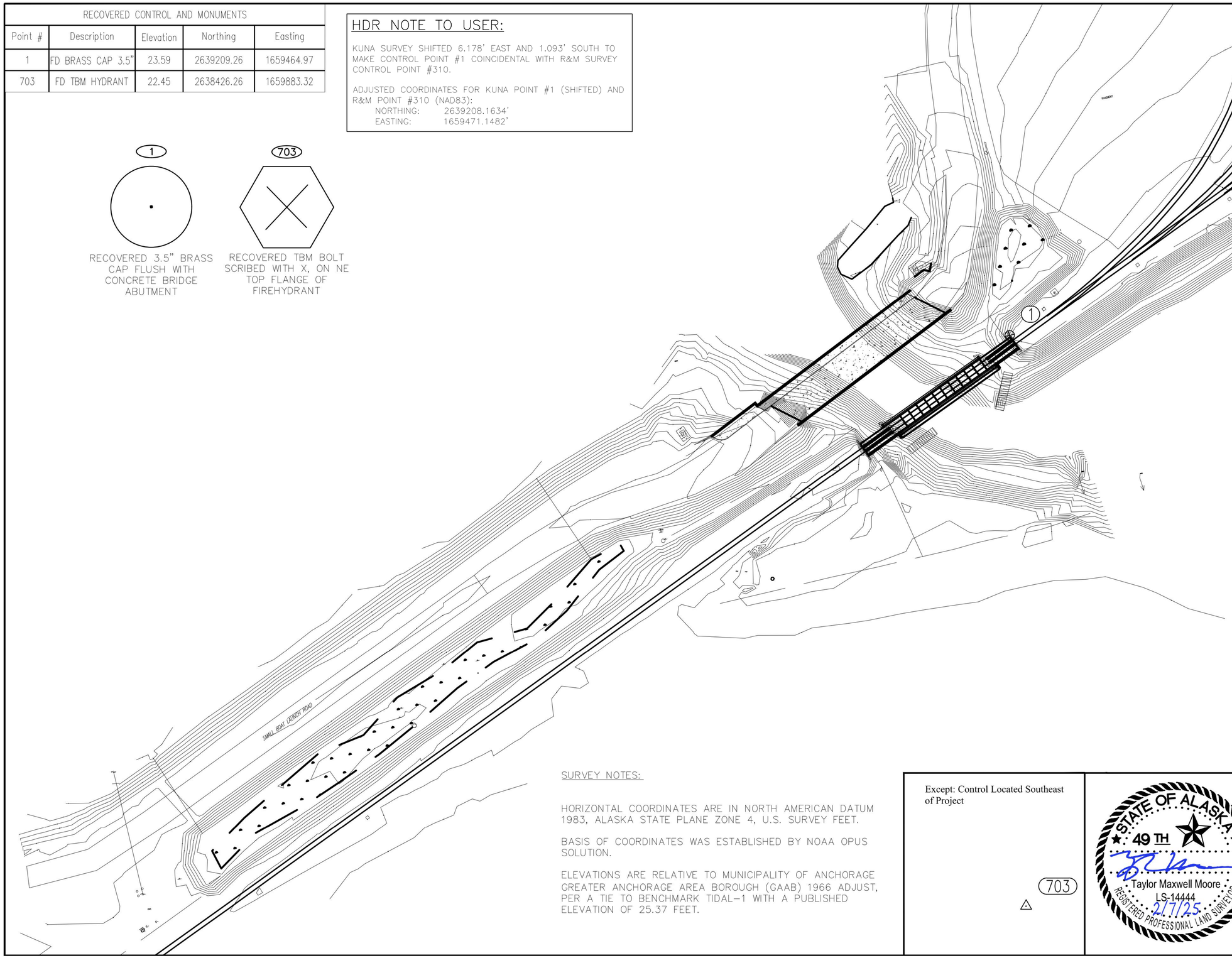
HDR NOTE TO USER:

KUNA SURVEY SHIFTED 6.178' EAST AND 1.093' SOUTH TO MAKE CONTROL POINT #1 COINCIDENTAL WITH R&M SURVEY CONTROL POINT #310.

ADJUSTED COORDINATES FOR KUNA POINT #1 (SHIFTED) AND R&M POINT #310 (NAD83):
NORTHING: 2639208.1634'
EASTING: 1659471.1482'

RECOVERED 3.5" BRASS CAP FLUSH WITH CONCRETE BRIDGE ABUTMENT

RECOVERED TBM BOLT SCRIBED WITH X, ON NE TOP FLANGE OF FIREHYDRANT



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0 100 200

SURVEY NOTES:

HORIZONTAL COORDINATES ARE IN NORTH AMERICAN DATUM 1983, ALASKA STATE PLANE ZONE 4, U.S. SURVEY FEET.

BASIS OF COORDINATES WAS ESTABLISHED BY NOAA OPUS SOLUTION.

ELEVATIONS ARE RELATIVE TO MUNICIPALITY OF ANCHORAGE GREATER ANCHORAGE AREA BOROUGH (GAAB) 1966 ADJUST, PER A TIE TO BENCHMARK TIDAL-1 WITH A PUBLISHED ELEVATION OF 25.37 FEET.

Except: Control Located Southeast of Project

703

STATE OF ALASKA
49 TH
Taylor Maxwell Moore
LS-14444
2/7/25
REGISTERED PROFESSIONAL LAND SURVEYOR

As-Built & Topographic Design Survey of:

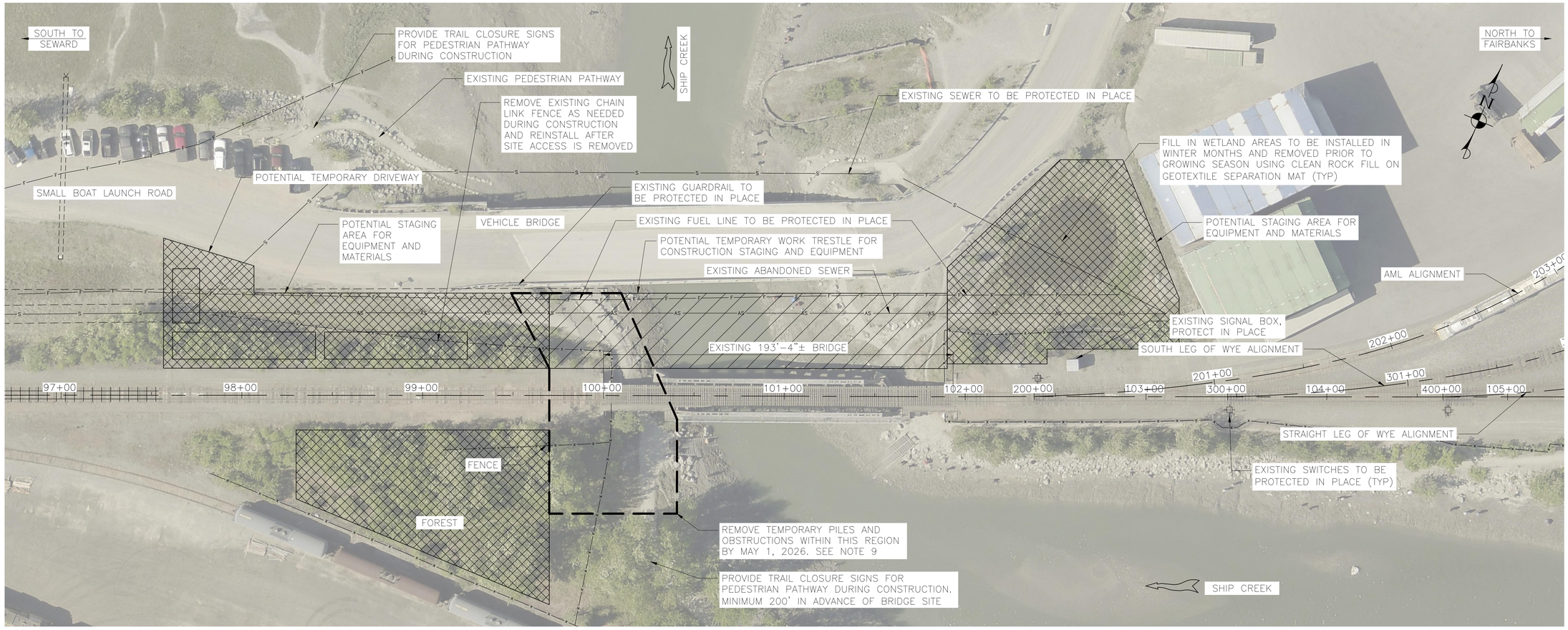
Ship Creek Railroad Bridge
MP 114.3

Survey Conducted January & October of 2023 for HDR Engineering Inc. per Alaska Railroad Corporation

Survey Conducted for HDR Engineering, Inc.
Per Alaska Railroad Corporation

KUNA ENGINEERING
4300 B STREET, Suite 605, Anchorage, Alaska 99503
Tele: (907) 339.6566 WWW.KUNAENG.COM

Scale: 1 Inch = 100 US Survey Feet	Drawn: NDE	Checked: TMM
	PN: 165.030572	Field Book: ANC-101
Paper Size: 11" x 17"	Date: January 29, 2024	SHEET 06 OF 31



SITE ACCESS PLAN

SCALE 1"=30'

ACCESS PLAN SHOWN IS A POTENTIAL MEANS OF ACCESSING SITE.
CONTRACTOR TO DEVELOP FINAL ACCESS PLANS FOR REVIEW AND APPROVAL.

SITE ACCESS PLAN:

1. CONTRACTOR TO RETURN SITE TO PRE-CONSTRUCTION OR BETTER CONDITIONS AT THE COMPLETION OF CONSTRUCTION.
2. FOR TEMPORARY WORKS, CONTRACTOR SHALL DEVELOP AND SUBMIT TO ARRC AN ACCESS AND RESTORATION PLAN FOR AREAS IMPACTED BY CONSTRUCTION ACTIVITIES. THE PLAN SHALL INCLUDE IDENTIFICATION OF LIMITS OF TEMPORARY WORK AND PROPOSED RESTORATION METHODS IN ACCORDANCE WITH THE GENERAL DETAILS OUTLINED IN THESE PLANS AND AS APPROVED BY ARRC AND ADJACENT FACILITY OWNERS.
3. VEGETATED AREAS CLEARED DURING CONSTRUCTION SHALL BE GRADED TO FINAL CONDITION, TOPSOIL, PLACED AND SEEDED WITH AN APPROVED SEED MIX.
4. FACILITIES AFFECTED BY TEMPORARY WORKS SUCH AS GUARDRAIL, HIGHWAY DITCHES AND DRAINAGE, FENCES, ETC. SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS OR AS APPROVED BY THE GOVERNING AGENCY.
5. TEMPORARY STRUCTURES SHALL BE DESIGNED BY A CIVIL ENGINEER LICENSED IN THE STATE OF ALASKA AND THE DESIGN AND ERECTION PLAN SHALL BE SUBMITTED TO ARRC FOR APPROVAL. MAINTAIN THE LOW CHORD ELEVATION OF TEMPORARY STRUCTURES ABOVE THE STATED SHIP CREEK HIGH TIDE LINE (HTL) ELEVATION.
6. CONTRACTOR SHALL PROVIDE BMP'S AS REQUIRED TO MAINTAIN EROSION AND SEDIMENT CONTROL.
7. TEMPORARY TIMBER AT-GRADE CROSSINGS REQUIRED TO CROSS TRACKS WITH EQUIPMENT SHALL BE INSTALLED BY CONTRACTOR WITH OWNER FURNISHED MATERIALS. LOCATIONS OF TEMPORARY CROSSINGS ARE SUBJECT TO APPROVAL BY OWNER. IDENTIFY ALL PROPOSED TEMPORARY CROSSINGS IN ACCESS AND RESTORATION PLAN. INSTALL TEMPORARY CROSSINGS IN ACCORDANCE WITH THE CURRENT VERSION OF THE ARRC STANDARD BALLAST AND TRACK PLANS. MAINTENANCE OF TEMPORARY CROSSINGS IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. ALL IN-WATER WORK SHALL BE LIMITED TO THE IN-WATER WORK WINDOW IN ACCORDANCE WITH THE ENVIRONMENTAL PERMITS. IN-WATER WORK WINDOW IS DECEMBER 1 THROUGH MARCH 31 EACH YEAR.
9. CONTRACTOR SHALL HAVE ALL TEMPORARY STRUCTURES REMOVED FROM THE SOUTH BANK IN THE AREA NOTED ON THE ABOVE PLAN BY JUNE 1, 2026 TO ALLOW PEDESTRIAN TRAIL RECONSTRUCTION TO COMMENCE (COMPLETED BY OTHERS).
10. CONTRACTOR TO OBTAIN ALL NECESSARY CONSTRUCTION PERMITS TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS.
11. CONTRACTOR SHALL PREPARE A TRAFFIC MAINTENANCE PLAN AND OBTAIN NECESSARY TRAFFIC CONTROL PERMITS FOR ACCESS OFF OF SMALL BOAT LAUNCH ROAD. PROVIDE SIGNAGE TO PEDESTRIANS WHO MAY USE THE EXISTING TRAIL FACILITY OF CLOSURES DURING BRIDGE CONSTRUCTION. AT A MINIMUM, WARNING SIGNS SHALL BE MAINTAINED AT THE PARKING AREA ON SMALL BOAT LAUNCH ROAD AND A MINIMUM OF 200 FEET IN ADVANCE OF THE PROJECT AREA ON THE EAST SIDE OF THE BRIDGE.

LEGEND

- SITE ACCESS AND STAGING
- TEMPORARY WORK TRESTLE

CALL BEFORE YOU DIG

CONTRACTOR SHALL CALL A MINIMUM OF 3 DAYS IN ADVANCE OF CONSTRUCTION

ALASKA DIGLINE....907-278-3121
OR 800-478-3121

CALL OR GO TO WWW.AKONECALL.COM/STATEWIDE.HTM FOR MEMBER LIST OF WHO WILL BE NOTIFIED

DESIGNED BY:	KK
CHECKED BY:	AGH
DRAFTED BY:	MEM

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ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: SITE ACCESS PLAN

AFE NO.	11228
YEAR	2025
SHEET	07 OF 32

PUBLISHED CTB ARRC_CTB_2023.CTB
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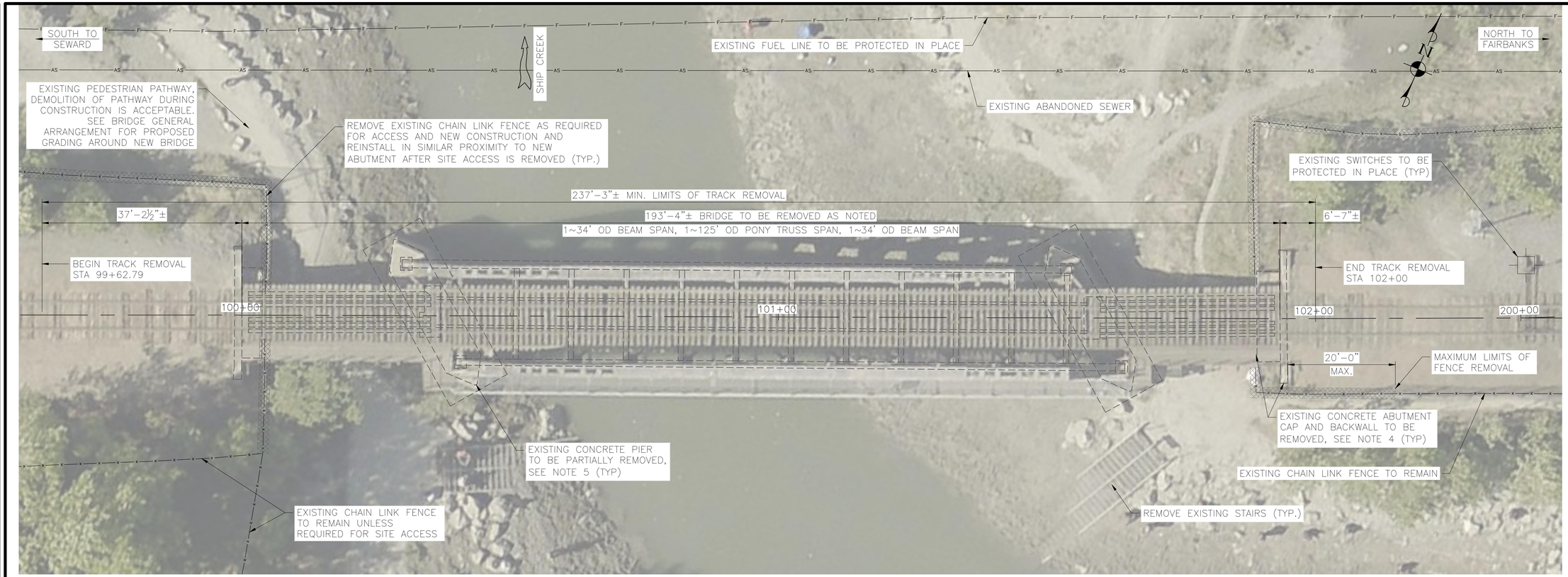
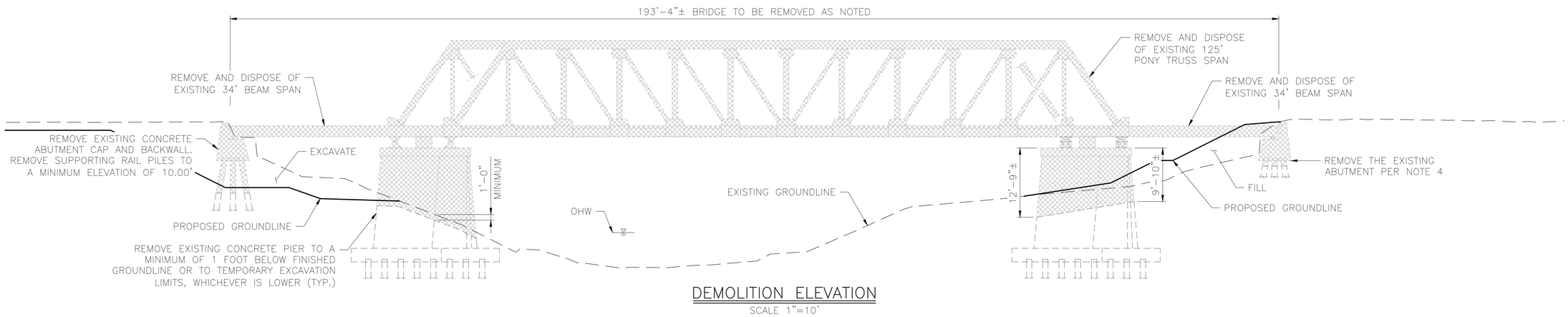


DEMOLITION PLAN
SCALE 1"=10'



DEMOLITION ELEVATION
SCALE 1"=10'

DEMOLITION NOTES:

1. REMOVE AND DISPOSE OF EXISTING OPEN DECK STEEL BEAM SPANS AND PONY TRUSS SPAN SUPERSTRUCTURES.
2. REMOVE CHAIN LINK FENCE AS SHOWN IN THE DEMOLITION PLAN. FINAL LIMITS OF REMOVAL WILL BE DETERMINED BASED ON THE CONTRACTORS PROPOSED ACCESS PLAN.
3. EXISTING STEEL IS ASSUMED TO CONTAIN LEAD BASED PAINT. CONTRACTOR IS RESPONSIBLE FOR PREPARING A LEAD BASED PAINT CONTAINMENT AND DISPOSAL PLAN FOR DEMOLITION OF EXISTING STEEL STRUCTURES.
4. REMOVE AND SALVAGE 115# RAIL MATERIAL (RAIL, TIE PLATES, CLIPS, ETC.) WITHIN THE TRACK REMOVAL LIMITS SHOWN. INNER GUARDRAIL TO BE SCRAPPED. DISPOSE OF CREOSOTE TREATED TIMBER TIES AT AN APPROVED FACILITY.
5. REMOVE EXISTING REINFORCED CONCRETE ABUTMENTS IN THEIR ENTIRETY. RAIL PILES SHALL BE CUT OFF TO THE LOWEST OF 1'-0" BELOW FINISHED GRADE, 3'-0" BELOW TOP OF TIE, BOTTOM OF TEMPORARY EXCAVATION FOR CONCRETE REMOVAL OR NEW BRIDGE AND RIPRAP CONSTRUCTION.
6. REMOVE EXISTING REINFORCED CONCRETE PIERS TO THE BOTTOM OF TEMPORARY EXCAVATION FOR NEW BRIDGE OR RIPRAP INSTALLATION OR TO ONE FOOT BELOW FINISHED GROUND LINE, WHICHEVER IS LOWER. DO NOT EXCAVATE BELOW ORDINARY HIGH WATER (OHW) LEVEL.
7. REINFORCED CONCRETE SHALL BE DISPOSED OF AT AN APPROVED FACILITY. REINFORCED CONCRETE WILL NOT BE ALLOWED TO BE CRUSHED AND USED AS RIPRAP.

TABLE OF ESTIMATED LIFTING WEIGHTS	
COMPONENT	WEIGHT (LBS)
125' PONY TRUSS (EXISTING)	357,000**
34' STEEL BEAM SPAN (EXISTING)	44,000**

** INCLUDES ESTIMATED OPEN DECK AND WALKWAY WEIGHT.

LEGEND

REMOVAL LIMITS

DESIGNED BY:	KK
CHECKED BY:	AGH
DRAFTED BY:	MEM

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: DEMOLITION PLAN

AFE NO. 11228

YEAR 2025

SHEET 08 OF 32

PUBLISHED CTB ARRC_CTB_2023.CTB
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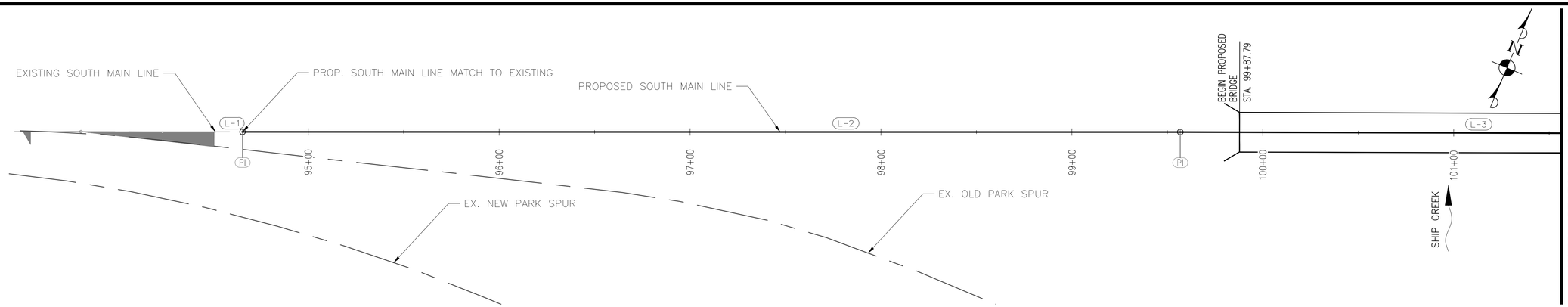

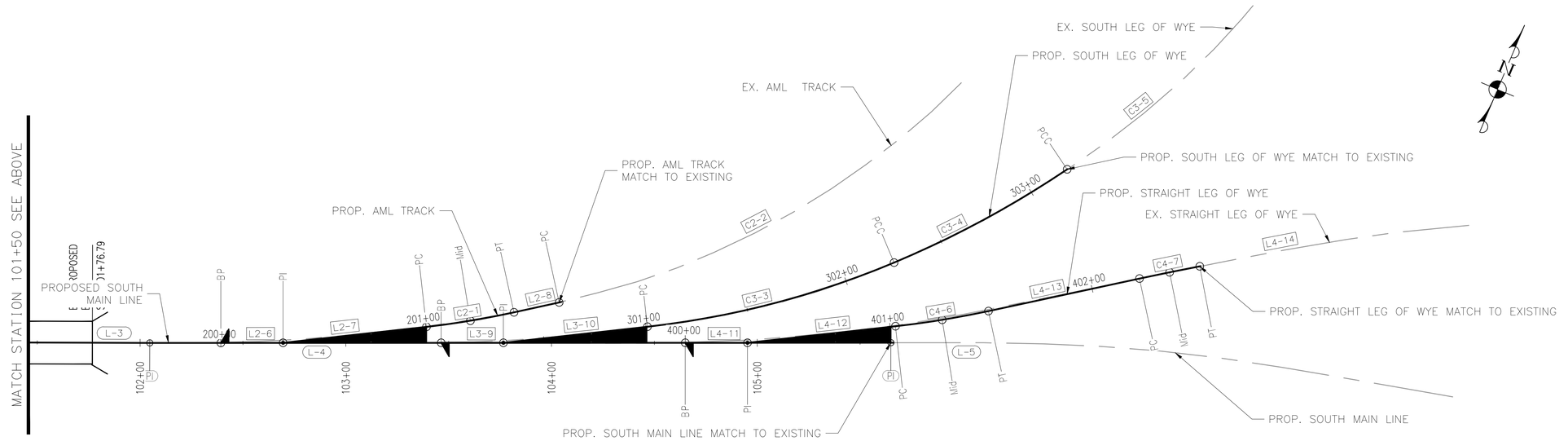

PROP. SOUTH MAIN LINE TRACK ALIGNMENT DATA TABLE

NUMBER	TYPE	LENGTH	DELTA	Dc	RADIUS	DIRECTION	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
L-1(EX.)	TANGENT	465.62'				N67° 16' 55.61"E	90+00.00	2638739.25	1658373.09	94+65.62	2638919.07	1658802.58
L-2	TANGENT	491.13'				N67° 14' 22.70"E	94+65.62	2638919.07	1658802.58	99+56.74	2639109.07	1659255.47
L-3	TANGENT	247.93'				N67° 24' 05.29"E	99+56.74	2639109.07	1659255.47	102+04.67	2639204.35	1659484.36
L-4	TANGENT	360.23'				N67° 12' 56.88"E	102+04.67	2639204.35	1659484.36	105+64.91	2639343.85	1659816.49
L-5(EX.)	TANGENT	43.46'				N67° 12' 57.00"E	105+64.91	2639343.85	1659816.49	106+08.36	2639360.68	1659856.55

PROP. SOUTH LEG OF WYE TRACK ALIGNMENT DATA TABLE

NUMBER	TYPE	LENGTH	DELTA	Dc	RADIUS	DIRECTION	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
C3-3	CURVE	124.28'	16°22'10"	13°12'02"	435.00'	N52° 40' 15.95"E	301+00.67	2639305.22	1659704.38	302+24.96	2639380.33	1659802.87
C3-4	CURVE	95.72'	11°04'50"	11°35'47"	494.93'	N38° 56' 43.67"E	302+24.96	2639380.33	1659802.87	303+20.68	2639454.66	1659862.95
C3-5	CURVE	46.36'	4°39'10"	10°03'02"	570.80'	N31° 04' 40.46"E	303+20.68	2639454.66	1659862.95	303+67.04	2639494.36	1659886.87
L3-10	TANGENT	22.92'				N61° 31' 05.18"E	300+53.48	2639281.91	1659662.21	300+76.40	2639292.84	1659682.35
L3-9(EX.)	TANGENT	18.16'				N67° 17' 13.36"E	103+61.59	2639265.04	1659629.06	103+79.74	2639272.05	1659645.81

PROP. AML TRACK ALIGNMENT DATA TABLE

NUMBER	TYPE	LENGTH	DELTA	Dc	RADIUS	DIRECTION	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
L2-6	TANGENT	30.25'				N67° 12' 56.89"E	200+00.00	2639217.74	1659516.24	200+30.25	2639229.45	1659544.13
L2-7	TANGENT	70.10'				N60° 51' 21.89"E	200+30.25	2639229.45	1659544.13	201+00.35	2639263.59	1659605.36
C2-1	CURVE	43.16'	6°01'00"	13°58'29"	411.01'	N57° 50' 52.60"E	201+00.35	2639263.59	1659605.36	201+43.51	2639286.55	1659641.88
L2-8	TANGENT	22.46'				N54° 50' 23.30"E	201+43.51	2639286.55	1659641.88	201+65.97	2639299.48	1659660.25
C2-2(EX.)	CURVE	225.72'	32°27'10"	14°24'57"	398.50'	N38° 36' 46.23"E	201+65.97	2639299.48	1659660.25	203+91.69	2639473.51	1659799.23

PROP. STRAIGHT LEG OF WYE TRACK ALIGNMENT DATA TABLE

NUMBER	TYPE	LENGTH	DELTA	Dc	RADIUS	DIRECTION	START STATION	START NORTHING	START EASTING	END STATION	END NORTHING	END EASTING
L4-11	TANGENT	30.25'				N67° 12' 56.80"E	400+00.00	2639305.16	1659724.37	400+30.25	2639316.87	1659752.26
L4-12	TANGENT	72.39'				N60° 51' 21.89"E	400+30.25	2639316.87	1659752.26	401+02.64	2639352.12	1659815.48
C4-6	CURVE	45.83'	5°45'50"	12°35'59"	455.66'	N57° 58' 28.38"E	401+02.64	2639352.12	1659815.48	401+48.47	2639376.42	1659854.32
L4-13	TANGENT	75.06'				N55° 05' 34.87"E	401+48.47	2639376.42	1659854.32	402+23.53	2639419.37	1659915.87
C4-7	CURVE	29.88'	1°16'10"	4°15'01"	1348.40'	N55° 43' 40.22"E	402+23.53	2639419.37	1659915.87	402+53.41	2639436.20	1659940.57
L4-14(EX.)	TANGENT	41.36'				N56° 21' 45.57"E	402+53.41	2639436.20	1659940.57	402+94.77	2639459.11	1659975.00

DESIGNED BY:	JW
CHECKED BY:	LH
DRAFTED BY:	JW

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SIGNATURE:

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

582 E. 36TH AVE., SUITE 500
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(907) 644-2000

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TRACK ALIGNMENT DATA

AFE NO. 11228

YEAR 2025

SHEET 09 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 3:50 PM

DRAWING LOCATION
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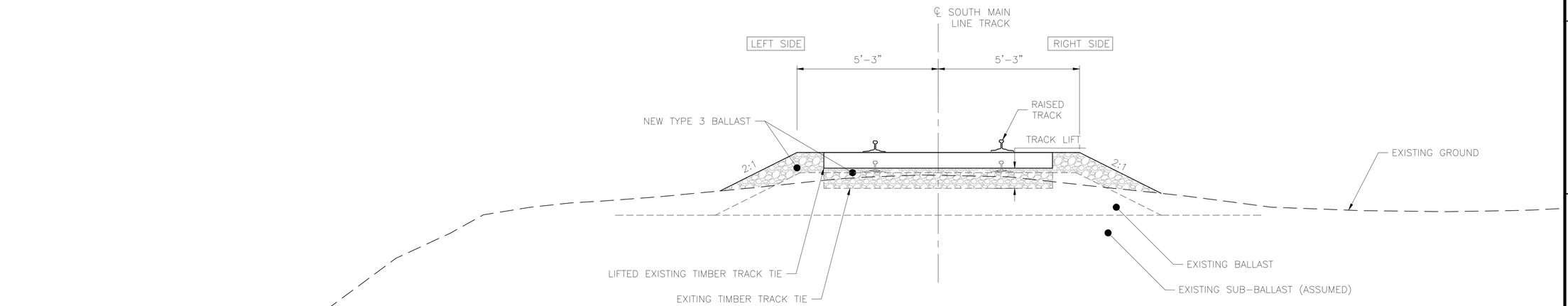
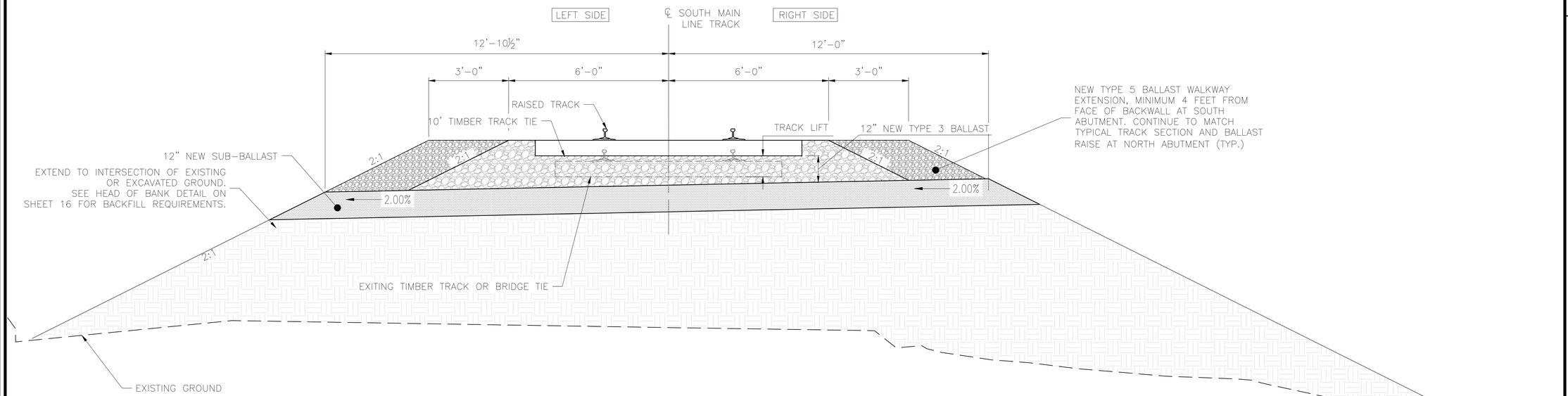


TYPICAL SECTION 1 – BALLAST TRACK RAISE

SOUTH MAIN STA 94+65.62' – 99+89.79'
AML TRACK STA 200+00.00' – 201+65.97'
SOUTH LEG OF WYE STA 300+00.00' – 301+90.65'
STRAIGHT LEG OF WYE STA 400+00.00' – 402+53.41'



TYPICAL SECTION 2 – BRIDGE APPROACH NEW TRACK

SOUTH MAIN STA. 99+62.79' –99+87.79'
STA. 101+76.79 – 102+00'

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ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TRACK TYPICAL SECTIONS (1 OF 2)

AFE NO. 11228

YEAR 2025

SHEET 10 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 3:51 PM

DRAWING LOCATION
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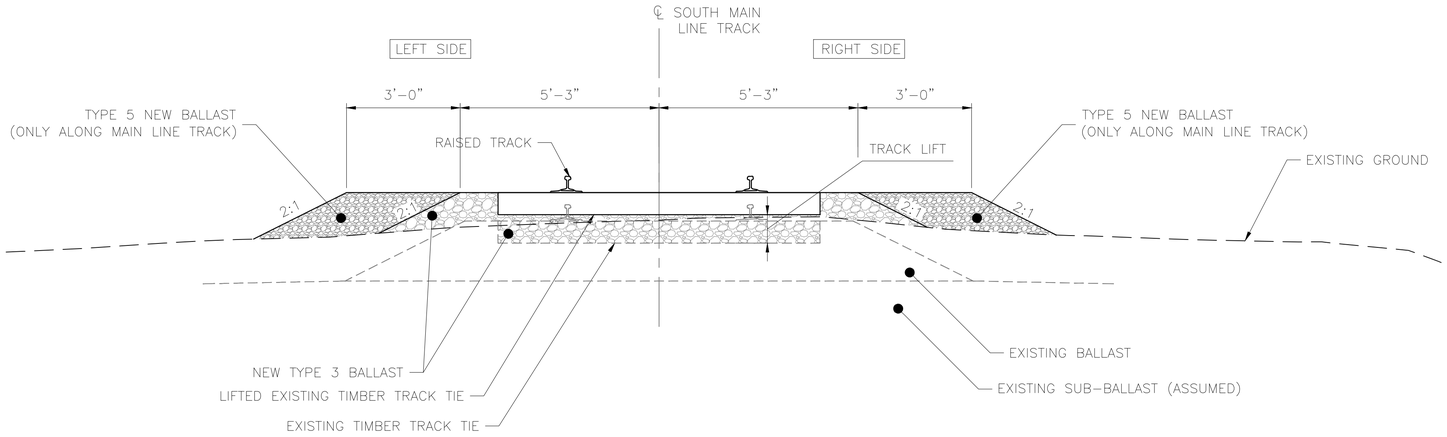
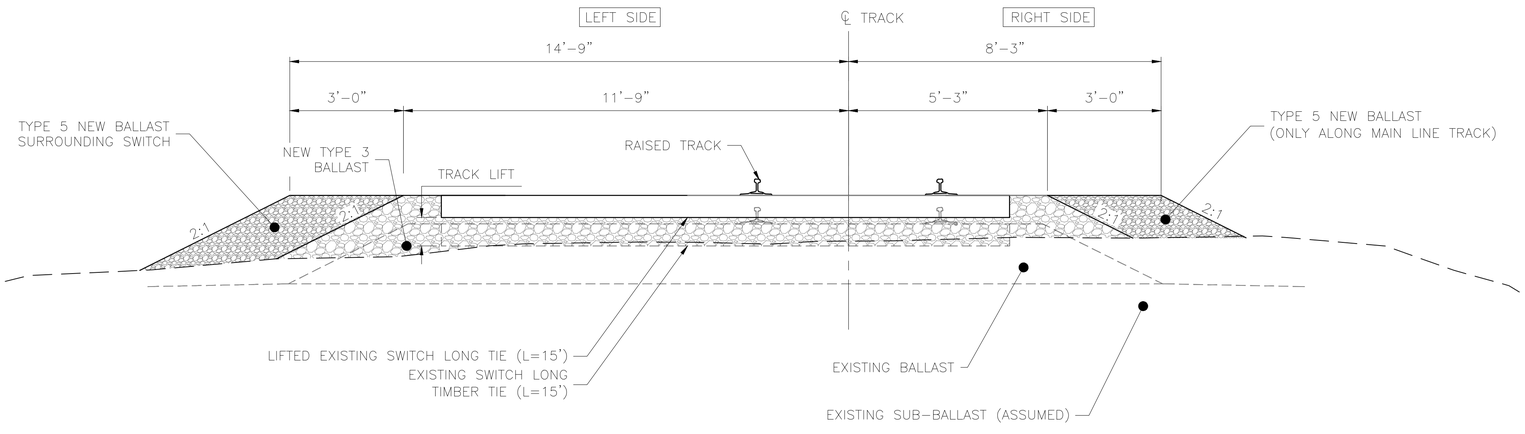


TYPICAL SECTION 3 – BALLAST TRACK RAISE WITH WALK

SOUTH MAIN STA 102+00' – 105+64.91'



TYPICAL SECTION 4 – BALLAST TRACK RAISE AT SWITCHES

SOUTH MAIN ON SWITCH LONG TIE (SWITCH STAND)
AML TRACK SWITCH LOCATION SHOWN
SOUTH AND STRAIGHT LEG OF WYE SWITCH SIMILAR (OPPOSITE HAND)

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DRAFTED BY:	JW

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CAPITAL PROJECTS
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ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TRACK TYPICAL SECTIONS (2 OF 2)

AFE NO.	11228
YEAR	2025
SHEET	11 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 3:51 PM
DRAWING LOCATION: C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_10-11.DWG

PUBLISHED CTB
ARRC_CTB_2023.CTB

SCALE
AS NOTED

DATE TIME
3/5/2025 3:52 PM

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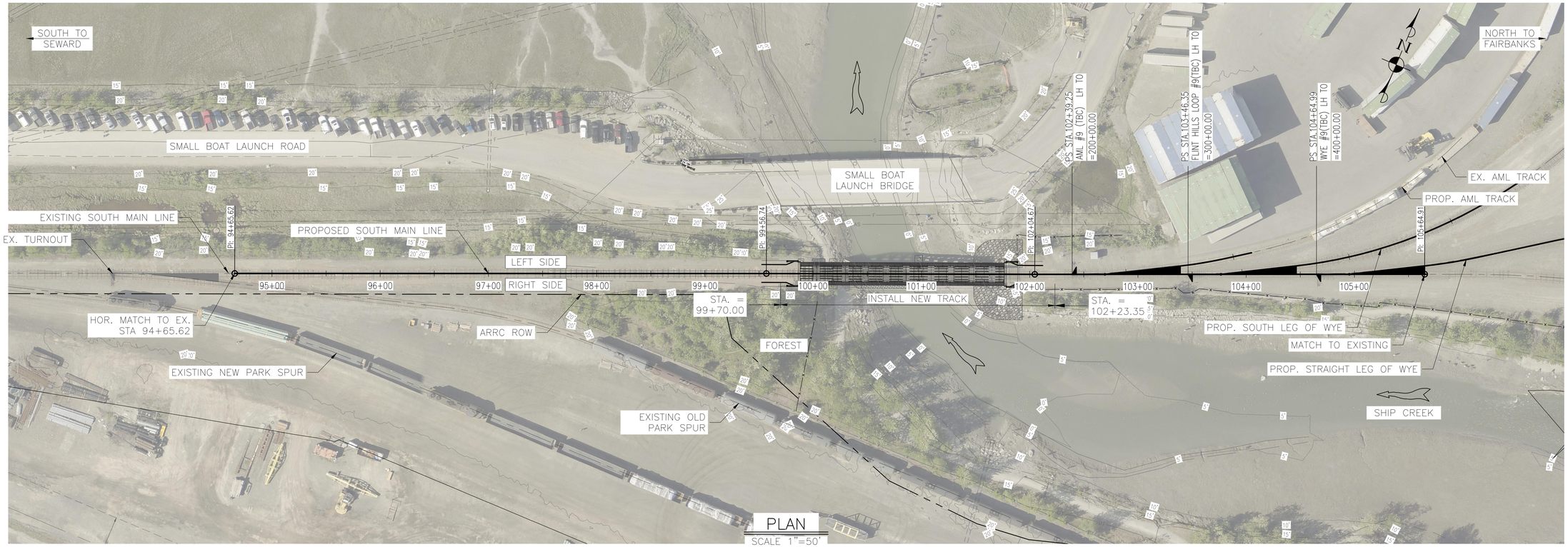
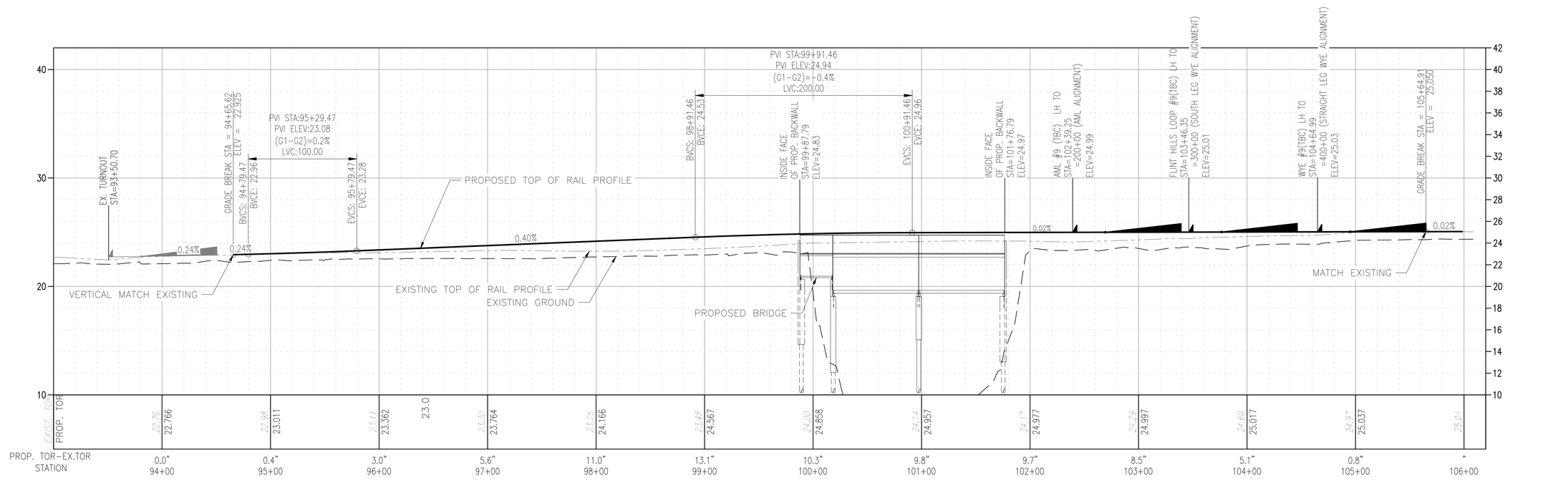


PLAN
SCALE 1"=50'



SOUTH MAIN PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

DESIGNED BY:	JW
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KEY MAP

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ANCHORAGE, AK 99503-4169
(907) 644-2000

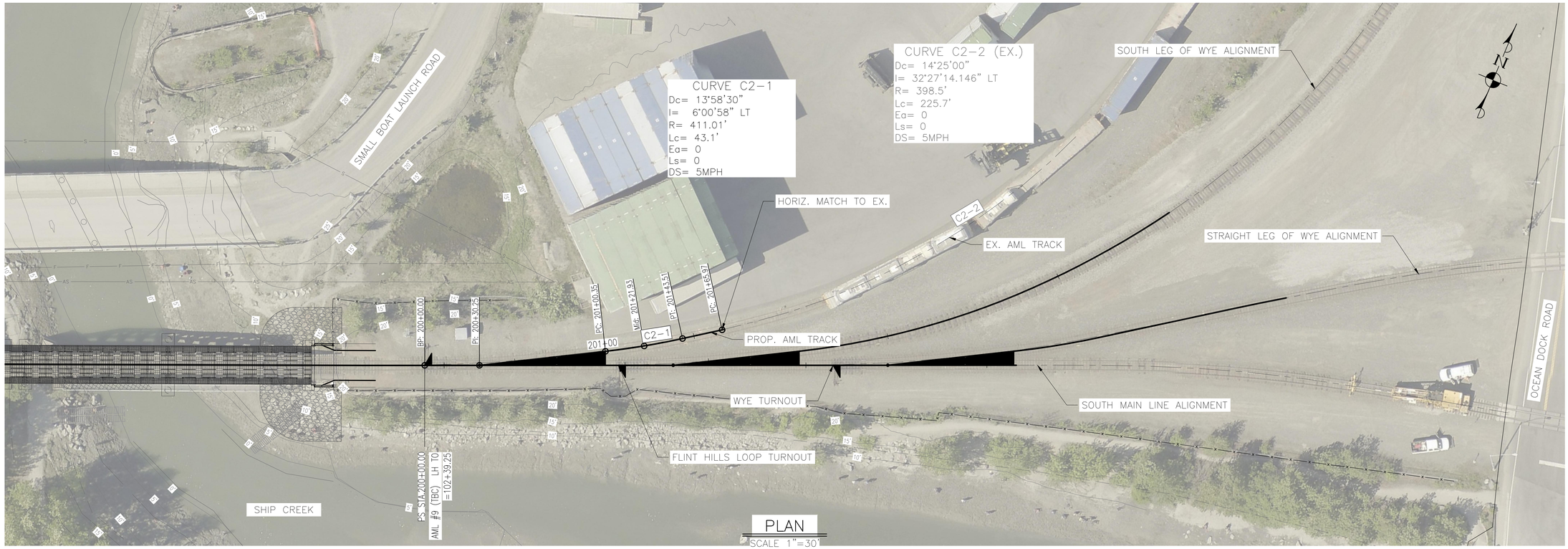
CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510-7500

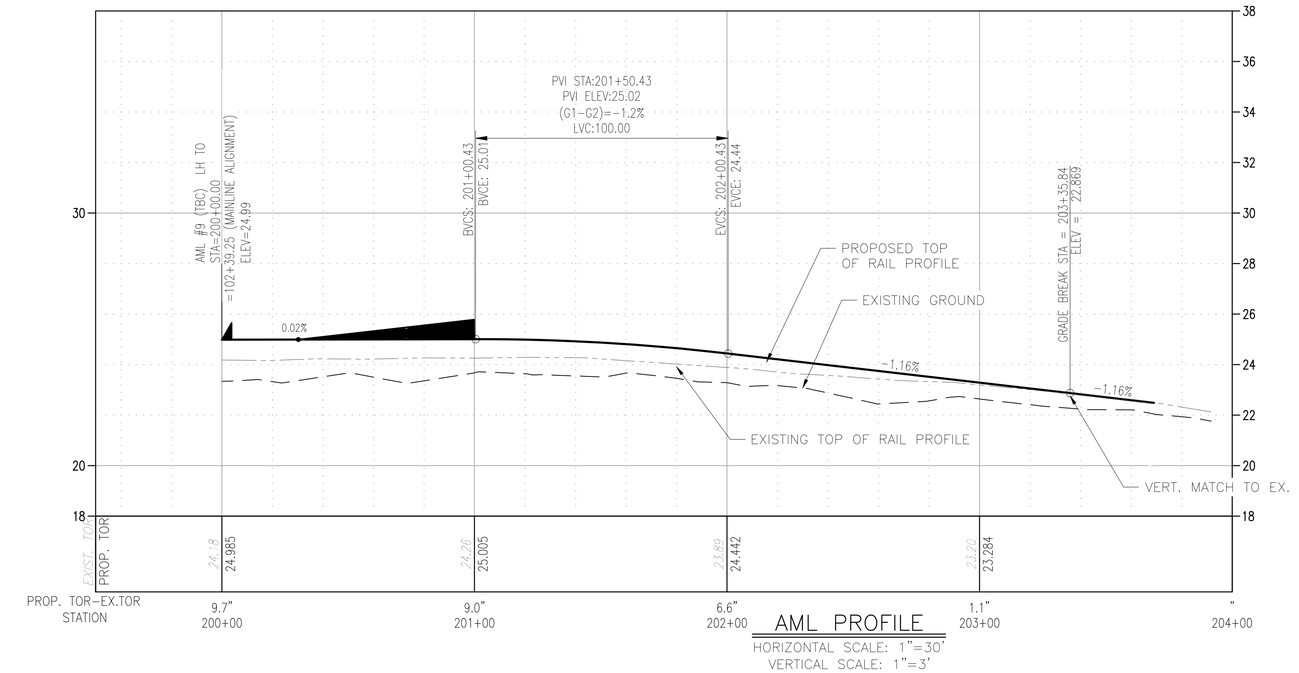
ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TRACK PLAN AND PROFILE – MAIN TRACK

AFE NO.	11228
YEAR	2025
SHEET	12 OF 32





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KEY MAP

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(907) 644-2000

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK
BRIDGE REPLACEMENT

SHEET TITLE: TRACK PLAN AND PROFILE - AML

AFE NO.	11228
YEAR	2025
SHEET	13 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
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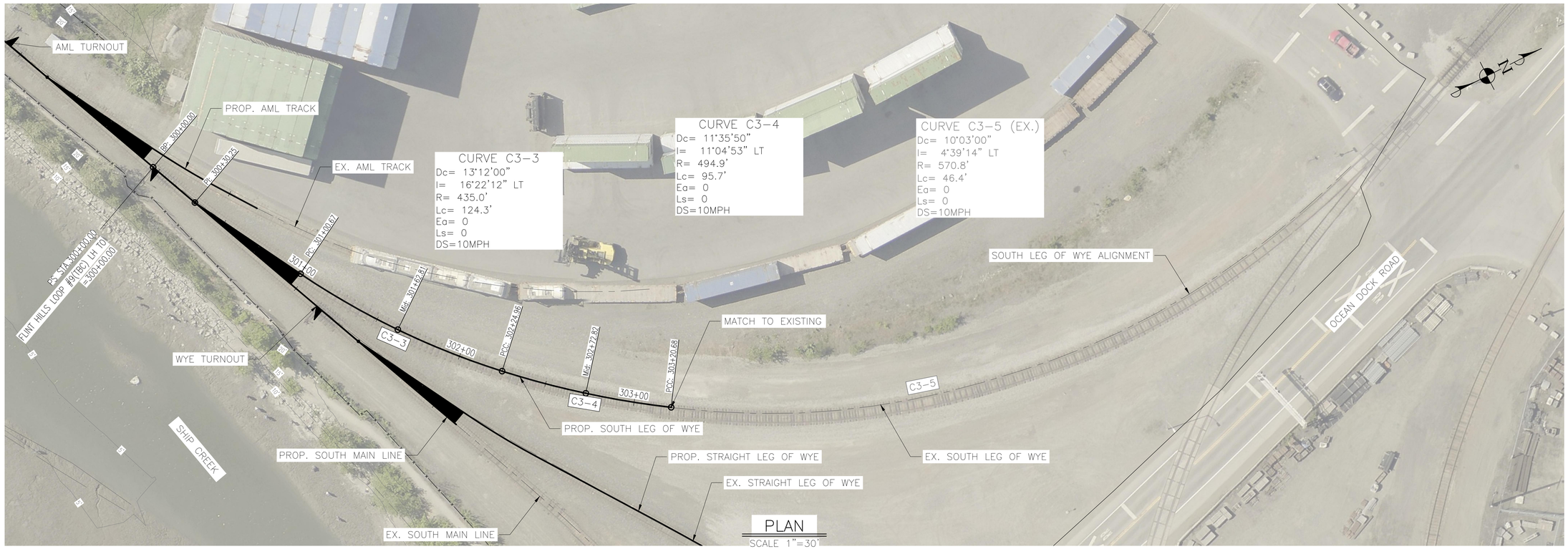

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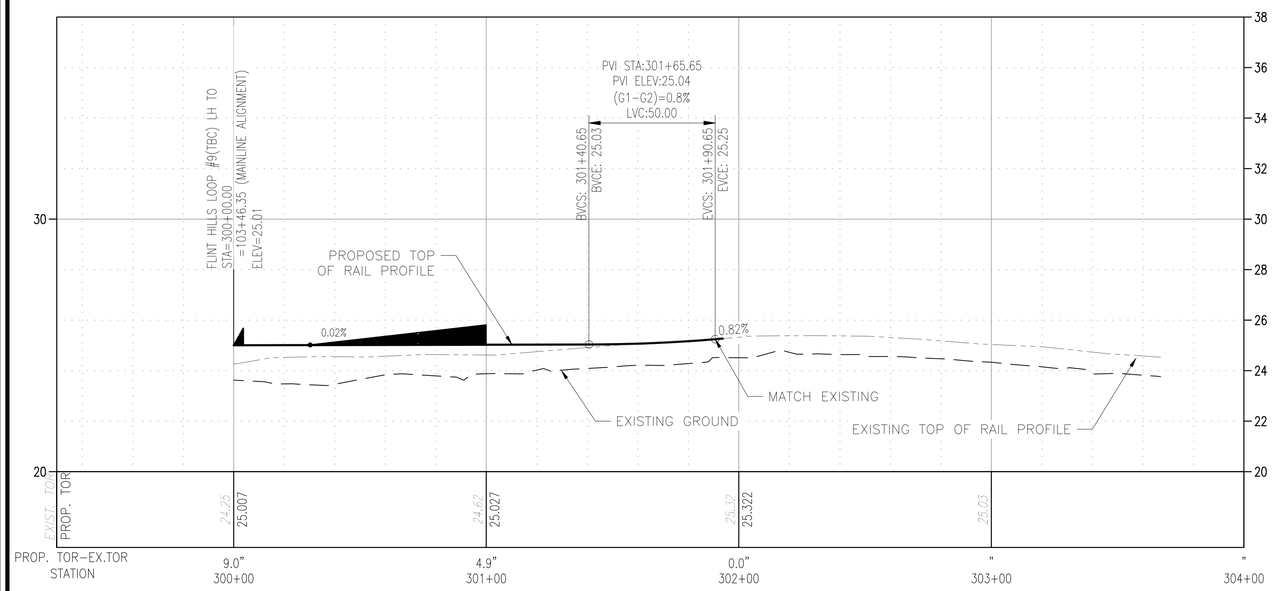
SCALE 1"=30'



SOUTH LEG OF WYE PROFILE
HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=3'

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CHECKED BY:	LH
DRAFTED BY:	JW

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KEY MAP

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK
BRIDGE REPLACEMENT

SHEET TITLE: TRACK PLAN AND PROFILE - SOUTH LEG OF WYE

AFE NO.	11228
YEAR	2025
SHEET	14 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
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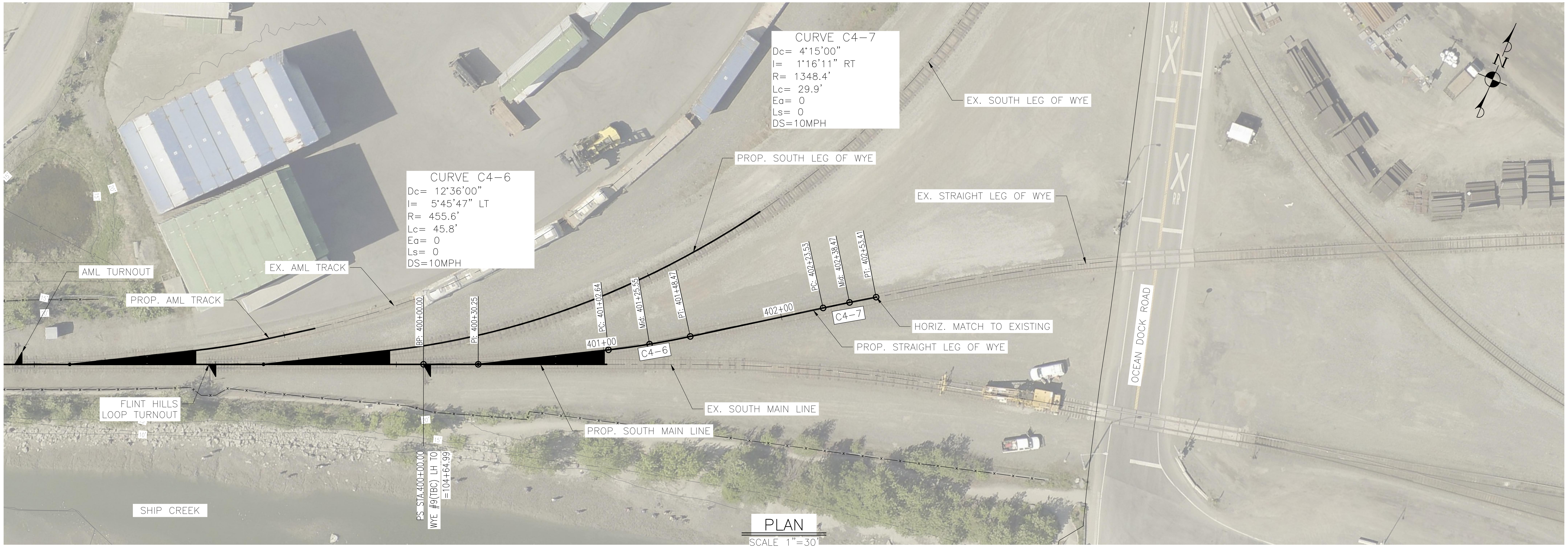
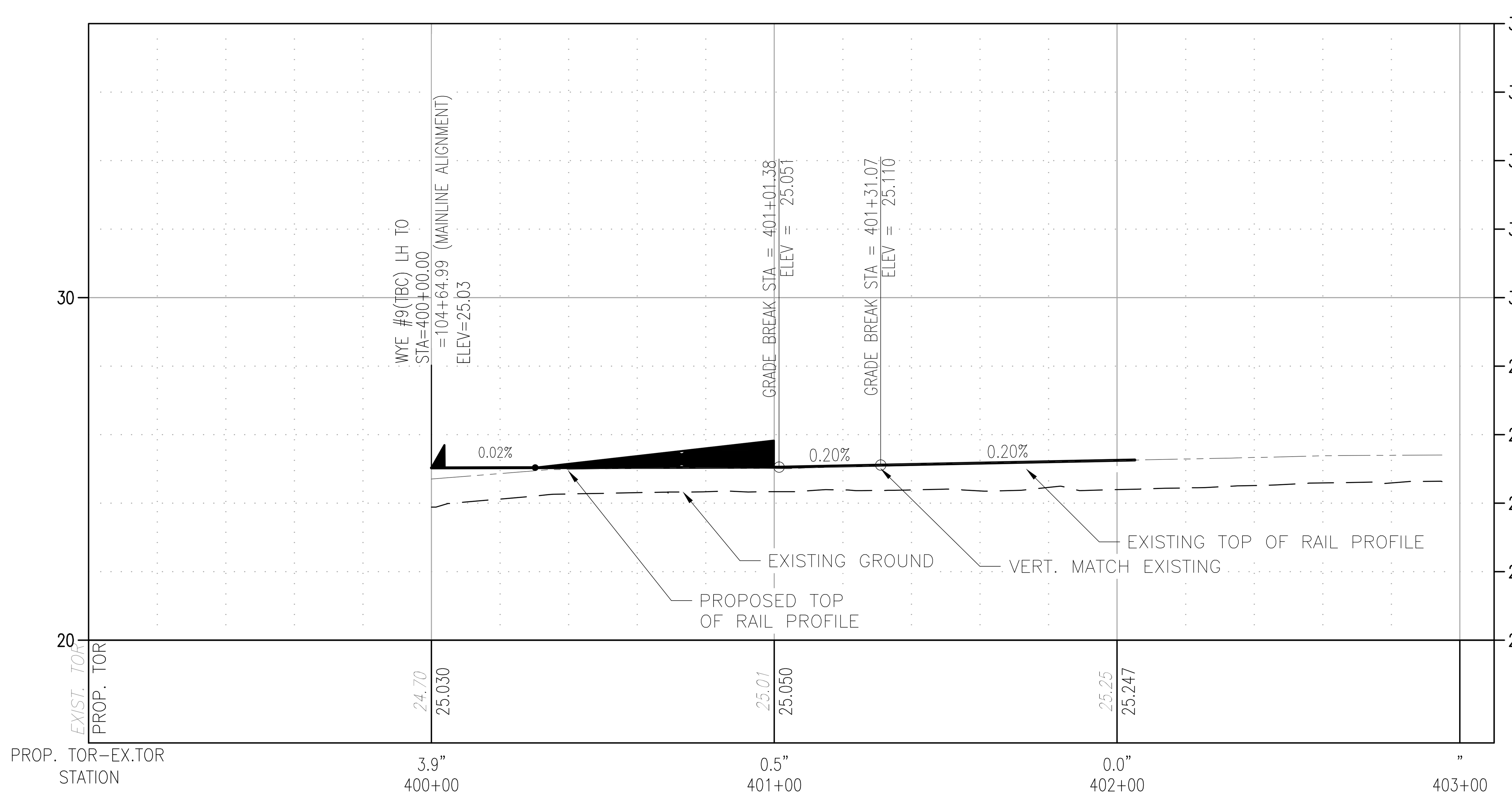


PLAN

SCALE 1"=30'



STRAIGHT LEG OF WYE PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=3'

DESIGNED BY:	JW
CHECKED BY:	LH
DRAFTED BY:	JW

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KEY MAP

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ALASKA RAILROAD

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

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TRACK PLAN AND PROFILE - STRAIGHT LEG OF WYE

AFE NO. 11228

YEAR 2025

DRAWING LOCATION
C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_12-15.DWG

DATE	TIME	SCALE	PUBLISHED CTB
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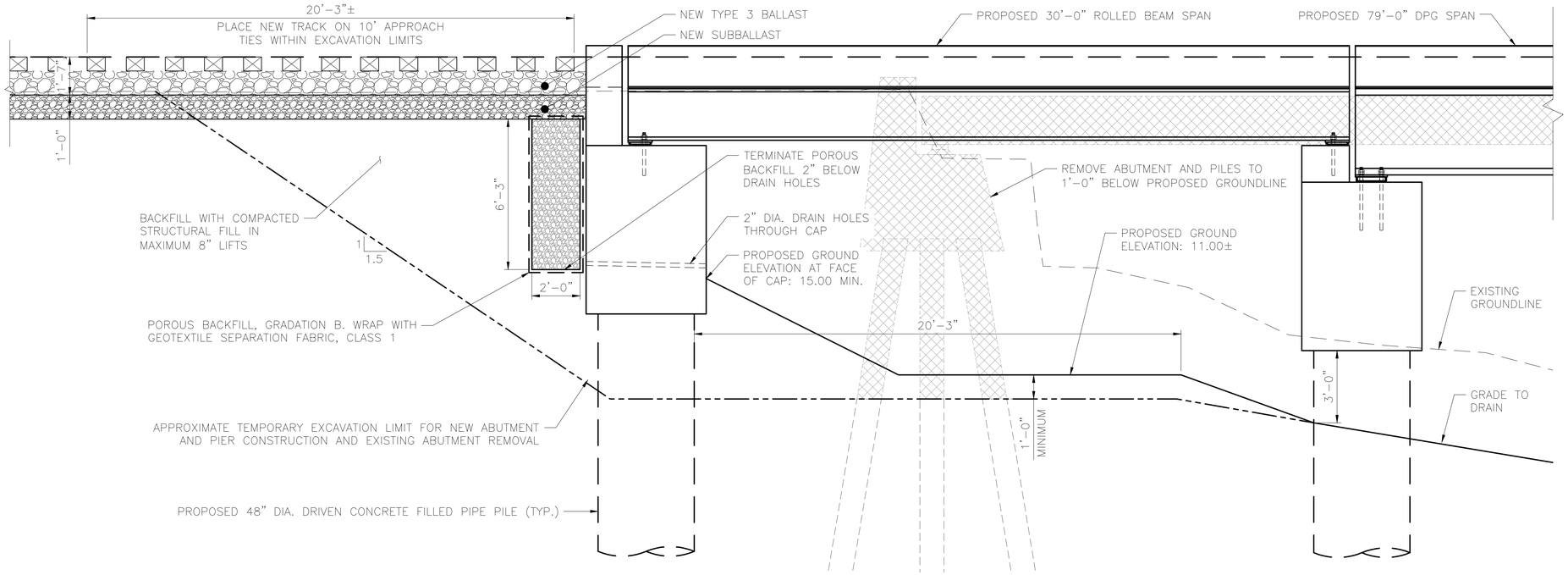
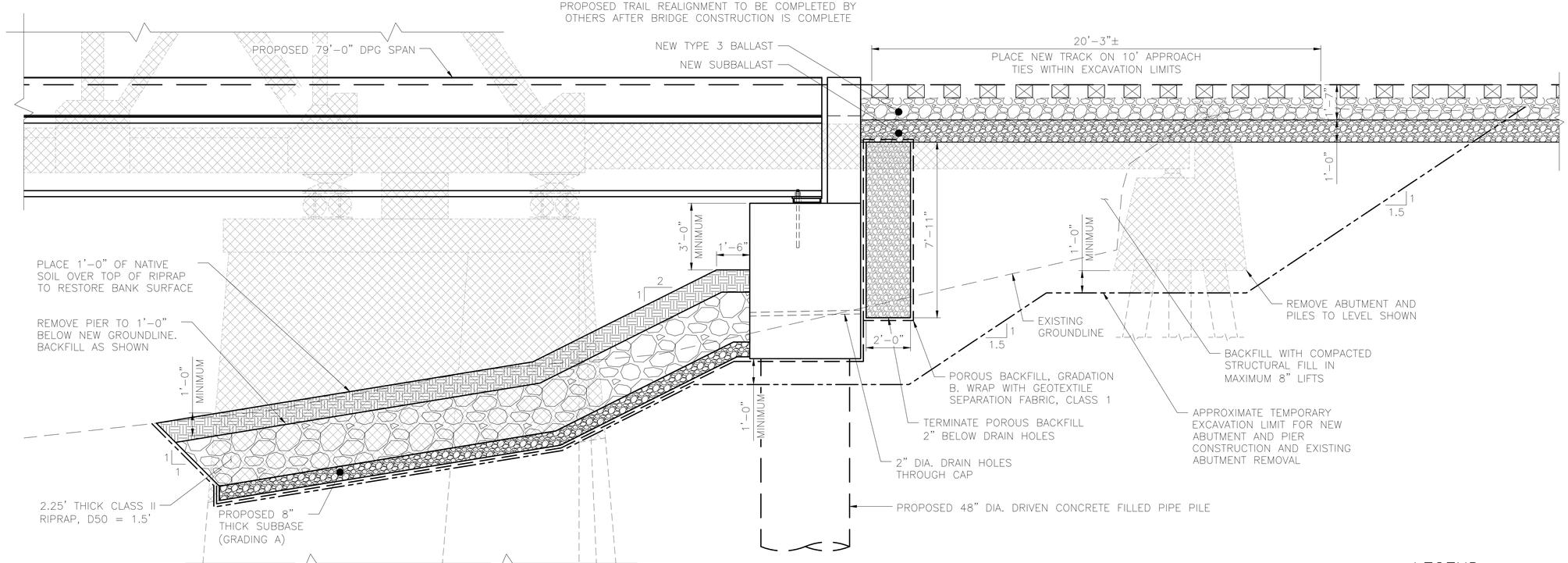


ABUTMENT 1 – HEAD OF BANK DETAIL

SCALE: ⅜" = 1'-0"
SECTION THROUGH CENTERLINE OF BRIDGE AND TRACK.
PROPOSED TRAIL REALIGNMENT TO BE COMPLETED BY OTHERS AFTER BRIDGE CONSTRUCTION IS COMPLETE



ABUTMENT 4 – HEAD OF BANK AND RIPRAP DETAIL

SCALE: ⅜" = 1'-0"
SECTION THROUGH CENTERLINE OF BRIDGE AND TRACK.
SEE BRIDGE GENERAL ARRANGEMENT FOR RIPRAP LIMITS.

LEGEND

REMOVALS

DESIGNED BY:	AGH
CHECKED BY:	KK
DRAFTED BY:	MEM

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ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: RIPRAP AND HEAD OF BANK DETAILS

AFE NO.	11228
YEAR	2025
SHEET	16 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 3:55 PM

DRAWING LOCATION
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SCALE
AS NOTED

DATE TIME
3/5/2025 3:55 PM

DRAWING LOCATION
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STRUCTURAL DESIGN NOTES:

1. NEW BRIDGE COMPONENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2024 AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8 – CONCRETE STRUCTURES AND FOUNDATIONS, CHAPTER 9 – SEISMIC DESIGN FOR RAILWAY STRUCTURES, AND CHAPTER 15 – STEEL STRUCTURES.

2. DESIGN LOADS FOR PERMANENT CONDITIONS ARE IN ACCORDANCE WITH AREMA MANUAL FOR RAILWAY ENGINEERING AND THE FOLLOWING:

BALLAST DEPTH (FROM T/TIE):	30" MAXIMUM, 15" MINUMUM
LIVE LOAD:	COOPER E80 OR ALTERNATIVE LIVE LOAD
IMPACT PERCENT:	DIESEL IMPACT $0.9*(40-3*L^2/1600)*100\%$
LIVE LOAD ECCENTRICITY:	6"± TRACK OFFSET FROM ℄ BRIDGE
CENTRIFUGAL FORCE:	NONE
BACKFILL SOIL UNIT WEIGHT:	125 PCF
BACKFILL SOIL FRICTION ANGLE:	29°

SPAN	DESIGN RATING	NORMAL STRESS RATING	MAXIMUM STRESS RATING	MAXIMUM STRESS RATING (N–1 GIRDERS)
30'–0" BD BM	ALT LL (E–95)	E–126.6	E–225.4	E–128.5
79'–0" DPG	E–80	E–98.5	E–164.8	E–80.8

3. DESIGN TRACK SPEED PASSENGER & FREIGHT: 60 MPH (NEW).

4. SEISMIC DESIGN PARAMETERS:

A.	SITE CLASS:	D
B.	IMMEDIATE SAFETY FACTOR:	4
C.	IMMEDIATE VALUE FACTOR:	4
D.	REPLACEMENT VALUE:	3

5. SEISMIC DESIGN LIMIT STATES:

LIMIT STATE	IMPORTANCE FACTOR	RETURN PERIOD	SPECTRAL ACCEL. ADJUSTMENT FACTORS FOR SITE, CLASS C			SITE CLASS ADJUSTED PGA (g)
			F_{PGA}	F_A	F_V	PGA_M
SERVICEABILITY	4.0	100	1.33	1.40	2.10	0.31
ULTIMATE	3.9	468	1.06	1.11	1.69	0.47
SURVIVABILITY	3.2	2180	1.00	1.00	1.50	0.50

6. SEISMIC ACCELERATION RESPONSE SPECTRA:

PERIOD (SECONDS)	AREMA SEISMIC RESPONSE COEFFICIENTS (C_M)		
	RETURN PERIOD		
	100–YEAR	468–YEAR	2180–YEAR
	SERVICEABILITY	ULTIMATE	SURVIVABILITY
0	0.705	1.073	1.454
0.20	0.705	1.073	1.454
0.30	0.705	1.073	1.454
0.40	0.705	1.073	1.454
0.45	0.705	1.073	1.454
0.50	0.705	1.073	1.454
0.55	0.671	1.073	1.454
0.60	0.615	1.003	1.454
0.65	0.568	0.925	1.454
0.70	0.527	0.859	1.384
0.80	0.461	0.752	1.211
0.90	0.410	0.668	1.077
1.00	0.369	0.602	0.969
2.0	0.184	0.301	0.485

PIPE PILE NOTES:

1. PIPE PILES SHALL BE OF THE SIZE AND THICKNESS SHOWN ON THE PLANS AND SHALL BE FABRICATED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. SUBMIT A PILE DRIVING PLAN WITH PROPOSED EQUIPMENT FOR APPROVAL PRIOR TO CONSTRUCTION.

2. PIPE PILES SHALL BE DRIVEN TO THE DEEPER OF THE MINIMUM EMBEDMENT DEPTH OR TO THE DEPTH REQUIRED TO OBTAIN THE MINIMUM REQUIRED ULTIMATE BEARING RESISTANCE NOTED IN THE PLANS AND TESTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. CONTACT THE ENGINEER IF PRACTICAL REFUSAL IS REACHED PRIOR TO MINIMUM EMBEDMENT DEPTH BELOW FINISHED GRADE.

3. ALL PIPE PILES SHALL BE FILLED WITH CLASS DS CONCRETE FOR THE MINIMUM LENGTH NOTED ON THE PLANS (SEE CAST–IN–PLACE CONCRETE NOTES). IF SOIL PLUG AT END OF DRIVING IS BELOW THE MINIMUM CONCRETE ELEVATION, THE ADDITIONAL VOIDED LENGTH MAY BE FILLED WITH CLEAN, DRY SAND OR ADDITIONAL CONCRETE BELOW THE MINIMUM CONCRETE DEPTH NOTED. IF SOIL PLUG AT END OF DRIVING IS ABOVE THE MINIMUM CONCRETE ELEVATION, EXCAVATE SOIL TO THE MINIMUM REQUIRED DEPTH PRIOR TO PLACING CONCRETE.

4. CONCRETE FILL SHALL BE LEVEL WITH TOP OF PILE AT CUTOFF.

5. IF THE LENGTH OF STEEL PILE IS NOT SUFFICIENT TO OBTAIN THE MINIMUM PENETRATION AND DRIVING RESISTANCE SPECIFIED IN THE PLANS, THE PILE MAY BE SPLICED IN ORDER TO OBTAIN THE REQUIRED LENGTH TO REACH THE MINIMUM PENETRATION AND DRIVING RESISTANCE. SPLICES SHALL BE MADE WITH COMPLETE JOINT PENETRATION WELDS OVER THE ENTIRE CROSS SECTION. ALL WELDS TO BE 100% VISUALLY INSPECTED AND 25% UT INSPECTED. AT COMPLETION OF DRIVING ALL SPLICES SHALL BE LOCATED AT LEAST 35 FEET BELOW PILE CUTOFF.

FOR PILE BENTS WITH EXPOSED PILE LENGTHS SUBJECT TO TIDAL WATER CONTACT, THE TOP SECTION OF THE PILES SHALL BE GALVANIZED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS FOR A LENGTH BELOW PILE CUTOFF ELEVATION AS SHOWN IN THE PILE DATA TABLE ON SHEET 23.

CAST–IN–PLACE CONCRETE NOTES:

1. CONCRETE MATERIAL, PLACEMENT, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8 AND THE PROJECT SPECIFICATIONS.

2. THE NOMINAL 28–DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
   CLASS A CONCRETE: 4,000 PSI
   CLASS DS CONCRETE: 4,000 PSI

3. THE MINIMUM CONCRETE COVER ON REINFORCEMENT SHALL BE 2 INCHES UNLESS NOTED OTHERWISE.

4. EXPOSED EDGES OF 90 DEGREES OR LESS ARE TO BE CHAMFERED ¾" x ¾" UNLESS OTHERWISE SHOWN ON DRAWINGS.

REINFORCING STEEL NOTES:

1. REINFORCING STEEL SHALL BE DEFORMED, PER CURRENT ASTM A706 SPECIFICATIONS, GRADE 60 UNLESS OTHERWISE NOTED IN THE PLANS. SUBSTITUTION OF STEEL GRADES IS NOT ALLOWED.

2. BAR BENDS SHALL BE IN ACCORDANCE WITH CHAPTER 7 OF THE CURRENT CRSI MANUAL OF STANDARD PRACTICE. DIMENSIONS OF BENDING DETAILS ARE OUT TO OUT OF BARS.

3. REINFORCING STEEL IS TO BE BLOCKED TO PROPER LOCATION AND SECURELY WIRED AGAINST DISPLACEMENT. TACK WELDING OF REINFORCEMENT IS STRICTLY PROHIBITED.

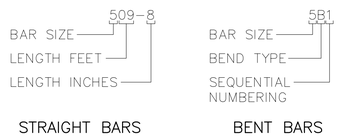
4. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING CHAPTERS 8 AND 9 FOR REINFORCING STEEL IN SEISMIC REGIONS.

5. THE LOCATION OF SPLICES, EXCEPT WHERE SHOWN ON THE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR USING AVAILABLE COMMERCIAL LENGTHS WHERE PRACTICABLE.

6. SPLICING OF REINFORCING BARS IS NOT PERMITTED AT LOCATIONS DESIGNATED IN THE PLANS AS "NO SPLICE ZONE".

7. UNLESS OTHERWISE SHOWN ON THE PLANS, SPLICES IN ADJACENT REINFORCING BARS AT ANY PARTICULAR SECTION SHALL BE STAGGERED:
   a. THE MINIMUM DISTANCE BETWEEN STAGGERED LAP SPLICES OR MECHANICAL LAP SPLICES SHALL BE THE SAME AS THE LENGTH REQUIRED FOR A LAP SPLICE IN THE LARGEST BAR, UNLESS NOTED OTHERWISE.
   b. THE MINIMUM DISTANCE BETWEEN STAGGERED BUTT SPLICES SHALL BE 2 FEET, MEASURED BETWEEN THE MIDPOINTS OF THE SPLICES ALONG A LINE WHICH IS CENTERED BETWEEN THE AXES OF THE ADJACENT BARS.

8. LAP SPLICES SHALL MEET THE FOLLOWING REQUIREMENTS:
   a. SPLICES MADE BY LAPPING SHALL CONSIST OF PLACING REINFORCING BARS IN CONTACT AND WIRING THEM TOGETHER, MAINTAINING THE ALIGNMENT OF THE BARS AND THE MINIMUM CLEARANCES.
   b. SHOULD THE CONTRACTOR ELECT TO USE A BUTT WELDED OR MECHANICAL SPLICE AT A LOCATION NOT DESIGNATED ON THE PLANS AS REQUIRING A SERVICE OR ULTIMATE BUTT SPLICE, THIS SPLICE SHALL CONFORM TO THE TESTING REQUIREMENTS FOR SERVICE SPLICE.
   c. REINFORCING BARS SHALL NOT BE SPLICED BY LAPPING AT LOCATIONS WHERE THE CONCRETE SECTION IS NOT SUFFICIENT TO PROVIDE A MINIMUM CLEAR DISTANCE OF 2 INCHES BETWEEN THE SPLICE AND THE NEAREST ADJACENT BAR.
   d. THE CLEARANCE TO THE SURFACE OF THE CONCRETE SPECIFIED ON THE DRAWINGS SHALL NOT BE REDUCED.



REBAR NAMING CONVENTION

PRECAST CONCRETE NOTES:

1. FABRICATION AND WORKMANSHIP SHALL CONFORM TO CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8, CONCRETE STRUCTURES AND PROJECT SPECIFICATIONS.

2. STENCIL PIECE MARK, DATE OF FABRICATION AND LIFTING WEIGHT ON EACH PIECE.

3. CLASS P CONCRETE FOR PRECAST COMPONENTS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.

4. THE MINIMUM CONCRETE COVER ON REINFORCEMENT FOR PRECAST CONCRETE SHALL BE 1½" (INCHES) UNLESS NOTED OTHERWISE.

5. CONCRETE SHALL BE VIBRATED INTERNALLY DURING PLACEMENT TO PROVIDE THOROUGH CONSOLIDATION AND COMPACTION. CARE SHALL BE TAKEN TO AVOID DISPLACEMENT OF EMBEDDED ITEMS.

6. LIFTING DEVICES ARE TO BE DETERMINED BY FABRICATOR. FABRICATOR IS RESPONSIBLE FOR ADEQUACY OF LIFTING DEVICES WITH A 4 TO 1 SAFETY FACTOR. CUT LIFTING DEVICES FLUSH WITH CONCRETE SURFACE OR FILL VOIDS WITH GROUT TO CREATE A SMOOTH SURFACE AFTER PLACEMENT OF PRECAST COMPONENTS IN STRUCTURE.

7. EMBEDDED DUCTS FOR ANCHOR RODS AND THREADED BARS SHALL BE CORRUGATED GALVANIZED STEEL TUBING.

WATERPROOFING NOTES:

1. WATERPROOFING SHALL BE SPRAY–ON OR ROLL–ON TYPE ELASTOMERIC MEMBRANE AND SHALL BE APPLIED TO STEEL BRIDGE DECKS IN THE FIELD AFTER SPANS HAVE BEEN FULLY ASSEMBLED PRIOR TO PLACEMENT OF BALLAST OR TRACK MATERIALS. APPLY WATERPROOFING TO BRIDGE DECK IN ACCORDANCE WITH THE PLANS AND PROJECT SPECIFICATIONS.

2. WATERPROOFING SHALL BE BRIDGE DECK MEMBRANE WITH INTEGRATED BALLAST MAT AS MANUFACTURED BY BRIDGE PRESERVATION LLC, OR APPROVED EQUIVALENT.

3. INTEGRATED BALLAST MAT SHALL BE MINIMUM ¼" THICK.

4. DO NOT PLACE BALLAST ON WATERPROOFING UNTIL TACK FREE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

5. APPLY SPRAY–ON MEMBRANE IN ACCORDANCE WITH ENVIRONMENTAL BEST PRACTICES FOR WORK OVER WATERWAYS.

DESIGNED BY:	AGH
CHECKED BY:	KK
DRAFTED BY:	MEM

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503–4169
(907) 644–2000
LICENSE #: AECC569

CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

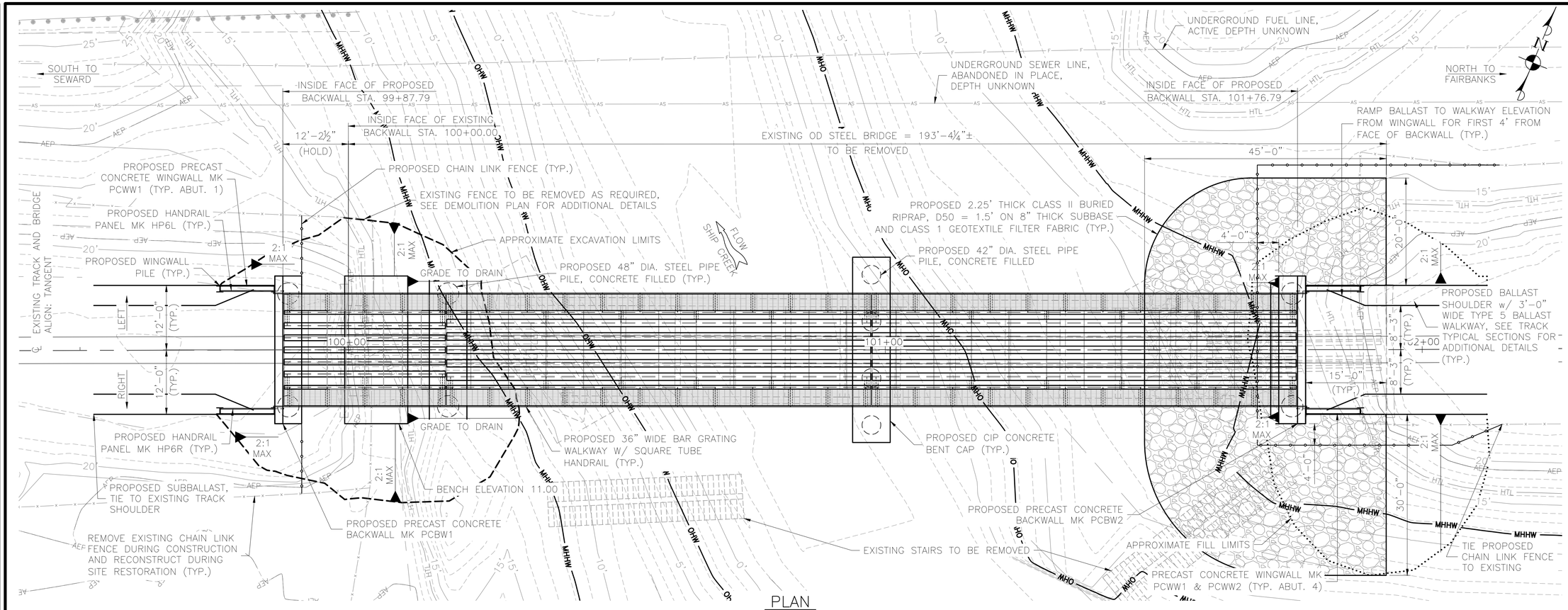
SHEET TITLE: STRUCTURAL NOTES

AFE NO. 11228

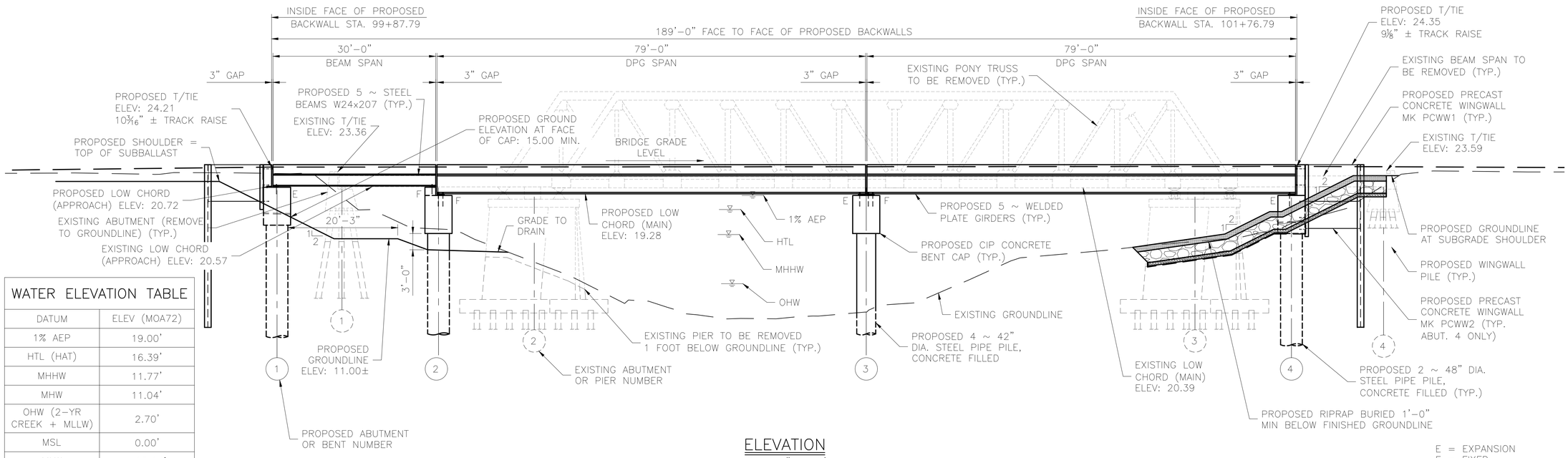
YEAR 2025

SHEET 17 OF 32

PUBLISHED CTB ARRC_CTB_2023.CTB
SCALE AS NOTED
DATE TIME 3/5/2025 3:57 PM
DRAWING LOCATION C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_18.DWG



PLAN
SCALE 1" = 10'



ELEVATION
SCALE 1" = 10'
WALKWAY AND HANDRAIL NOT SHOWN FOR CLARITY

WATER ELEVATION TABLE	
DATUM	ELEV (MOA72)
1% AEP	19.00'
HTL (HAT)	16.39'
MHHW	11.77'
MHW	11.04'
OHW (2-YR CREEK + MLLW)	2.70'
MSL	0.00'
MLW	-15.14'
MLLW	-17.39'

DESIGNED BY:	MNL
CHECKED BY:	KK
DRAFTED BY:	MEM

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ALASKA RAILROAD

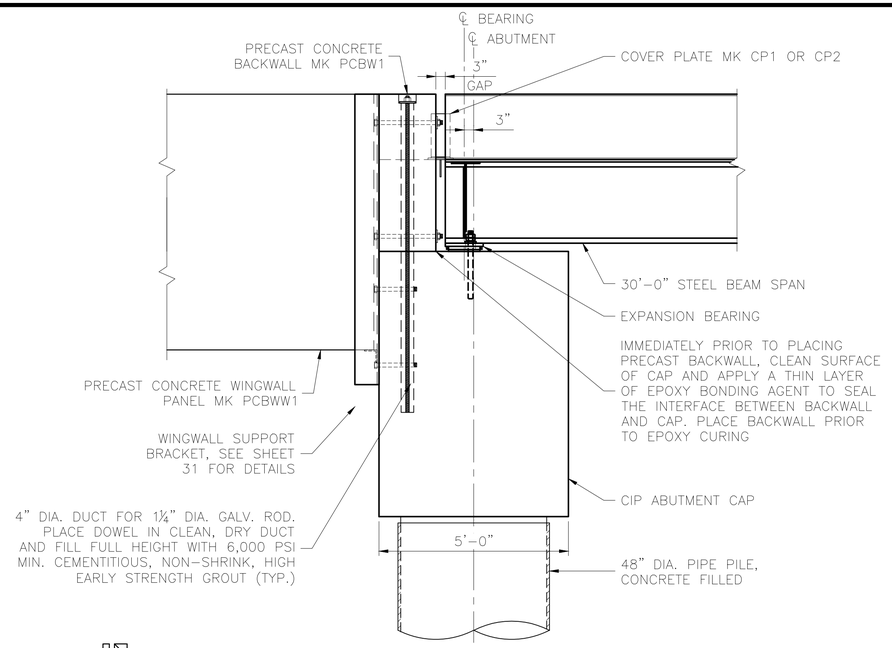
PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: BRIDGE GENERAL ARRANGEMENT

AFE NO.	11228
YEAR	2025
SHEET	18 OF 32

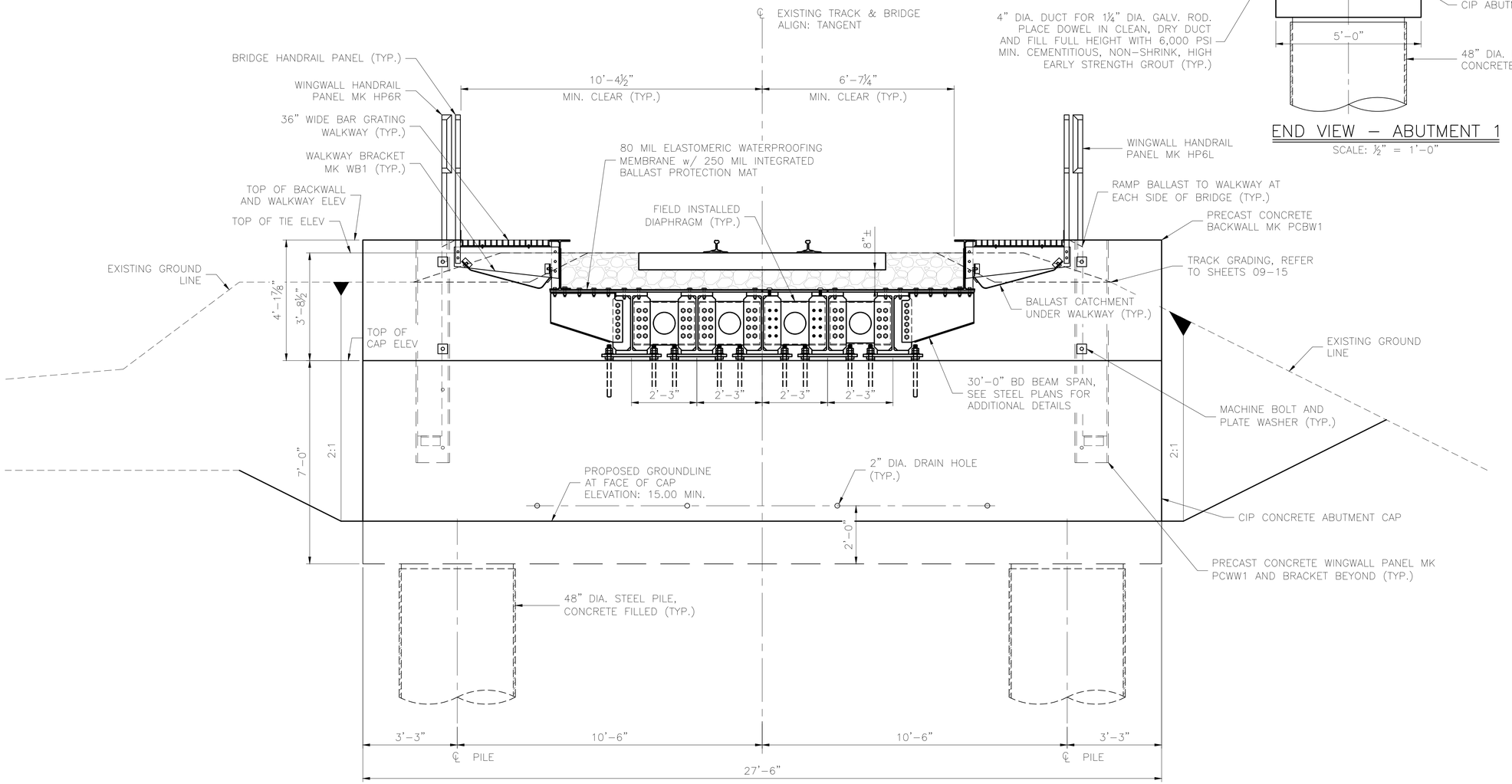
REFERENCES:

SEE STEEL FABRICATION PLANS "ARRC – FABRICATION AND SUPPLY OF 2~79' DPG AND 1~30' SBM SPANS, FEBRUARY 2025" FOR STEEL SPAN DETAILS.



END VIEW – ABUTMENT 1

SCALE: ½" = 1'–0"



SECTION – ABUTMENT 1

SCALE: ½" = 1'–0"
LOOKING BACK STATION

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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DATE: MARCH 5, 2025

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ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TYPICAL SECTIONS (1 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	19 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 4:03 PM

DRAWING LOCATION
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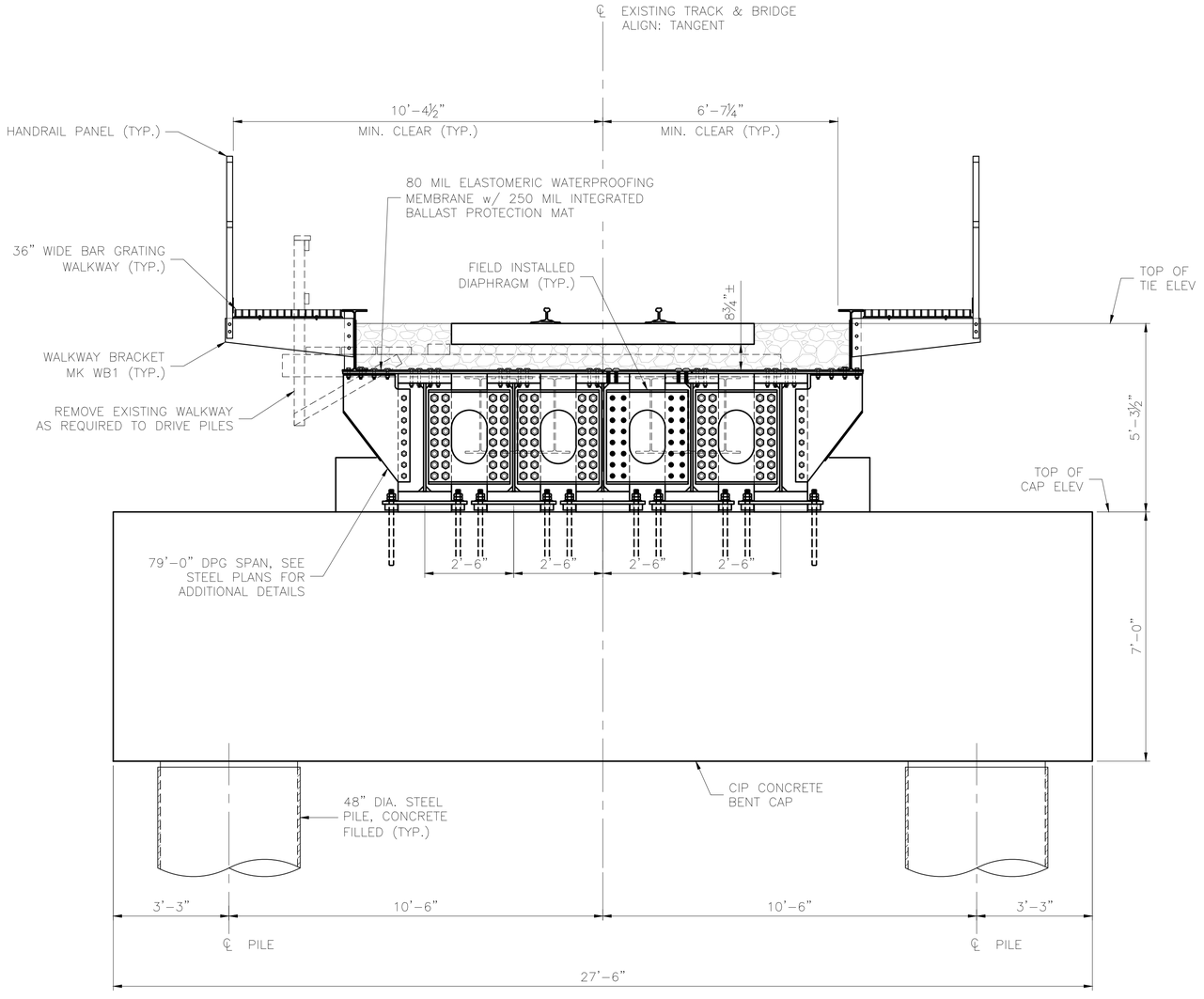
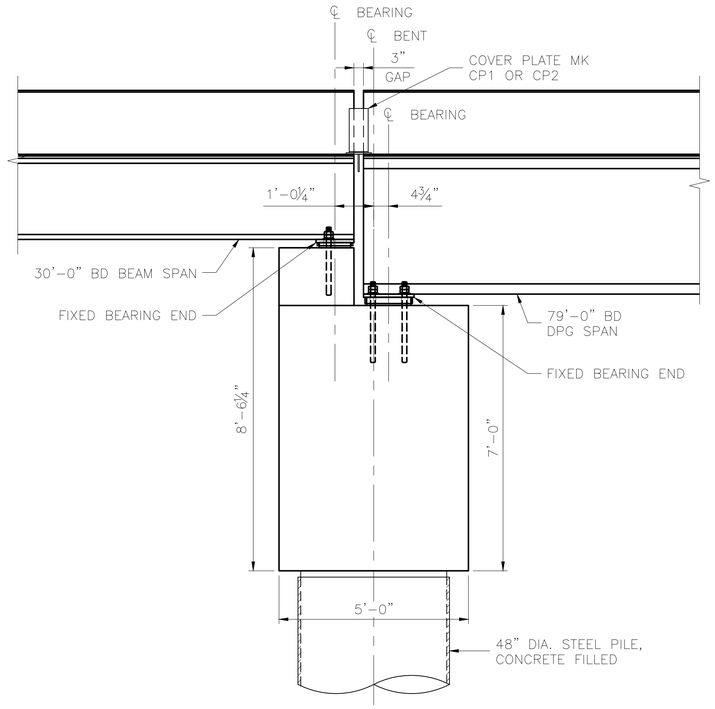


SECTION – BENT 2

SCALE: ½" = 1'–0"

SPAN 2 SHOWN LOOKING BACK STATION, SEE END VIEW FOR STEPPED CAP DETAILS FOR SPAN 1



END VIEW (BENT 2)

SCALE: ½" = 1'–0"

REFERENCES:

SEE STEEL FABRICATION PLANS "ARRC – FABRICATION AND SUPPLY OF 2~79' DPG AND 1~30' SBM SPANS, FEBRUARY 2025" FOR STEEL SPAN DETAILS.

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DATE: MARCH 5, 2025

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ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TYPICAL SECTIONS (2 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	20 OF 32

DRAWING LOCATION
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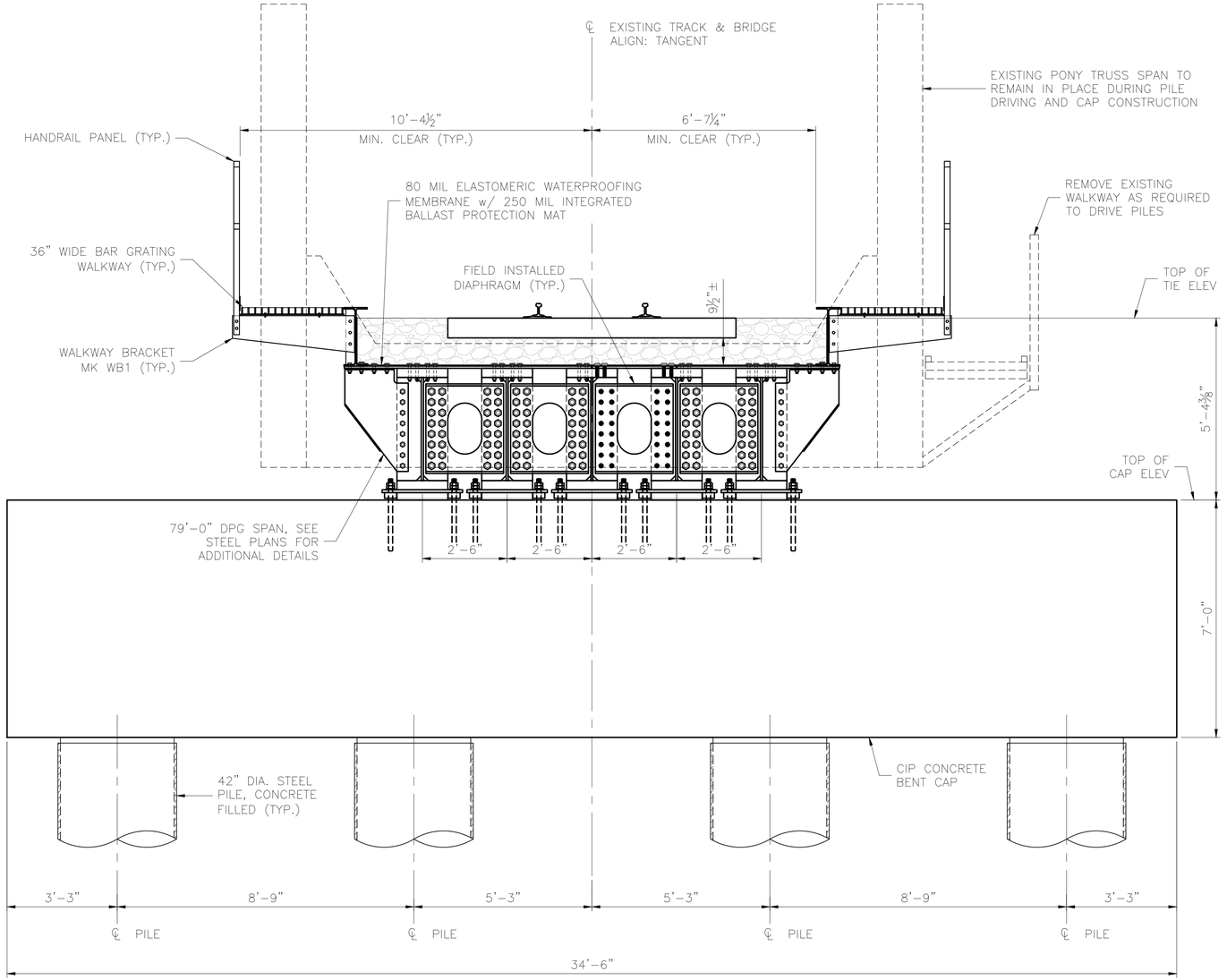
DATE TIME 3/5/2025 4:04 PM | SCALE AS NOTED | PUBLISHED CTB ARRC_CTB_2023.CTB



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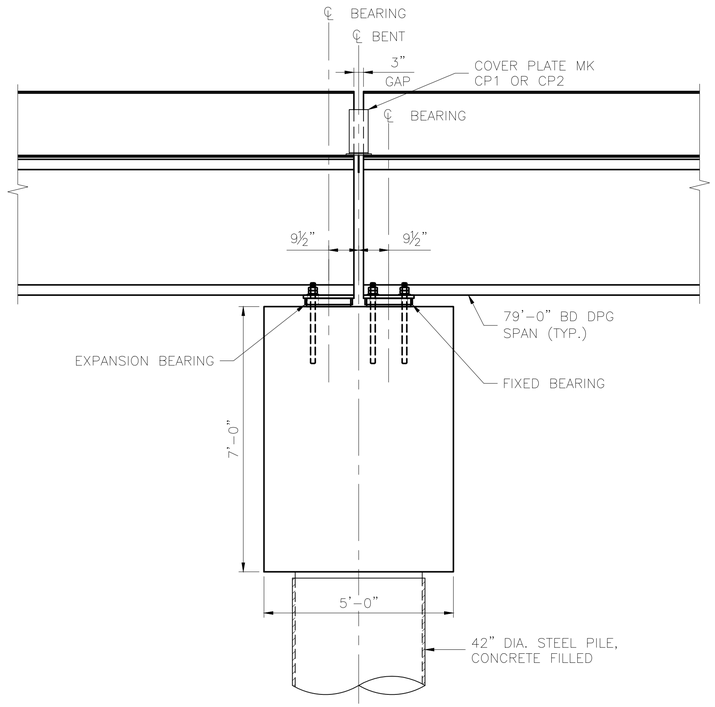

END VIEW (BENT 3)

SCALE: ½" = 1'-0"

REFERENCES:

SEE STEEL FABRICATION PLANS "ARRC – FABRICATION AND SUPPLY OF 2~79' DPG AND 1~30' SBM SPANS, FEBRUARY 2025" FOR STEEL SPAN DETAILS.

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ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TYPICAL SECTIONS (3 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	21 OF 32

DRAWING LOCATION
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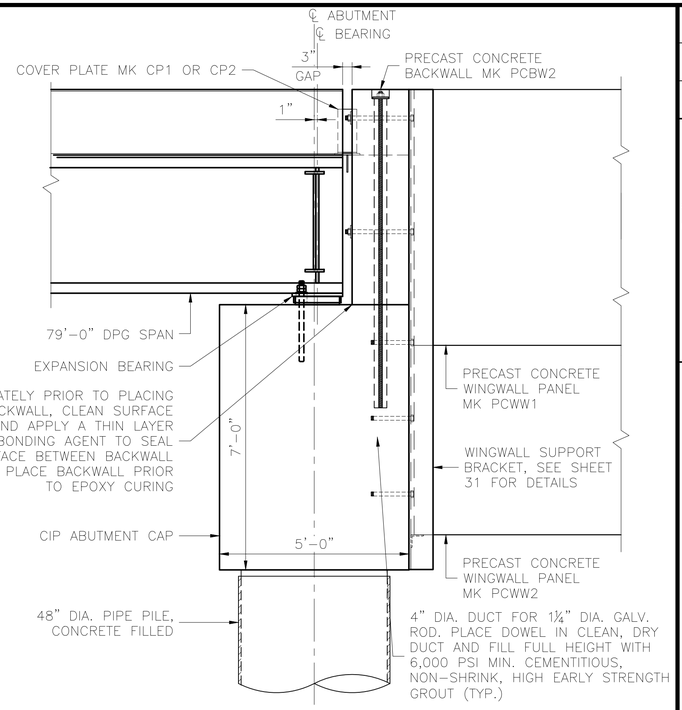
DATE 3/5/2025 TIME 4:04 PM | SCALE AS NOTED | PUBLISHED CTB ARRC_CTB_2023.CTB

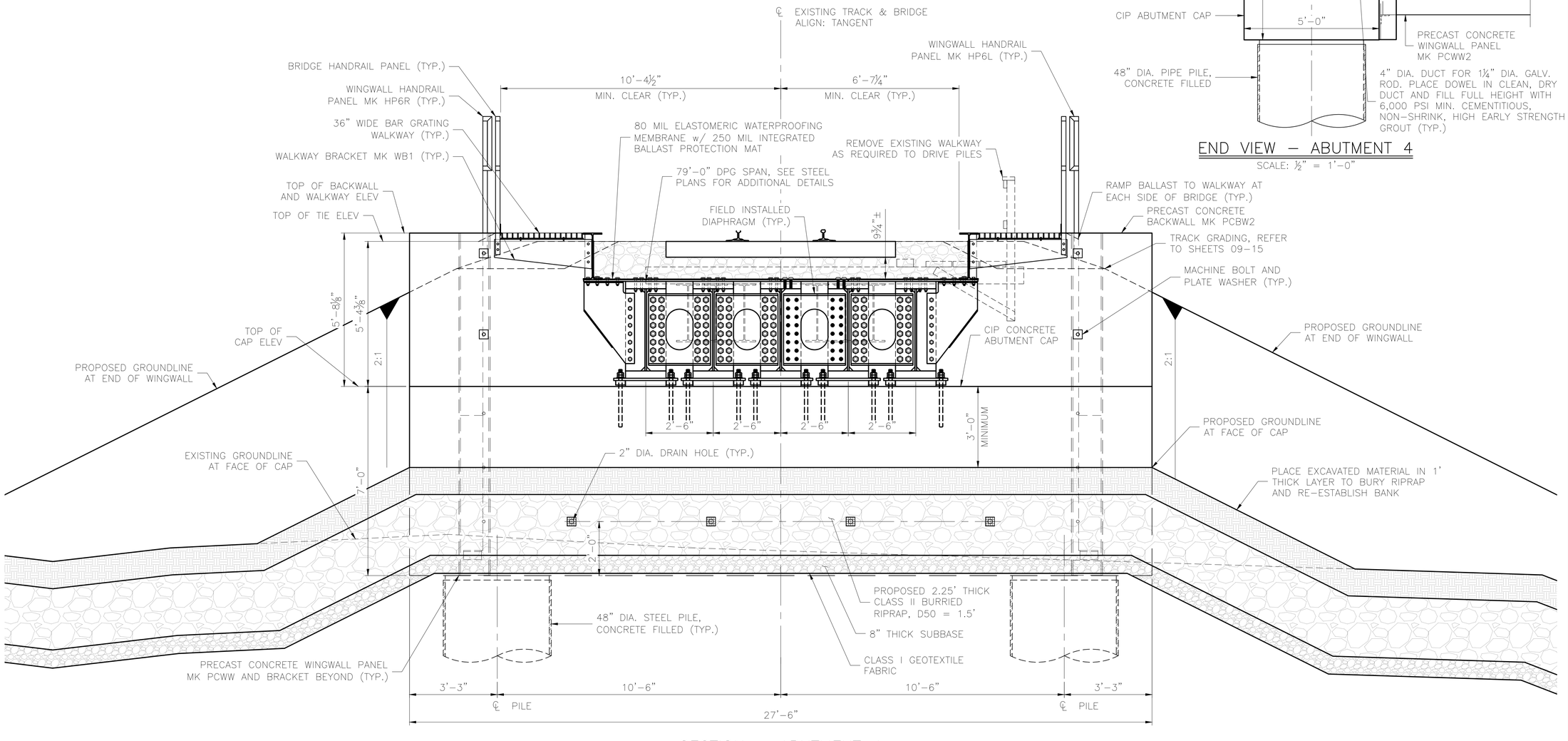
REFERENCES:

SEE STEEL FABRICATION PLANS "ARRC – FABRICATION AND SUPPLY OF 2~79' DPG AND 1~30' SBM SPANS, FEBRUARY 2025" FOR STEEL SPAN DETAILS.



END VIEW – ABUTMENT 4

SCALE: ½" = 1'–0"



SECTION – ABUTMENT 4

SCALE: ½" = 1'–0"

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ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: TYPICAL SECTIONS (4 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	22 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 4:05 PM
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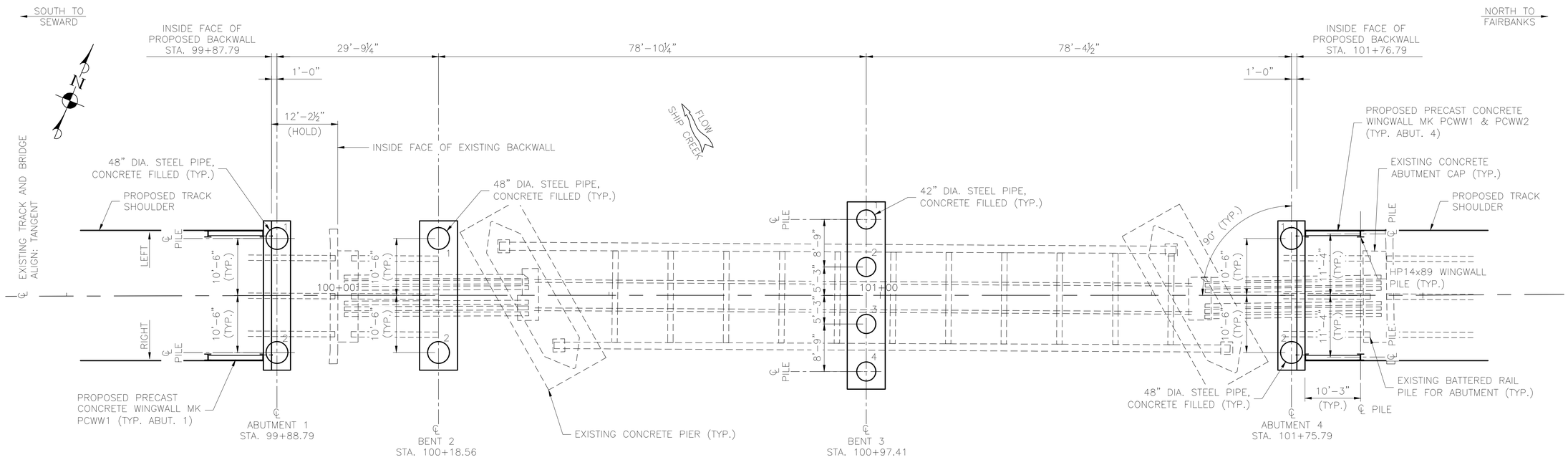

PLAN

SCALE 1" = 10'-0"

PILE DATA TABLE

LOCATION	TYPE	QUANTITY	PILE SIZE	PILE CUTOFF ELEVATION	REQUIRED TIP ELEVATION	ESTIMATED LENGTH (FT)	GALVANIZED PILE LENGTH FROM CUTOFF (FT)	REQUIRED ULTIMATE AXIAL RESISTANCE (KIP)	
								COMPRESSION	TENSION
ABUTMENT 1	CONCRETE FILLED PIPE PILE	2	48" DIA	13.33	−140	153.33	N/A	1,609	605
ABUTMENT 1 WINGWALLS	STEEL PILE	2	HP14x89	24.68	−5.32	30	N/A	N/A	N/A
BENT 2	CONCRETE FILLED PIPE PILE	2	48" DIA	11.81	−140	151.81	15	2,170	367
BENT 3	CONCRETE FILLED PIPE PILE	4	42" DIA	11.81	−147	158.81	25	2,446	1,009
ABUTMENT 4	CONCRETE FILLED PIPE PILE	2	48" DIA	11.81	−140	151.81	N/A	1,964	499
ABUTMENT 4 WINGWALLS	STEEL PILE	2	HP14x89	24.68	−5.32	30	N/A	N/A	N/A

TABLE OF ELEVATIONS

LOCATION	ABUTMENT 1	BENT 2		BENT 3	ABUTMENT 4
		SPAN 1	SPAN 2		
T/PROP. RAIL	24.84	24.89		24.96	24.98
T/PROP. TIE	24.21	24.27		24.34	24.35
T/PROP. BEARING	20.72	20.72	19.28	19.28	19.28
T/PROP. CAP	20.50	20.50	18.98	18.98	18.98
T/COLUMN	13.50	11.98		11.98	11.98
PILE CUTOFF	13.33	11.81		11.81	11.81

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CAPITAL PROJECTS
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ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: FOUNDATION PLAN AND ELEVATION TABLE

AFE NO. 11228

YEAR 2025

SHEET 23 OF 32

PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 4:10 PM
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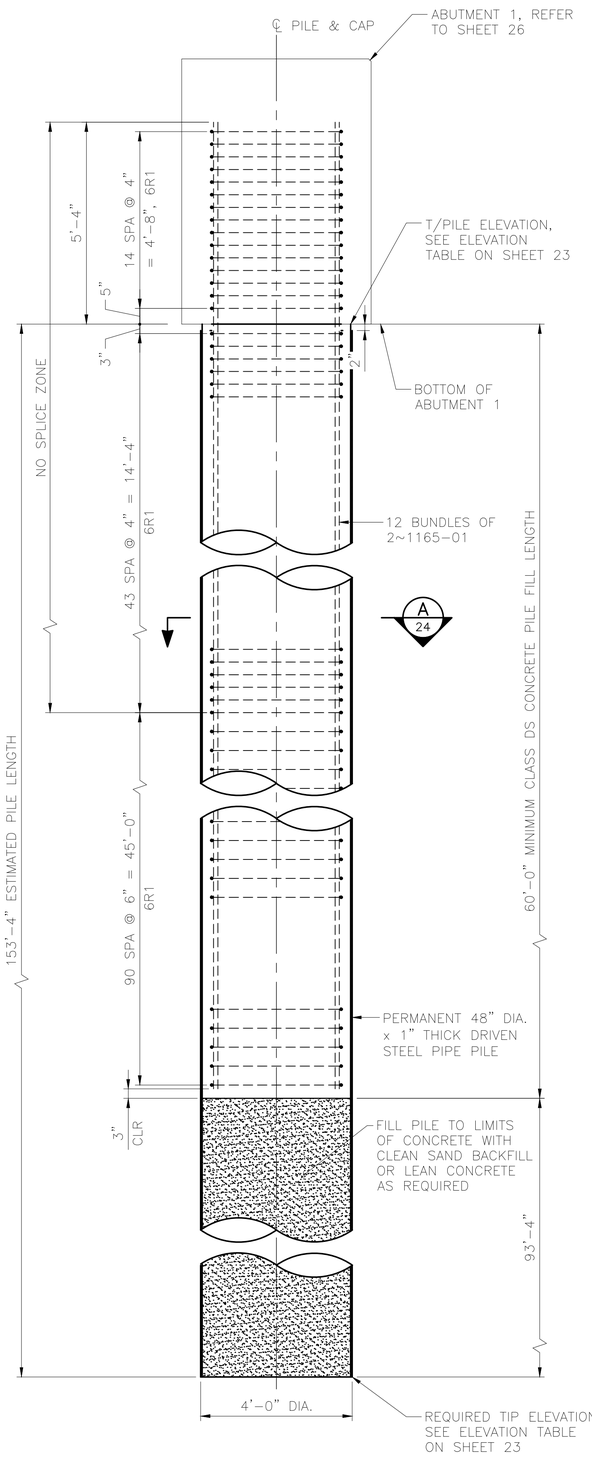
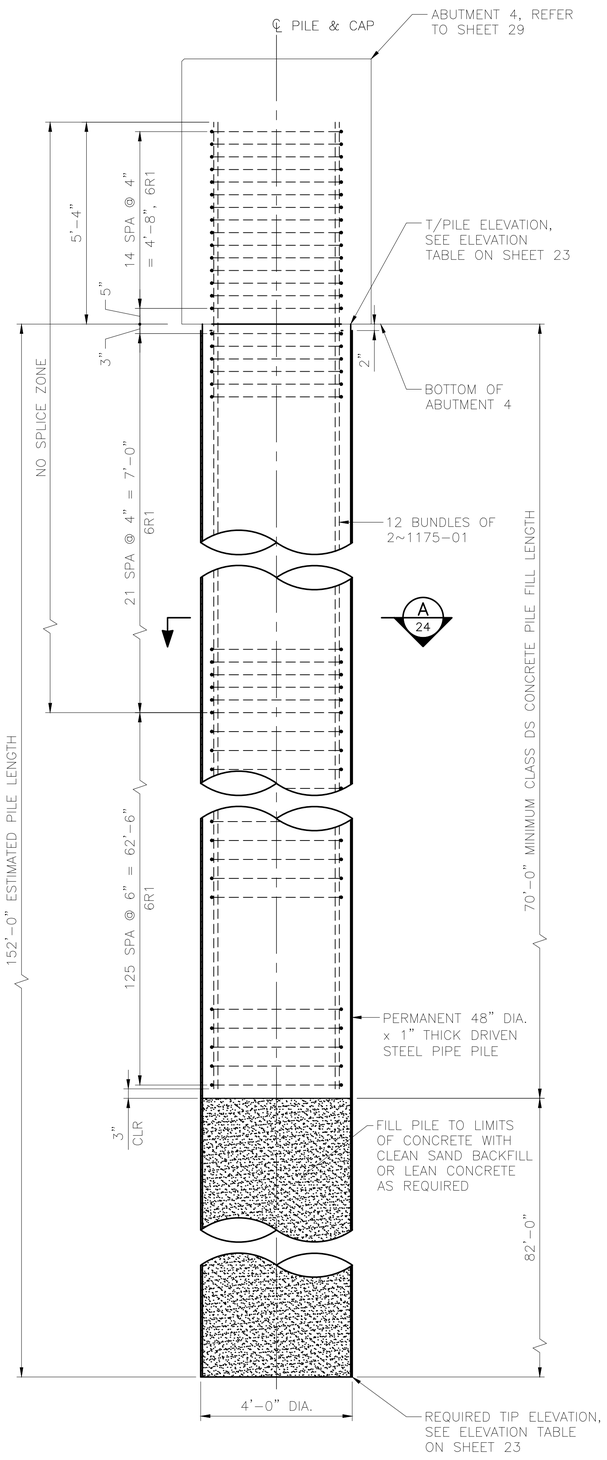


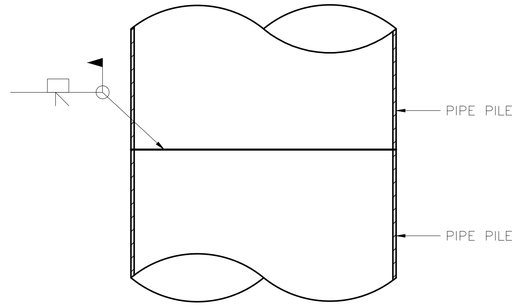
ABUTMENT 1 PILE DETAIL

SCALE: ½" = 1'-0"



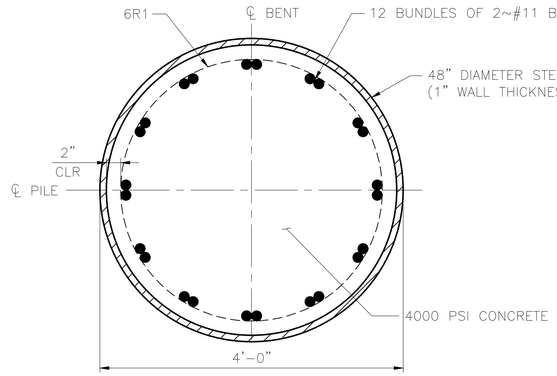
ABUTMENT 4 PILE DETAIL

SCALE: ½" = 1'-0"



PIPE PILE SPLICE DETAIL

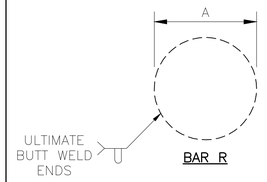
SCALE: 1" = 1'-0"



A/24 SECTION

SCALE: 1" = 1'-0"

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

LIST OF REINFORCING BARS FOR ONE ABUTMENT 1 PILE

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
24	1165-01	11	STR	–	–	65'-1"	60
149	6R1	6	R	3'-6"	–	11'-0"	60
10,761 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60							
25.7 CY = TOTAL VOLUME OF CONCRETE PER PILE, CLASS DS (f'c = 4,000 PSI)							

LIST OF REINFORCING BARS FOR ONE ABUTMENT 4 PILE

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
24	1175-01	11	STR	–	–	75'-1"	60
162	6R1	6	R	3'-6"	–	11'-0"	60
12,251 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60							
30.0 CY = TOTAL VOLUME OF CONCRETE PER PILE, CLASS DS (f'c = 4,000 PSI)							

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

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LICENSE #: AECC569

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CAPITAL PROJECTS
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ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: ABUTMENT PILE DETAILS

AFE NO. 11228

YEAR 2025

SHEET 24 OF 32

DRAWING LOCATION
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DATE TIME 3/5/2025 7:06 PM | SCALE AS NOTED | PUBLISHED CTB ARRC_CTB_2023.CTB

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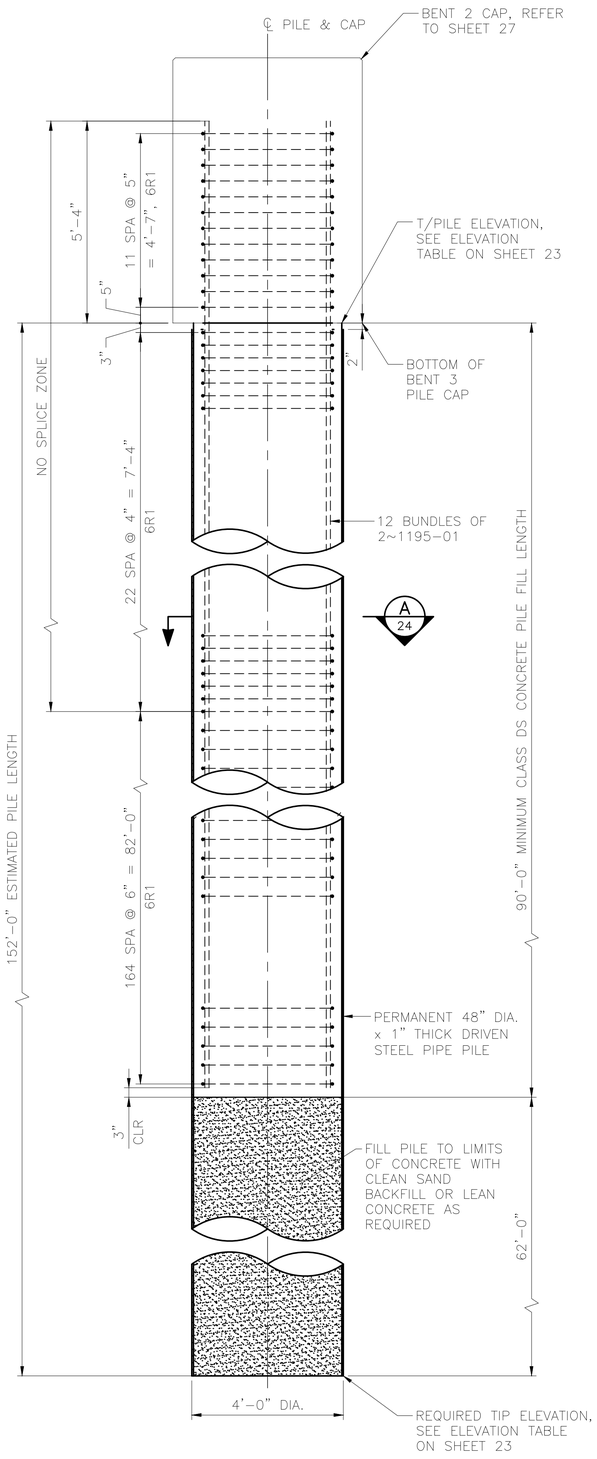
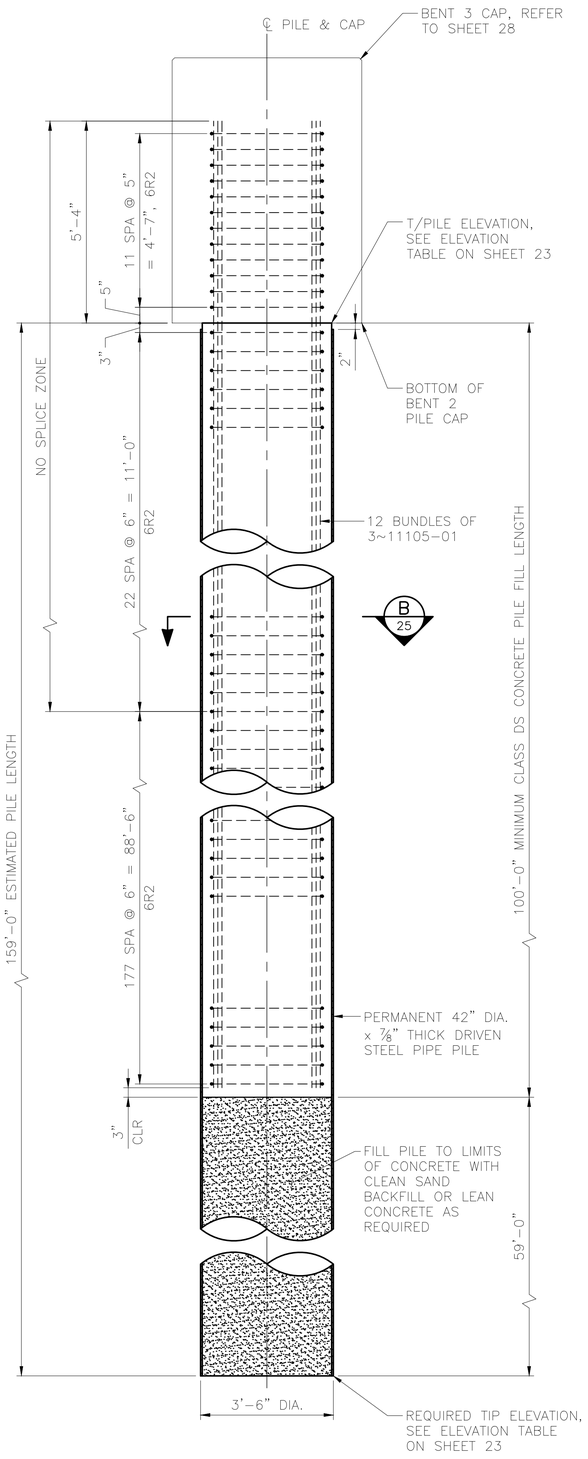


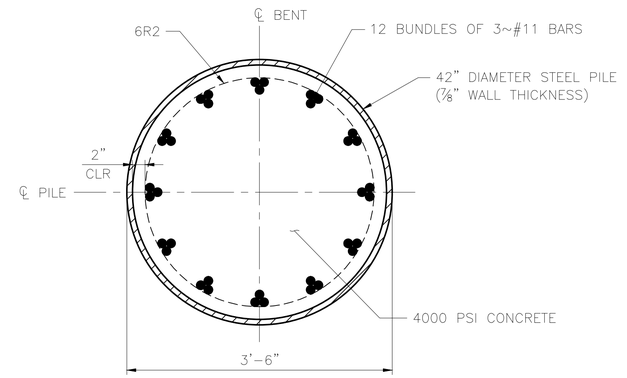
BENT 2 PILE DETAIL

SCALE: ½" = 1'-0"



BENT 3 PILE DETAIL

SCALE: ½" = 1'-0"



B 25 SECTION

SCALE: 1" = 1'-0"

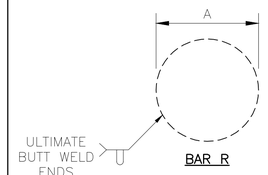
NOTE:

1. FOR PIPE PILE SPLICE DETAIL SEE SHEET 24.
2. FOR SECTION A – SEE SHEET 24

LIST OF REINFORCING BARS FOR ONE BENT 2 PILE							
QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
24	1195-01	11	STR	–	–	95'-1"	60
199	6R1	6	R	3'-6"	–	11'-0"	60
15,413 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60							
38.5 CY = TOTAL VOLUME OF CONCRETE PER PILE, CLASS DS (f'c = 4,000 PSI)							

LIST OF REINFORCING BARS FOR ONE BENT 3 PILE							
QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
36	11105-01	11	STR	–	–	105'-1"	60
212	6R2	6	R	3'-0¼"	–	9'-6"	60
23,125 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60							
32.8 CY = TOTAL VOLUME OF CONCRETE PER PILE, CLASS DS (f'c = 4,000 PSI)							

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

HDR
582 E. 36TH AVE., SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: BENT PILE DETAILS

AFE NO. 11228

YEAR 2025

SHEET 25 OF 32

DRAWING LOCATION
C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_25.DWG

PUBLISHED	SCALE	TIME	DATE
CTB	AS NOTED	7:00 PM	3/5/2025
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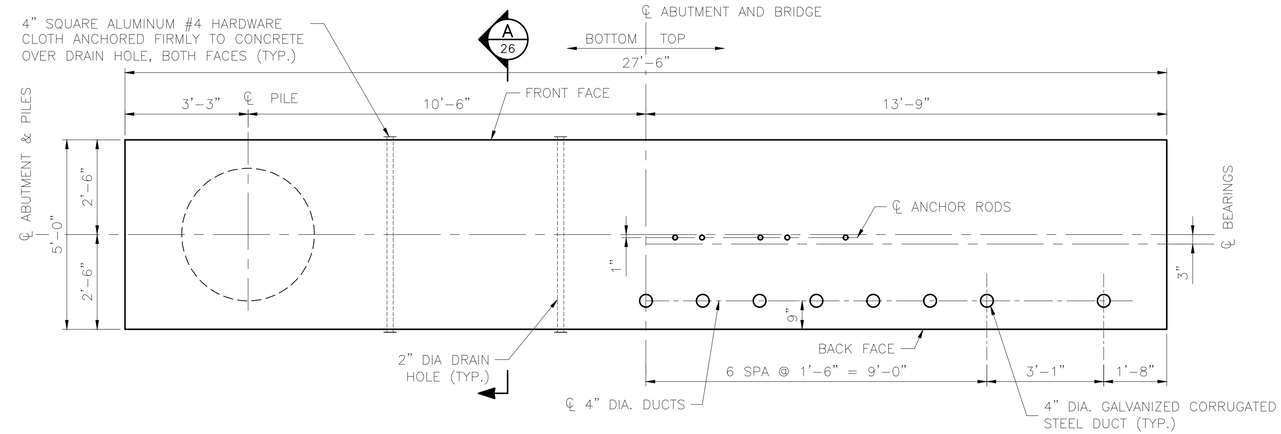
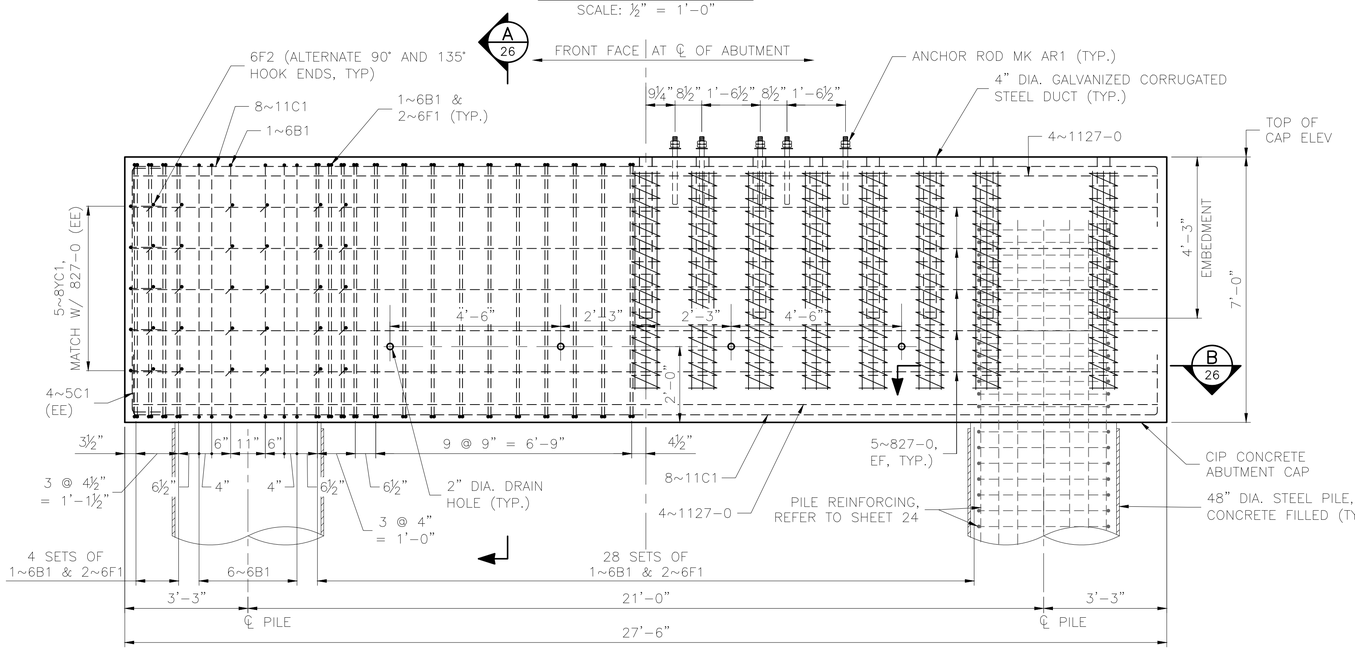
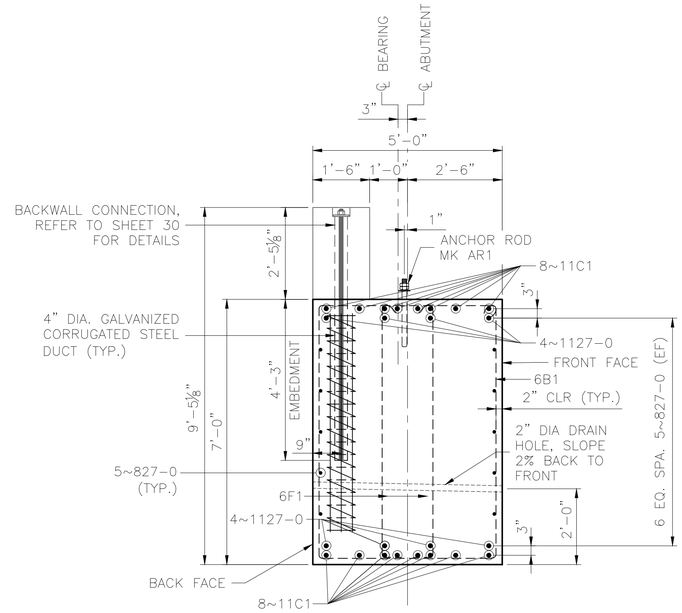


ABUTMENT 1 PLAN

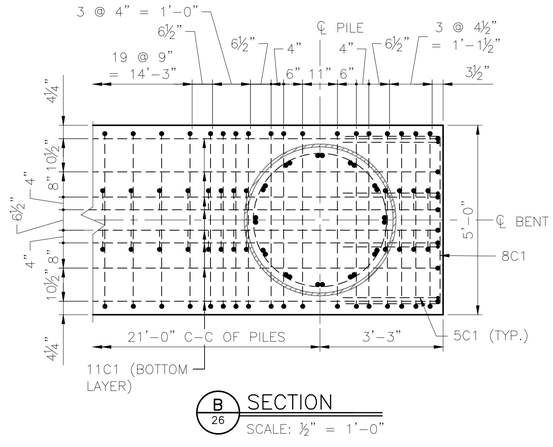
SCALE: ½" = 1'-0"





A 26 SECTION

SCALE: ½" = 1'-0"



B 26 SECTION

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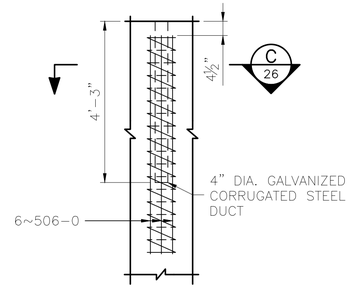
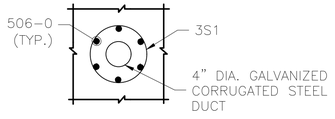


BACKWALL ANCHORAGE REINFORICNG DETAIL

SCALE: ½" = 1'-0"

ABUTMENT 1 ELEVATION

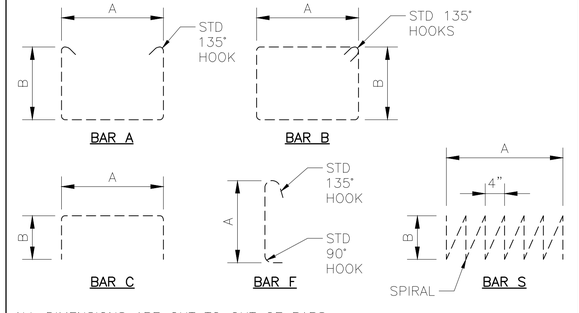
SCALE: ½" = 1'-0"



C 26 SECTION

SCALE: ½" = 1'-0"

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

LIST OF REINFORCING BARS FOR ABUTMENT 1 CAP

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
90	506-0	5	STR	–	–	6'-0"	60
10	827-0	8	STR	–	–	27'-0"	60
8	1127-0	11	STR	–	–	27'-0"	80
15	3S1	3	S	5'-8"	0'-9"	46'-6"	60
8	5C1	5	C	6'-6½"	2'-6"	11'-6½"	60
48	6B1	6	B	4'-8"	6'-8"	24'-0"	60
72	6F1	6	F	6'-8"	–	8'-4"	60
60	6F2	6	F	4'-8"	–	6'-4"	60
10	8C1	8	C	4'-6½"	2'-6"	9'-6½"	60
16	11C1	11	C	27'-0"	1'-7"	30'-2"	80

3,710 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 80,
5,100 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60

35.7 CY = TOTAL VOLUME OF CONCRETE, CLASS A (f'c = 4,000 PSI)

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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SIGNATURE:

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: ABUTMENT 1 DETAILS

AFE NO. 11228

YEAR 2025

SHEET 26 OF 32

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DATE TIME 3/5/2025 7:09 PM

DRAWING LOCATION
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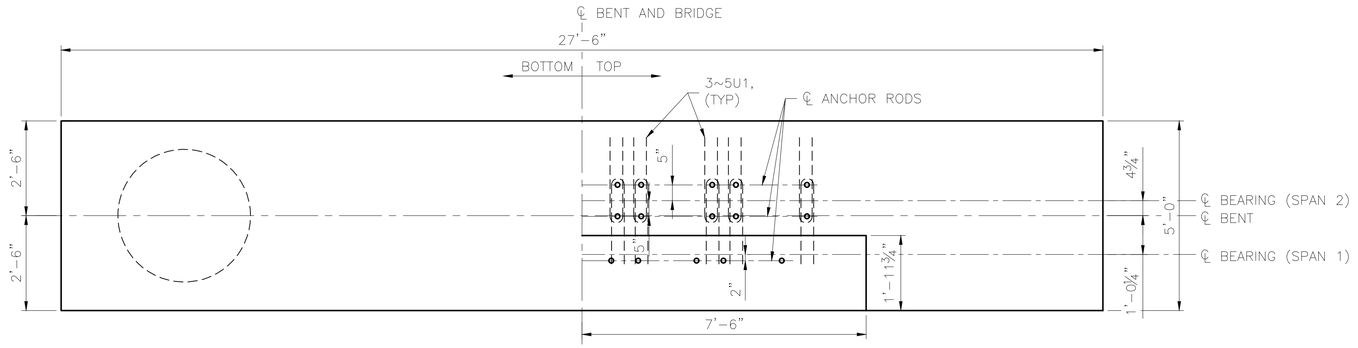
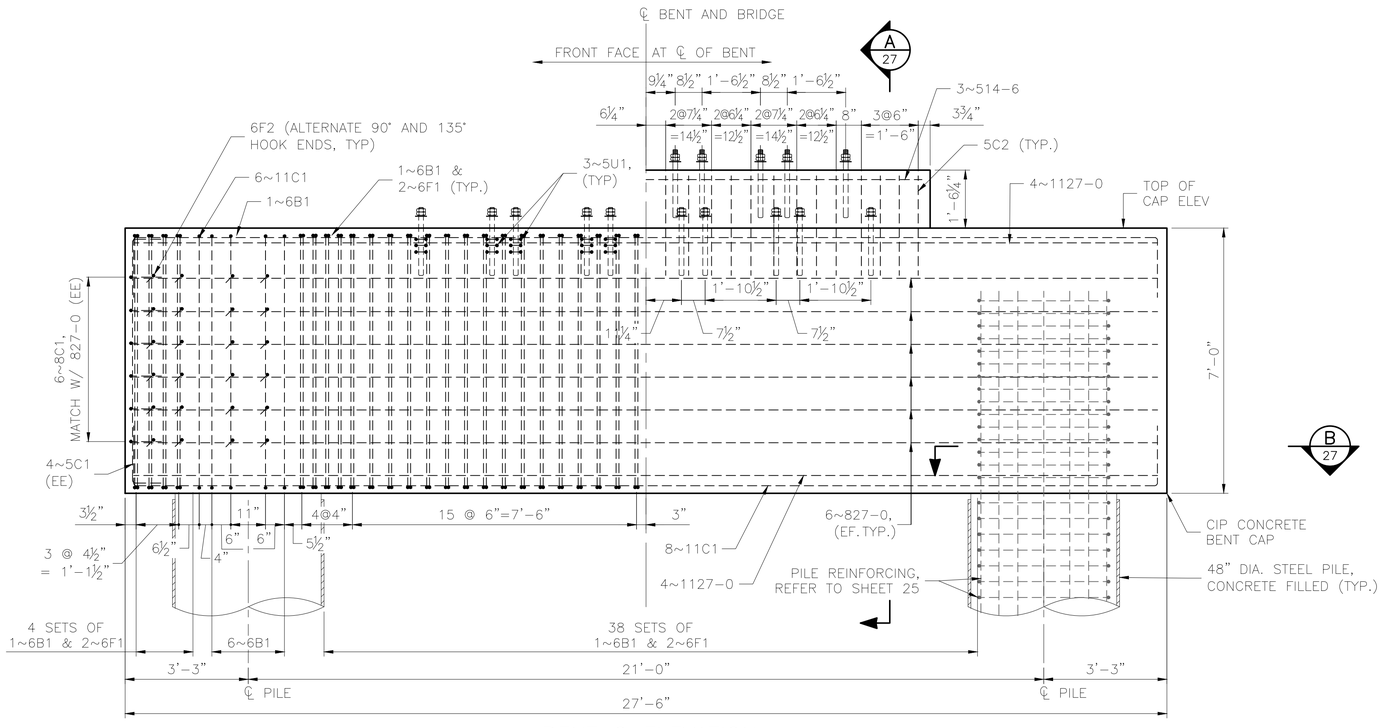


BENT 2 PLAN

SCALE: ½" = 1'-0"



BENT 2 ELEVATION

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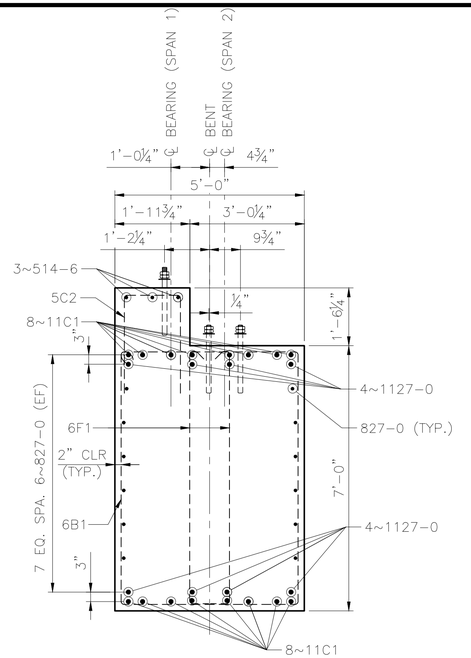
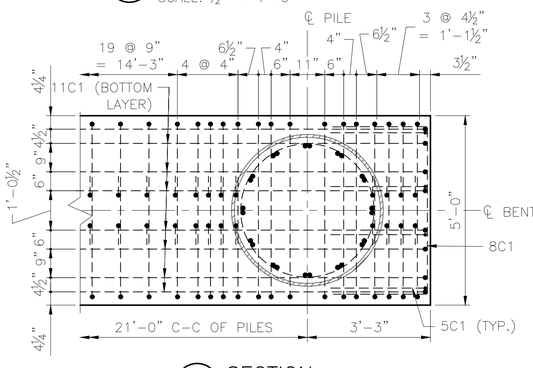


A 27 SECTION

SCALE: ½" = 1'-0"



B 27 SECTION

SCALE: ½" = 1'-0"

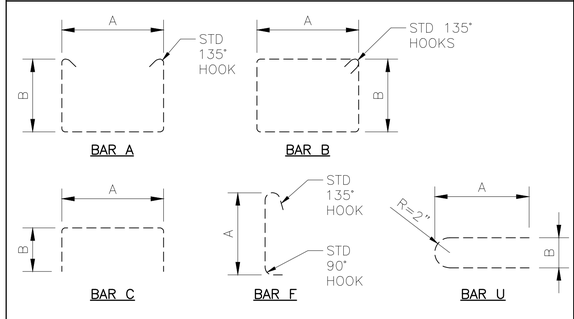
LIST OF REINFORCING BARS FOR BENT 2

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
3	514-6	5	STR	–	–	14'-6"	60
12	827-0	8	STR	–	–	27'-0"	60
8	1127-0	11	STR	–	–	27'-0"	80
8	5C1	5	C	6'-6½"	2'-6"	11'-6½"	60
30	5C2	5	C	1'-7¾"	3'-6"	8'-7¾"	60
60	5U1	5	U	2'-3"	4"	4'-10"	60
56	6B1	6	B	4'-8"	6'-8"	24'-0"	60
88	6F1	6	F	6'-8"	–	8'-4"	60
60	6F2	6	F	4'-8"	–	6'-4"	60
12	8C1	8	C	4'-6½"	2'-6"	9'-6½"	60
16	11C1	11	C	27'-0"	1'-7"	30'-2"	80

4,000 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 80,
5,430 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60

37.3 CY = TOTAL VOLUME OF CONCRETE, CLASS A (f'c = 4,000 PSI)

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
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ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

582 E. 36TH AVE, SUITE 500
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(907) 644-2000

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: BENT 2 DETAILS

AFE NO. 11228

YEAR 2025

SHEET 27 OF 32

DRAWING LOCATION
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AS NOTED

DATE TIME
3/5/2025 7:11 PM

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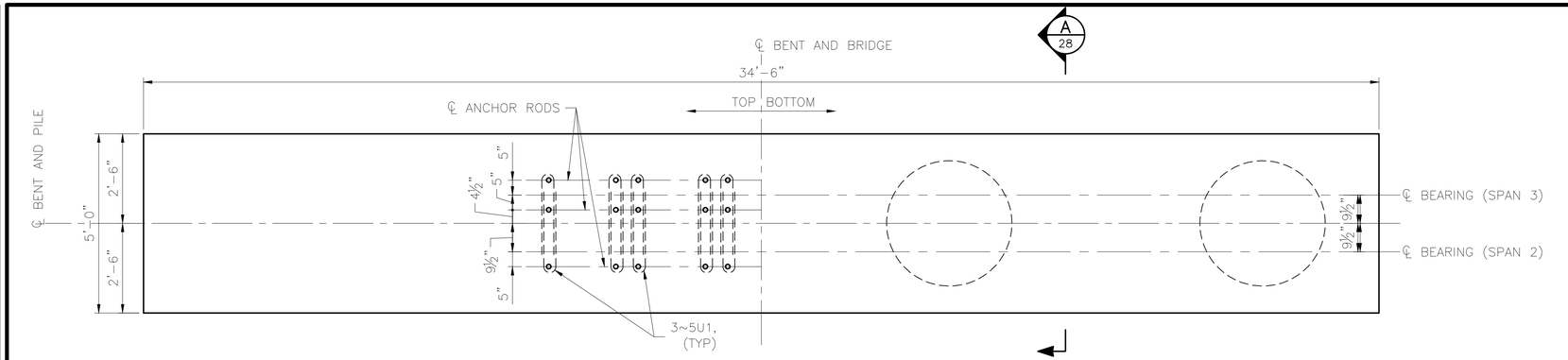
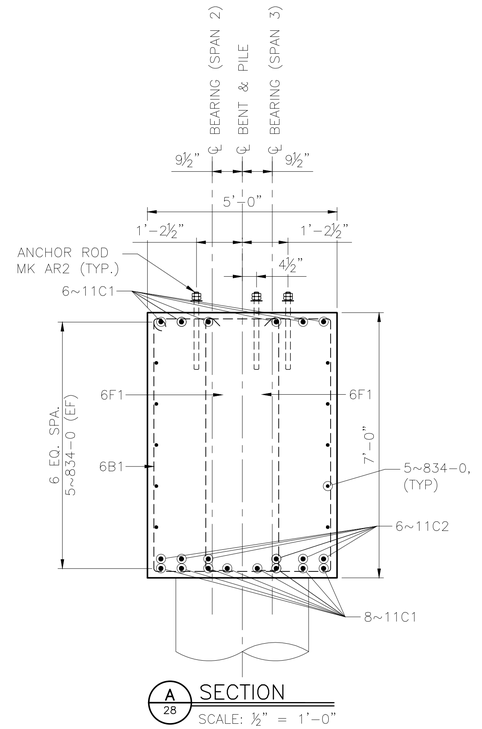


BENT 3 PLAN

SCALE: ½" = 1'-0"



A 28 SECTION

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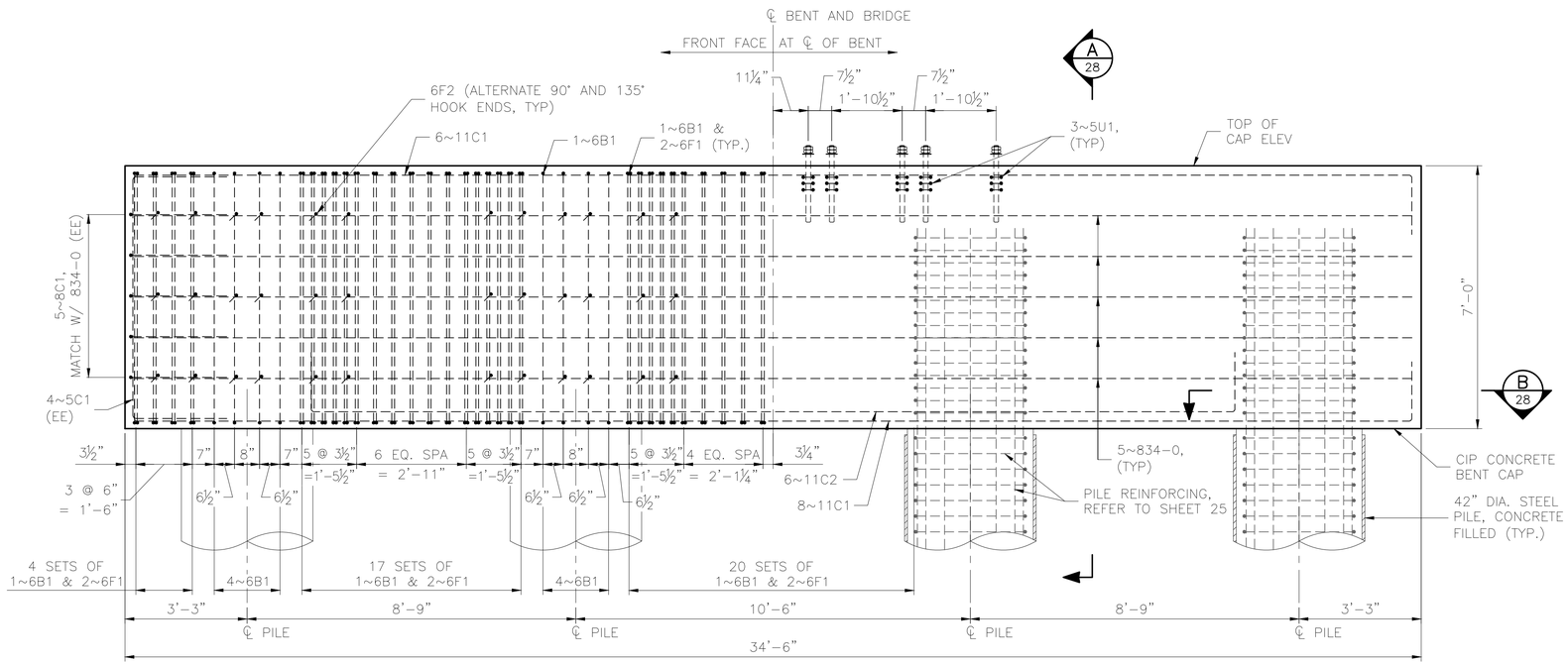
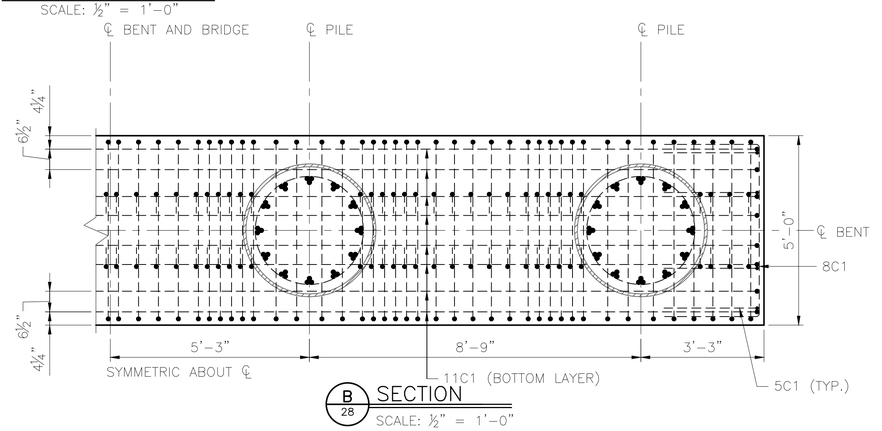


BENT 3 ELEVATION

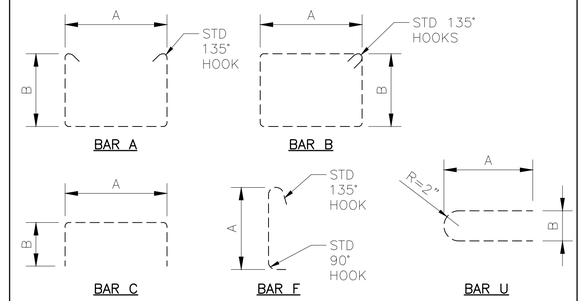
SCALE: ½" = 1'-0"



B 28 SECTION

SCALE: ½" = 1'-0"

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

LIST OF REINFORCING BARS FOR BENT 3

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
10	834-0	8	STR	–	–	34'-0"	60
8	5C1	5	C	6'-6½"	2'-6"	11'-6½"	60
60	5U1	5	U	2'-3"	4"	4'-10"	60
78	6B1	6	B	4'-8"	6'-8"	24'-0"	60
62	6F1	6	F	6'-8"	–	8'-4"	60
72	6F2	6	F	4'-8"	–	6'-4"	60
10	8C1	8	C	4'-6½"	2'-6"	9'-6½"	60
14	11C1	11	C	34'-0"	1'-7"	37'-2"	80
6	11C2	11	C	24'-7"	1'-7"	26'-9"	80

3,950 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 80,
5,835 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60

44.7 CY = TOTAL VOLUME OF CONCRETE, CLASS A (f'c = 4,000 PSI)

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CHECKED BY:	KK
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SIGNATURE:

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: BENT 3 DETAILS

AFE NO.	11228
YEAR	2025
SHEET	28 OF 32

DRAWING LOCATION
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PUBLISHED CTB: ARRC_CTB_2023.CTB
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DATE TIME: 3/5/2025 7:12 PM

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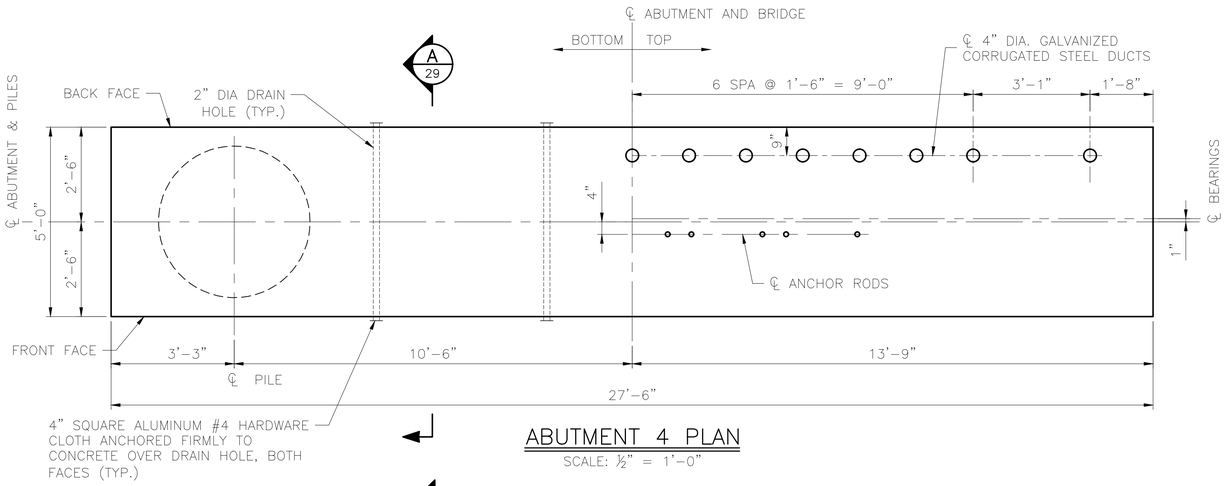
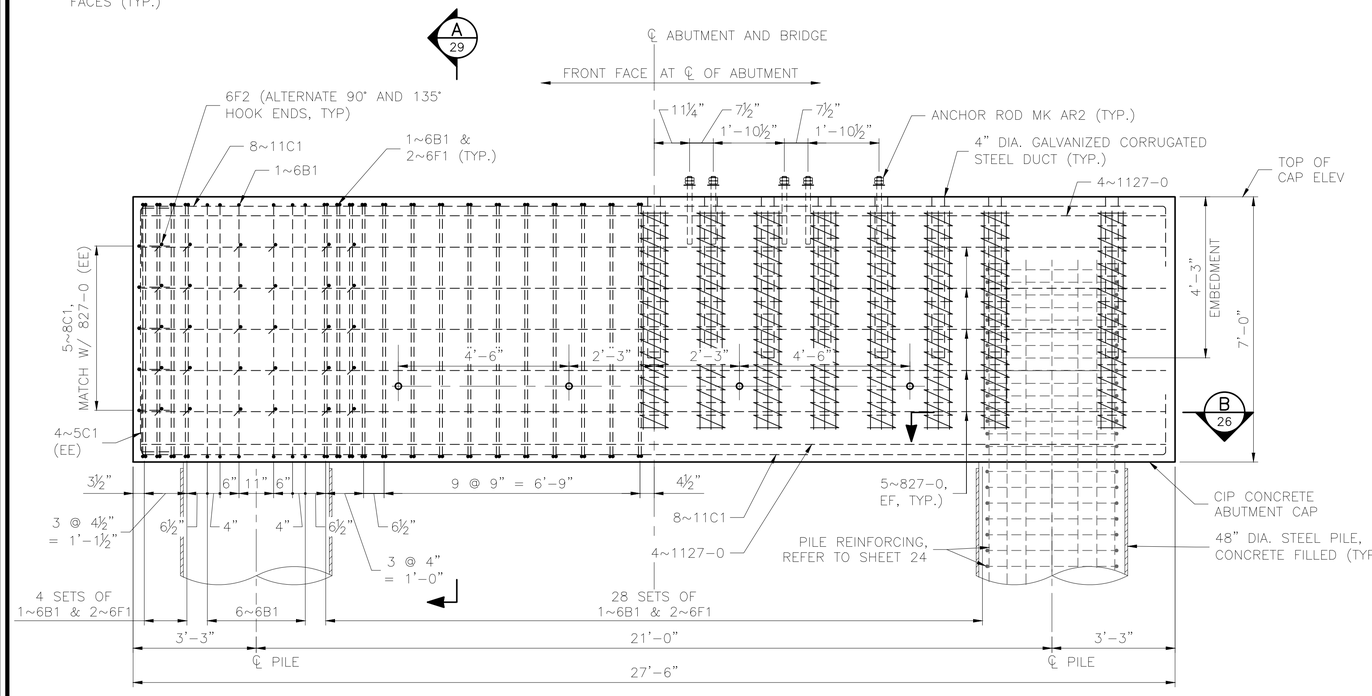


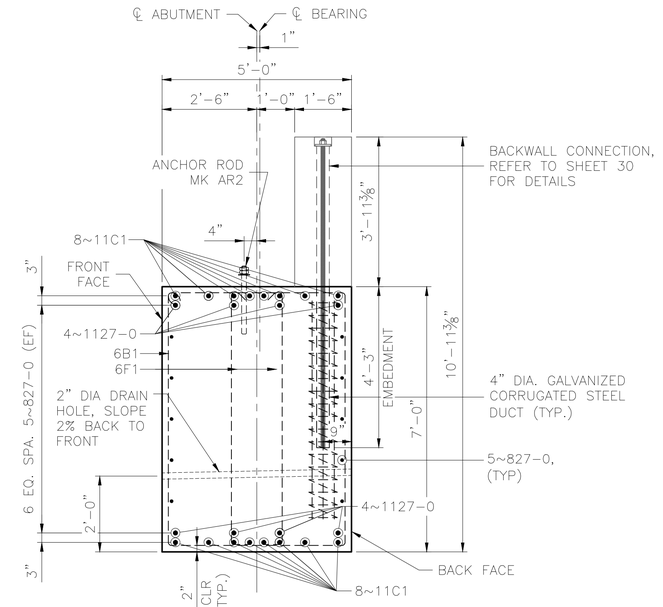
ABUTMENT 4 PLAN

SCALE: ½" = 1'-0"



ABUTMENT 4 ELEVATION

SCALE: ½" = 1'-0"



A 29 SECTION

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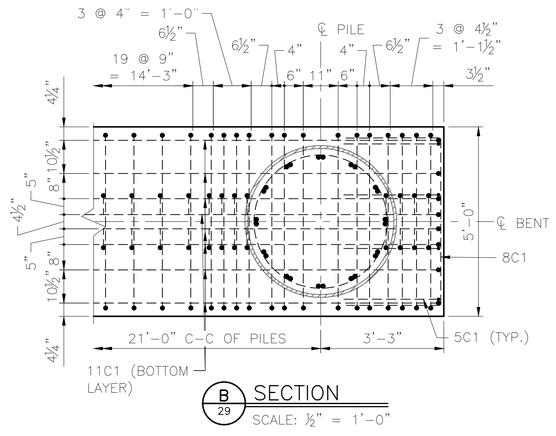
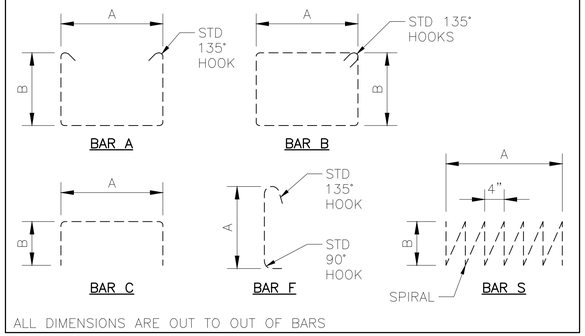


B 29 SECTION

SCALE: ½" = 1'-0"

REINFORCING STEEL DETAILS



ALL DIMENSIONS ARE OUT TO OUT OF BARS

LIST OF REINFORCING BARS FOR ABUTMENT 4 CAP

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
90	506-0	5	STR	–	–	6'-0"	60
10	827-0	8	STR	–	–	27'-0"	60
8	1127-0	11	STR	–	–	27'-0"	80
15	3S1	3	S	5'-8"	0'-9"	46'-6"	60
8	5C1	5	C	6'-6½"	2'-6"	11'-6½"	60
48	6B1	6	B	4'-8"	6'-8"	24'-0"	60
72	6F1	6	F	6'-8"	–	8'-4"	60
60	6F2	6	F	4'-8"	–	6'-4"	60
10	8C1	8	C	4'-6½"	2'-6"	9'-6½"	60
16	11C1	11	C	27'-0"	1'-7"	30'-2"	80

3,710 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 80,
5,100 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR 60

35.7 CY = TOTAL VOLUME OF CONCRETE, CLASS A (f'c = 4,000 PSI)

NOTES:

1. FOR BACKWALL ANCHORAGE DETAIL, SEE SHEET 26.

DESIGNED BY:	ML
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DRAFTED BY:	MEM

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

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ANCHORAGE, ALASKA 99503
(907) 644-2000

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

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: ABUTMENT 4 DETAILS

AFE NO. 11228

YEAR 2025

SHEET 29 OF 32

DRAWING LOCATION
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DATE TIME
3/5/2025 7:14 PM

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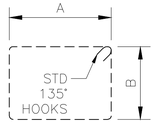
GEOMETRY TABLE			
MARK	HEIGHT (H1)	HEIGHT (H2)	LIFT WEIGHT (LBS)
PCBW1	4'–1⅞"	2'–5⅛"	20,250
PCBW2	5'–8⅛"	3'–11⅜"	29,650

REINFORCING STEEL DETAILS

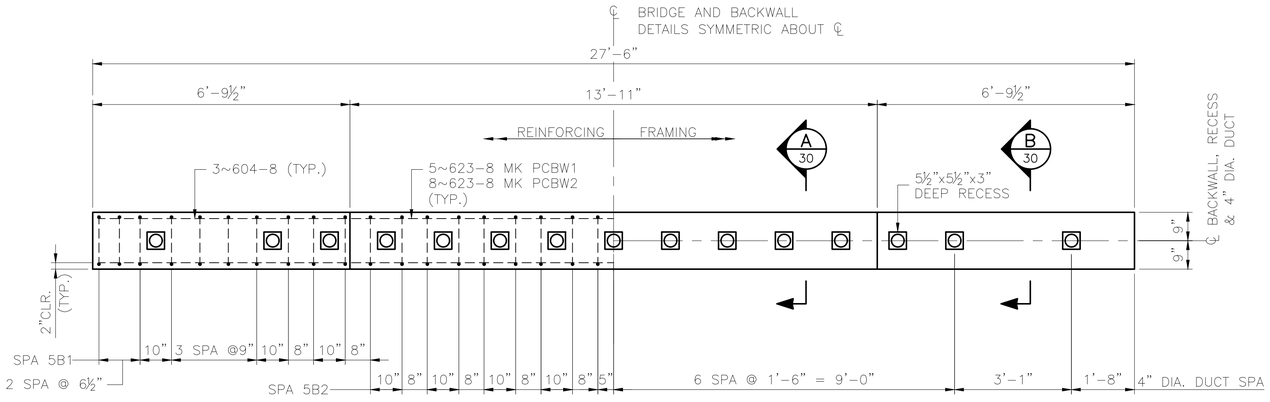


BAR B

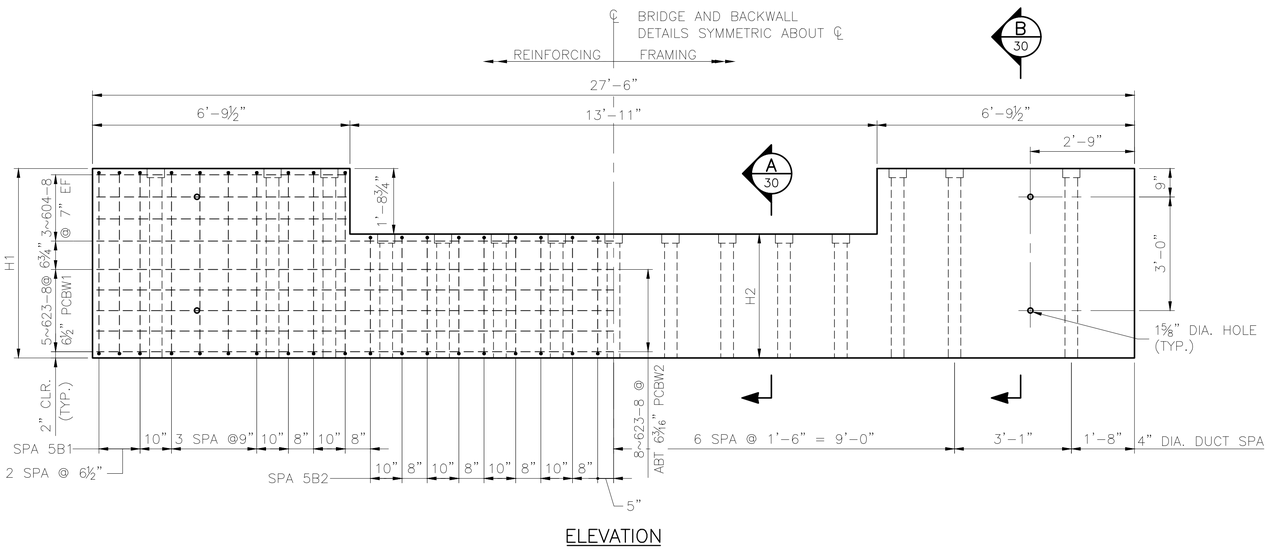
ALL DIMENSIONS ARE OUT TO OUT OF BARS

LIST OF REINFORCING BARS FOR MK PCBW1						
QTY	MARK	SIZE	SHAPE	A	B	LENGTH
12	604–8	6	STR	–	–	4'–8½"
10	623–8	6	STR	–	–	23'–8"
14	5B1	5	B	1'–2"	3'–9¾"	10'–11½"
16	5B2	5	B	1'–2"	2'–1"	7'–6"
726 LBS = WEIGHT OF REINFORCING STEEL, ASTM A615 OR A706, GR 60						
4.19 CY = TOTAL VOLUME OF CONCRETE, CLASS P (5,000 PSI)						

LIST OF REINFORCING BARS FOR MK PCBW2						
QTY	MARK	SIZE	SHAPE	A	B	LENGTH
12	604–8	6	STR	–	–	4'–8½"
16	623–8	6	STR	–	–	23'–8"
14	5B3	5	B	1'–2"	5'–4"	14'–0"
16	5B4	5	B	1'–2"	3'–7¼"	10'–6½"
1,034 LBS = WEIGHT OF REINFORCING STEEL, ASTM A615 OR A706, GR 60						
6.22 CY = TOTAL VOLUME OF CONCRETE, CLASS P (5,000 PSI)						



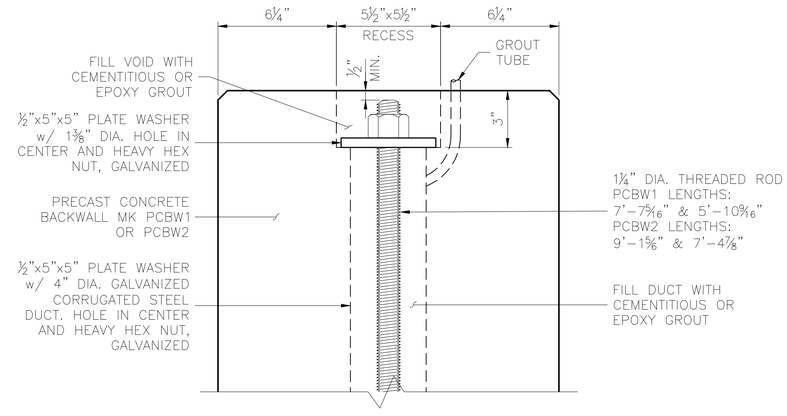
PLAN



ELEVATION

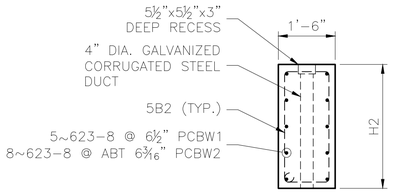
PRECAST CONCRETE BACKWALL MK PCBW1 & PCBW2

SCALE: ½" = 1'–0"



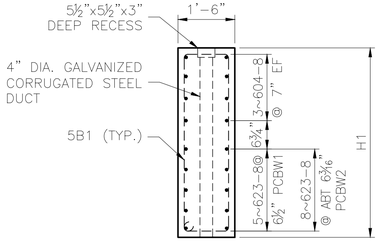
BACKWALL CONNECTION DETAIL

SCALE: 3" = 1'–0"



A 30 SECTION

SCALE: ½" = 1'–0"



B 30 SECTION

SCALE: ½" = 1'–0"

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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SIGNATURE: Kyle Kauzlarich

DATE: MARCH 5, 2025

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503–4169
(907) 644–2000
LICENSE #: AECC569

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ANCHORAGE, AK 99503-4169
(907) 644-2000

CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: PRECAST CONCRETE BACKWALL DETAILS

AFE NO.	11228
YEAR	2025
SHEET	30 OF 32

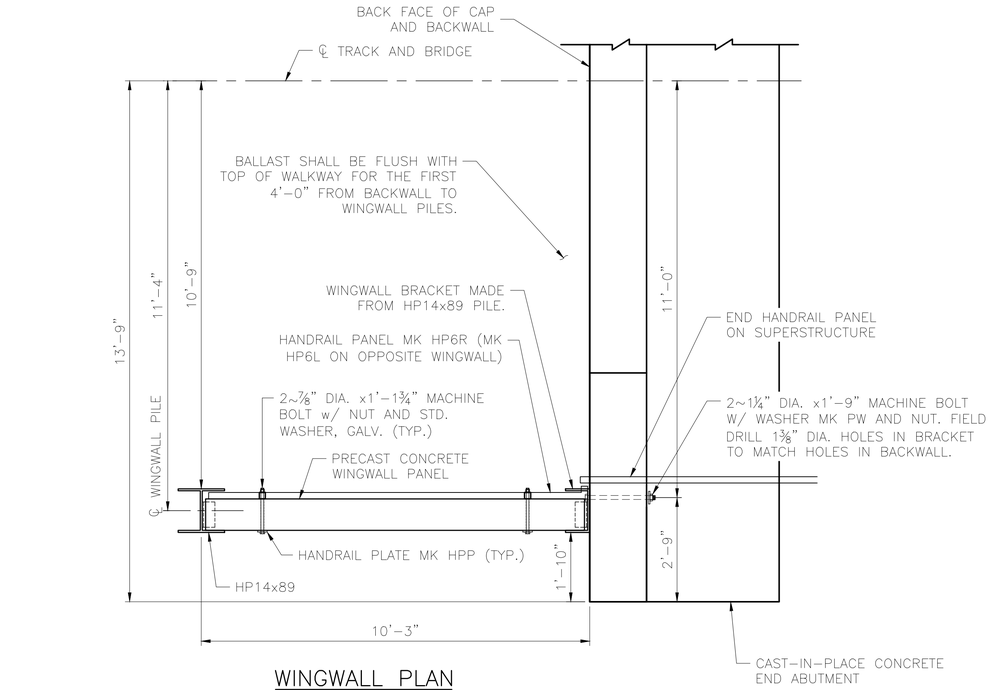
DRAWING LOCATION
C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_30.DWG

PUBLISHED CTB
ARRC_CTB_2023.CTB

SCALE
AS NOTED

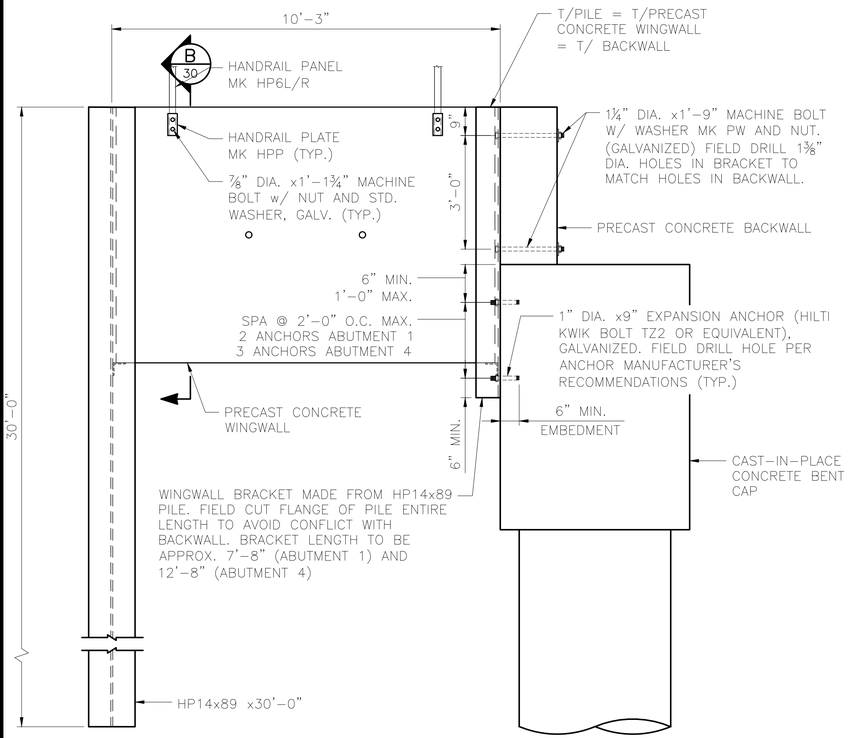
DATE TIME
3/5/2025 6:45 PM

C:\pwworking\west01\d2902858\BR_114.3_Ship Creek_30.dwg, Precast Backwall, 3/5/2025 6:45:47 PM, MVISUVARAT



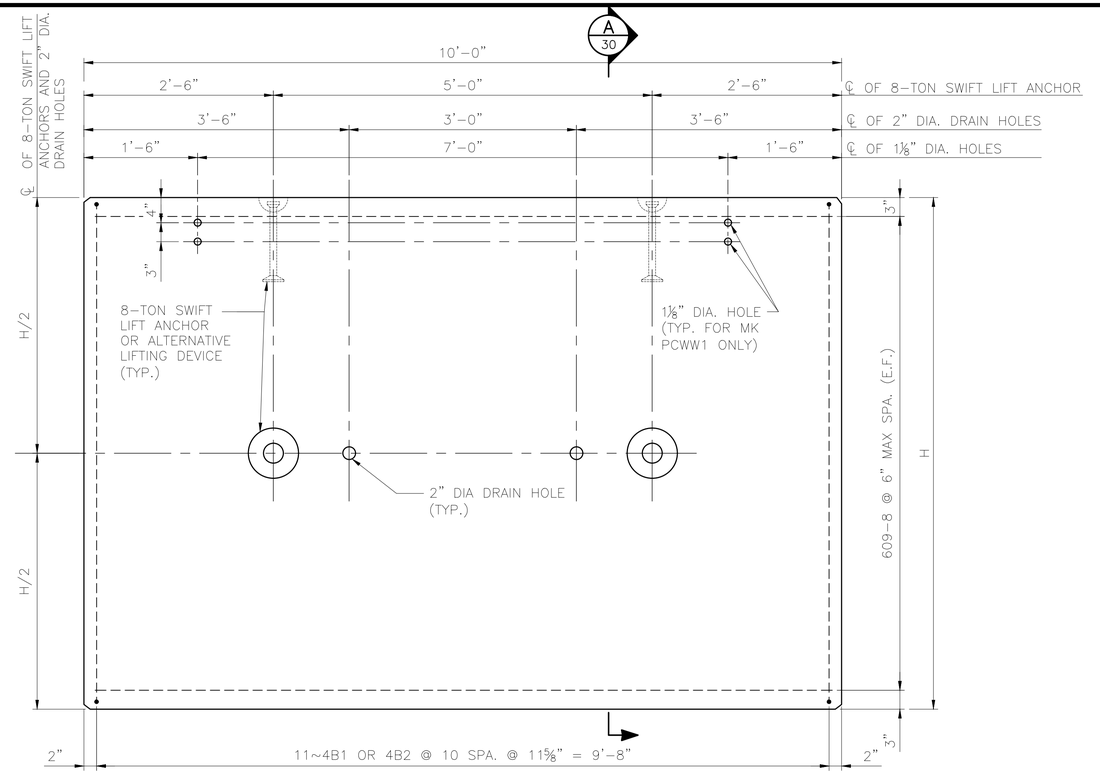
WINGWALL PLAN

SCALE: ½" = 1'–0"



WINGWALL ELEVATION

SCALE: ½" = 1'–0"
ABUTMENT 1 SHOWN, ABUTMENT 4 SIMILAR WITH EXTRA PANELS



PRECAST CONCRETE WINGWALL PANEL MK PCWW1 & PCWW2

SCALE: 1" = 1'–0"

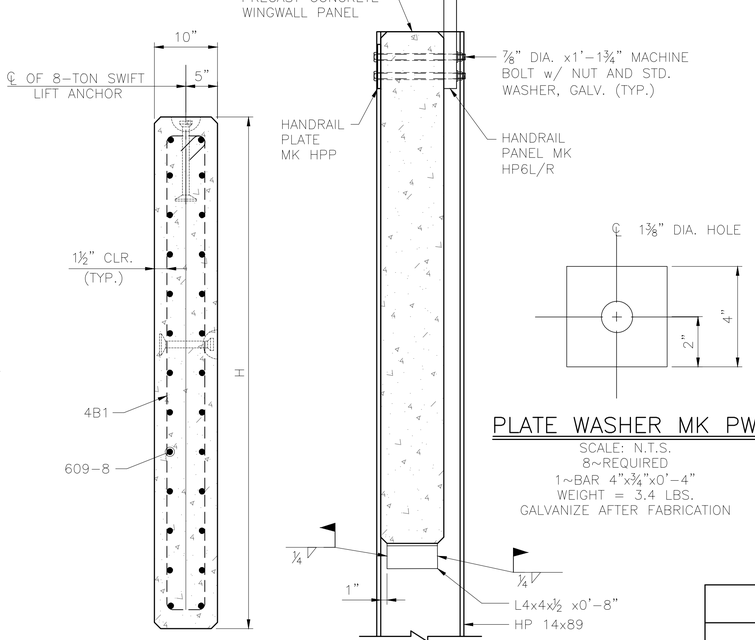


PLATE WASHER MK PW

SCALE: N.T.S.
8~REQUIRED
1~BAR 4"x¾"x0'–4"
WEIGHT = 3.4 LBS.
GALVANIZE AFTER FABRICATION

SECTION A–A

SCALE: 1" = 1'–0"

SECTION B–B

SCALE: 1" = 1'–0"
ANGLE CONNECTION TO BRACKET AT BACKWALL IS SIMILAR. ABUTMENT 1 SHOWN, ABUTMENT 4 SIMILAR WITH EXTRA PANELS

LIST OF REINFORCING BARS FOR MK PCWW 1

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
26	609–8	6	STR	–	–	9'–8"	60
11	4B1	4	B	0'–7"	6'–3"	13'–8"	60
485 LBS = WEIGHT OF REINFORCING STEEL, ASTM A615 OR A706, GR 60							
2.1 CY = TOTAL VOLUME OF CONCRETE, CLASS P (f'c = 5,000 PSI)							

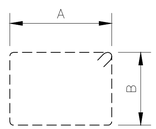
LIST OF REINFORCING BARS FOR MK PCWW 2

QTY	MARK	SIZE	SHAPE	A	B	LENGTH	STEEL GRADE
20	609–8	6	STR	–	–	9'–8"	60
11	4B2	4	B	0'–7"	4'–6"	10'–2"	60
365 LBS = WEIGHT OF REINFORCING STEEL, ASTM A615 OR A706, GR 60							
1.6 CY = TOTAL VOLUME OF CONCRETE, CLASS P (f'c = 5,000 PSI)							

GEOMETRY TABLE

MARK	HEIGHT (H)	LIFT WEIGHT (LBS)
PCWW1	6'–9"	8,450
PCWW2	5'–0"	6,250

REINFORCING STEEL DETAILS



BAR B

ALL DIMENSIONS ARE OUT TO OUT OF BARS

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MV

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SIGNATURE:

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LICENSE #: AECC569

CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

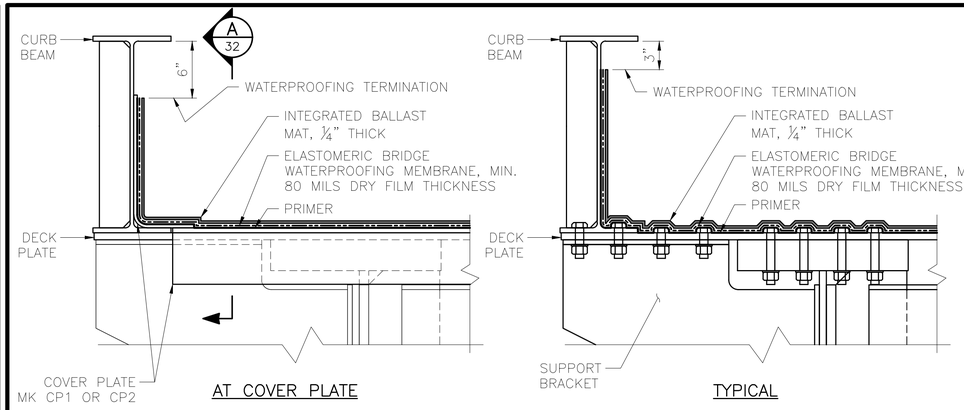
SHEET TITLE: PRECAST CONCRETE WINGWALL EXTENSION DETAILS

AFE NO.	11228
YEAR	2025
SHEET	31 OF 32

DRAWING LOCATION
C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_31.DWG

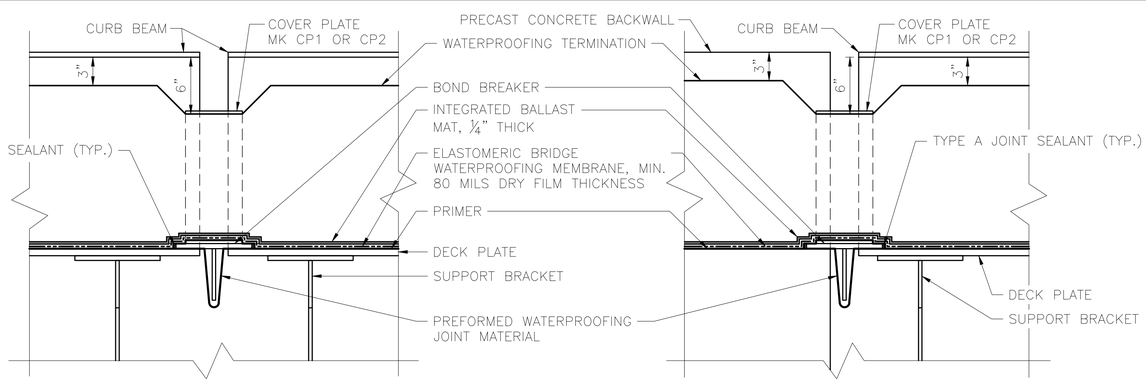
PUBLISHED CTB: ARRC_CTB_2023.CTB
SCALE: AS NOTED
DATE TIME: 3/5/2025 6:50 PM

C:\pwworking\west01\d2902858\BR_114.3_Ship Creek_31.dwg, Precast Concrete Wingwall, 3/5/2025 6:50:27 PM, MVIBUVARAT



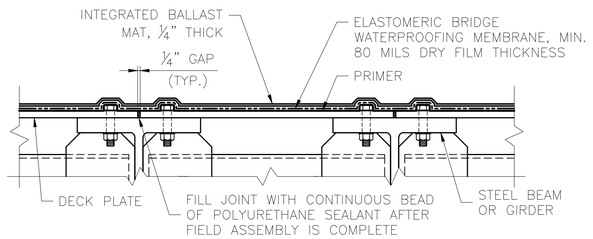
BALLAST CURB WATERPROOFING DETAIL

SCALE: 1½" = 1'–0"
WATERPROOFING TO BE APPLIED IN FIELD BY BRIDGE CONSTRUCTION CONTRACTOR WHEN SPECIFIED.
WORK NOT INCLUDED WITH SHOP FABRICATION.



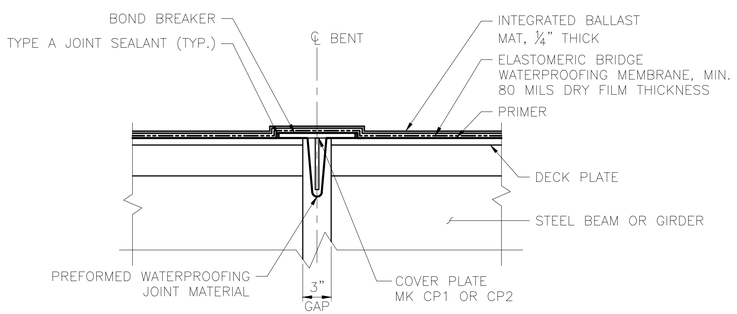
A 32 SECTION

SCALE: 1½" = 1'–0"



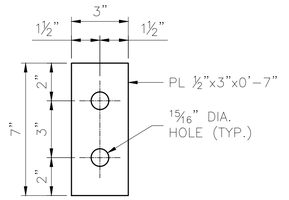
WATERPROOFING AT DECK PLATE GAPS

SCALE: 1½" = 1'–0"



WATERPROOFING AT BENTS

SCALE: 1½" = 1'–0"

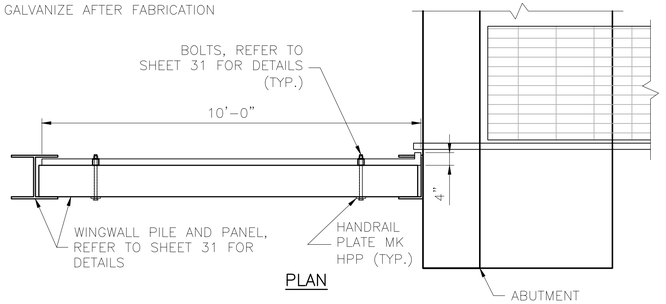


HANDRAIL PLATE MK HPP

SCALE: 3" = 1'–0"
8~REQUIRED
ESTIMATED WEIGHT = 3 LBS
GALVANIZE AFTER FABRICATION

NOTES:

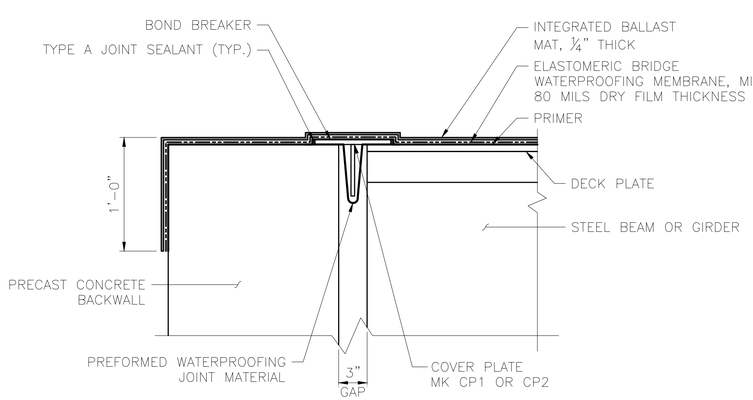
1. HANDRAIL PANELS ARE TO BE FABRICATED FROM HSS2x2x3⁄16", ASTM A500, GRADE B.
2. V = ⅜" DIA. DRILLED VENT HOLE 1" FROM JOINT.



PLAN

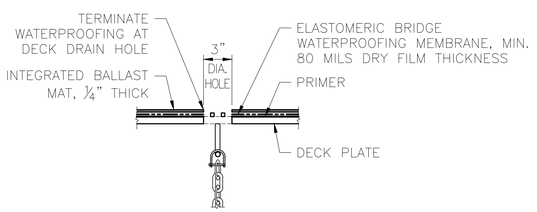
WATERPROOFING NOTE:

SPRAY ELASTOMERIC BRIDGE WATERPROOFING MEMBRANE OVER PRIMED SURFACES AT A MINIMUM OF 80 MILS (0.08"). MAINTAIN A MINIMUM INTEGRATED BALLAST MAT THICKNESS (OVER WATERPROOFING MEMBRANE) OF 250 MILS (0.25")



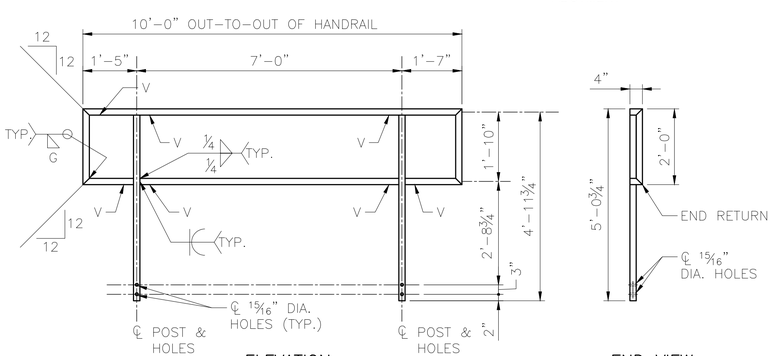
WATERPROOFING AT ABUTMENTS

SCALE: 1½" = 1'–0"



WATERPROOFING AT DECK DRAIN HOLE

SCALE: 1½" = 1'–0"



ELEVATION

END VIEW

HANDRAIL PANEL MK HP6L/R

SCALE: ½" = 1'–0"
2~REQUIRED MK HP6R (AS SHOWN)
2~REQUIRED MK HP6L (OPPOSITE HAND)
ESTIMATED WEIGHT = 102 LBS
GALVANIZE AFTER FABRICATION

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

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ANCHORAGE, ALASKA 99510–7500

ALASKA RAILROAD

PROJECT: BRIDGE 114.3 OVER SHIP CREEK BRIDGE REPLACEMENT

SHEET TITLE: WINGWALL HANDRAIL PANEL AND WATERPROOFING DETAILS

AFE NO.	11228
YEAR	2025
SHEET	32 OF 32

PUBLISHED CTB ARRC_CTB_2023.CTB
SCALE AS NOTED
DATE 3/5/2025 TIME 6:55 PM
DRAWING LOCATION C:\PWWORKING\WEST01\D2902858\BR_114.3_SHIP CREEK_32.DWG

C:\pwworking\west01\d2902858\BR_114.3_Ship Creek_32.dwg, WW Handrail Waterproofing, 3/5/2025 6:55:00 PM, MVIS\VARAT