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STATE OF ALASKA

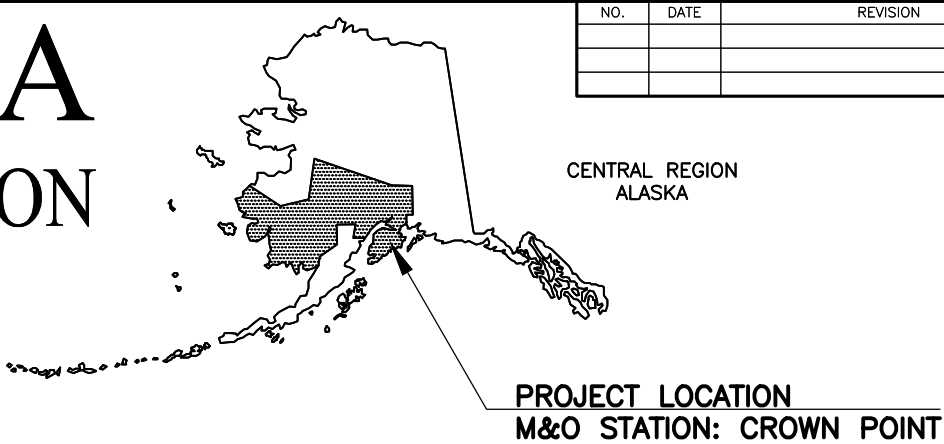
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

SEWARD HIGHWAY MP 14 RAILROAD CROSSING RECONSTRUCTION

PROJECT NO. 0311037/CFHWY00947

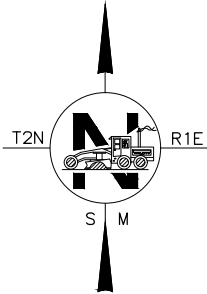
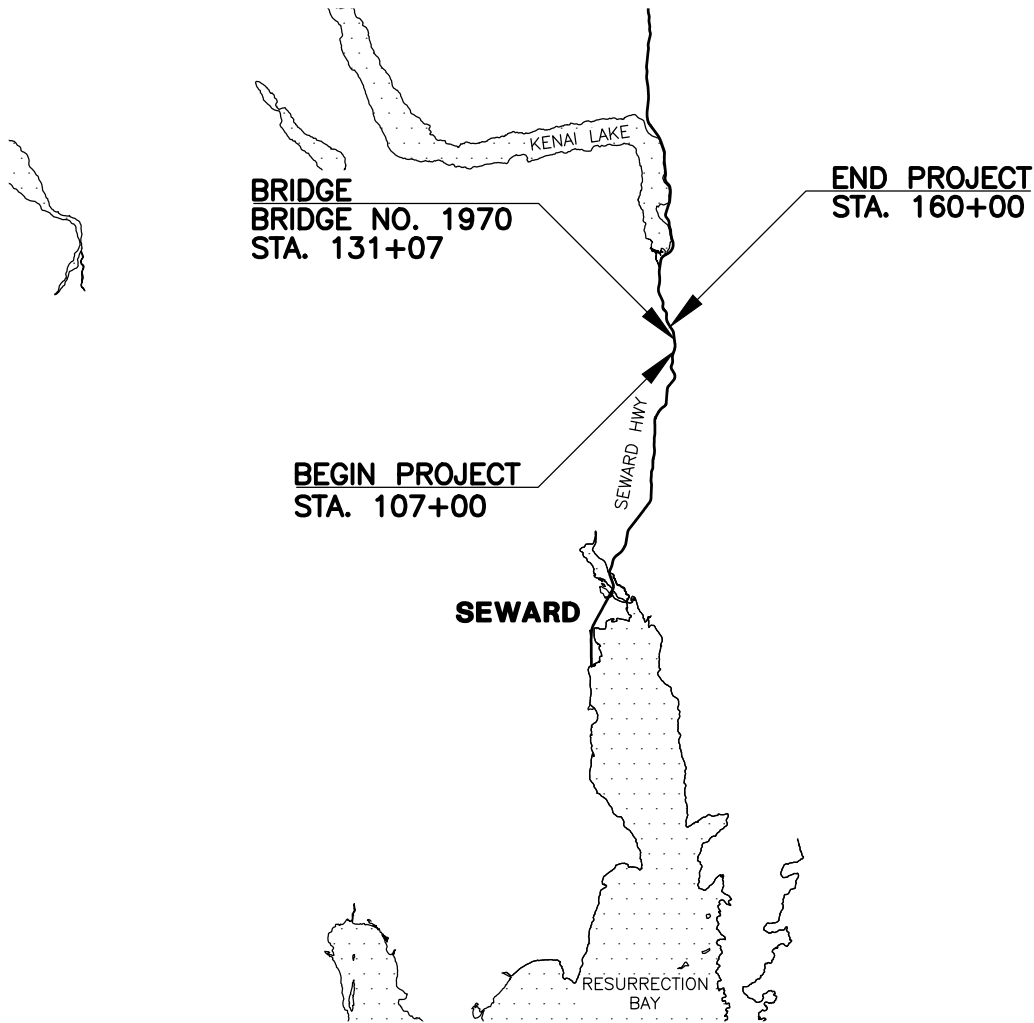
GRADING, DRAINAGE, PAVING, BRIDGE, SIGNING, AND STRIPING



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	A1	A9
ROUTE ID		1020000X000	MILEPOINT	13.500 - 14.500			
LATITUDE		60.285294	LONGITUDE	-149.343277			

PROJECT SUMMARY		
ROADWAY	WIDTH	LENGTH
SEWARD HIGHWAY MP 14	37 FT	1 MILE
UNNAMED BRIDGE (NO. 1970)	37 FT	119 FEET

DESIGN DESIGNATIONS	
	SEWARD HIGHWAY
FUNCTIONAL CLASS	RURAL ARTERIAL
AADT (2022)	3,205
AADT (2045)	3,662
DESIGN SPEED (V) (MPH)	55
DHV (2022)	723
DHV (2045)	827
T-PERCENT COMMERCIAL TRUCKS (%)	12.11
D-DIRECTIONAL DISTRIBUTION (%)	62 / 38



PS&E
JUN '25

PLANS DEVELOPED BY: HDR, INC.

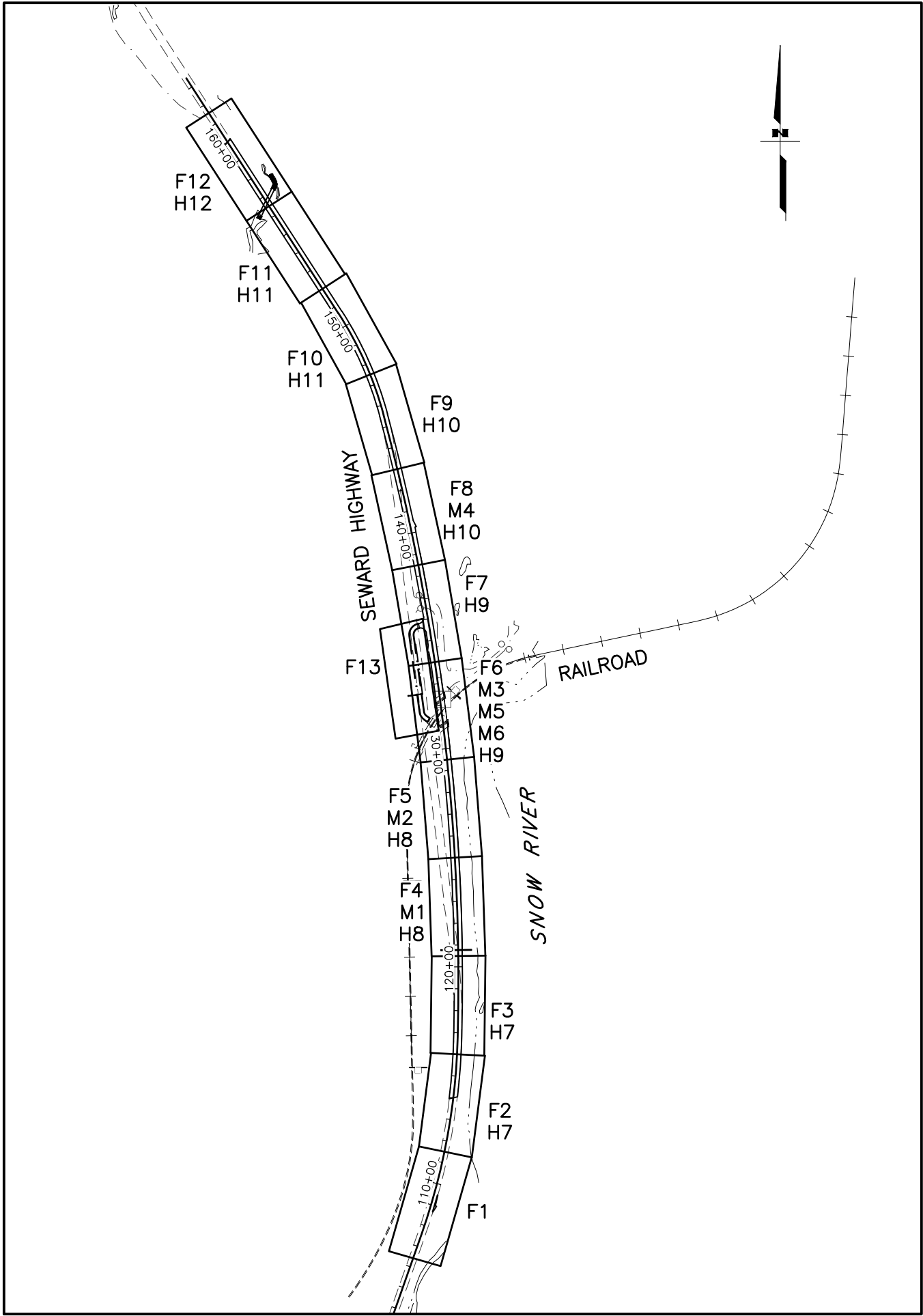
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
4111 AVIATION AVENUE, ANCHORAGE, AK 99502
(907)269-0590

APPROVED:

REGIONAL PRECONSTRUCTION ENGINEER DATE

CONCUR:

REGIONAL CONSTRUCTION ENGINEER DATE



GENERAL NOTES:

1.

ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE RIGHT-OF-WAY, TEMPORARY CONSTRUCTION EASEMENTS, AND TEMPORARY CONSTRUCTION PERMITS. NO EXCESS MATERIAL SHALL BE DISPOSED OF WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY CALLED FOR IN THE PLANS OR DIRECTED BY THE ENGINEER.
2.

THE RIGHT-OF-WAY LINES SHOWN WERE CREATED FOR THIS PROJECT BY LOUNSBURY & ASSOCIATES AND ARE BASED ON RECORDED DOCUMENTS AND/OR PLATTED SUBDIVISIONS, AND SURVEYED MONUMENTS. THE RIGHT-OF-WAY LINES WERE INSERTED USING A COMMON COORDINATE SYSTEM.
3.

ALL PAVEMENT CUTS SHALL BE MADE WITH A SAW OR ALTERNATE METHOD APPROVED BY THE ENGINEER.
4.

CLEARING LIMITS SHALL BE 5 FEET BEYOND SLOPE CATCH POINTS OR 10 FEET INSIDE THE RIGHT-OF-WAY LINE, WHICHEVER IS LESS. IN WETLAND AREAS, DO NOT CLEAR BEYOND THE SLOPE STAKE CATCH POINT UNLESS OTHERWISE SHOWN ON THE PLANS.
5.

PLACE 4" TOPSOIL AND SEED ON ANY AREAS DISTURBED BY CONSTRUCTION AND AS DIRECTED BY THE ENGINEER.
6.

ADJUST ALL PAVEMENT PENETRATIONS TO FINAL GRADE PRIOR TO TOP LIFT OF PAVING.
- IF ANY PAVEMENT PENETRATION REQUIRES GRADE ADJUSTMENT AFTER FINAL LIFT PAVING, AS DETERMINED BY THE ENGINEER, SAW CUT A NEAT LINE ALONG THE PAVEMENT TO BE REMOVED. USE AN INFRARED HEATER TO HEAT THE EXISTING PAVEMENT; EQUIPMENT AND MAXIMUM TEMPERATURE SHALL BE APPROVED BY THE ENGINEER. REPLACE THE REMOVED ASPHALT WITH NEW HOT MIX ASPHALT AND THOROUGHLY COMPACT. SEAL JOINTS, AT LEAST 12 INCHES WIDE CENTERED ON JOINT, USING ASPHALT SYSTEMS GSB-88, OR APPROVED EQUAL, WHILE THE HOT MIX ASPHALT IS CLEAN, FREE OF MOISTURE AND PRIOR TO STRIPING.
- THERE SHALL BE NO PAYMENT FOR ADDITIONAL WORK CAUSED BY FAILURE TO ADJUST PAVEMENT PENETRATIONS TO FINAL GRADE.
7.

FOR PARALLEL GUARDRAIL TERMINALS, USE AN END OFFSET OF 2 FEET.
8.

CENTERLINE MONUMENTS WILL BE SET BY OTHERS AFTER CONSTRUCTION
9.

THE ALASKA RAILROAD CORPORATION'S (ARRC'S) PROPERTY EXTENDS ON BOTH SIDES OF THE TRACK, APPROXIMATELY 100 FEET FROM THE CENTER OF THE RAILROAD TRACKS. CONTRACTOR WORK IN ARRC PROPERTY IS BY PERMIT. RIGHT-OF-WAY SHOWN IN PLANS INCLUDES ARRC PERMIT AREA.

ABBREVIATIONS:

AADT	AVERAGE ANNUAL DAILY TRAFFIC	PGP	PROFILE GRADE POINT
ADA	AMERICANS DISABILITY ACT	PT	POINT OF TANGENCY
ADOT&PF	ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES	PVI	POINT OF VERTICAL INTERSECTION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	R	RADIUS
ASP	ALASKA STANDARD PLAN	RD	ROAD
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	ROW	RIGHT-OF-WAY
ARRC	ALASKA RAILROAD CORPORATION	RR	RAILROAD
BGS	BELOW GROUND SURFACE	RT	RIGHT
BOP	BEGINNING OF PROJECT	S	SOUTH
CF	CUBIC FOOT	SHLDR	SHOULDER
CIR	CIRCLE	SQ. FT.	SQUARE FOOT
CL	CENTERLINE	STA	STATION
CONC	CONCRETE	STD	STANDARD
CS	CONTINGENT SUM	T	TANGENT
CU. FT.	CUBIC FEET	TCE	TEMPORARY CONSTRUCTION EASEMENT
CY	CUBIC YARD	TYP	TYPICAL
DIA	DIAMETER	VC	VERTICAL CURVE
DHV	DESIGN HOURLY VOLUME	VPC	VERTICAL POINT OF CURVATURE
E	EAST, EASTING	VPI	VERTICAL POINT OF INTERSECTION
ELEV	ELEVATION	VPT	VERTICAL POINT OF TANGENCY
EOP	EDGE OF PAVEMENT	W	WEST
FT	FOOT, FEET	Ø	DIAMETER
HMA	HOT MIX ASPHALT		
IN	INCH, INCHES		
LT	LEFT		
LVC	LENGTH OF VERTICAL CURVE		
MAX	MAXIMUM		
MIN	MINIMUM		
MP	MILE POST		
N	NORTH, NORTHING		
NTS	NOT TO SCALE		
OHW	ORDINARY HIGH WATER		
PC	POINT OF CURVATURE		
PCC	POINT OF COMPOUND CURVATURE		

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	A2	A9

INDEX

SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	SHEET LAYOUT, INDEX, AND GENERAL NOTES
A3	LEGEND
A4	ROW MAP
A5-A10	SURVEY CONTROL SHEETS
B1-B2	TYPICAL SECTIONS
C1-C2	ESTIMATE OF QUANTITIES
D1-D5	SUMMARY TABLES
E1-E7	DETAIL SHEETS
F1-F13	PLAN AND PROFILE SHEETS
G1	GRADING PLANS
H1-H12	SIGNING, AND STRIPING
M1-M9	RETAINING WALL SHEETS
N1-N12	BRIDGE SHEETS

THE FOLLOWING CENTRAL REGION STANDARD DETAILS APPLY TO THIS PROJECT:

CR-G-28.00, CR-T-01.20

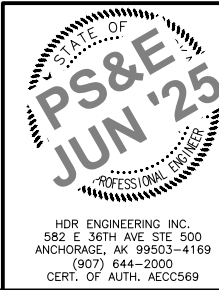
IN THE EVENT OF CONFLICT, CENTRAL REGION STANDARD DETAILS SUPERSEDE ALASKA STANDARD PLANS, STANDARD MODIFICATIONS, AND STANDARD SPECIFICATIONS. PLANS AND SPECIAL PROVISIONS SUPERSEDE CENTRAL REGION STANDARD DETAILS.

THE FOLLOWING ALASKA STANDARD PLANS APPLY TO THIS PROJECT:

C-04.12, C-05.20, C-06.00
D-01.02, D-04.22, D-06.10, D-08.00
E-09.00
G-00.05, G-05.11S, G-05.11W, G-10.21, G-11.01, G-20.12, G-27.00, G-29.01, G-32.04, G-33.01
M-24.01, M-25.00
S-00.12, S-05.02, S-30.05, S-31.02, S-32.02
T-20.04, T-21.04, T-25.10

SPECIFICATION:

CONSTRUCT THE IMPROVEMENTS COVERED BY THESE PLANS IN ACCORDANCE WITH THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES 2020 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE PROJECT SPECIAL PROVISIONS.



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SHEET LAYOUT, INDEX,
AND GENERAL NOTES

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SCALE
1" = 1'

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ROADWAY

	EXISTING	PROPOSED
EDGE OF PAVEMENT		
LIMIT OF CUT SLOPE & FILL SLOPE		
GRAVEL EDGE		
SIDEWALK AND PATH/TRAIL		
CONCRETE CURB & GUTTER		
CONCRETE CURB CUT		
PARALLEL CURB RAMP PERPENDICULAR CURB RAMP		
DIRECTIONAL CURB RAMP & MID-BLOCK CURB RAMP		
DETECTABLE WARNING TILE		
BRIDGE		
TUNNEL		
GUARDRAIL		
END & PARALLEL END SECTIONS		
ROADWAY OBLITERATION		
FENCE		
STONE FENCE		
NOISE BARRIER		
RETAINING WALL		
HEADWALL & WINGWALL		
BOTTOM OF DITCH		
SPECIAL DITCH		
FLAT BOTTOM DITCH		
BERM		
RIPRAP		
BOULDER OR BOULDERS		
PRIVATE SIGN, MAILBOX		
POST, BOLLARD		
HMA		
E-1		

TOPOGRAPHY

	EXISTING	
LAKE OR POND, WETLANDS		
TREE (CONIFER/DECIDUOUS) TREELINE (EDGE OF VEGETATION)		
PLANTER		
BUILDING OR FOUNDATION		

	EXISTING	PROPOSED
STORM DRAIN		
STORM DRAIN MANHOLE, CLEANOUT		
CURB INLET CATCH BASIN FIELD INLET CATCH BASIN		
PIPE CULVERT WITH END SECTION		
SANITARY SEWER		
SANITARY SEWER MANHOLE, CLEANOUT		
SEPTIC VENT, SEWER SERVICE CONNECTION		
WATER		
FIRE HYDRANT, VALVE OR RISER		
WELL, WATER SERVICE CONNECTION		
NATURAL GAS		
OIL OR GASOLINE PIPELINE		
TANKS (ABOVE GROUND, UNDERGROUND)		
ELECTRIC		
UTILITY POLE, POLE WITH LUMINAIRE		
GUY POLE, GUY WIRE ANCHOR		
TRANSMISSION TOWER (WOOD, STEEL)		
ELECTRIC PEDESTAL, TRANSFORMER		
ELECTRIC MANHOLE, METER		
ELECTRIC OUTLET, LANDSCAPE LIGHT		
TELEPHONE		
TELEPHONE MANHOLE, PEDESTAL		
FIBER OPTIC		
FIBER OPTIC MANHOLE		
CABLE TV		
CABLE TV PEDESTAL, SATELLITE DISH		
UNDERGROUND DUCT, UTILIDOR (ELECTRIC, TELEPHONE, FIBER OPTIC)		
VENT		

TRAFFIC

	EXISTING	PROPOSED
LOAD CENTER		
STATE TRAFFIC, MOA TRAFFIC, & BEACON CONTROLLER ARROW INDICATES DOOR LOCATION		
TYPE 1A, II, III, IV JUNCTION BOX		
FIBER OPTIC VAULT		
ELECTROLIER		
HIGHTOWER		
SIGNAL POLE WITH MASTARM		
PEDESTRIAN PUSH BUTTON & SIGNAL		
VEHICULAR SIGNAL		
VEHICULAR SIGNAL LEFT & RIGHT		
OPTICAL, CAMERA, RADAR, AND GPS DETECTOR		
LOOP DETECTOR		
COMMUNICATION ANTENNA		
MASTARM BEACON		
RURAL & SCHOOL ZONE BEACON		
LOOP DETECTOR CONDUIT		
SIGNAL CONDUIT		
LIGHTING CONDUIT		
SIGNAL & LIGHTING CONDUIT		
CONDUIT BORING		
CONDUIT SIZE IN INCHES		
INTERCONNECT		
SIGN POST		

PAVEMENT MARKINGS

	PROPOSED
TRAFFIC PROJECT CENTERLINE	
8" & 4" WHITE SOLID STRIPE	
4" WHITE SKIP STRIPE 10' STRIPES AND 30' SPACES	
8" WHITE LANE GUIDE SKIP LANE CONTINUATION OR TURN SKIP 1' STRIPES AND 3' SPACES	
8" & 4" YELLOW SOLID STRIPE	
4" YELLOW SKIP STRIPE 10' STRIPES AND 30' SPACES	
STRIPING CHANGE STATION INTERVAL	
2' CROSSWALK OR STOPBAR	
LONGITUDINAL CROSSWALK WITH GAPS 2' WIDE RUNGS WITH 2' SPACES ALIGNED TO AVOID TIRE PATHS	
TYPICAL PAINTED MEDIAN	

RIGHT-OF-WAY

	RECOVERED	SET THIS PROJECT
FEDERAL GOV'T SURVEY MONUMENT		
GOV'T CONTROL STATION		
PRIMARY MONUMENT (BRASS/AL CAP)		
MISC SECONDARY CORNER		
PRIMARY CENTERLINE MONUMENT		
SECONDARY CENTERLINE MONUMENT		
RANDOM CONTROL MONUMENT		
PRIMARY GPS CONTROL POINT		
HORIZONTAL CONTROL POINT		
SECONDARY CONTROL POINT		
VERTICAL BENCHMARK		
TEMPORARY BENCHMARK		
TOWNSHIP AND RANGE LINES		
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
CORPORATE or CITY LIMITS		
EXISTING RIGHT-OF-WAY		
RIGHT-OF-WAY OR EASEMENT REQUIRED		
PROJECT RIGHT-OF-WAY LINE		
EXISTING RIGHT-OF-WAY EASEMENT		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE		
EXISTING UTILITY EASEMENT		
PROPOSED UTILITY EASEMENT		
EXISTING CENTERLINE		
RAILROAD CENTERLINE		
TEMPORARY CONSTRUCTION EASEMENT		
TEMPORARY CONSTRUCTION PERMIT		
RAILROAD RIGHT-OF-WAY LINE		



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

LEGEND

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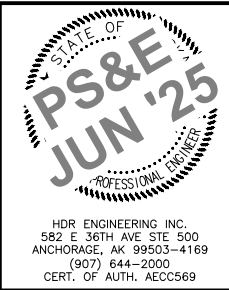
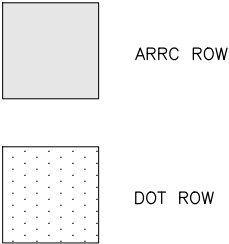
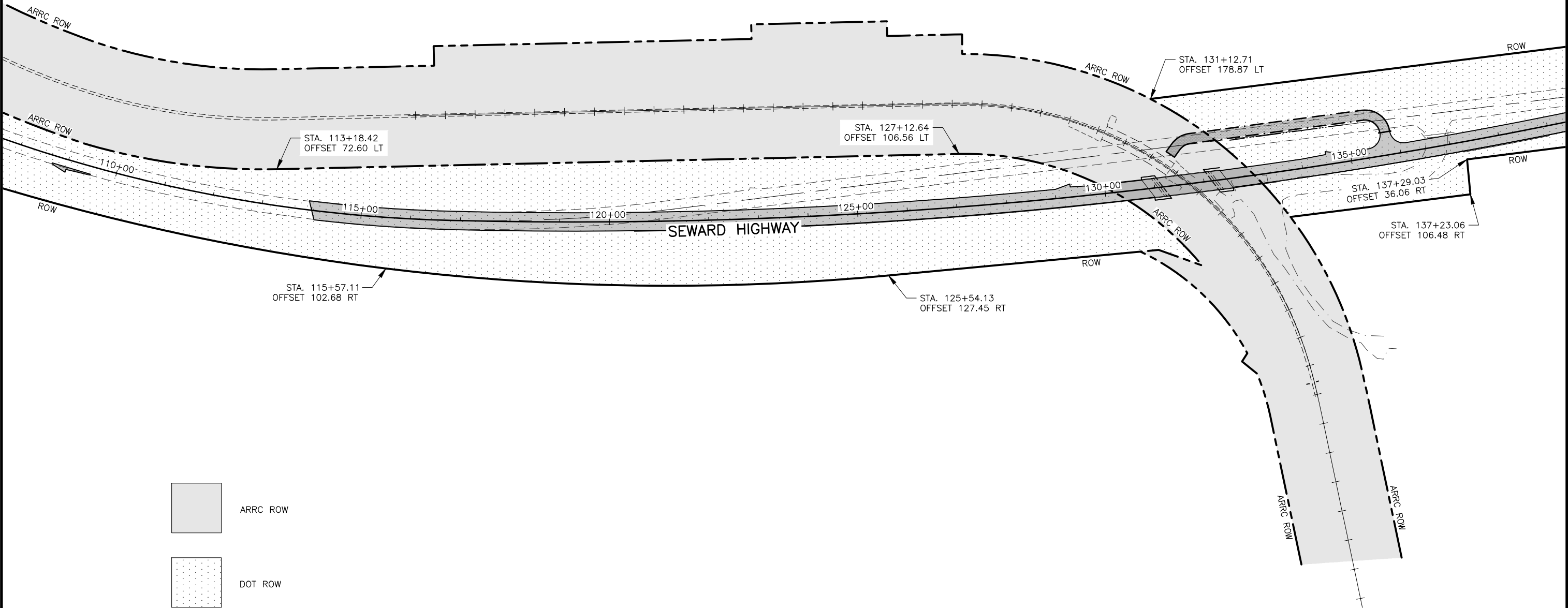
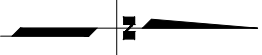
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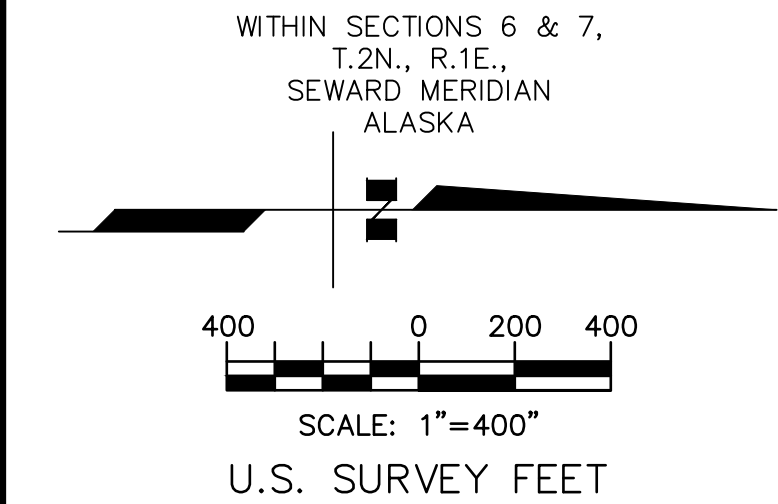
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	A4	A9



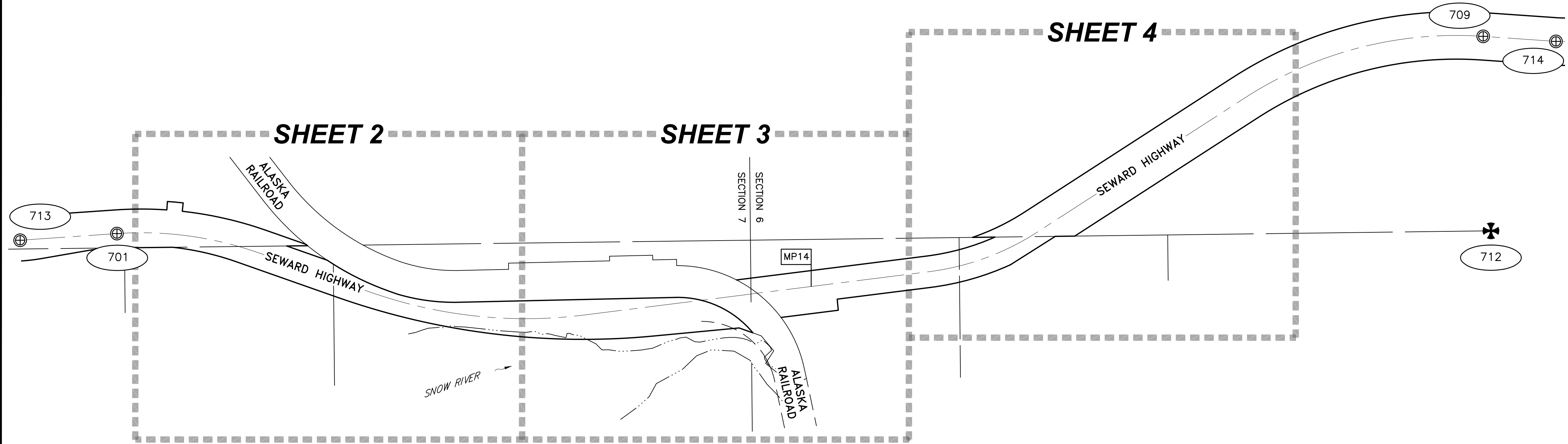
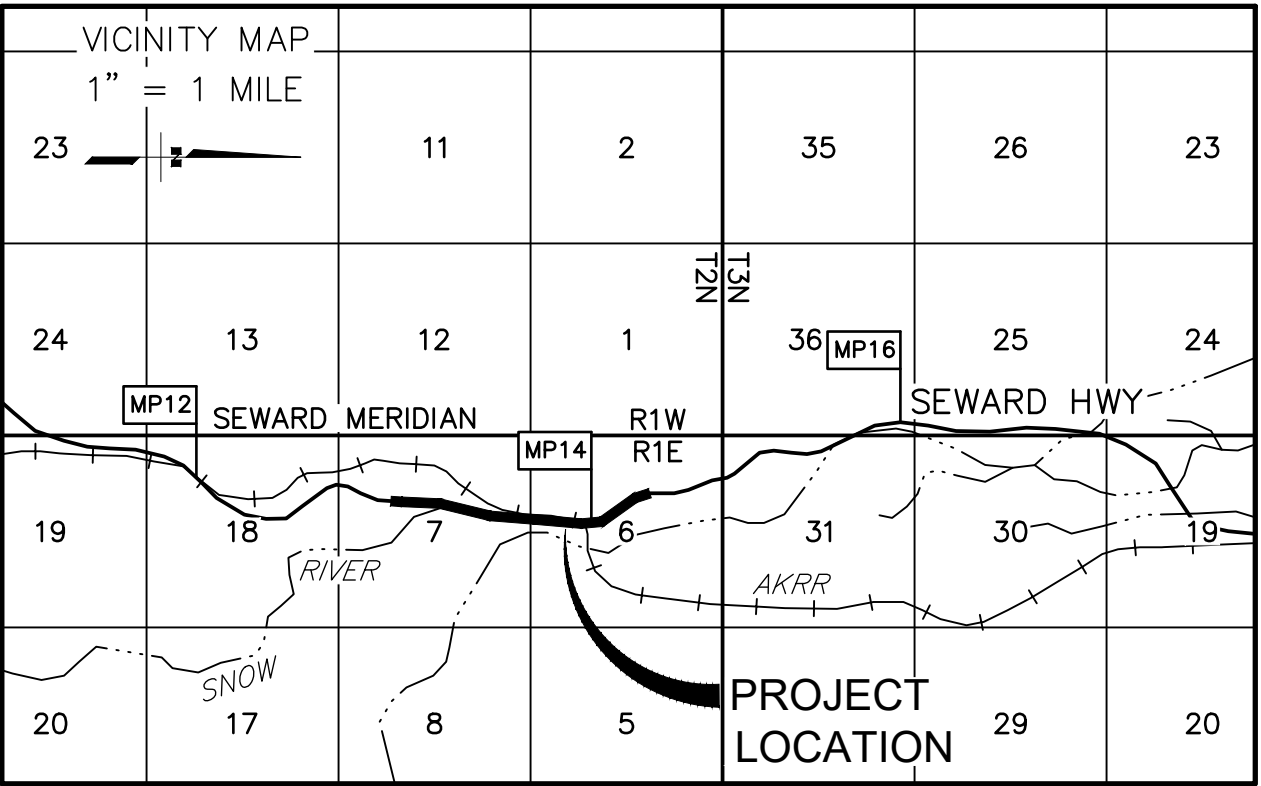
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

ROW MAP



RECOVERED MONUMENTS SHOWN THIS SHEET			
POINT NO.	NORTHING	EASTING	DESCRIPTION
701	92740.4779	59122.3775	Fd AM/Bx[DOT]: PC 21+496.895
709	101382.9486	57873.9537	Fd AM/Bx[DOT]: PT 24+275.115
712	101431.7270	59104.9035	Fd BC[BLM]: SMC S6 *T2N R1E SM
713	92128.1314	59164.5255	Fd AM/Bx[DOT]: PT 21+309.760
714	101843.1917	57905.9361	Fd AM/Bx[DOT]: PC 24+415.741



HORIZONTAL CONTROL STATEMENT

COORDINATE SYSTEM:
THIS PROJECT IS LOCATED ENTIRELY WITHIN THE DOT&PF SEW-1(86) COORDINATE SYSTEM, A LOCAL, U.S. SURVEY FOOT SURFACE GRID COORDINATE SYSTEM DEVELOPED BY THE STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES.

BASIS OF COORDINATES:
LOUNSBURY HELD THE RECORD VALUE FOR CENTERLINE MONUMENT POINT 704 (FD AM/CASE[DOT]: PT 22+420.436, N: 95693.4339, E: 59637.9746) FIXED AT THE PUBLISHED COORDINATES FROM THE ROW MAP OF "STP-031-1(25): SEWARD HIGHWAY MILEPOST 8-18 REHABILITATION," RECORDED AS PLAT NO. 2011-7 IN THE S.R.D.

BASIS OF BEARINGS:
A LINE BETWEEN USC&GS STATION "SEWARD 1964", A BRASS DISK SET IN THE SIDEWALK AT THE CORNER OF THIRD AND JEFFERSON (N: 30545.8920, E: 42239.6222) AND AKDOT "GPS 19 1989", A BRASS DISK SET IN THE TOP OF A ROCK OUTCROP ON THE EAST SIDE OF RESSURECTION BAY (N: 29623.0516, E: 56536.2711). SAID LINE BEARS S86°18'24.2"E 14326.4018 U.S. SURVEY FEET AND IS THE BASIS OF BEARINGS.

TRANSLATION PARAMETERS:
TO CONVERT SEW-1(86) LOCAL U.S. SURVEY FOOT COORDINATES TO NAD83 STATE PLANE U.S. SURVEY FOOT COORDINATES:
1. TRANSLATE USING +2200245.8432 USFT N, AND + 1700188.8205 USFT E.
2. SCALE (ABOUT 0.0) USING A COMBINED SCALE FACTOR OF 0.99989242.

TO CONVERT NAD83 STATE PLANE U.S. SURVEY FOOT COORDINATES TO SEW-1(86) LOCAL U.S. SURVEY FOOT COORDINATES:
1. SCALE (ABOUT 0.0) USING A COMBINED SCALE FACTOR OF 1.00010759.
2. TRANSLATE USING -2200245.8432 USFT N, AND -1700188.8205 USFT E.

THE CHECK VALUE TO THIS TRANSLATION IS THE TRANSLATION POINT AT LOCAL 85000.00 N 55000.00 E EQUALS NAD83 2285000.00 N 1755000.00 E.

SEW-1(86) DEFINITION:
PROJECTION TYPE: TRANSVERSE MERCATOR
LATITUDE OF GRID ORIGIN: 54°00'00.0"N (54.0)
CENTRAL MERIDIAN (GRID ORIGIN): 150°00'00.0"W (-150.0)
FALSE NORTHING: -2200245.8396 FT
FALSE EASTING: -59595.6587 FT
GRID SCALE FACTOR: 1.00000757924
LINEAR UNIT: SURVEY FEET
DATUM: D_NORTH_AMERICAN_1983
ELLIPSOID: GRS_1980
SEMI-MAJOR AXIS (M): 6378137.0
INVERSE FLATTENING: 298.257222101

VERTICAL CONTROL STATEMENT

VERTICAL DATUM IS NAVD88(GEOID12B) IN U.S. SURVEY FEET, AS ESTABLISHED BY HOLDING THE PUBLISHED ELEVATION OF NGS BENCH MARK "K 76" (POINT NO. 601) FIXED AT 495.79'.
PROJECT ELEVATIONS WERE ESTABLISHED USING FEDERAL GEOGRAPHIC DATA COMMITTEE 3RD ORDER DIFFERENTIAL LEVELLING TECHNIQUES WITH A LEICA DNA DIGITAL BAR-CODE LEVEL. LEVEL LOOPS WERE ADJUSTED USING TRIMBLE BUSINESS CENTER V.2024.00.

SHEET 1 LEGEND

- FEDERAL GOV'T MONUMENT
- CENTERLINE MONUMENT
- POINT NUMBER IDENTIFIER
- RIGHT-OF-WAY LINE
- US SURVEY LINE
- HIGHWAY CENTERLINE

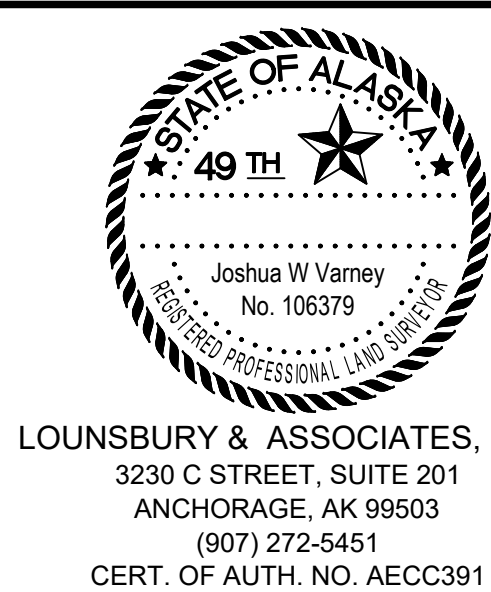
SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AS DESCRIBED, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT TO THE EXTENT SHOWN HEREON.

JOSHUA W. VARNEY

LS 106379

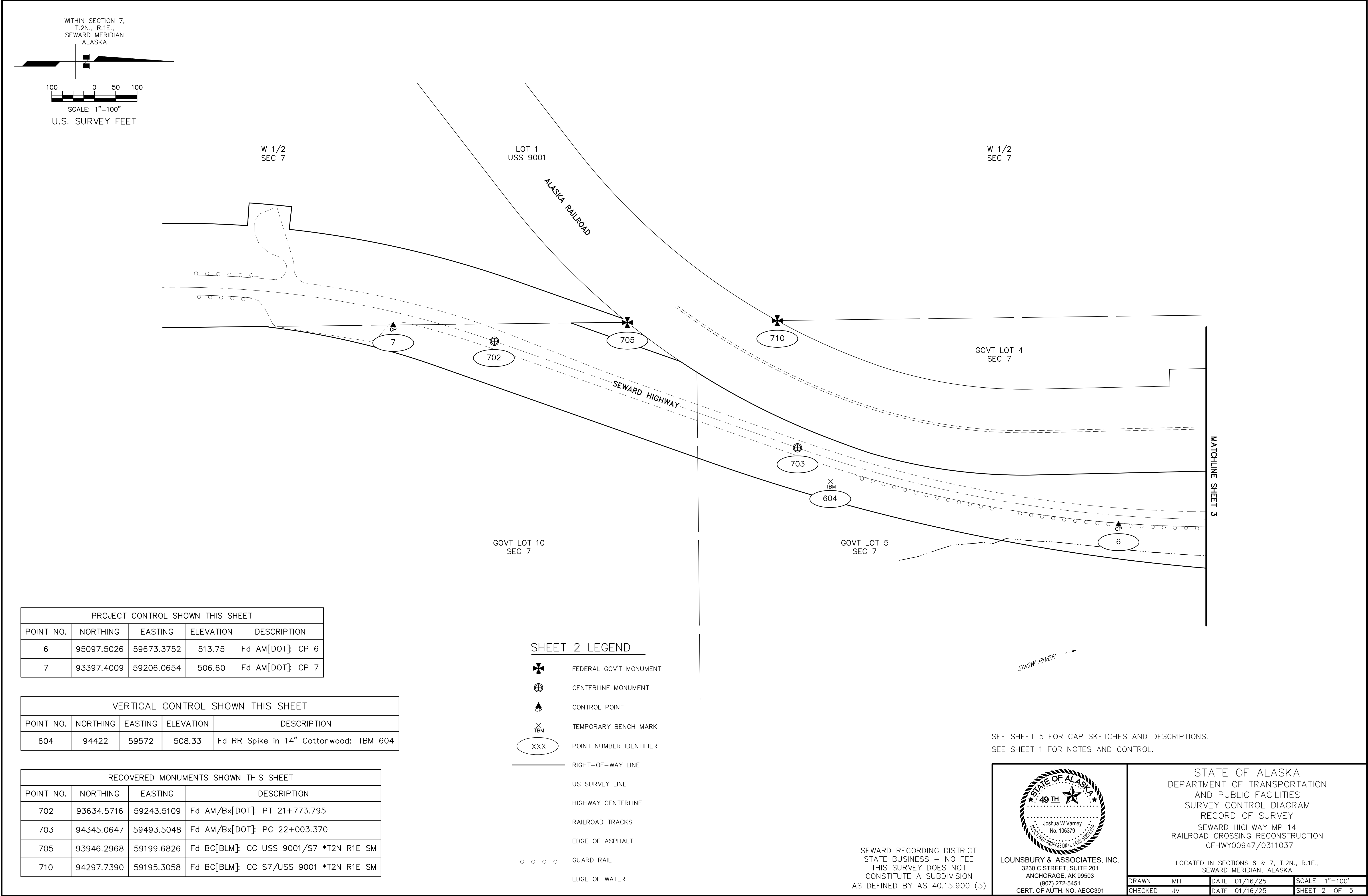
SEWARD RECORDING DISTRICT
STATE BUSINESS - NO FEE
THIS SURVEY DOES NOT
CONSTITUTE A SUBDIVISION
AS DEFINED BY AS 40.15.900 (5)

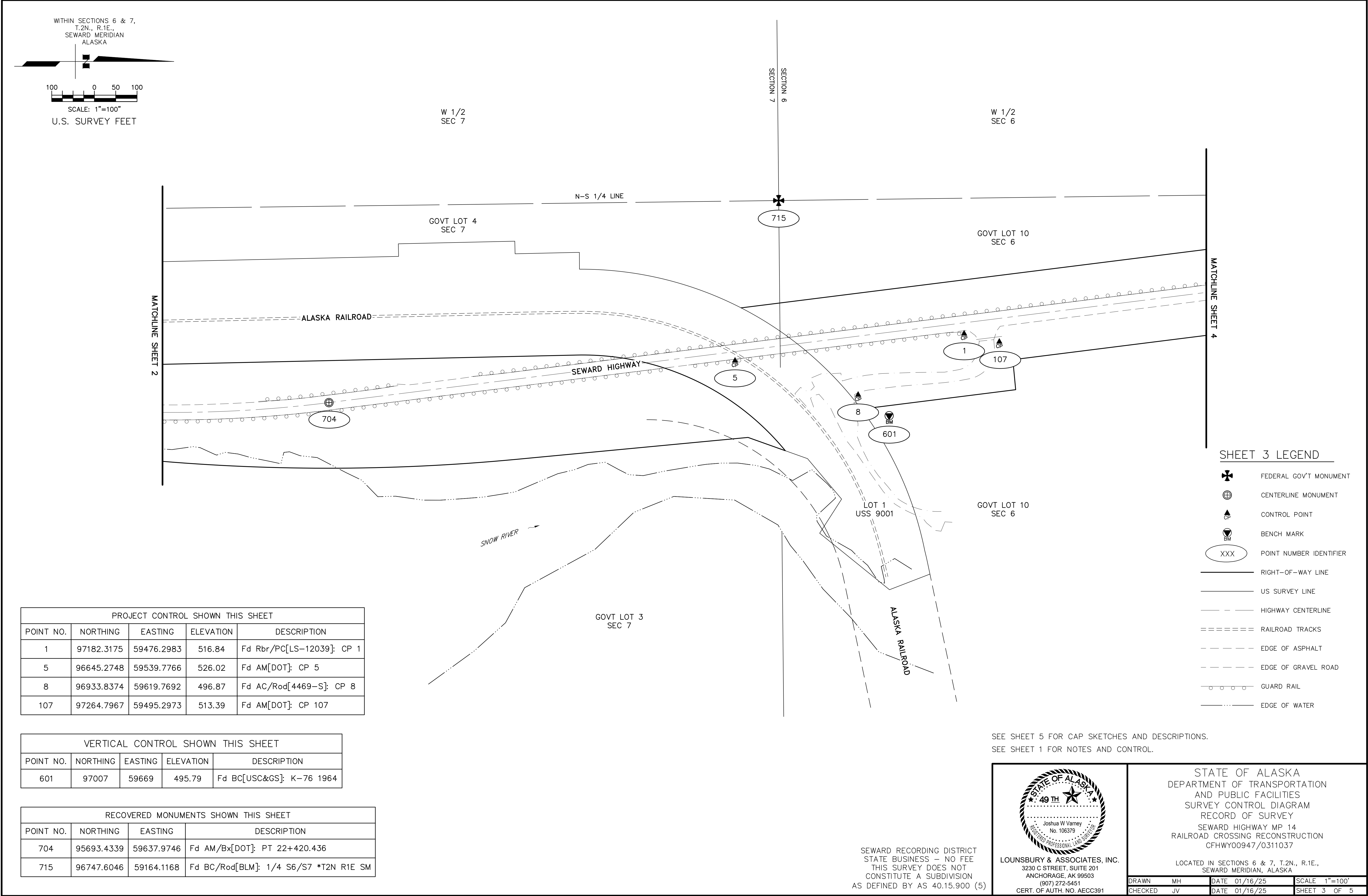


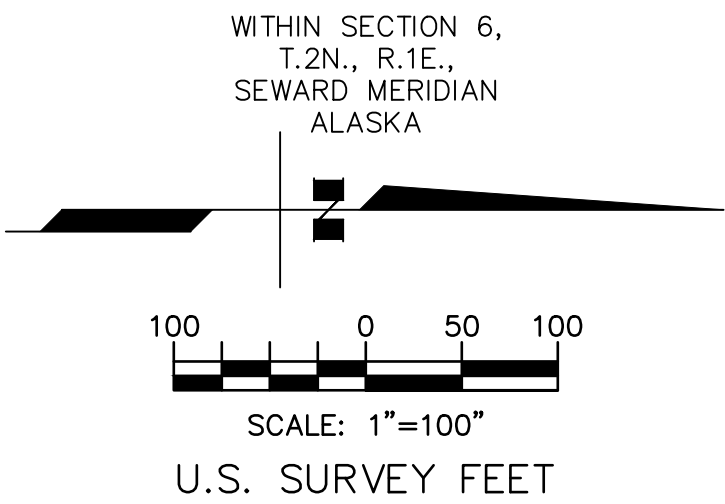
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SURVEY CONTROL DIAGRAM
RECORD OF SURVEY
SEWARD HIGHWAY MP 14
RAILROAD CROSSING RECONSTRUCTION
CFHWY00947/0311037

LOCATED IN SECTIONS 6 & 7, T.2N., R.1E.,
SEWARD MERIDIAN, ALASKA

DRAWN	MH	DATE	01/16/25	SCALE	1"=400'
CHECKED	JV	DATE	01/16/25	SHEET	1 OF 5



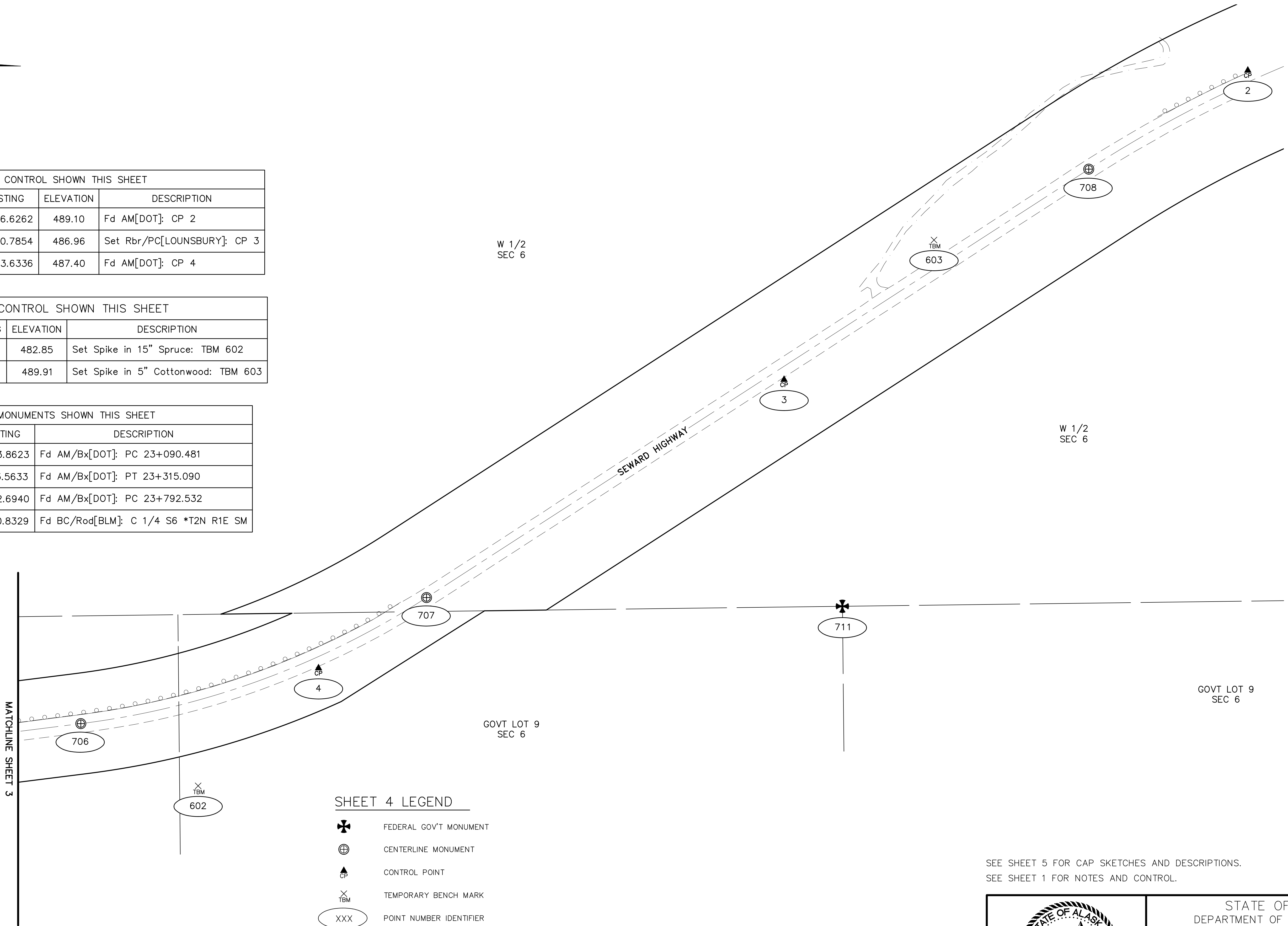




PROJECT CONTROL SHOWN THIS SHEET				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	100192.0280	58066.6262	489.10	Fd AM[DOT]: CP 2
3	99271.1430	58680.7854	486.96	Set Rbr/PC[LOUNSBURY]: CP 3
4	98346.5915	59253.6336	487.40	Fd AM[DOT]: CP 4

VERTICAL CONTROL SHOWN THIS SHEET				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
602	98108	59487	482.85	Set Spike in 15" Spruce: TBM 602
603	99569	58403	489.91	Set Spike in 5" Cottonwood: TBM 603

RECOVERED MONUMENTS SHOWN THIS SHEET			
POINT NO.	NORTHING	EASTING	DESCRIPTION
706	97874.5800	59363.8623	Fd AM/Bx[DOT]: PC 23+090.481
707	98561.0976	59113.5633	Fd AM/Bx[DOT]: PT 23+315.090
708	99876.1670	58262.6940	Fd AM/Bx[DOT]: PC 23+792.532
711	99386.9012	59130.8329	Fd BC/Rod[BLM]: C 1/4 S6 *T2N R1E SM



SHEET 4 LEGEND

- FEDERAL GOV'T MONUMENT
- CENTERLINE MONUMENT
- CONTROL POINT
- TEMPORARY BENCH MARK
- POINT NUMBER IDENTIFIER
- RIGHT-OF-WAY LINE
- HIGHWAY CENTERLINE
- EDGE OF ASPHALT
- EDGE OF GRAVEL ROAD
- GUARD RAIL

SEE SHEET 5 FOR CAP SKETCHES AND DESCRIPTIONS.
SEE SHEET 1 FOR NOTES AND CONTROL.

SEWARD RECORDING DISTRICT
STATE BUSINESS – NO FEE
THIS SURVEY DOES NOT
CONSTITUTE A SUBDIVISION
AS DEFINED BY AS 40.15.900 (5)

LOUNSBURY & ASSOCIATES, INC.
3230 C STREET, SUITE 201
ANCHORAGE, AK 99503
(907) 272-5451
CERT. OF AUTH. NO. AECC391

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SURVEY CONTROL DIAGRAM
RECORD OF SURVEY
SEWARD HIGHWAY MP 14
RAILROAD CROSSING RECONSTRUCTION
CFHWY00947/0311037

LOCATED IN SECTIONS 6 & 7, T.2N., R.1E.,
SEWARD MERIDIAN, ALASKA

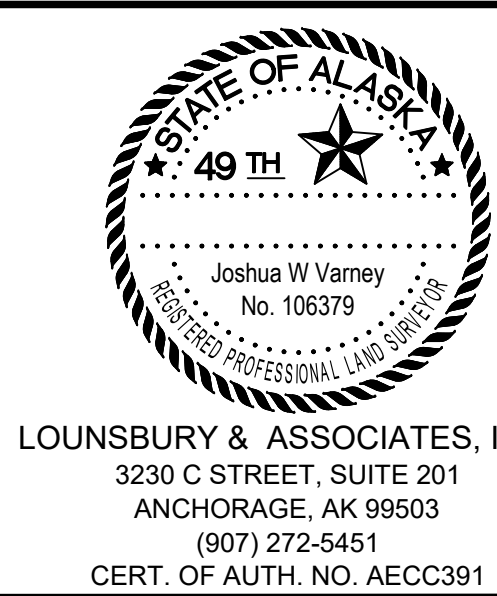
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MONUMENT CAP DETAILS



SEE SHEET 1 FOR NOTES AND CONTROL.

SEWARD RECORDING DISTRICT
STATE BUSINESS — NO FEE
THIS SURVEY DOES NOT
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LOCATED IN SECTIONS 6 & 7, T.2N., R.1E.,
SEWARD MERIDIAN, ALASKA

DRAWN	MH	DATE	01/16/25	SCALE	N/A
CHECKED	JV	DATE	01/16/25	SHEET	5 OF 5

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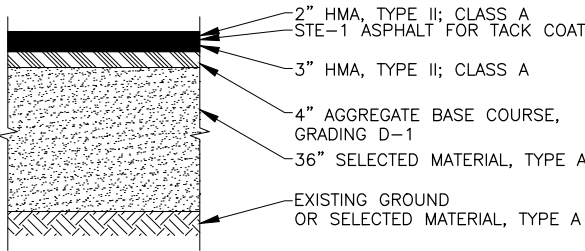
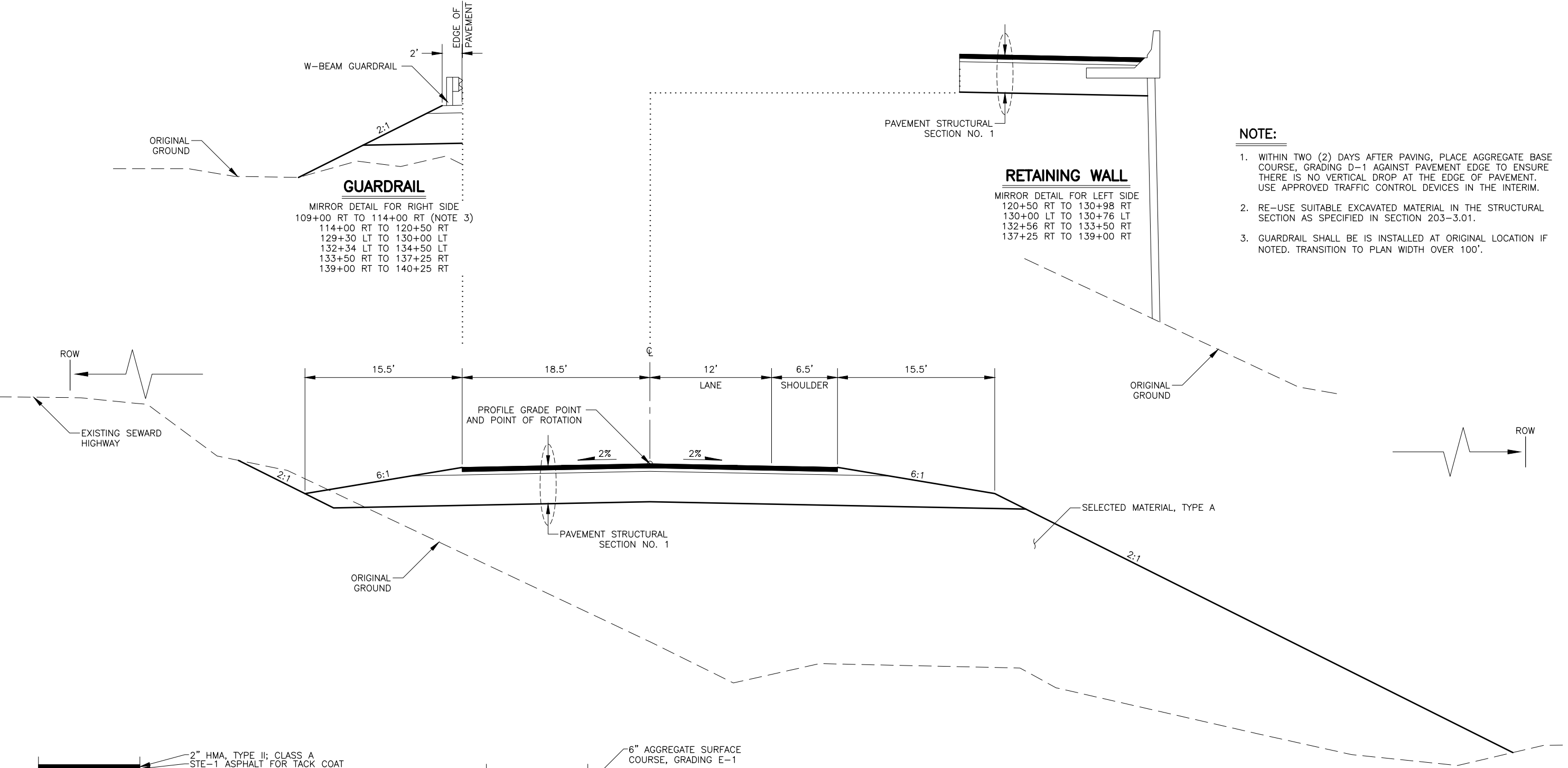
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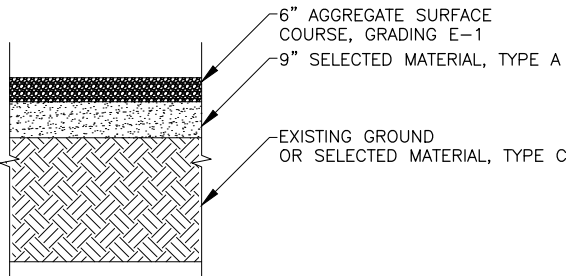
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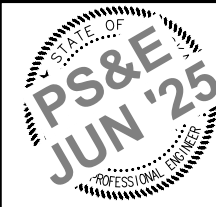
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	B1	B2



PAVEMENT - STRUCTURAL SECTION NO. 1



GRAVEL - STRUCTURAL SECTION NO. 2



HDR ENGINEERING, INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

TYPICAL SECTIONS

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DRAFTED BY

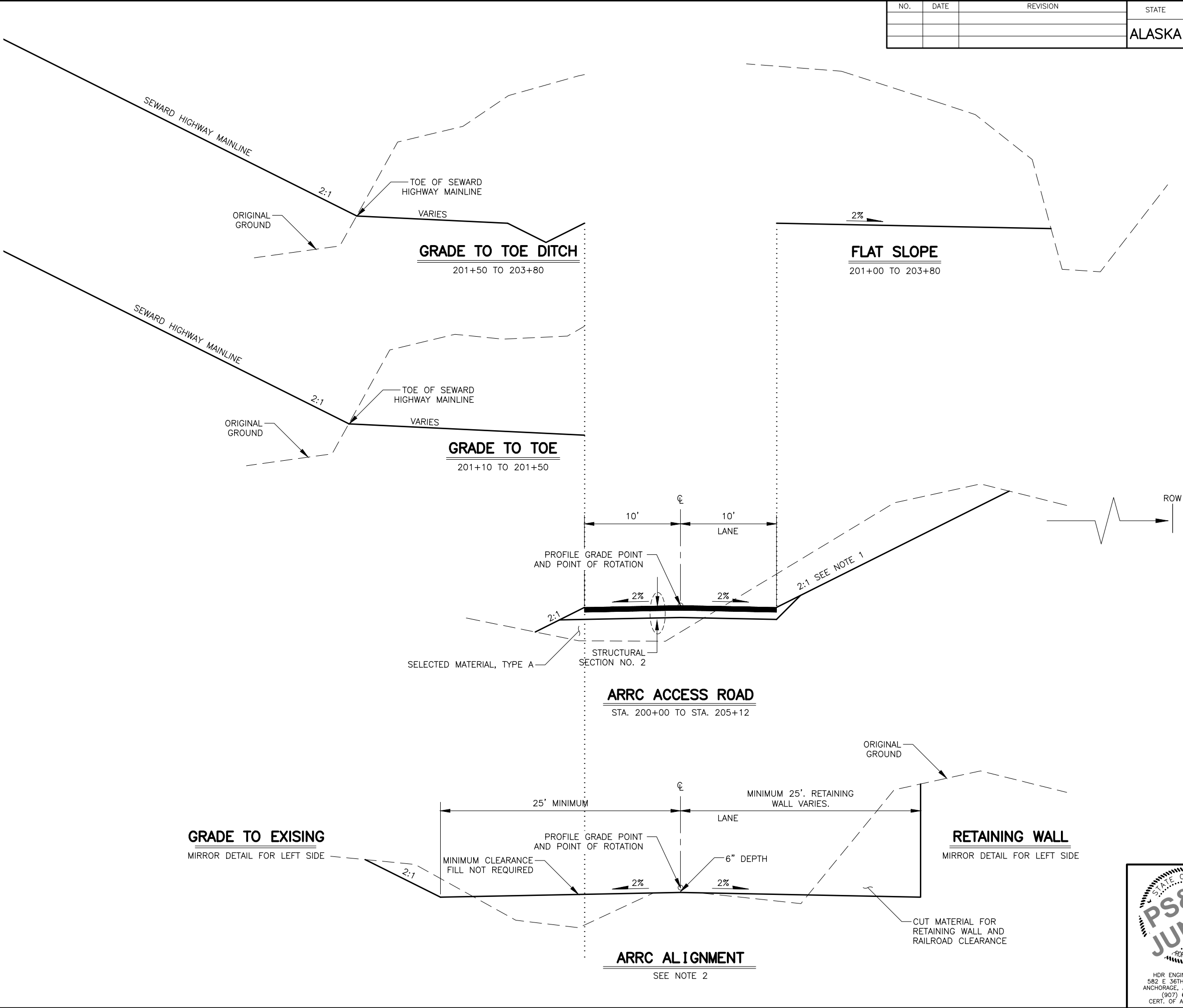
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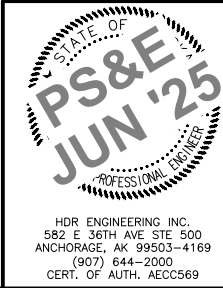
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	B2	B2



- NOTE:**
- CUT SLOPES SHALL BE 2:1 (H:V) UNLESS OTHERWISE APPROVED. WHERE ROCK IS ENCOUNTERED, SLOPES MAY BE STEEPENED TO A MAXIMUM OF 1:1 (H:V) WITH THE APPROVAL OF THE ENGINEER BASED ON FIELD VERIFICATION OF ROCK STABILITY.
 - FOR THE RAILROAD ALIGNMENT UNDER THE BRIDGE AND THROUGH THE EXISTING TUNNEL CUT, PROVIDE A 25-FOOT CLEAR AREA OR EXTEND TO THE RETAINING WALL, WHICHEVER IS GREATER. FILL IS NOT REQUIRED IN THIS AREA. COORDINATE WITH THE RAILROAD REGARDING WORK WITHIN THEIR RIGHT-OF-WAY AND DESIGN DETAILS.



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

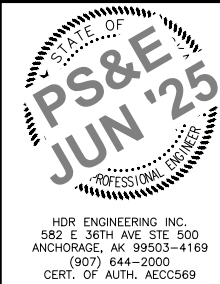
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

TYPICAL SECTIONS

ESTIMATE OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
201.0003.0000	CLEARING AND GRUBBING	ACRE	7
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	L.S.	ALL REQ'D
202.0002.0000	REMOVAL OF PAVEMENT	S.Y.	18,400
202.0004.0000	REMOVAL OF CULVERT PIPE	L.F.	520
202.2032.0000	REMOVAL OF MONUMENT AND CASE	EACH	3
203.0003.0000	UNCLASSIFIED EXCAVATION	C.Y.	17,950
203.0006.000A	BORROW, TYPE A	TON	144,000
203.0009.0000	OBLITERATION OF ROADWAY	S.Y.	6,150
205.0006.0000	STRUCTURAL FILL	C.Y.	1,660
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	5,250
301.0003.00E1	AGGREGATE SURFACE COURSE, GRADING E-1	TON	336
401.0001.002A	HMA, TYPE II; CLASS A	TON	5,500
401.0004.6440	ASPHALT BINDER, GRADE PG 64-40 E	TON	290
401.0005.002B	HMA, TEMPORARY, TYPE II; CLASS B	TON	840
401.0008.002A	HMA PRICE ADJUSTMENT, TYPE II; CLASS A	CS	ALL REQ'D
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CS	ALL REQ'D
401.0010.0001	PAVEMENT SMOOTHNESS PRICE ADJUSTMENT, METHOD 1	CS	ALL REQ'D
401.2021.0000	ASPHALT BINDER PRICE ADJUSTMENT	CS	ALL REQ'D
406.0006.0000	RUMBLE STRIPS, SHOULDERS	STA	103
501.0001.0000	CLASS A CONCRETE	L.S.	ALL REQ'D
501.0007.0000	PRECAST CONCRETE MEMBER, 115'-11" DECKED BULB-TEE	EACH	6
503.0001.0000	REINFORCING STEEL	L.S.	ALL REQ'D
503.0002.0000	EPOXY-COATED REINFORCING STEEL	L.S.	ALL REQ'D
505.0005.0000	FURNISH STRUCTURAL STEEL PIPE PILES, 2'-0" DIA. X 1/2"	L.F.	720
505.0006.0000	DRIVE STRUCTURAL STEEL PIPE PILES, 2'-0" DIA. X 1/2"	EACH	12
507.0004.0000	CONCRETE BRIDGE BARRIER	L.F.	318
507.0006.0000	CABLE SAFETY RAIL	L.F.	250
508.0001.0000	WATERPROOFING MEMBRANE, SPRAY-APPLIED	L.S.	ALL REQ'D
511.0001.0000	MECHANICALLY STABILIZED EARTH WALL	S.F.	37,700
521.2000.0000	SOLDIER PILE RETAINING WALL	S.F.	3,600
602.0001.0156	STRUCTURAL PLATE PIPE 156" DIAMETER	L.F.	140
603.0009.0012	CORRUGATED ALUMINUM PIPE 12 INCH	L.F.	62.50
603.0009.0036	CORRUGATED ALUMINUM PIPE 36 INCH	L.F.	156
606.0001.0000	W-BEAM GUARDRAIL	L.F.	1,650
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	L.F.	5,600
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	4
606.0016.0000	TRANSITION RAIL	EACH	6
607.0005.0000	DRIVE GATE	EACH	1
610.0001.0000	DITCH LINING	C.Y.	250
611.0002.0001	RIPRAP, CLASS I	TON	348

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	C1	C2

ESTIMATE OF QUANTITIES			
ITEM NO.	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
611.0002.0002	RIPRAP, CLASS II	TON	152
611.0002.0003	RIPRAP, CLASS III	TON	64
615.0001.0000	STANDARD SIGN	S.F.	75
618.0002.0000	SEEDING	POUND	461
620.0001.0000	TOPSOIL	S.Y.	29,700
630.0001.0003	GEOTEXTILE, SEPARATION, CLASS 3	S.Y.	527
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	L.S.	ALL REQ'D
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	L.S.	ALL REQ'D
641.0001.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION	L.S.	ALL REQ'D
641.0005.0000	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL BY DIRECTIVE	C.S.	ALL REQ'D
641.0006.0000	WITHHOLDING	C.S.	ALL REQ'D
641.0007.0000	SWPPP MANAGER	L.S.	ALL REQ'D
641.0008.0000	SWPPPTRACK	C.S.	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	L.S.	ALL REQ'D
642.0003.0000	THREE PERSON SURVEY PARTY	HOURL	1,500
643.0002.0000	TRAFFIC MAINTENANCE	L.S.	ALL REQ'D
643.0014.0000	INTERIM PAVEMENT MARKINGS	STA	72
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	C.S.	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	C.S.	ALL REQ'D
643.0032.0000	FLAGGING	C.S.	ALL REQ'D
644.0001.0000	FIELD OFFICE	L.S.	ALL REQ'D
644.0002.0000	FIELD LABORATORY	L.S.	ALL REQ'D
644.0003.0000	CURING SHED	L.S.	ALL REQ'D
644.0015.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
644.2004.0000	ENGINEERING COMMUNICATIONS	C.S.	ALL REQ'D
644.2007.0000	VEHICLE (LT/SUV)	EA	2
645.0001.0000	TRAINING PROGRAM, 3 TRAINEES / APPRENTICES	L.H.	2,500
646.0001.0000	CPM SCHEDULING	L.S.	ALL REQ'D
646.2000.0000	SCHEDULE PRICE ADJUSTMENT	C.S.	ALL REQ'D
670.2002.0000	MMA PAVEMENT MARKINGS, INLAID	L.S.	ALL REQ'D
671.2005.0000	STREAM DIVERSION AND DEWATERING	L.S.	ALL REQ'D
682.2000.0000	VAC-TRUCK POTHOLE	L.S.	ALL REQ'D



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

ESTIMATE OF QUANTITIES

HDR ENGINEERING INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE
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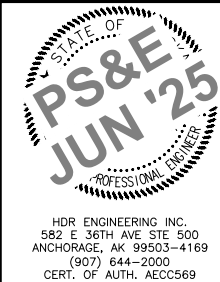
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TABLE OF ESTIMATING FACTORS		
ITEM NO.	ITEM DESCRIPTION	UNIT
203.0006.000A	BORROW, TYPE A	144 LB./C.F.
301.0001.0001	AGGREGATE BASE COURSE, GRADING D-1	144 LB./C.F.
301.0003.00E1	AGGREGATE SURFACE COURSE, GRADING E-1	144 LB./C.F.
401.0001.0000	HMA, TYPE II; CLASS A	151 LB./C.F.
401.0004.6440	ASPHALT BINDER, GRADE PG 64-40 E	5.3% OF TOTAL WEIGHT OF 401.0001.0000
611.0002.0001	RIPRAP, CLASS I	108 LB./C.F.
611.0002.0002	RIPRAP, CLASS II	108 LB./C.F.
611.0002.0003	RIPRAP, CLASS III	108 LB./C.F.

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	C2	C2



HDR ENGINEERING INC.
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CERT. OF AUTH. AECC569

STATE OF ALASKA
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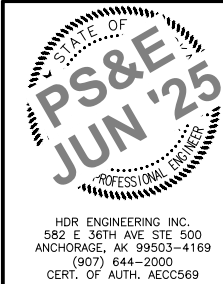
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

ESTIMATE OF QUANTITIES

201.0009.0000 - CLEARING AND GRUBBING					
SHEET	STATION		OFFSET	AREA (ACRES)	REMARKS
	FROM	TO			
F2	114+00	116+00	LT	0.10	
F2	114+00	116+00	RT	0.04	
F3	116+00	120+50	LT	0.17	
F3	116+00	120+50	RT	0.29	
F4	120+50	125+00	LT	0.24	
F4	120+50	125+00	RT	0.25	
F5	125+00	129+50	LT	0.60	
F5	125+00	129+50	RT	0.24	
F6	129+50	131+48	LT	0.26	
F6	129+50	131+48	RT	0.11	
F6	132+46	134+00	LT	0.38	
F6	132+46	134+00	RT	0.12	
F7	134+00	135+63	LT	0.06	
F7	134+00	136+50	LT	0.36	
F7	134+00	136+50	RT	0.18	
F7	134+00	135+69	RT	0.11	
F7	136+95	138+50	LT	0.17	
F7	136+77	138+50	RT	0.12	
F8	138+50	142+82	LT	0.24	
F8	138+50	143+00	RT	0.49	
F9	143+00	147+50	LT	0.30	
F9	143+00	147+50	RT	0.25	
F10	147+50	152+00	LT	0.37	
F10	147+50	152+00	RT	0.35	
F11	152+00	156+50	LT	0.35	
F11	152+00	156+50	RT	0.32	
F12	156+50	160+00	LT	0.19	
F12	156+50	160+00	RT	0.23	
TOTAL :				6.9	
PAY ITEM QUANTITY:				7.0	

201.0001.0000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS			
SHEET	STATION	OFFSET	REMARKS
F6	130+78	LT	STRUCTURAL PLATE UNDERCROSSING
PAY ITEM QUANTITY:		ALL REQ'D	

202.0002.0000 - REMOVAL OF PAVEMENT				
SHEET	STATION		REMOVAL OF PAVEMENT (SY)	REMARKS
	FROM	TO		
F2	114+00	116+00	781.1	
F3	116+00	120+50	1,755.8	
F4	120+50	125+00	1,778.7	
F5	125+00	129+50	1,745.7	
F6	129+50	134+00	1,739.9	
F7	134+00	138+50	1,926.8	
F8	138+50	143+00	1,791.5	
F9	143+00	147+50	1,835.1	
F10	147+50	152+00	1,799.9	
F11	152+00	156+50	1,767.9	
F12	156+50	160+00	1,381.4	
TOTAL :			18,303.7	
PAY ITEM QUANTITY:			18,400	



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SUMMARY TABLES

HDR ENGINEERING INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569

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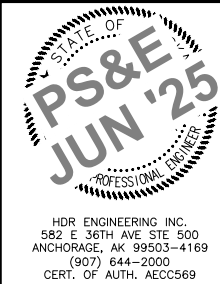
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	D2	D5

202.0004.0000 - REMOVAL OF CULVERT PIPE				
SHEET	STATION	OFFSET	LENGTH (FT)	REMARKS
F4	121+17	CL	156	
F6	131+31	LT	257	
F11-F12	156+31	CL	103	
TOTAL:			516	
PAY ITEM QUANTITY:			516	

203.0009.0000 - OBLITERATION OF ROADWAY					
SHEET	STATION		OFFSET	AREA (SY)	REMARKS
	FROM	TO			
F4	120+88	125+00	LT	873.7	
F5	125+00	129+45	LT	1,569.2	
F6	133+37	134+00	RT	290.3	
F7	134+00	136+77	RT & LT	1,215.5	
F7	135+37	138+50	LT	1,155.6	
F8	138+50	142+95	LT	996.6	
TOTAL:				6,100.9	
PAY ITEM QUANTITY:				6,150	

401.0005.002B - HMA, TEMPORARY, TYPE II; CLASS B				
SHEET	STATION		HMA, TEMPORARY, TYPE II; CLASS B (TON)	REMARKS
	FROM	TO		
T6-T11	4+00	14+00	462.50	
T13-T16	1+75	9+75	370	
TOTAL:			832.5	
PAY ITEM QUANTITY:			840	

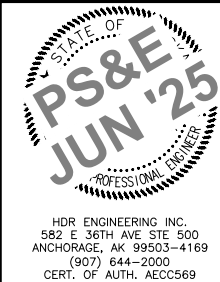


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SUMMARY TABLES

611 ITEMS - RIPRAP SUMMARY							
SHEET	FROM		TO		611.0002.0001	611.0002.0002	611.0002.0003
	STATION	OFFSET	STATION	OFFSET	RIPRAP CLASS I (TON)	RIPRAP CLASS II (TON)	RIPRAP, CLASS III (TON)
F3	120+46	RT	120+50	RT	30.0		
F4	120+72	LT	120+82	LT		9.4	
F4	120+72	LT	120+82	LT		7.1	
F4	120+72	RT	120+82	RT		7.6	
F4	120+72	RT	120+82	RT			64
F6	129+94	LT	129+99	LT	48.6		
F6	132+36	LT	132+40	LT	39.5		
F6	133+50	RT	133+54	RT	48.8		
F8	139+00	RT	139+04	RT	18.6		
F9	143+40	LT	143+51	LT	42.1		
F11	156+30	LT	156+45	LT		40.6	
F11	156+30	LT	156+45	LT		8.6	
F11-F12	156+35	LT	157+07	RT	120.2		
F12	156+97	RT	157+14	RT		28.6	
F12	156+97	RT	157+14	RT		49.7	
TOTAL :					347.8	151.6	64
PAY ITEM QUANTITY:					348	152	64



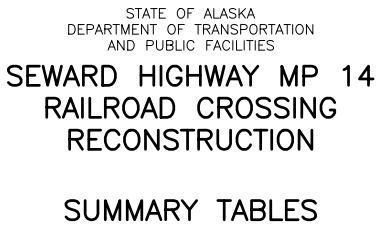
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SUMMARY TABLES

DRAWING LOCATION	DATE	TIME	SCALE	DESIGNED BY
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606.0006.0000 - REMOVING AND DISPOSING OF GUARDRAIL SUMMARY					
SHEET	STATION		OFFSET	LENGTH (FT)	REMARKS
	FROM	TO			
F1	109+06	111+50	RT	245	
F2	111+50	112+44	RT	95	
F2	112+72	116+00	RT	330	
F3	119+57	120+50	LT	93	
F3	116+00	120+50	RT	451	
F4	120+50	122+87	LT	237	
F4	120+50	125+00	RT	451	
F4	124+61	125+00	LT	39	
F5	125+00	129+50	LT	447	
F5	125+00	129+50	RT	448	
F6	129+50	134+00	LT	446	
F6	129+50	134+00	RT	447	
F7	134+00	138+50	LT	447	
F7	134+00	136+30	RT	230	
F8	138+50	143+00	LT	449	
F9	143+00	147+50	LT	448	
F10	147+50	150+18	LT	265	
TOTAL:				5,568	
PAY ITEM QUANTITY:				5,600	



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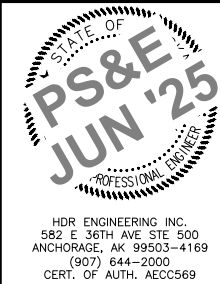
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	D5	D5

606 ITEMS - GUARDRAIL SUMMARY										
SHEET	STATION TO STATION			606.0001.0000	606.0013.0000	606.0016.0000	DOWNSTREAM END ANCHOR*	GUARDRAIL FLEXIBLE DELINEATOR	GUARDRAIL CASE**	REMARKS
	FROM	TO	OFFSET	W-BEAM GUARDRAIL (FT)	PARALLEL GUARDRAIL TERMINAL (EA)	TRANSITION RAIL (EA)				
F1-F3	109+50	120+32	RT	1088	1	1		X	3	
F5-F6	129+31	130+00	LT	0	1	1		X	3	
F6-F7	133+68	137+07	RT	340		2		X	3	
F6-F7	132+52	134+00	LT	147	1	1		X	3	
F8	139+18	139+73	RT	55	1	1		X	3	
TOTAL:				1630	4	6				
PAY ITEM QUANTITY:				1650	4	6				

610.0002.0000 - DITCH LINING							
SHEET	FROM		TO		LENGTH (FT)	DITCH LINING (CY)	REMARKS
	STATION	OFFSET	STATION	OFFSET			
E3	156+35	LT	157+07	RT	140	132	
E3	156+28	LT	157+69	RT	230	110	
TOTAL:						132	
PAY ITEM QUANTITY:						132	

643.0014.0000 - INTERIM PAVEMENT MARKINGS				
SHEET	STATION		STATION (100 FT)	REMARKS
	FROM	TO		
T6-T11	4+00	14+00	40	
T13-T16	1+75	9+75	32	
TOTAL:			72	
PAY ITEM QUANTITY:			72	



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SUMMARY TABLES

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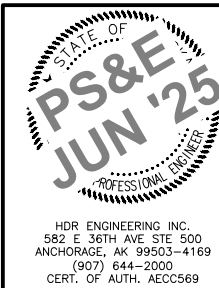
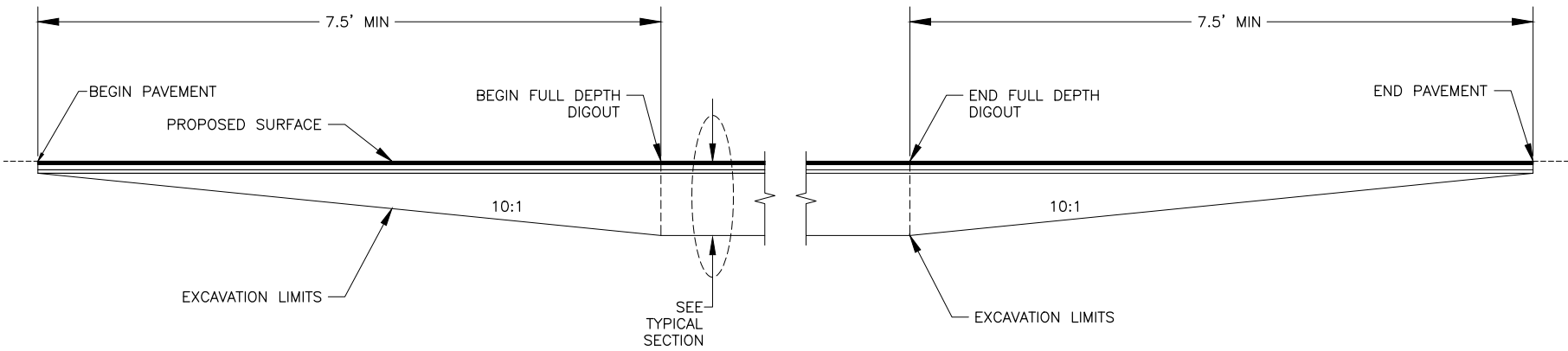
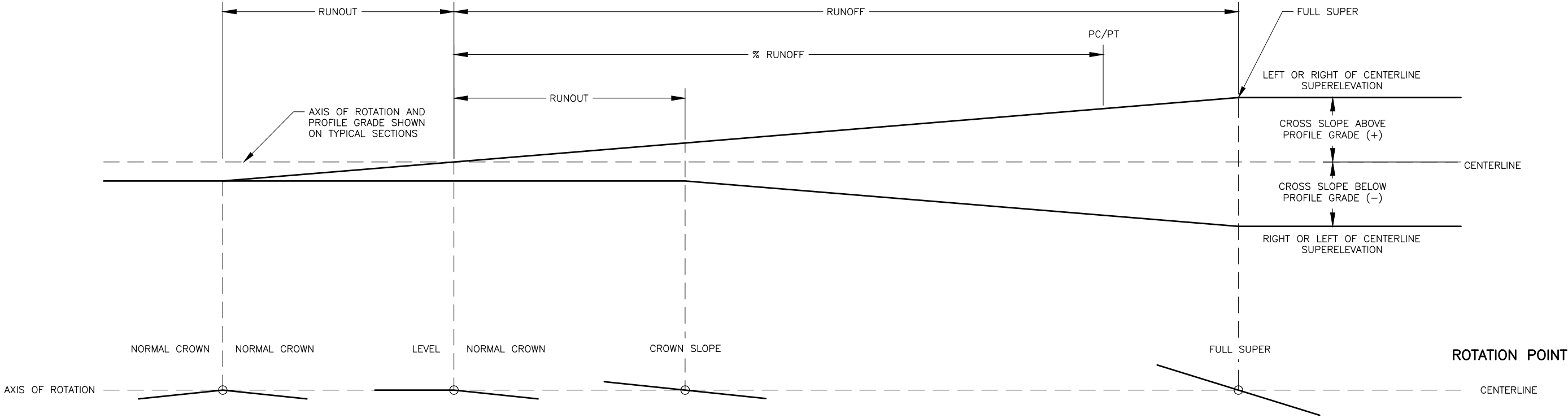
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KLB

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	E1	E7



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SUPERELEVATION AND DIGOUT

HDR ENGINEERING, INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569

IST
CJH
KLB

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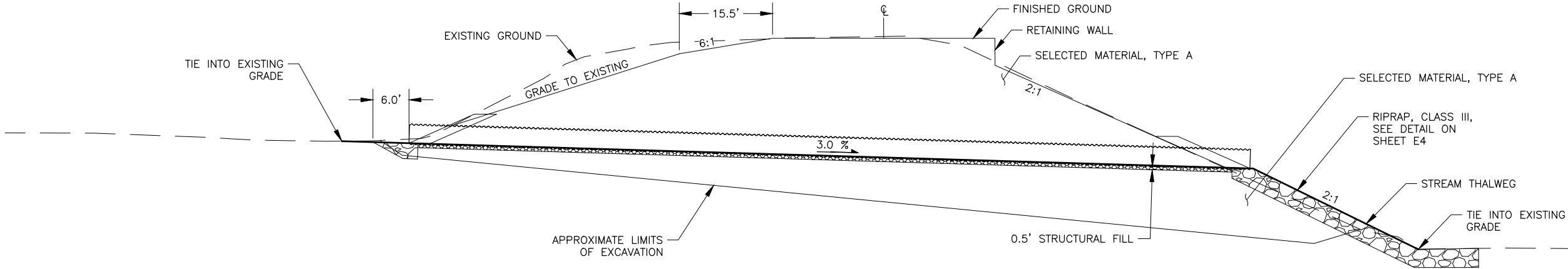
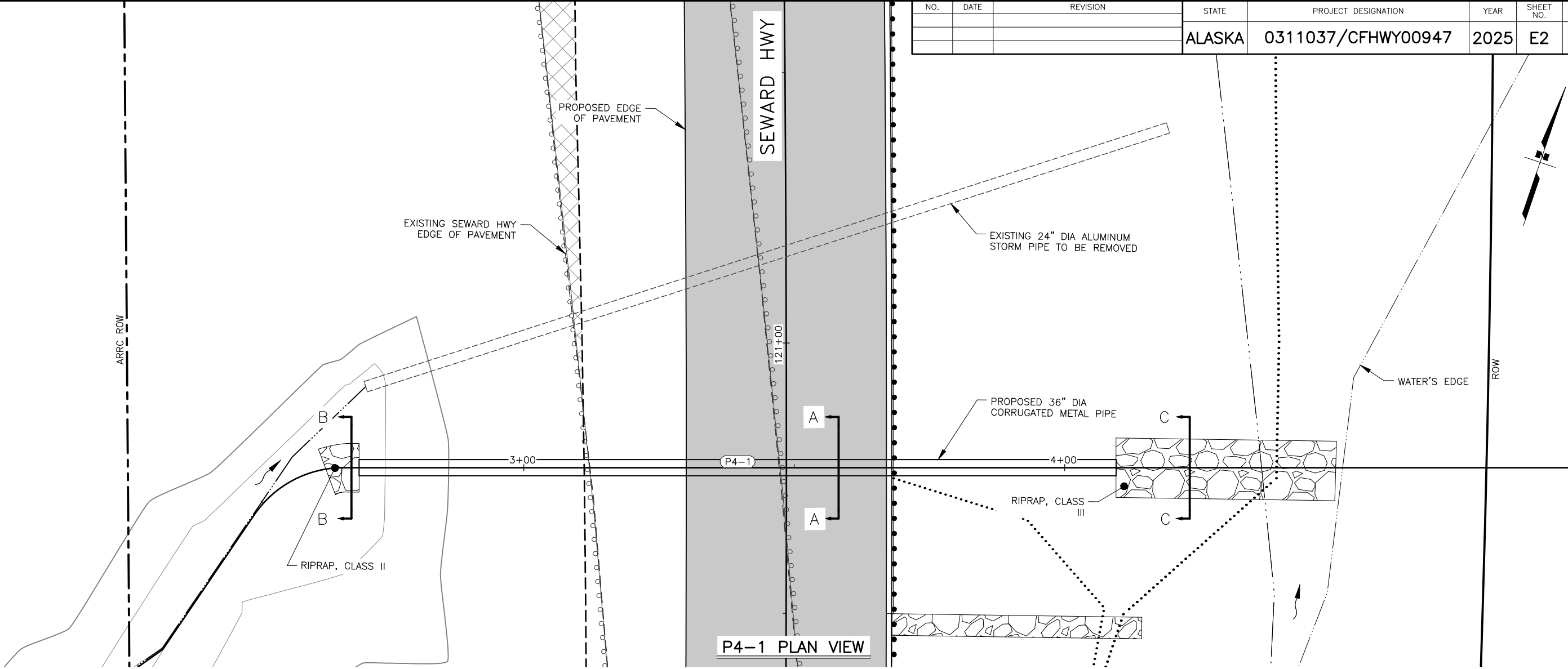
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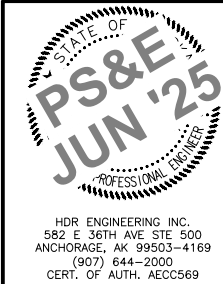
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			ALASKA	0311037/CFHWY00947	2025	E2	E7



P4-1 CENTERLINE PROFILE

NOTES

- FOLLOW MANUFACTURERS INSTALLATION SPECIFICATIONS IN ALL CULVERT INSTALLATIONS.
- MINIMIZE DISTURBANCE TO THE VEGETATIVE MAT AROUND CULVERT ENDS, BUT CLEAR AND GRADE AS NEEDED TO ENSURE PROPER DRAINAGE.
- FOR SECTION VIEW A-A, DETAILS, SEE SHEET E4.



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

PIPE 4-1 PLAN AND PROFILE

PIPE SUMMARY										
PIPE	SIZE (IN)	LENGTH (FT)	INLET STATION	INLET OFFSET	INLET INVERT ELEV. (FT)	OUTLET STATION	OUTLET OFFSET	OUTLET INVERT ELEV. (FT)	% GRADE	REMARKS
P4-1	36	139.94	120+76.93	78.99' LT	502.3	120+76.93	60.94' RT	498.1	3.00%	

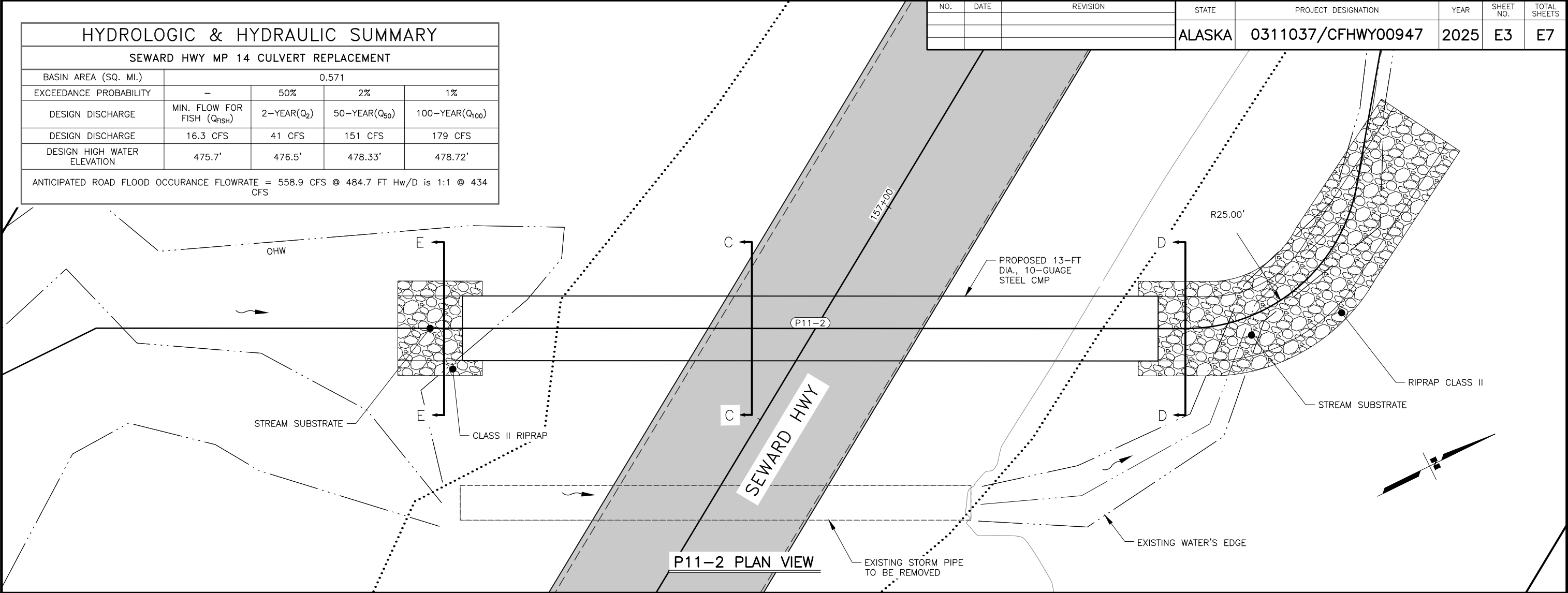
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HYDROLOGIC & HYDRAULIC SUMMARY

SEWARD HWY MP 14 CULVERT REPLACEMENT

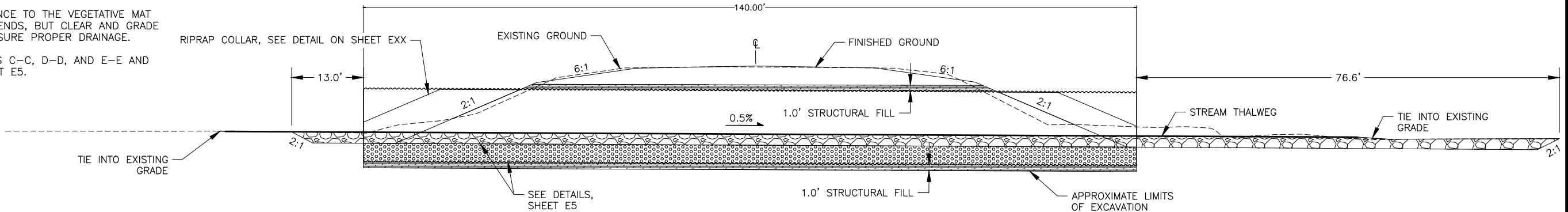
BASIN AREA (SQ. MI.)	0.571			
EXCEEDANCE PROBABILITY	—	50%	2%	1%
DESIGN DISCHARGE	MIN. FLOW FOR FISH (Q_{FISH})	2-YEAR(Q_2)	50-YEAR(Q_{50})	100-YEAR(Q_{100})
DESIGN DISCHARGE	16.3 CFS	41 CFS	151 CFS	179 CFS
DESIGN HIGH WATER ELEVATION	475.7'	476.5'	478.33'	478.72'
ANTICIPATED ROAD FLOOD OCCURANCE FLOWRATE = 558.9 CFS @ 484.7 FT Hw/D is 1:1 @ 434 CFS				

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	E3	E7



NOTES

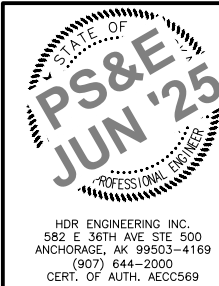
- FOLLOW MANUFACTURERS INSTALLATION SPECIFICATIONS IN ALL CULVERT INSTALLATIONS.
- MINIMIZE DISTURBANCE TO THE VEGETATIVE MAT AROUND CULVERT ENDS, BUT CLEAR AND GRADE AS NEEDED TO ENSURE PROPER DRAINAGE.
- FOR SECTION VIEWS C-C, D-D, AND E-E AND DETAILS, SEE SHEET E5.



PIPE SUMMARY

PIPE	SIZE (IN)	LENGTH (FT)	INLET STATION	INLET OFFSET	INLET INVERT ELEV. (FT)	OUTLET STATION	OUTLET OFFSET	OUTLET INVERT ELEV. (FT)	% GRADE	REMARKS
P11-2	156	140.00	156+34.84	60.86' LT	469.1	157+07.06	59.07' RT	468.4	0.50%	

P11-1 CENTERLINE PROFILE

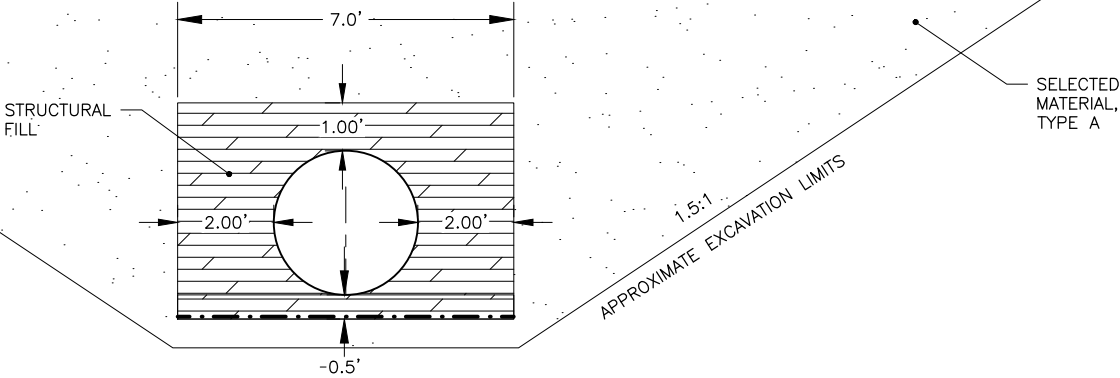


STATE OF ALASKA
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**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**
**PIPE 11-2
PLAN & PROFILE**

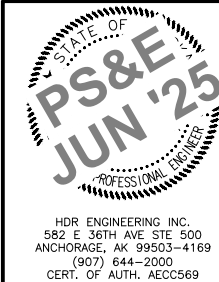
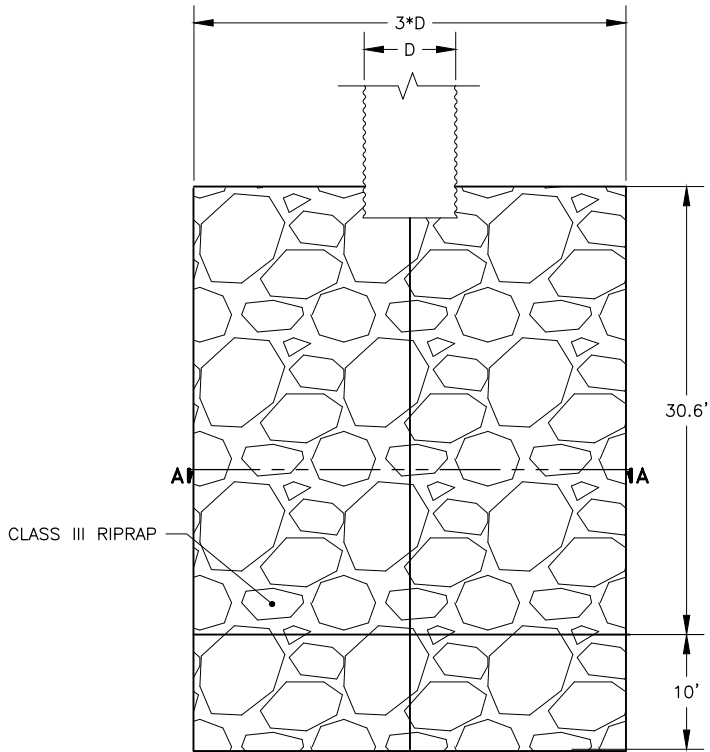
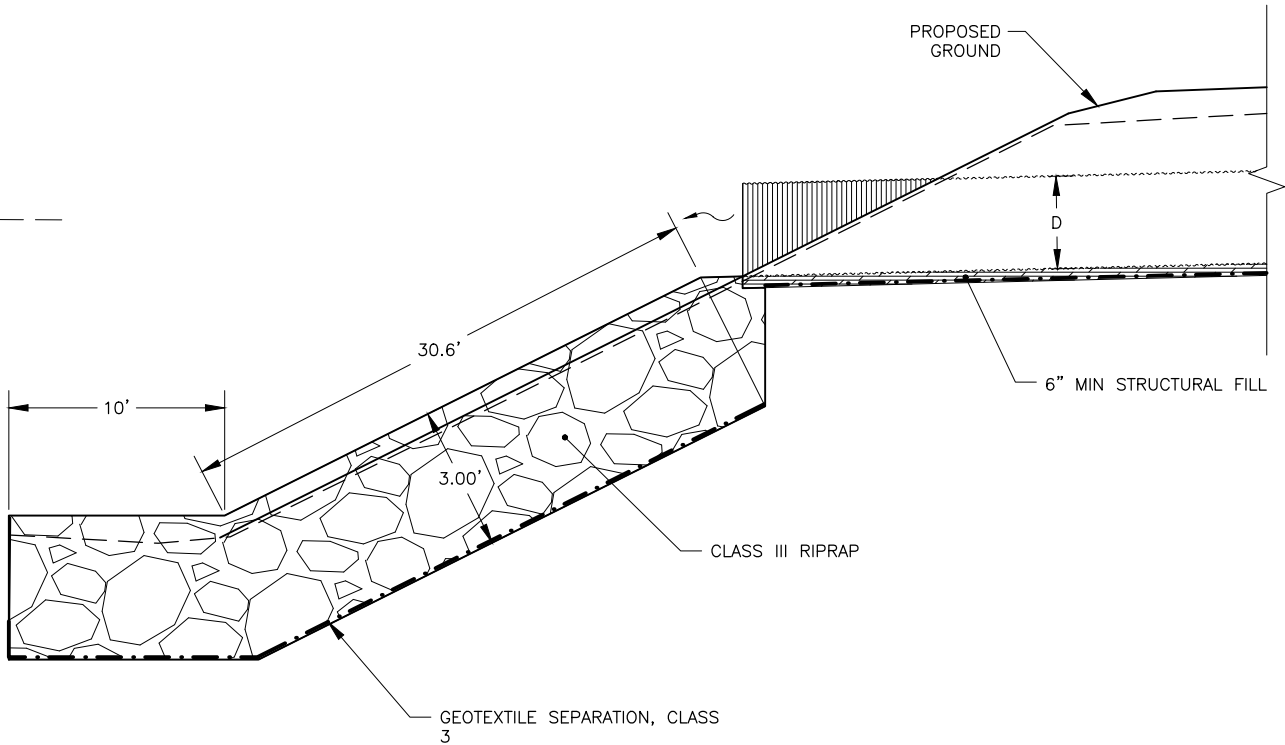
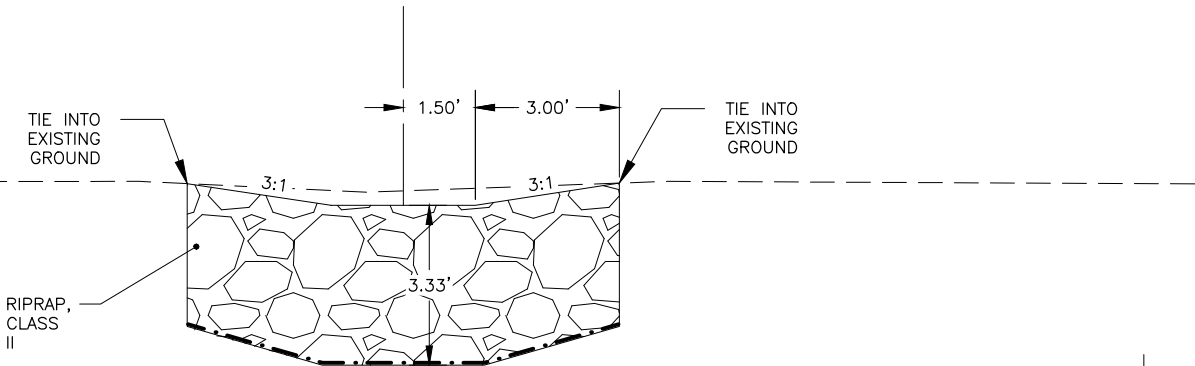
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- PIPE 4-1 APRON NOTES:**
1. INLET APRON MATERIAL SHALL CONSIST OF RIPRAP CLASS II WITH ALL VOIDS FILLED WITH USABLE EXCAVATION (SEE DOT STANDARD SPECIFICATION 611-2.01).
 2. OUTLET APRON MATERIAL SHALL CONSIST OF RIPRAP CLASS III WITH ALL VOIDS FILLED WITH USABLE EXCAVATION (SEE DOT STANDARD SPECIFICATION 611-2.01).

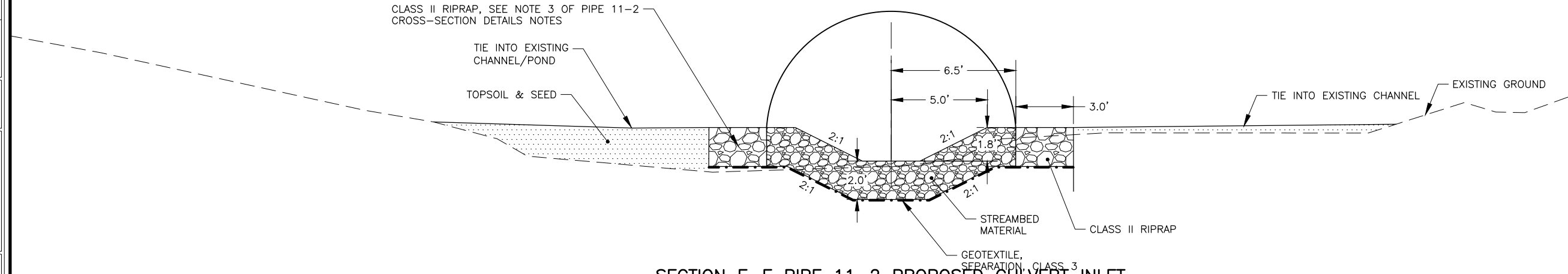


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**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**
**PIPE 4-1 CROSS-SECTION
DETAILS**

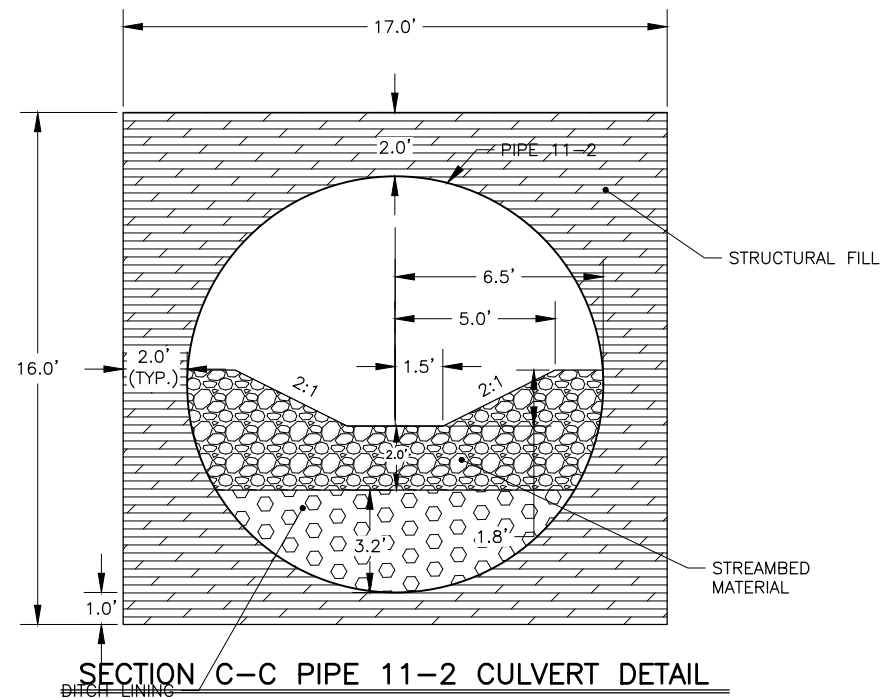
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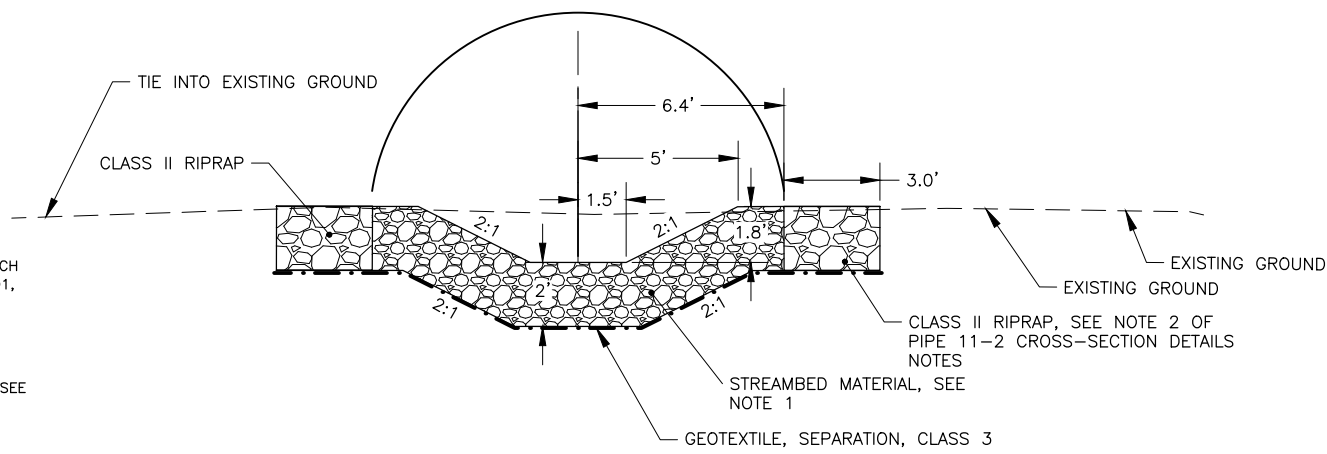
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SECTION E-E PIPE 11-2 PROPOSED CULVERT INLET



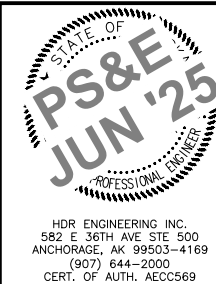
SECTION C-C PIPE 11-2 CULVERT DETAIL



SECTION D-D PIPE 11-2 PROPOSED CULVERT OUTLET

PIPE 11-2 CROSS-SECTION DETAILS NOTES:

1. STREAMBED MATERIAL SHALL CONSIST OF 30% RIPRAP CLASS I, 30% D-1 BASE COURSE, AND 40% DITCH LINING, WITH ALL VOIDS FILLED WITH USABLE EXCAVATION (SEE DOT STANDARD SPECIFICATIONS 610-2.01, 611-2.01, AND 703-2.03).
2. MIX STREAM SUBSTRATE COARSE AND FINE MATERIALS THOROUGHLY. MIX BEFORE PLACEMENT AND COMPACT IN LIFTS. SEE SPECIFICATIONS FOR ADDITIONAL PLACEMENT REQUIREMENTS.
3. APRON BANKS SHALL CONSIST OF RIPRAP CLASS II WITH ALL VOIDS FILLED WITH USABLE EXCAVATION (SEE DOT STANDARD SPECIFICATION 611-2.01).
4. CONSTRUCT CHANNEL LEAVING A NON-UNIFORM, ROUGH SURFACE. WASH FINE MATERIALS INTO COARSE MATERIALS UNTIL BED IS SEALED AND WATER POOLS ON SURFACE. ADDITIONAL SUB 2" FINES MAY BE REQUIRED DURING THIS PROCESS.
5. STREAM SHALL NOT BE RE-DIVERTED INTO CULVERT UNTIL ENGINEER HAS APPROVED THAT BED MATERIALS ARE SUFFICIENTLY SEALED.



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**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**
**PIPE 11-2 CROSS-SECTION
DETAILS**

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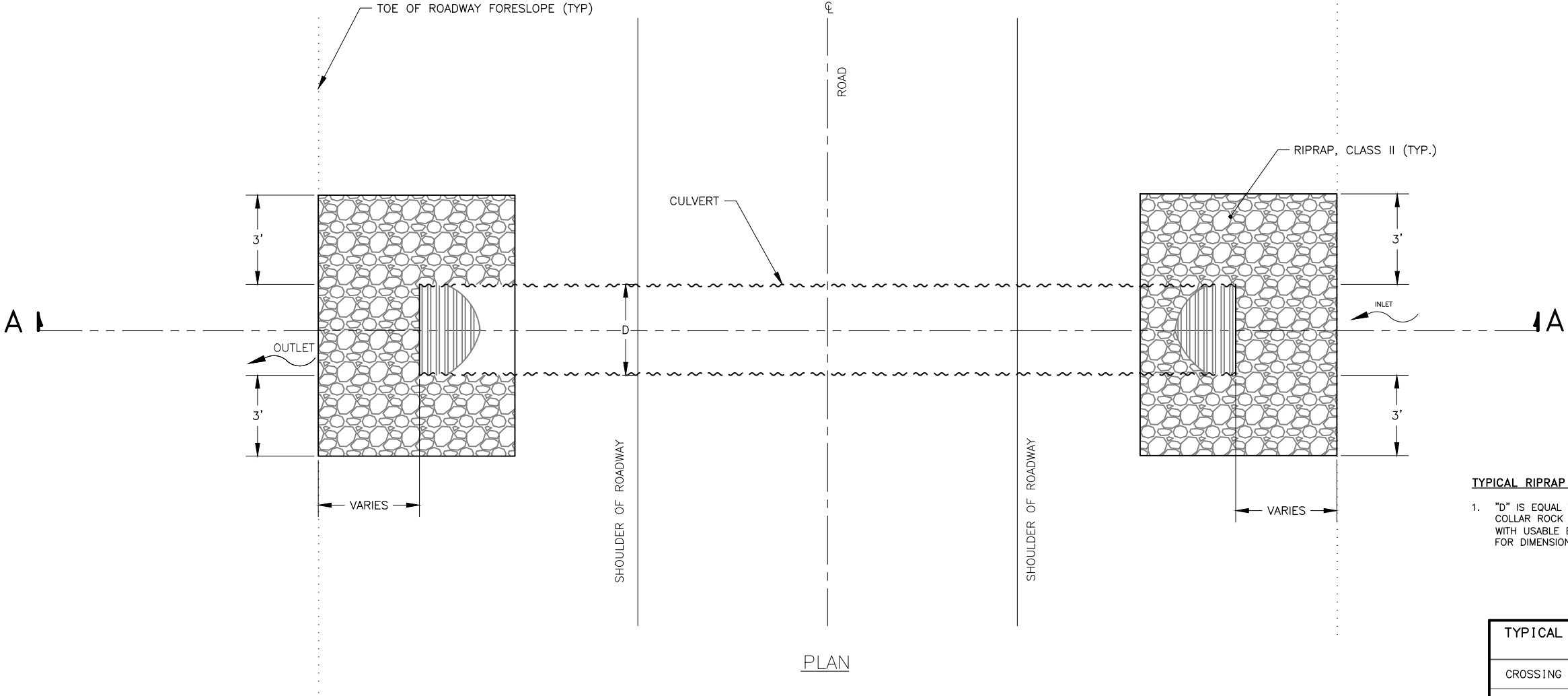
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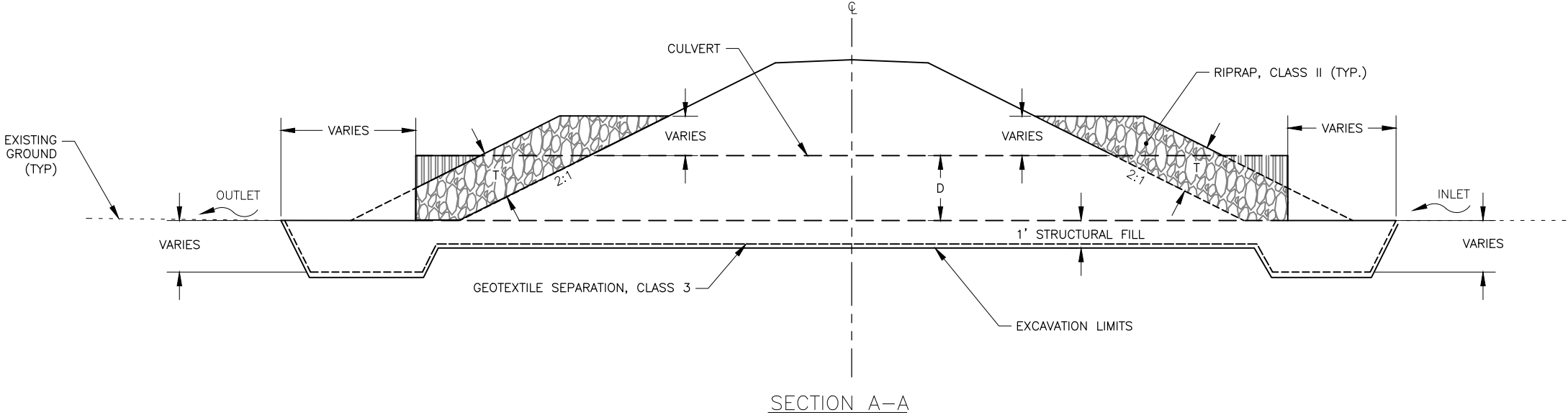
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			ALASKA	0311037/CFHWY00947	2025	E6	E7

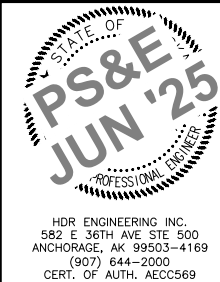


- TYPICAL RIPRAP COLLAR NOTES:**
- "D" IS EQUAL TO NOMINAL DIAMETER OF THE CULVERT. TYPICAL RIPRAP COLLAR ROCK SHALL CONSIST OF CLASS II RIPRAP WITH ALL VOIDS FILLED WITH USABLE EXCAVATION (SEE DOT STANDARD SPECIFICATIONS 611-2.01). FOR DIMENSIONS THAT VARY, SEE DETAIL B AND C ON THIS SHEET.

TYPICAL RIPRAP COLLAR TABLE		
CROSSING	X	T
P4-1	2.0	3.0'
P11-2	2.0	3.0'



TYPICAL RIPRAP COLLAR



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
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**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

TYPICAL RIPRAP COLLAR DETAILS

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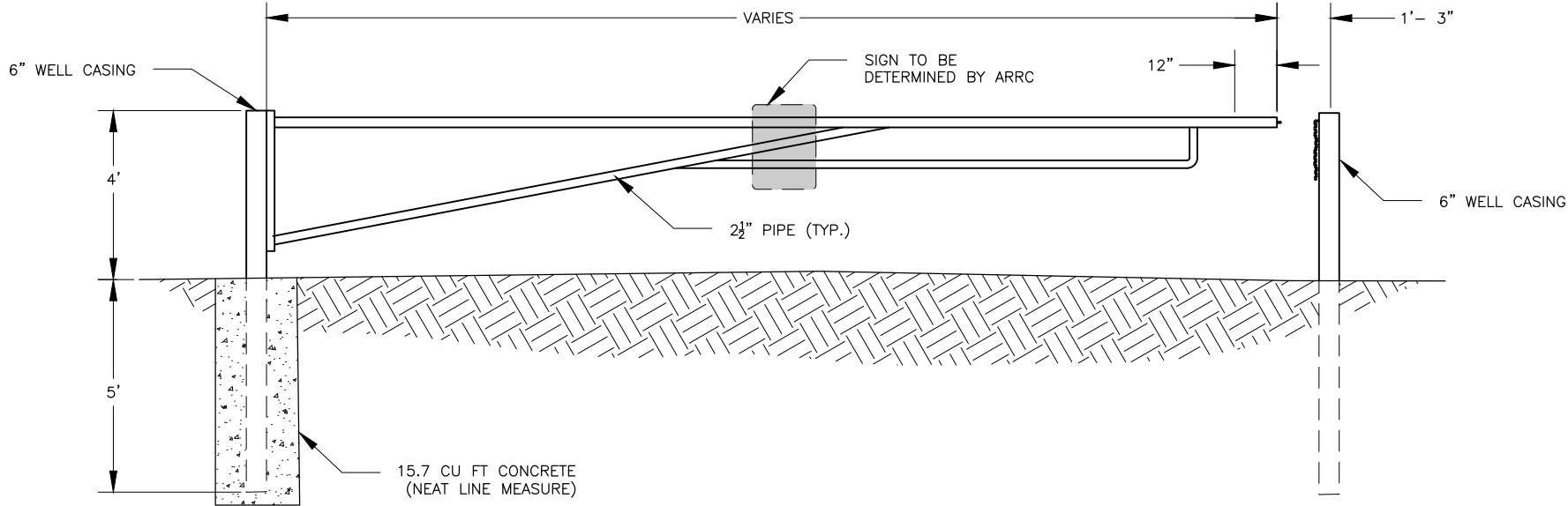
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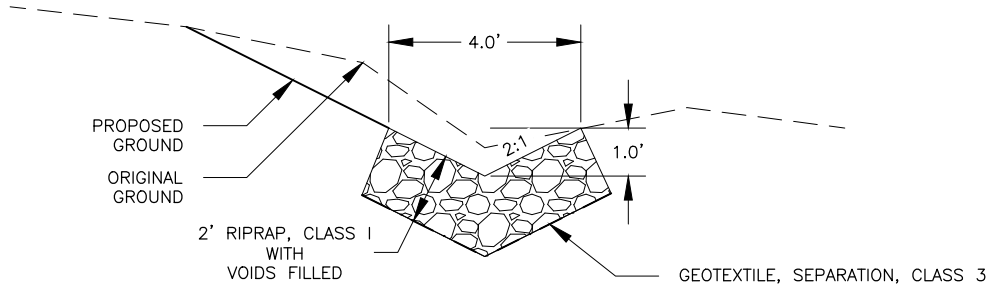
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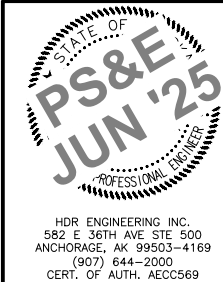
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ACCESS ROAD GATE



DOWN-DRAIN DETAIL

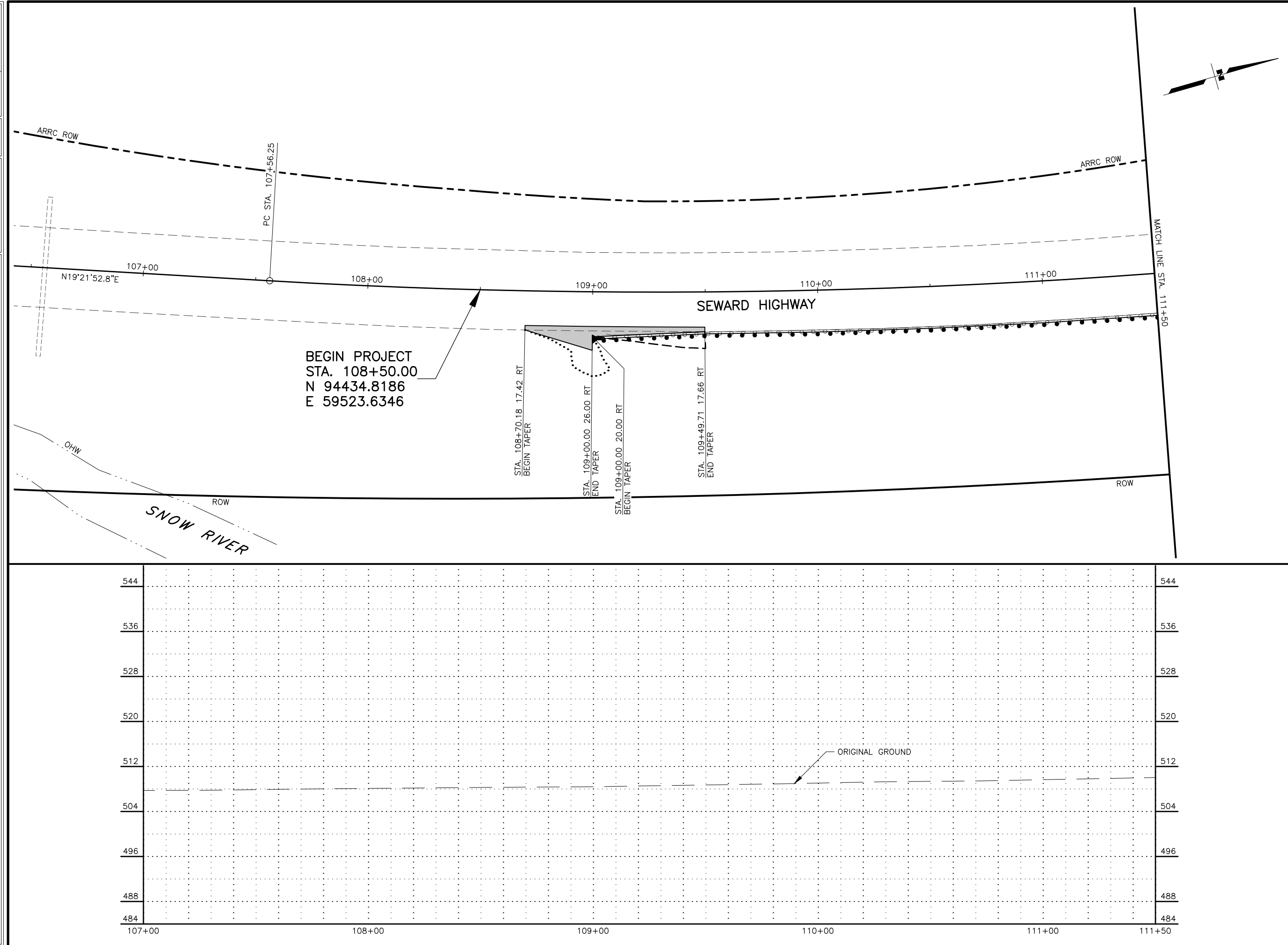


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SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

RR GATE AND DITCH DETAIL



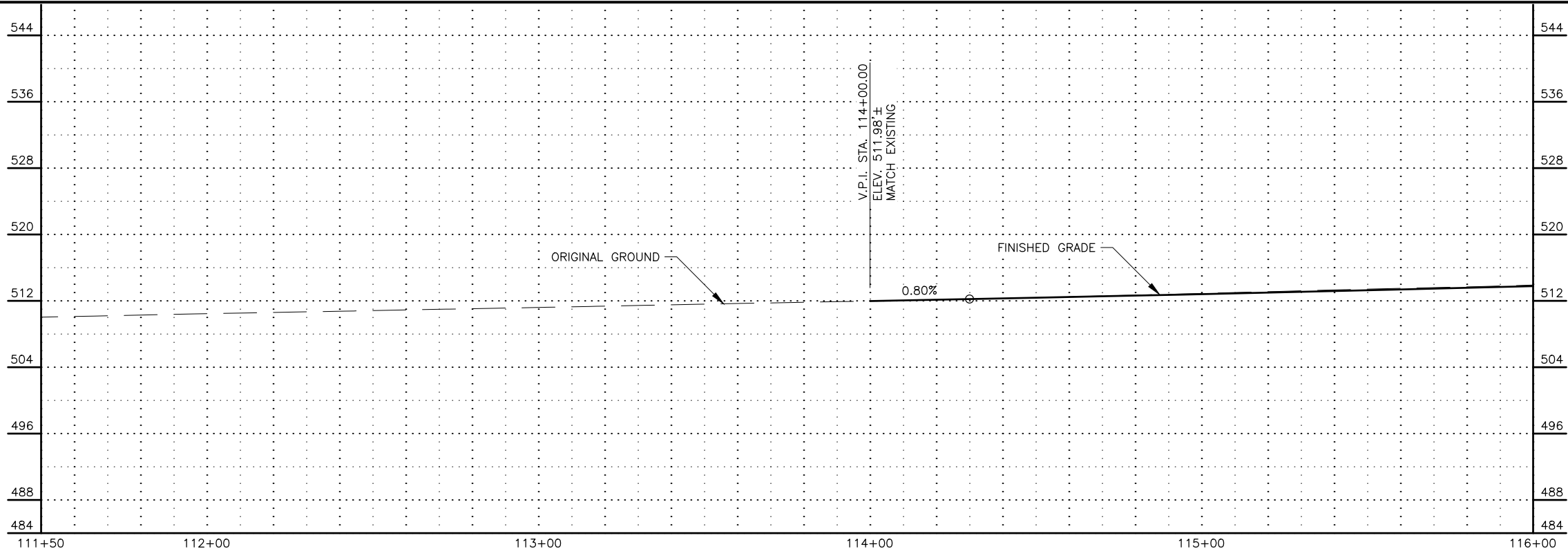
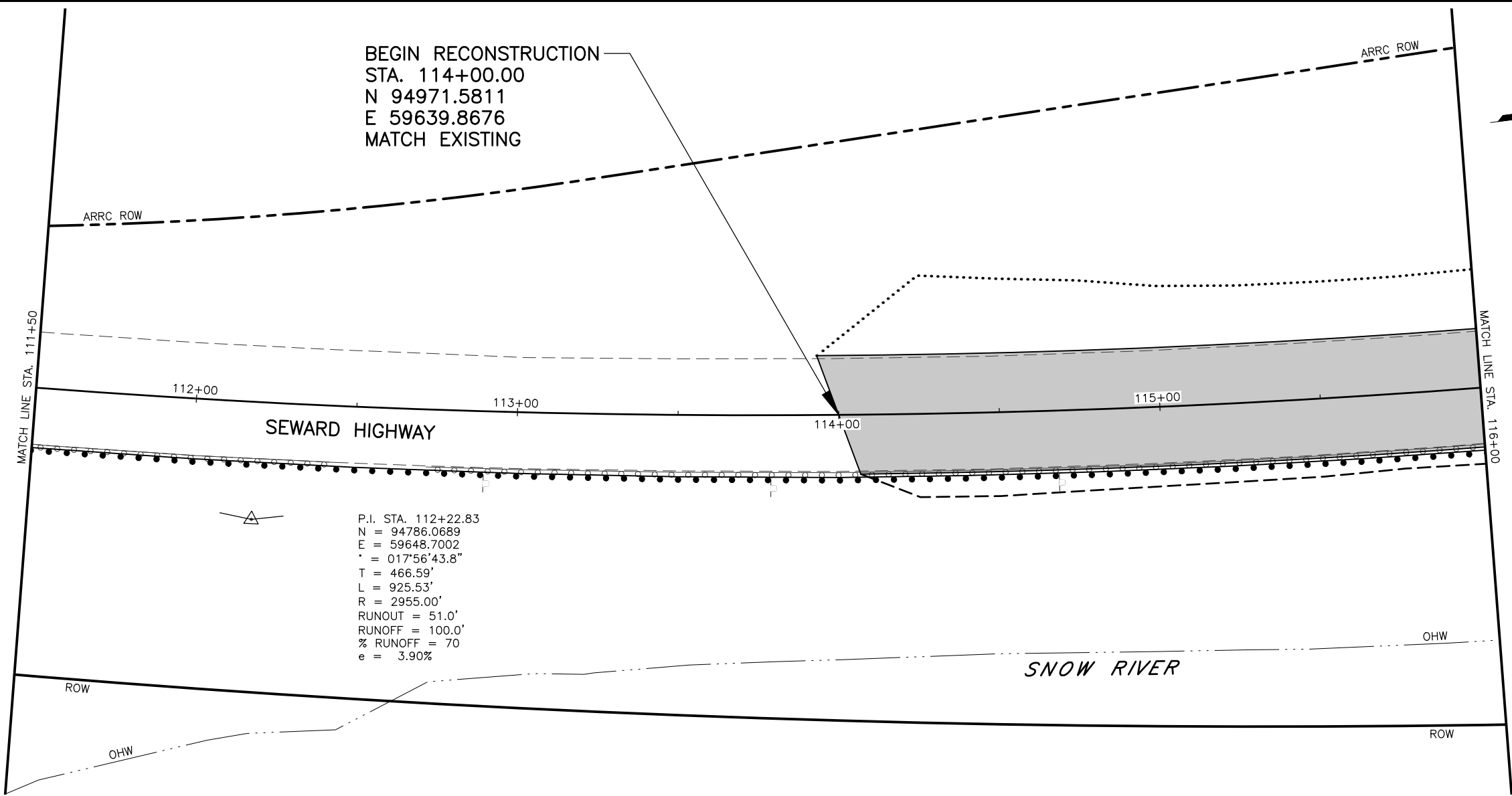
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HDR ENGINEERING, INC. 582 E. 36TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 907-644-2000 CERT. OF AUTH. AECC569	
STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES SEWARD HIGHWAY MP 14 RAILROAD CROSSING RECONSTRUCTION SEWARD HIGHWAY PLAN & PROFILE 107+00 – 111+50	

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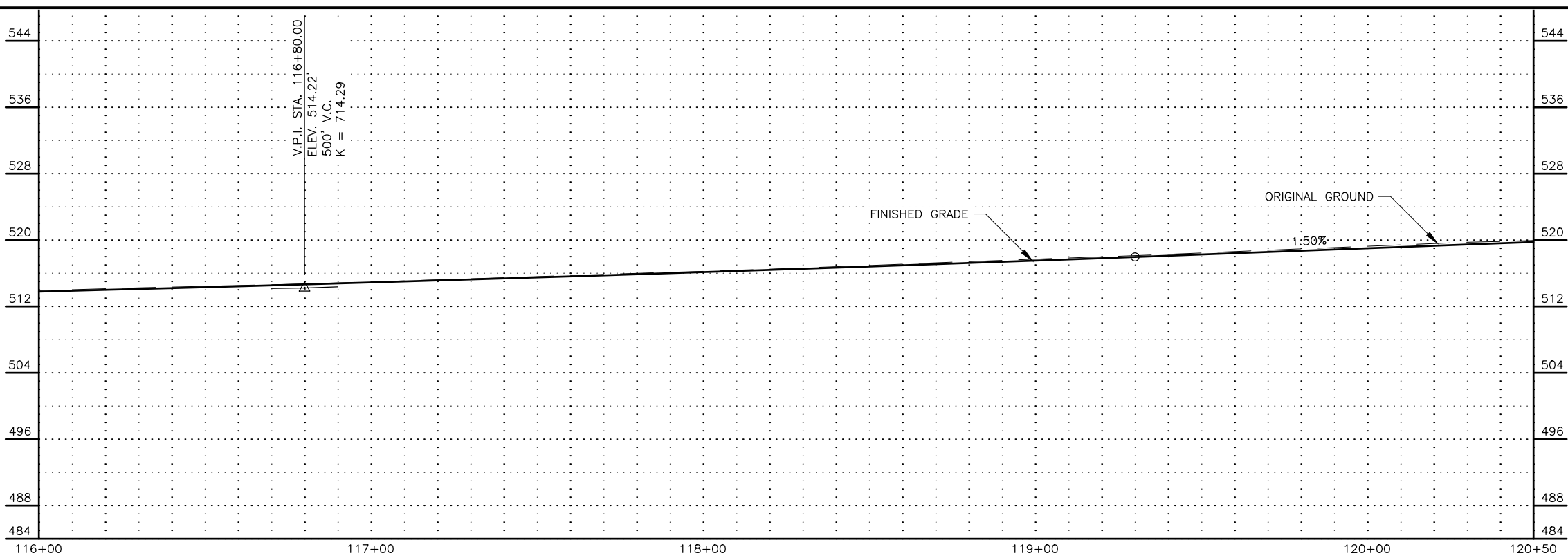
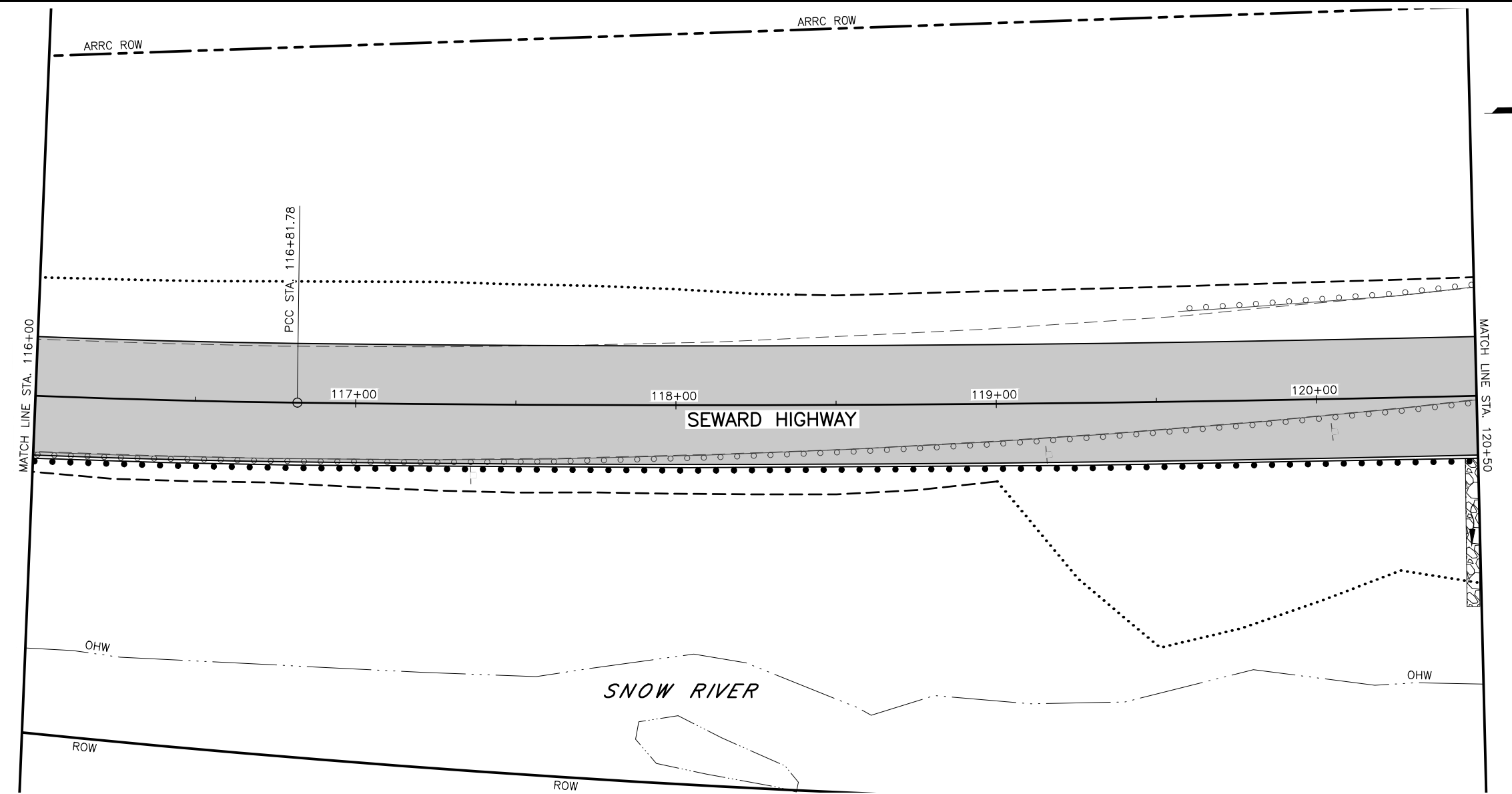
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STATE OF ALASKA
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SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
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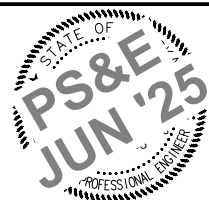
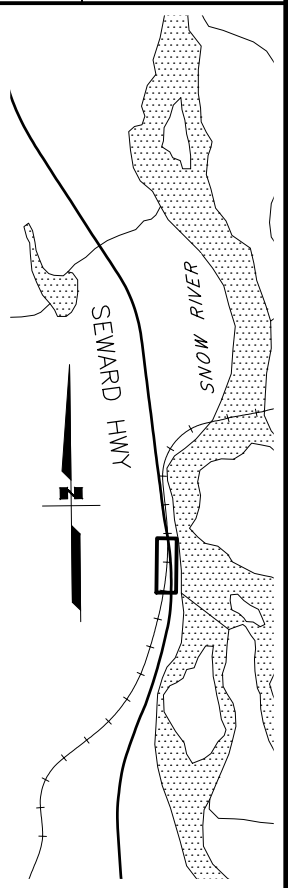
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SHEET NO.	TOTAL SHEETS
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STATE	YEAR
ALASKA	2025

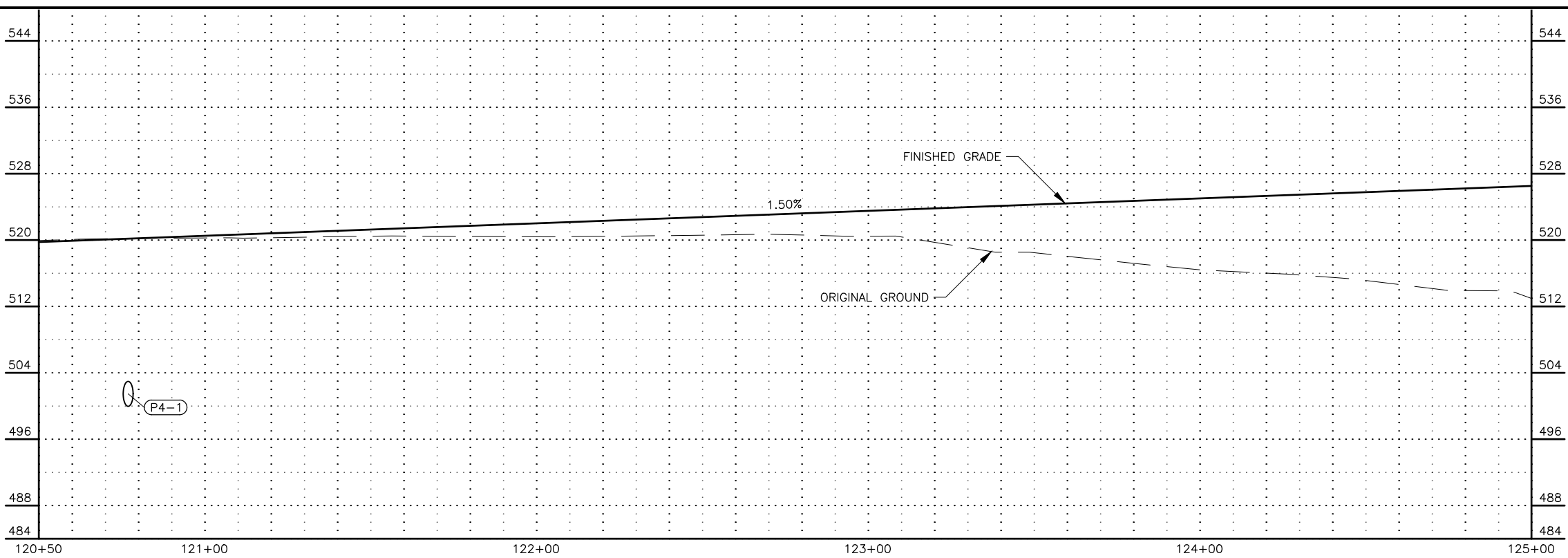
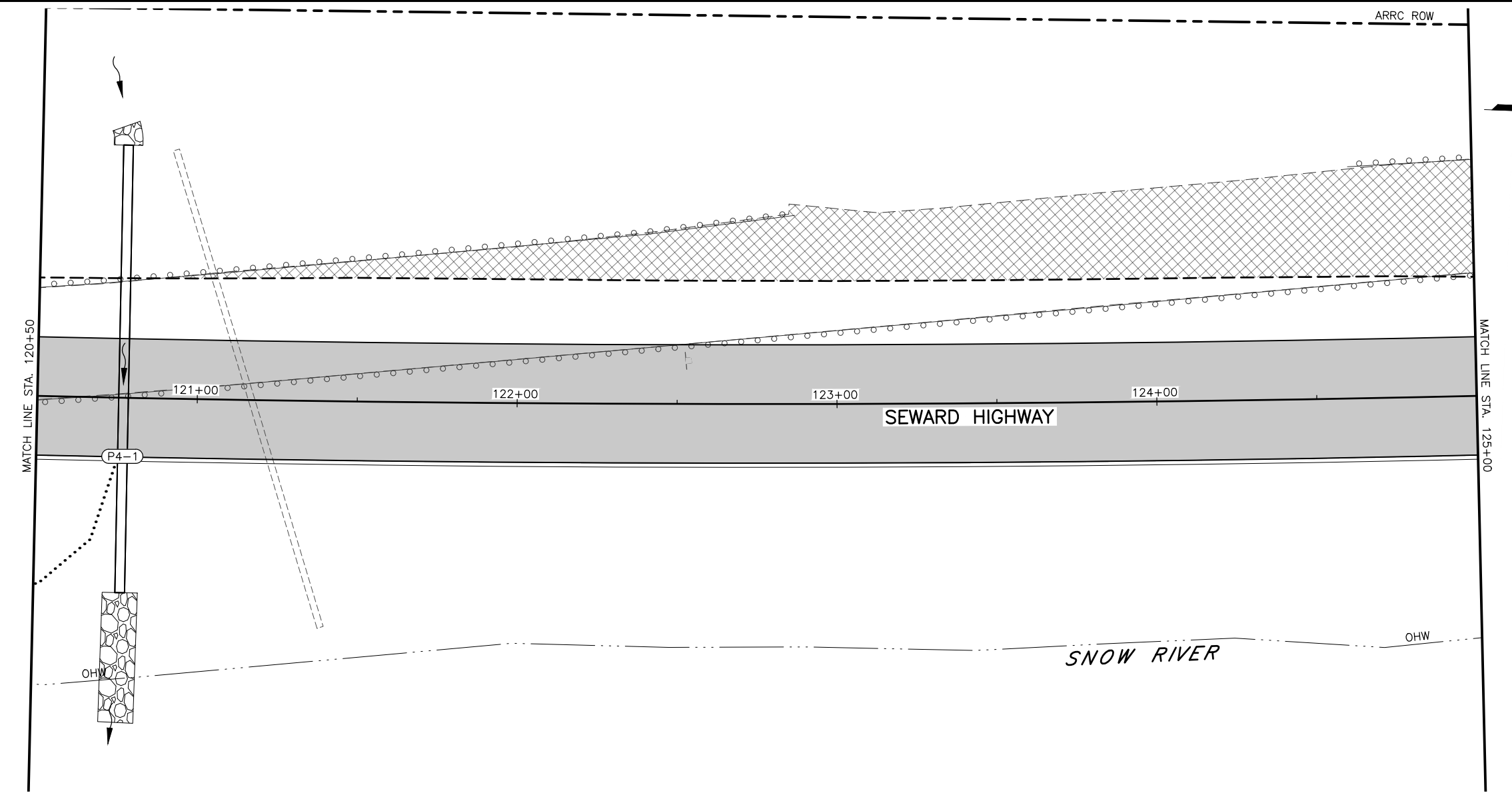
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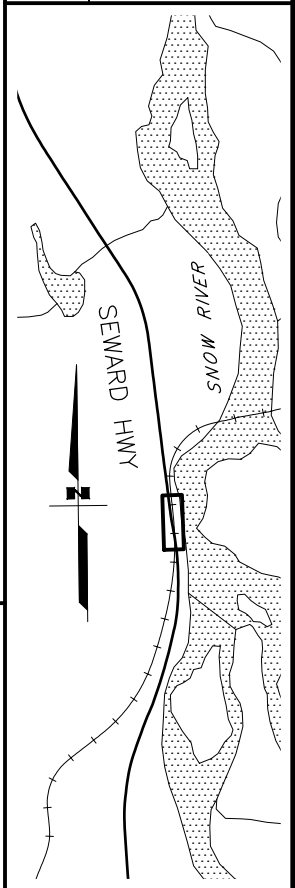
STATE OF ALASKA
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RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
116+00 – 120+50**



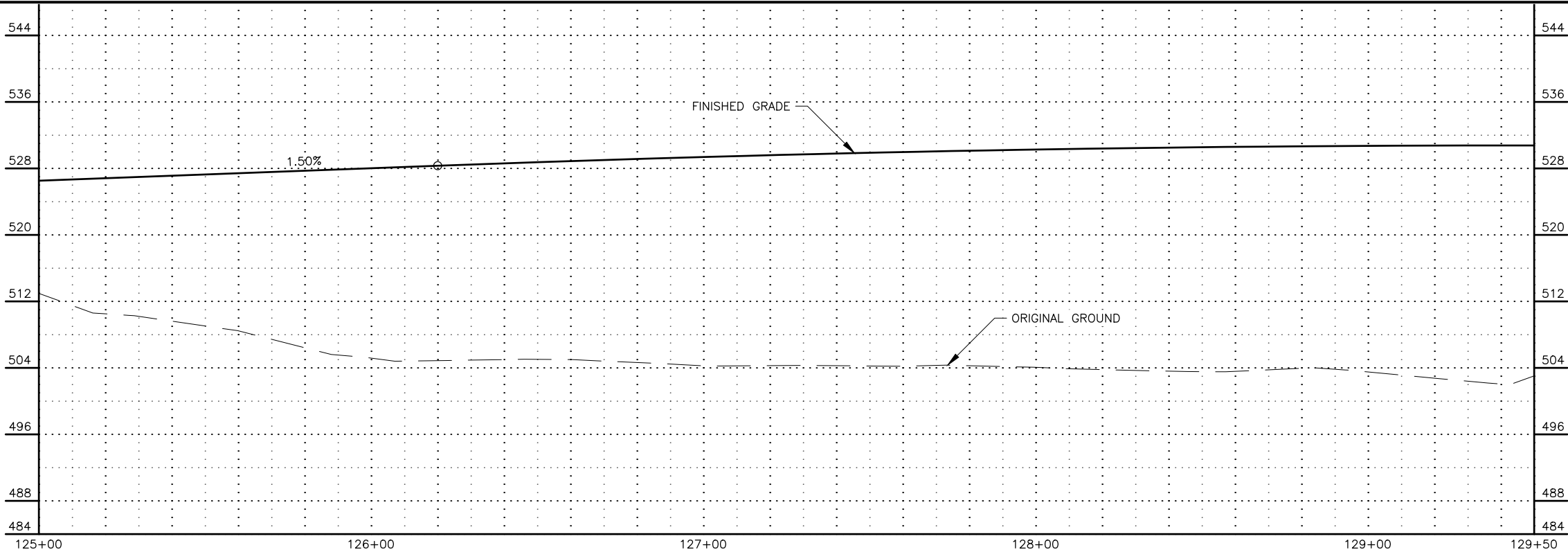
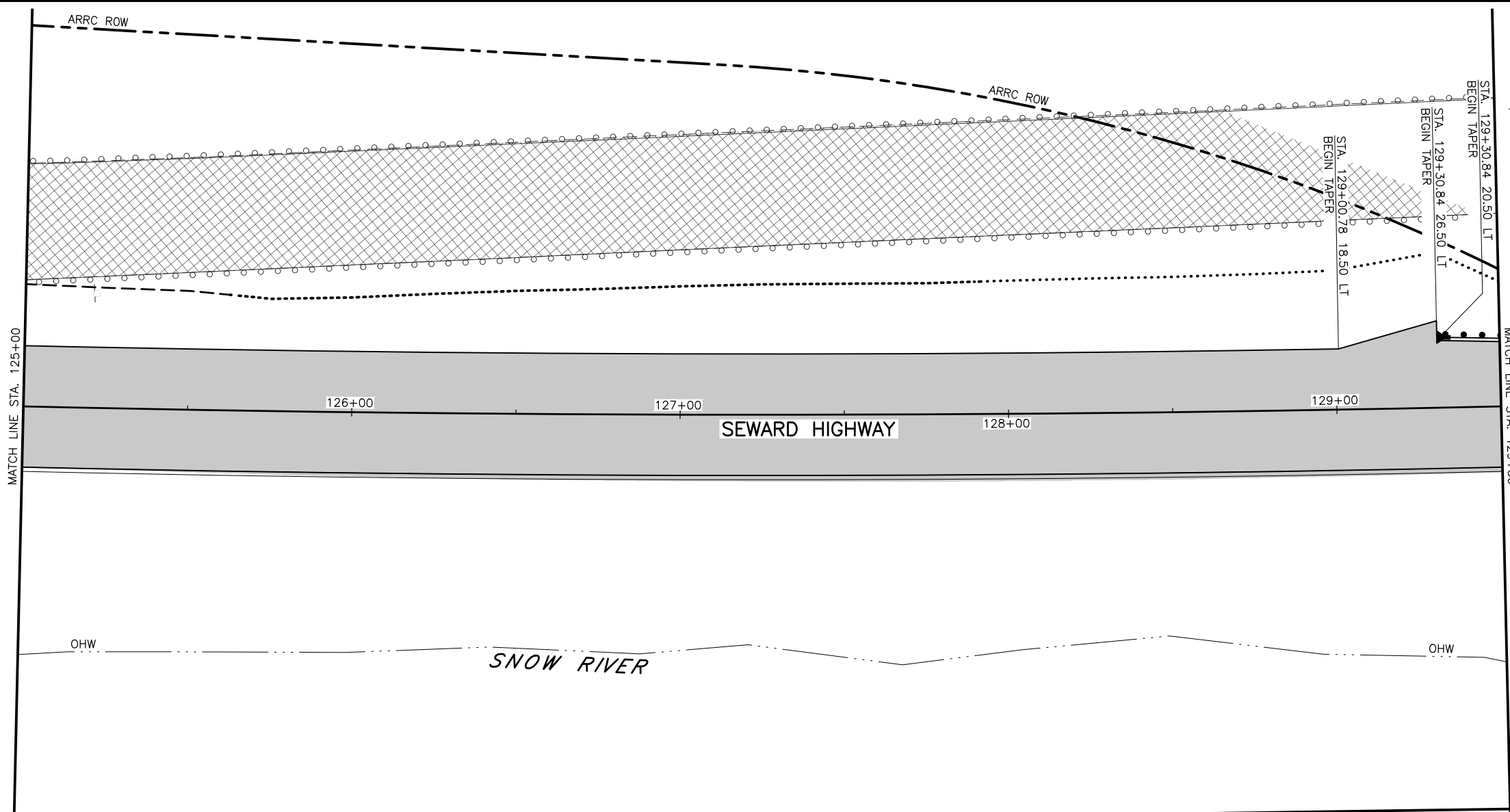
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PROJECT DESIGNATION
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SEWARD HIGHWAY
PLAN & PROFILE
120+50 – 125+00**



SHEET NO.	TOTAL SHEETS
F5	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
125+00 – 129+50

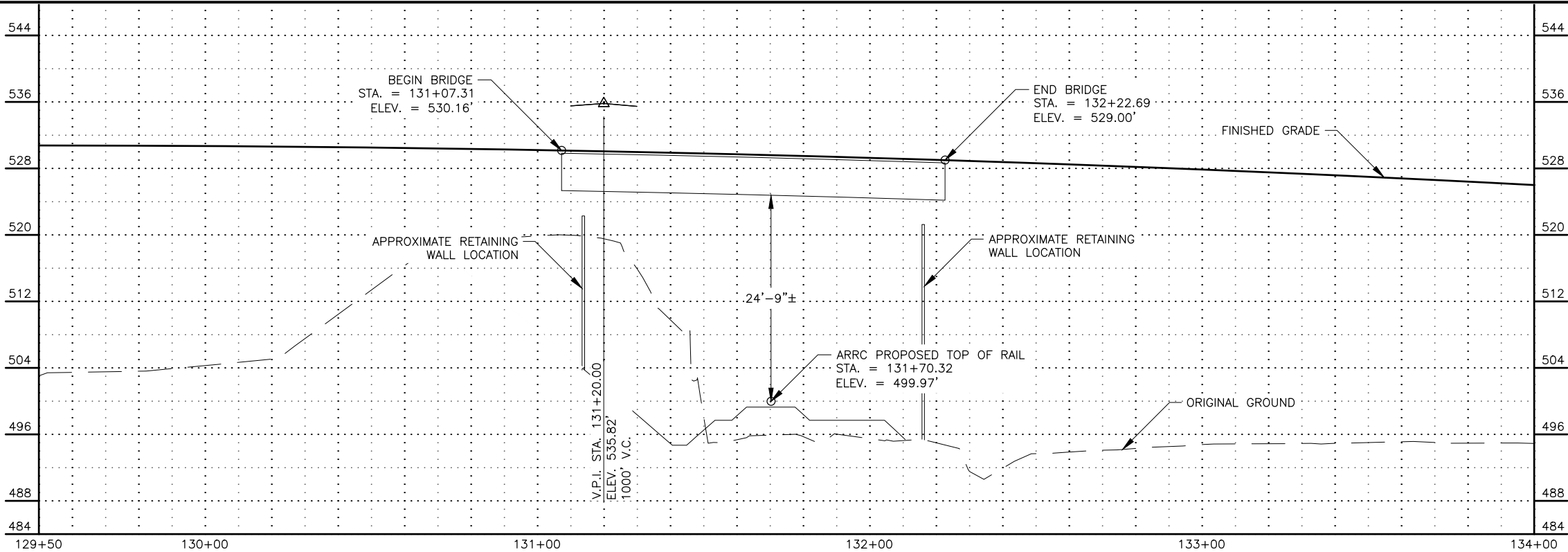
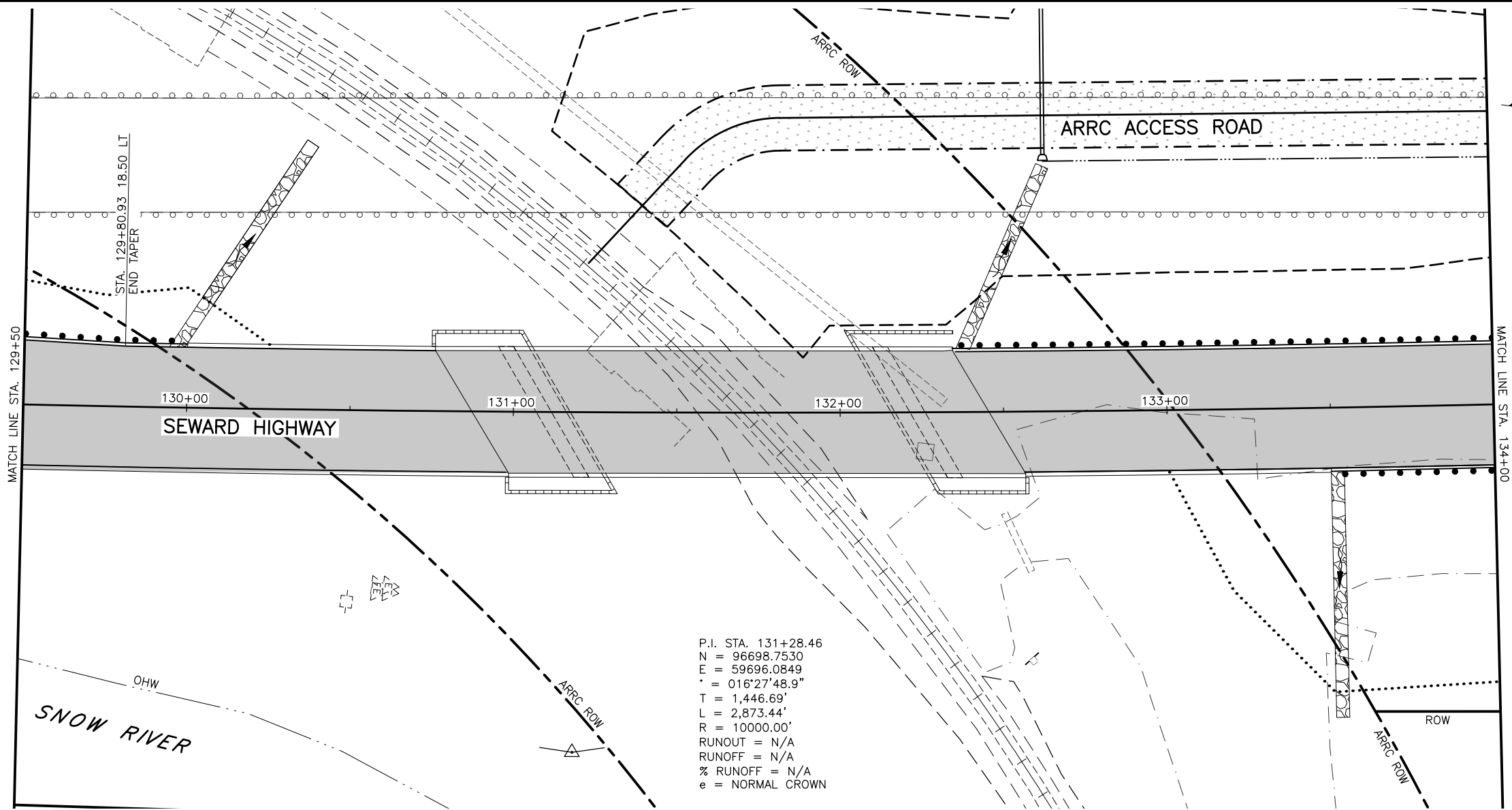
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CHECKED BY
DRAFTED BY

SCALE
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DATE
6/6/2025 5:05 PM

TIME

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SHEET NO.	TOTAL SHEETS
F6	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

SEWARD HWY

SNOW RIVER

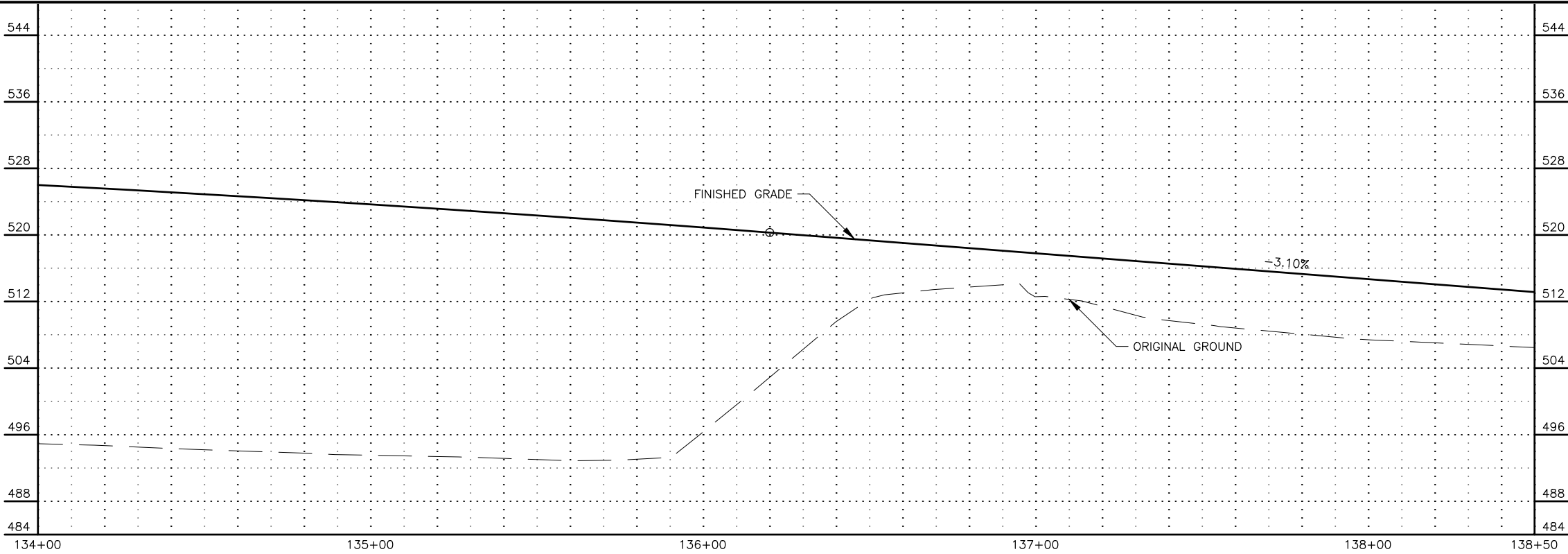
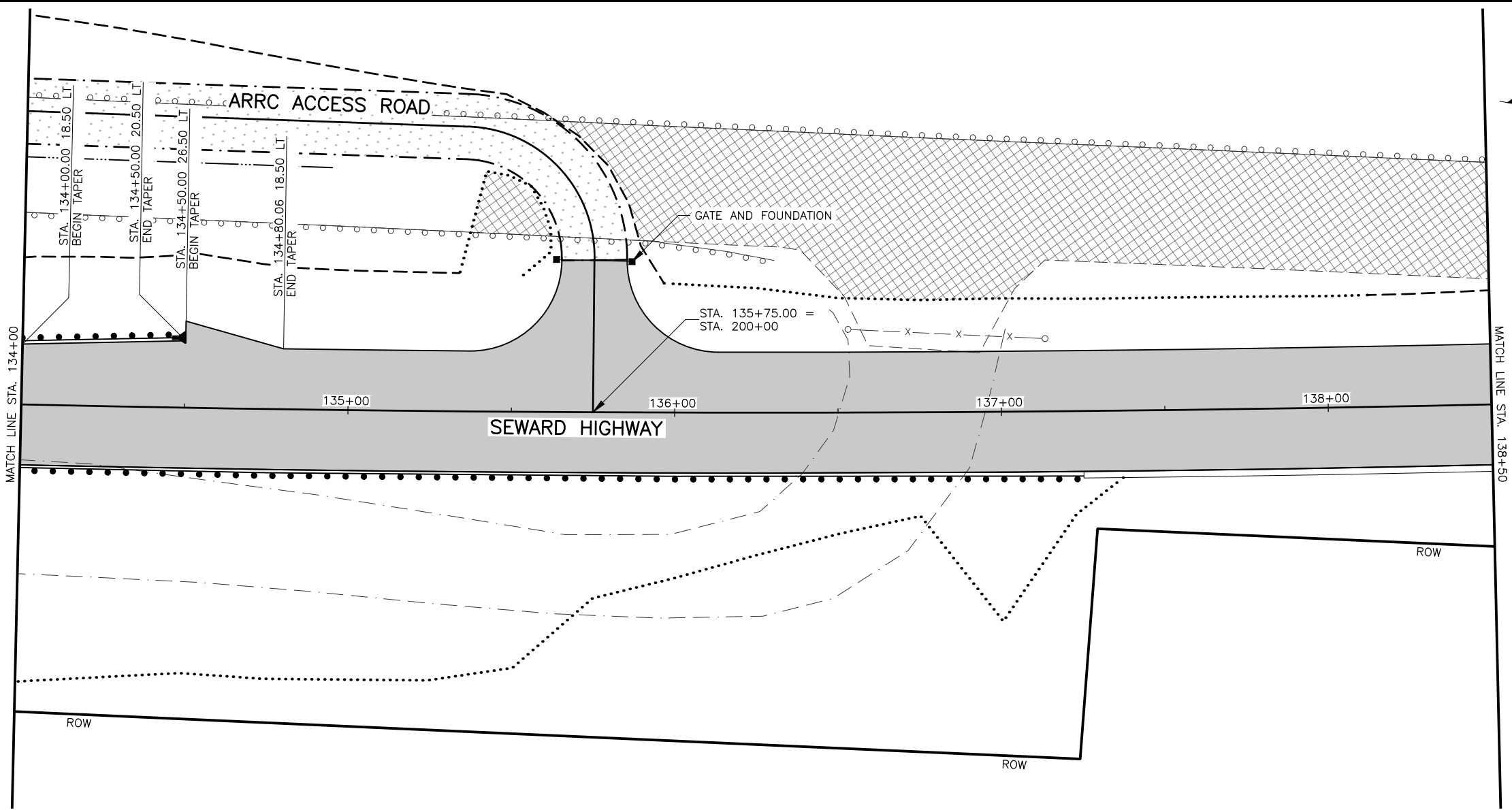
STATE OF ALASKA
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

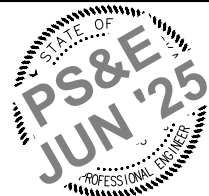
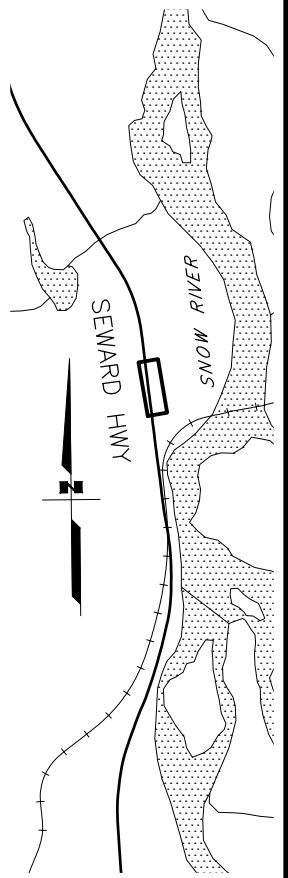
SEWARD HIGHWAY
PLAN & PROFILE
129+50 - 134+00



SHEET NO.	TOTAL SHEETS
F7	F13
STATE	YEAR
ALASKA	2025

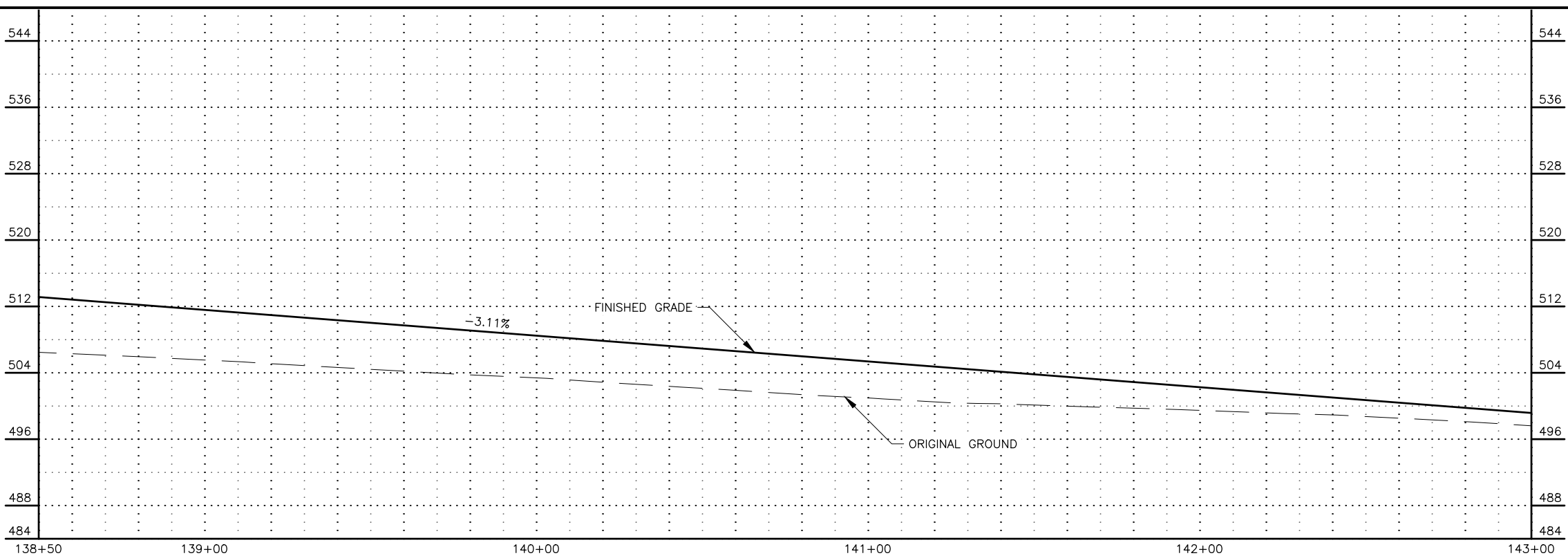
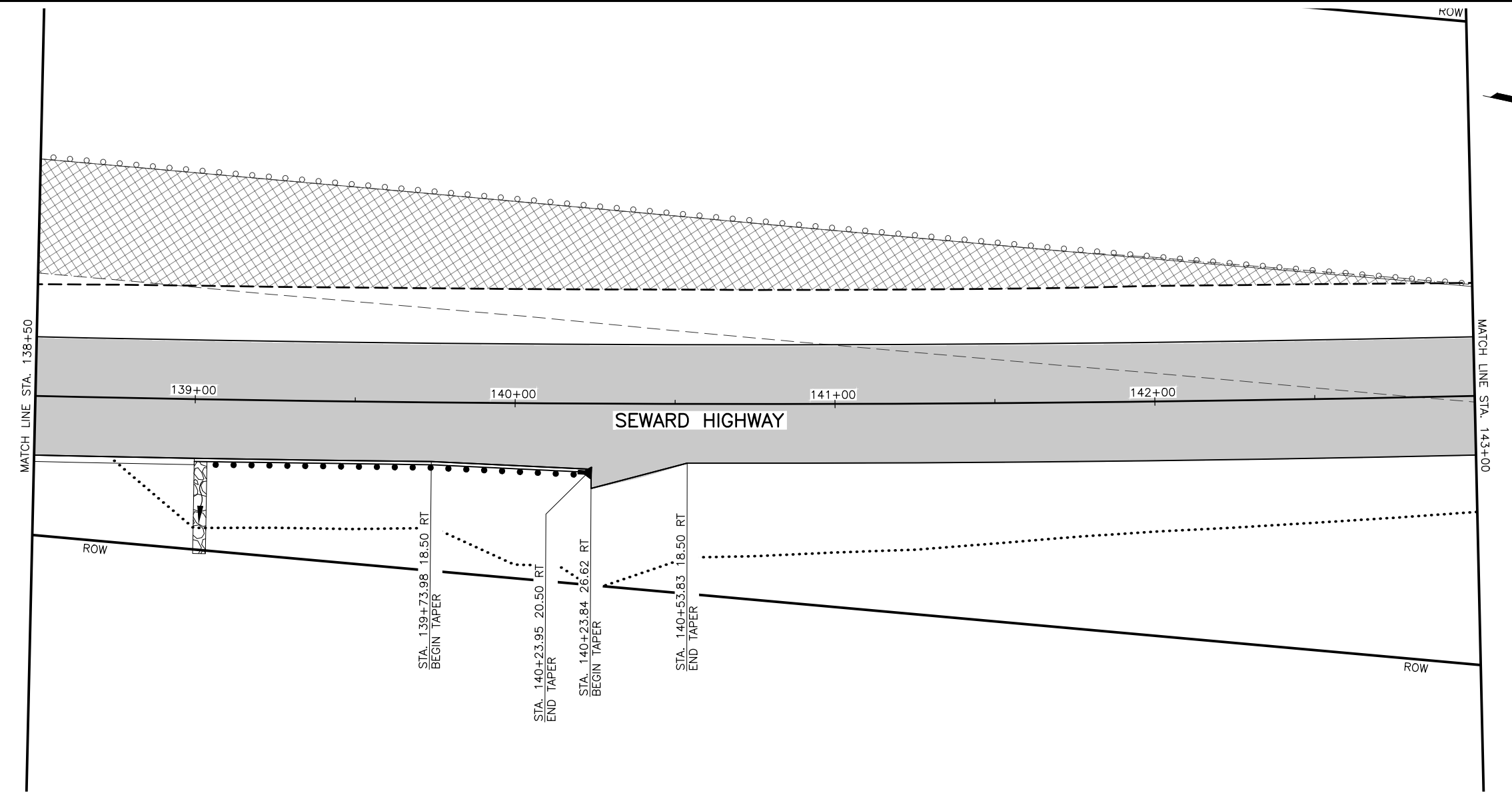
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**0311037/
CFHWY00947**

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

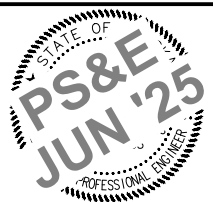
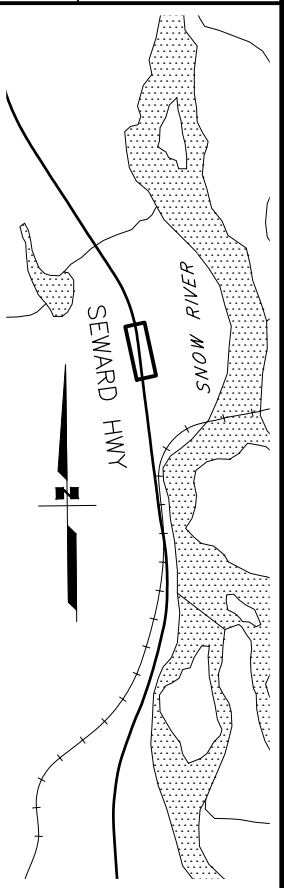
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
134+00 – 138+50**



SHEET NO.	TOTAL SHEETS
F8	F13
STATE	YEAR
ALASKA	2025

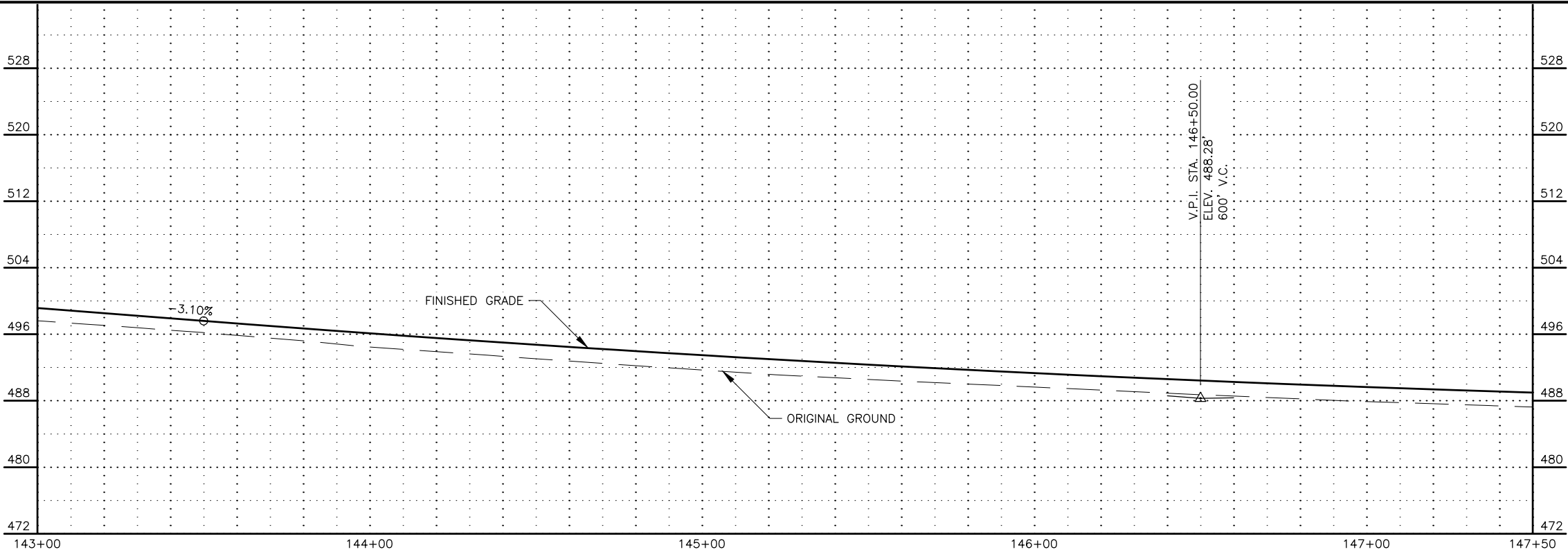
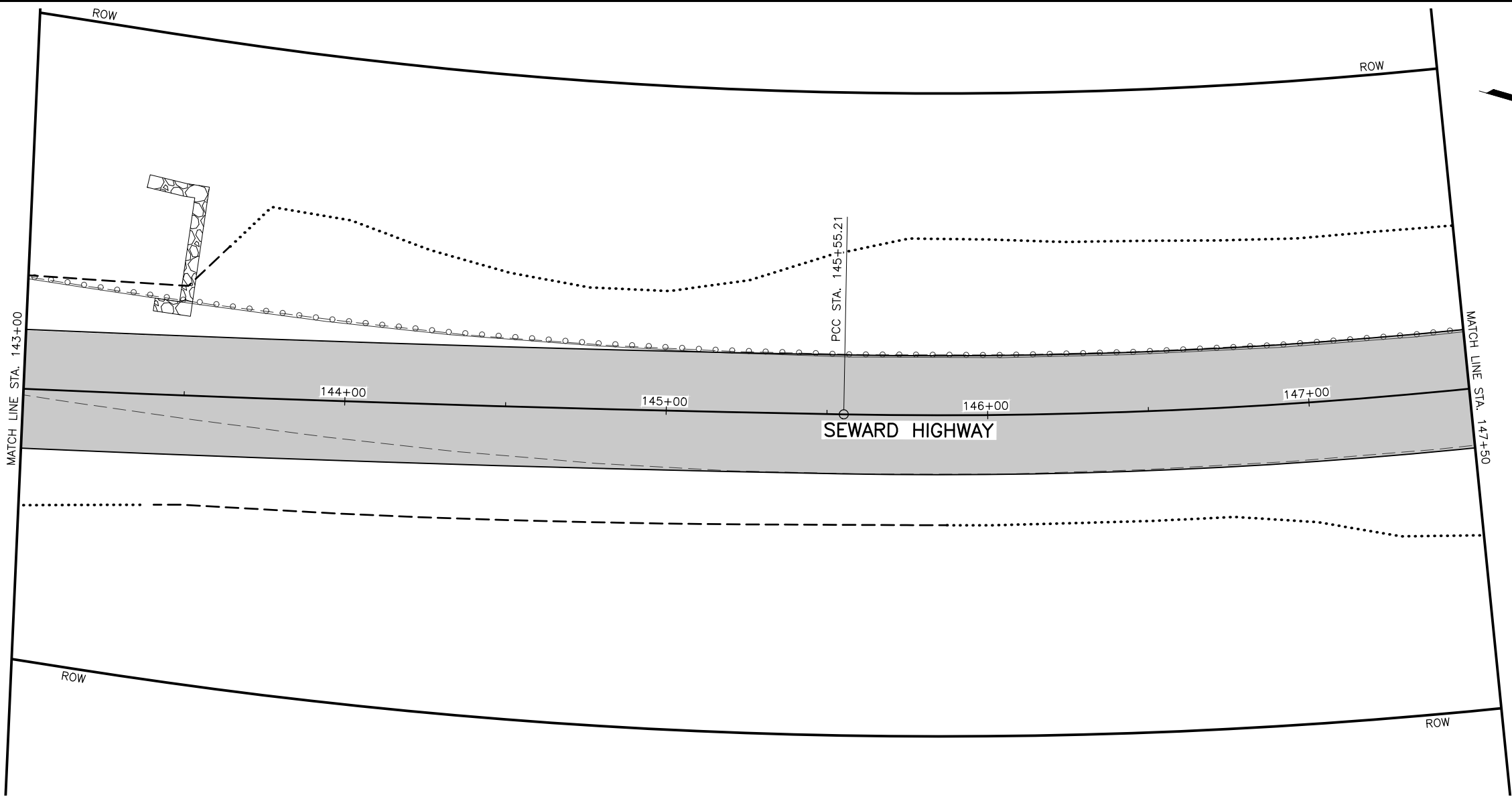
PROJECT DESIGNATION
**0311037/
CFHWY00947**

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

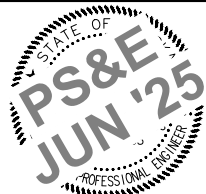
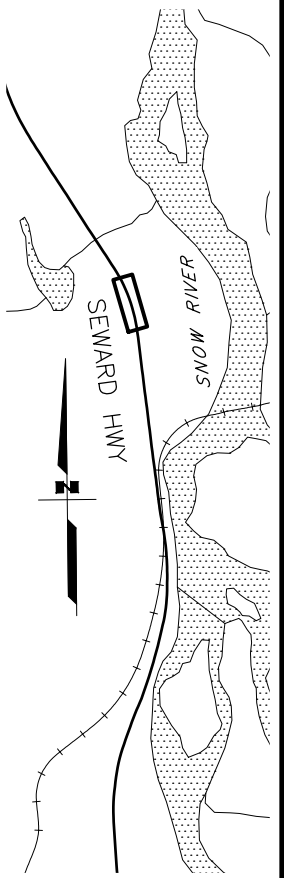
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
138+50 - 143+00**



SHEET NO.	TOTAL SHEETS
F9	F13
STATE	YEAR
ALASKA	2025

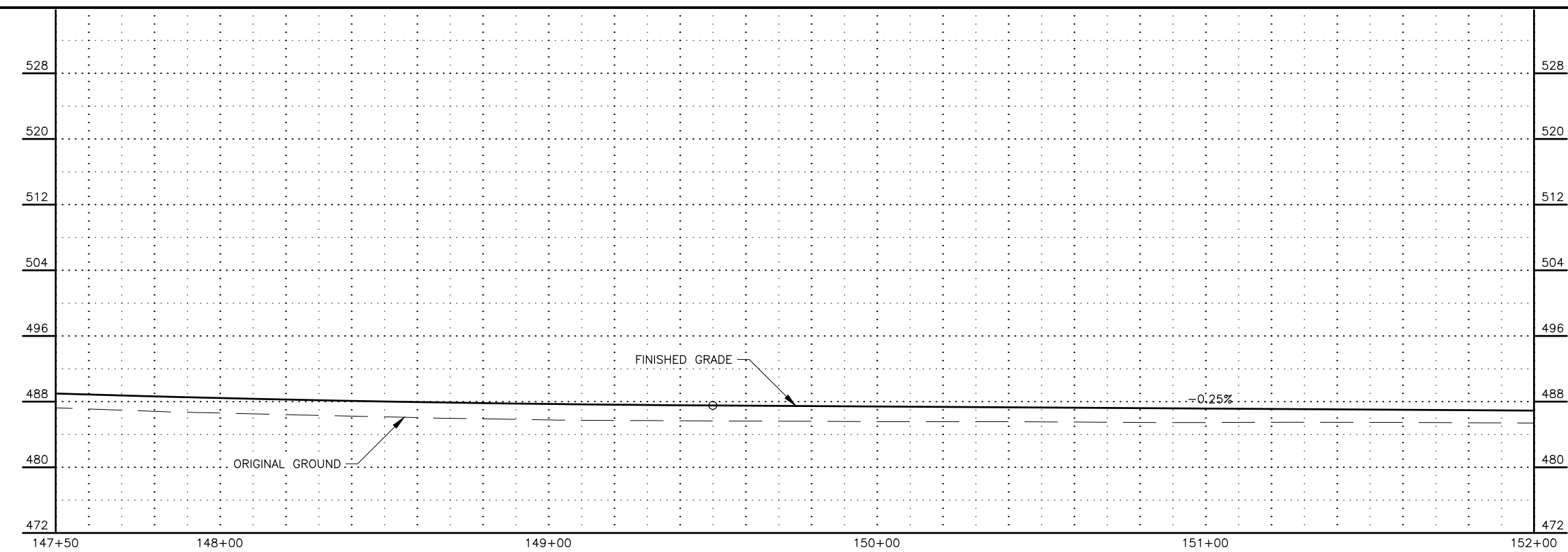
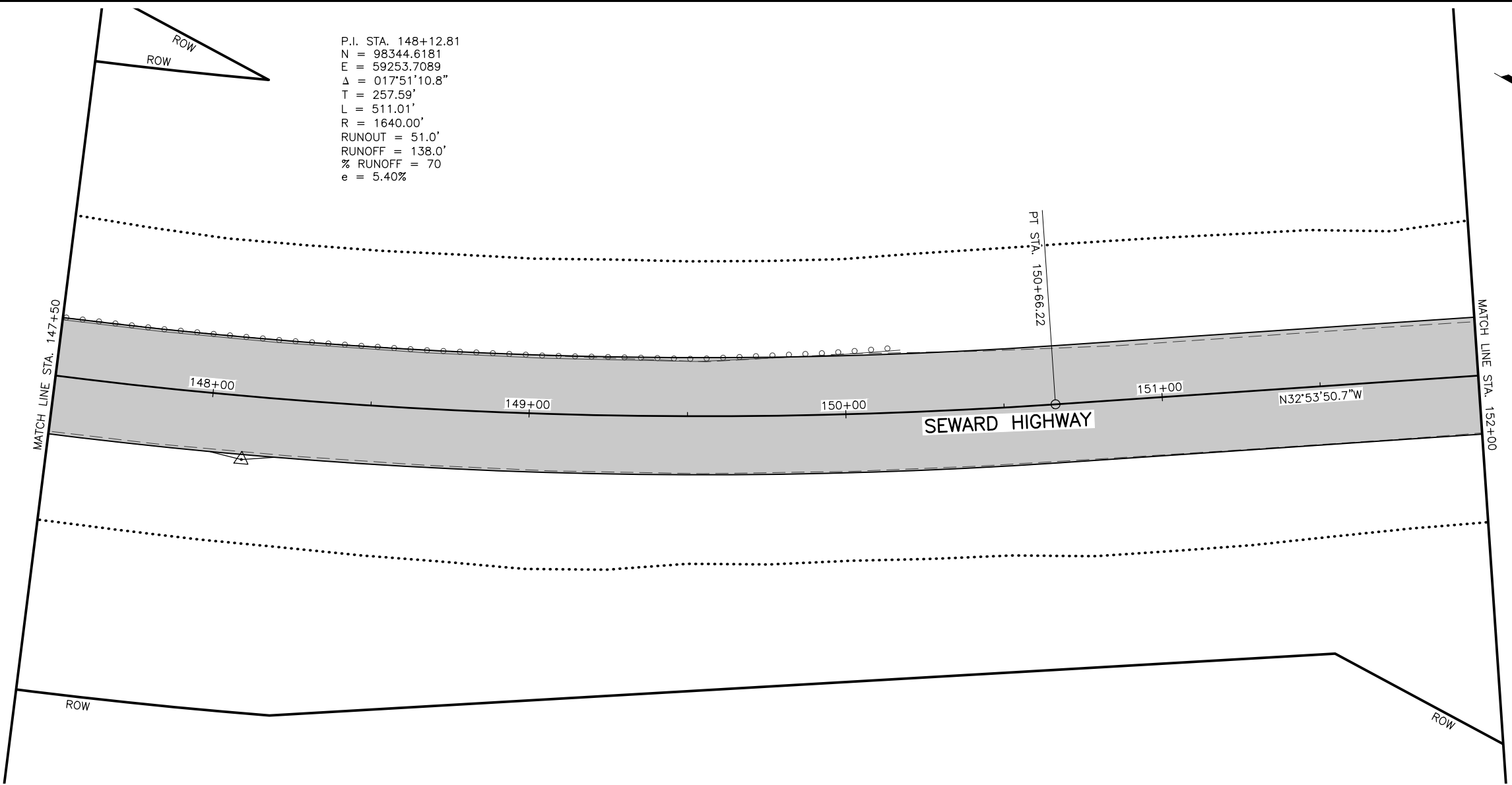
PROJECT DESIGNATION
**0311037/
CFHWY00947**

NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
143+00 – 147+50**



SHEET NO.	TOTAL SHEETS
F10	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

SEWARD HWY

SNOW RIVER

STATE OF ALASKA

PS&E

JUN '25

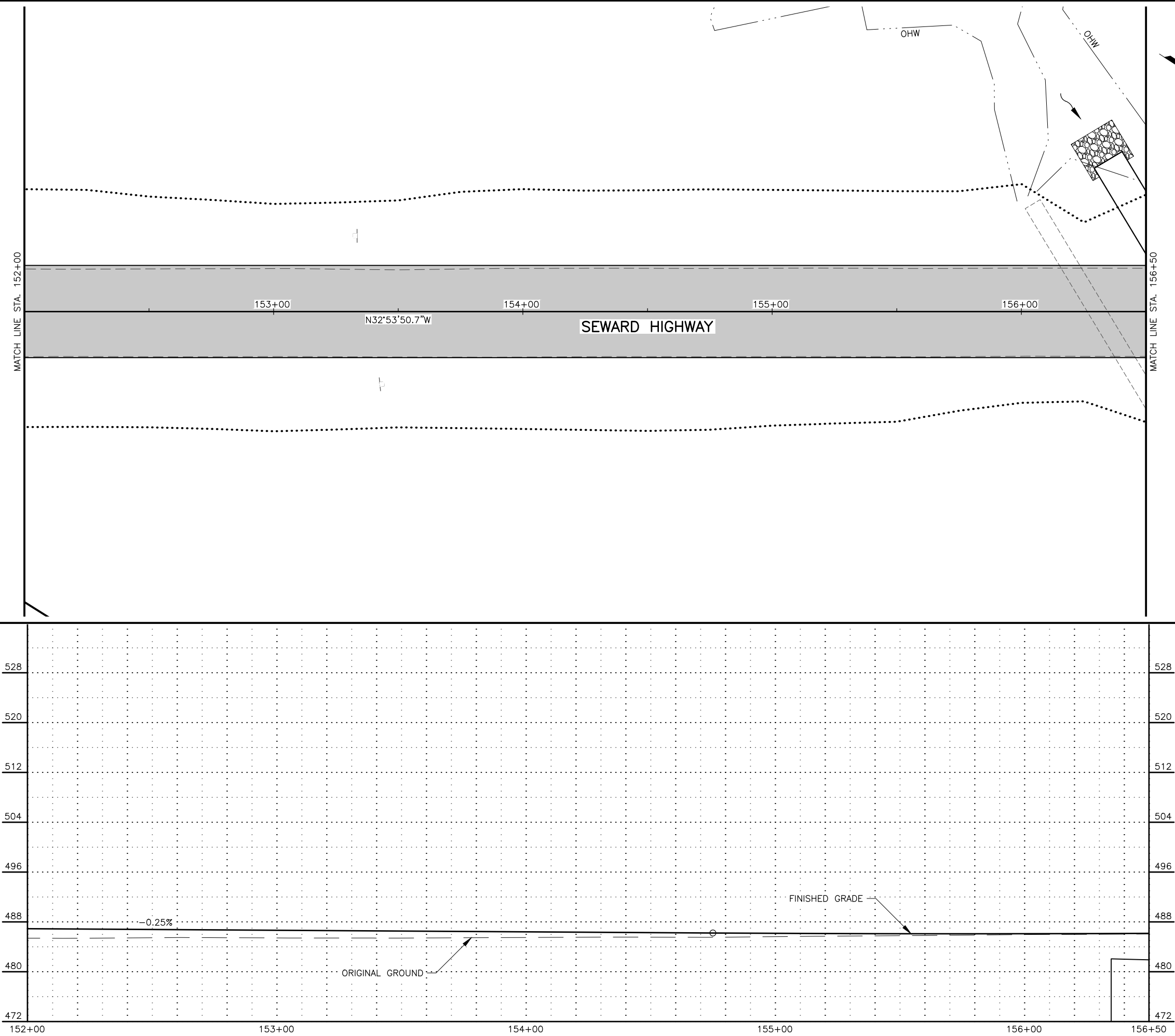
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SEWARD HIGHWAY
PLAN & PROFILE
147+50 – 152+00

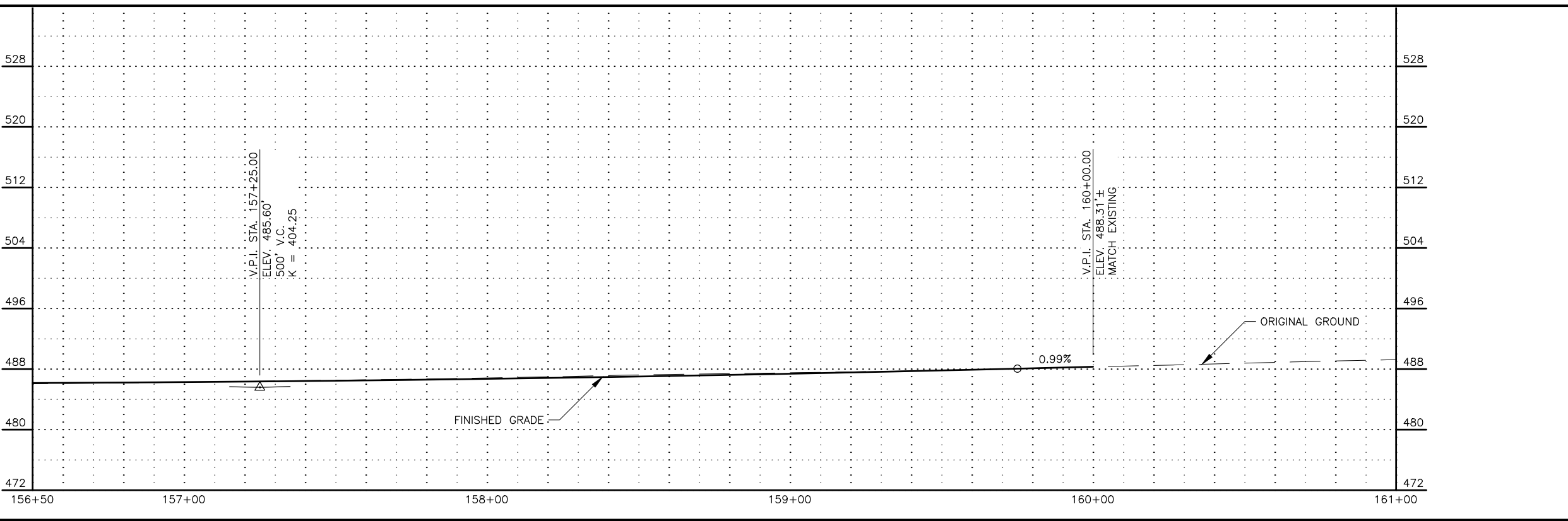
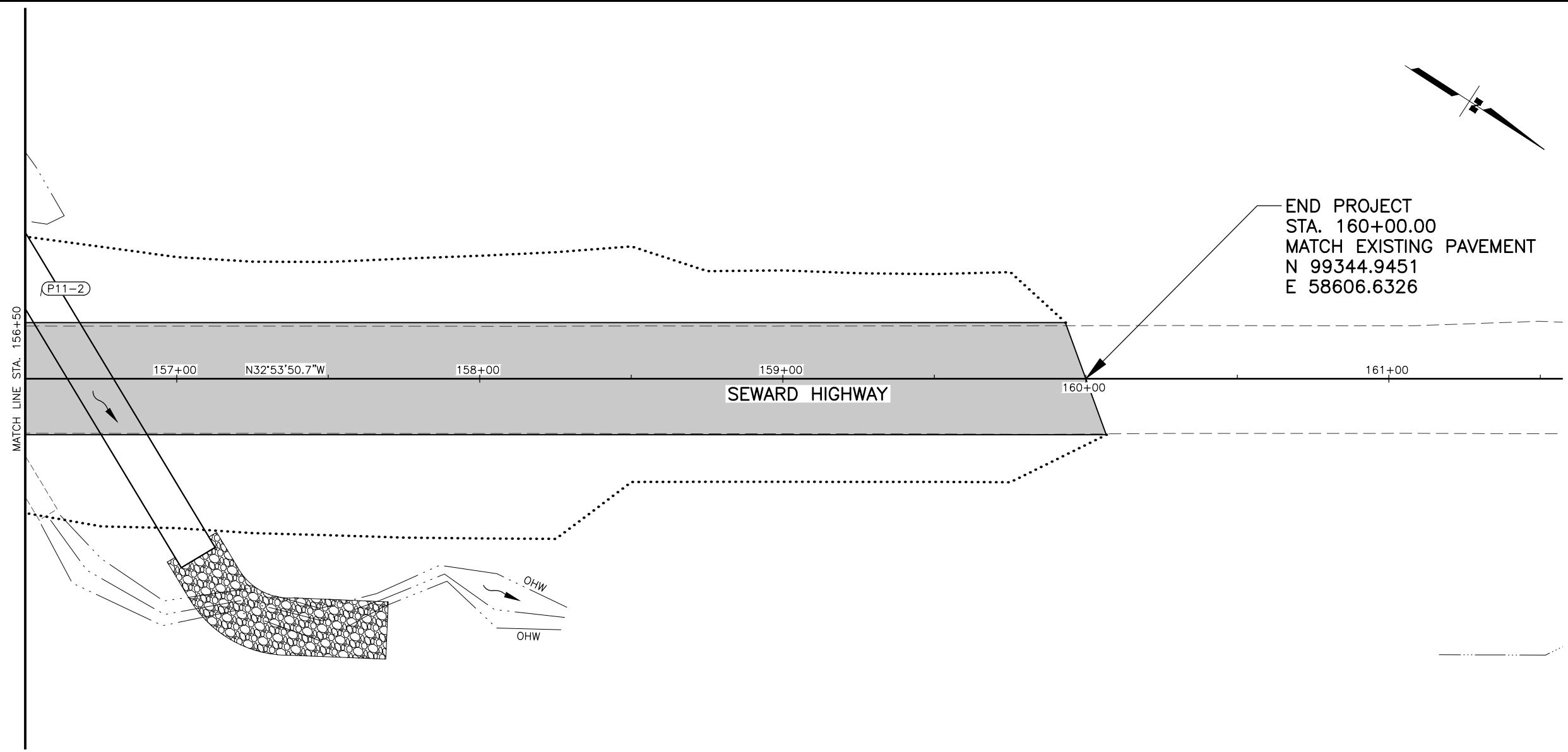


SHEET NO.	TOTAL SHEETS
F11	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

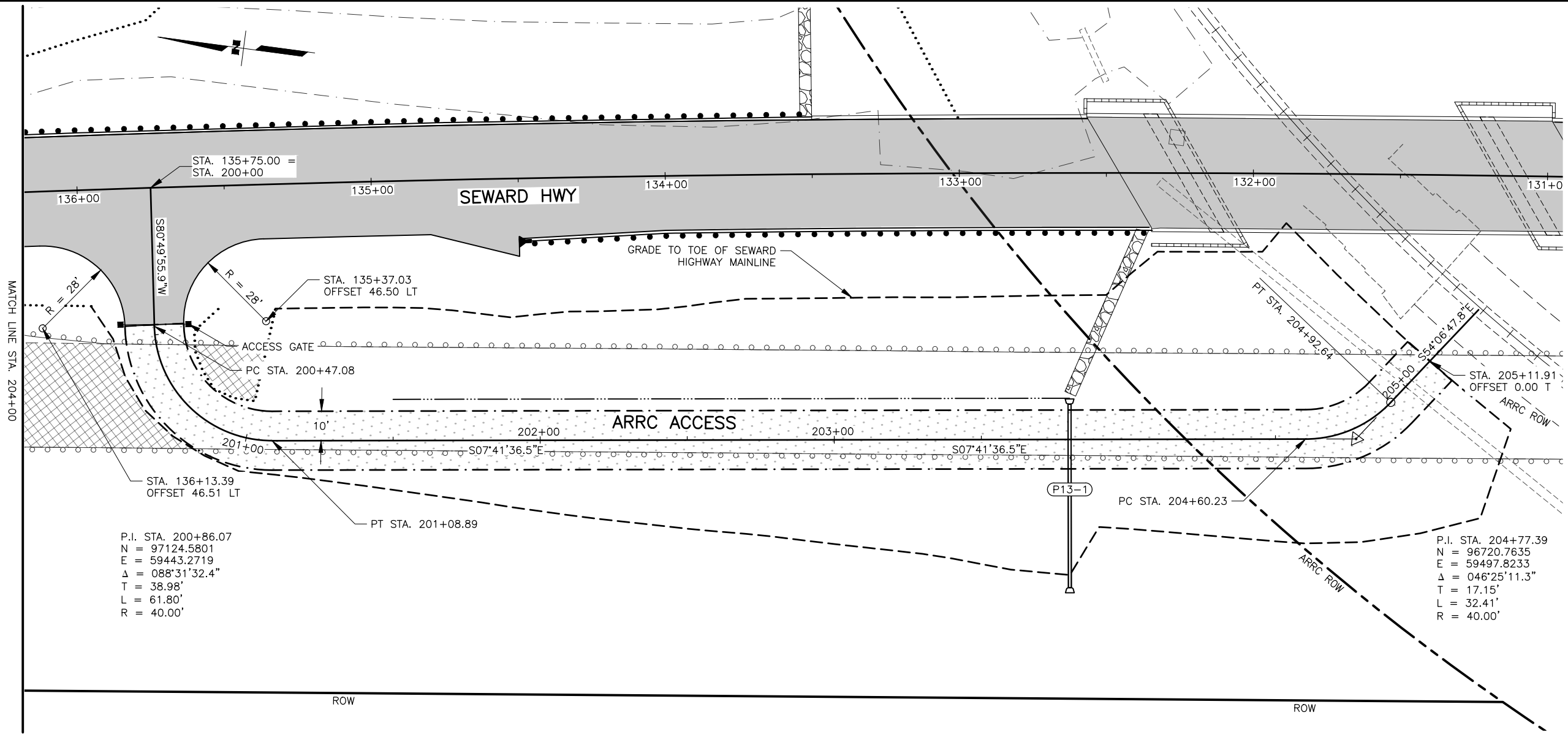
SEWARD HIGHWAY
PLAN & PROFILE
152+00 – 156+50



SHEET NO.	TOTAL SHEETS
F12	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
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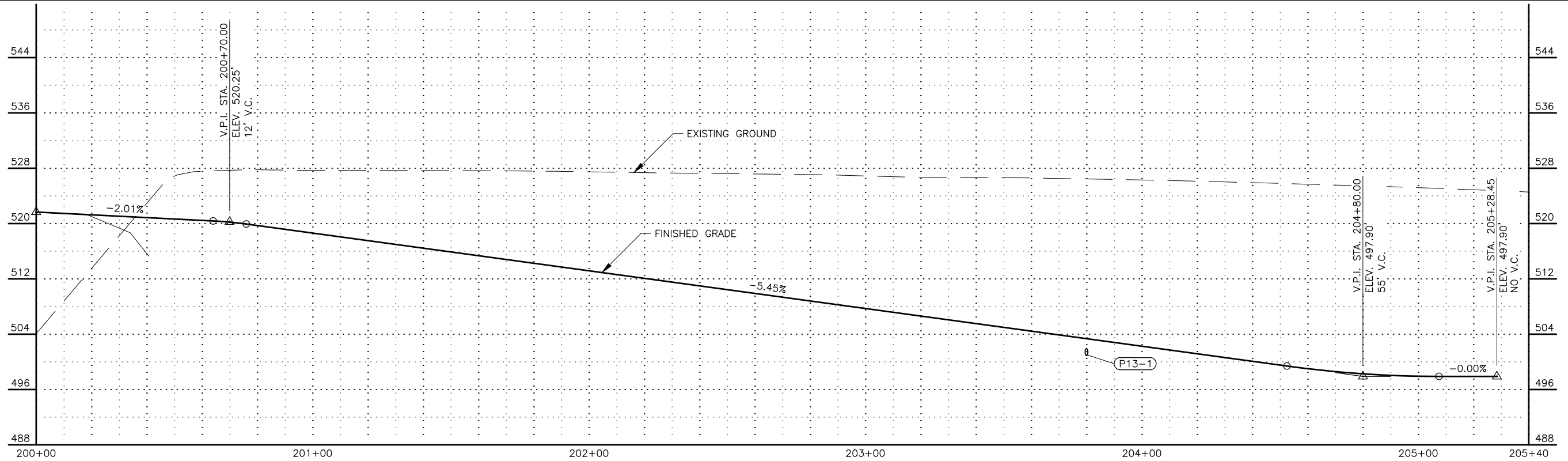
HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SEWARD HIGHWAY
PLAN & PROFILE
156+50 – EOP

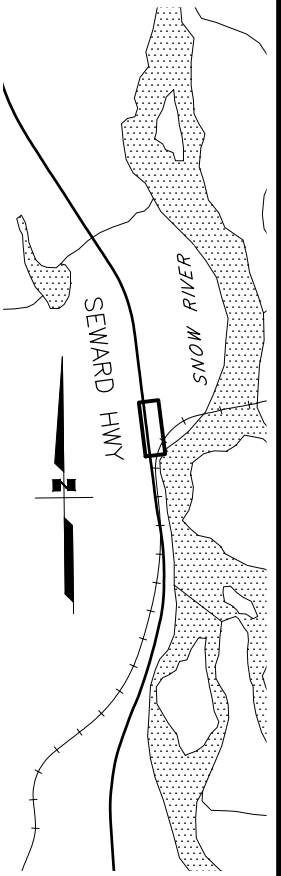


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E = 59443.2719
Δ = 088°31'32.4"
T = 38.98'
L = 61.80'
R = 40.00'

P.I. STA. 204+77.39
N = 96720.7635
E = 59497.8233
Δ = 046°25'11.3"
T = 17.15'
L = 32.41'
R = 40.00'



SHEET NO.	TOTAL SHEETS
F13	F13
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**
**ARRC ACCESS
STA. 200+00 TO 205+12**

DESIGNED BY
CHECKED BY
DRAFTED BY

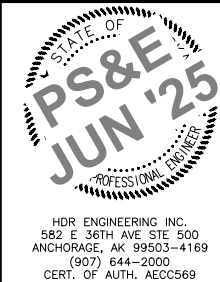
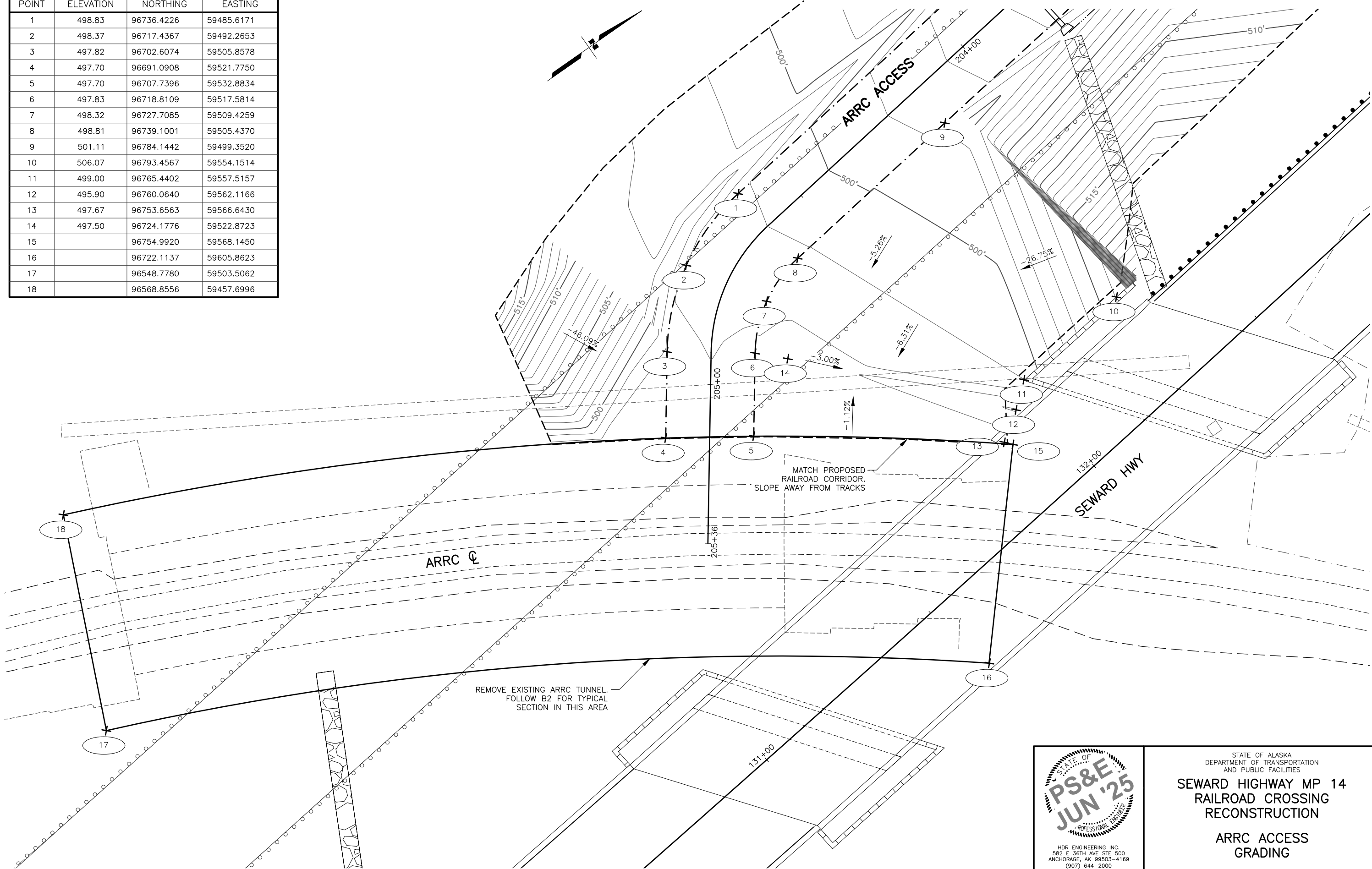
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DATE
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	G1	G1

GRADING LAYOUT POINT SUMMARY			
POINT	ELEVATION	NORTHING	EASTING
1	498.83	96736.4226	59485.6171
2	498.37	96717.4367	59492.2653
3	497.82	96702.6074	59505.8578
4	497.70	96691.0908	59521.7750
5	497.70	96707.7396	59532.8834
6	497.83	96718.8109	59517.5814
7	498.32	96727.7085	59509.4259
8	498.81	96739.1001	59505.4370
9	501.11	96784.1442	59499.3520
10	506.07	96793.4567	59554.1514
11	499.00	96765.4402	59557.5157
12	495.90	96760.0640	59562.1166
13	497.67	96753.6563	59566.6430
14	497.50	96724.1776	59522.8723
15		96754.9920	59568.1450
16		96722.1137	59605.8623
17		96548.7780	59503.5062
18		96568.8556	59457.6996



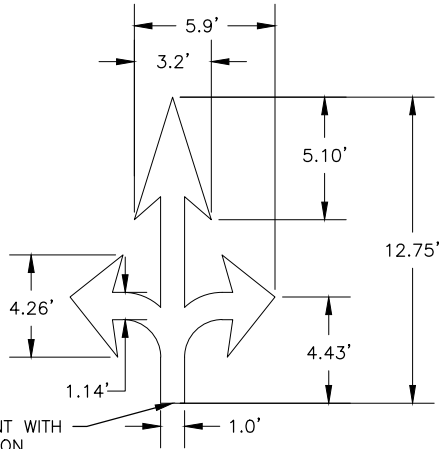
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

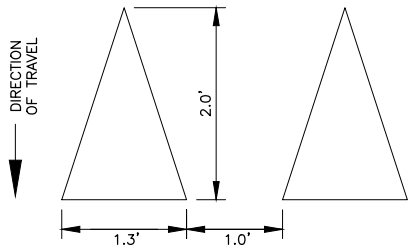
**ARRC ACCESS
GRADING**

DESIGNED BY
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SCALE
NTS
DATE
TIME
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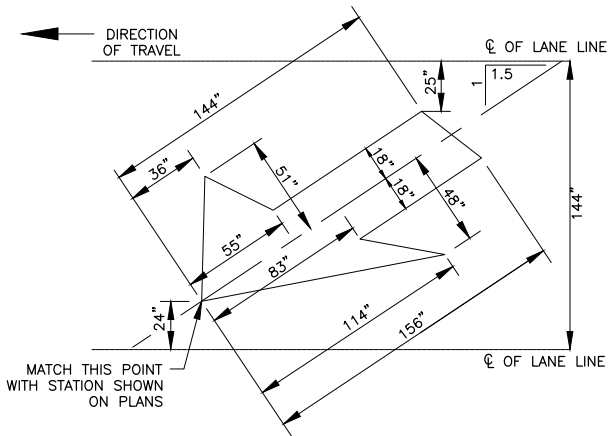
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	H1	H12



LEFT/THRU/RIGHT ARROW DETAIL



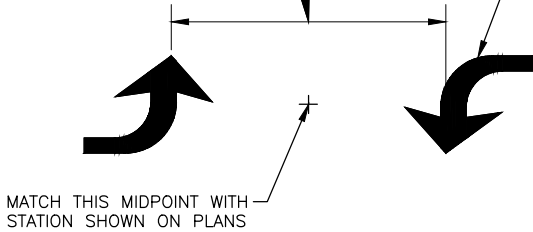
YIELD PAVEMENT MARKINGS DETAIL



LANE DROP ARROW DETAIL

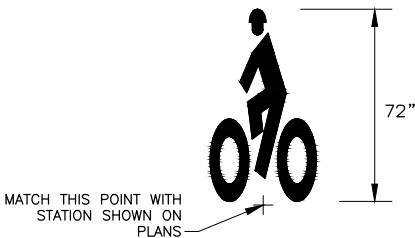
DIMENSION SEE OPTIONS TABLE

STANDARD LEFT TURN ARROWS,
SEE ALASKA STANDARD PLAN
T-22 FOR LAYOUT TEMPLATE.



TWO WAY LEFT TURN ARROW DETAIL

OPTIONS	
POSTED SPEED	DIMENSION
35 MPH AND LESS	8 FEET
40 MPH-45 MPH	12 FEET
50 MPH AND GREATER	16 FEET



HELMETED MUTCD BIKE SYMBOL
(EXCLUDE ARROW UNLESS SHOWN IN PLANS)

ABBREVIATIONS			
AWG	AMERICAN WIRE GAUGE	NB	NORTH BOUND
CAM	CAMERA	OMNI	OMNI DIRECTIONAL ANTENNA
EB	EAST BOUND	P#	TRAFFIC SIGNAL POLE #
GND	GROUND	PE	PHOTOELECTRIC CELL
HDPE	HIGH DENSITY POLYETHYLENE CONDUIT	PED B ##	PEDESTRIAN PUSH BUTTON #
HEAD	VEHICULAR SIGNAL HEAD	PED1	PEDESTRIAN SIGNAL HEAD
SIG	SIGNAL	PRE #	PREEMPTION #
I/C	INTERCONNECT	PRE CON #	PREEMPTION CONFIRMATION LIGHT #
INTX	INTERSECTION	RAD	RADAR
INTXL	INTERSECTION LIGHTING	RMC	RIGID METAL CONDUIT
LC	LOAD CENTER	SB	SOUTH BOUND
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT	TC	TRAFFIC CONTROLLER
LTG	LIGHTING	WB	WEST BOUND
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	YAGI	DIRECTIONAL ANTENNA

FOUNDATIONS NOTES:

- STATION & C.L. REFERENCE ARE TO THE CENTER OF THE STRUCTURE, EXCEPT ON LOOPS WHICH ARE TO THE CENTER OF THE TRAILING EDGE OF THE LOOP (EDGE NEAREST INTERSECTION).
- LOCATE J-BOXES SO THAT THEY ARE LOCATED OUT OF THE PATHWAY, SIDEWALK, CURB RAMPS, AND DRAINAGE COLLECTION AREAS.
- INSTALL LOAD CENTER AND TRAFFIC CONTROLLER FOUNDATIONS WITHIN 1-DEGREE OF PLUMB.
- INSTALL ANCHOR BOLTS IN CAST FOUNDATIONS TO BE WITHIN 1:48 OF PLUMB.

SIGNAL SYSTEM NOTES:

- FURNISH THE SIGNAL AND LUMINAIRE MASTARM LENGTHS AND DIMENSIONS SPECIFIED ON THE POLE ELEVATIONS.
- INSTALL DEVICES SUCH THAT THE DIMENSIONS SHOWN TO THE BOTTOM OF THE DEVICES ON THE POLE ELEVATIONS ARE MINIMUMS. VERTICAL DIMENSIONS TO SIGNAL HEADS ARE TO BOTTOM OF THE BACK PLATE.
- INSTALL MAST ARMS PERPENDICULAR TO THE ROADWAY CENTERLINE. ACCEPTABLE VARIANCE IS +/- 1-DEGREE.
- SALVAGE SIGNAL POLE ASSEMBLIES, SIGNS, SIGNAL FACES, AND LUMINAIRES AND DELIVER TO MAINTENANCE AND OPERATIONS WITHIN 48-HOURS OF DECOMMISSIONING. COMPONENTS DAMAGED WHILE IN THE CONTRACTOR'S CUSTODY MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE. REMOVE AND DISPOSE OF FOUNDATIONS.
- SALVAGE EXISTING CONTROLLER CABINET AFTER NEW CONTROLLER CABINET IS IN SERVICE AND DELIVER TO MAINTENANCE AND OPERATIONS WITHIN 48-HOURS OF DECOMMISSIONING.
- REMOVE ABANDONED OR UNUSED TRAFFIC JUNCTION BOXES UNLESS OTHERWISE NOTED.
- NEW SIGNAL HEADS THAT ARE MOUNTED BUT NOT IN OPERATION SHALL BE COVERED WITH A COMMERCIALY AVAILABLE SIGNAL-SHIRT. EACH SIGNAL SHIRT SHALL FEATURE ELASTICIZED OPENINGS THAT FIT OVER THE VISORS AND AT LEAST TWO STRAPS TO SECURE IT TO THE SIGNAL. PROVIDE SHIRTS WITH A LEGEND THAT READS "OUT OF SERVICE" AND A CENTER SECTION THAT ALLOWS AN OPERATOR TO SEE THE INDICATIONS DURING SYSTEM TESTS.
- SIGNAL HEADS ARE TO BE LOCATED PER FIGURE 4D-100, TYPICAL SIGNAL HEAD LOCATIONS, PER THE ALASKA TRAFFIC MANUAL. ACCEPTABLE VARIANCE IS +/- 1-FOOT.
- AIM SIGNALS PER TABLE 660-2, THROUGH-SIGNAL AIMING POINT, OF THE SPECIAL PROVISIONS. SIGNALS SHALL ALSO BE AIMED SO AS NOT TO BE VISIBLE FROM SIDE STREET TRAFFIC. ACCEPTABLE VARIANCE IS +/- 5 DEGREES.
- EXISTING CIRCUITS LISTED ON THE LOAD CENTER SUMMARY AND PLAN SHEETS WERE OBTAINED FROM AS-BUILT INFORMATION AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO WORK INVOLVING THOSE CIRCUITS.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL, INCLUDING ARROW BOARD DEVICE(S), FOR OVERHEAD INSPECTION AND LOCATE WORK PERFORMED BY MOA SIGNAL ELECTRONICS. CONTRACTOR SHALL BE ON-SITE AT COMPLETION OF LOCATES TO REVIEW LAYOUT AND MAKE STATIONING MEASUREMENTS FOR CONDUIT LOCATIONS.

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



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

TRAFFIC LEGEND AND NOTES

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE
X" = XX'

DATE
6/6/2025 5:06 PM

TIME

DRAWING LOCATION
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	H2	H12

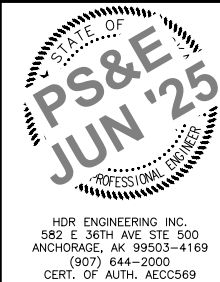
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STATION ALIGNMENT	CL REF	TYPE	LEGEND	REMARKS
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		SNOW POLE		
"S" 110+77		SNOW POLE		
"S" 111+48	LT	SNOW POLE	L ONLY, THROUGH ONLY, THROUGH R	
"S" 112+18	LT	SNOW POLE	MOOSE	
"S" 112+91	RT	SNOW POLE		
"S" 113+79	RT	SNOW POLE		
"S" 114+69	RT	SNOW POLE		ON LIGHT POLE
"S" 115+59	RT	SNOW POLE		ADVANCE SIGN
"S" 116+49	RT	SNOW POLE		ONE, DOUBLE-SIDED SIGN
"S" 117+39	RT	SNOW POLE		TWO SIGNS BACK-TO-BACK
"S" 119+16	RT	SNOW POLE		
"S" 120+05	RT	SNOW POLE		SNOW POLE
"S" 122+53	LT	SNOW POLE		
"S" 123+53	RT	SNOW POLE		TWO SIGNS BACK-TO-BACK
S" 125+21	LT	SNOW POLE		
"S" 135+80	LT		MILE POST 14	TWO SIGNS BACK-TO-BACK
"MS" 216+75	RT	R1-1	STOP	
"MS" 219+25	LT	D3-100	E PARK AVE	TWO SIGNS BACK-TO-BACK
		R1-1	STOP	

CALL BEFORE YOU DIG!

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

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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**

SIGN SUMMARY

DESIGNED BY
CHECKED BY
DRAFTED BY

SCALE
X" = XX'

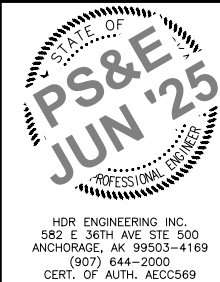
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TIME

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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	H3	H12

SIGN SUMMARY														
SHEET NO.	SIGN NO.	STATION ALIGNMENT	CL REF	TYPE	LEGEND	SIZE (IN)		AREA (SQ FT)	SIGN FACES	POST	FRAMED?		REMARKS	
						WIDTH	HEIGHT			NO., SIZE, & TYPE	YES	NO		
H6	1	"S"	LT	D7-100		72	24	12	N	2-3"T	X		MOUNT ON ELECTROLIER	
	D7-100P RW-050 RL-100 RM-010				72	24	12	N	X					
	2		LT	W6-100		36	36	9	N	1-2.5"PT		X		
H7	3		LT	D7-105		48	36	12	N	1-2.5"PT	X			
				D7-105P RL-100		36	36	9	N			X		
												X	GATE MOUNTED	
H9	5			RT	D10-202		36	36	9	N	1-2.5"PT		X	TWO-SIDED SIGN
H11	6		LT	M3-3		24	12	2	N	1-2.5"PT		X		
				M1-5		24	24	4	N			X		
	7		RT	M3-1		24	12	2	S	1-2.5"PT		X		
				M1-5		24	24	4	N			X		



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

TRAFFIC LEGEND AND NOTES

HDR ENGINEERING INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569

DESIGNED BY
CHECKED BY
DRAFTED BY

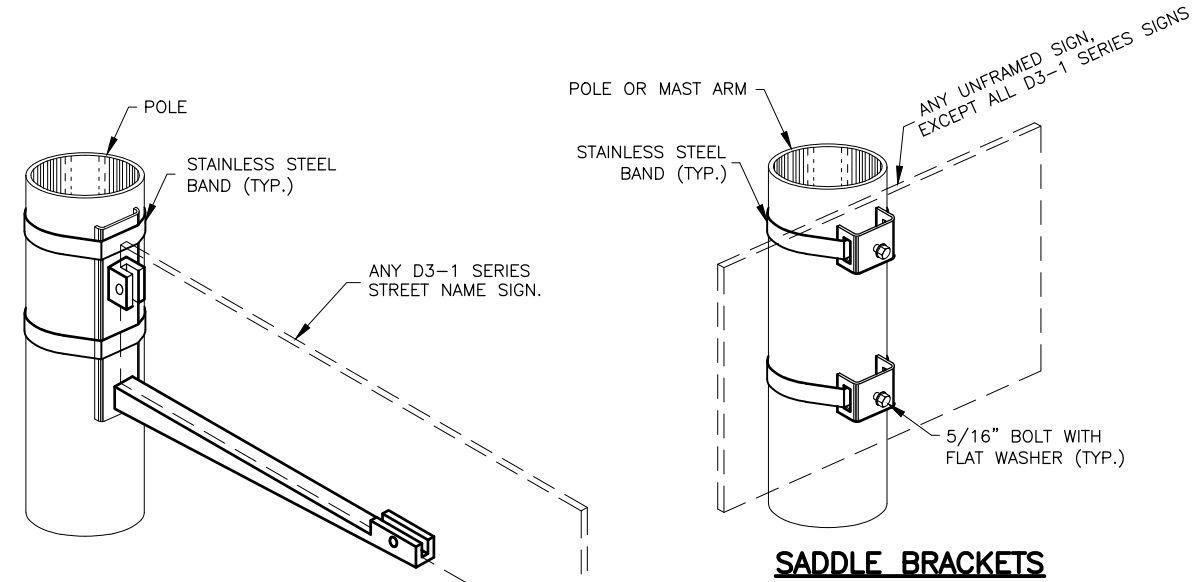
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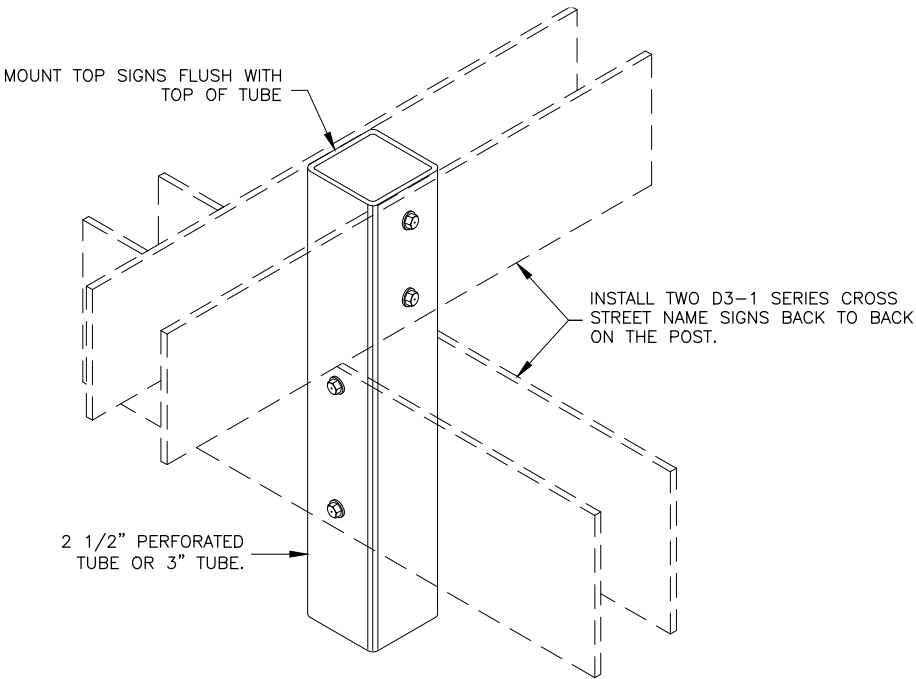
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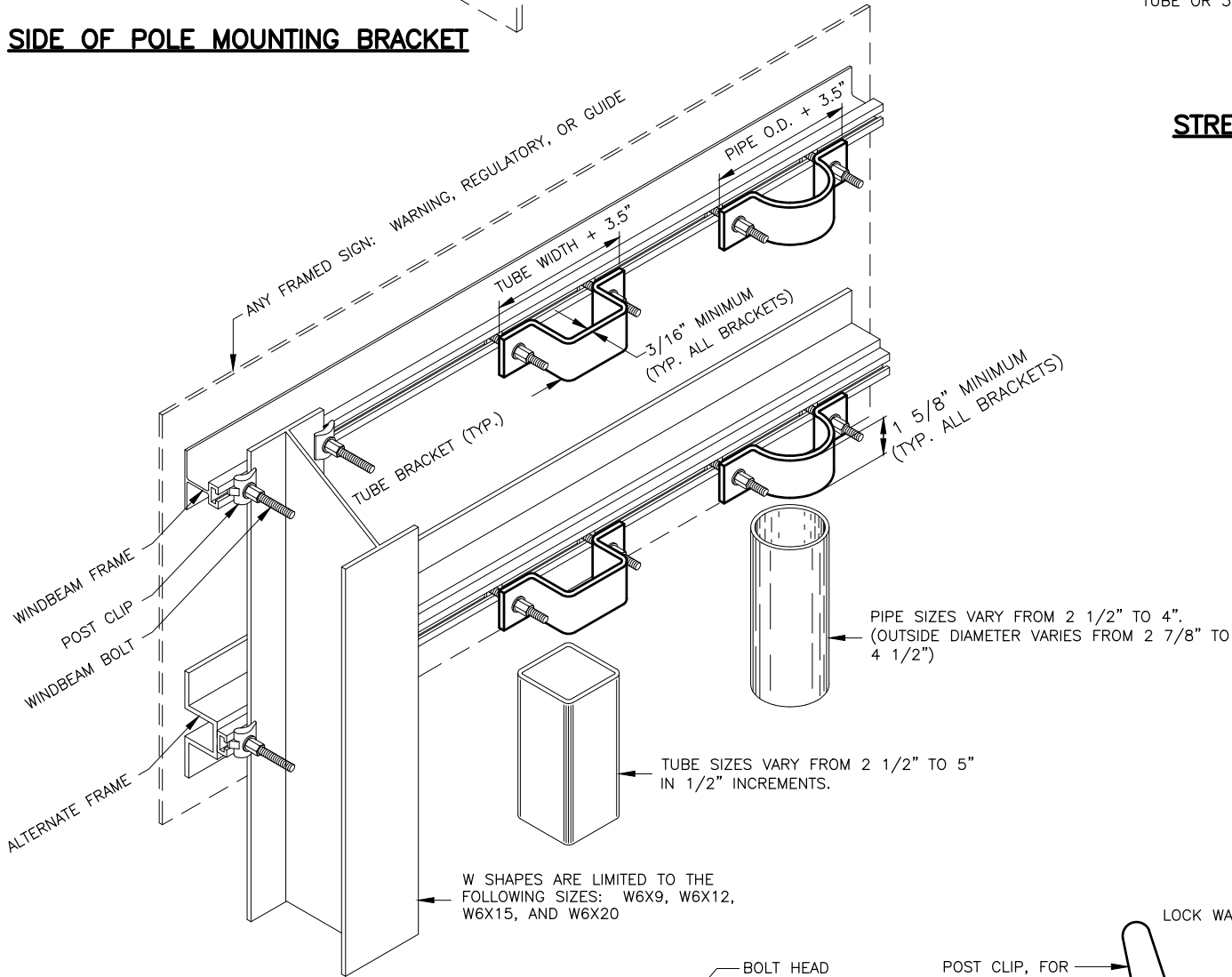
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			ALASKA	0311037/CFHWY00947	2025	H4	H12



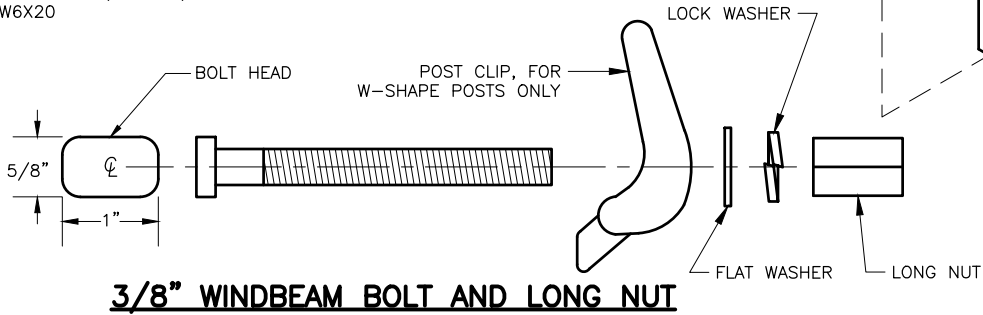
SIDE OF POLE MOUNTING BRACKET



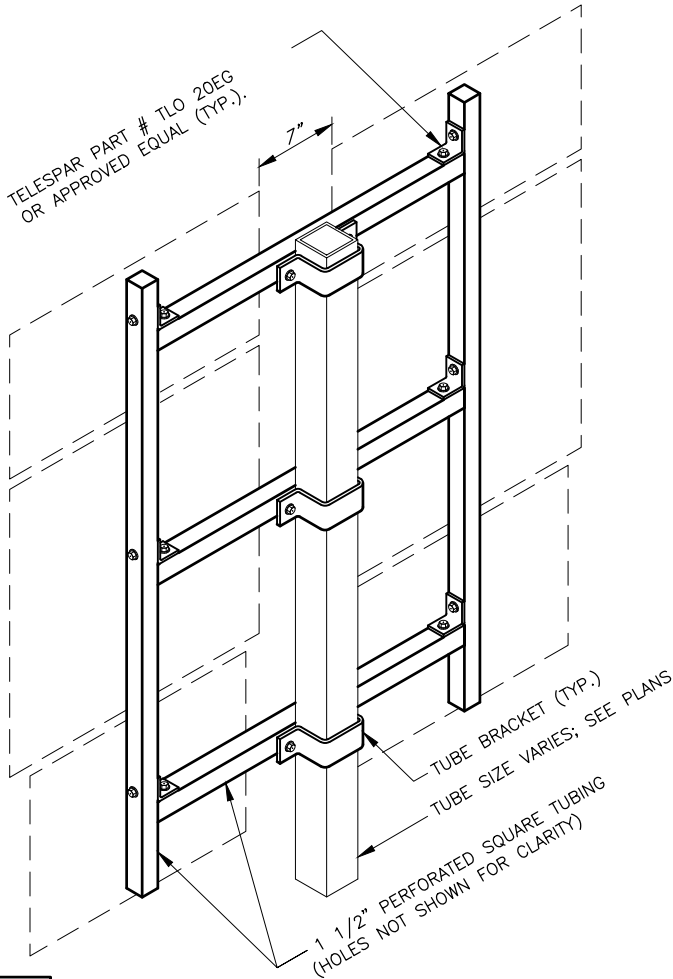
STREET NAME SIGN INSTALLATION



FRAMED SIGN ATTACHMENT BRACKETS



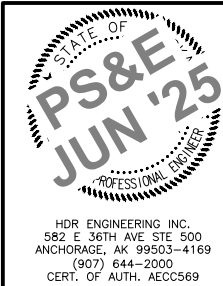
3/8" WINDBEAM BOLT AND LONG NUT



ROUTE MARKER TREE

- NOTES:
- EXCEPT FOR POLES AND MAST ARMS, ONLY USE TUBES TO SUPPORT SIGNS MOUNTED ON ONE POST.
 - ATTACH SIGNS, FRAMED AND UNFRAMED TO THEIR SUPPORTS WITH ZINC PLATED 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PERFORATED TUBES WITH ACCESSORY DRIVE RIVETS AND TO SADDLES WITH 5/16" BOLTS.
 - BOLT UNFRAMED SIGNS DIRECTLY TO TUBES IN TWO LOCATIONS, NEAR TOP AND NEAR BOTTOM OF MATING SURFACE. ATTACH THEM TO POLES AND MAST ARMS WITH TWO SADDLES.
 - ATTACH BRACKETS TO POLES AND MAST ARMS WITH DOUBLE WRAPS OF 3/4" WIDE BY 0.020" THICK STAINLESS STEEL BANDING MATERIAL. TIGHTEN EACH BAND UNTIL IT STOPS MOVING THROUGH THE BUCKLE.
 - ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING TWO POST CLIPS ON W-SHAPE POSTS, A U-SHAPED BRACKET ON PIPES, AND A BRACKET WITH SQUARE CORNERS ON TUBES.
 - THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
 - ONLY USE THE SPECIAL WINDBEAM BOLTS TO ATTACH SIGNS FRAMED WITH THE WINDBEAM FRAMING MATERIAL.
 - ATTACH FRAMED SIGNS TO POLES AND MAST ARMS USING POLE PLATES INSTALLED ACCORDING TO ALASKA STANDARD PLAN S-23.
 - FOR ROUTE MARKER TREES, CUT PERFORATED TUBES TO ENSURE TIGHT FITTING JOINTS. ASSEMBLE THE PIECES WITH ACCESSORY ELL-SHAPED ANGLE BRACKETS.
 - INSTALL THE TOP EDGE OF SIGNS 1" ABOVE THE TOPS OF POSTS, EXCEPT FOR THE D3-1 STREET NAME SIGNS.
 - INSTALL THE TOP EDGE OF SIGNS 3" BELOW THE TOP OF POST, WHENEVER THEY ARE MOUNTED BELOW SIGNS SECURED BY POST TOP MOUNTING BRACKETS.
 - THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
 - INSTALL WEATHER TIGHT CAPS ON ALL PIPE AND TUBE POSTS, EXCEPT PERFORATED TUBING.

FASTENER SPECIFICATION TABLE			
FASTENERS	ALUMINUM	STEEL	STAINLESS STEEL
BOLTS	ASTM F468 2024-T4	ASTM A307	ASTM F593
NUTS	ASTM F467 2024-T4	ASTM A563	ASTM F594
WASHERS	ANSI B18.22.1	ASTM F844	ANSI B18.22.1
POST CLIPS	ASTM B179 356-T6	N/A	N/A



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

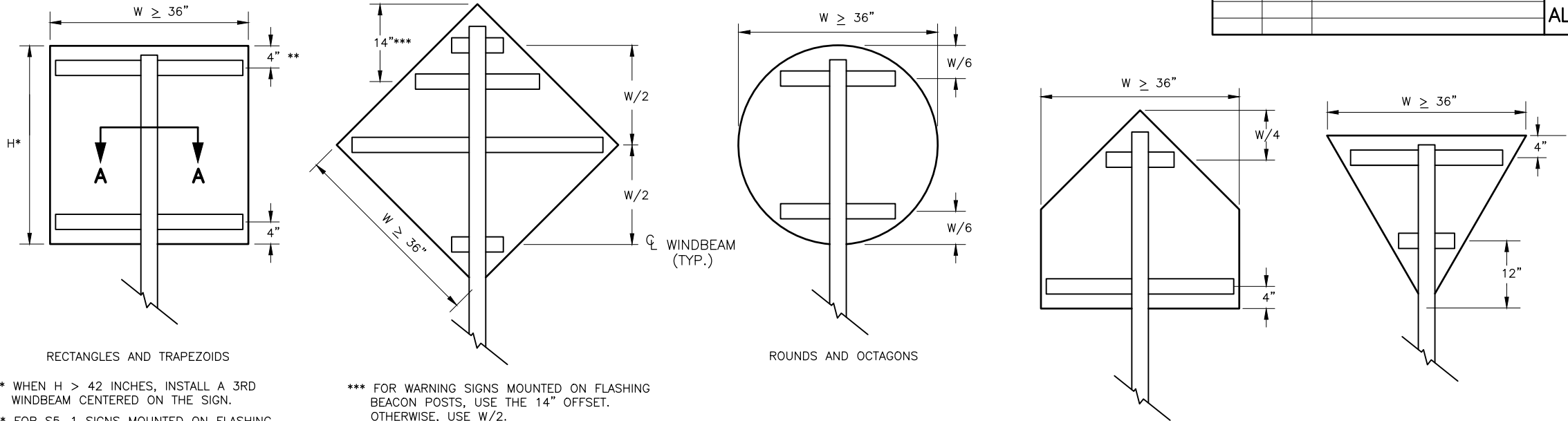
SIGN ATTACHMENT DETAIL

DESIGNED BY
CHECKED BY
DRAFTED BY
SCALE
NTS
DATE
TIME
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DRAWING LOCATION
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0311037/CFHWY00947	2025	H5	H12

NOTES:

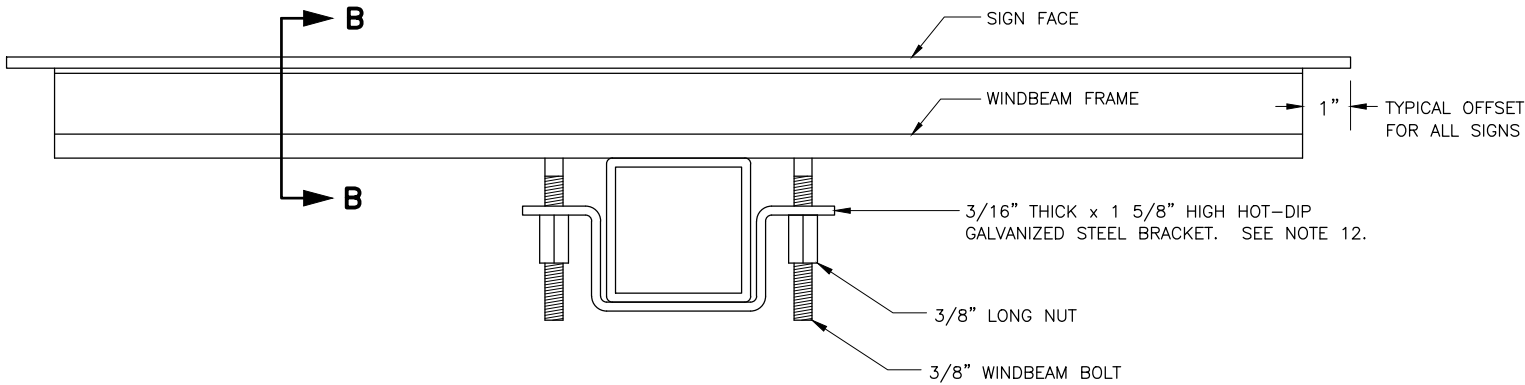
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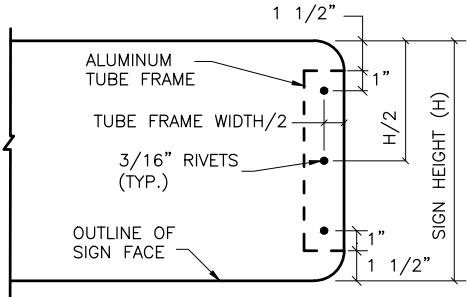
- RECTANGLES AND TRAPEZOIDS
- * WHEN H > 42 INCHES, INSTALL A 3RD WINDBEAM CENTERED ON THE SIGN.
- ** FOR S5-1 SIGNS MOUNTED ON FLASHING BEACON POSTS, USE A 10" OFFSET. OTHERWISE, USE 4".
- *** FOR WARNING SIGNS MOUNTED ON FLASHING BEACON POSTS, USE THE 14" OFFSET. OTHERWISE, USE W/2.

WINDBEAM LOCATIONS FOR EACH SIGN SHAPE

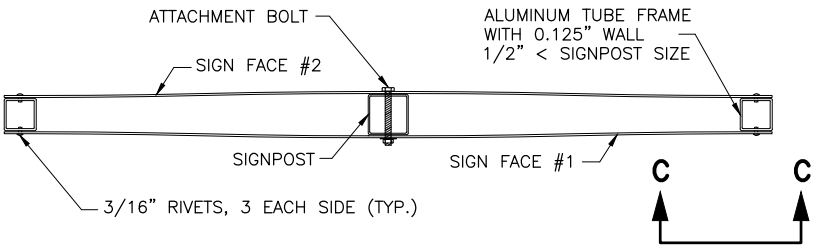
ELEVATION VIEW



SECTION A - A TYPICAL SIGN ATTACHMENT DETAILS AT EACH WINDBEAM

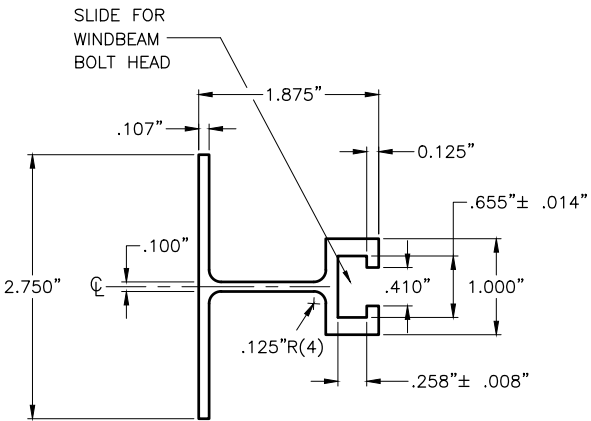


VIEW C - C

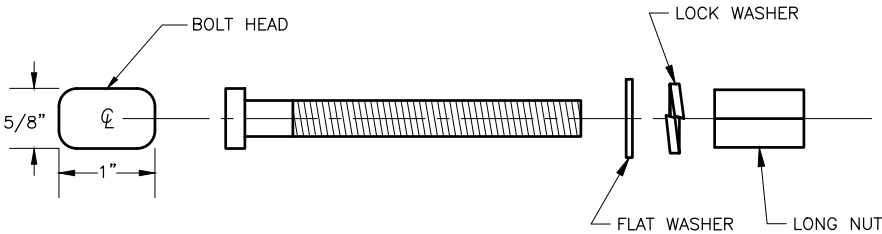


D3-1 STREET NAME SIGN FRAMING DETAIL

PLAN VIEW

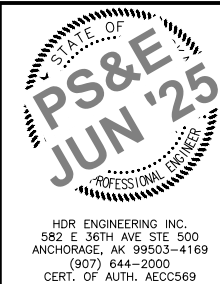


SECTION B - B WINDBEAM CROSS SECTION



3/8" WINDBEAM BOLT AND LONG NUT

FASTENER SPECIFICATION TABLE			
FASTENERS	ALUMINUM	STEEL	STAINLESS STEEL
BOLTS	ASTM F468 2024-T4	ASTM A307	ASTM F593
NUTS	ASTM F467 2024-T4	ASTM A563	ASTM F594
WASHERS	ANSI B18.22.1	ASTM F844	ANSI B18.22.1
POST CLIPS	ASTM B179 356-T6	N/A	N/A

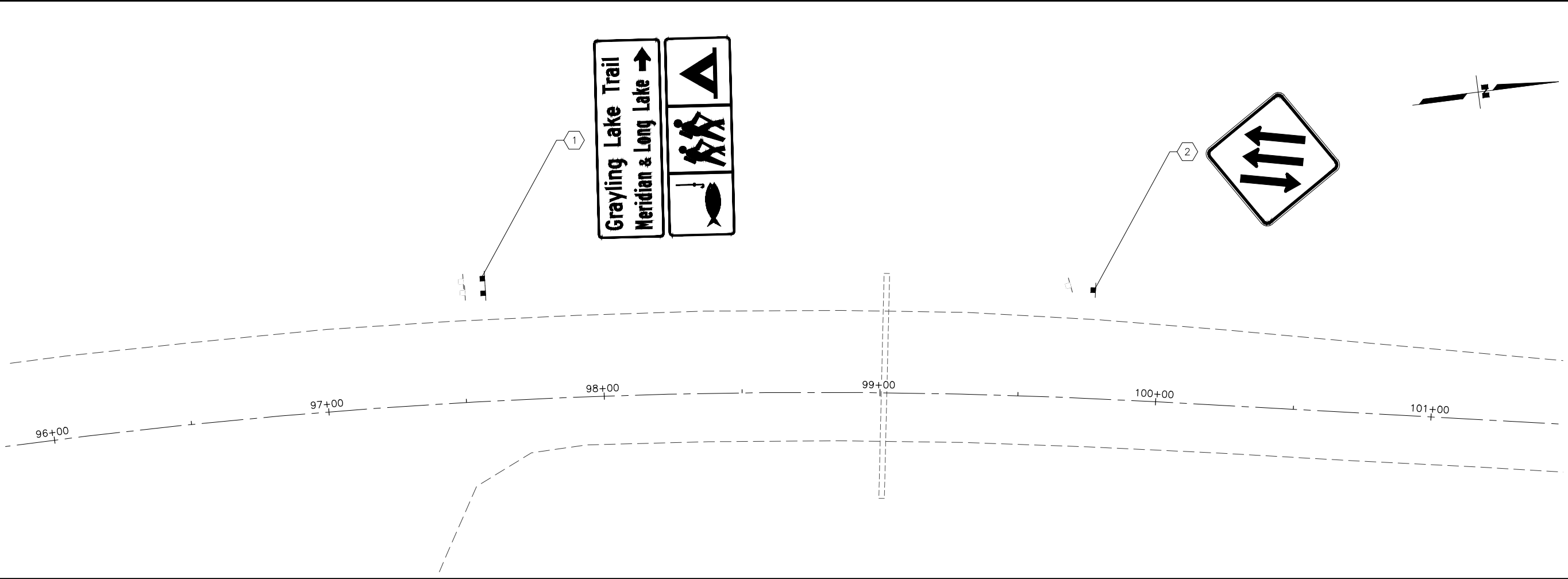


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

LIGHT SIGN FRAMING AND
ATTACHMENT DETAILS

HDR ENGINEERING INC.
582 E 36TH AVE STE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
CERT. OF AUTH. AECC569



SHEET NO. H6	TOTAL SHEETS H12
STATE ALASKA	YEAR 2025
PROJECT DESIGNATION 0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

SEWARD HWY
SNOW RIVER

STATE OF ALASKA
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SIGNING AND
STRIPING PLAN
BOP—STA 120+50

DRAWING LOCATION

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DATE

6/6/2025 5:06 PM

TIME

SCALE

1" = 20'

DESIGNED BY

K. BROWN

CHECKED BY

T. SPAC

DRAFTED BY

K. BROWN

The main plan view of Seward Highway is divided into two sections. The top section covers stations 111+00 to 116+00, showing a 4" wide lane with a (2)-4"Y 3" APART centerline. A match line is at station 116+00. The bottom section covers stations 116+00 to 120+50, showing a 4" wide lane with a (2)-4"Y 3" APART centerline. A match line is at station 120+50. The highway is labeled "SEWARD HIGHWAY". A north arrow is located in the top right corner. A scale bar is located in the bottom right corner.

SHEET NO.	H7	TOTAL SHEETS	H12
STATE	ALASKA	YEAR	2025
PROJECT DESIGNATION			
0311037/ CFHWY00947			
NO.	REVISION		
DATE			
NO.	REVISION		
DATE			
NO.	REVISION		
DATE			

SEWARD HWY

SNOW RIVER

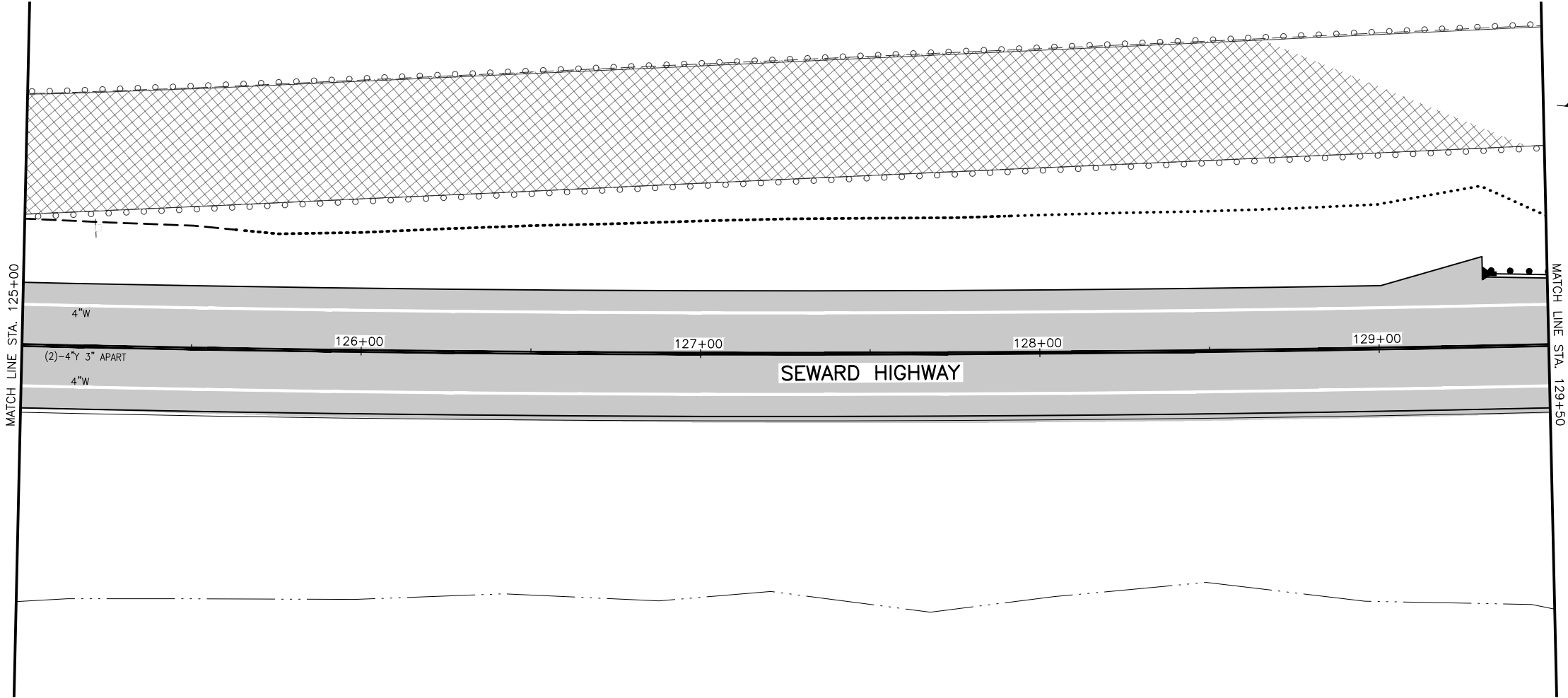
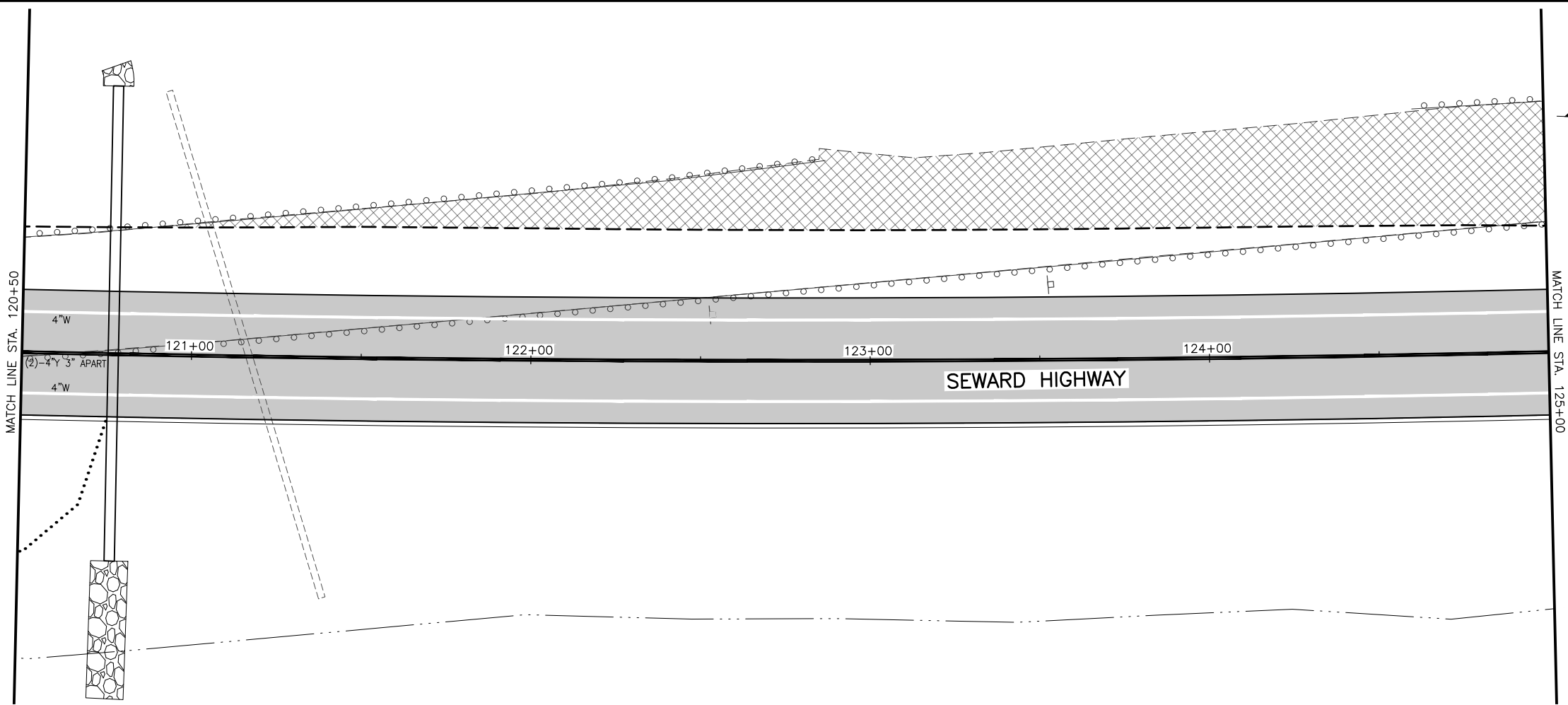
STATE OF ALASKA
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SIGNING AND
STRIPING PLAN



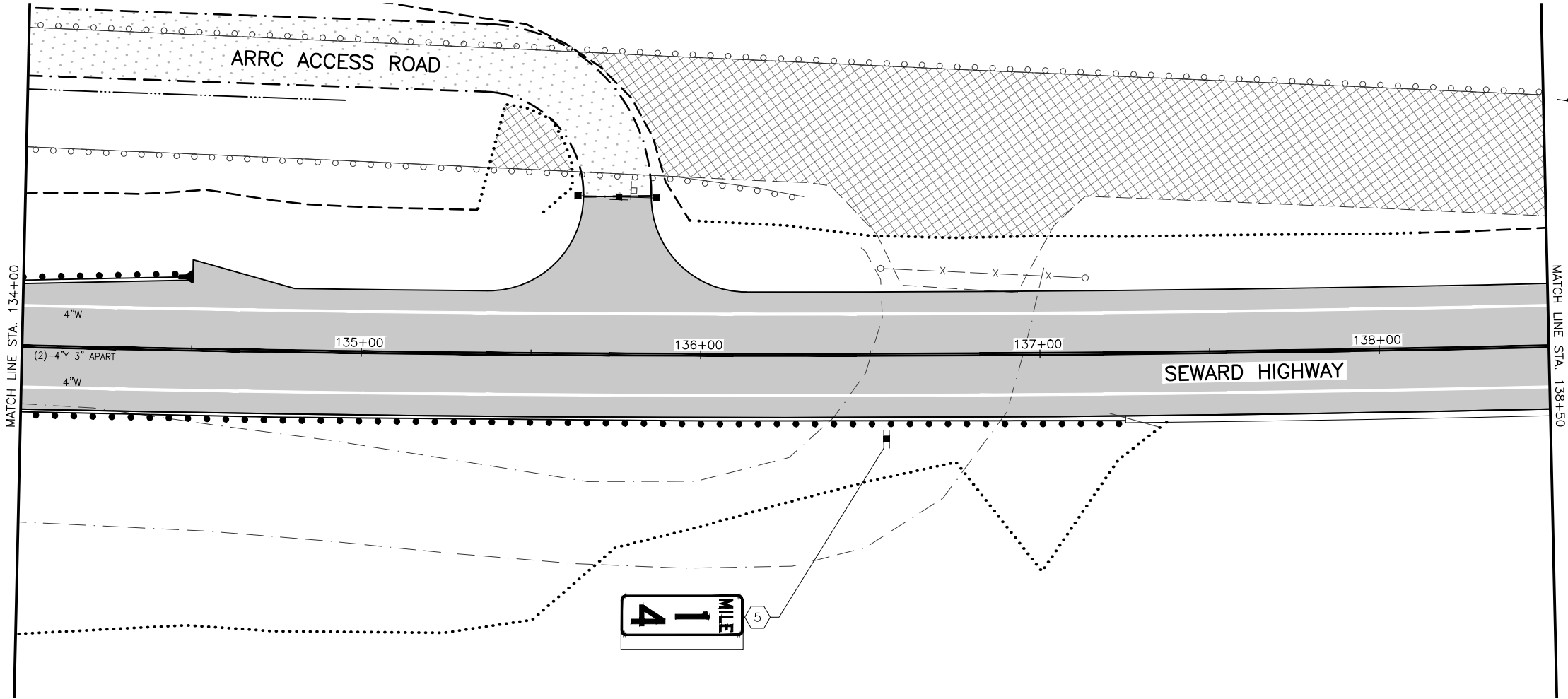
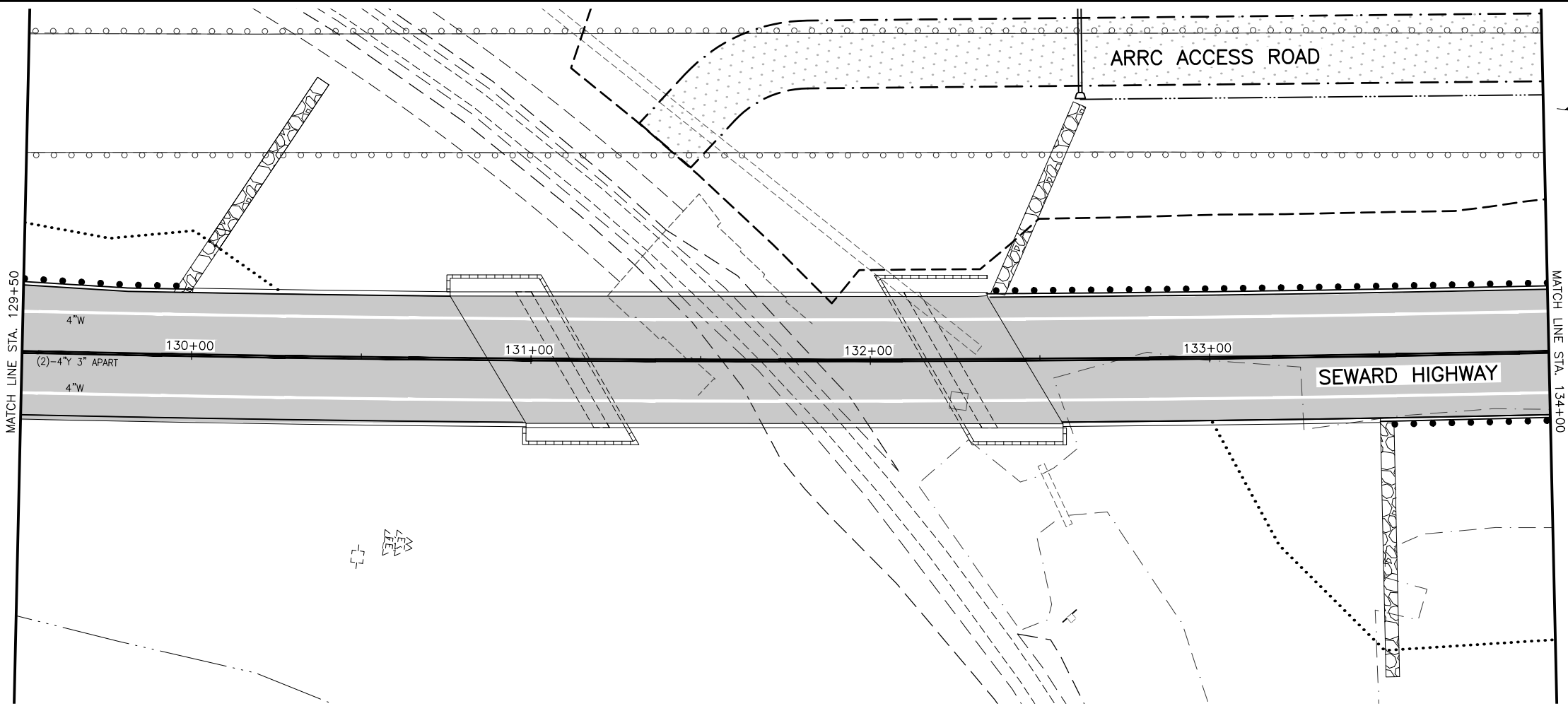
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STATE ALASKA	YEAR 2025
PROJECT DESIGNATION 0311037/ CFHWY00947	
NO.	REVISION
DATE	
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DATE	
NO.	REVISION
DATE	

SEWARD HWY
SNOW RIVER

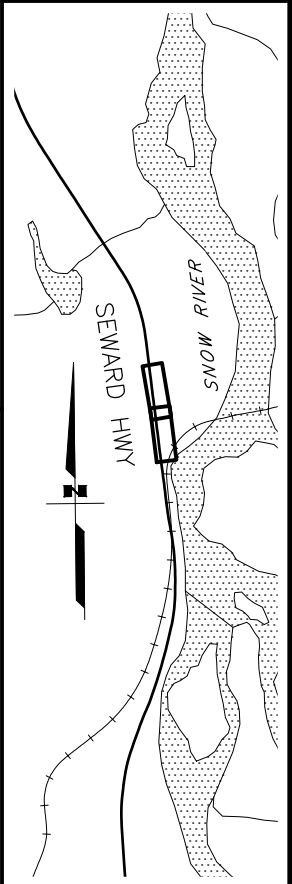
STATE OF ALASKA
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SIGNING AND
STRIPING PLAN



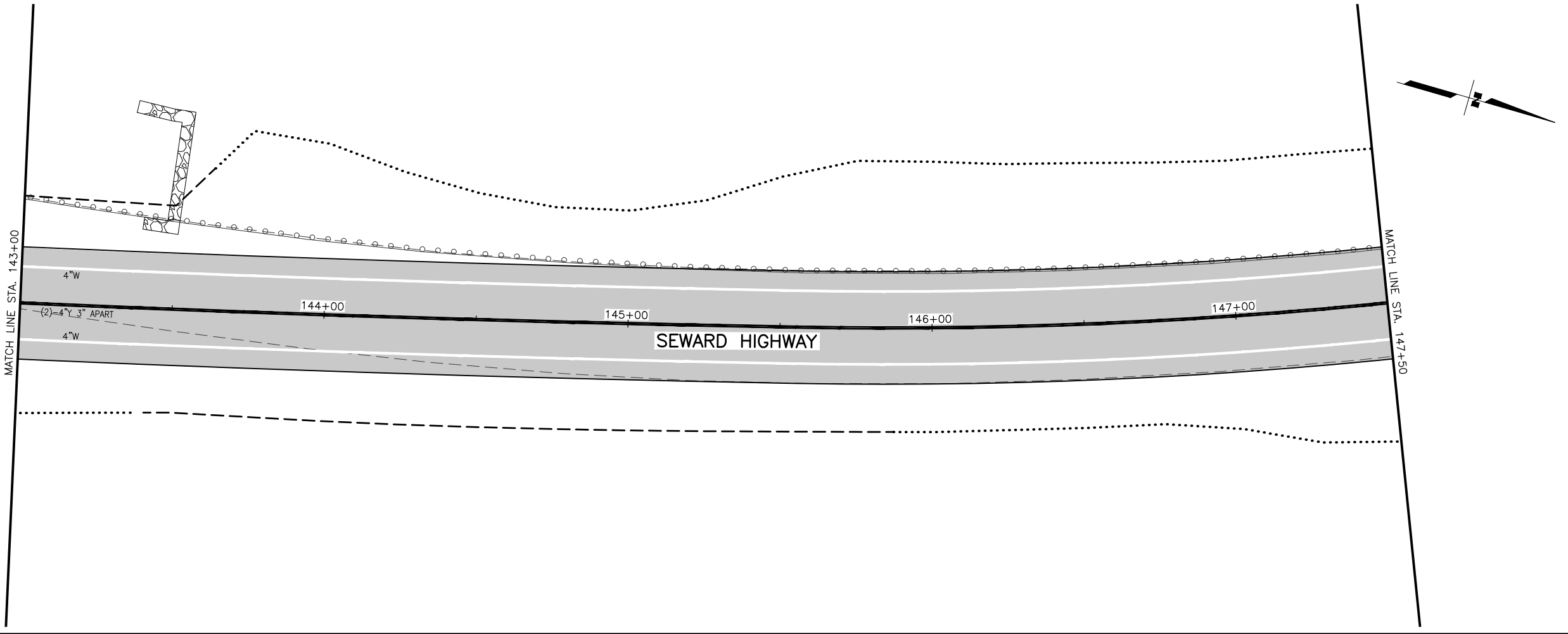
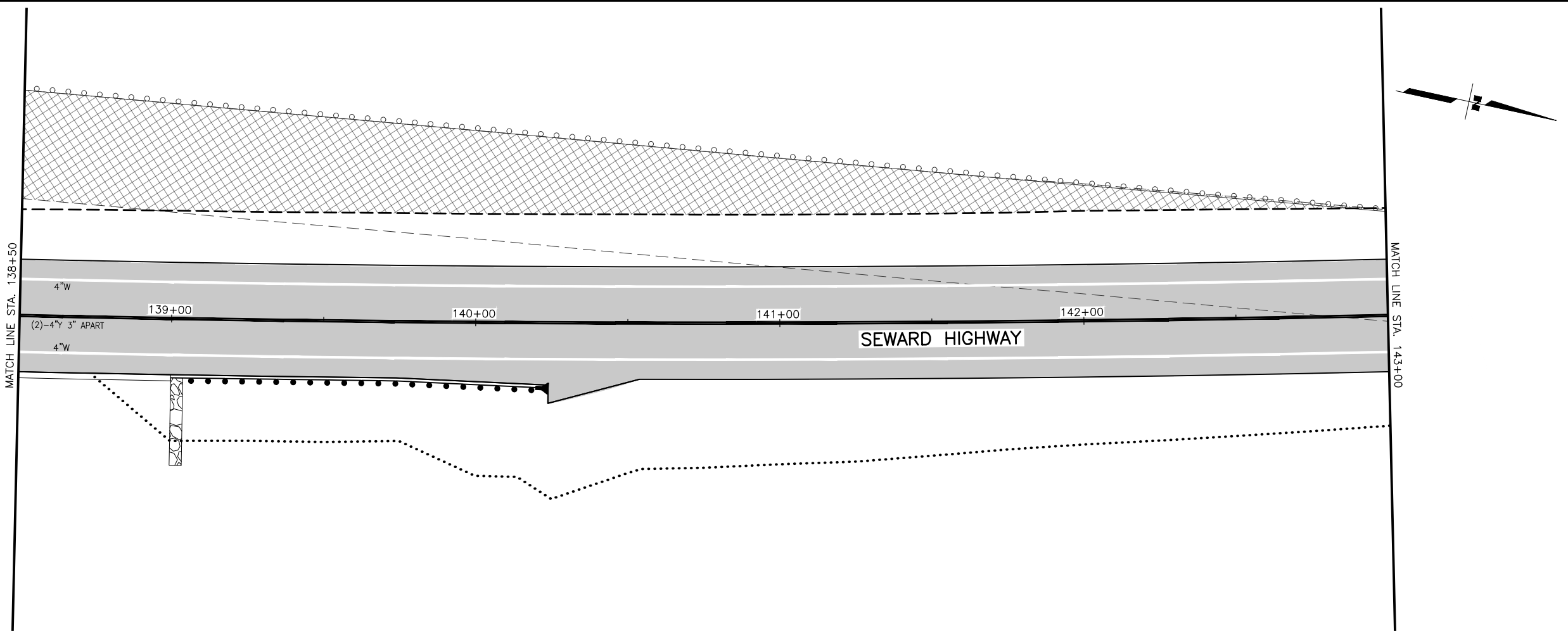
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H9	H12
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF
PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

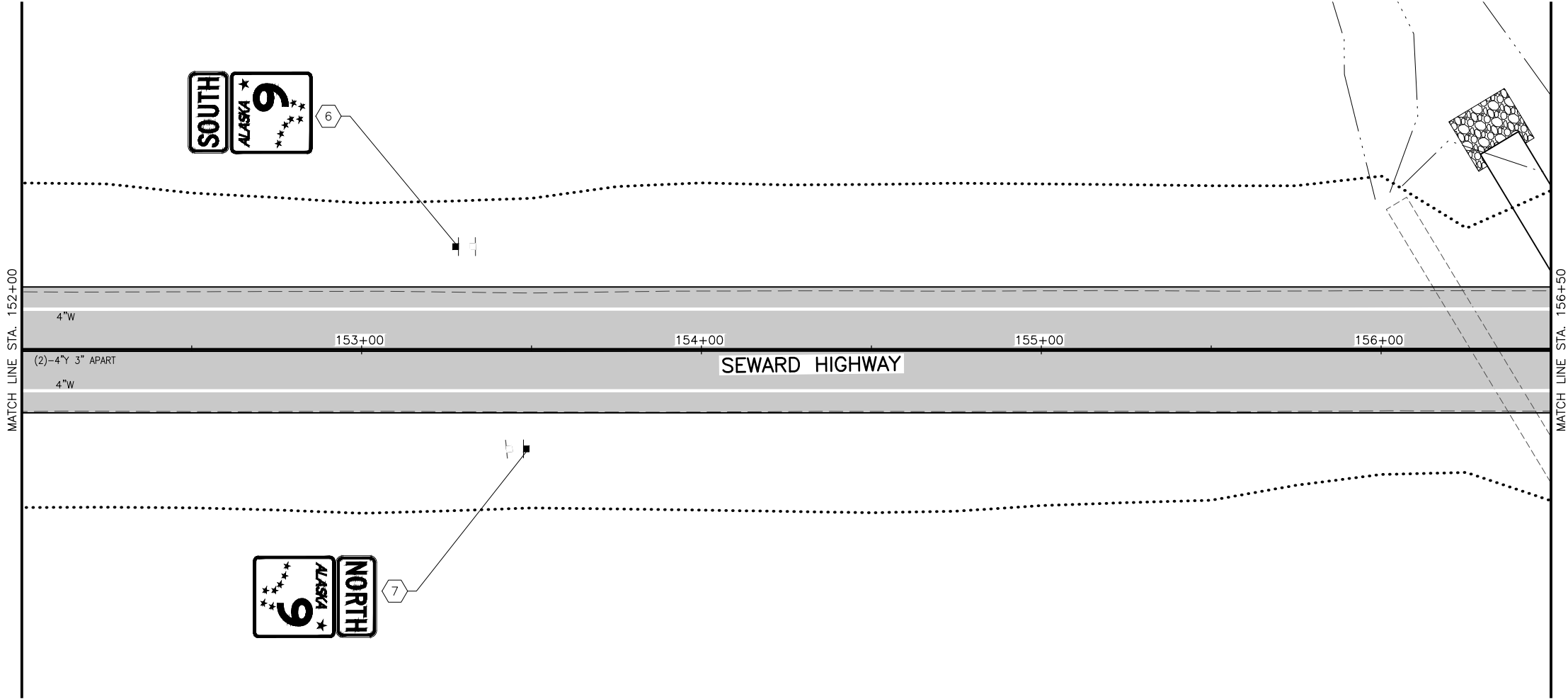
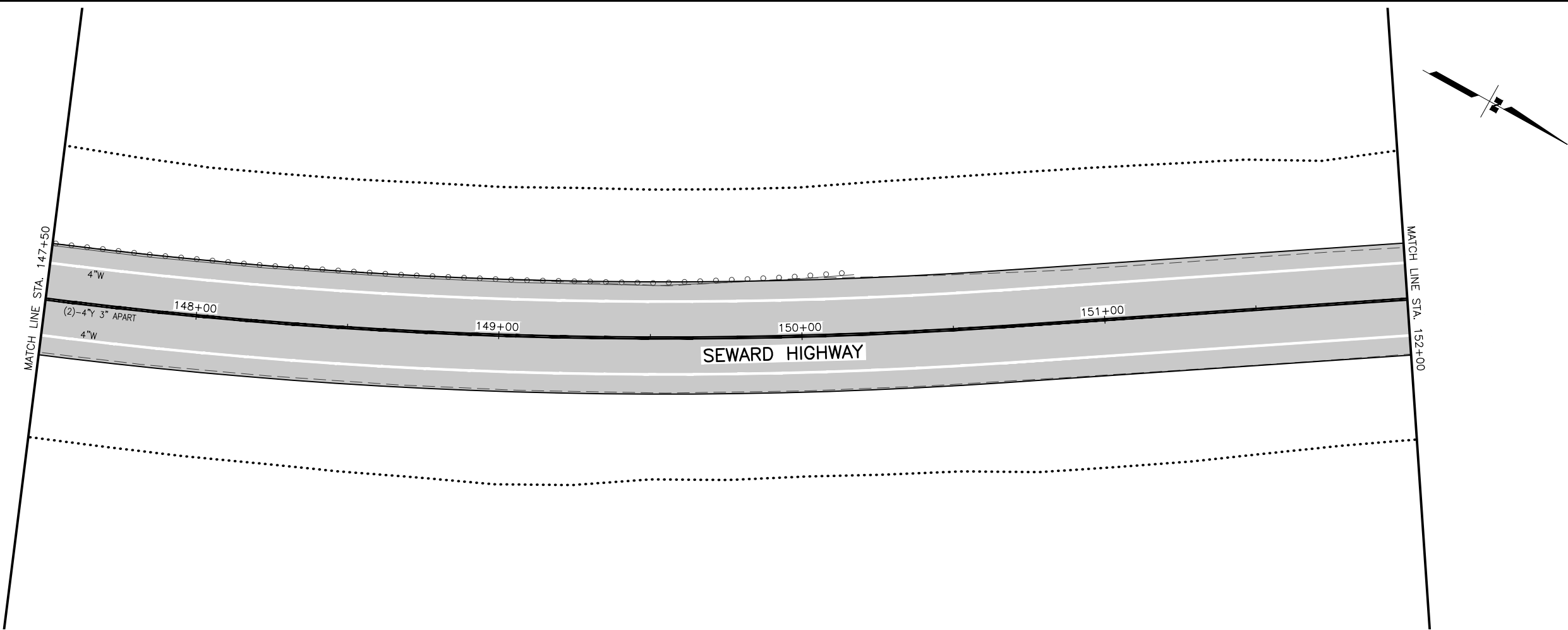
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SIGNING AND
STRIPING PLAN



SHEET NO.	TOTAL SHEETS
H10	H12
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
SIGNING AND
STRIPING PLAN



SHEET NO. H11	TOTAL SHEETS H12
STATE ALASKA	YEAR 2025
PROJECT DESIGNATION 0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

SEWARD HWY

SNOW RIVER

STATE OF ALASKA
PS&E
JUN '25
PROFESSIONAL ENGINEER

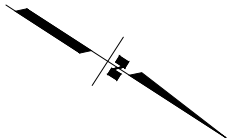
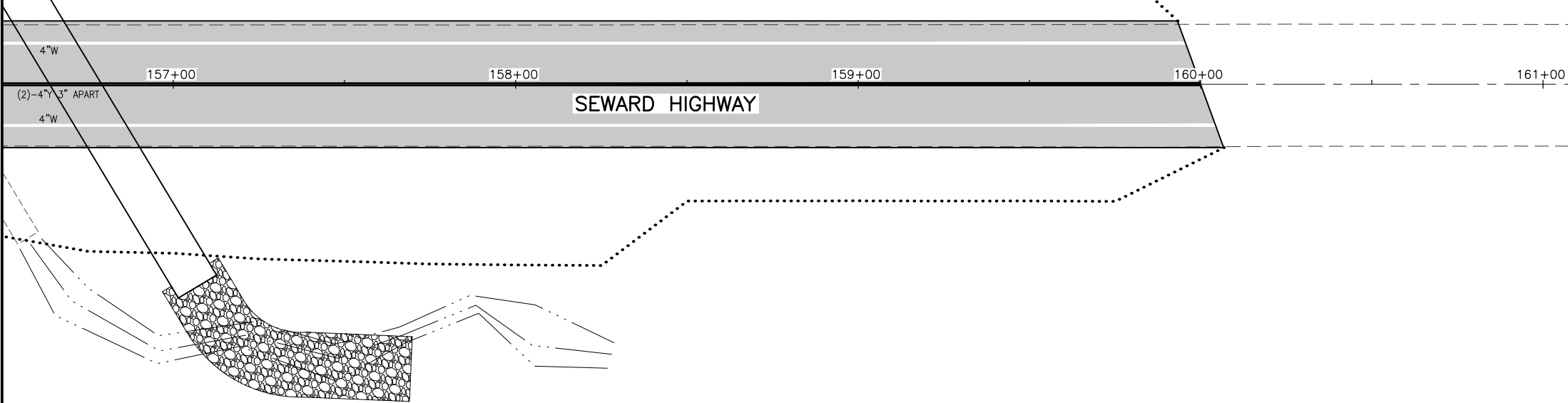
HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION

SIGNING AND
STRIPING PLAN

MATCH LINE STA. 156+50



SHEET NO.	H12	TOTAL SHEETS	H12
STATE	ALASKA	YEAR	2025
PROJECT DESIGNATION			
0311037/ CFHWY00947			
NO.	REVISION		
DATE			
NO.	REVISION		
DATE			
NO.	REVISION		
DATE			

SEWARD HWY

SNOW RIVER

STATE OF ALASKA

PS&E

JUN '25

PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.

582 E. 36TH AVE, SUITE 500

ANCHORAGE, AK 99503-4169

907-644-2000

CERT. OF AUTH. AECC569

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION

AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14

RAILROAD CROSSING

RECONSTRUCTION

SIGNING AND

STRIPING PLAN

DESIGNED BY
HARTMAN

CHECKED BY
SPATC

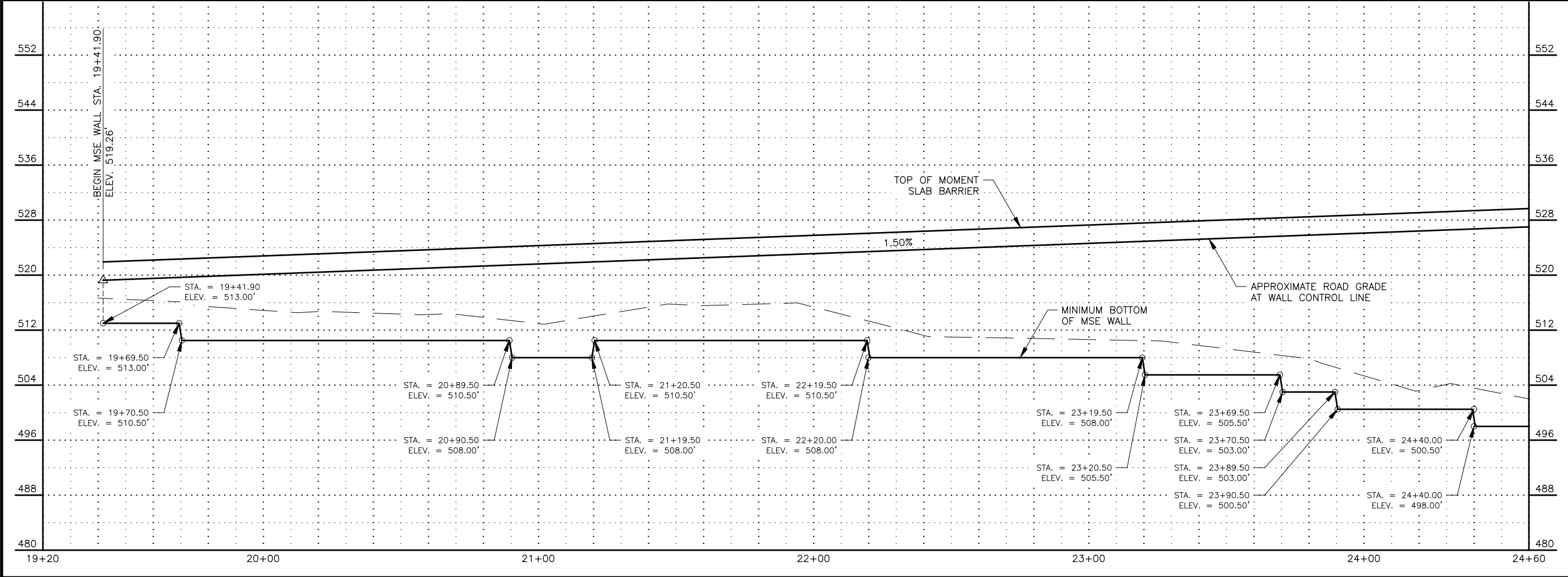
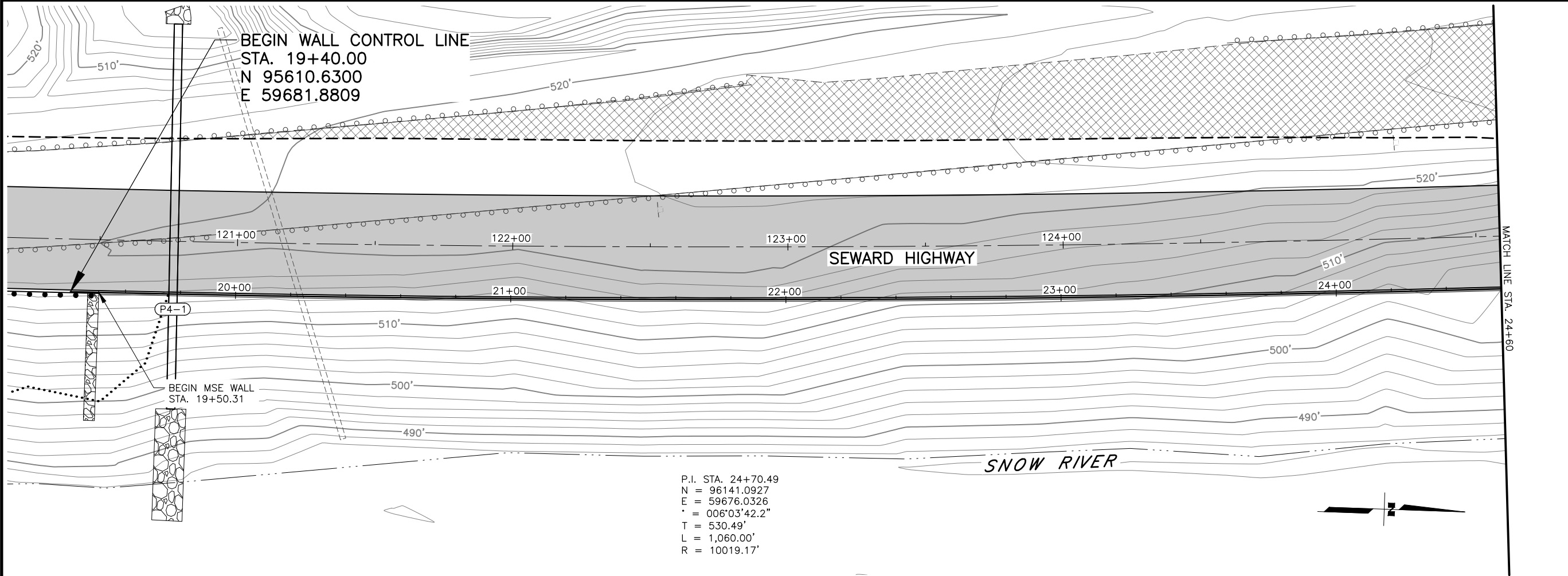
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SHEET NO.	TOTAL SHEETS
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STATE	YEAR
ALASKA	2025
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0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA

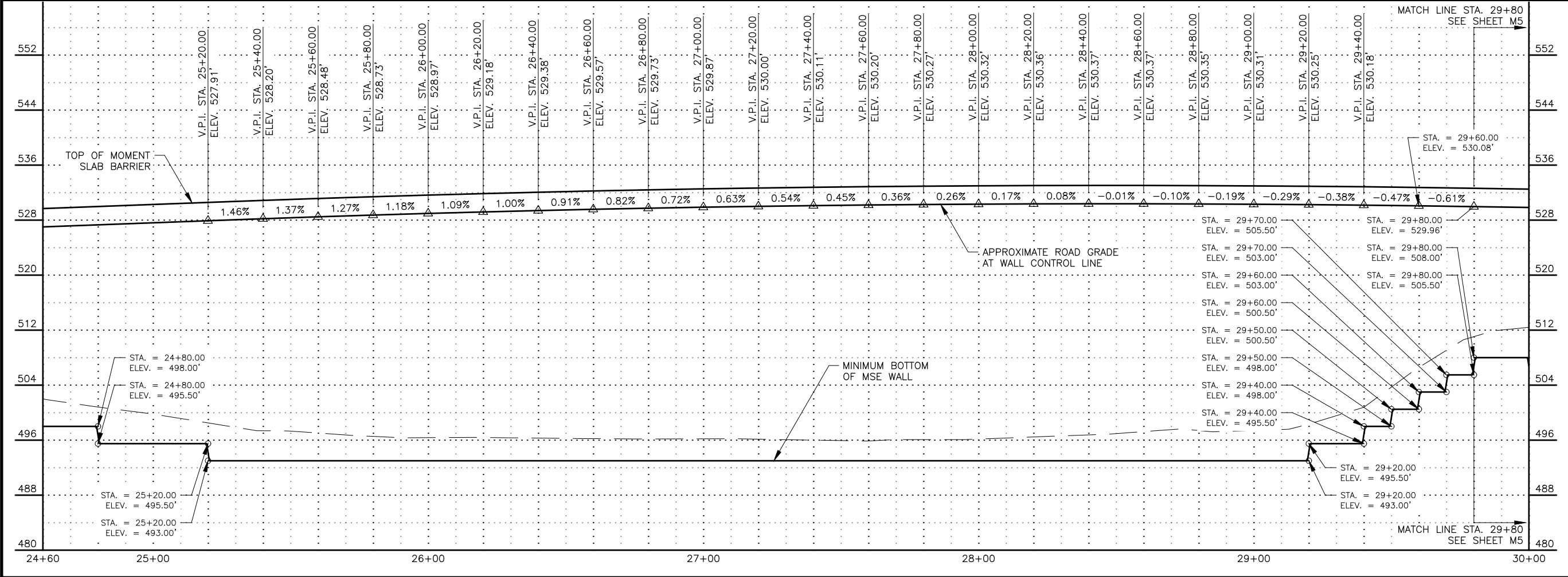
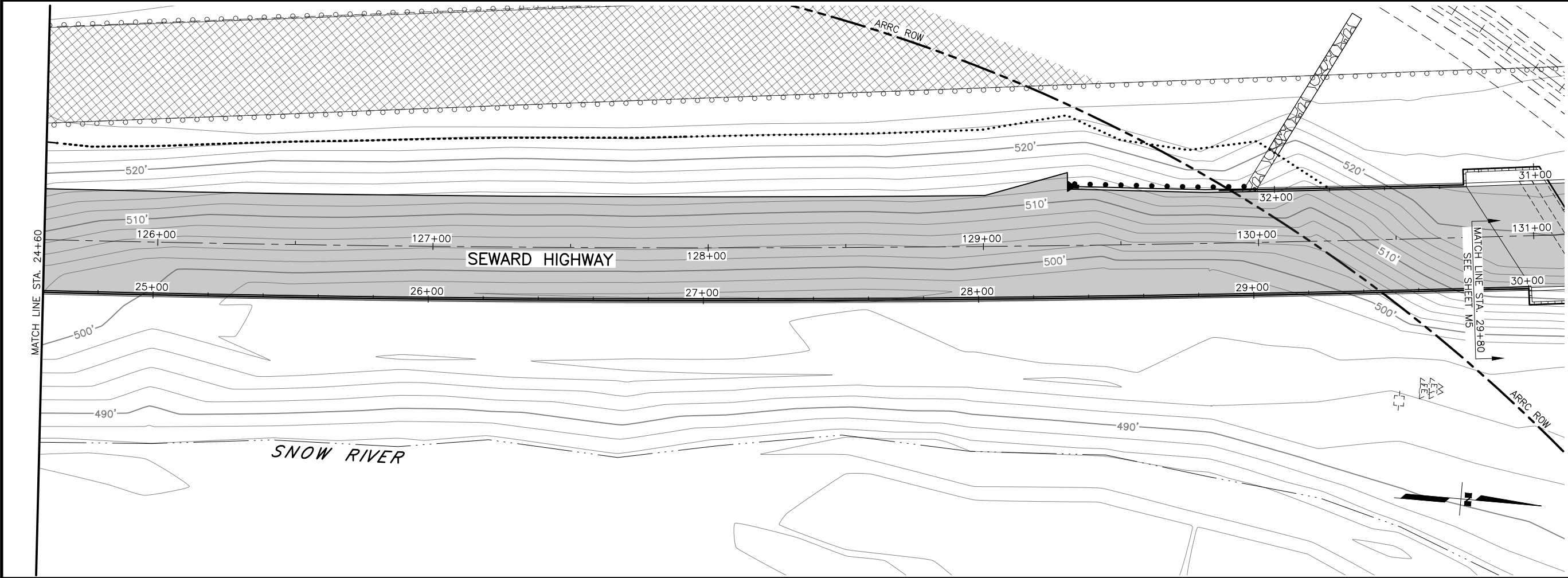
PS&E

JUN '25

PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
RETAINING WALL
PLAN & PROFILE
WALL BOP - 24+60



SHEET NO.	TOTAL SHEETS
M2	M9
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA

PS&E

JUN '25

PROFESSIONAL ENGINEER

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582 E. 36TH AVE, SUITE 500

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907-644-2000

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STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14

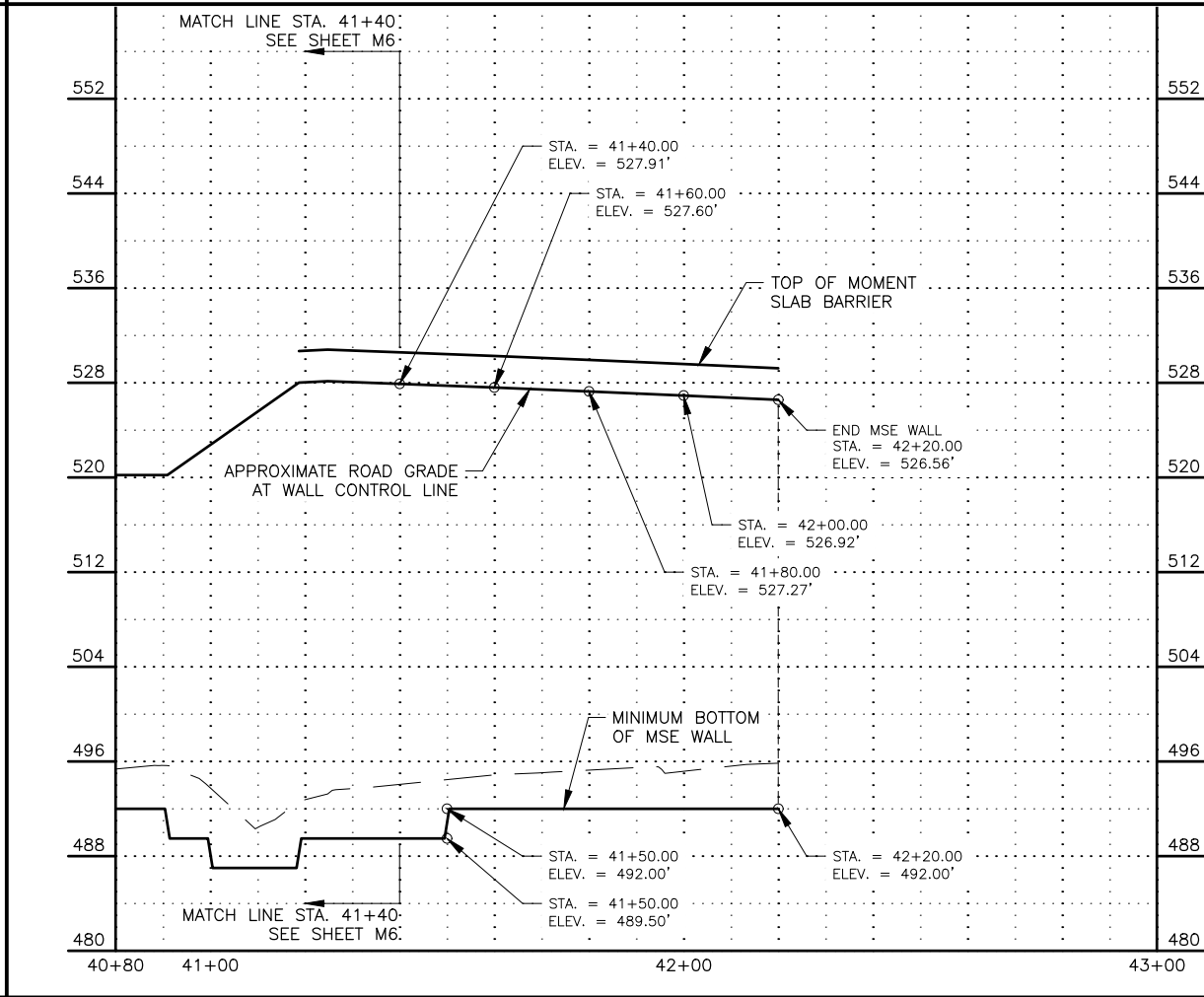
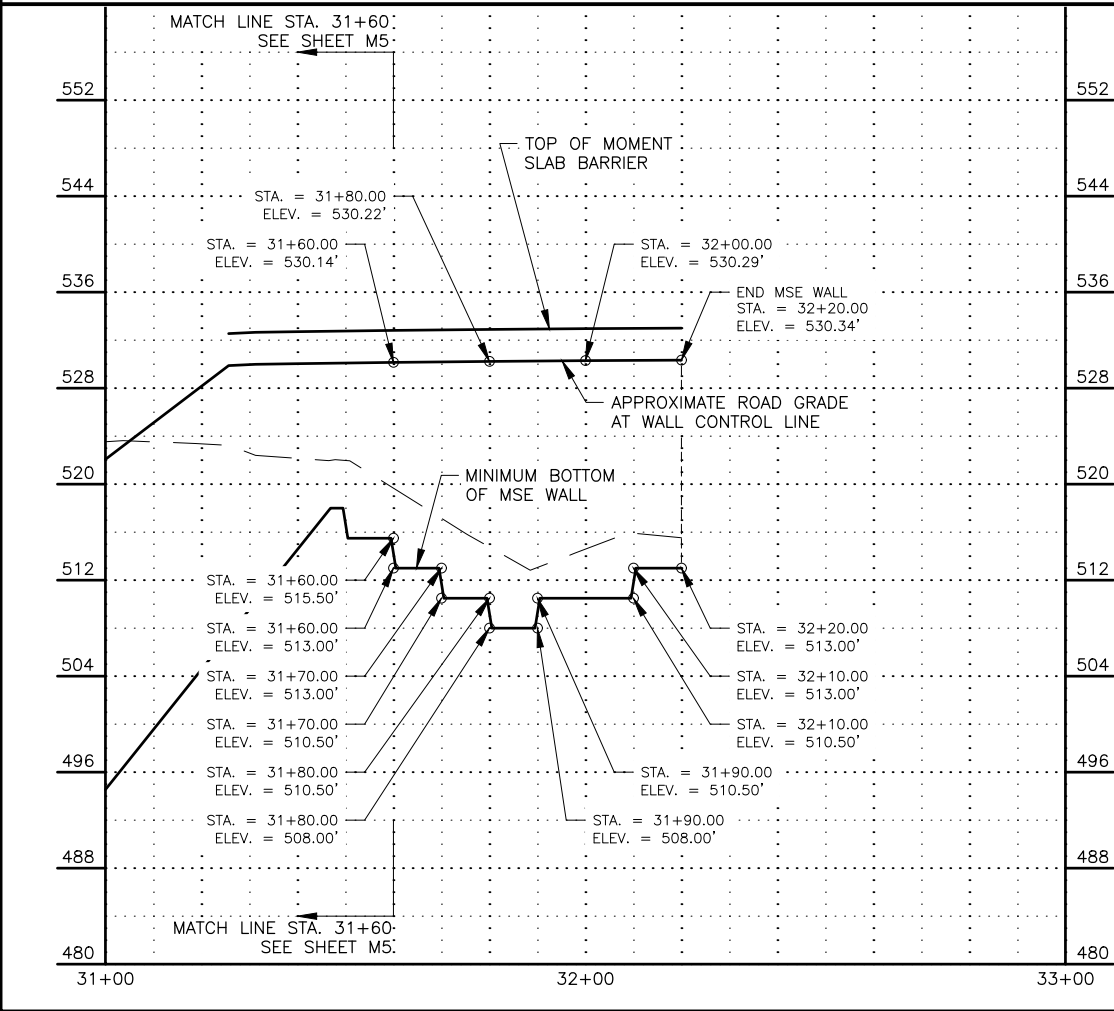
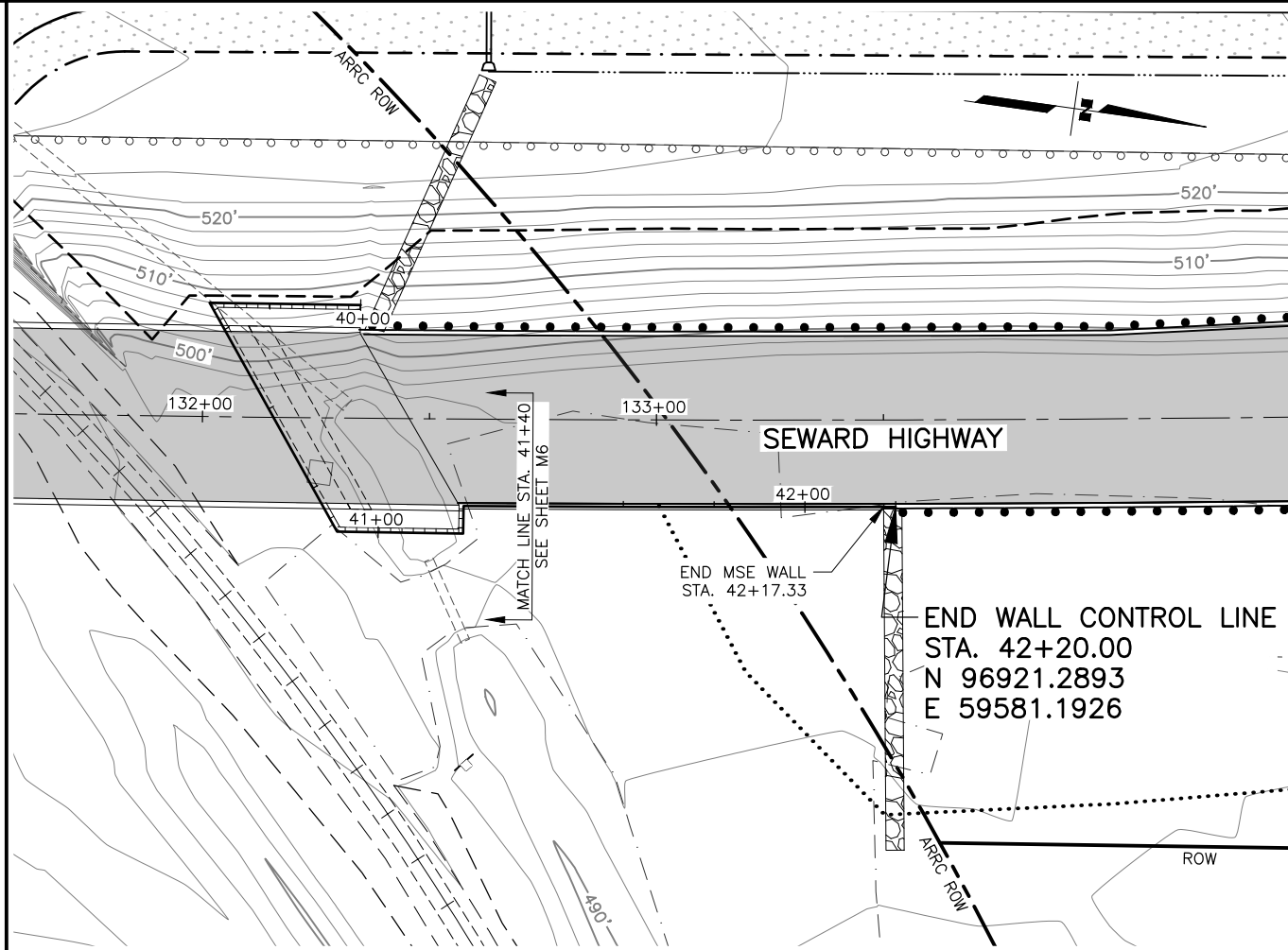
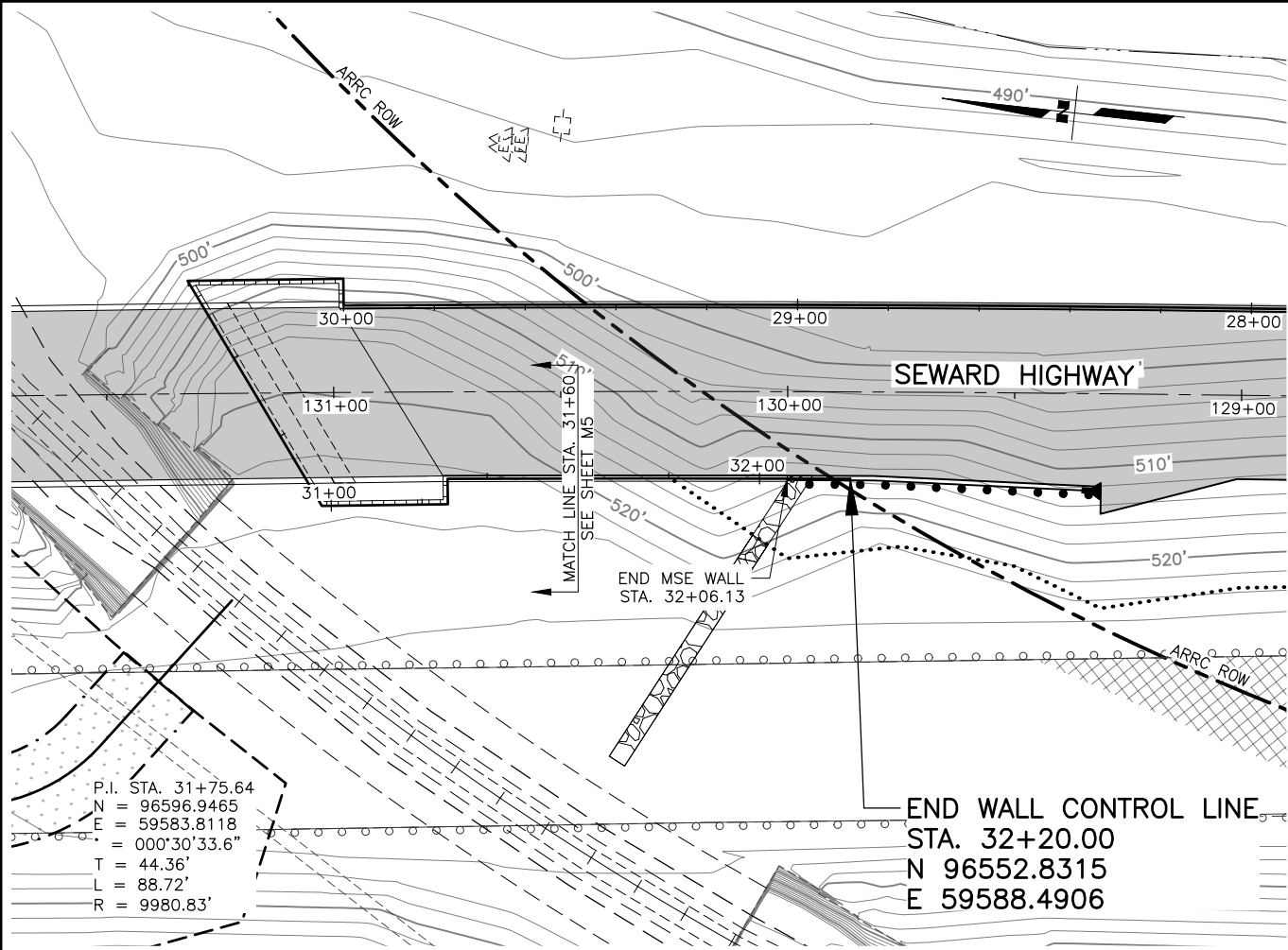
RAILROAD CROSSING RECONSTRUCTION

RETAINING WALL

PLAN & PROFILE

24+60 - 30+00

DESIGNED BY: HARTMAN
CHECKED BY: SPAC
DRAFTED BY: HARTMAN
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DATE: 6/6/2025
TIME: 6:05 PM
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SHEET NO.	TOTAL SHEETS
M3	M9
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION
RETAINING WALL
PLAN & PROFILE
120+50 - 125+00

PS&E
JUN '25
PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
907-644-2000
CERT. OF AUTH. AECC569

DESIGNED BY
HARTMAN

CHECKED BY
SPAC

DRAFTED BY
HARTMAN

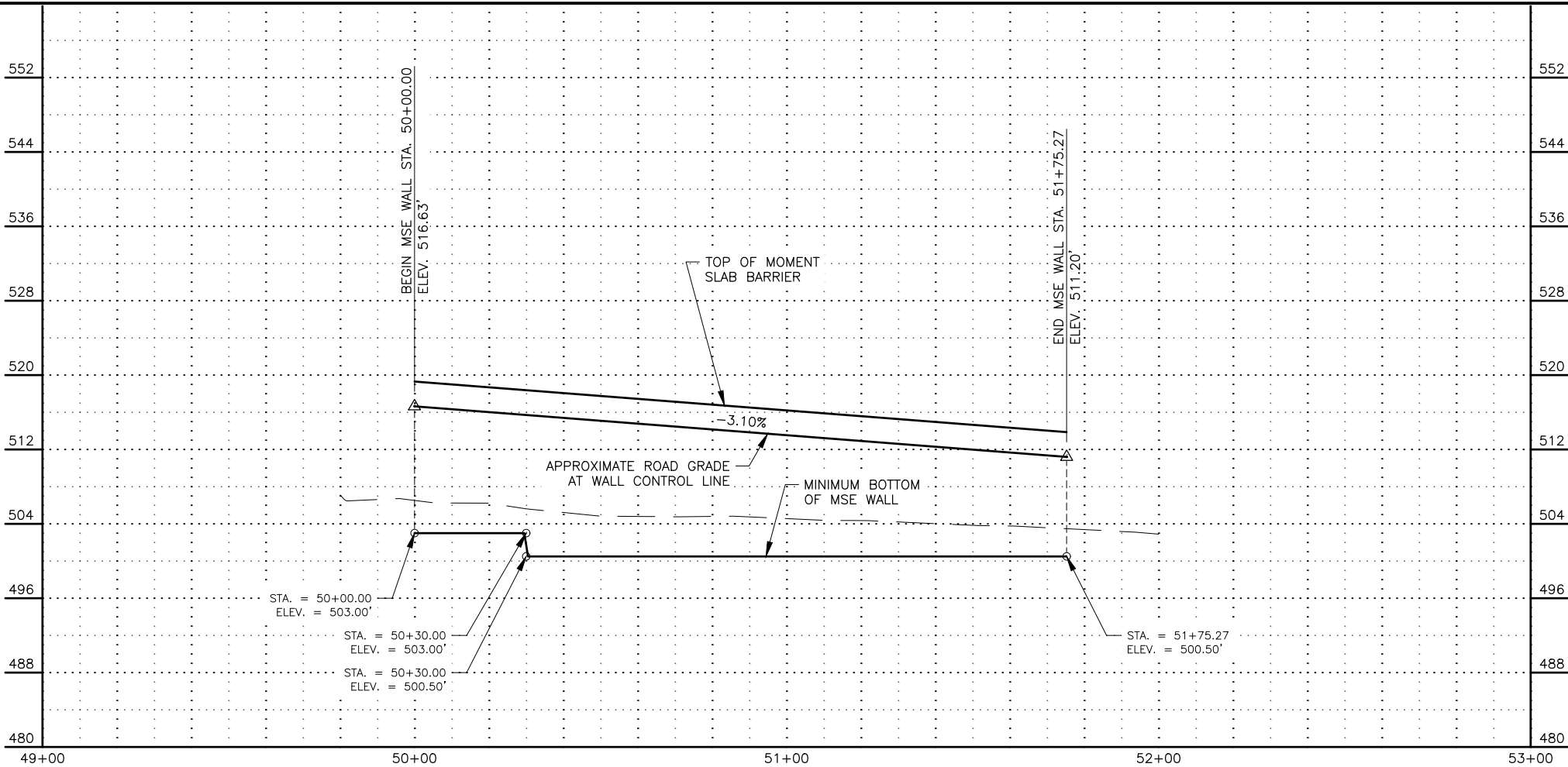
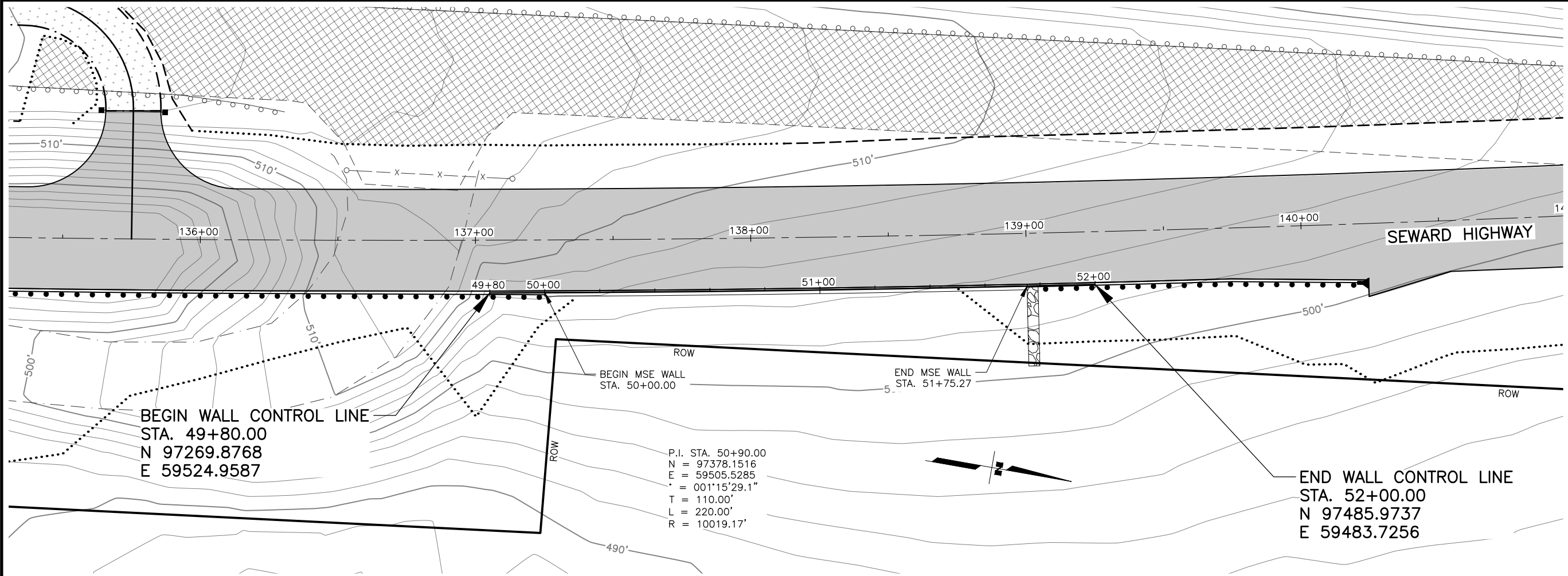
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TIME

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DRAWING LOCATION



SHEET NO.	TOTAL SHEETS
M4	M9
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA

PS&E

JUN '25

PROFESSIONAL ENGINEER

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CERT. OF AUTH. AECC569

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14

RAILROAD CROSSING RECONSTRUCTION

RETAINING WALL

PLAN & PROFILE

24+60 - 30+00

DESIGNED BY
HARTMAN

CHECKED BY
SPATC

DRAFTED BY
HARTMAN

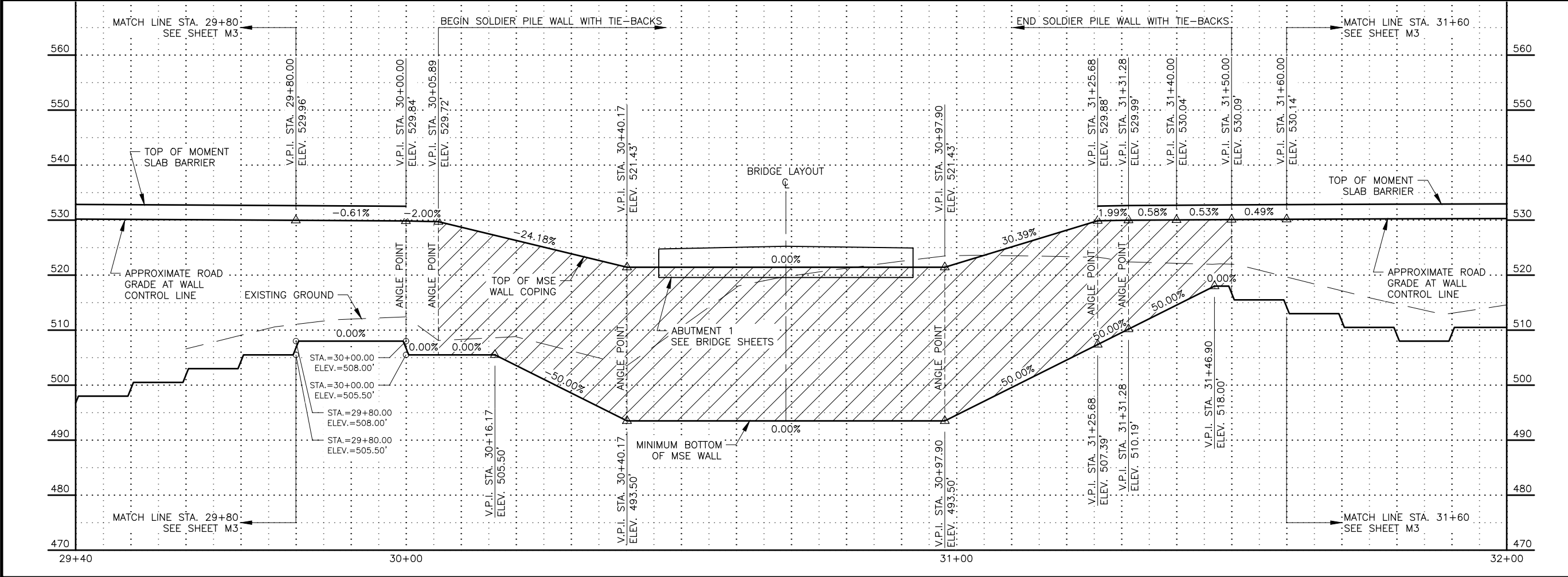
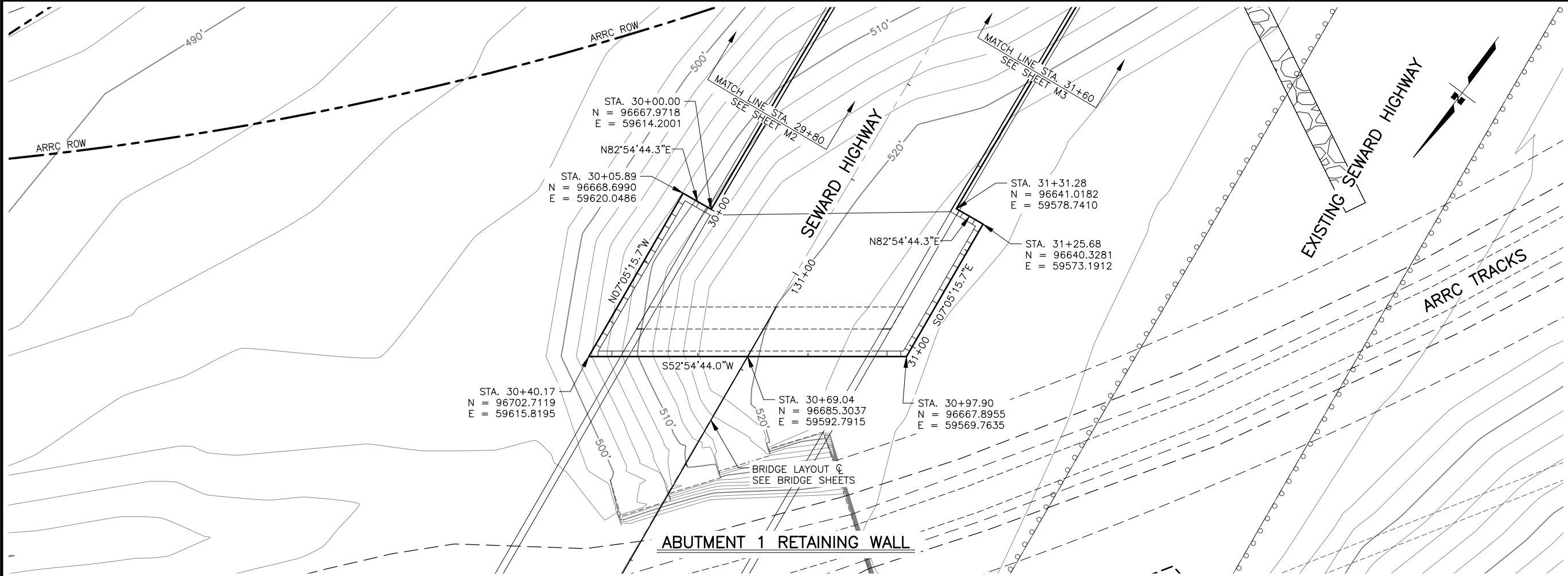
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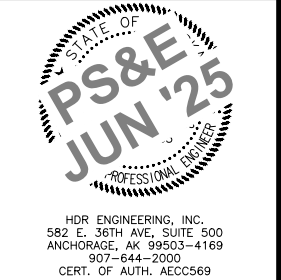
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DRAWING LOCATION



SHEET NO.	TOTAL SHEETS
M5	M9
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
**SEWARD HIGHWAY MP 14
RAILROAD CROSSING
RECONSTRUCTION**
**RETAINING WALL DETAILS
ABUTMENT 1**

DESIGNED BY
HARTMAN

CHECKED BY
SPATC

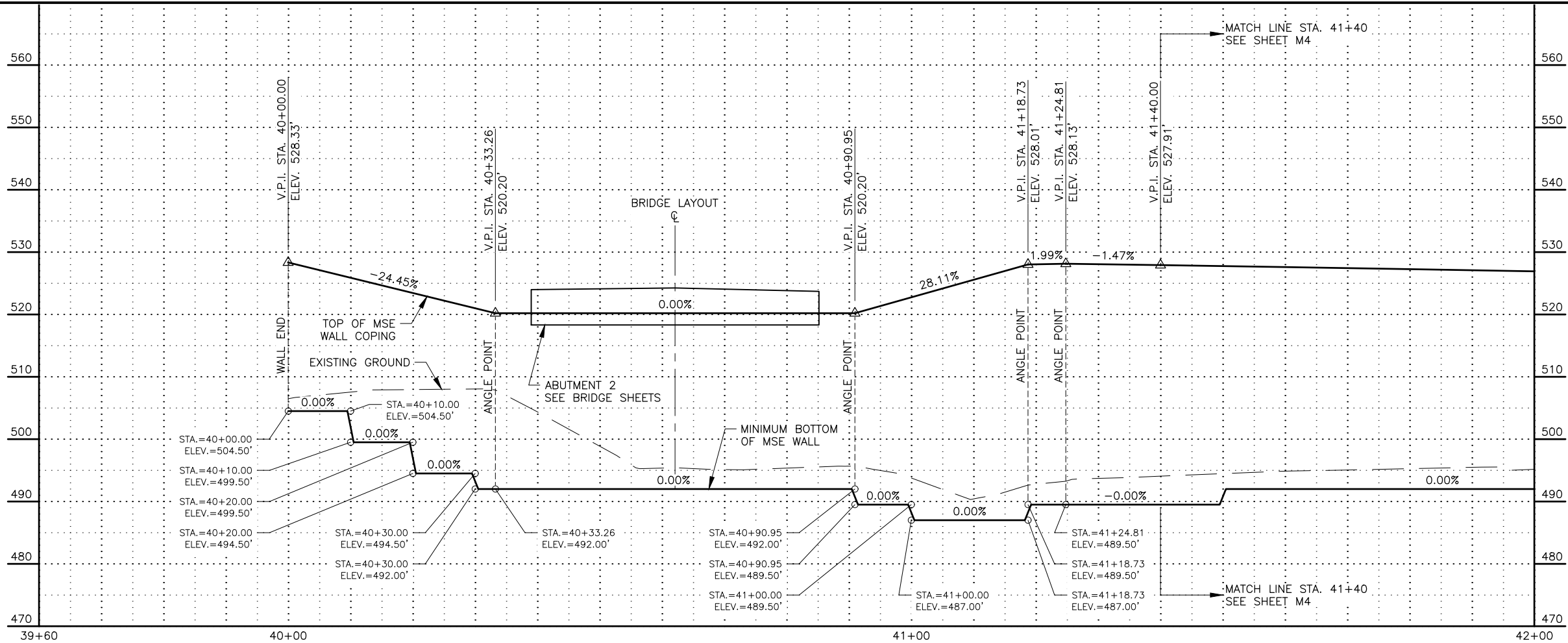
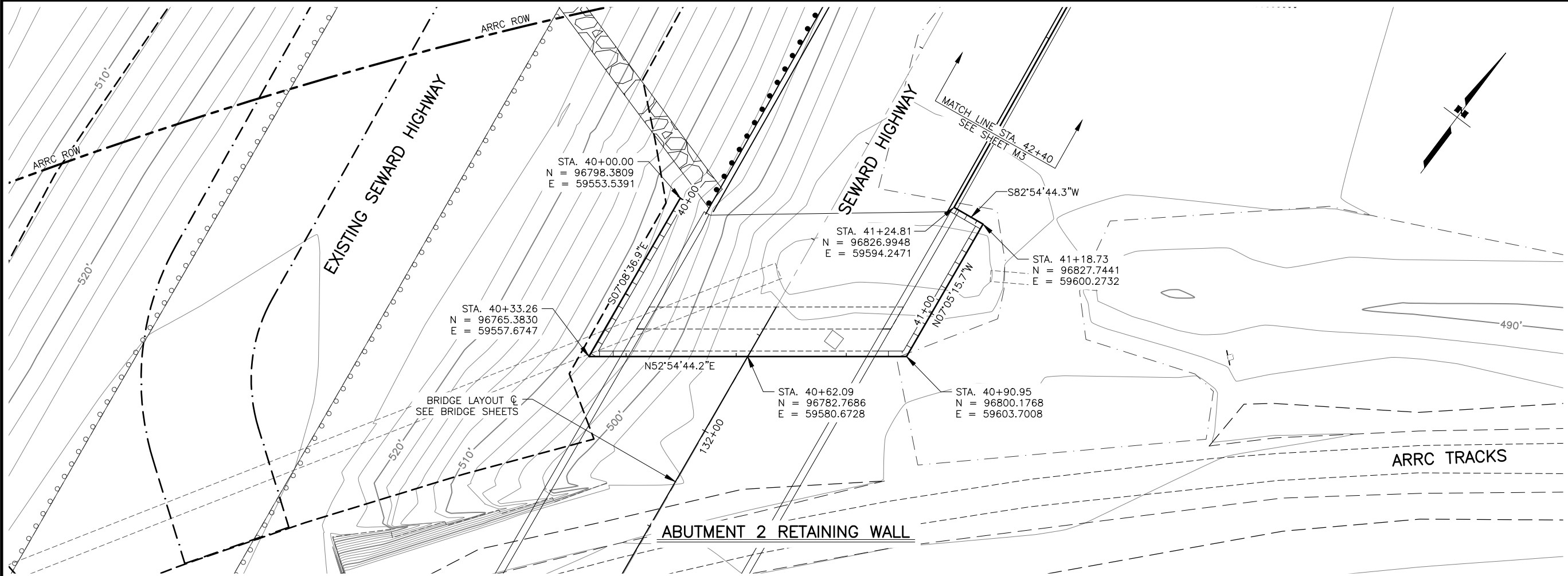
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HARTMAN

SCALE
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DATE
6/6/2025

TIME
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SHEET NO.	TOTAL SHEETS
M6	M9
STATE	YEAR
ALASKA	2025
PROJECT DESIGNATION	
0311037/ CFHWY00947	
NO.	REVISION
DATE	
NO.	REVISION
DATE	
NO.	REVISION
DATE	

STATE OF ALASKA

PS&E

JUN '25

PROFESSIONAL ENGINEER

HDR ENGINEERING, INC.

582 E. 36TH AVE, SUITE 500

ANCHORAGE, AK 99503-4169

907-644-2000

CERT. OF AUTH. AECC569

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SEWARD HIGHWAY MP 14

RAILROAD CROSSING RECONSTRUCTION

RETAINING WALL DETAILS

ABUTMENT 2

File Path: C:\Users\Kaylin.Hampson\Desktop\W3.dwg --- Date: Nov 18, 2021 10:22pm --- Kaylin.Hampson

GENERAL NOTES:

All material and workmanship shall conform to the latest edition of the Standard Specifications for Highway Construction of the Alaska Department of Transportation and Public Facilities and supplemental project special provisions.

Design shall conform to the requirements for Load Resistance Factor Design of the 2017 AASHTO LRFD Bridge design Specifications 8th Edition, with the latest interim specifications.

Peak Ground Acceleration equal to 0.54 (1,000 year return period.) Design Horizontal Ground Acceleration equal to 0.27 (~1/2 of PGA) for seismic lateral earth loads.

Provide a minimum design service life of 75 years for all components.

Retaining wall designed for the following soil Property values:

	Density pcf	Angle of Internal Friction 38°	c psf	Ka
1. MSE Structure Backfill.	125	38°	0	0.22
2. Foundation Fill	125	34°	0	0.28
3. Retained Material	125	34°	0	0.28
4. Seismic Active Earth Pressure Coefficient, K_{AE}	= 0.79			

Load factors:

Apply load factors per AASHTO LRFD Specifications.

Seismic Resistance factors:

Sliding 1.0
Limiting Eccentricity Location of resultant of reaction forces as per section 11.6.3.3 of 2017 AASHTO LRFD Specifications.
Bearing Capacity 0.65

Estimated Total settlement of MSE structure = 1 inch
Estimated Differential settlement = 1/100

WALL	MAX HEIGHT, H (FT)	REQUIRED LENGTH, Le' (FT)	Le/H	EXTERNAL STABILITY			GLOBAL FACTOR OF SAFETY - STATIC ³
				LIMITING ECCENTRICITY SATISFIED?	SLIDING ²	BEARING CAPACITY ²	
W1	26	26	1.0	YES	2.6	3.2	1.8
W2	28	28	1.0	YES	1.5	4.9	1.7

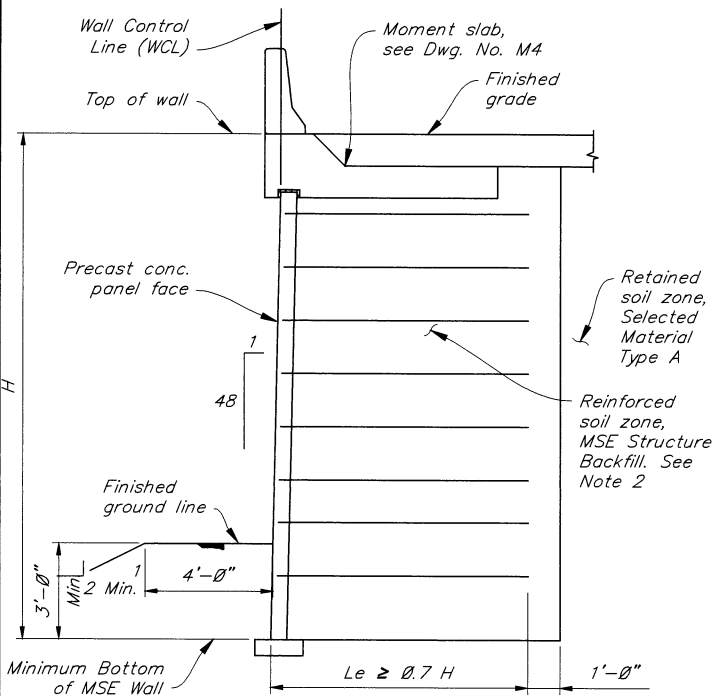
NOTES:

- Minimum strap length is either 0.7*H or 8 feet, whichever is greater
- Minimum Capacity Demand Ratio (CDR) for static external stability is 1.0
- Minimum Factor of Safety for static global stability is 1.5
- Walls W1 & W2 have similar height and subsurface profile.
- Walls W1 & W2 CDR = 1.0 for seismic sliding; FOS=1.3 for seismic global stability

Project Load Conditions 1 - Load Calculations

$$F_1 = \gamma_1 \cdot h_{eq} \cdot K_{A1} (a + b)$$
$$F_2 = \gamma_1 \cdot D \cdot K_{A1} (a + b)$$
$$F_3 = \frac{1}{2} \gamma_1 \cdot (a + b + D)^2 \cdot K_{A1} - \frac{1}{2} \gamma_1 (D)^2 \cdot K_{A1}$$
$$F_4 = \gamma_1 \cdot h_{eq} \cdot K_{A3} \cdot (H - b + 1')$$
$$F_5 = \gamma_1 (a + b) \cdot K_{A3} (H - b + 1')$$
$$F_6 = \frac{1}{2} \gamma_3 \cdot (H - b + 1')^2 \cdot K_{A3}$$
$$P_{AE} = \frac{1}{2} \gamma_3 \cdot (H + h + D)^2 \cdot K_{AE}$$

The MSE wall designer shall include a perforated drainage pipe system at the wall toe behind the facing at the approximate final grade elevation to prevent potential buildup of hydrostatic forces behind the wall facing. Minimum pipe slope shall be 0.5 percent. The drainage pipe system shall discharge at intervals into the frontage road ditch. Wall drainage piping design is subject to Engineer review and approval.

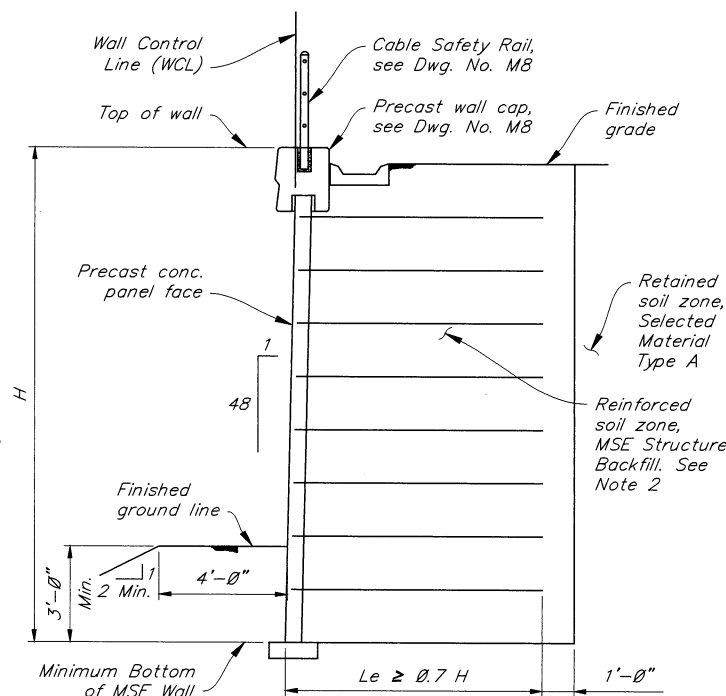


Notes:

- Le shown on these contract plans is based on the overall stability requirements of the material and conditions surrounding the reinforced soil zone. An Le greater than shown may be required to satisfy external and internal stability requirements.
- MSE Structure Backfill in accordance with Section 511 of the specifications is included in Pay Item No. 205.0006.0000.

TYPICAL SECTION MSE WALL WITH MOMENT SLAB

No Scale

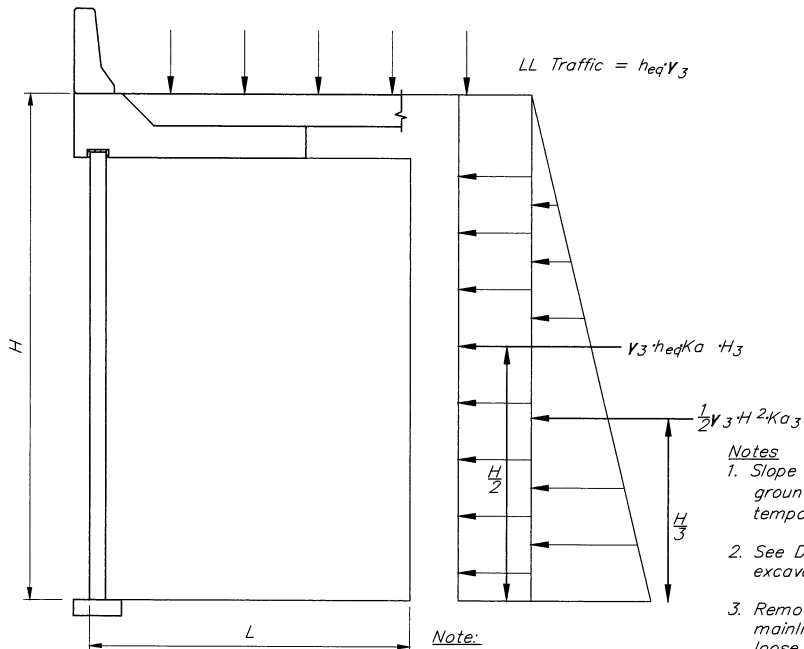


Notes:

- Le shown on these contract plans is based on the overall stability requirements of the material and conditions surrounding the reinforced soil zone. An Le greater than shown may be required to satisfy external and internal stability requirements.
- MSE Structure Backfill in accordance with Section 511 of the specifications is included in Pay Item No. 205.0006.0000.

TYPICAL SECTION MSE WALL WITH WALL COPING

No Scale

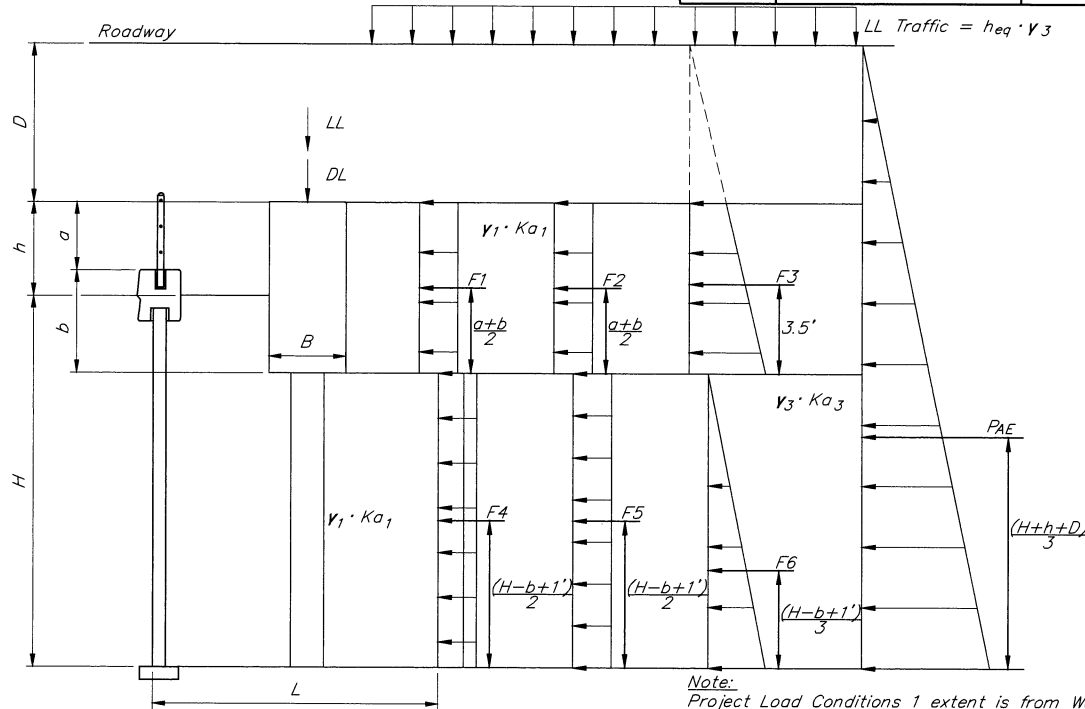


Note:

heq varies for Project Load Condition 2 walls. See AASHTO Table 3.11.6.4-2.

PROJECT LOAD CONDITIONS 2

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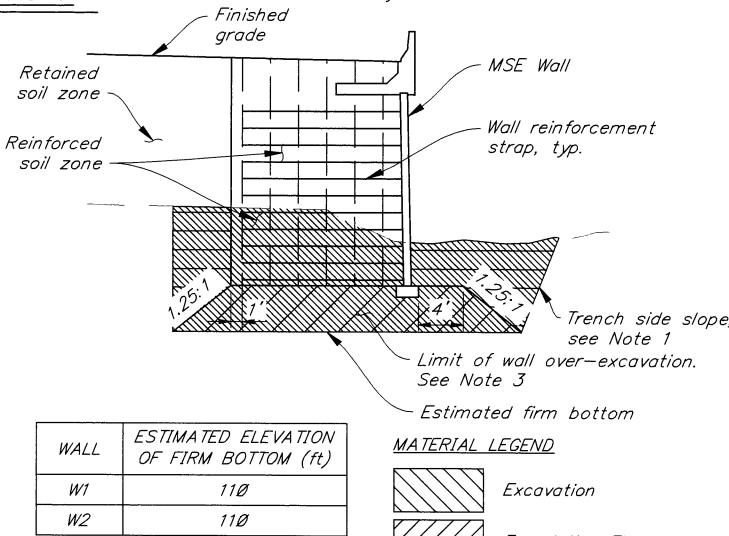


PROJECT LOAD CONDITIONS 1

No Scale

Note:

Project Load Conditions 1 extent is from West Dowling Rd wall face to 6' behind bridge footing, then transition to Project Load Conditions 2.



WALL	ESTIMATED ELEVATION OF FIRM BOTTOM (ft)
W1	110
W2	110

MATERIAL LEGEND

	Excavation
	Foundation Fill
	Selected Material Type A
	MSE Structure Backfill

Notes

- Slope excavation as required for stability and shore excavation as required to contain ground surface disturbance within the ROW, temporary construction permits (TCP), temporary construction easements (TCE) and permitted wetland impacts.
- See Dwg. No B1 Typical Sections for pavement structural section and common excavation limits.
- Remove all unsuitable material within the zone shown. Peaty material under the existing mainline embankment was removed during construction of the original roadway, but loose or other unsuitable material may exist in the zone shown. Consult the engineer if material in excavation is found to be suitable. An estimated depth of 110 ft was used to obtain the 203.004.0000 Muck Excavation quantity. Obtain the approval of the engineer before placing material into the excavation.

TYPICAL SECTION WALL OVEREXCAVATION

No Scale

DESIGNED BY:	CHECKED:
DRAWN BY:	CHECKED:
QUANTITIES BY:	CHECKED:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION

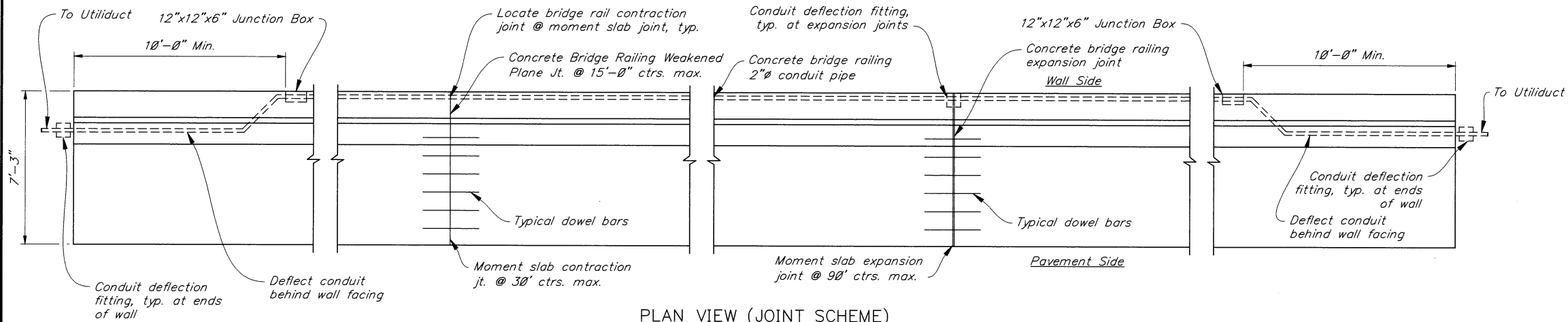
RETAINING WALLS
SEWARD HIGHWAY
MSE WALL DETAILS



BRIDGE NO. 1970
DWG. NO. ##

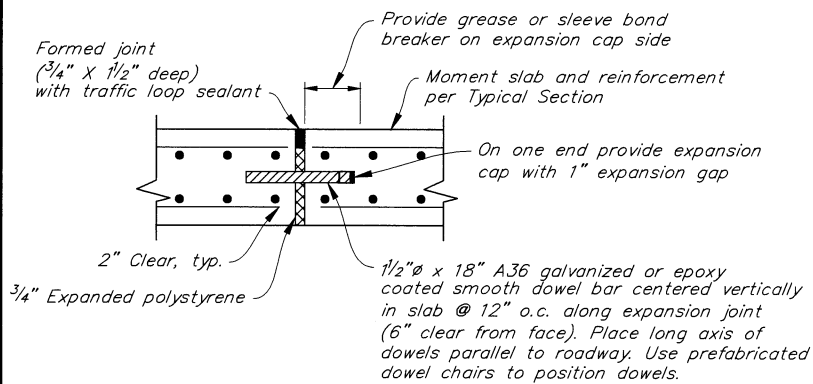
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0311037 / CFHWY00947	2025	M8	M9



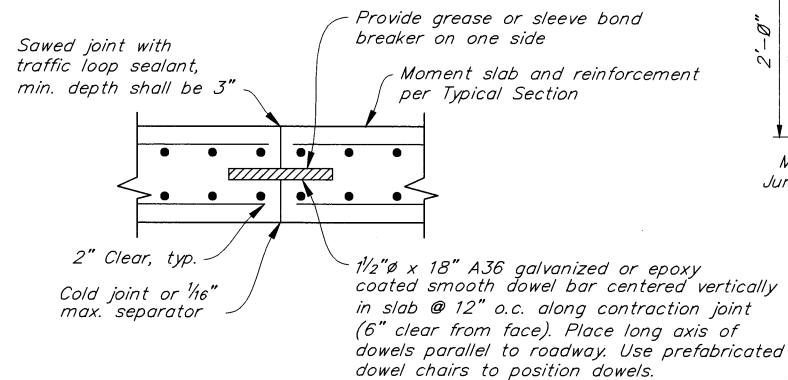
PLAN VIEW (JOINT SCHEME)

No Scale



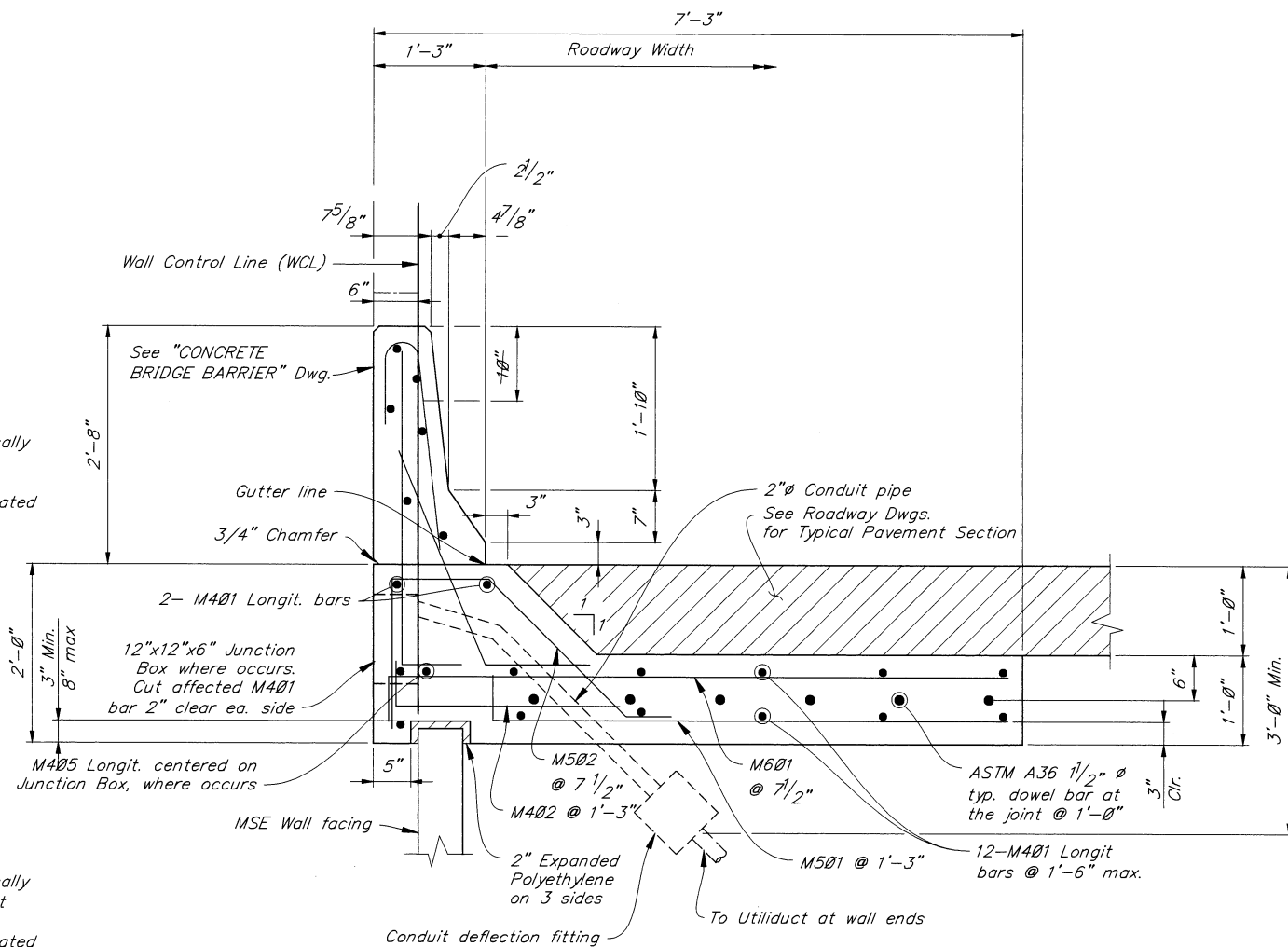
EXPANSION JOINT DETAIL

No Scale



CONTRACTION JOINT DETAIL

No Scale



TYPICAL SECTION



Note:
Place (2) M502 and (2) M601 bars each side of Junction Box. Place barrier bar J401 & M402 to avoid conflict with Junction Box.

REINFORCING STEEL							
MARK	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM		
a,b M401	4	14	29'-8"	-		6'-11"	M601
a,b M402	4	28	3'-0"	Bent			
a,b M403	4	8	4'-0"	-			
a,b M404	4	8	8'-0"	-			
a,c M405	4	1	5'-0"	-			
a,b M501	5	24	6'-3"	Bent		2'-6"	M402
a,b M502	5	48	5'-6"	Bent			
a,b M503	5	49	Varies	Bent			
a,b M504	5	21	Varies	Bent			
a,b M505	5	5	29'-8"	-			
a,b M506	5	3	4'-3"	Bent		3'-3"	M504
a,b M601	6	48	7'-5"	Bent			

a - Epoxy coat all reinforcing steel.
b - Reinforcing steel quantities are per each 30'-0" length between contraction joints or between contraction joint and expansion joint.
c - Quantity for M405 bar shown for a single junction box location.

DESIGN NOTES:

Design Standard: AASHTO - LRFD Bridge Design Specifications, 8th Edition.
Design Load: TL-4

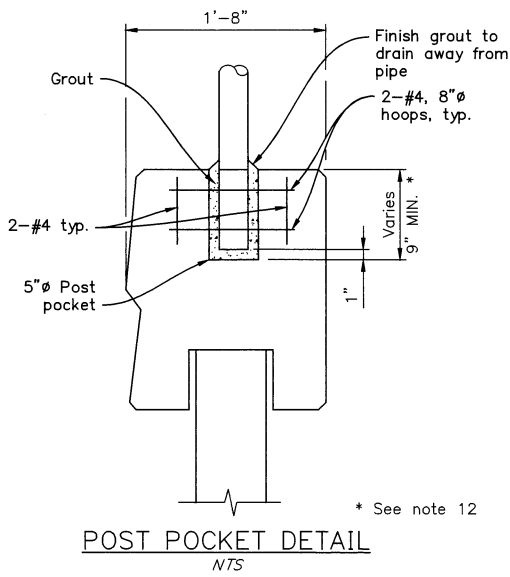
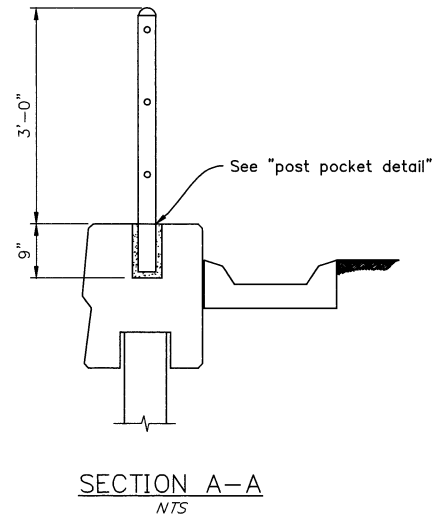
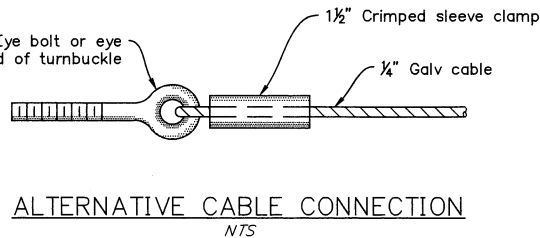
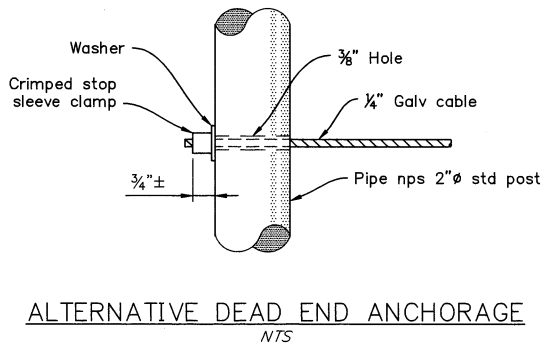
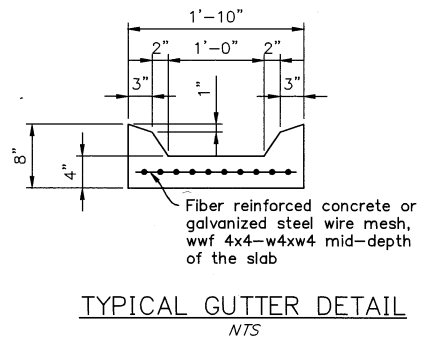
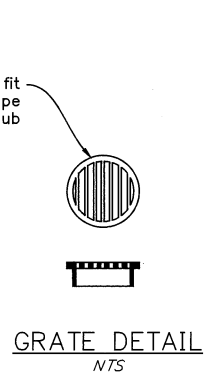
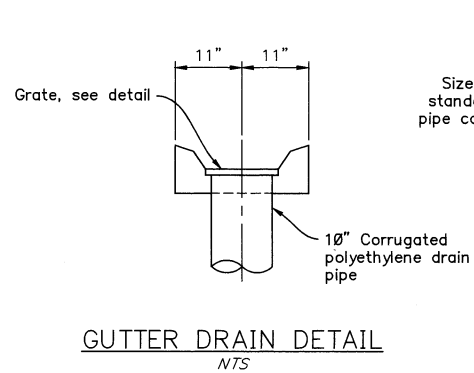
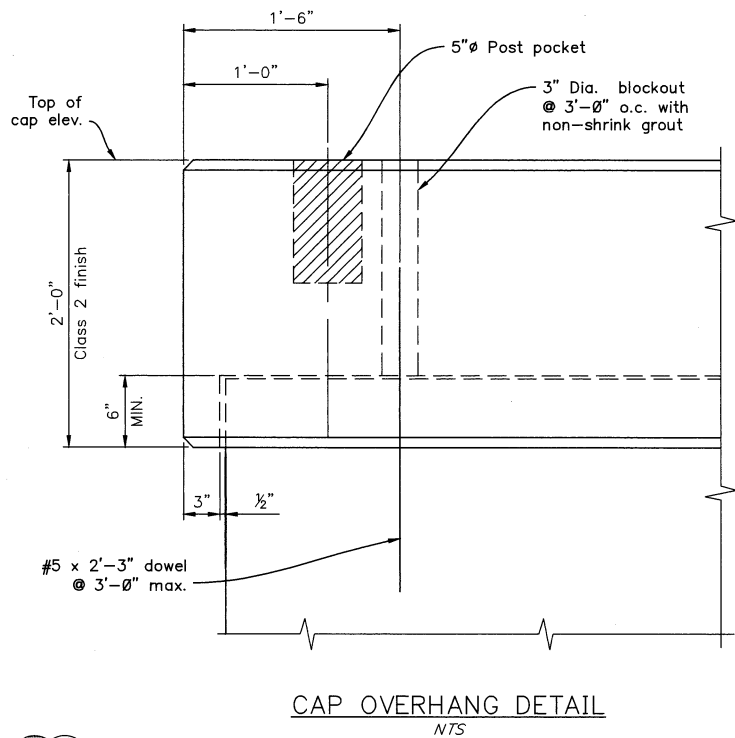
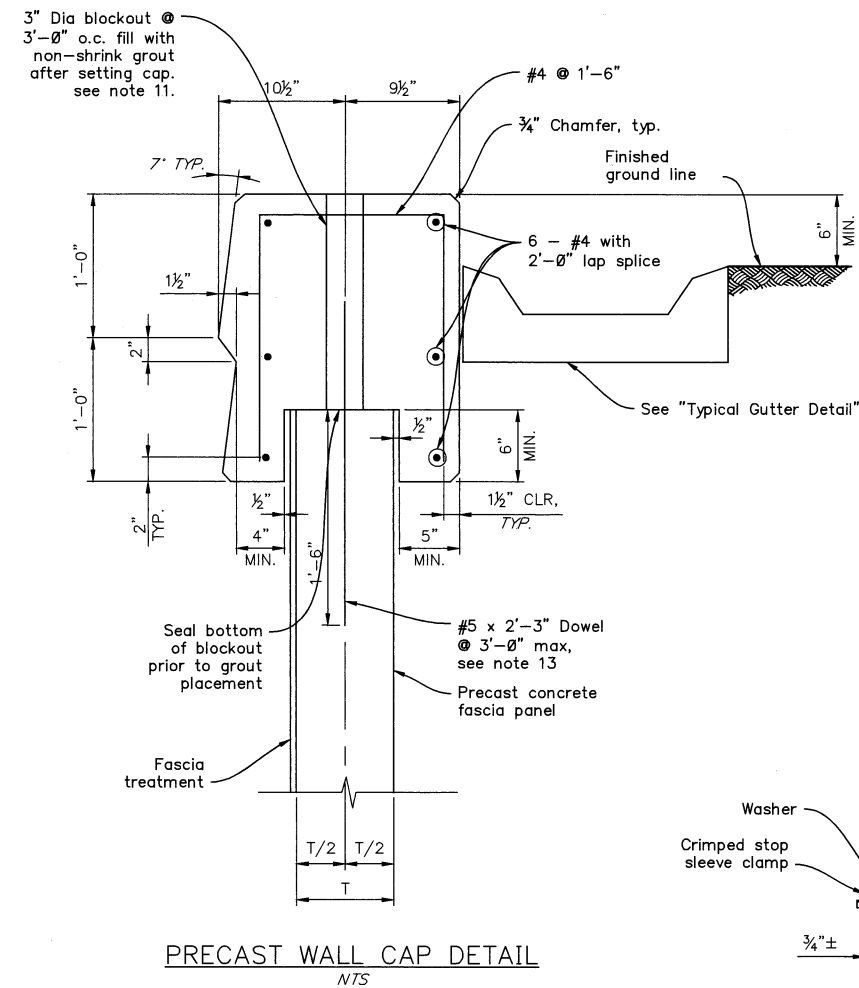
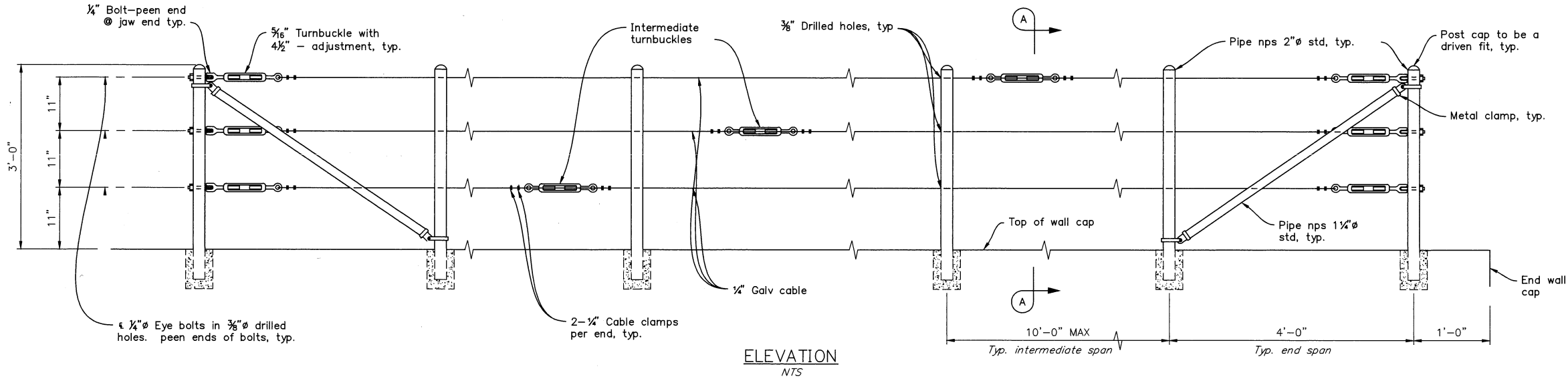
NOTES:

- Construct the moment slab level transversely and expansion joints plumb; not construct the junction slab or C-I-P coping perpendicular to the roadway surface. Slip forming of Coping and/or junction slab is not permitted.
- Provide Class A concrete unless otherwise noted, $f'_c = 4,000$ psi, conforming to Section 501 of the Specifications.
- Provide reinforcing steel conforming to ASTM A706 or AASHTO M31 Grade 60, $f_y = 60,000$ psi, conforming to Section 503 of the Specifications.
- Provide minimum 2" concrete cover, unless shown otherwise.
- Dowel Load Transfer Devices will be ASTM A36 smooth round bar and hot-dip galvanized.
- Construct 3/4" Expansion Joints in junction slabs and C-I-P coping plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. Provide 3"x3" Mortar plugs in open joints at the of traffic railings to contain runoff.
- Provide and install Preformed Expansion Joint Filler, conforming to Section 516 of the Specifications.
- Shoulder or Roadway Pavement is required on top of the junction slab for its entire length on the traffic side of the Traffic Railing. See Typical Sections on Sheet for details.
- Spacing shown is along the Gutter Line.
- On MSE Walls provide, #4 Dowel Bars and extend to 7" above the top of retaining wall panel. Field cut as necessary to maintain 2" minimum cover to the top of the buildup concrete.

DESIGNED BY:	CHECKED:	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION	RETAINING WALLS SEWARD HIGHWAY MOMENT SLAB DETAILS	 BRIDGE NO. 1970 DWG. NO. ##
DRAWN BY:	CHECKED:			
QUANTITIES BY:	CHECKED:			

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0311037 / CFHWY00947	2025	M9	M9

- NOTES:
- Intermediate turnbuckles to be placed in adjacent spans.
 - Do not splice cable between intermediate turnbuckles and end posts.
 - All posts, cable and hardware to be galvanized steel conforming to AASHTO M181.
 - Posts to be plumb.
 - Alignment of holes in posts may vary to conform to slope of top of retaining wall.
 - Verify all controlling dimensions in the field before ordering or fabricating any material.
 - Brace posts with diagonal braces at each end, each change in direction and at each change in slope.
 - Post pockets to be centered in top of wall cap.
 - Provide thimbles at all cable loops.
 - Do not place post directly beneath girder bottom flanges.
 - Space 3"Ø block outs to avoid post pockets.
 - In locations where top of wall cap is not level, angle post pocket in the wall cap so that post can be installed plumb.
 - Place dowels to avoid reinforcement in wall panels.
 - Tighten turnbuckle to remove slack from cable.
 - Safety rail does not serve as fall prevention.



DESIGNED BY:	CHECKED:
DRAWN BY:	CHECKED:
QUANTITIES BY:	CHECKED:

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION

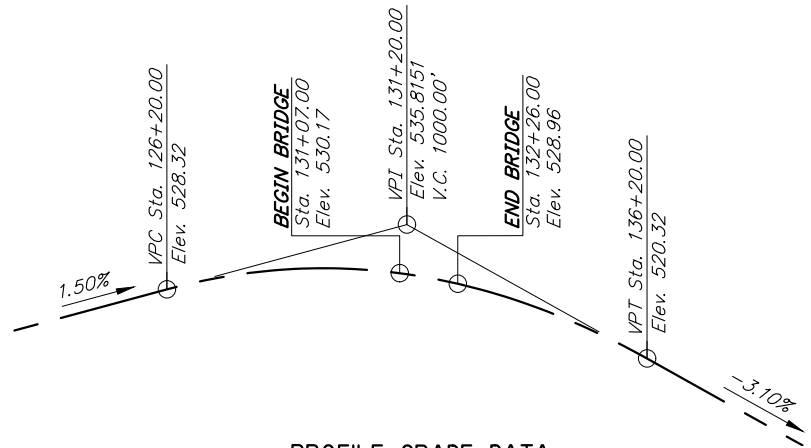
RETAINING WALLS
SEWARD HIGHWAY
WALL CAP AND SAFETY RAIL DETAILS



BRIDGE NO. 1970
DWG. NO.

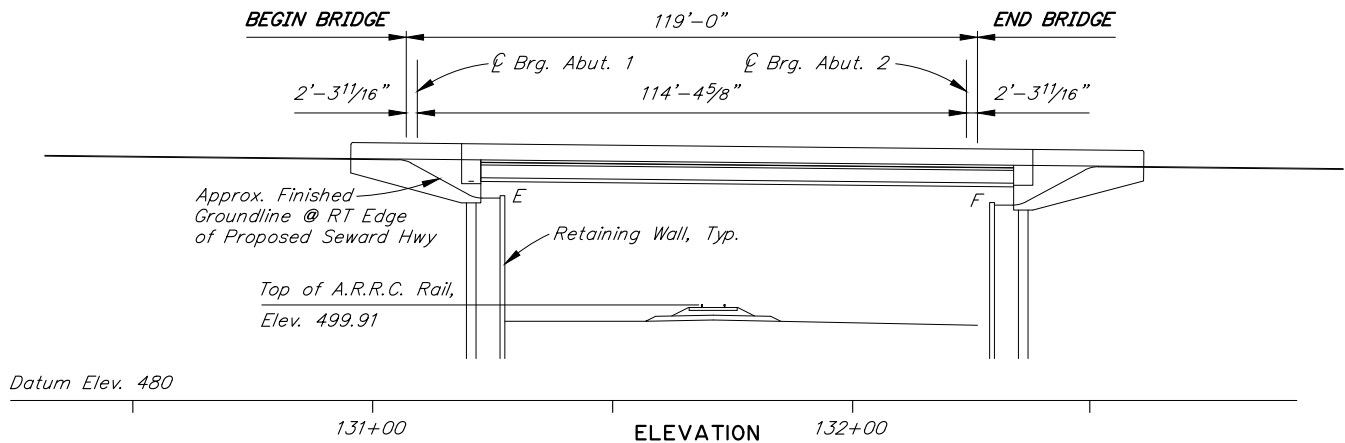
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	NI	NT11Sh1

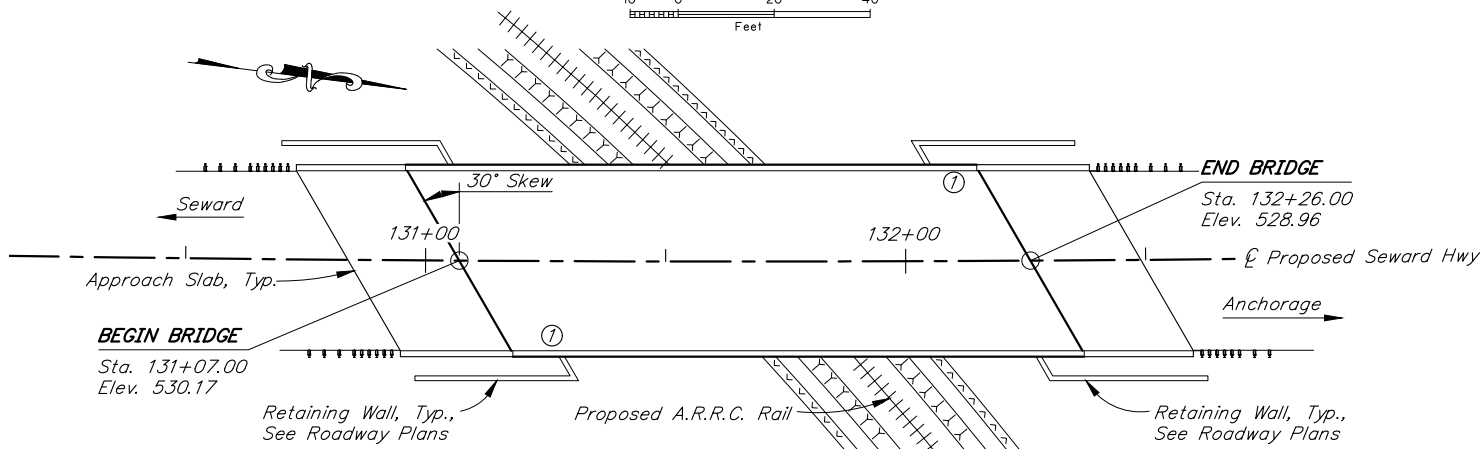
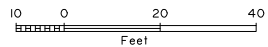


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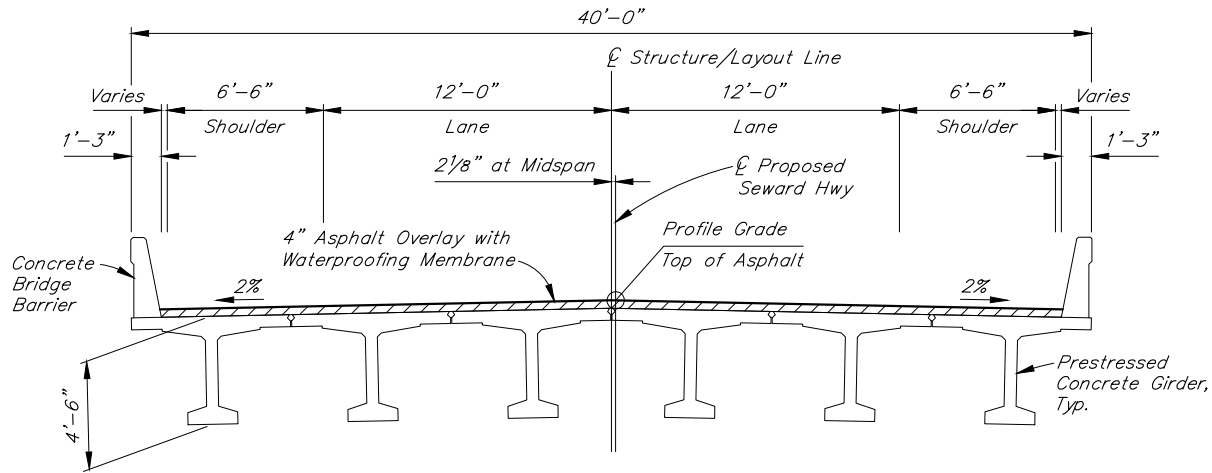
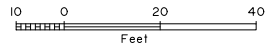
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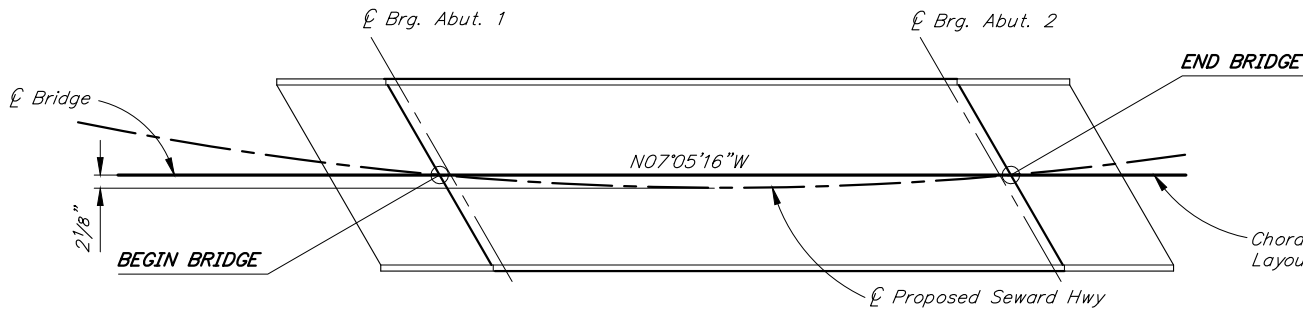
ELEVATION



PLAN



TYPICAL SECTION



LAYOUT LINE

No Scale

PROPOSED SEWARD HIGHWAY
CURVE DATA

PI Sta.	=	131+28.46
N	=	96,698.7530
E	=	59,696.0849
Δ	=	16°27'49"
R	=	10,000.0000
T	=	1,446.6853'
L	=	2,873.4353'
e	=	Normal Crown

BRIDGE DRAWING INDEX

TITLE	DWG. NO.
GENERAL LAYOUT	1
SITE PLAN	2
ABUTMENT 1	3
ABUTMENT 2	4
ABUTMENT DETAILS	5
WINGWALLS	6
TYPICAL SECTION & FRAMING PLAN	7
GIRDERS	8
GIRDER DETAILS	9
APPROACH SLABS	10
CONCRETE BRIDGE BARRIER	11
TRANSITION RAIL	12
TEST HOLE & PENETROMETER LOCATIONS	13

NOTES:

① Denotes location of bridge number plate.

⊙ = Point of Minimum Vertical Clearance

DESIGNED BY:	Designer	CHECKED:	Checker	LAYOUT BY:	Designer	CHECKED BY:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer	SPECIFICATIONS BY:	Designer	P S & E COMPARED:	Checker
QUANTITIES BY:	Designer	CHECKED:	Checker	APPROVAL RECOMMENDED BY:	Leslie Daugherty		

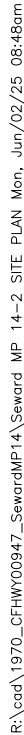
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
GENERAL LAYOUT



BRIDGE NO. 1970

DWG. NO. 1



GENERAL NOTES

Seismic design per AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2023 with latest interim revisions.

Seismic Design Category = D
 Site Class = D
 Liquefaction Potential = High
 AASHTO Risk—Targeted Ground Motions, 1.5% targeted risk in 75 years. Selected acceleration coefficients shown below:

SITE ADJUSTED SPECTRAL ACCELERATION COEFFICIENTS (S_a)

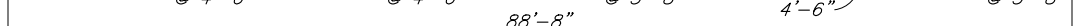
ASTM A706, Grade 60, $F_y = 60,000$ psi

See "GIRDERS" Dwg.

Class A Concrete unless otherwise noted, $f'_c = 4000$ psi

ASTM A709, Grade 36T3, $F_y = 36,000$ psi

API 5L X52 PSL2, $F_y = 52,000$ psi. or
ASTM A700, CR60T3, $F_y = 50,000$ psi.



OWNER-SPECIFIED SPECIAL DESIGN VEHICLE

PILE DATA TABLE

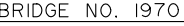
BRIDGE BASIS OF ESTIMATE

Item numbers are for reference only. Quantities shown are not necessarily the pay quantities nor the total quantity of the particular item.

DESIGNED BY:	Designer	CHECKED:	Checker	FOUNDATIONS REVIEWED BY:	Dave Hemstreet
DRAWN BY:	Drafter	CHECKED:	Designer		
QUANTITIES BY:	Designer	CHECKED:	Checker		

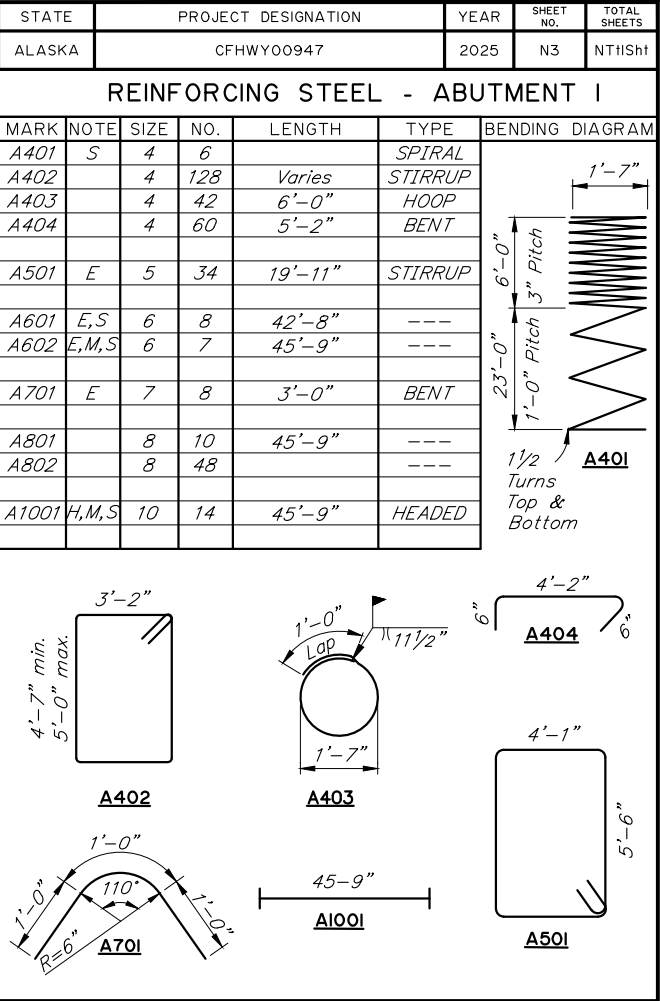
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
SITE PLAN

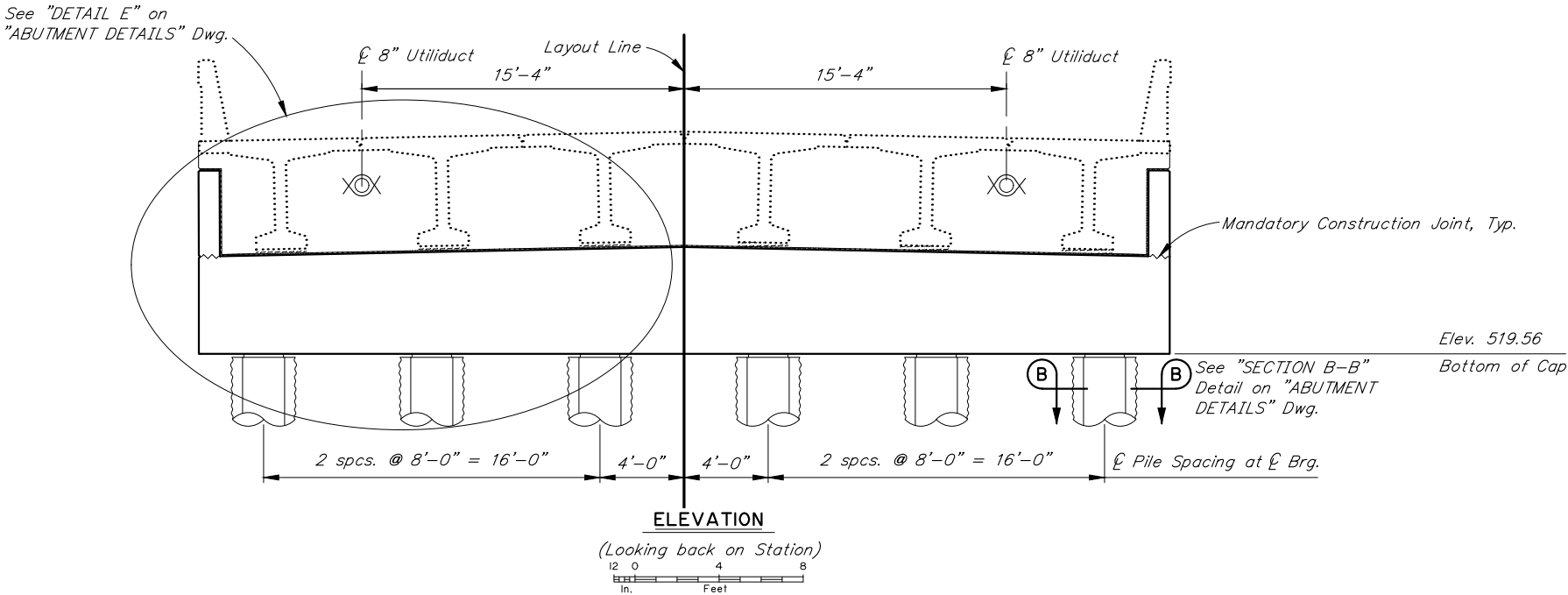
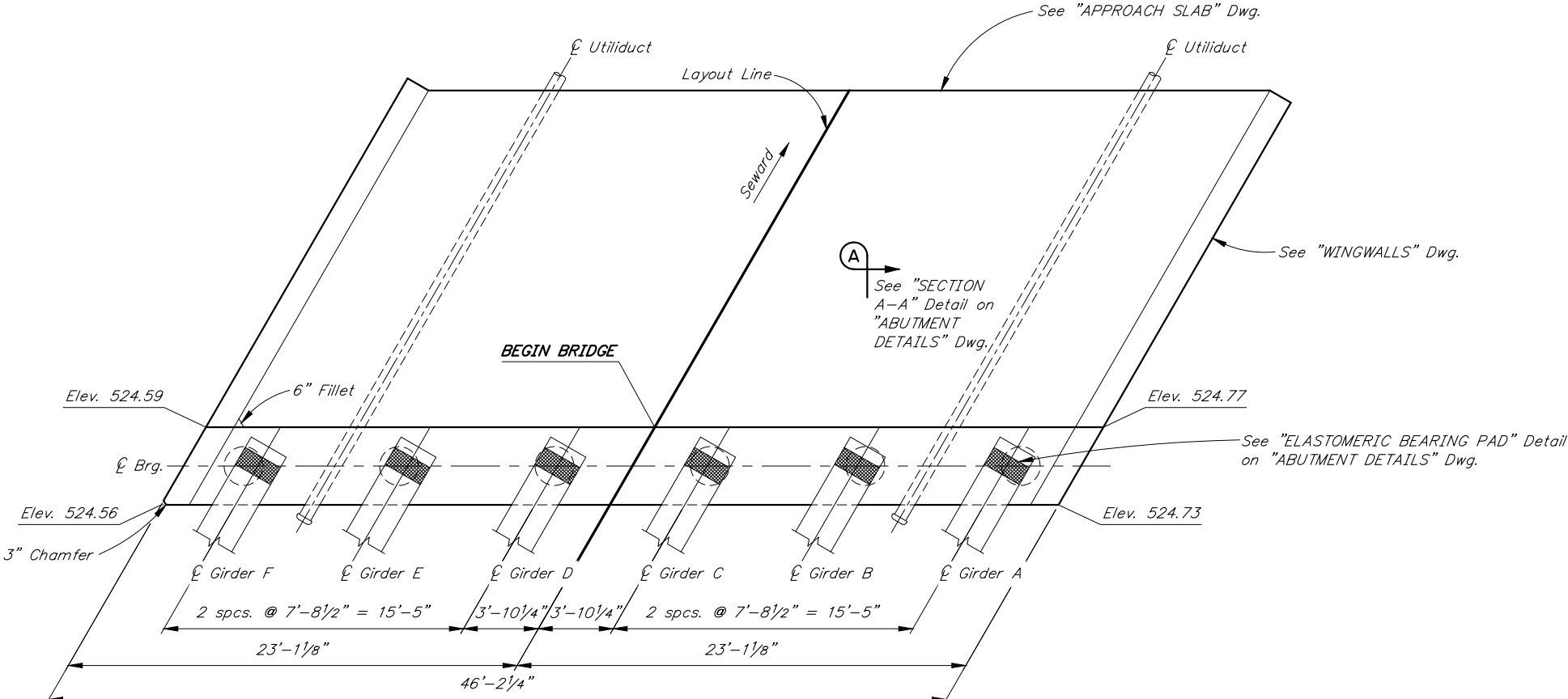


DWG. NO. 2

R:\cad\1970_CFWY00947_SewardMP14_SewardMP14-3 ABUTMENT 1 Mon, Jun/02/25 08:46am



E - Epoxy-Coated
H - Headed reinforcing steel
M - Field adjust to match cross slope
S - Splice permitted. Splice length not included



DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
ABUTMENT 1



BRIDGE NO. 1970
DWG. NO. 3

R:\cad\1970_CFWY00947_SewardMP14_SewardMP14-4 ABUTMENT 2 Mon, Jun/02/25 08:46am

STATE

PROJECT DESIGNATION

YEAR

SHEET NO.

TOTAL SHEETS

ALASKA

CFHWY00947

2025

N4

NTHSH1

REINFORCING STEEL - ABUTMENT 2

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
A401	S	4	6		SPIRAL	
A402		4	128	Varies	STIRRUP	
A403		4	42	6'-0"	HOOP	
A404		4	60	5'-2"	BENT	
A501	E	5	34	19'-11"	STIRRUP	
A601	E,S	6	8	42'-8"	---	
A602	E,M,S	6	7	45'-9"	---	
A603	E	6	20	8'-0"	---	
A701	E	7	8	3'-0"	BENT	
A801		8	10	45'-9"	---	
A802		8	48		---	
A1001	H,M,S	10	14	45'-9"	HEADED	

3'-2"

4'-7" min.
5'-0" max.

A402

1'-0"

1'-7"

A403

4'-2"

6"

A404

1'-0"

110°

R=6"

A701

45'-9"

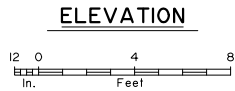
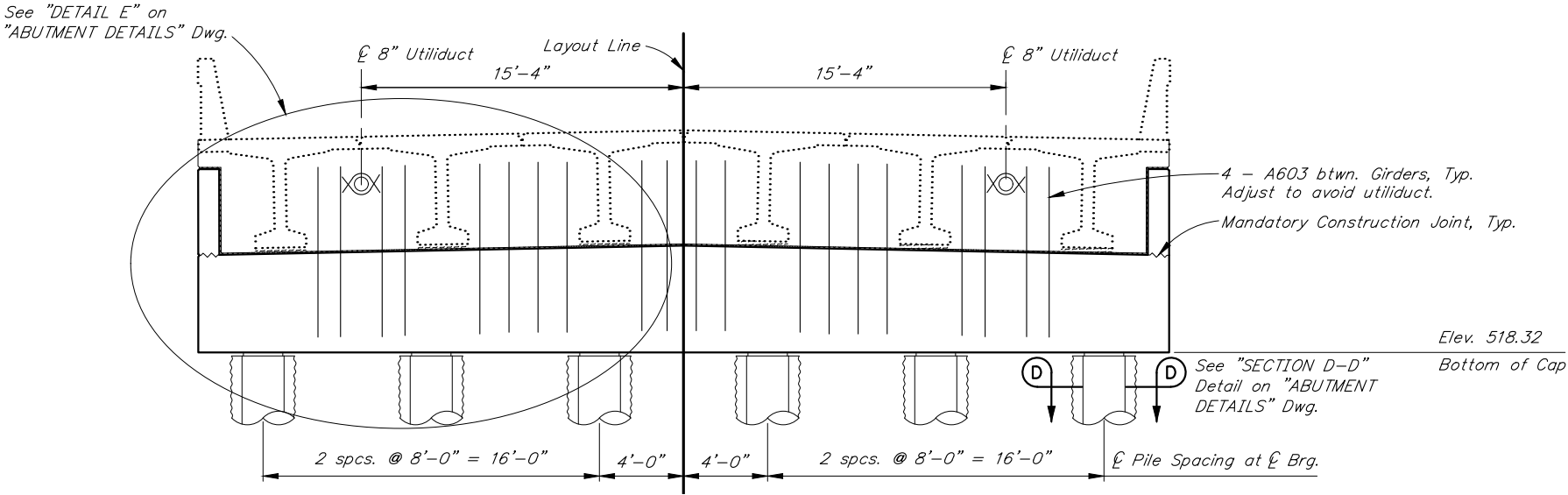
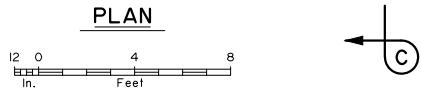
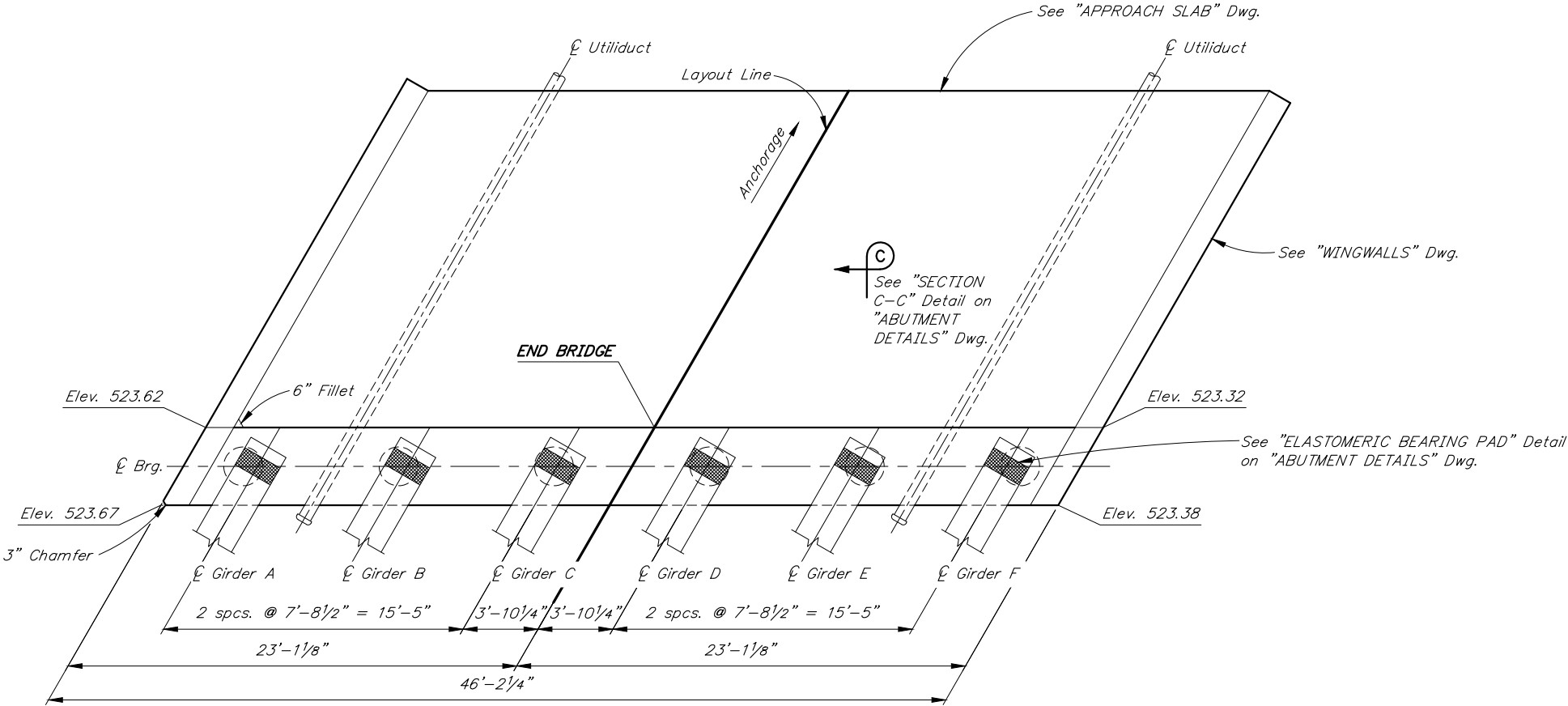
A1001

4'-1"

5'-6"

A501

E - Epoxy-Coated
H - Headed reinforcing steel
M - Field adjust to match cross slope
S - Splice permitted. Splice length not included



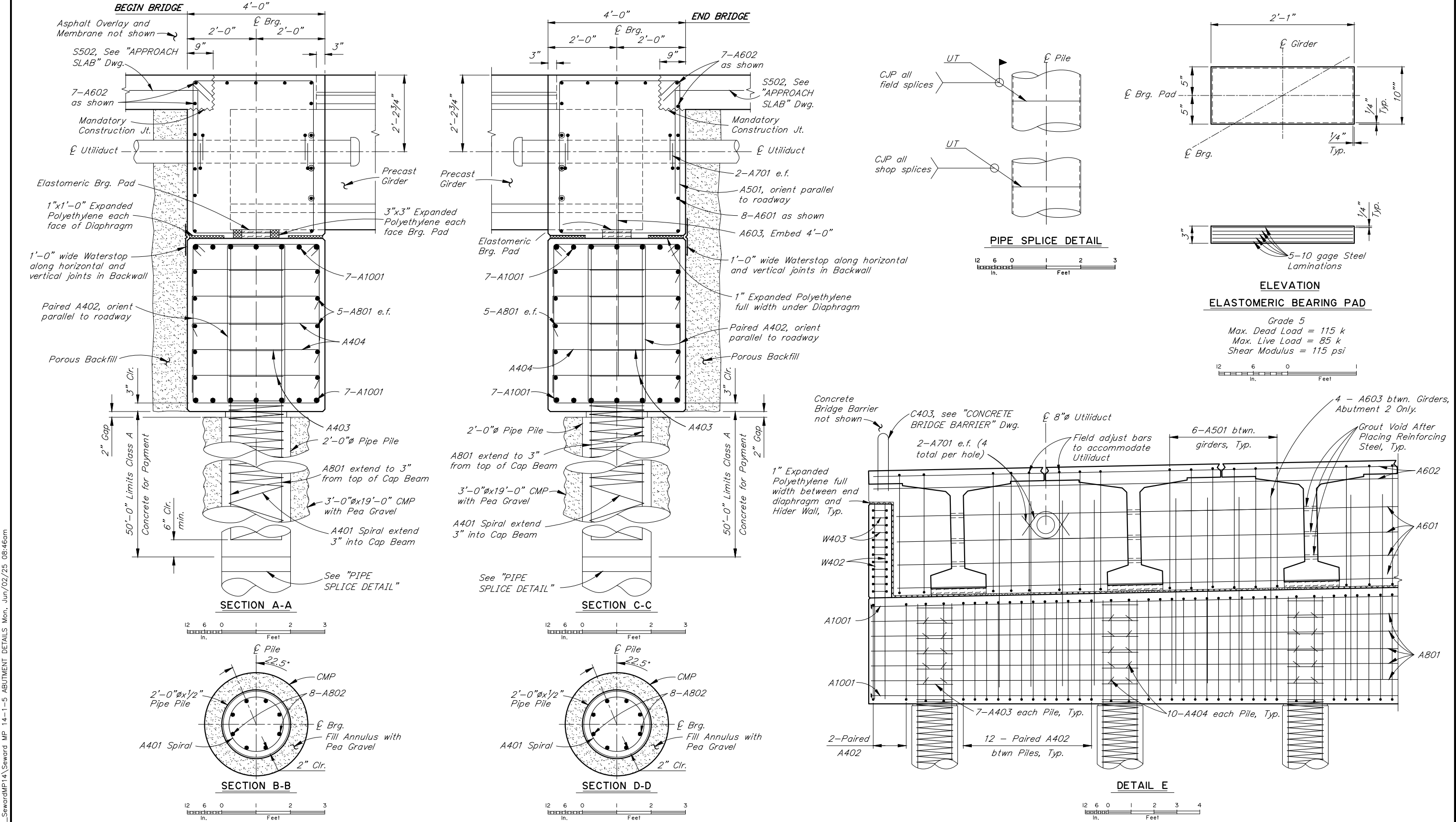
DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
ABUTMENT 2

BRIDGE NO. 1970
DWG. NO. 4

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	N5	NT15H1



DESIGNED BY: Designer	CHECKED: Checker	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	SEWARD HWY MP 14 RAILROAD OVERHEAD SEWARD HIGHWAY ABUTMENT DETAILS	 BRIDGE NO. 1970 DWG. NO. 5
DRAWN BY: Drafter	CHECKED: Designer			
QUANTITIES BY: Designer	CHECKED: Checker			

R:\cad\1970_CFWY00947_SewardMP14_Seward MP 14-1-6 WINGWALLS Mon. Jun/02/25 08:46am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	N6	NTHSHt

REINFORCING STEEL - ONE ABUTMENT						
MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
W401		4	84	Varies	---	
W402		4	16	Varies	---	
W403		4	24	11'-1"	STIRRUP	
W501		5	25	Varies	---	
W901		9	4	Varies	BENT	
W902		9	25	Varies	---	
W903		9	4	Varies	BENT	

4'-2"

60°

1'-10"

W403

18'-9" Min.

20'-0" Max.

W903

5'-0" Min.

25'-0" Max.

W501, W902

20'-3" Min.

21'-9" Max.

160°

4'-4"

W901

2'-7" Min.

9'-10" Max.

W401

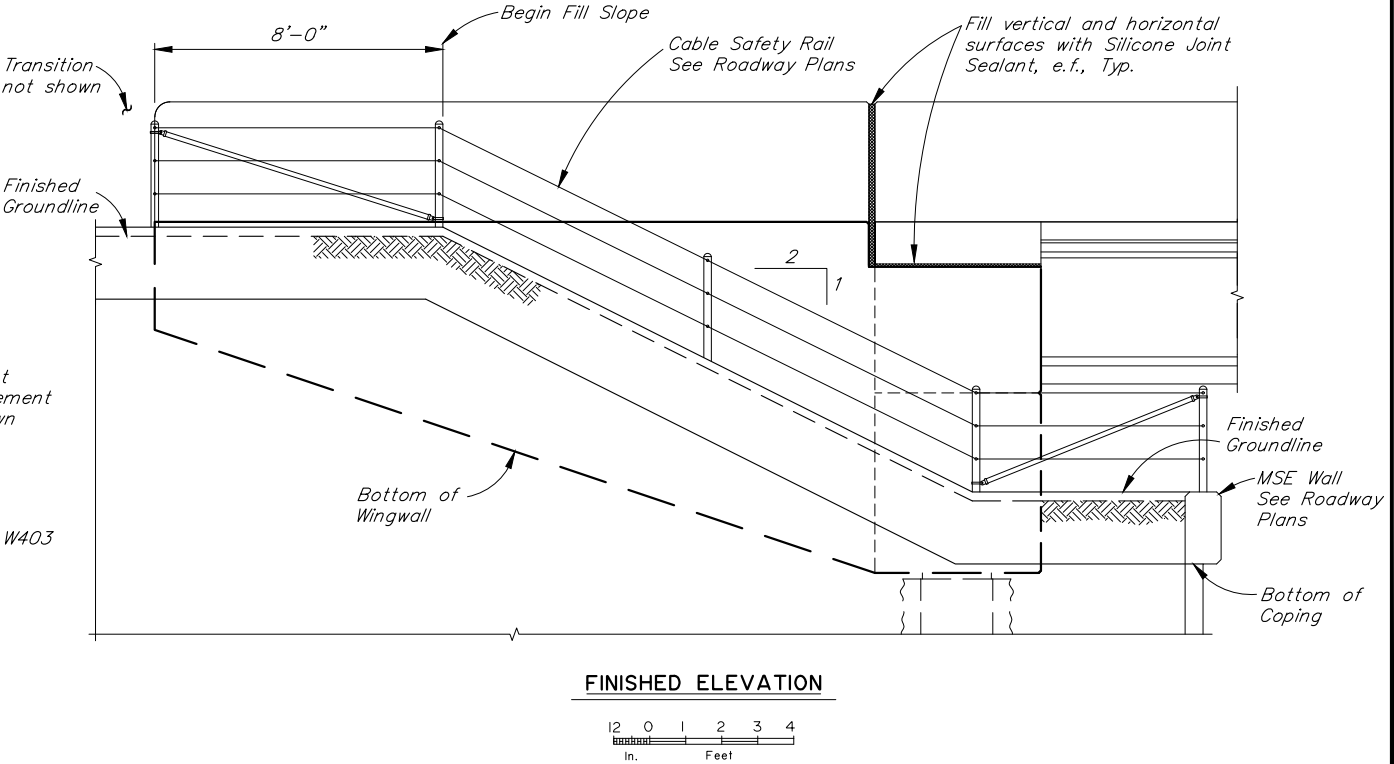
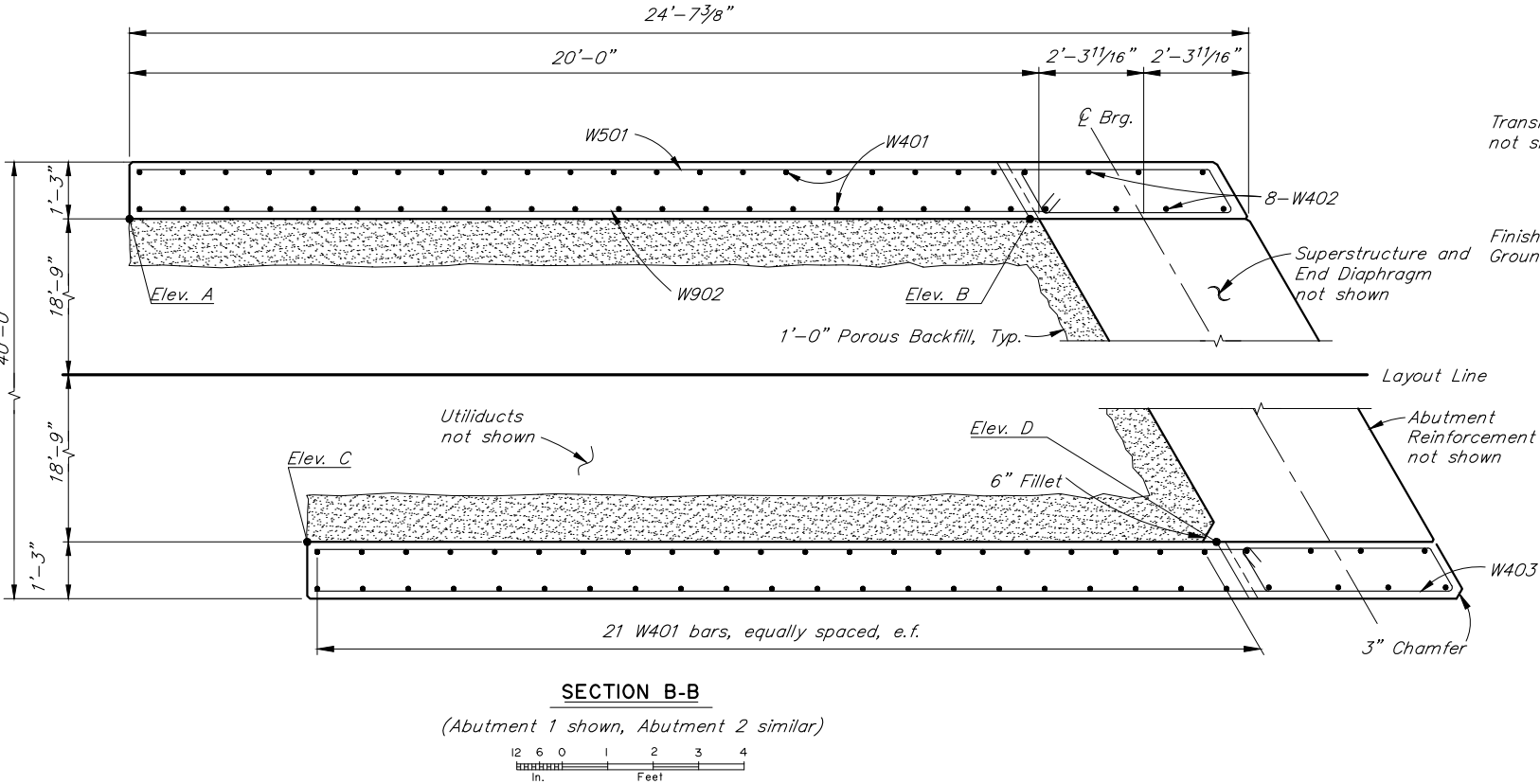
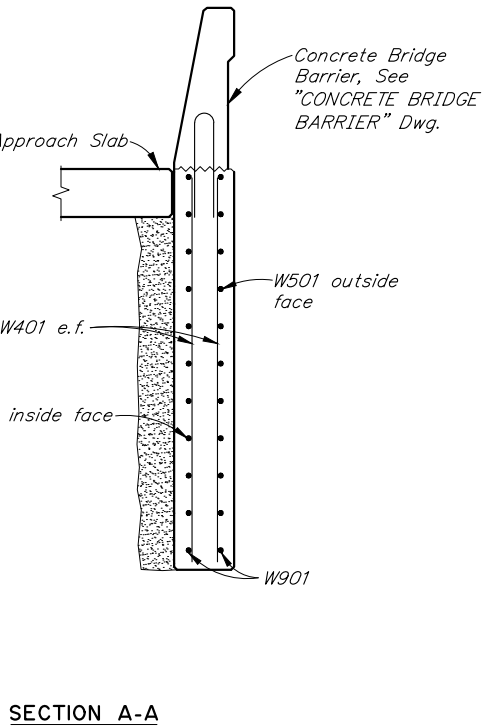
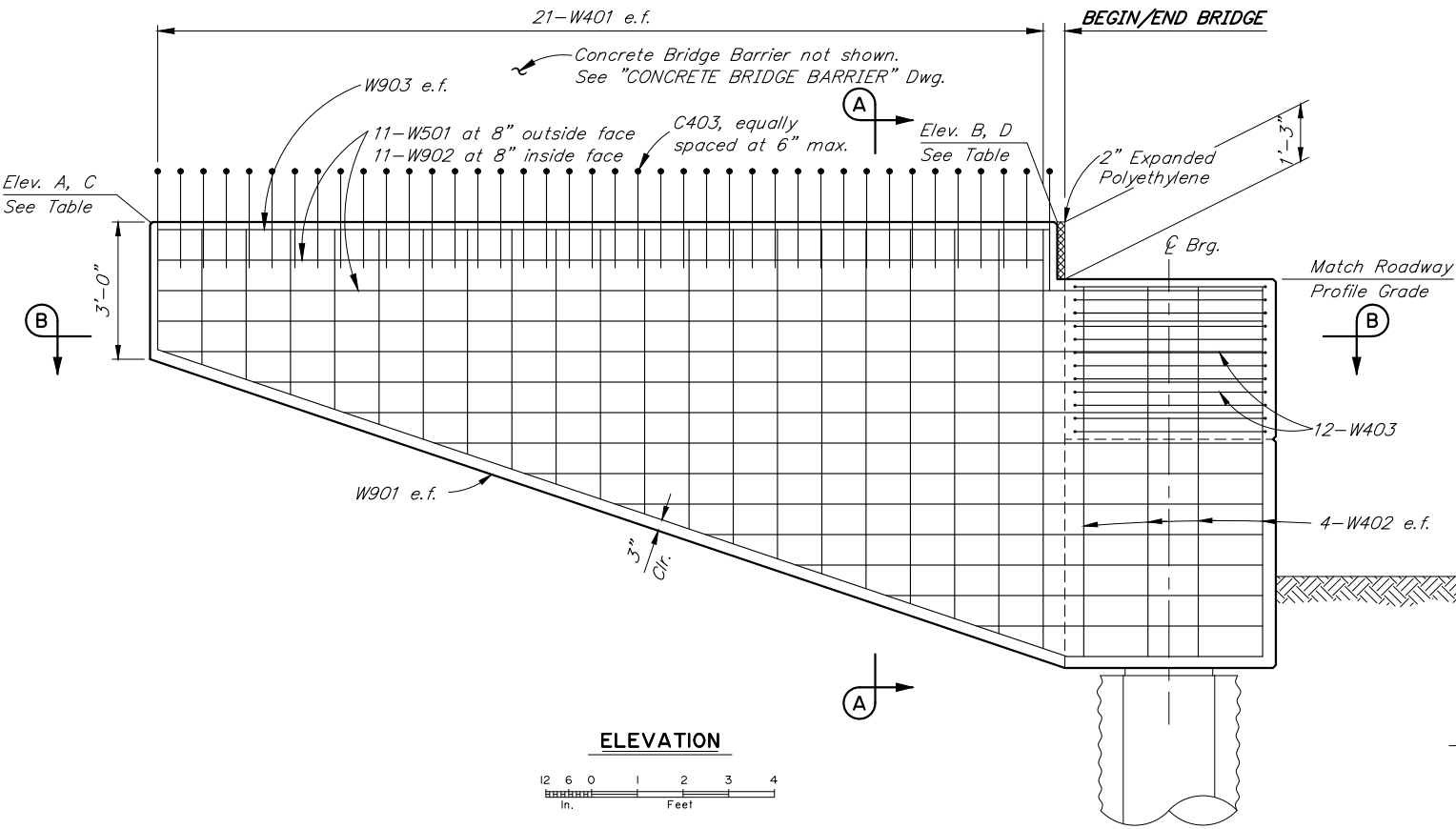
8'-5" Min.

8'-8" Max.

W402

E - Epoxy-Coated

TOP OF WINGWALL ELEVATION TABLE (FT)				
LOCATION	A	B	C	D
ABUTMENT 1	530.00	529.87	529.85	529.71
ABUTMENT 2	528.46	528.72	528.16	528.44



DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

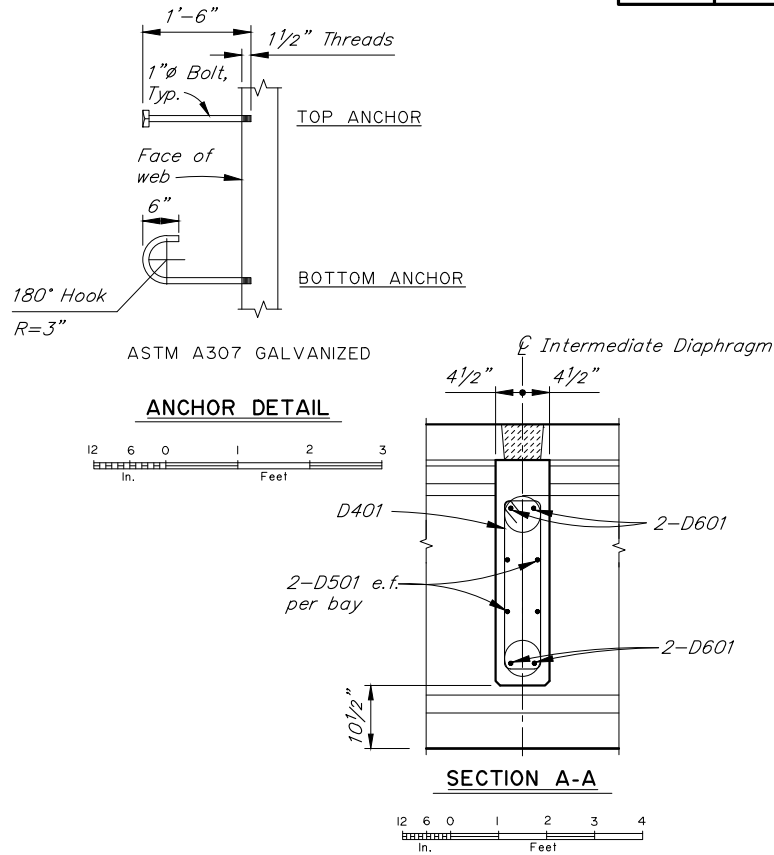
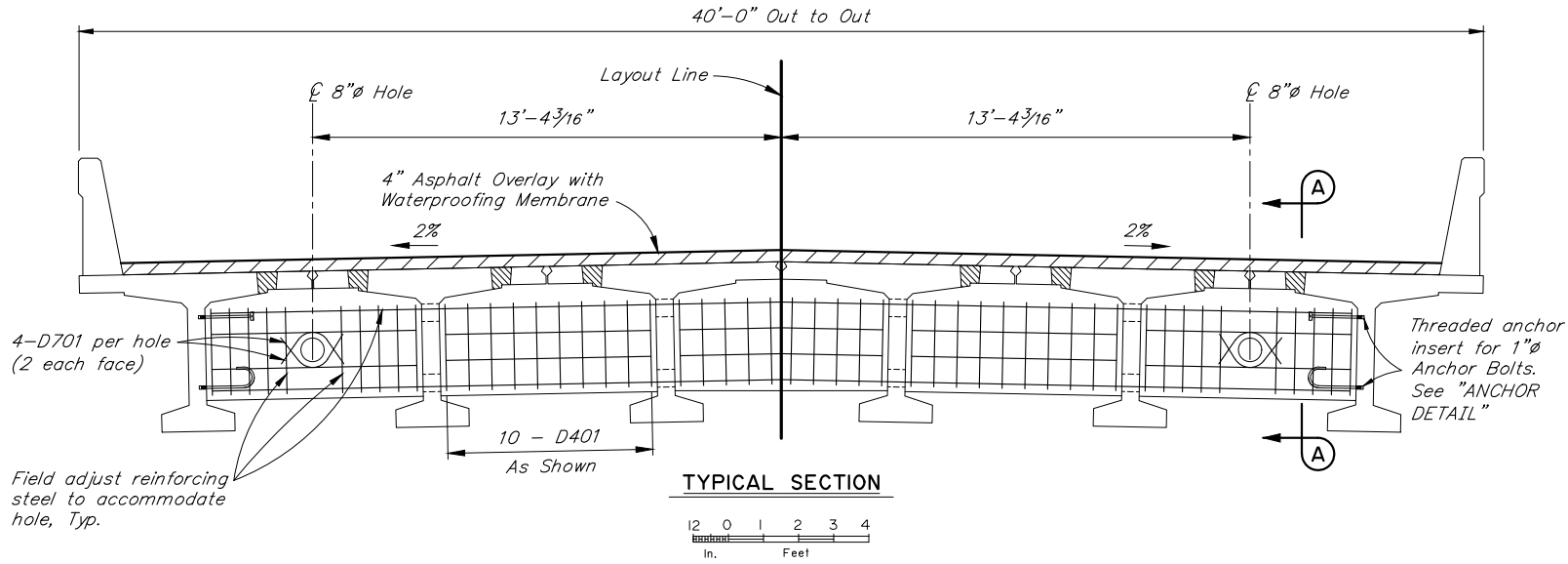
SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
WINGWALLS



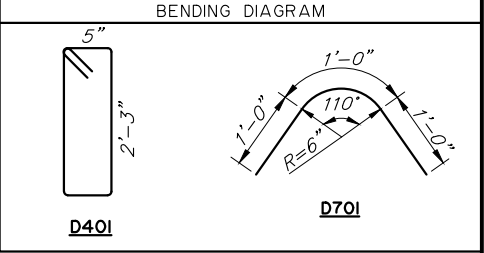
BRIDGE NO. 1970
DWG. NO. 6

R:\cad\1970_CFWY00947_SewardMP14\MP 14-1-7 TYPICAL SECTION & FRAMING PLAN Mon, Jun/02/25 08:46am

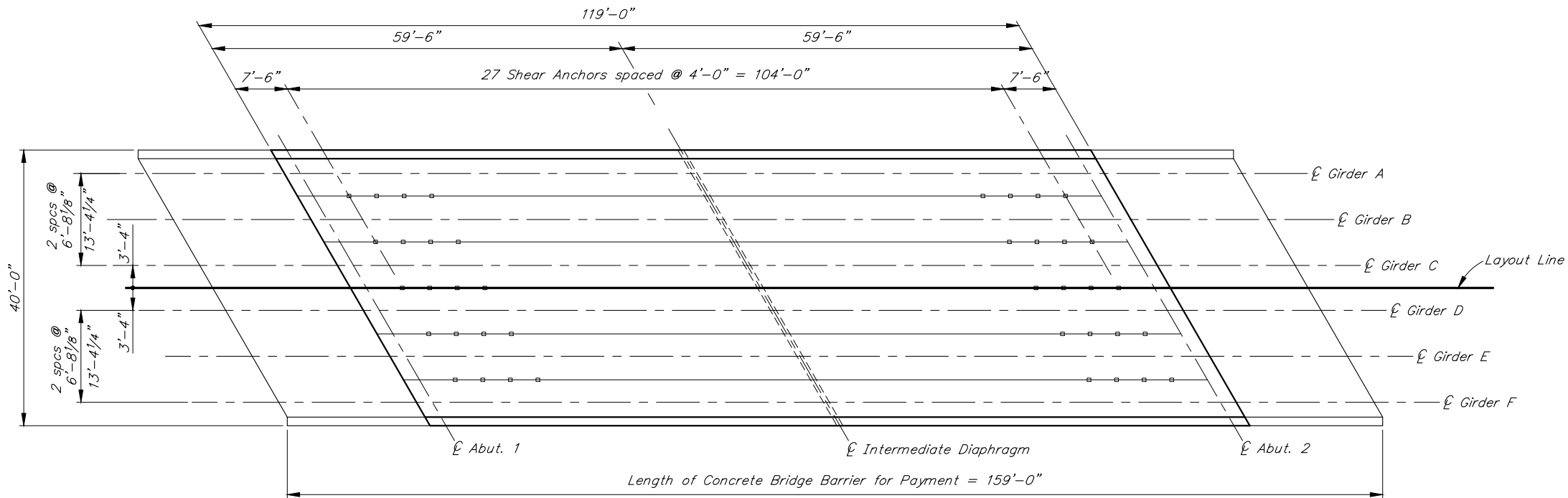
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	N7	NTHSH1



REINFORCING STEEL					
MARK	NOTE	SIZE	NO.	LENGTH	TYPE
D401	E	4	50	6'-1"	STIRRUP
D501	E	5	20	6'-0"	---
D601	E,M	6	4	32'-5"	---
D701	E	7	8	3'-0"	BENT



E - Epoxy-Coated
M - Field adjust to match cross slope



FRAMING PLAN

DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

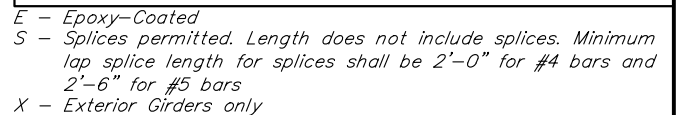
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
TYPICAL SECTION & FRAMING PLAN



BRIDGE NO. 1970
DWG. NO. 7

Diagram of a door with a total width of $3\frac{3}{4}$ inches. The door is divided into four sections with the following widths: $1'-2"$, $2'-0"$, $2'-0"$, and $1'-2"$. The total width is labeled as $1'-7\frac{1}{2}"$ max. on the left and right sides.



Class P Concrete: at Stress Transfer..... $f'_{ci} = 7,000$ psi
at 28 Days..... $f'_c = 8,000$ psi

1/2"Ø low-relaxation prestressing strands with an ultimate strength of 270 ksi and a cross sectional area of 0.153 in².

Steel stresses: Pretensioning – Jacking Stress 189 ksi
 After initial losses 168 ksi
 After all losses 139 ksi

One inch clear cover on reinforcing steel unless otherwise noted.

See "FRAMING PLAN AND TYPICAL SECTION" Dwg. for Shear Connector spacing.

Deflect forms to compensate for camber and roadway profile grade.

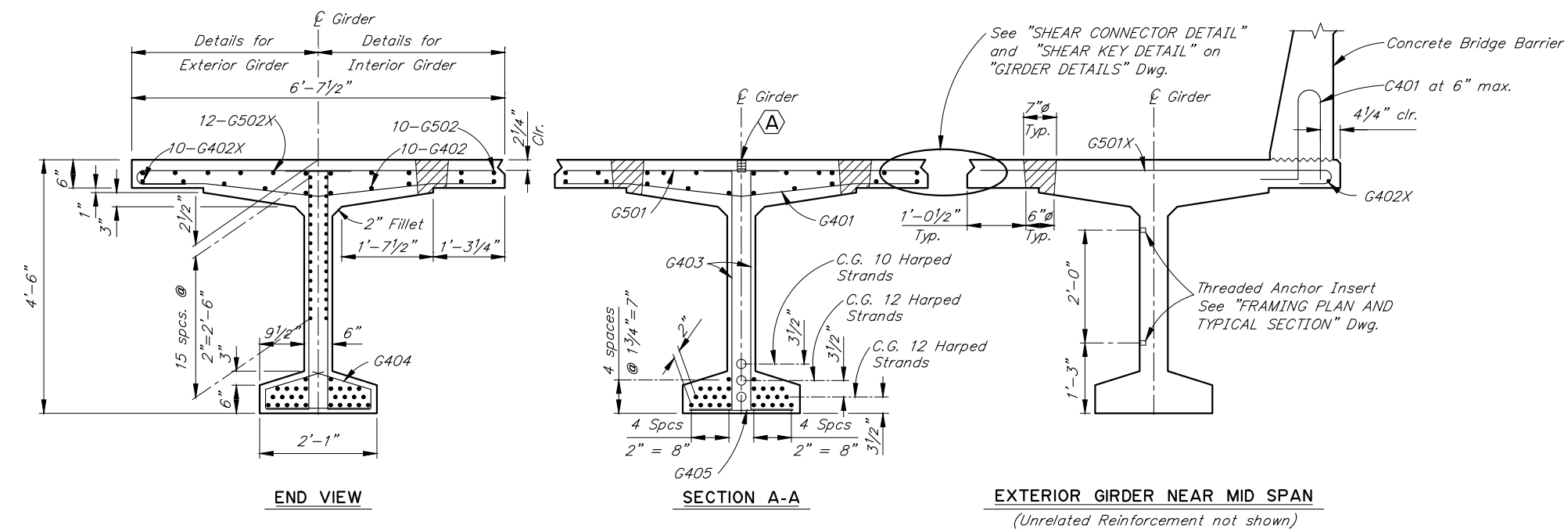
Galvanize structural steel embedded in girders except for shear connectors.

(A) 1"X1'-0" Coil Anchor Insert for vertical adjustment of girders. Recess 2". Prevent concrete from filling hole.

Omit Shear Key, Shear Key Connector and Deck Void in exterior face of exterior girders.

Cast ends of girders plumb with respect to roadway grade. Install web holes and web anchor inserts parallel to ϕ bearing.

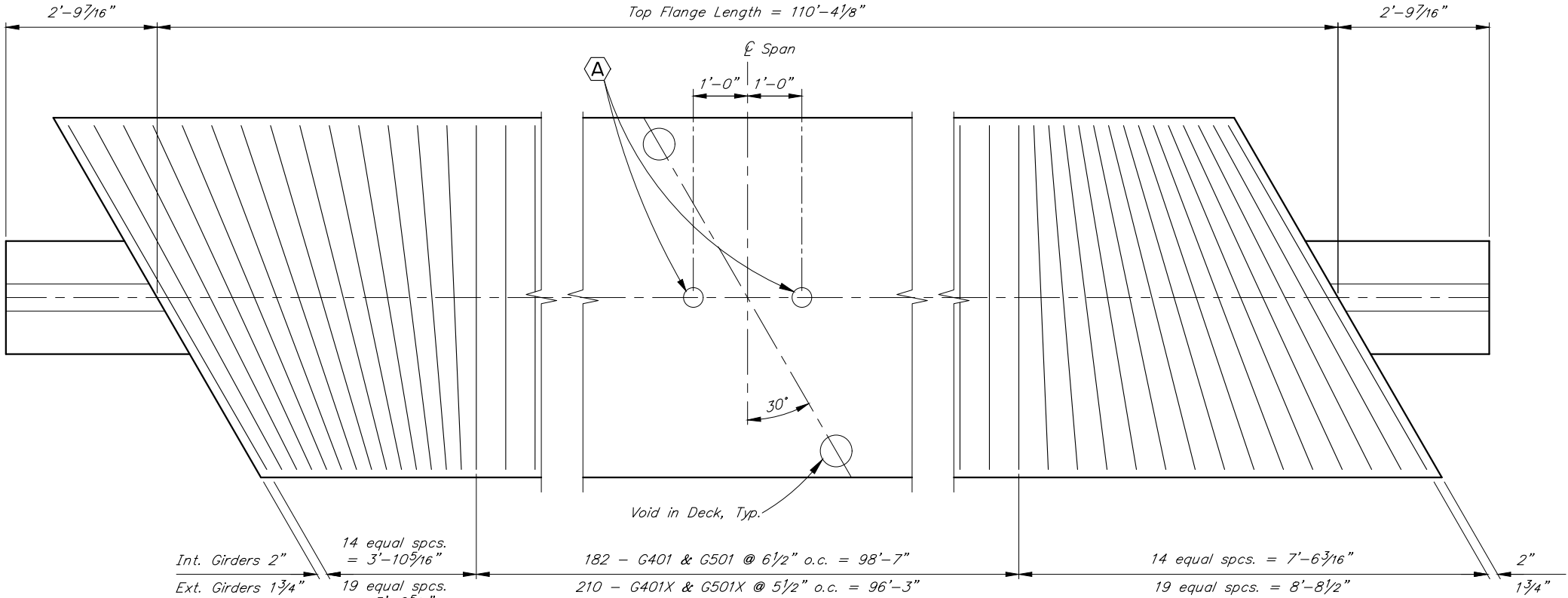
Finish top flange with heavy broom finish. Roughen the surface under the Barrier.



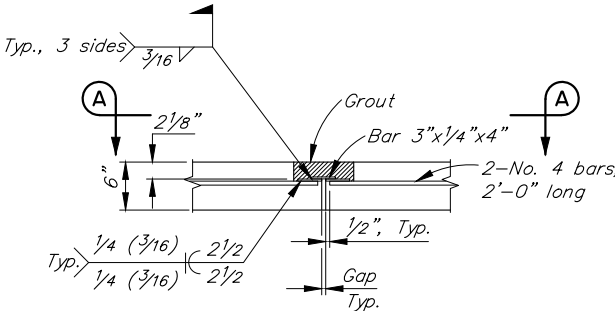
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

BRIDGE NO. 1970
DWG. NO. 8

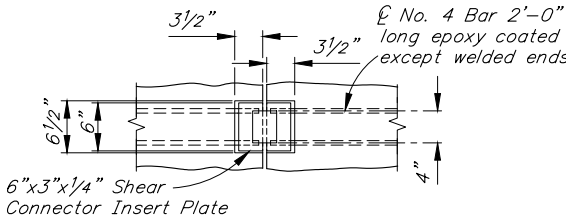
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	N9	NTtlSh



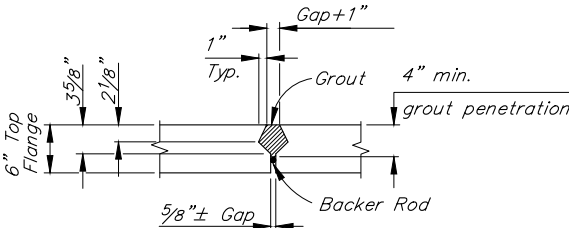
PLAN
No Scale



SHEAR CONNECTOR DETAIL



VIEW A-A



SHEAR KEY DETAIL



DESIGNED BY:	<i>Designer</i>	CHECKED:	<i>Checker</i>
DRAWN BY:	<i>Drafter</i>	CHECKED:	<i>Designer</i>
QUANTITIES BY:	<i>Designer</i>	CHECKED:	<i>Checker</i>

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
GIRDER DETAILS



BRIDGE NO. 1970
DWG. NO. 9

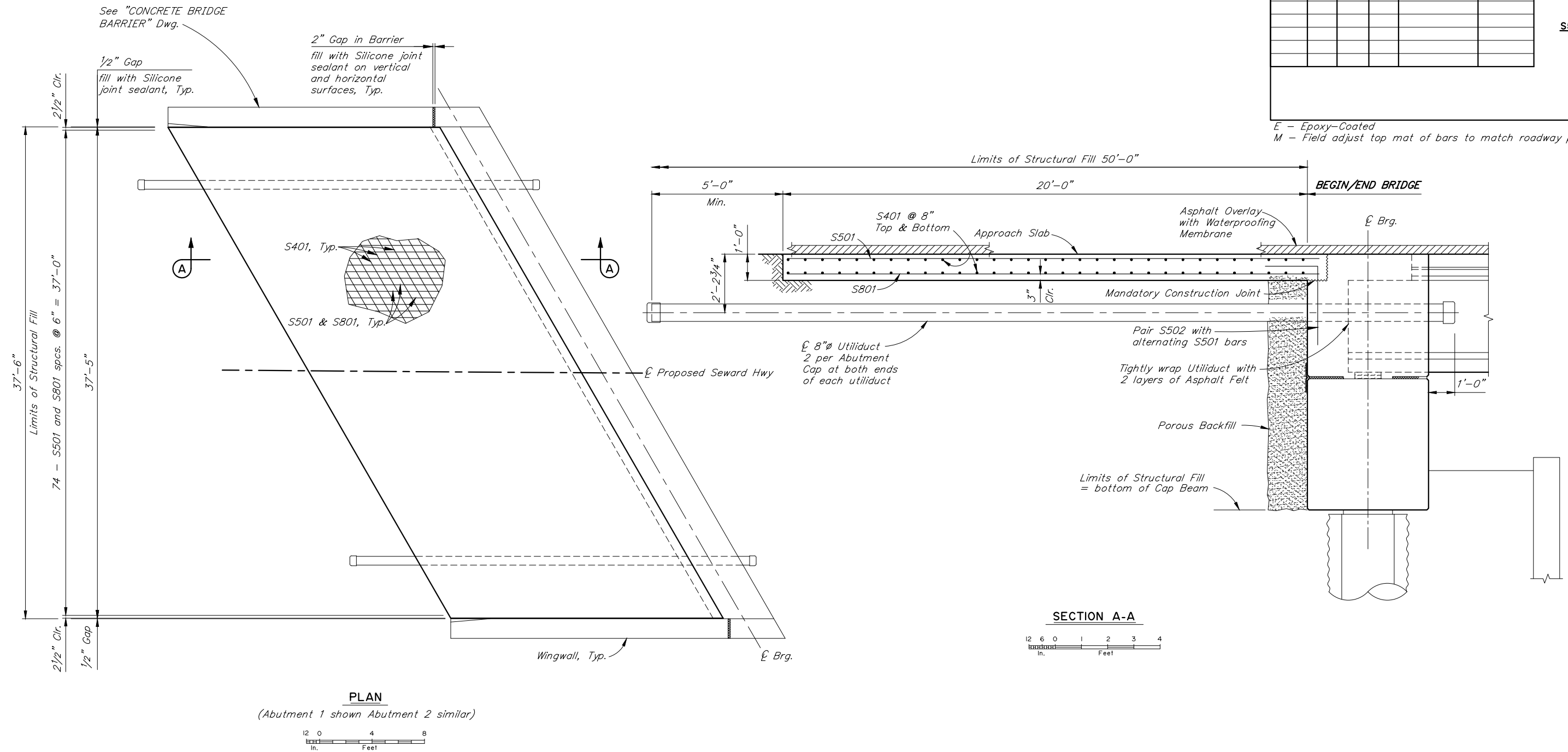
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STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	NIO	NTHSHt

REINFORCING STEEL - ONE APPROACH SLAB

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
S401	E,M	4	62	42'-8"	---	S502
S501	E	5	75	20'-5"	---	
S502	E	5	38	5'-0"	BENT	
S801	E	8	75	20'-5"	---	

E - Epoxy-Coated
M - Field adjust top mat of bars to match roadway profile

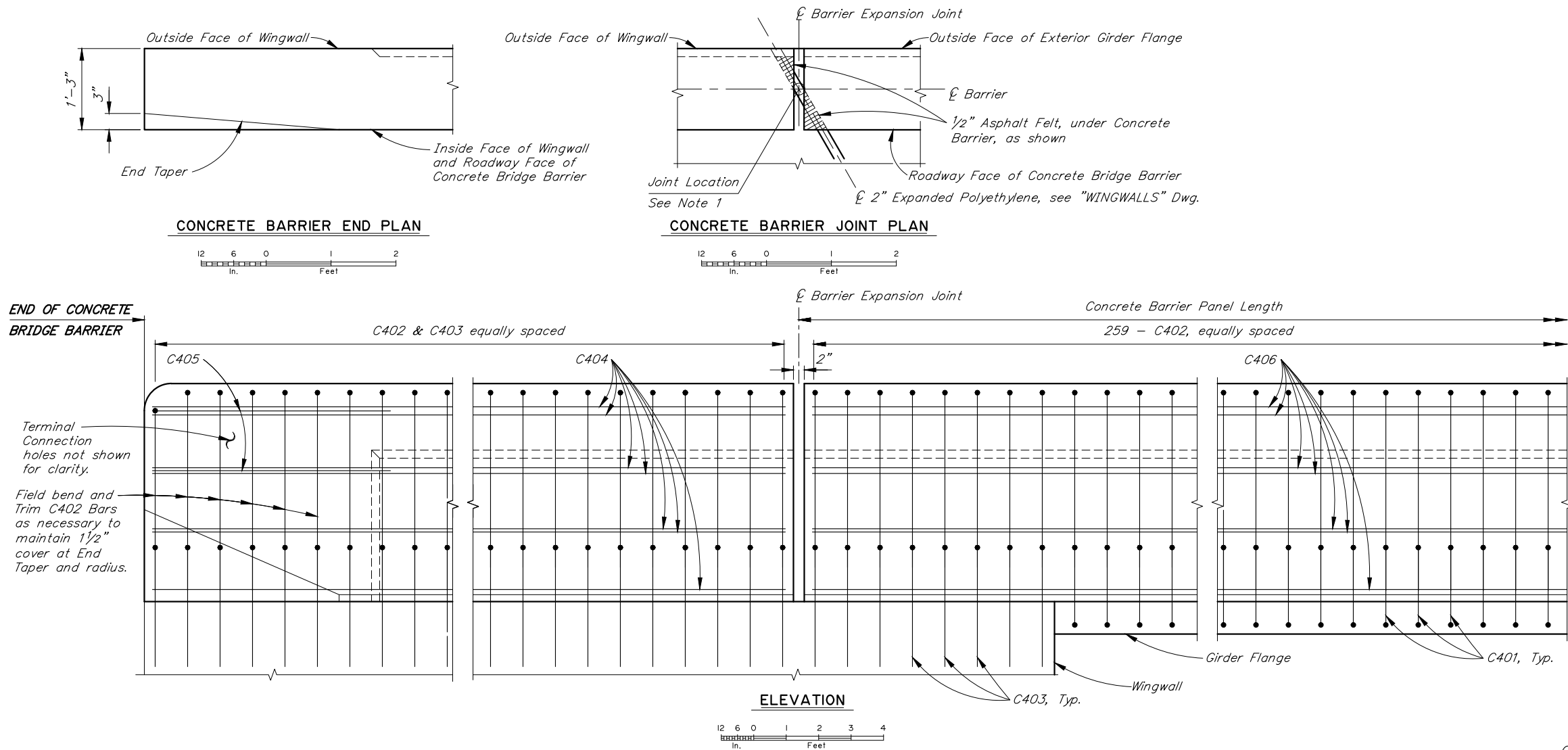


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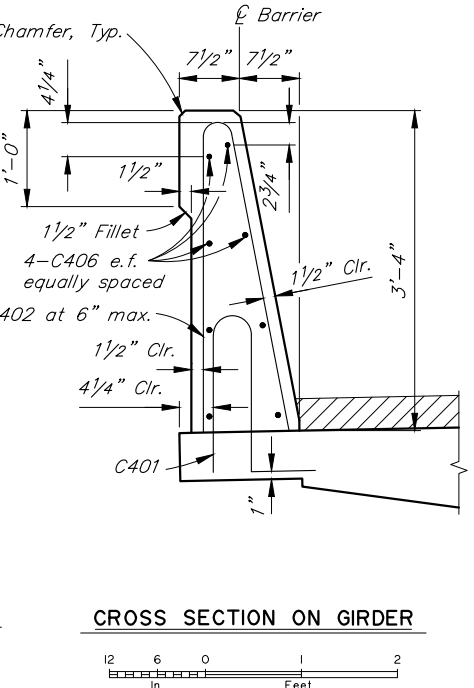
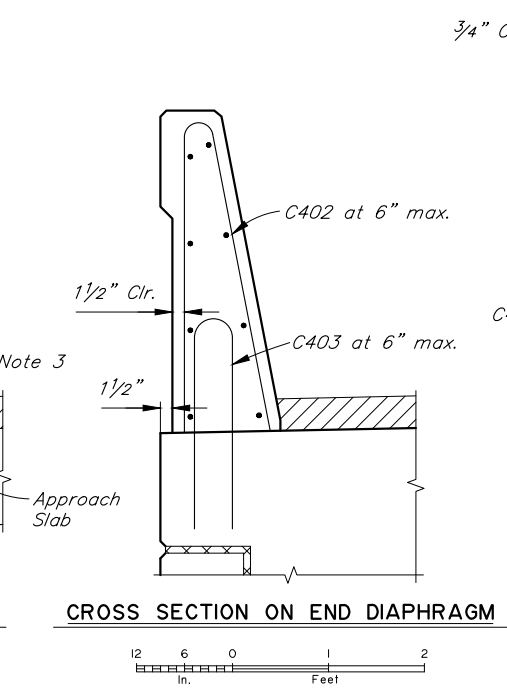
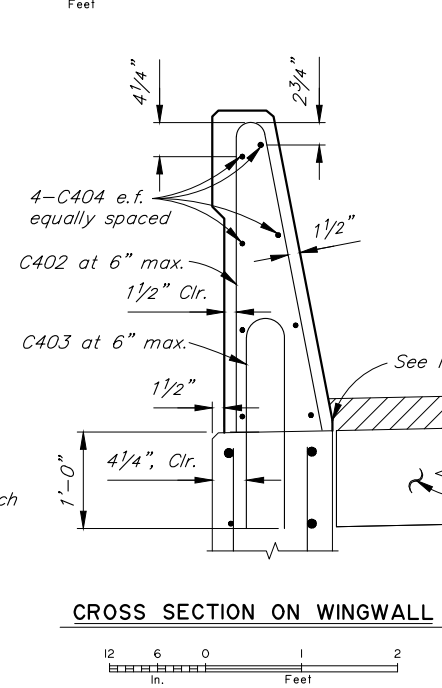
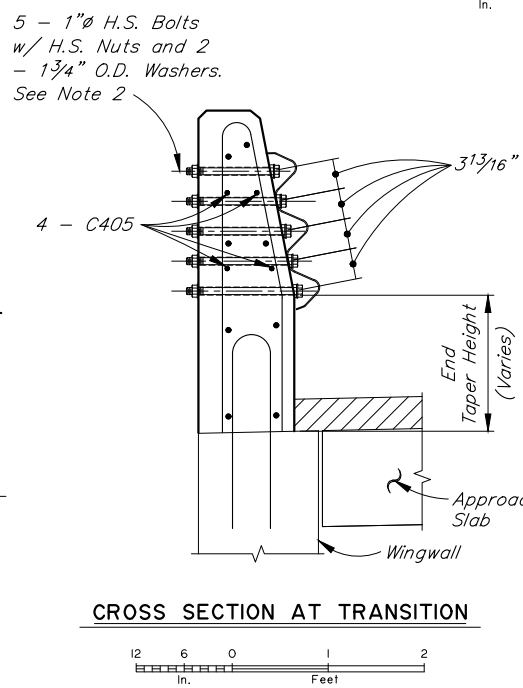
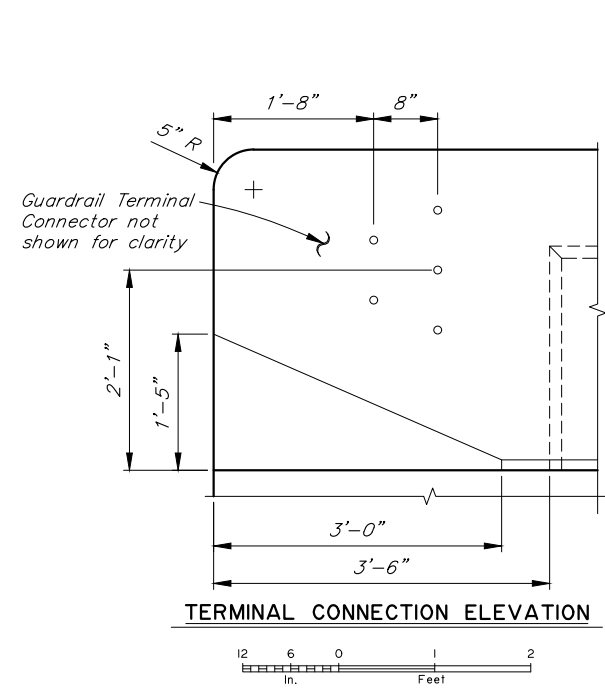
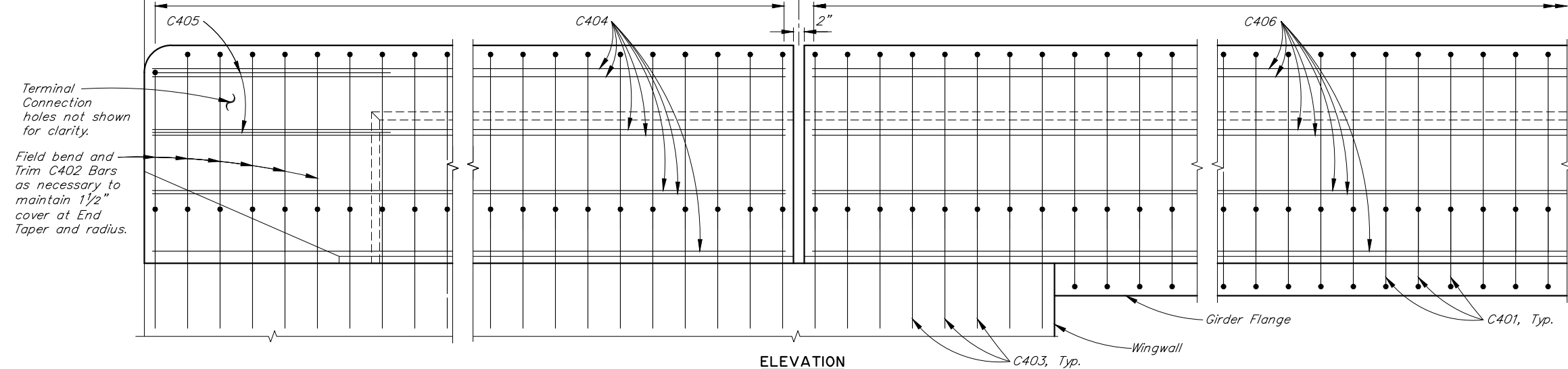
DESIGNED BY: <i>Designer</i>	CHECKED: <i>Checker</i>	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975	SEWARD HWY MP 14 RAILROAD OVERHEAD SEWARD HIGHWAY APPROACH SLABS	 BRIDGE NO. 1970 DWG. NO. 10
DRAWN BY: <i>Drafter</i>	CHECKED: <i>Designer</i>			
QUANTITIES BY: <i>Designer</i>	CHECKED: <i>Checker</i>			

R:\cad\1970_CFWY00947_SewardMP14_SewardMP14-11 CONCRETE BRIDGE BARRIER Mon. Jun/02/25 08:46am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS		
ALASKA	CFHWY00947	2025	NII	NTHSHt		
REINFORCING STEEL - ALL BARRIERS						
MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
C402	E	4	640	6'-8"	BENT	
C403	E	4	198	4'-9"	BENT	
C404	E	4	32	19'-10"	---	
C405	E	4	16	3'-8"	---	
C406	E,S	4	16	118'-4"	---	



END OF CONCRETE
BRIDGE BARRIER



- NOTES:**
- Location of Concrete Barrier Joint must be at the intersection of E Barrier and E 2" Expanded Polyethylene and perpendicular to outside face of exterior girder flange.
 - Cut bolts after installation so as to extend 3/4" beyond nut. Paint ends of cut-off bolts with zinc-rich paint.
 - The toe of slope at the Roadway Face of Concrete Bridge Barrier shall be vertically plumb and co-planar with the Inside Face of Wingwall. Maintain the height of the resulting vertical face for the full barrier length between End Tapers.

DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

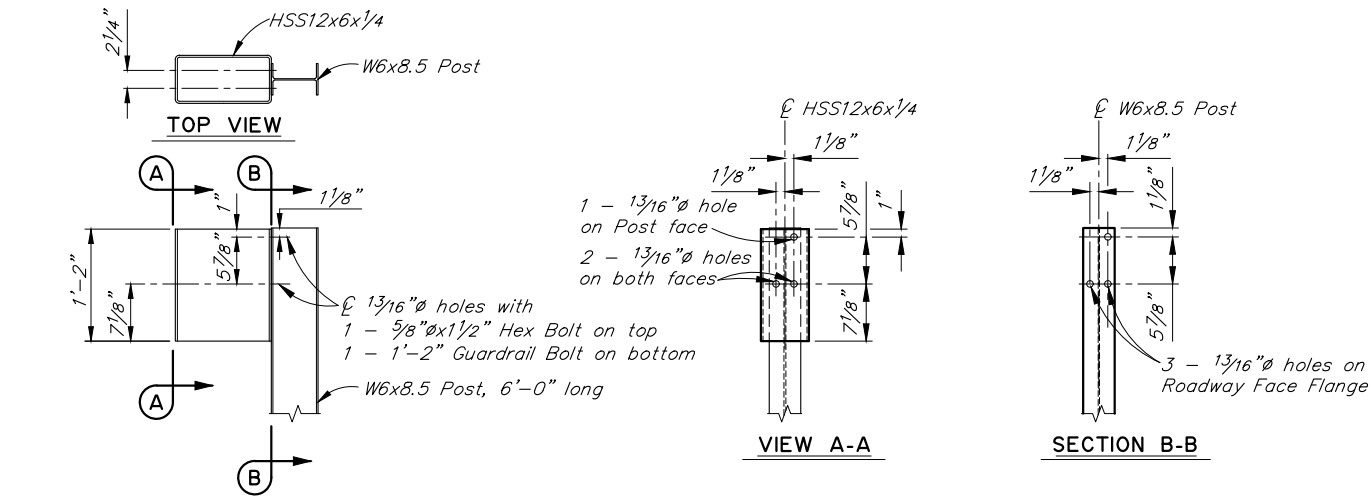
SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
CONCRETE BRIDGE BARRIER



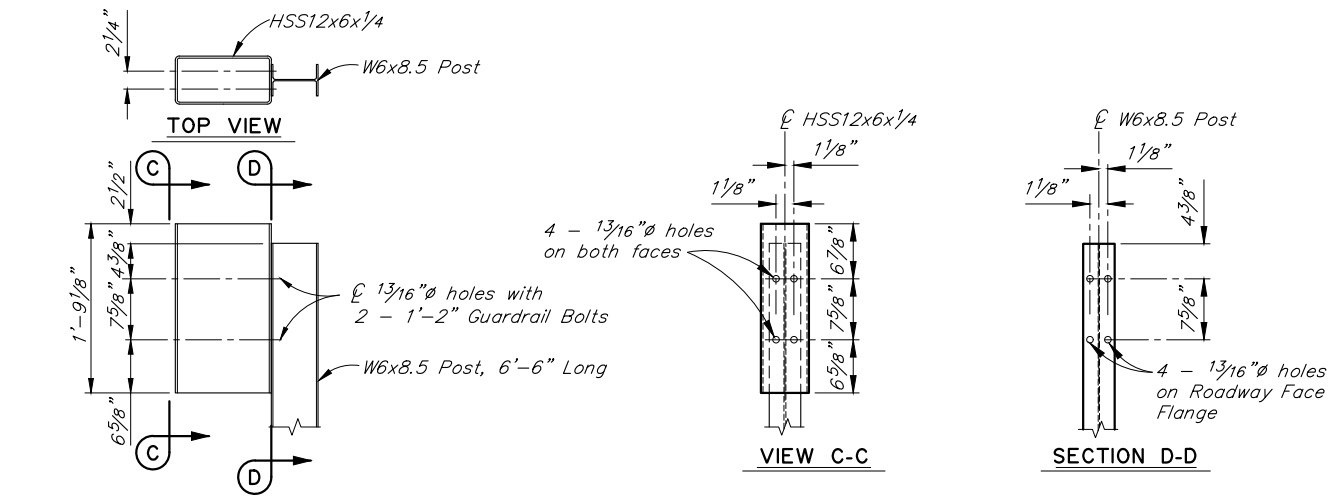
BRIDGE NO. 1970
DWG. NO. II

R:\cad\1970_CFWY00947_SewardMP14\12 TRANSITION RAIL Mon, Jun/02/25 08:46am

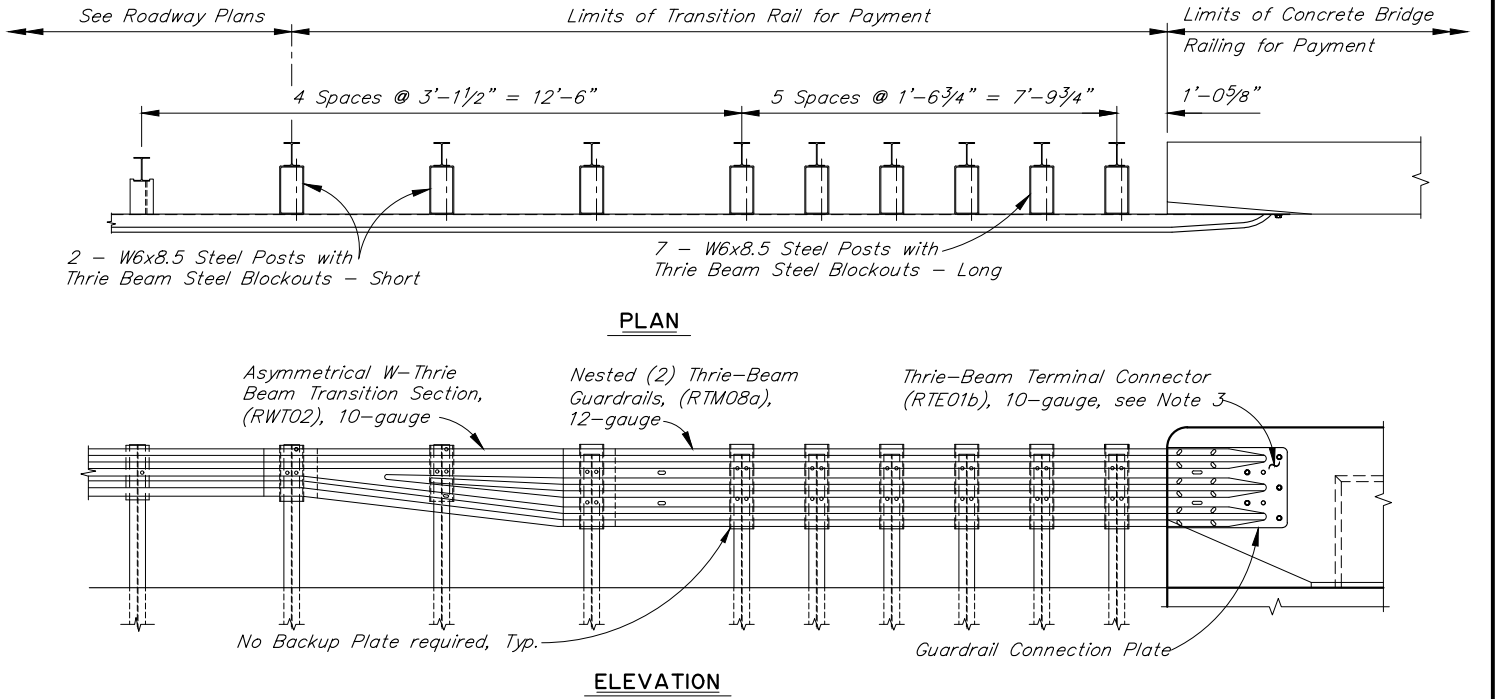
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	CFHWY00947	2025	NI2	NT11Sh1



THRIE BEAM STEEL BLOCKOUT - SHORT



THRIE BEAM STEEL BLOCKOUT - LONG



NOTES:

- Conform to G-00, G-05 and G-10 of the Standard Plans for all Thrie Beam Transition details not shown.
- Thrie Beam Transition part numbers are listed in parentheses and referenced in the "Task Force 13 Guide to Standardize Roadside Hardware."
- Contractor to select the Thrie-Beam Terminal Connector Original, Alternate 1 (Shown), or Alternate 2 that fits over and under the Nested Thrie-Beam Guardrail components without field modifications.
- Recessed Guardrail Nuts on all 5/8" Bolts unless otherwise indicated
- No scale.

DESIGNED BY:	Designer	CHECKED:	Checker
DRAWN BY:	Drafter	CHECKED:	Designer
QUANTITIES BY:	Designer	CHECKED:	Checker

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

SEWARD HWY MP 14 RAILROAD OVERHEAD
SEWARD HIGHWAY
TRANSITION RAIL



BRIDGE NO. 1970
DWG. NO. 12