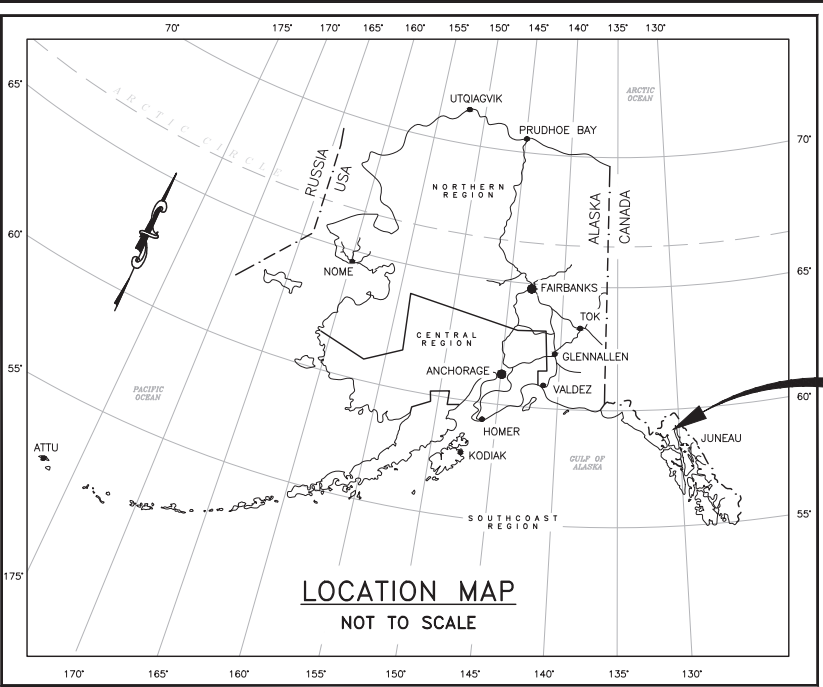




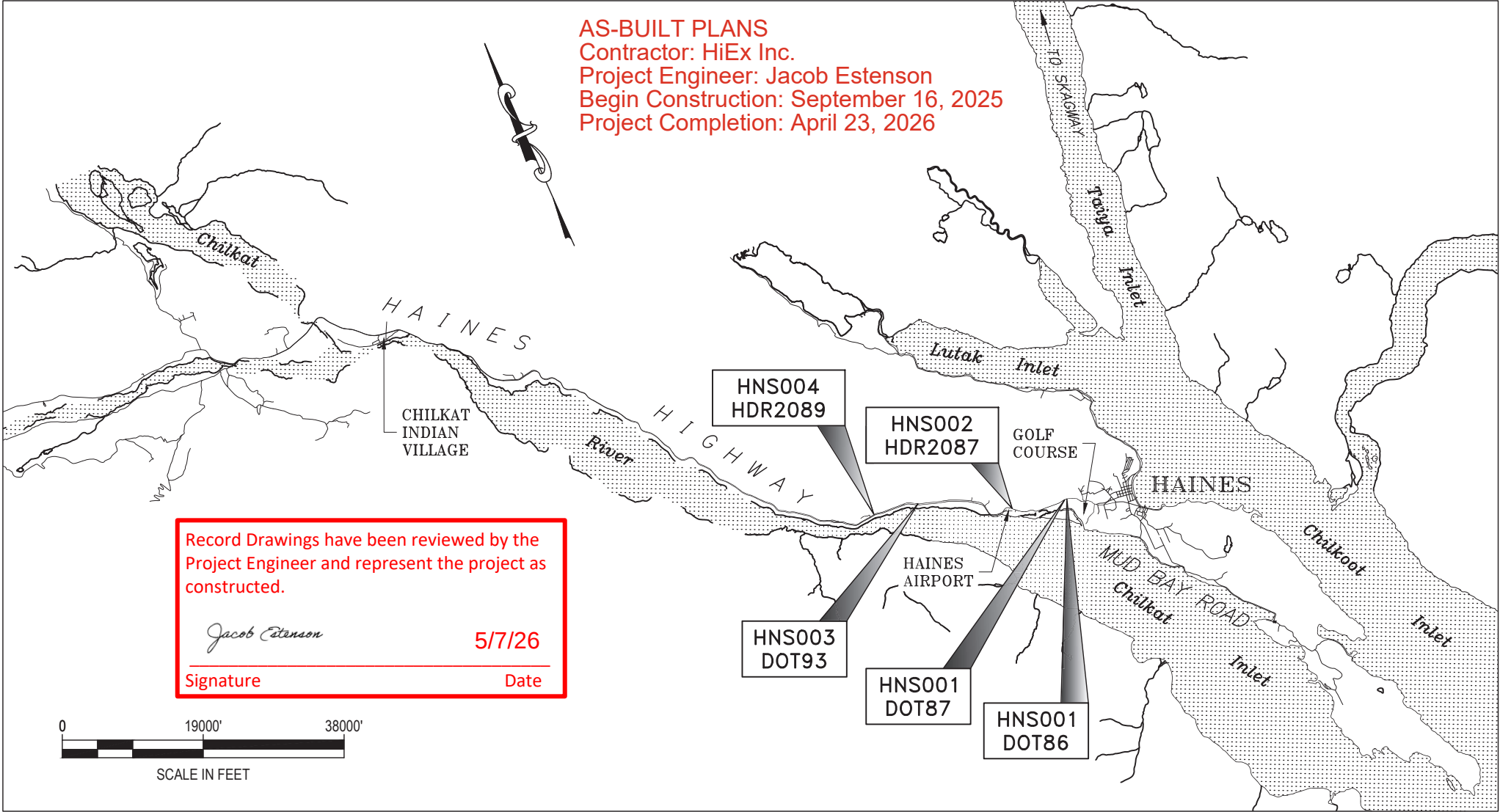
PROJECT
LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT
HAINES HIGHWAY MPT 1 TO 9
- DEC 20 SE PR

0093006/SFHWHY00440

GRADING, DRAINAGE, PAVING, SLOPE STABILIZATION, ROCK FACING,
& EMBANKMENT REPAIR



VICINITY MAP

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

Signature

5/7/26

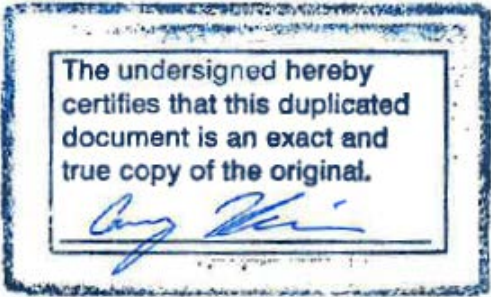
Date

AS-BUILT PLANS
Contractor: HiEx Inc.
Project Engineer: Jacob Estenson
Begin Construction: September 16, 2025
Project Completion: April 23, 2026

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWHY00440	2025	A1	24
DDIR #HNS001	DOT86	ROUTE ID: 2021017X000	MILEPOINT: 1.79				
		LATITUDE: 59.243099	LONGITUDE: -135.489304				
DDIR #HNS002	DOT87	ROUTE ID: 2021017X000	MILEPOINT: 1.79				
		LATITUDE: 59.2430167	LONGITUDE: -135.490297				
DDIR #HNS003	DOT93	ROUTE ID: 2021017X000	MILEPOINT: 3.10				
		LATITUDE: 59.248199	LONGITUDE: -135.526703				
DDIR #HNS004	HDR2089	ROUTE ID: 2021017X000	MILEPOINT: 5.70				
		LATITUDE: 59.263901	LONGITUDE: -135.586395				
DDIR #HNS004	HDR2089	ROUTE ID: 2021017X000	MILEPOINT: 7.00				
		LATITUDE: 59.266899	LONGITUDE: -135.618698				

PROJECT SUMMARY

LOCATION	WIDTH	LENGTH	REMARKS
DDIR #HNS001 DOT86 & DOT87	36'	370'	
DDIR #HNS002 HDR2087	36'	528'	
DDIR #HNS003 DOT93	36'	528'	
DDIR #HNS004 HDR2089	36'	528'	



June 5, 2025

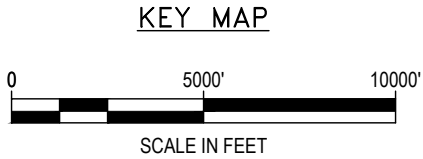
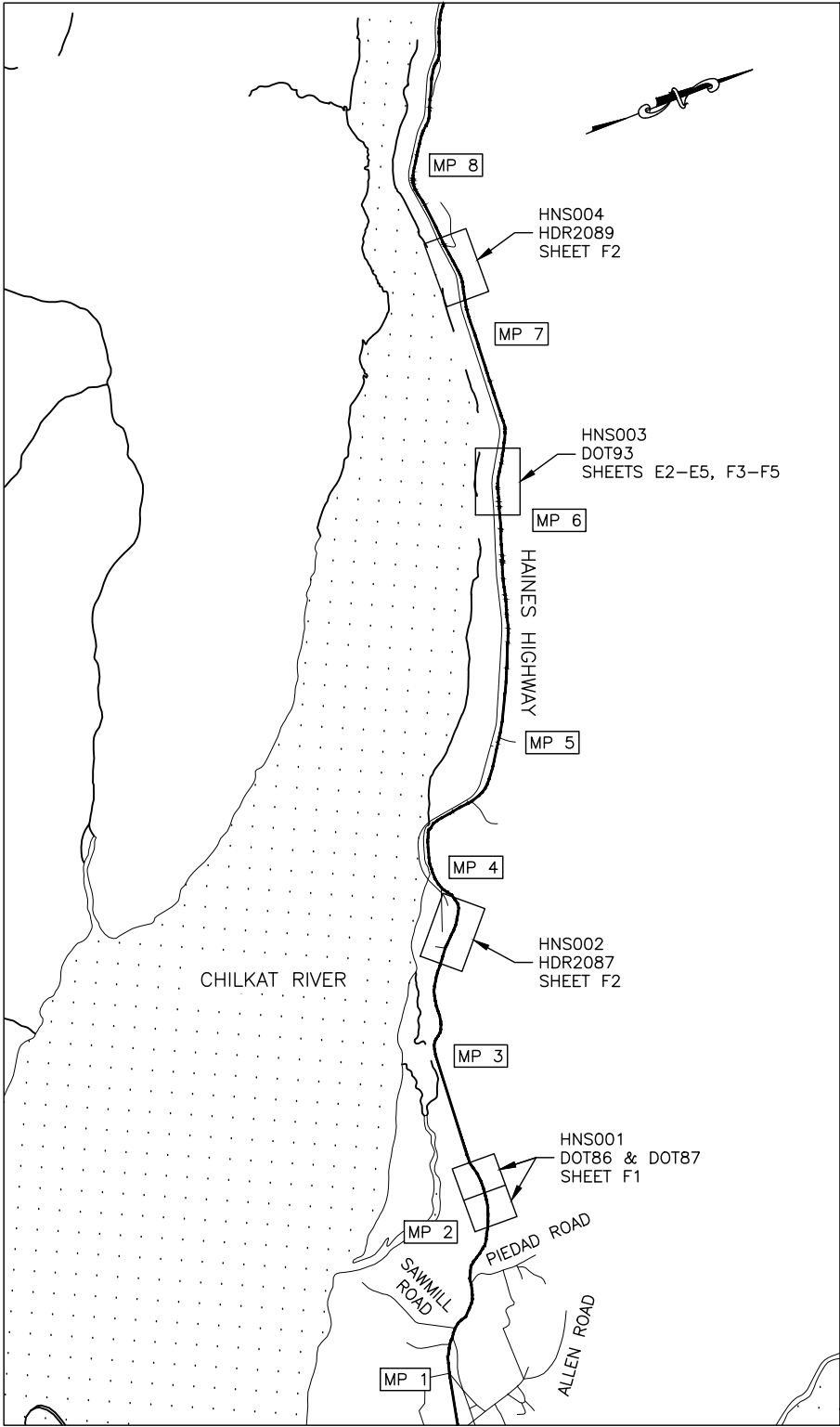
DESIGN DESIGNATIONS

ADT (2022)	1,100
ADT (2035)	1,186
DHV (2022)	164
DHV (2035)	177
PERCENT TRUCKS (T)	10.26%
DIRECTIONAL SPLIT (D)	45-55%
DESIGN SPEED (V)	55 MPH

USE THESE PLANS IN CONJUNCTION WITH THE
STATE OF ALASKA STANDARD SPECIFICATIONS FOR
HIGHWAY CONSTRUCTION, 2020 EDITION AND THE
PROJECT SPECIAL PROVISIONS.
AARON R. CHRISTIE, P.E., PROJECT MANAGER
RICHARD D. PRIBYL, P.E., PROJECT ENGINEER
MAR ANGELO E. FERNANDEZ, DESIGNER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES
APPROVED BY: 3/19/2025
Kirk Miller, P.E.
Preconstruction Director, Southcoast Region
ACCEPTED FOR CONSTRUCTION: 3/19/2025
Vicky Roberts
Christopher 26882071762405
Regional Director, Southcoast Region

Signing for Chris



Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

5/7/26

Signature

Date

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	A2	24

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2–A3	GENERAL NOTES, SHEET LAYOUT, LEGEND, & ABBREVIATIONS
A4–A6	SURVEY CONTROL SHEETS
B1	TYPICAL SECTIONS
C1–C2	ESTIMATE OF QUANTITIES
D1	SUMMARY TABLES
E1–E5	DETAILS
F1–F5	PLANS
ESCP1–ESCP3	EROSION AND SEDIMENT CONTROL PLANS
T1	TRAFFIC CONTROL PLAN

GENERAL NOTES:

- MAKE ALL PAVEMENT CUTS CLEAN, VERTICAL, AND TRUE TO REMOVAL LIMITS SHOWN ON PLANS.
- DO NOT MEASURE OFF OF PLANS.

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:

C–06.00, D–01.02, D–04.22, D–08.00

ABBREVIATIONS:

APPROX	APPROXIMATELY	N	NORTH, NORTHING
APE	AREA OF POTENTIAL EJECT	NO.	NUMBER
ASP	ALASKA STANDARD PLAN	NOM.	NOMINAL
ATB	ASPHALT TREATED BASE	NTS	NOT TO SCALE
BMP	BEST MANAGEMENT PRACTICE	OC	ON CENTER
CL	CENTERLINE	OHE	OVERHEAD ELECTRIC
CAP	CORRUGATED ALUMINUM PIPE	PC	POINT OF CURVATURE
CSP	CORRUGATED STEEL PIPE	POT	POINT ON TANGENT
CY	CUBIC YARD	PST	PERFORATED STEEL TUBE
CYVM	CUBIC YARD VEHICLE MEASURE	PT	POINT OF TANGENCY
DDIR	DETAILED DAMAGE INSPECTION REPORT	PVI	POINT OF VERTICAL INTERSECTION
E	EAST, EASTING	R	RADIUS
ELEV	ELEVATION	RCL	RIGHT OF CENTERLINE
EOP	EDGE OF PAVEMENT	ROW	RIGHT-OF-WAY
ESCP	EROSION AND SEDIMENT CONTROL PLANS	RT	RIGHT
FT	FOOT, FEET	S	SOUTH
F/O	FIBER OPTIC	SQFT	SQUARE FOOT
GP	GUY POLE	STA	STATION
H	HORIZONTAL	T	TANGENT
HDPE	HIGH DENSITY POLYETHYLENE	TCE	TEMPORARY CONSTRUCTION EASEMENT
HMA	HOT MIX ASPHALT	TS	TUBE STEEL
HW/D	HEADWATER TO DIAMETER RATIO	TYP	TYPICAL
IE	INVERT ELEVATION	UGE	UNDER GROUND ELECTRIC
IN	INCH, INCHES	V	VERTICAL
L	LENGTH OF CURVE	VPC	VERTICAL POINT OF CURVATURE
LCL	LEFT OF CENTERLINE	VPI	VERTICAL POINT OF INTERSECTION
LT	LEFT	VPT	VERTICAL POINT OF TANGENCY
LVC	LENGTH OF VERTICAL CURVE	W	WEST
MAX	MAXIMUM	WWR	WELDED WIRE REINFORCEMENT
MIN	MINIMUM	Ø	DIAMETER

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HAINES HIGHWAY MPT 1–9
– DEC 20 SE PR

GENERAL NOTES. SHEET LAYOUT,
AND ABBREVIATIONS

	RECOVERED	SET
BLM MONUMENT		
GLO MONUMENT		
USC&GS MONUMENT		
PRIMARY MONUMENT		
CENTERLINE MONUMENT IN CASING		
PRIMARY R.O.W. MONUMENT		
BEARING OBJECT		
MISCELLANEOUS MONUMENT		
LINE OF SIGHT MONUMENT		
CONCRETE R.O.W. MONUMENT		
BENCHMARK		
REBAR AND CAP		
REBAR		
IRON PIPE		
PK NAIL		
SPIKE		
HUB AND TACK		
CONSTRUCTION CENTERLINE		
MISCELLANEOUS CENTERLINE		
STATION EQUATION		
PROJECT RIGHT-OF-WAY LINE		
EXISTING RIGHT-OF-WAY LINE		
EXISTING PROPERTY LINE		
CONTROLLED ACCESS LINE		
UTILITY EASEMENT LINE		
TEMPORARY EASEMENT LINE (TCP OR TCE)		
ACCESS OR SECTION LINE EASEMENT		
PROPOSED CUT SLOPE LIMIT		
PROPOSED FILL SLOPE LIMIT		
SECTION LINE		
1/4 SECTION LINE		
1/16 SECTION LINE		
TOWNSHIP & RANGE LINE		

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)		
FUEL LINE		
GAS LINE		
WATER LINE		
METER, VALVE, FIRE HYDRANT		
EXISTING STORM DRAIN (FLOW DIRECTION →)		
PROPOSED STORM DRAIN		
FIBER OPTIC LINE		
DIRECT BURIAL TELEPHONE CABLE		
DIRECT BURIAL ELECTRIC CABLE		
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT		
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE		
SANITARY SEWER CLEAN OUT		
RIPRAP (CLASS AS INDICATED ON THE PLANS)		
ASPHALT PAVEMENT		
AGGREGATE BASE COURSE		
BORROW		
X # (DETAIL NAME) SCALE:		
DETAIL CALLOUT:		
X	DETAIL NO.	
#	SHEET NO.	

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
ROAD MARKINGS		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX		
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
EXISTING BUILDINGS		
FLOW DIRECTION		
WETLANDS		
POST OR BOLLARD		
WELL OR MONITORING WELL		
SEPTIC PIPE		
FUEL TANK FILL PIPE/VENT		
SATELLITE DISH		
TEST HOLE		
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0093006/SFHWY00440	2025	A3	24

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		
JUNCTION BOX, TYPE II		
JUNCTION BOX, TYPE III		
SIGNAL FACE, VEHICULAR		
SIGNAL FACE, BACKPLATE		
SIGNAL FACE, LEFT TURN, BACKPLATE		
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR		
VIDEO DETECTOR		
RADAR DETECTOR		
OPTICOM DETECTOR		
PEDESTRIAN PUSH BUTTON		
SIGNAL POST W/O MAST ARM		
SIGNAL POLE W/MAST ARM		
SIGNAL CONTROLLER		
LOAD CENTER		
LUMINAIRE		
RIGID METAL CONDUIT		

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

5/7/26

Signature

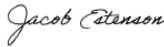
Date

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

LEGEND

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.



5/7/26

Signature

Date

SURVEY CONTROL TABLE							
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION	ALIGNMENT	STATION	OFFSET
1	2720233.12	2319952.12	40.72	ALCAP			0.000
2	2713188.84	2337365.66	29.98	ALCAP			0.000
5	2710909.96	2344343.07	27.70	ALCAP	HNS-1	3+01.35	23.727 L
401	2720301.22	2320646.76	38.02	MAGN	HNS-4	10+97.44	19.083 L
404	2710937.97	2344589.49	28.99	MAGN	HNS-1	0+54.95	17.944 L
438	2711027.53	2344409.91	43.55	SPIKE	HNS-1	2+24.73	83.225 R
470	2710997.28	2344393.22	32.39	SPIKE	HNS-1	2+44.24	55.354 R
471	2711025.78	2344584.89	44.38	SPIKE	HNS-1	0+58.69	69.903 R
472	2710928.47	2344619.28	28.33	SPIKE	HNS-1	0+24.68	27.373 L
701	2720252.33	2319314.03	38.41	ALMON			0.000
702	2720108.88	2321817.98	39.50	ALMON			0.000
704	2713220.85	2337405.04	31.64	ALMON			0.000
705	2712806.82	2337856.37	30.37	ALMON			0.000
706	2718478.80	2327967.46	39.50	ALMON	HNS-3	293+02.31	83.201 L
751	2718272.49	2328717.11	34.88	ALCAP	HNS-3	285+27.16	15.687 L
752	2718913.58	2326932.87	38.80	MAGNAIL	HNS-3	304+23.37	21.348 L
753	2719033.22	2326641.88	40.28	ALCAP	HNS-3	307+36.43	15.636 L
754	2719804.67	2325395.90	37.31	ALCAP	HNS-3	321+99.36	16.473 R
755	2718851.18	2327112.06	37.44	MAGNAIL	HNS-3	302+33.63	20.002 L

1. ALL SURVEY CONTROL MONUMENTS IN THIS TABLE ARE PROVIDED STRICTLY FOR SURVEY CONTROL. SHOULD ANY OF THEM BE DESTROYED DURING CONSTRUCTION THEY SHALL NOT BE REPLACED.
2. ALL PROPERTY MONUMENTS IN THIS TABLE SHALL BE REFERENCED PRIOR TO DISTURBANCE FROM CONSTRUCTION AND RE-ESTABLISHED IN THEIR ORIGINAL HORIZONTAL POSITION AND A RECORD OF MONUMENT FORM IN ACCORDANCE WITH A.S.34.65.040 SHALL BE SUBMITTED TO DOT&PF PROJECT ENGINEER FOR REVIEW PRIOR TO RECORDING.
3. EXISTING CENTERLINE MONUMENTS SHALL BE PRESERVED IN PLACE. ALL CENTERLINE MONUMENTS IN THIS TABLE SHALL BE PRESERVED AND REFERENCED PRIOR TO DISTURBANCE AND REPLACED AT THEIR ORIGINAL HORIZONTAL POSITION. A RECORD OF MONUMENT FORM IN ACCORDANCE WITH A.S.34.65.040 SHALL BE SUBMITTED TO DOT&PF PROJECT ENGINEER FOR REVIEW PRIOR TO RECORDING FOR EACH MONUMENT.

SURVEY CONTROL NOTES

HORIZONTAL CONTROL

COORDINATES ARE ALASKA STATE PLANE ZONE 1, NAD83(2011) IN U.S. FEET. THE BASIS OF COORDINATES IS POINT 551 HAINES AIRPORT PACS MONUMENT "HNS D" (PID A14905), A BRASS DISK HAVING A PUBLISHED NGS VALUE OF N 2,713,021.97 AND E 2,336,252.16. BEARINGS WERE DERIVED FROM STATIC GPS OBSERVATIONS TAKEN DURING OCTOBER 2022, HOLDING THE PUBLISHED NGS POSITION OF "HNS D".

VERTICAL CONTROL

ELEVATIONS ARE NAVD88 GEOID12B ORTHOMETRIC HEIGHTS IN U.S. FEET. THE BASIS OF ELEVATIONS IS POINT 551, HAINES AIRPORT PACS MONUMENT "HNS D" (PID A14905), A BRASS DISK HAVING A STATIC GPS DERIVED GEOID12B ORTHOMETRIC ELEVATION OF 36.03 FEET. ELEVATIONS FOR OTHER CONTROL POINTS ARE DERIVED FROM STATIC GPS OBSERVATIONS TAKEN DURING OCTOBER 2022.

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	A4	24

HNS-1							
SEGMENT	STATION	NORTHING	EASTING	STATION	RADIUS	LENGTH	DELTA
C1	-0+00.00	2710955.3250	2344644.2933	3+01.35	1489.064	300.832	S85° 52' 14.99"W

HNS-2							
SEGMENT	STATION	NORTHING	EASTING	STATION	RADIUS	LENGTH	DELTA
L1	10+00.00	2712923.7830	2337715.4830	11+78.53			

HNS-3							
SEGMENT	STATION	NORTHING	EASTING	STATION	RADIUS	LENGTH	DELTA
L2	294+70.98	2718614.1217	2327837.2042	305+43.71			
C2	305+43.71	2718974.0727	2326826.6714	309+98.72	1999.906	454.038	N63° 52' 34.24"W

HNS-4							
SEGMENT	STATION	NORTHING	EASTING	STATION	RADIUS	LENGTH	DELTA
C3	10+00.00	2720328.3278	2320742.2106	12+16.78	14399.993	216.779	S84° 59' 45.21"W

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

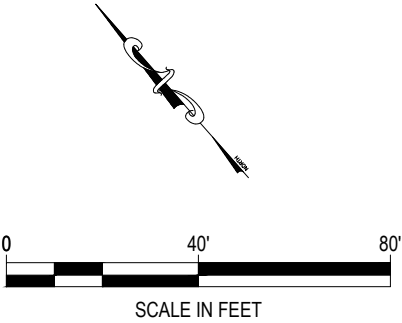
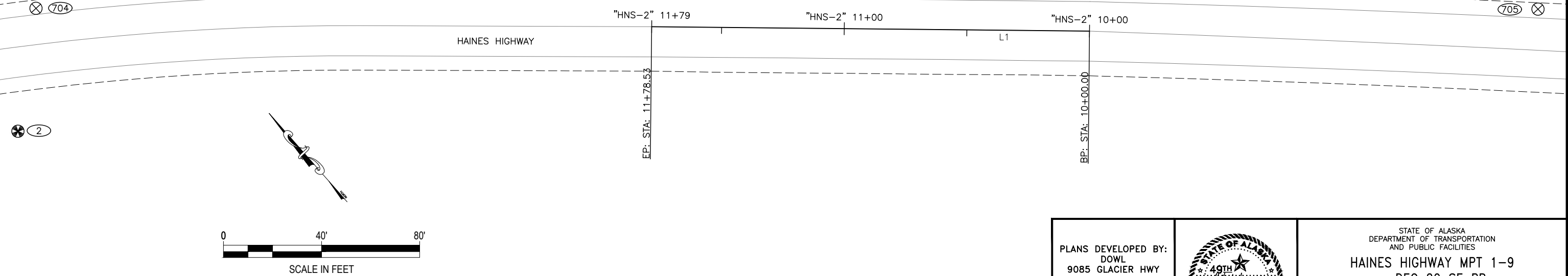
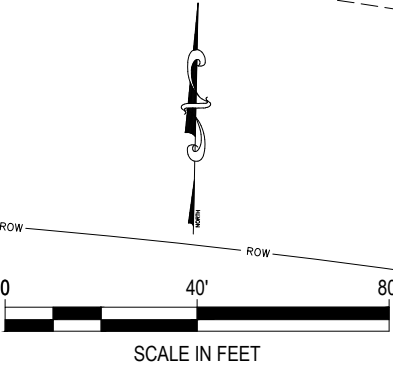
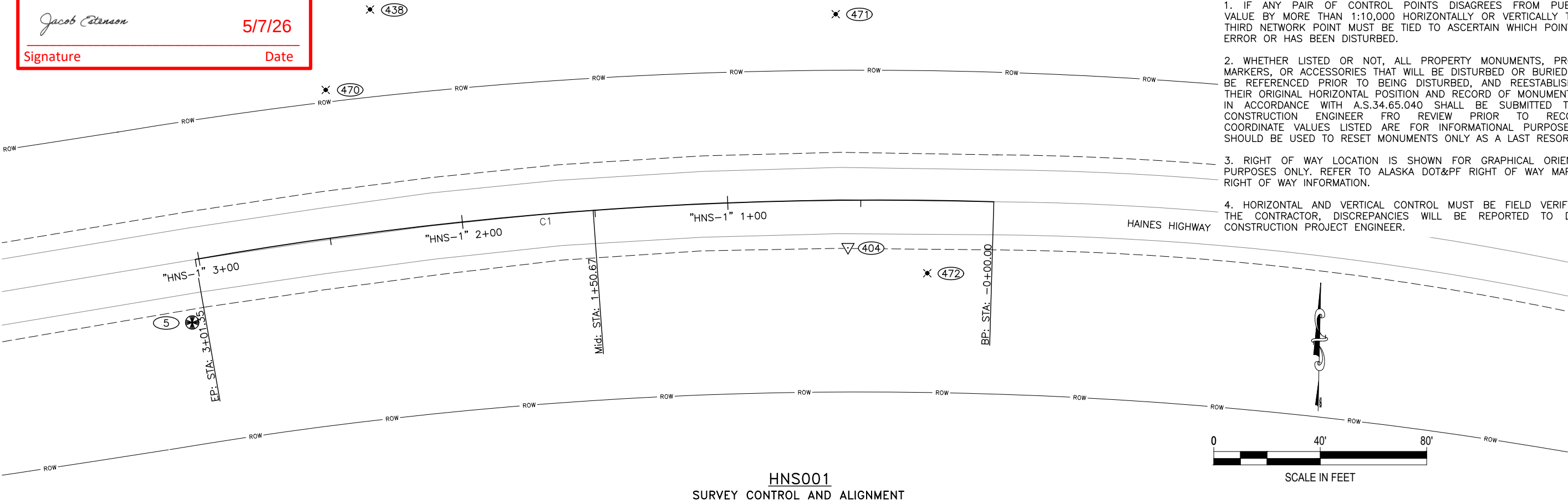
5/7/26

Signature

Date

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	A5	24

- MONUMENT NOTES:**
- IF ANY PAIR OF CONTROL POINTS DISAGREES FROM PUBLISHED VALUE BY MORE THAN 1:10,000 HORIZONTALLY OR VERTICALLY THEN A THIRD NETWORK POINT MUST BE TIED TO ASCERTAIN WHICH POINT IS IN ERROR OR HAS BEEN DISTURBED.
 - WHETHER LISTED OR NOT, ALL PROPERTY MONUMENTS, PROPERTY MARKERS, OR ACCESSORIES THAT WILL BE DISTURBED OR BURIED SHALL BE REFERENCED PRIOR TO BEING DISTURBED, AND REESTABLISHED IN THEIR ORIGINAL HORIZONTAL POSITION AND RECORD OF MONUMENT FORM IN ACCORDANCE WITH A.S.34.65.040 SHALL BE SUBMITTED TO THE CONSTRUCTION ENGINEER FRO REVIEW PRIOR TO RECORDING. COORDINATE VALUES LISTED ARE FOR INFORMATIONAL PURPOSES AND SHOULD BE USED TO RESET MONUMENTS ONLY AS A LAST RESORT.
 - RIGHT OF WAY LOCATION IS SHOWN FOR GRAPHICAL ORIENTATION PURPOSES ONLY. REFER TO ALASKA DOT&PF RIGHT OF WAY MAPS FOR RIGHT OF WAY INFORMATION.
 - HORIZONTAL AND VERTICAL CONTROL MUST BE FIELD VERIFIED BY THE CONTRACTOR, DISCREPANCIES WILL BE REPORTED TO DOT&PF CONSTRUCTION PROJECT ENGINEER.

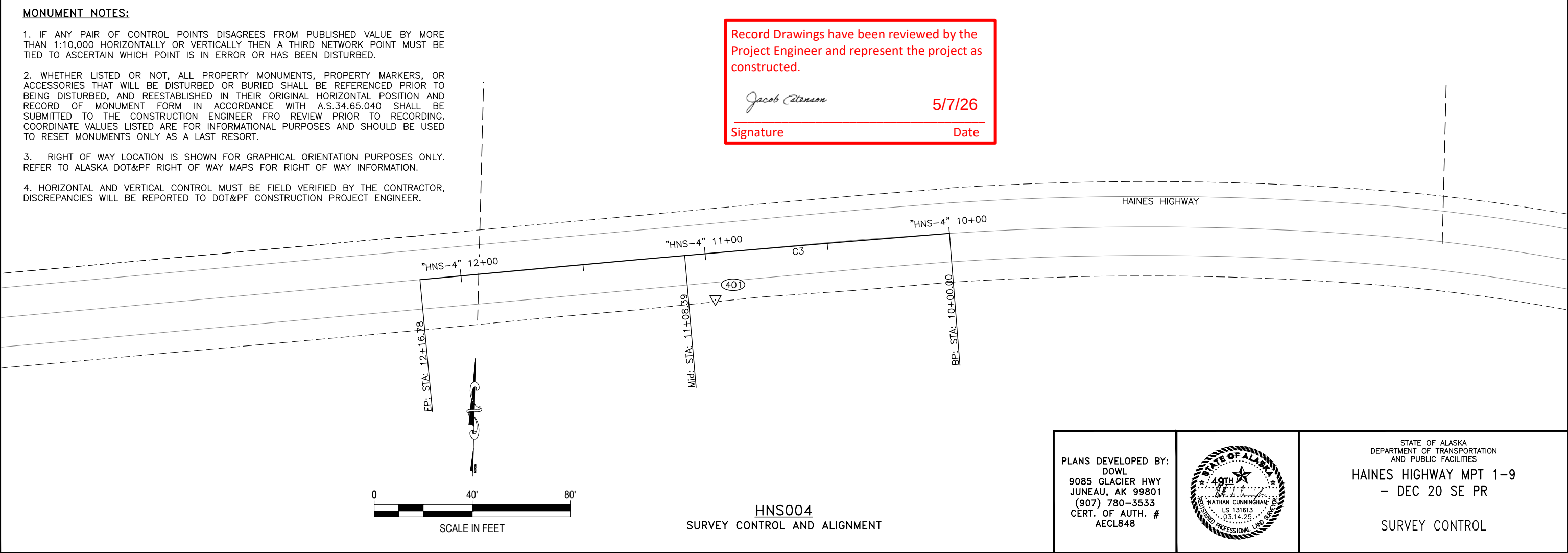
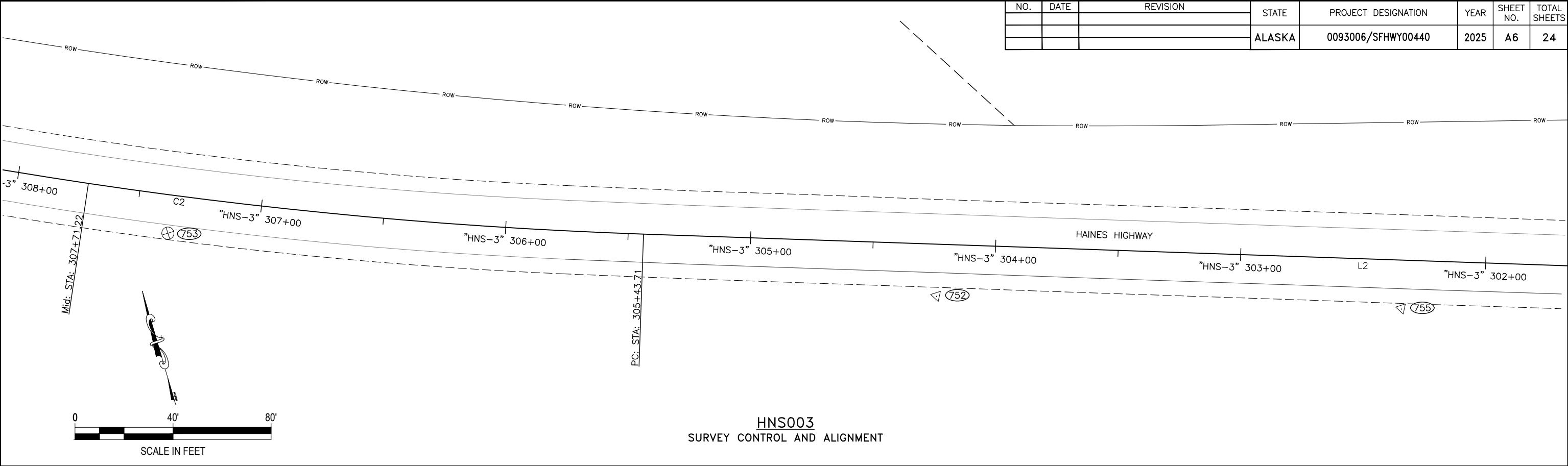


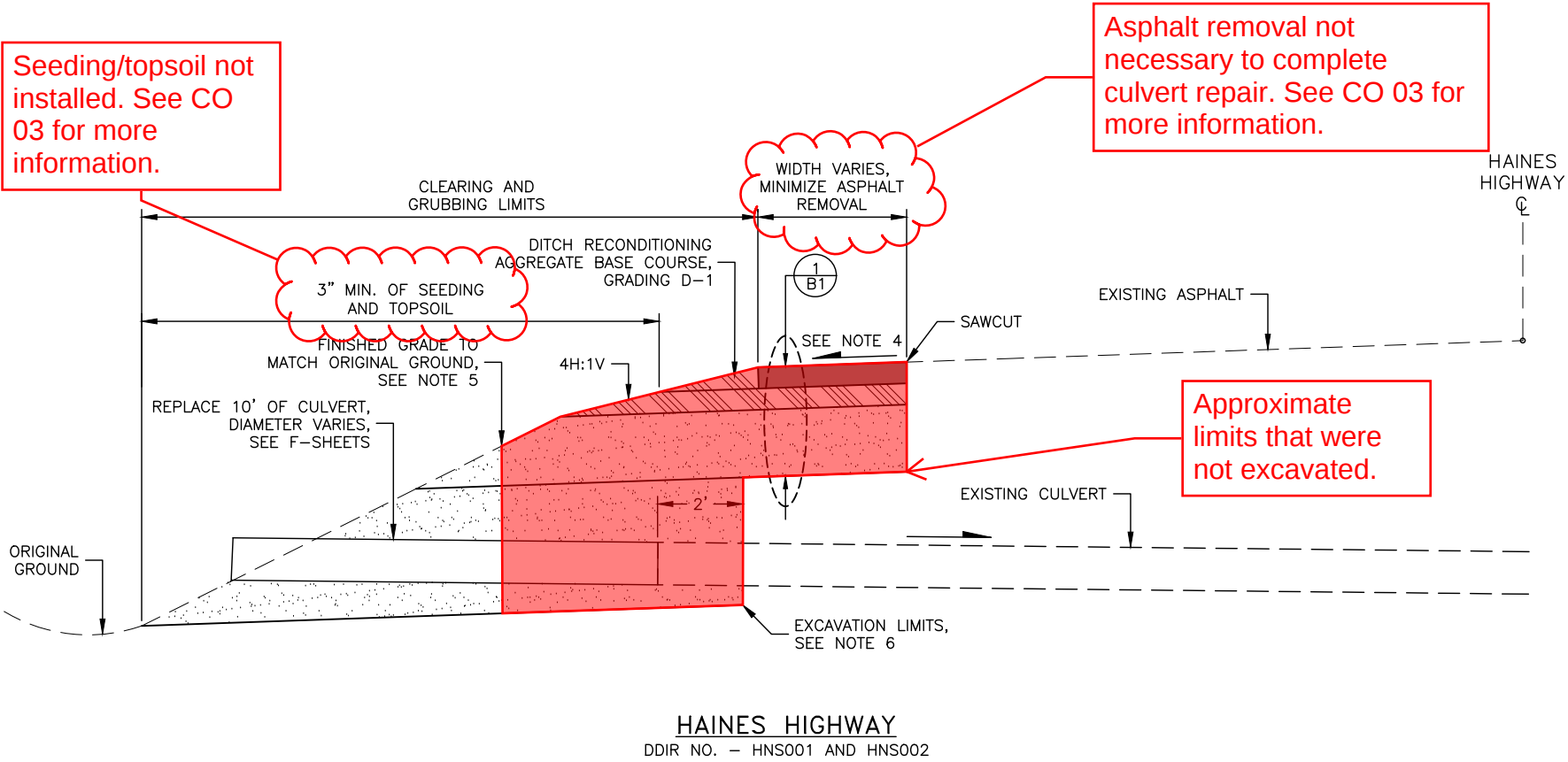
PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

SURVEY CONTROL





1
B1
PAVEMENT STRUCTURAL SECTION NO. 1
SCALE: NOT TO SCALE

LEGEND

①

3" HMA, TYPE II; CLASS B

②

STE-1 ASPHALT FOR TACK COAT

③

6" AGGREGATE BASE COURSE, GRADING D-1

④

DEPTH VARIES, SELECTED MATERIAL, TYPE A

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	B1	24

- GENERAL NOTES:
- IN THE INTERIM FOR PAVEMENT, USE AGGREGATE BASE COURSE, D-1 AND MAINTAIN UNTIL PAVED.
 - MATCH EXISTING PAVEMENT AT BEGIN/END PAVEMENT STATIONS AS APPROVED BY THE ENGINEER.
 - BOTTOM CROSS-SLOPE OF SELECTED MATERIAL, TYPE A SHALL BE CONSISTENT WITH CORRESPONDING ROADWAY CROSS-SLOPE TO MAINTAIN POSITIVE DRAINAGE.
 - CROSS-SLOPES SHOWN ARE APPROXIMATE, MATCH EXISTING ROAD CROSS-SLOPES.
 - THE FORESLOPES SHOWN ARE APPROXIMATE AND VARY. TIE INTO THE EXISTING GROUND AT THE BOTTOM OF THE STRUCTURAL SECTION AND CONSTRUCT FORESLOPES TO MATCH EXISTING SLOPES OR FLATTER. ADJUST AS DIRECTED BY ENGINEER.
 - EXCAVATE VERTICALLY AS POSSIBLE TO MINIMIZE ASPHALT AND ROADWAY EXCAVATION.
 - REFERENCE ALASKA STANDARD PLAN C-6.00 FOR ROADSIDE SAFETY TREATMENT FOR WORK ZONE REQUIREMENTS.

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

5/7/26

SignatureDate

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

TYPICAL SECTIONS

FILE

c:\dowl_pw\0409794\00440-C-EST.dwg

FIRM

DOWL

ADDRESS

9085 GLACIER HWY., JUNEAU, AK 99801

DATE

3/14/2025 13:47

PHONE

(907) 780-3533

CERT. OF AUTH. #

AECL848

DESIGNED

MAF

CHECKED

MAF

ARC/RDP

MAF

DRAFTED

MAF

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	C1	24

ESTIMATE OF QUANTITIES								
ITEM NO.	ITEM DESCRIPTION	PAY UNIT	HNS001		HNS002	HNS003	HNS004	TOTAL QUANTITY
			DOT86	DOT87	HDR2087	DOT93	HDR2089	
201.0009.0000	CLEARING AND GRUBBING	LS	ALL REQ'D		ALL REQ'D	--	ALL REQ'D	ALL REQ'D
201.0010.0000	HAND CLEARING	LS	--		--	ALL REQ'D	--	ALL REQ'D
201.2001.0000	INVASIVE PLANT SPECIES CONTROL, REMOVAL, AND DISPOSAL	SY	187.8		6.3	--	50.8	244.9 241.30
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	20		10	--	--	30 9.5
203.0012.0000	DRAIN HOLES	LF	--		--	120	--	120
203.2033.0000	STABILIZATION – ROCK BOLTS	LF	--		--	250	--	250 255
203.2041.0010	UNCLASSIFIED EXCAVATION	CYVM	--		--	60	--	60 215
203.2050.0000	ROCKFALL MITIGATION, SLOPE SCALING	HR	--		--	50	--	50 60.75
407.2010.0000	ASPHALT REPAIR	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	--	ALL REQ'D
603.0001.0024	CSP 24 INCH	LF	10		10	--	--	20 10
603.0001.0054	CSP 54 INCH	LF	10		--	--	--	10 0
611.0001.0001	RIPRAP, CLASS I	CY	--		--	--	14	14 20
613.0002.0000	CULVERT MARKER POST	EACH	2		1	--	2	5
630.0002.0001	GEOTEXTILE, STABILIZATION, CLASS 1	SY	--		--	--	20	20 26.70
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
658.0001.0000	EROSION, SEDIMENT, AND POLLUTION CONTROL WITHOUT CGP COVERAGE	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
658.0002.0000	ESCP CHANGES BY DIRECTIVE	CS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D
671.2005.0000	STREAM DIVERSION AND DEWATERING	LS	ALL REQ'D		ALL REQ'D	ALL REQ'D	ALL REQ'D	ALL REQ'D

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

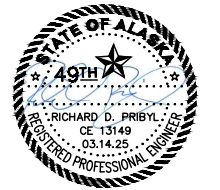
5/7/26

SignatureDate

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

ESTIMATE OF QUANTITIES

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	C2	24

ESTIMATED LUMP SUM QUANTITIES								
ITEM NO.	ITEM DESCRIPTION	PAY UNIT	HNS001		HNS002	HNS003	HNS004	TOTAL QUANTITY
			DOT86	DOT87	HDR2087	DOT93	HDR2089	
201.0009.0000	CLEARING AND GRUBBING	ACRE	0.038		0.019	--	0.066	0.183
201.0010.0000	HAND CLEARING	ACRE	--		--	0.06	--	0.06
407.2010.0000	ASPHALT REPAIR							
	REMOVAL OF PAVEMENT	SY	3.0		0.6			3.6
	UNCLASSIFIED EXCAVATION	CY	2.4		0.5	--	--	2.9
	BORROW, TYPE A	TON	3.9		0.8	--	--	4.7
	AGGREGATE BASE COURSE, GRADING D-1	TON	0.95		0.18	--	--	1.13
	DITCH RECONDITIONING	STA	0.14		0.05	0.65	--	0.84
	HMA, TYPE II, CLASS B	TON	1.00		0.19	--	--	1.19
	STE 1 ASPHALT FOR TACK COAT	TON	0.00000051		0.00000011	--	--	0.00000062
	ASPHALT BINDER, GRADE PG 58-34	TON	0.053		0.010	--	--	0.063
	SEEDING, MULCHING, & TOPSOIL	SY	173.4		94.0		292.2	559.6

BASIS OF ESTIMATE		
ITEM NO.	ITEM DESCRIPTION	UNIT
203.0006.000A	BORROW, TYPE A	144 LB/CF
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	144 LB/CF
401.0001.002B	HMA, TYPE II; CLASS B	151 LB/CF
401.0004.5834	ASPHALT BINDER GRADE PG 58-34	5.30%
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.000334 LB/SY

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

Signature

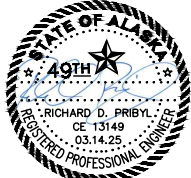
5/7/26

Date

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

ESTIMATE OF QUANTITIES

201.2001.0000 – INVASIVE PLANT SPECIES CONTROL, REMOVAL, AND DISPOSAL					
SHEET	HNS001		HNS002	HNS004	REMARKS
	DOT86	DOT87	HDR2087	HDR2089	
	AREA (SY)				
F1	178.4	9.4			
F2			6.3		
				50.8	
TOTAL:	178.4	9.4	6.3	50.8	
PAY ITEM QUANTITY:	244.9 241.30				

202.0004.0000 – REMOVAL OF CULVERT PIPE				
SHEET	HNS001		HNS002	REMARKS
	DOT86	DOT87	HDR2087	
	LENGTH (LF)			
F1	10	10		
F2			10	
TOTAL:	10	10	10	
PAY ITEM QUANTITY:	30 9.5			

203.2041.0010 – UNCLASSIFIED EXCAVATION		
SHEET	HNS003	REMARKS
	DOT93	
	VOLUME (CYVM)	
E4–E5	60	
TOTAL:	60	
PAY ITEM QUANTITY:	60 215	

203.0012.0000 – DRAIN HOLES		
SHEET	HNS003	REMARKS
	DOT93	
	LENGTH (LF)	
E4–E5	120	
TOTAL:	120	
PAY ITEM QUANTITY:	120	

203.2033.0000 – STABILIZATION – ROCK BOLTS		
SHEET	HNS003	REMARKS
	DOT93	
	LENGTH (LF)	
E4–E5	250	
TOTAL:	250	
PAY ITEM QUANTITY:	250 255	

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Ettenson 5/7/26
Signature Date

203.2050.0000 – ROCKFALL MITIGATION, SLOPE SCALING		
SHEET	HNS003	REMARKS
	DOT93	
	QUANTITY (HR)	
E4–E5	50	
TOTAL:	50	
PAY ITEM QUANTITY:	50 60.75	

603.0001.0024 – CSP 24 INCH			
SHEET	HNS001	HNS002	REMARKS
	DOT86	HDR2087	
	LENGTH (LF)		
F1	10		
F2		10	
TOTAL:	10	10	
PAY ITEM QUANTITY:	20 10		

603.0001.0054 – CSP 54 INCH		
SHEET	HNS001	REMARKS
	DOT87	
	LENGTH (LF)	
F1	10	
TOTAL:	10	
PAY ITEM QUANTITY:	10 0	

613.0002.00000 – CULVERT MARKER POST					
SHEET	HNS001		HNS002	HNS004	REMARKS
	DOT86	DOT87	HDR2087	HDR2089	
	QUANTITY (EACH)				
F1	1	1			
F2			1		
				2	
TOTAL:	1	1	1	2	
PAY ITEM QUANTITY:	5				

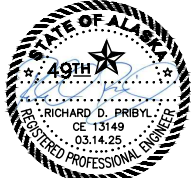
630.0002.0001 – GEOTEXTILE, STABILIZATION, CLASS 1		
SHEET	HNS004	REMARKS
	HDR2089	
	AREA (SY)	
F2	20	
TOTAL:	20	
PAY ITEM QUANTITY:	20 26.70	

611.0001.0001 – RIPRAP, CLASS I		
SHEET	HNS004	REMARKS
	HDR2089	
	VOLUME (CY)	
F2	14	
TOTAL:	14	
PAY ITEM QUANTITY:	14 20	

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1–9
– DEC 20 SE PR

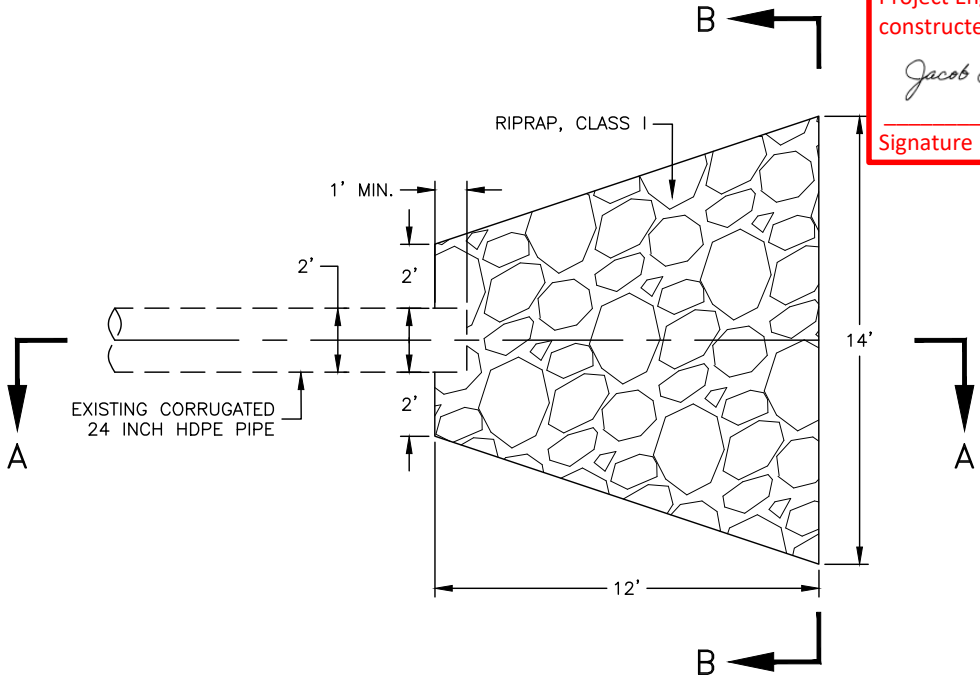
SUMMARY TABLES

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	E1	24

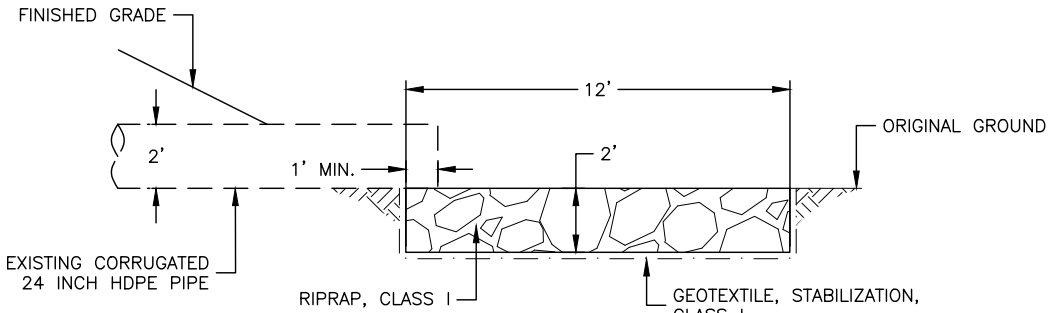
Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Edanson
Signature

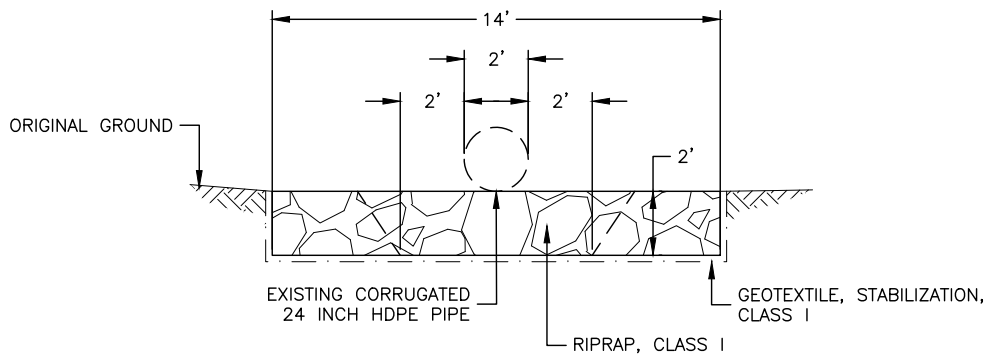
5/7/26
Date



PLAN



SECTION A-A

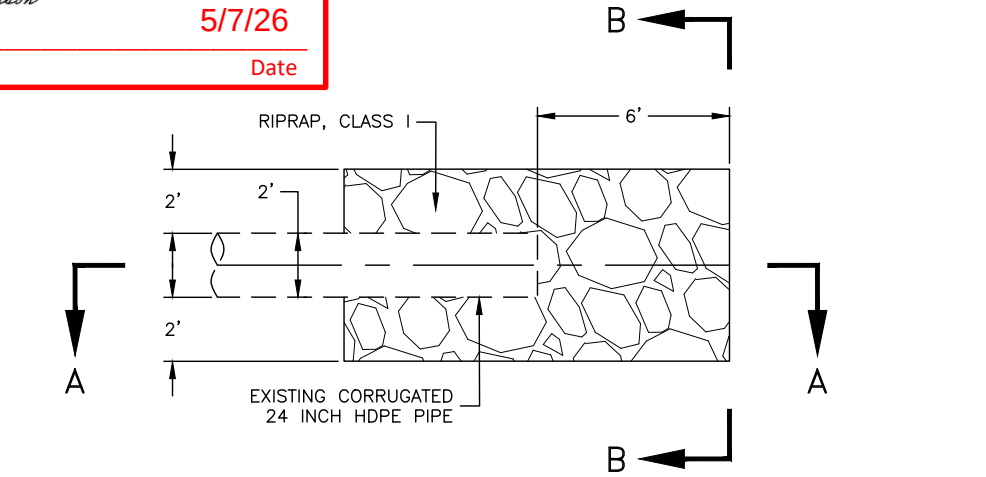


SECTION B-B

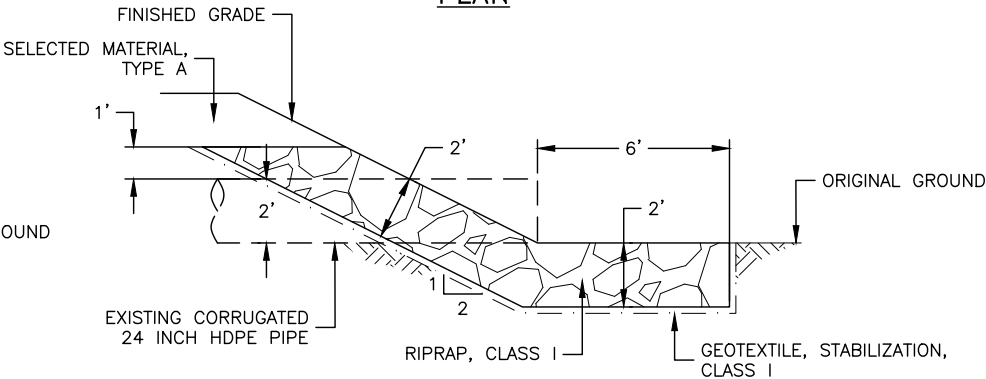
1 OUTLET RIPRAP APRON
SCALE: NOT TO SCALE

NOTES:

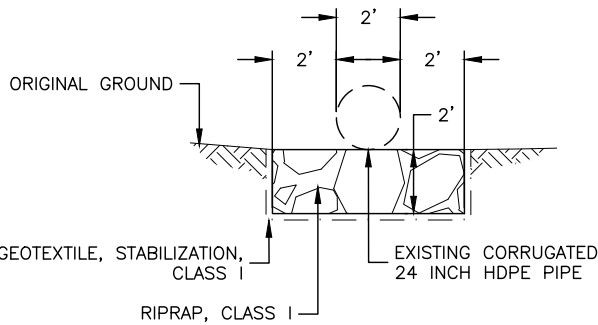
1. GRADE APRONS TO SLOPES PRESENT.
2. FIELD FIT APRONS AROUND EXISTING CULVERTS.
3. INLET AND OUTLET APRON DETAILS APPLY TO DDIR NO. HNS004



PLAN

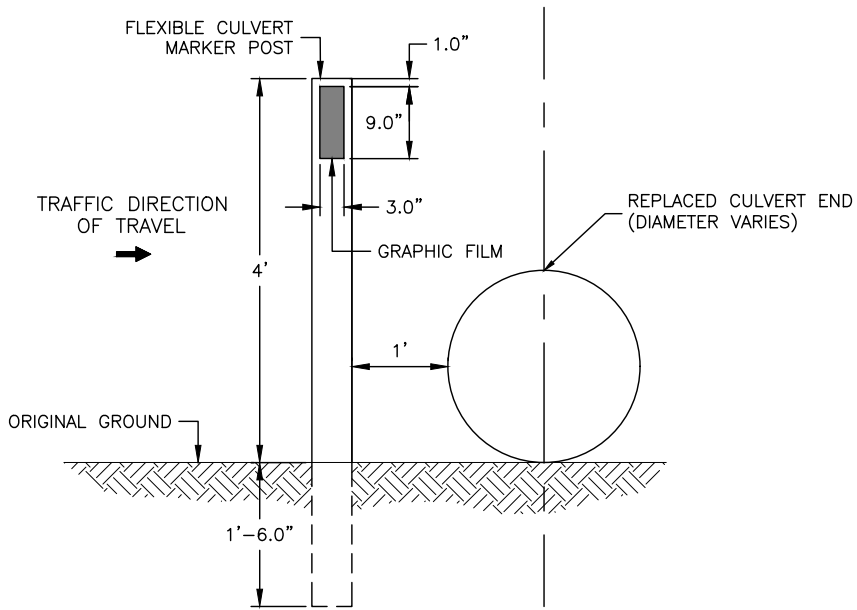


SECTION A-A

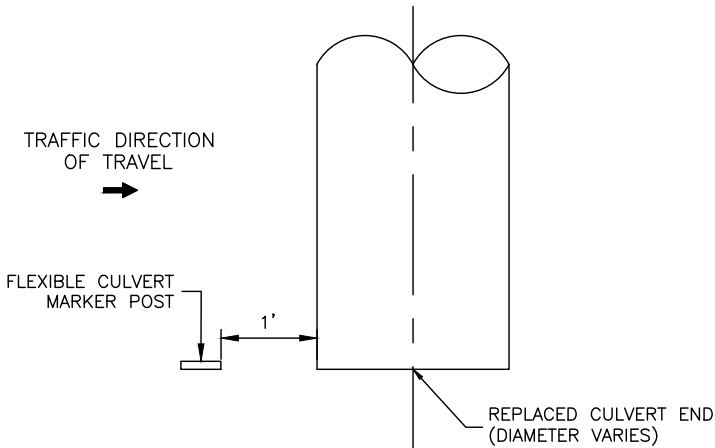


SECTION B-B

2 INLET RIPRAP APRON
SCALE: NOT TO SCALE



ELEVATION



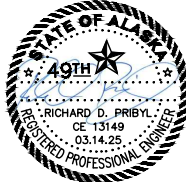
PLAN

NOTES:

1. FLEXIBLE CULVERT MARKER POSTS SHALL BE WHITE, FIBERGLASS COMPOSITE.
2. A 3" BY 9" STRIP OF BLACK 2-MIL GRAPHIC FILM SHALL BE AFFIXED TO EACH SIDE OF THE POST AS SHOWN IN THE FLEXIBLE MARKER POST DETAIL DRAWING. THE MATERIALS SHALL BE CENTERED WITHIN THE WIDTH OF THE POST. APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTION.
3. SEE D SHEETS FOR LOCATIONS OF NEW FLEXIBLE CULVERT MARKER POSTS.
4. WHEN NECESSARY, INSTALL CULVERT MARKER POST PAST RIPRAP EXTENTS

3 FLEXIBLE CULVERT MARKER POST
SCALE: NOT TO SCALE

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

DETAILS

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

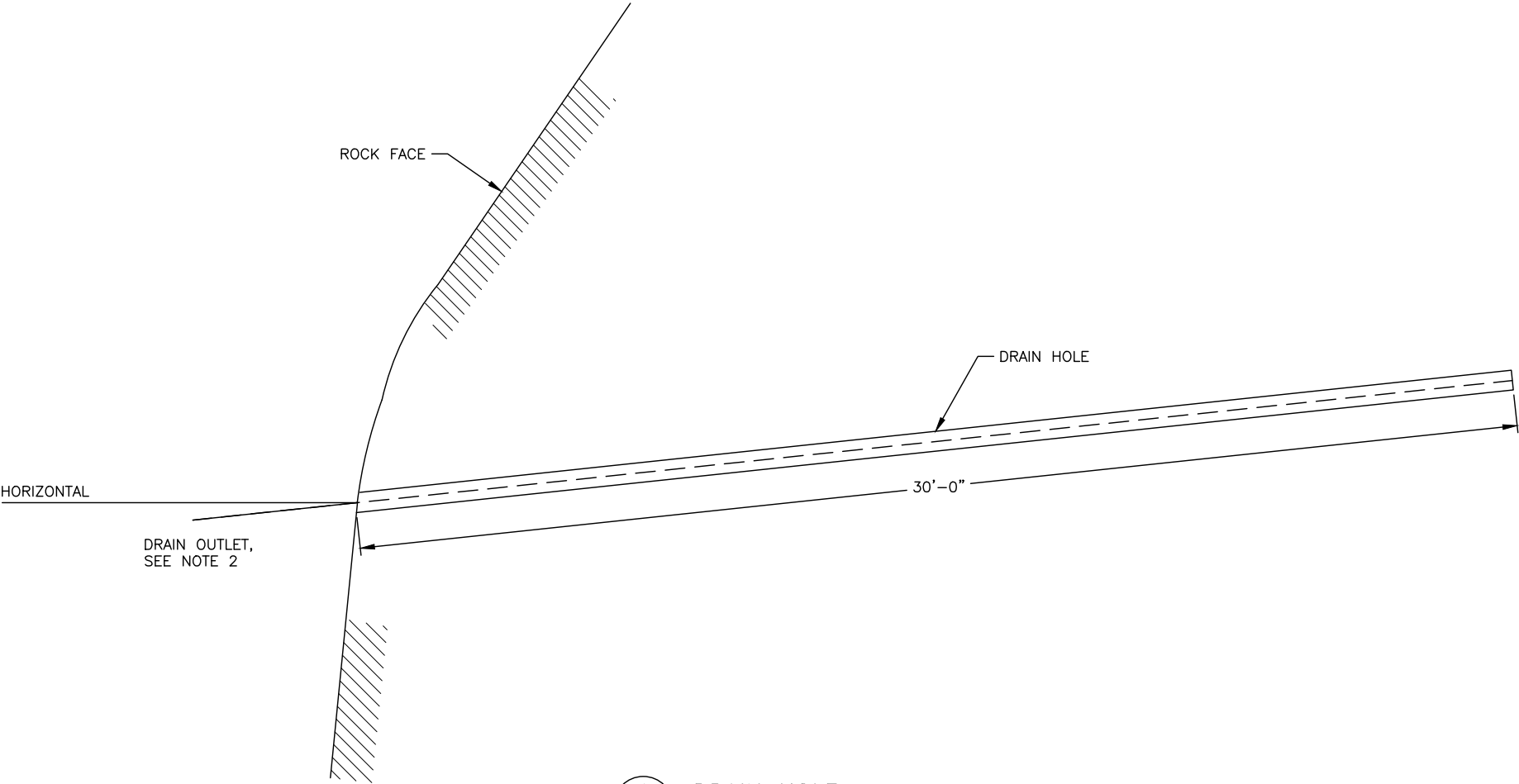
Jacob Estenson

5/7/26

Signature

Date

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	E2	24



1

E2

DRAIN HOLE

SCALE: NOT TO SCALE

- NOTES:
- INSTALL DRAIN HOLES AFTER ALL ROCK BOLTS HAVE BEEN INSTALLED AND COMPLETED IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
 - INSTALL DRAIN HOLES INCLINED UPWARDS AT 5--DEGREES (NOM.) FROM HORIZONTAL AT THE LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. DRAIN HOLE DIAMETER TO BE 2.5--INCHES MINIMUM.

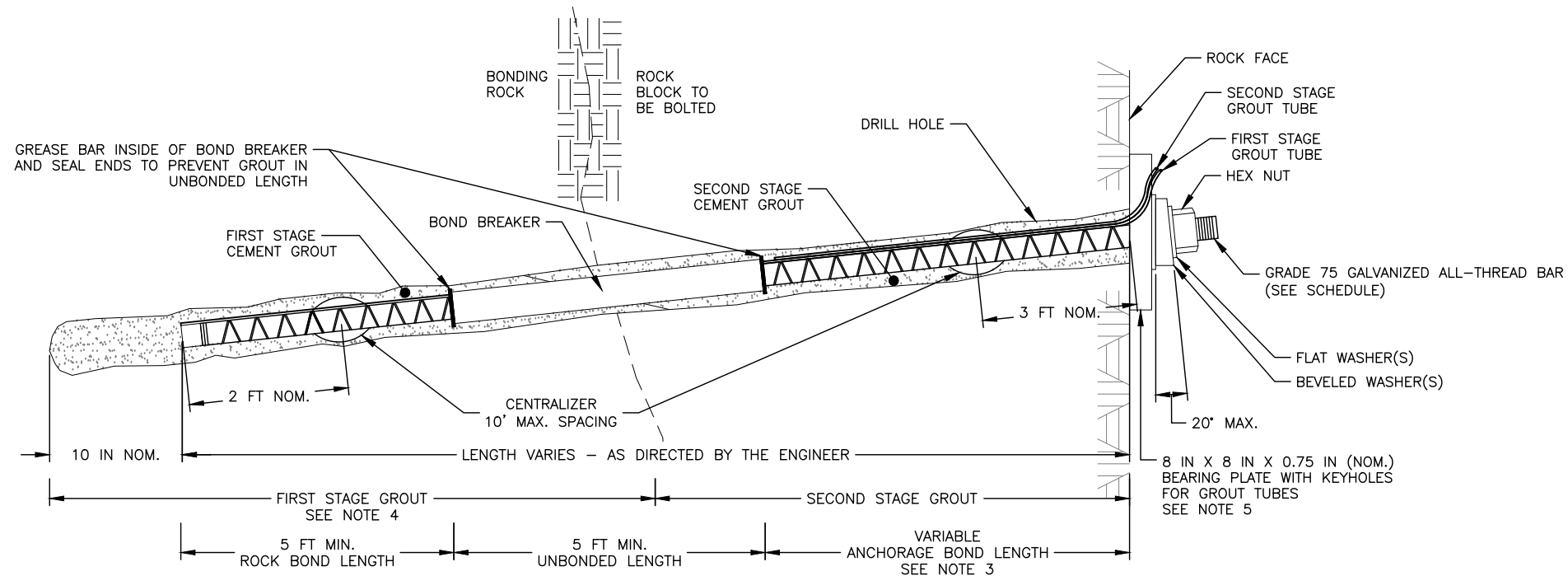
PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	E3	24



BAR SCHEDULE	
ROCK BOLT	MIN. BAR SIZE
40-KIP	#8

1
E3

ROCK BOLT
SCALE: NOT TO SCALE

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

5/7/26

Signature

Date _____

PROOF TESTING CYCLE		
STEP	LOADING	NOTES
	40-KIPS	
1	—	CHECK FIRST STAGE GROUT LEVEL BEFORE TESTING, SUPPLEMENT GROUTING AS NECESSARY
2	48	TENSION BOLT TO TEST LOAD, HOLD FOR 10 MINUTES, MONITOR TENSION
3	40	REDUCE TENSION TO DESIGN LOAD, TIGHTEN BOLT HARDWARE WHILE OBSERVING REDUCTION IN TENSION, RELEASE JACK PRESSURE
4	42	PERFORM LIFT-OFF TEST, OBSERVE BOLT HARDWARE RELAXATION AT DESIGN LOAD, RETIGHTEN BOLT HARDWARE, RELEASE JACK PRESSURE

PERFORMANCE TESTING CYCLE		
STEP	DESIGN LOAD	NOTES
	40-KIPS	
1	—	CHECK FIRST STAGE GROUT LEVEL BEFORE TESTING, SUPPLEMENT GROUTING AS NECESSARY
2	5	ALIGNMENT LOAD, PLACE THE DIAL GAUGE AFTER REACHING THIS LOAD.
3	10	INCREMENTAL LOADING
4	20	INCREMENTAL LOADING
5	30	INCREMENTAL LOADING
6	40	INCREMENTAL LOADING
7	48	TEST LOAD, HOLD FOR 10 TO 60 MINUTES, DEPENDING ON CREEP TEST
8	40	DESIGN LOAD, TENSION BOLT HARDWARE AND RELEASE JACK PRESSURE
9	42	LIFT-OFF TEST, VERIFY BOLT IS INSTALLED AT DESIGN LOAD.

NOTES:

1. PROVIDE MATERIAL AND WORKMANSHIP IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
2. INSTALL ROCK BOLTS AT THE LOCATIONS, ORIENTATIONS, AND LENGTHS AS DETERMINED BY THE ENGINEER IN THE FIELD. SEE SHEETS E4 AND E5 FOR APPROXIMATE LOCATIONS AND LENGTHS AS SHOWN IN THE DETAILED PHOTOGRAPHS.
3. ANCHORAGE BOND LENGTH TO BE DETERMINED BY THE ENGINEER AS BASED ON THE DRILLED LENGTHS.
4. FIRST STAGE GROUT TO FILL ROCK BOND LENGTH AND HALF OF UNBONDED LENGTH.
5. ORIENT KEYHOLES ON BEARING PLATE UPWARD FOR MAXIMUM GROUT RETENTION.

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	E4	24

LEGEND

25-FOOT ROCK BOLT
SEE SHEET E3

30-FOOT DRAIN HOLE
SEE SHEET E2

SCALING LIMITS

HAND CLEARING LIMITS
SEE NOTE 2

APPROXIMATE HEAVY
SCALING LIMITS

- NOTES:
1. APPROXIMATE LOCATION OF SITE:
59°15'49.96" N, 135°35'10.97" W

2. REMOVE TREES WITHIN 10 FEET
OF SLOPE CREST.

3. SCALING LIMITS TO BE CONFIRMED
IN THE FIELD BY THE ENGINEER.
CONDUCT SCALING PRIOR TO
INSTALLATION OF ROCK BOLTS
AND DRAINS.

4. ROCK BOLT AND DRAIN
LOCATIONS, ORIENTATIONS, AND
LENGTHS ARE APPROXIMATE AND
WILL BE CONFIRMED BY THE
ENGINEER.

Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Catenson

5/7/26

Signature

Date

MATCHLINE - SEE SHEET E5

1

E4

ROCKFALL MITIGATION
SCALE: NOT TO SCALE

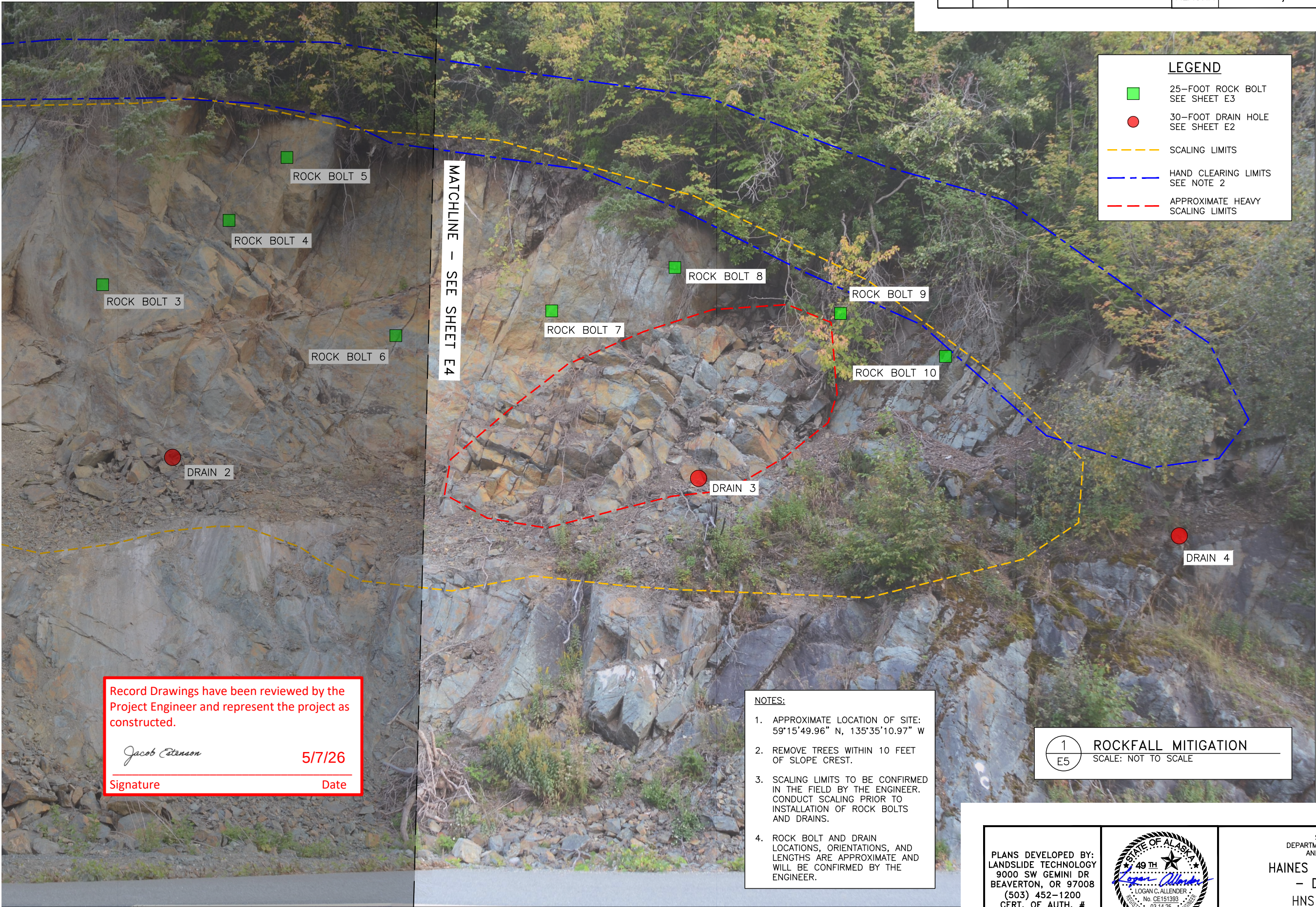
PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
HNS HWY: HNS003
DOT93
DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	E5	24



Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

5/7/26

Signature

Date

NOTES:

1. APPROXIMATE LOCATION OF SITE:
59°15'49.96" N, 135°35'10.97" W
2. REMOVE TREES WITHIN 10 FEET OF SLOPE CREST.
3. SCALING LIMITS TO BE CONFIRMED IN THE FIELD BY THE ENGINEER. CONDUCT SCALING PRIOR TO INSTALLATION OF ROCK BOLTS AND DRAINS.
4. ROCK BOLT AND DRAIN LOCATIONS, ORIENTATIONS, AND LENGTHS ARE APPROXIMATE AND WILL BE CONFIRMED BY THE ENGINEER.

1
E5

ROCKFALL MITIGATION
SCALE: NOT TO SCALE

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AEC0777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
HNS HWY: HNS003
DOT93
DETAILS

HAINES HWY MP 1-9
Rock Bolt and Drain Locations



Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

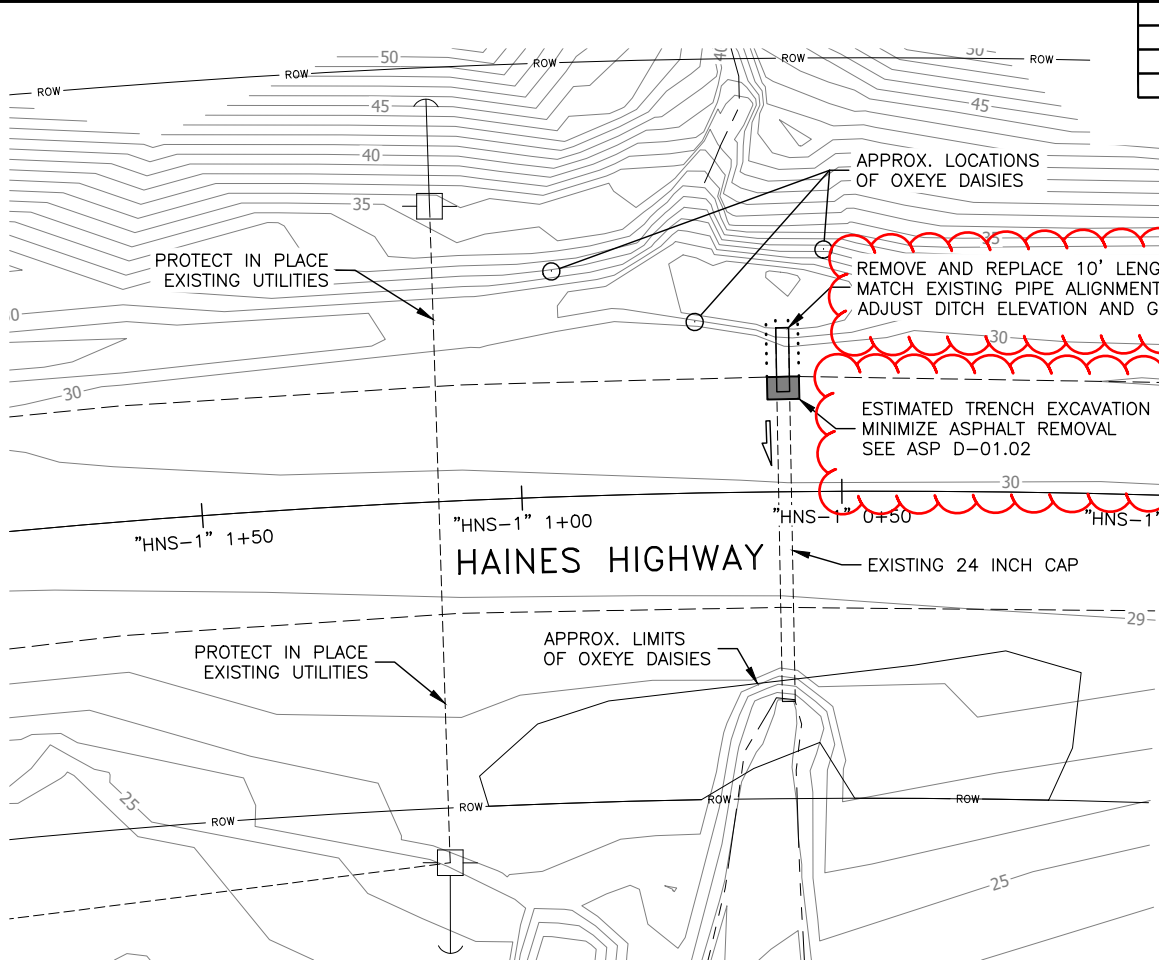
5/7/26

Signature

Date

NOTES:

1. APPROXIMATE LOCATION OF CULVERT IS AT MILEPOST 2.24
LATITUDE AND LONGITUDE:
59°14'35.06" N, 135°29'21.32" W
2. INSTALL FLEXIBLE CULVERT MARKER POST. SEE DETAIL 3 FROM SHEET E1.
3. ROW IS APPROXIMATELY 50' NORTH AND 30' SOUTH FROM EOP
4. UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.
5. INVASIVE SPECIES SHOWN ON THE PLANS ARE APPROXIMATE, FIELD VERIFY PRIOR TO REMOVAL.



REMOVE AND REPLACE 10' LENGTH OF 24 INCH CAP WITH CSP 24 INCH MATCH EXISTING PIPE ALIGNMENT, PROFILE, AND INVERT ELEVATION ADJUST DITCH ELEVATION AND GRADE TO DRAIN AS NECESSARY

ESTIMATED TRENCH EXCAVATION LIMITS MINIMIZE ASPHALT REMOVAL SEE ASP D-01.02

5 feet of CAP removed and replaced with CSP.

No asphalt removal necessary.



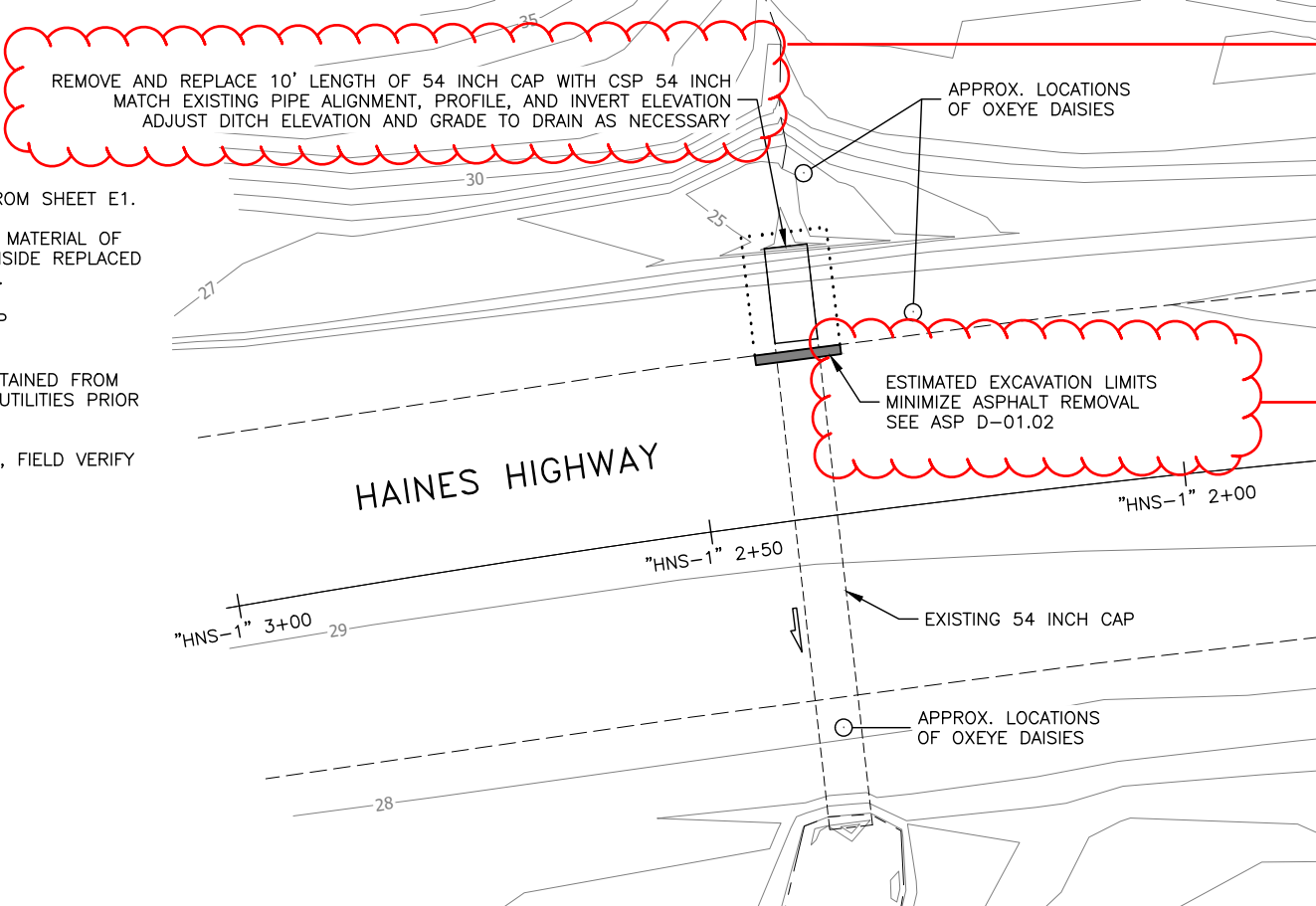
HNS HWY: HNS001
DOT86
CULVERT INLET
REPLACEMENT

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848



NOTES:

1. APPROXIMATE LOCATION OF CULVERT IS AT MILEPOST 2.30
LATITUDE AND LONGITUDE:
59°14'34.86" N, 135°29'25.07" W
2. INSTALL FLEXIBLE CULVERT MARKER POST. SEE DETAIL 3 FROM SHEET E1.
3. REMOVE AND TEMPORARILY STOCKPILE EXISTING STREAMBED MATERIAL OF CULVERT INLET. PLACE STOCKPILED STREAMBED MATERIAL INSIDE REPLACED CULVERT TO DEPTH EQUIVALENT TO 40% OF PIPE DIAMETER.
4. ROW IS APPROXIMATELY 50' NORTH AND 30' SOUTH OF EOP
5. UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.
5. INVASIVE SPECIES SHOWN ON THE PLANS ARE APPROXIMATE, FIELD VERIFY PRIOR TO REMOVAL.



REMOVE AND REPLACE 10' LENGTH OF 54 INCH CAP WITH CSP 54 INCH MATCH EXISTING PIPE ALIGNMENT, PROFILE, AND INVERT ELEVATION ADJUST DITCH ELEVATION AND GRADE TO DRAIN AS NECESSARY

ESTIMATED EXCAVATION LIMITS MINIMIZE ASPHALT REMOVAL SEE ASP D-01.02

Did not remove or replace any length of this culvert. Culvert inlet repaired. See CO 01 for more information.

No asphalt removal necessary.



Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Peterson

Signature

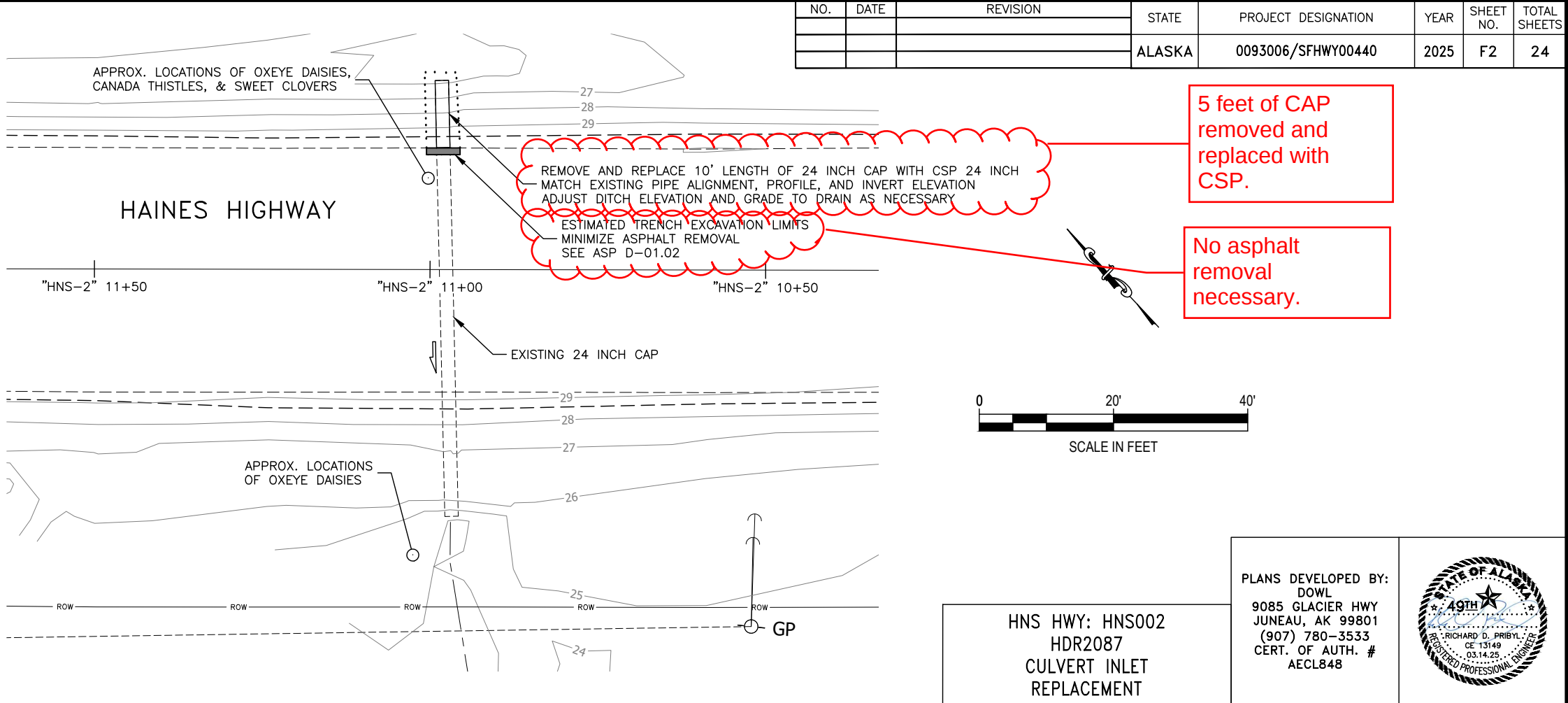
5/7/26

Date

HNS HWY: HNS001
DOT87
CULVERT INLET
REPLACEMENT

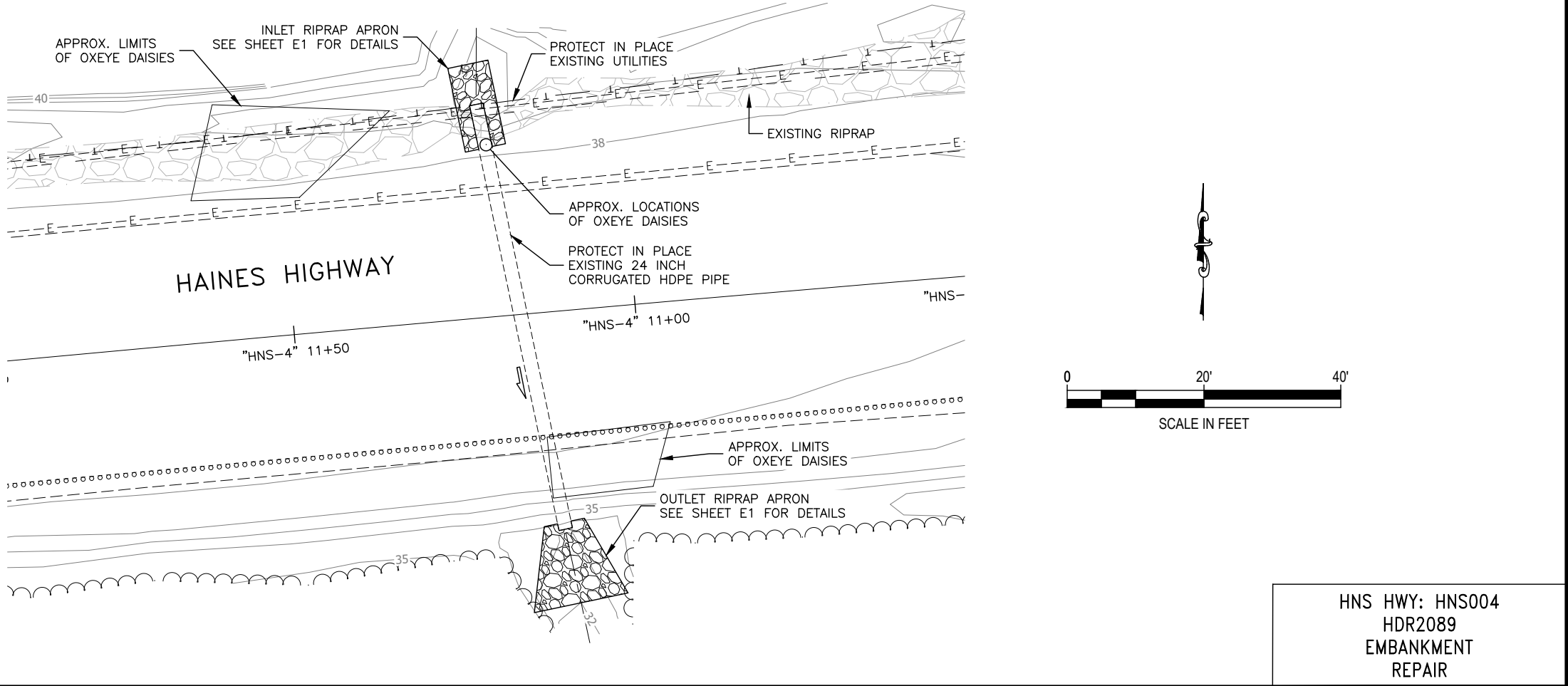
NOTES:

1. APPROXIMATE LOCATION OF CULVERT IS AT MILEPOST 3.75
- LATITUDE AND LONGITUDE:
59°14'53.45" N, 135°31'36.18" W
2. INSTALL FLEXIBLE CULVERT MARKER POST. SEE DETAIL 3 FROM SHEET E1.
3. ROW IS APPROXIMATELY 130' NORTH AND 30' SOUTH OF EOP
4. UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.
5. INVASIVE SPECIES SHOWN ON THE PLANS ARE APPROXIMATE, FIELD VERIFY PRIOR TO REMOVAL.



NOTES:

1. APPROXIMATE LOCATION OF CULVERT IS AT MILEPOST 7.44
- LATITUDE AND LONGITUDE:
59°16'0.98" N, 135°37'7.41" W
2. INSTALL FLEXIBLE CULVERT MARKER POSTS. SEE DETAIL 3 FROM SHEET E1.
3. ROW IS APPROXIMATELY 140' NORTH AND TO CHILKAT RIVER SOUTH OF EOP
4. UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.
5. INVASIVE SPECIES SHOWN ON THE PLANS ARE APPROXIMATE, FIELD VERIFY PRIOR TO REMOVAL.



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	F3	24

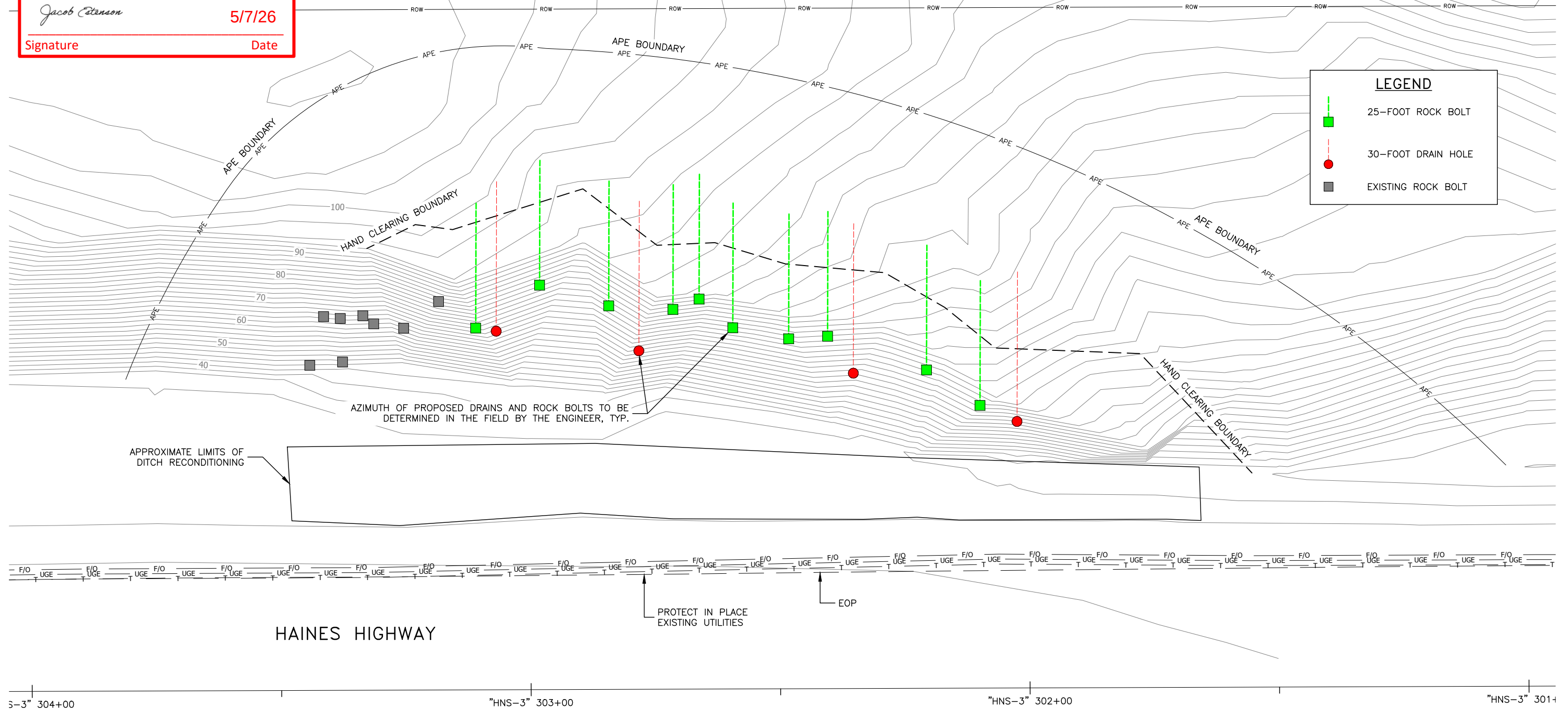
Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

5/7/26

Signature

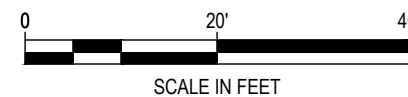
Date



NOTES:

1. APPROXIMATE LOCATION OF SITE IS AT MILEPOINT 6.3

LATITUDE AND LONGITUDE:
59°15'49.96" N, 135°35'10.97" W
2. ROW IS APPROXIMATELY 114' NORTH OF EOP AND SOUTH OF EOP TO CHILKAT RIVER
3. UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.



PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
HNS HWY: HNS003
DOT93
SITE PLAN

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

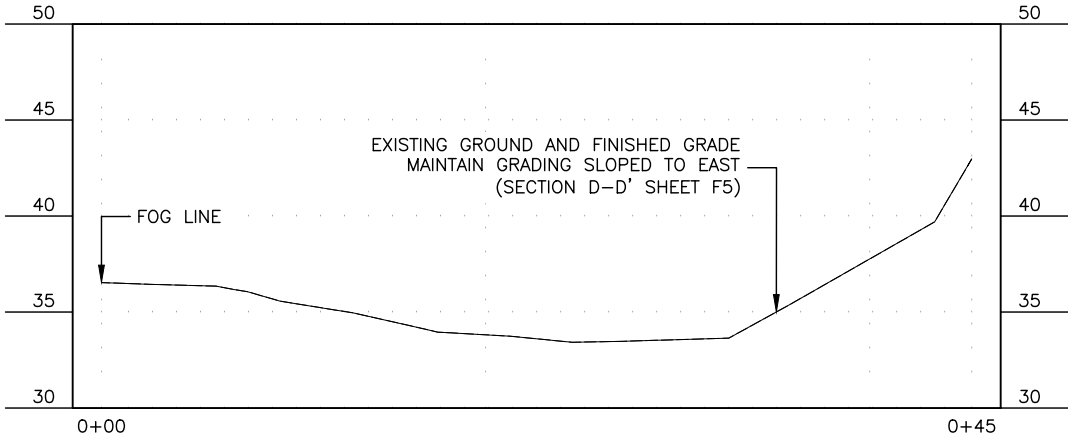
5/7/26

Signature

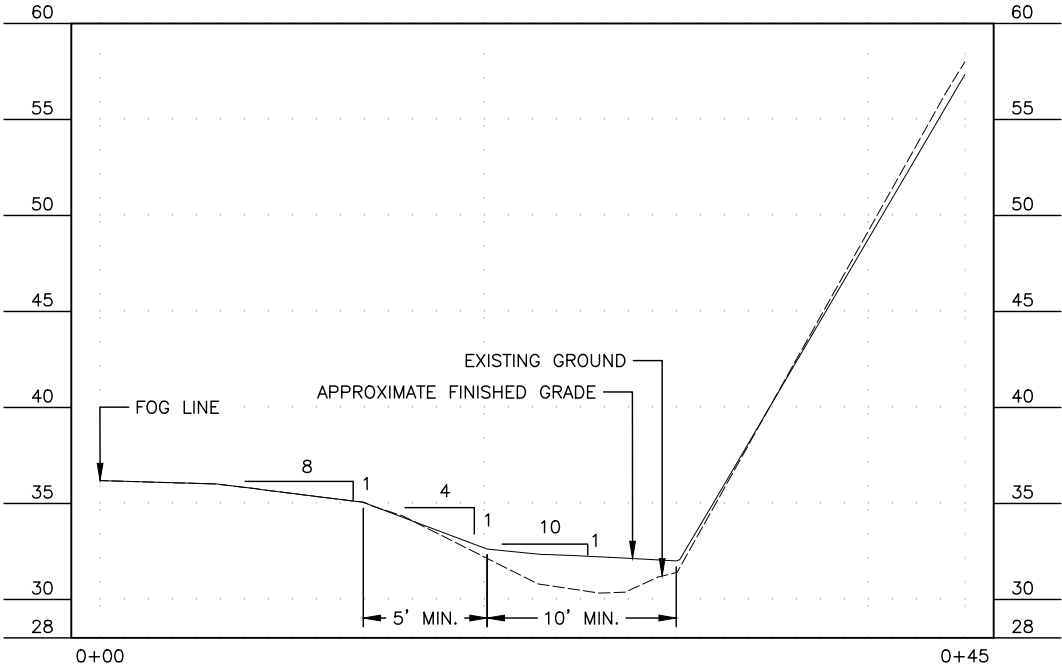
Date

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	F4	24

DITCH CROSS SECTION A-A': STA. 0+00 TO 0+45.3

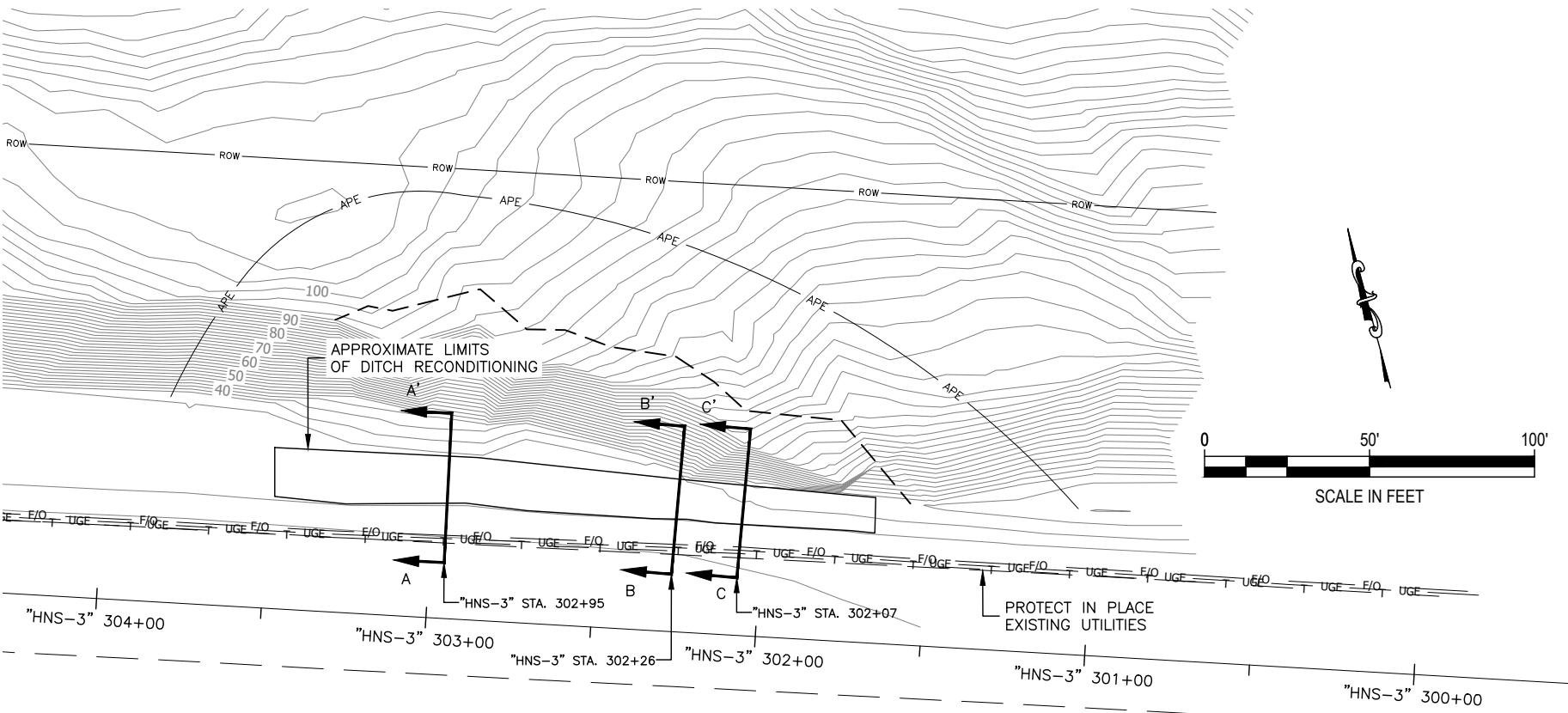
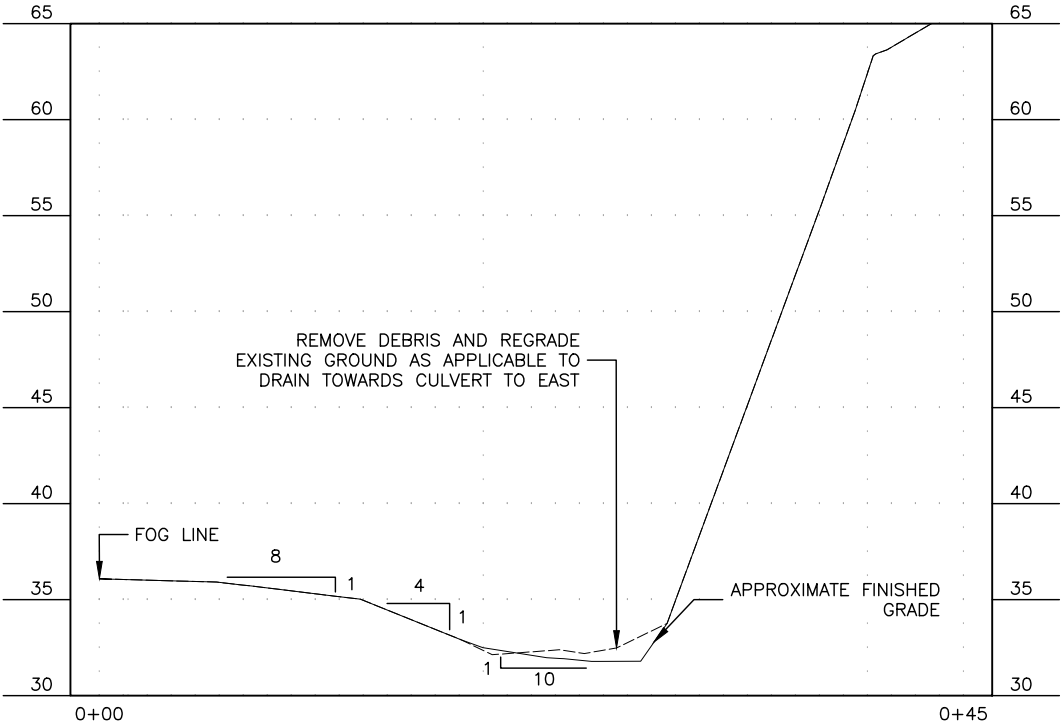


DITCH CROSS SECTION B-B': STA. 0+00 TO 0+45



- NOTES:
- DITCH RECONDITIONING IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
 - UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS, CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.

DITCH CROSS SECTION C-C': STA. 0+00 TO 0+45



PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
HNS HWY: HNS003
DOT93
DITCH CROSS SECTIONS

FILE c:\dowl\p\0409794\00440-F-PnP.dwg

FIRM DOWL

ADDRESS 9085 GLACIER HWY., JUNEAU, AK 99801

DATE 3/11/2025 15:15

PHONE (907) 780-3533

CERT. OF AUTH. # AECL848

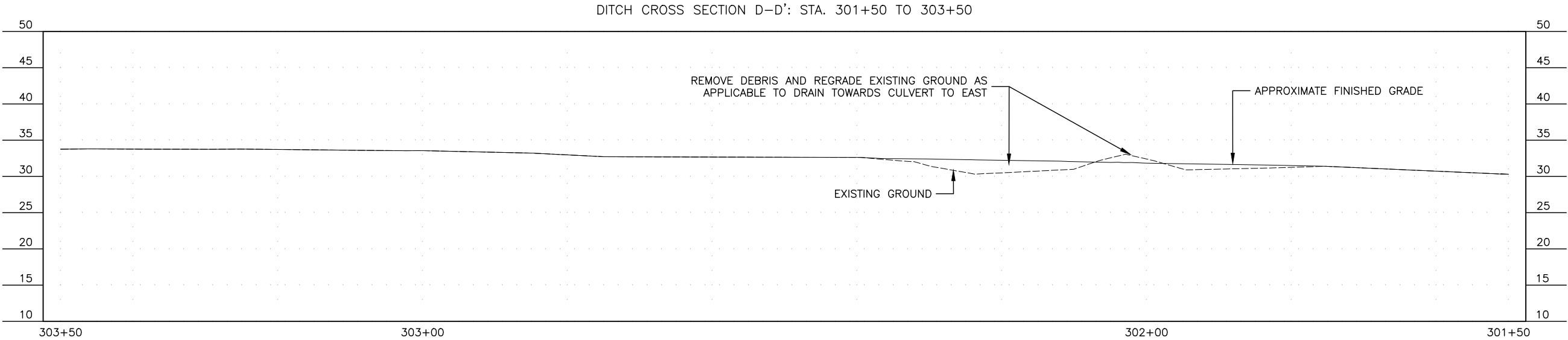
DESIGNED MAF

CHECKED MAF

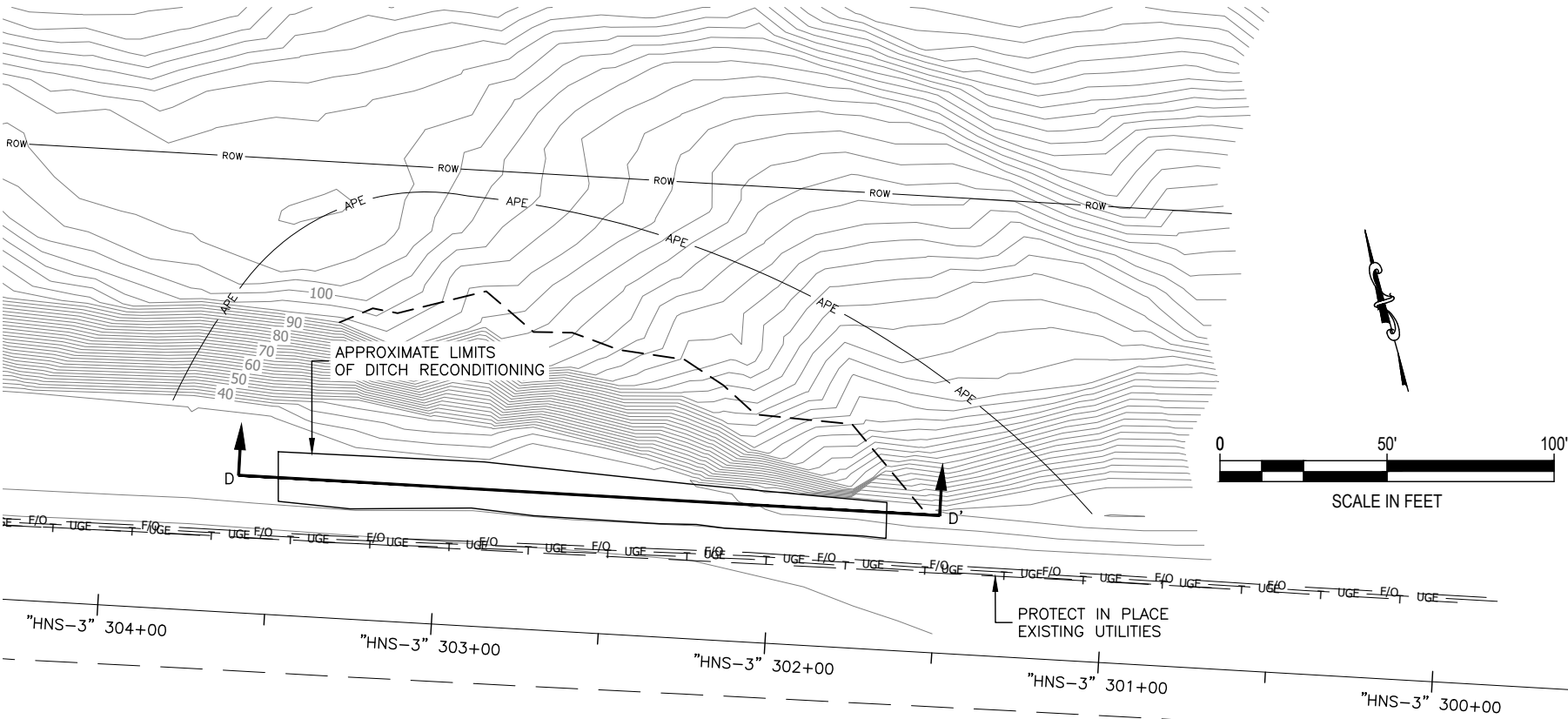
DRAFTED MAF

LAYOUT F5

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	F5	24



- NOTES:
- DITCH RECONDITIONING IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
 - UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND OBTAINED FROM RECORD DRAWINGS. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING WORK.



Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson 5/7/26
Signature Date

PLANS DEVELOPED BY:
LANDSLIDE TECHNOLOGY
9000 SW GEMINI DR
BEAVERTON, OR 97008
(503) 452-1200
CERT. OF AUTH. #
AECC777

STATE OF ALASKA
49TH
LOGAN C. ALLENDER
No. CE151393
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: 12/31/2025

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
HNS HWY: HNS003
DOT93
DITCH CROSS SECTIONS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	ESCP1	24

ESCP GENERAL NOTES:

1.

THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ARE PART OF THE ESCP. ANY CHANGES TO THE ESCP REQUIRE APPROVAL OF THE ENGINEER. IT'S THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN BMPs AS SHOWN, OR AS CONTAINED IN ANY ESCP REVISIONS.
2.

INSTALL EROSION SEDIMENT CONTROL MEASURES PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITY.
3.

CONSTRUCTION ENTRANCE/EXIT MUST BE ESTABLISHED TO MINIMIZE OFF-SITE IMPACTS.
4.

INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25 FOOT VEGETATIVE BUFFER IS NOT RETAINED.
5.

IF EXCAVATION DE-WATERING WILL OCCUR WITHIN 1,500 FEET OF AN ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION IDENTIFIED CONTAMINATED SITE, THEN THE PROJECT MUST COMPLY WITH THE ADEC EXCAVATION DE-WATERING GENERAL PERMIT.
6.

ALL IN-WATER WORK MUST BE ISOLATED FROM WATERS OF THE U.S. USING APPROPRIATE BMPS. ISOLATION METHODS MAY INCLUDE:

6.1.

SILT CURTAINS

6.2.

COFFERDAMS

6.3.

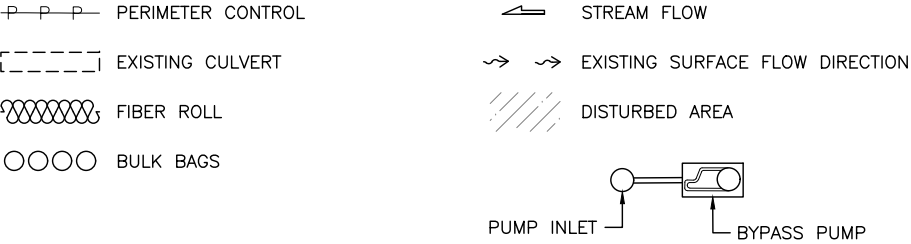
DIVERSIONS

6.4.

OTHER METHODS APPROVED BY THE ENGINEER
7.

ONCE CONSTRUCTION IS COMPLETE, ALL DISTURBED AREAS SHALL BE REVEGETATED OR STABILIZED.

ESCP LEGEND



Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Estenson

5/7/26

Signature

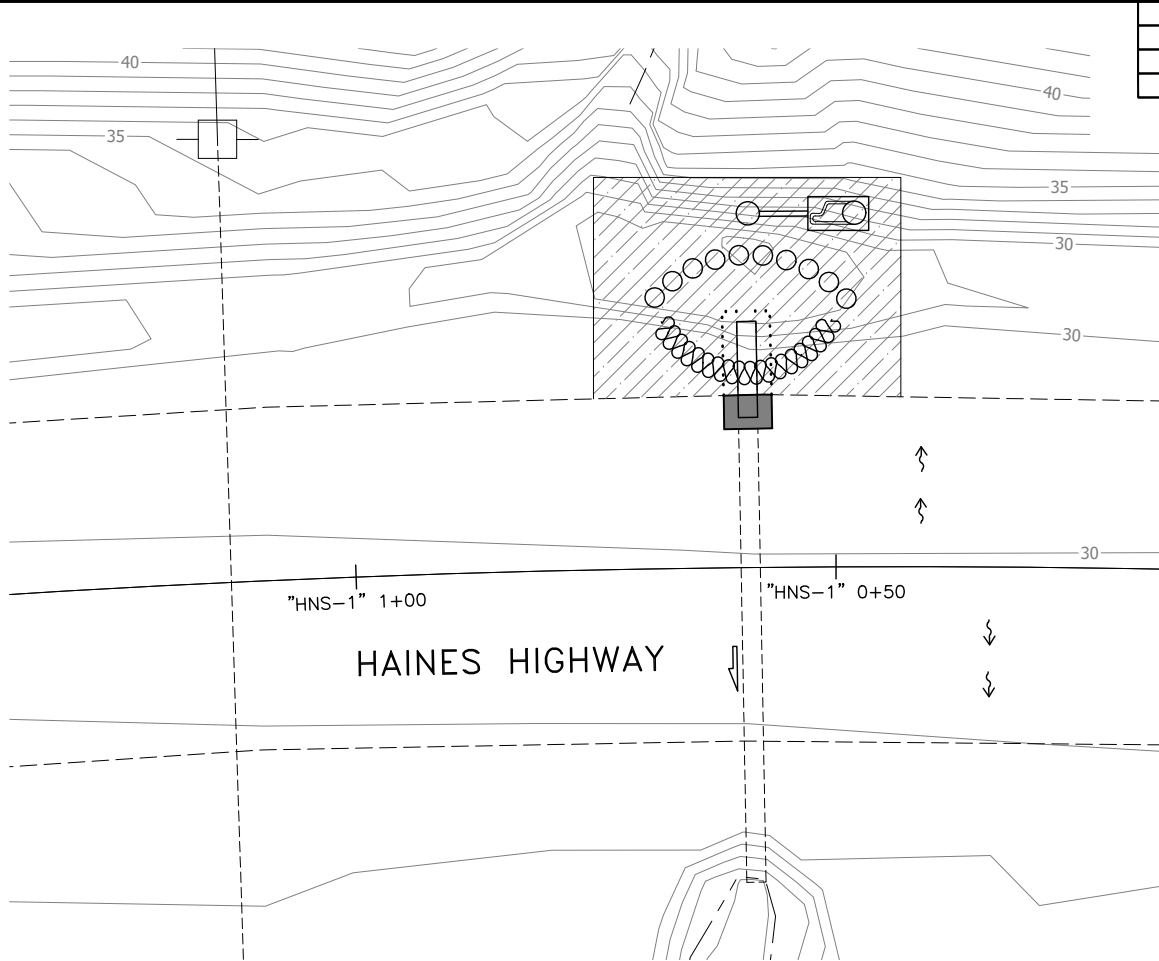
Date

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

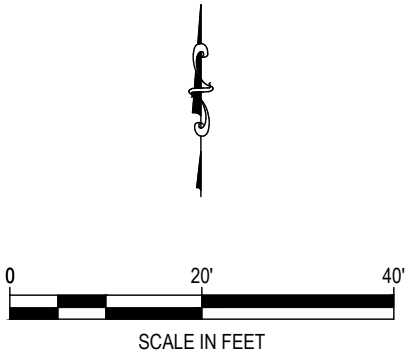
ESCP NOT SEALED IN
ACCORDANCE WITH
ALASKA HIGHWAY
PRECONSTRUCTION
MANUAL
SECTION 1120.8.3
DATED
JANUARY 1, 2025

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR
EROSION AND SEDIMENT
CONTROL PLAN
NOTES AND LEGEND

- NOTES:
1. ALLOWING STREAM FLOW THROUGH THE WORK AREA PROHIBITED.
 2. STREAM FLOW SHALL BE DIVERTED BY PUMPING OR OTHER METHODS APPROVED BY THE ENGINEER. STREAM DIVERSION PLAN MAY INCLUDE:
 - 2.1. DIVERTING STREAM FLOW AND DEWATERING WORK AREA IN ACCORDANCE WITH PERMITS.
 - 2.2. USING BULK BAGS OR SIMILAR TO PREVENT STREAM FLOW THROUGH WORK AREA.
 - 2.3. DEWATERING TRENCH AND WORK AREA WITH A DEWATERING PUMP AND HOSE IF REQUIRED.
 - 2.4. ALL DISCHARGE POINTS REQUIRE TEMPORARY VELOCITY CONTROLS.
 3. DISCHARGE WATER TO NATURAL BUFFER AREAS.



NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	ESCP2	24

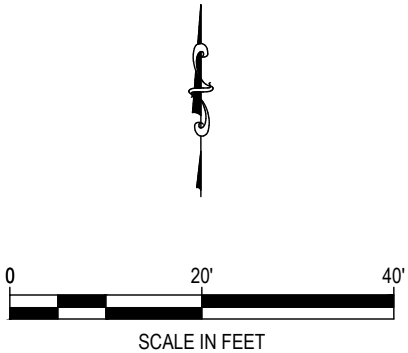
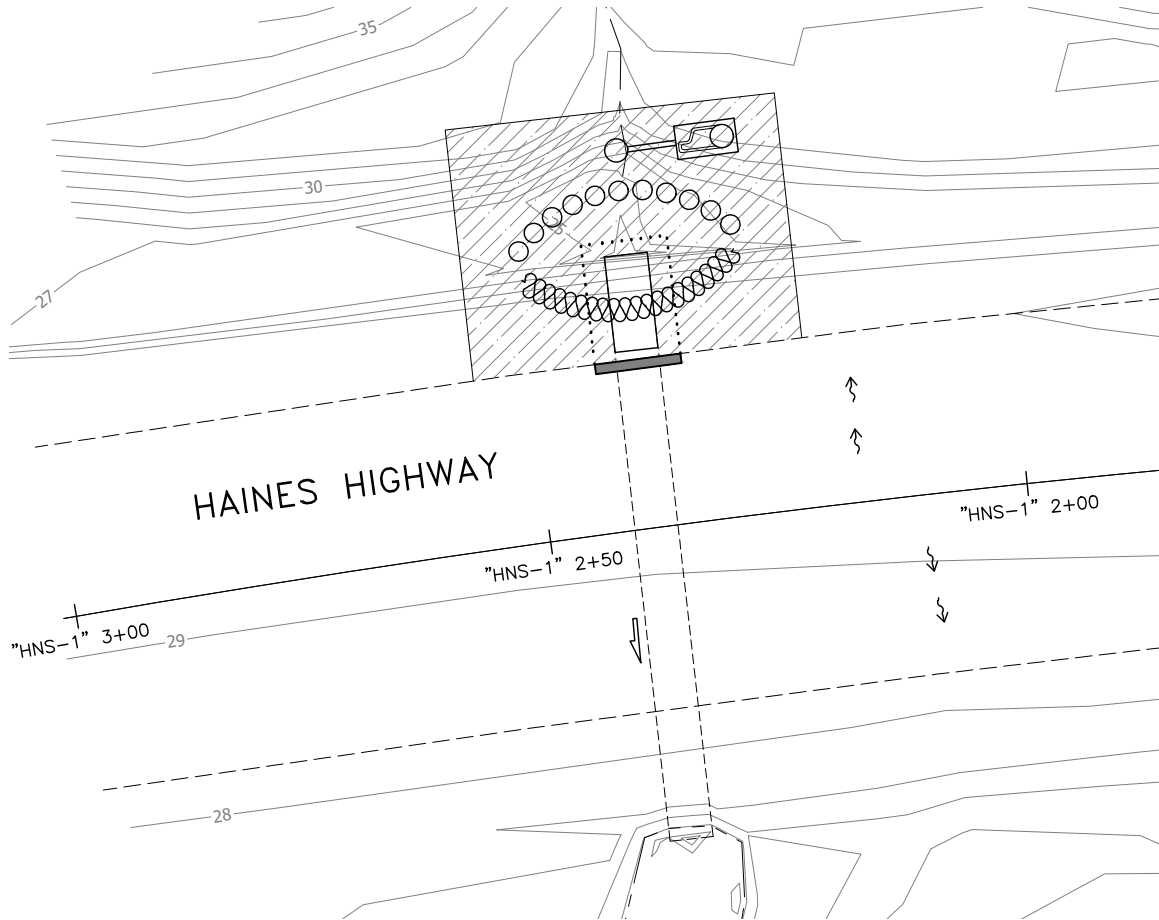


HNS HWY: HNS001
DOT86
ESCP

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

ESCP NOT SEALED IN
ACCORDANCE WITH
ALASKA HIGHWAY
PRECONSTRUCTION
MANUAL
SECTION 1120.8.3
DATED
JANUARY 1, 2025

- NOTES:
1. ALLOWING STREAM FLOW THROUGH THE WORK AREA PROHIBITED.
 2. STREAM FLOW SHALL BE DIVERTED BY PUMPING OR OTHER METHODS APPROVED BY THE ENGINEER. STREAM DIVERSION PLAN MAY INCLUDE:
 - 2.1. DIVERTING STREAM FLOW AND DEWATERING WORK AREA IN ACCORDANCE WITH PERMITS.
 - 2.2. USING BULK BAGS OR SIMILAR TO PREVENT STREAM FLOW THROUGH WORK AREA.
 - 2.3. DEWATERING TRENCH AND WORK AREA WITH A DEWATERING PUMP AND HOSE IF REQUIRED.
 - 2.4. ALL DISCHARGE POINTS REQUIRE TEMPORARY VELOCITY CONTROLS.
 3. DISCHARGE WATER TO NATURAL BUFFER AREAS.



Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

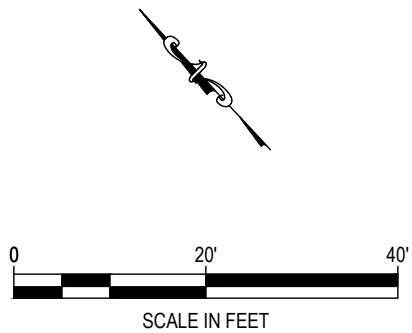
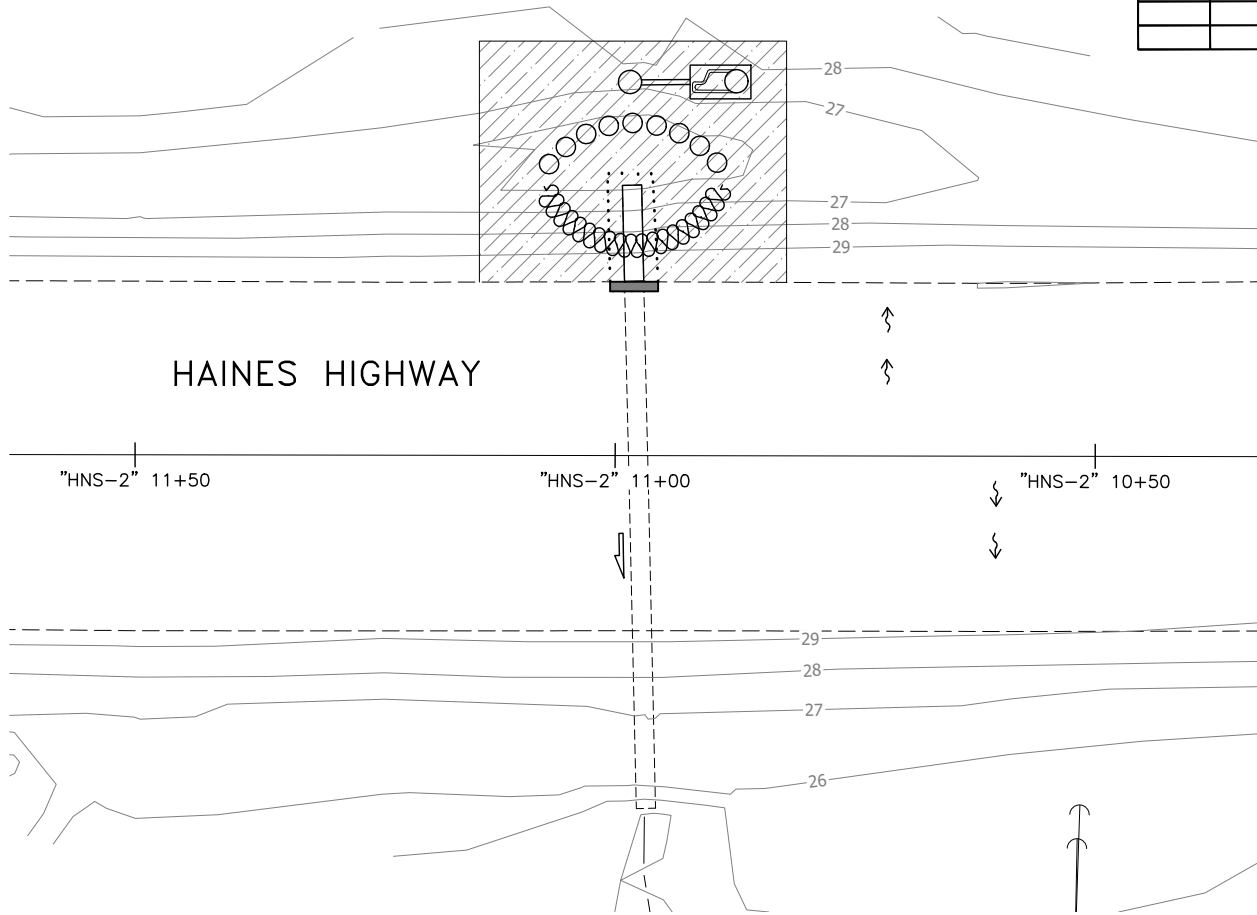
5/7/26

Signature

Date

HNS HWY: HNS001
DOT87
ESCP

- NOTES:
1. ALLOWING STREAM FLOW THROUGH THE WORK AREA PROHIBITED.
 2. STREAM FLOW SHALL BE DIVERTED BY PUMPING OR OTHER METHODS APPROVED BY THE ENGINEER. STREAM DIVERSION PLAN MAY INCLUDE:
 - 2.1. DIVERTING STREAM FLOW AND DEWATERING WORK AREA IN ACCORDANCE WITH PERMITS.
 - 2.2. USING BULK BAGS OR SIMILAR TO PREVENT STREAM FLOW THROUGH WORK AREA.
 - 2.3. DEWATERING TRENCH AND WORK AREA WITH A DEWATERING PUMP AND HOSE IF REQUIRED.
 - 2.4. ALL DISCHARGE POINTS REQUIRE TEMPORARY VELOCITY CONTROLS.
 3. DISCHARGE WATER TO NATURAL BUFFER AREAS.

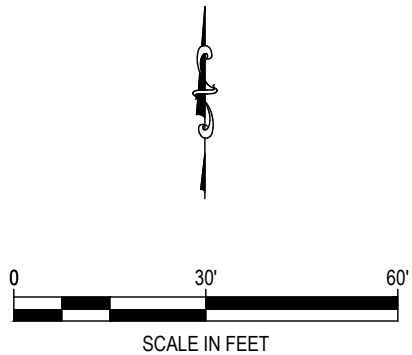
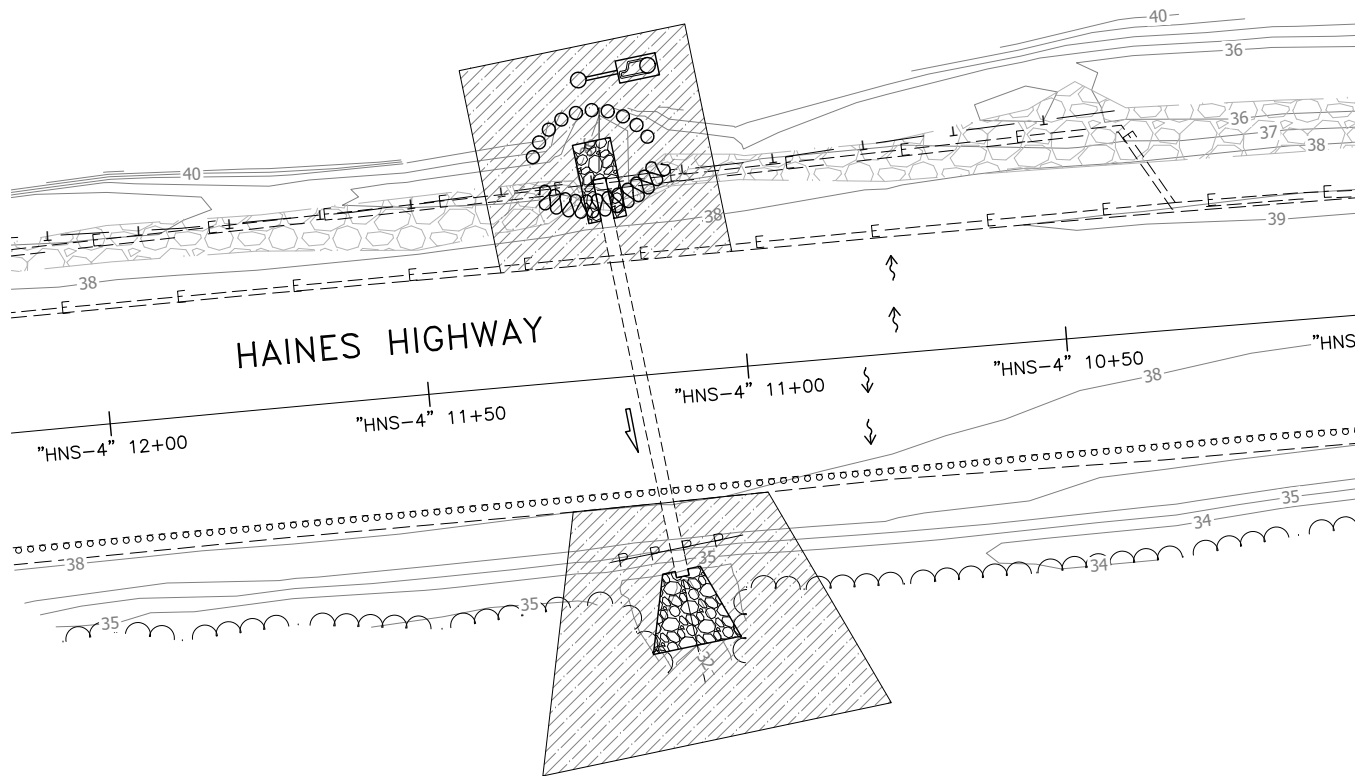


HNS HWY: HNS002
HDR2087
ESCP

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

ESCP NOT SEALED IN
ACCORDANCE WITH
ALASKA HIGHWAY
PRECONSTRUCTION
MANUAL
SECTION 1120.8.3
DATED
JANUARY 1, 2025

- NOTES:
1. ALLOWING STREAM FLOW THROUGH THE WORK AREA PROHIBITED.
 2. STREAM FLOW SHALL BE DIVERTED BY PUMPING OR OTHER METHODS APPROVED BY THE ENGINEER. STREAM DIVERSION PLAN MAY INCLUDE:
 - 2.1. DIVERTING STREAM FLOW AND DEWATERING WORK AREA IN ACCORDANCE WITH PERMITS.
 - 2.2. USING BULK BAGS OR SIMILAR TO PREVENT STREAM FLOW THROUGH WORK AREA.
 - 2.3. DEWATERING TRENCH AND WORK AREA WITH A DEWATERING PUMP AND HOSE IF REQUIRED.
 - 2.4. ALL DISCHARGE POINTS REQUIRE TEMPORARY VELOCITY CONTROLS.
 3. DISCHARGE WATER TO NATURAL BUFFER AREAS.



Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Peterson 5/7/26
Signature Date

HNS HWY: HNS004
HDR2089
ESCP

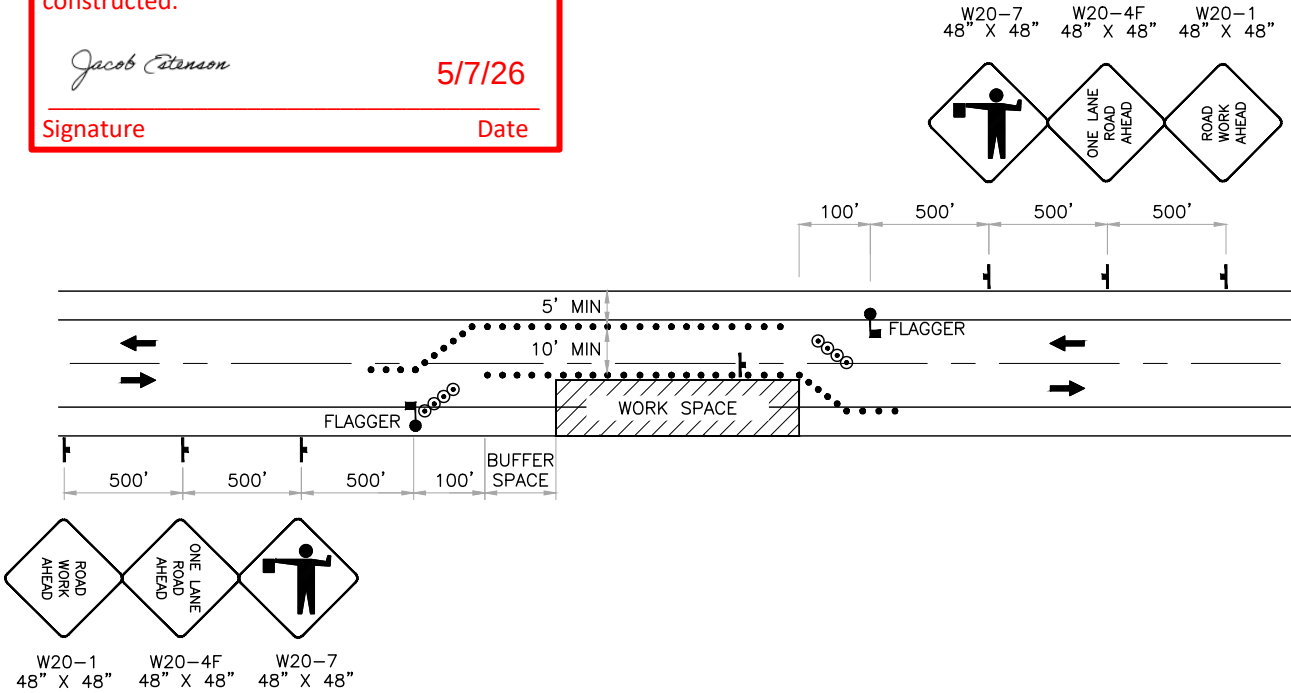
Record Drawings have been reviewed by the
Project Engineer and represent the project as
constructed.

Jacob Estenson

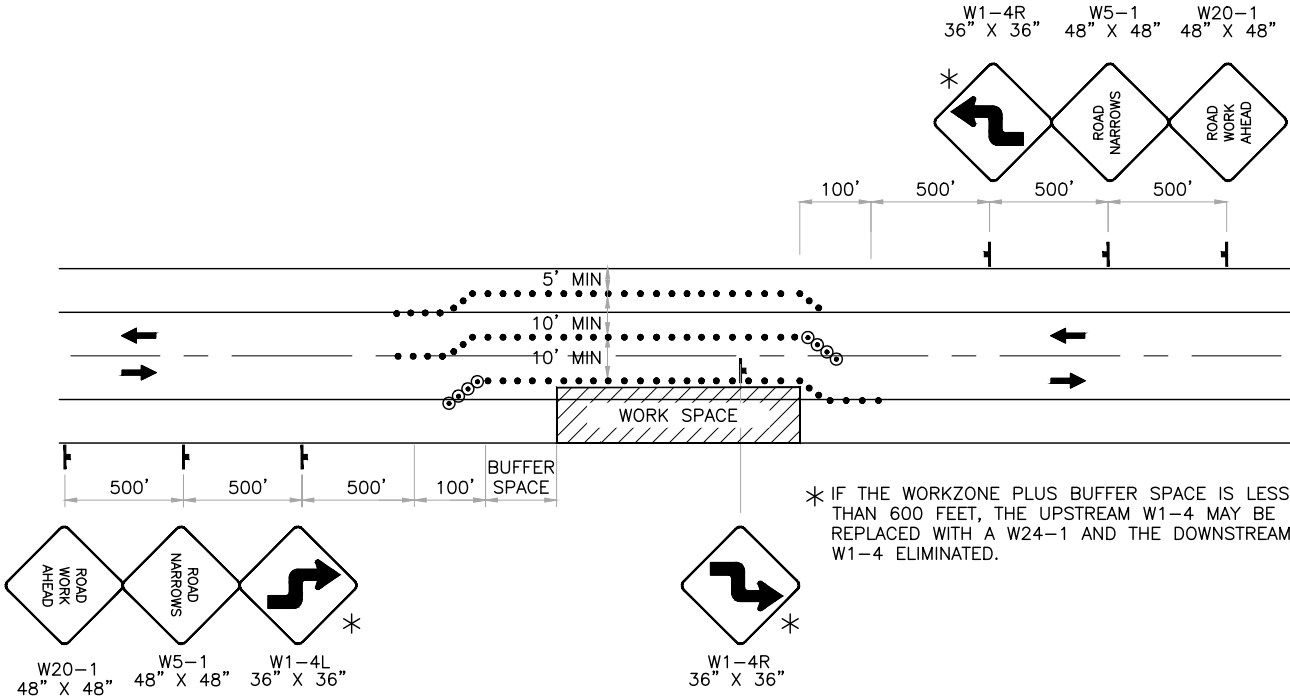
5/7/26

Signature

Date



TWO LANE ROADWAY-SINGLE LANE CLOSURE



ROADWAY SHIFT

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0093006/SFHWY00440	2025	T1	24

TRAFFIC CONTROL LEGEND

•

CONE

⚡

CONSTRUCTION SIGN

⊙

DRUMS

🚧

FLAGGER

➡

TRAFFIC DIRECTION

▨

WORK SPACE

TCP SETUP TABLE									
SPEED (MPH)	MIN MERGING TAPER LENGTH (L) IN FEET			MIN NUMBER OF DEVICES WIDTH OF OFFSET (W) IN FEET			MAX DEVICE SPACING IN FEET		BUFFER SPACE IN FEET
	10'	11'	12'	10'	11'	12'	ALONG TAPER	ALONG TANGENT	
45	450	495	540	11	12	13	45	90	360

- TRAFFIC CONTROL NOTES:
- IT IS THE INTENT OF THIS TRAFFIC CONTROL PLAN (TCP) TO ILLUSTRATE SOME, NOT ALL, OF THE TRAFFIC CONTROL SETUPS WHICH WILL BE REQUIRED ON THIS PROJECT.
 - TEMPORARY DRIVING LANES SHALL HAVE A MINIMUM WIDTH OF 10'-0".
 - MAINTAIN A MINIMUM OF ONE LANE TO BE OPEN FOR TRAFFIC AT ALL TIMES.
 - CONSTRUCTION SIGNS SHALL BE PLACED SUCH THAT THEY DO NOT OBSCURE EXISTING TRAFFIC SIGNS.
 - VERTICAL EDGES GREATER THAN 2" ARE NOT ALLOWED DURING NON-WORKING HOURS. LIMIT SHOULDER EXCAVATION TO AN AREA THAT CAN BE COMPLETELY BACKFILLED BY END OF WORK SHIFT.
 - CONSTRUCTION SIGNING SHALL BE IN PLACE ONLY WHEN THE CONDITIONS EXIST FOR WHICH THE SIGNS ARE INTENDED.
 - TRAFFIC CONTROL DEVICES, IF USED AT NIGHT, SHALL BE LIT IN ACCORDANCE WITH THE ALASKA TRAFFIC MANUAL.
 - ALL TRAFFIC CONTROL PLANS SUBMITTED BY THE CONTRACTOR SHALL BE NUMBERED. ALL TRAFFIC CONTROL PLANS THAT USE A TYPICAL APPLICATION AS DESCRIBED IN THE MUTCD SHALL REFERENCE THE TYPICAL APPLICATION. EXAMPLE: TCP 3, MUTCD TA-10.
 - CONTRACTOR SHALL MAINTAIN A TEMPORARY COMBINED BICYCLE PATH WITH MINIMUM WIDTH OF 5'-0" ALONG THE NORTH SIDE OF THE HIGHWAY. CHANNELIZATION DEVICES SHALL BE USED BETWEEN THE TRAFFIC LANE AND TEMPORARY PATH.

PLANS DEVELOPED BY:
DOWL
9085 GLACIER HWY
JUNEAU, AK 99801
(907) 780-3533
CERT. OF AUTH. #
AECL848

TCP NOT SEALED IN
ACCORDANCE WITH
ALASKA HIGHWAY
PRECONSTRUCTION
MANUAL
SECTION 1400.3.5
DATED
JANUARY 20, 2012

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
HAINES HIGHWAY MPT 1-9
- DEC 20 SE PR

TRAFFIC CONTROL PLAN



Corrosion Protection



Pre-Grouted Bars

Cement Grout filled corrugated polyethylene barrier against corrosion attack in highly aggressive soils as MCP or Multiple Corrosion Protection and an internal centralizer then placed inside of the pipe and pre-grouted. When specifying couplings with MCP, consult with a Williams representative.

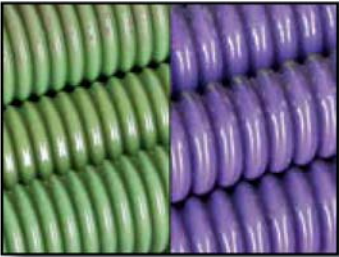
Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Peterson

Signature

5/7/26

Date



Epoxy Coating

Fusion bonded epoxy coating of steel bars to help prevent corrosion has been successfully employed in many applications because of the chemical stability of epoxy resins. Epoxy coated bars and fasteners should be done in accordance with ASTM A775 or ASTM A934. Epoxy coated bars and components are subject to damage if dragged on the ground or mishandled. Heavy plates and nuts are often galvanized even though the bar may be epoxy coated since they are difficult to protect against abrasion in the field. Epoxy coating patch kits are often used in the field for repairing nicked or scratched epoxy surfaces.



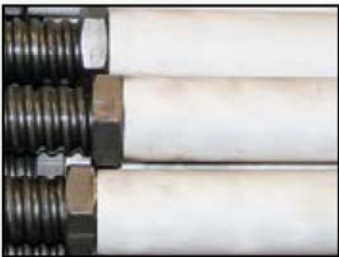
Hot Dip Galvanizing

Zinc serves as a sacrificial metal corroding preferentially to the steel. Galvanized bars have excellent bond characteristics to grout or concrete and do not require as much care in handling as epoxy coated bars. However, galvanization of anchor rods is more expensive than epoxy coating and often has greater lead time. Hot dip galvanizing bars and fasteners should be done in accordance with ASTM A153. Typical galvanized coating thickness for steel bars and components is between 3 and 4 mils. 150 KSI high strength steel bars shall require special cleaning procedures to avoid problems associated with hydrogen embrittlement in compliance with ASTM A143.



Extruded Polyethylene/Polypropylene

Williams strand tendons contain an extruded high density polyethylene/polypropylene sheathing around each individual strand in the free-stressing portion of the anchorage. The sheathing is minimum 60 mils thick and applied once the 7-wire strand has been coated with a corrosion inhibiting compound. Extruded polyethylene/polypropylene sheathing provides a moisture tight barrier for corrosion protection and allows the strand to elongate freely throughout the free-stressing length during the prestressing operation.



Corrosion Inhibiting Grease, Gel or Wax with Sheath

Williams corrosion inhibiting compounds can be placed in the free stressing sleeves, in the end caps, or in the trumpet areas. Most commonly bars are greased and PVC is slipped over the grease bar prior to shipping. Each of the options Williams offers are of an organic compound that provide the appropriate moisture displacement and have corrosion inhibiting additives with self-healing properties. They can be pumped or applied manually. Grease and Gel stay permanently viscous, while wax is solid at normal temperatures and must be heated to liquify and facilitate pumping. Each compound is chemically stable, and non-reactive with the prestressing steel, duct materials, or grout, and all meet PTI standards for Corrosion Inhibiting compounds.



Sacrificial Steel

Sacrificial steel as a means of corrosion protection has become widely accepted in use for soil nails and micropiles. It involves the allowance of a calculated amount of steel on the outer perimeter of the tendon to be consumed by corrosion. The area of sacrificial steel is deducted from the total cross-sectional area of the tendon when determining the required tendon size, and often results in increasing the bar diameter to the next larger size. The sizing and design life of the anchor tendons can be determined based upon Section 10.4.2 of FHWA Geocircular No. 7 or Section 4.3 of The UK Department of Transport's TRR-380. This method of corrosion protection should only be used in known non-aggressive ground conditions.



Threaded Bars & Fasteners

Grade 75 & Grade 80 All-Thread Rebar



Threads

Williams All-Thread Rebar has a cold rolled, continuous, rounded course thread form. Williams special thread (deformation) pattern projects ultra high relative rib area at 3 times that of conventional rebar. This provides for superior bond performance in concrete. Because of the high thread pitch and the full 360 degree concentric thread form, Williams All-Thread Rebar should only bent under special provisions using larger bend diameters than typical ACI minimums. As an alternative to bending, Williams recommends use of a steel plate or a threaded terminator disc to reduce development length. Threads are available in both right and left hand. Grades up to 100 are available upon request.

Sizes

All-Thread Rebar is available in 12 diameters from #6 through #32. Diameters #6 to #24 are available in continuous lengths up to 50-foot, larger diameters up to 40-foot.

Welding

Welding of All-Thread Rebar should be approached with caution since no specific provisions have been included to enhance its weldability. Refer to ANSI/AWS D1.4 for proper selections and procedures.

R61 Grade 75 & Grade 80 All-Thread Rebar

ASTM A615*

Bar Designation & Pitch	Minimum Net Area Thru Threads	Minimum Ultimate Strength	Grade 75 Minimum Yield Strength	Grade 80 Minimum Yield Strength	Nominal Weight	Approx. Thread Major Diameter	Part Number
#6 - 5 (19 mm)	0.44 in ² (284 mm ²)	44 kips (196 kN)	33 kips (147 kN)	35 kips (156 kN)	1.5 lbs/ft (2.4 kg/m)	7/8" (22 mm)	R61-06
#7 - 5 (22 mm)	0.60 in ² (387 mm ²)	60 kips (267 kN)	45 kips (200 kN)	48 kips (214 kN)	2.0 lbs/ft (3.0 kg/m)	1" (25 mm)	R61-07
#8 - 3-1/2 (25 mm)	0.79 in ² (510 mm ²)	79 kips (351 kN)	59 kips (264 kN)	63 kips (280 kN)	2.7 lbs/ft (3.9 kg/m)	1-1/8" (29 mm)	R61-08
#9 - 3-1/2 (29 mm)	1.00 in ² (645 mm ²)	100 kips (445 kN)	75 kips (334 kN)	80 kips (356 kN)	3.4 lbs/ft (5.1 kg/m)	1-1/4" (32 mm)	R61-09
#10 - 3 (32 mm)	1.27 in ² (819 mm ²)	127 kips (565 kN)	95 kips (424 kN)	102 kips (454 kN)	4.3 lbs/ft (5.5 kg/m)	1-3/8" (35 mm)	R61-10
#11 - 3 (36 mm)	1.56 in ² (1006 mm ²)	156 kips (694 kN)	117 kips (521 kN)	125 kips (556 kN)	5.3 lbs/ft (7.9 kg/m)	1-1/2" (38 mm)	R61-11
#14 - 3 (43 mm)	2.25 in ² (1452 mm ²)	225 kips (1001 kN)	169 kips (750 kN)	180 kips (801 kN)	7.65 lbs/ft (11.8 kg/m)	1-7/8" (48 mm)	R61-14
#18 - 3 (57 mm)	4.00 in ² (2581 mm ²)	400 kips (1780 kN)	300 kips (1335 kN)	320 kips (1422 kN)	13.6 lbs/ft (20.0 kg/m)	2-1/4" (62 mm)	
#20 - 2-3/4 (64 mm)	4.91 in ² (3168 mm ²)	491 kips (2184 kN)	368 kips (1637 kN)	388 kips (1722 kN)	16.5 lbs/ft (24.5 kg/m)	2-1/2" (64 mm)	
#24 - 2-3/4 (76 mm) *	6.82 in ² (4400 mm ²)	682 kips (3034 kN)	512 kips (2272 kN)	542 kips (2418 kN)	21.5 lbs/ft (31.5 kg/m)	3" (76 mm)	
#28 - 2-3/4 (89 mm) *	9.61 in ² (6200 mm ²)	961 kips (4274 kN)	720 kips (3206 kN)	770 kips (3438 kN)	28.5 lbs/ft (42.5 kg/m)	3-1/2" (89 mm)	
#32 - 2-3/4 (102 mm) *	12.56 in ² (8103 mm ²)	1256 kips (5587 kN)	942 kips (4190 kN)	1000 kips (4448 kN)	37.5 lbs/ft (55.5 kg/m)	4" (102 mm)	

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Edanson

5/7/26

Signature

Date

* Bars size #24 and larger are not covered under ASTM A615.

#32 Bar availability may be limited. Please contact Williams for specific lead times.



All Couplings and Hex/Collar Nuts exceed 100% of the bar's published ultimate strength and couplings will meet ACI 318 Section 25.5.7.1 for mechanical rebar connections.



Hex Nut



Round Collar Nut

R62 Stop-Type Couplings

Bar Desig. & Nominal Dia.	Outside Diameter	Overall Length	Part Number
#6 - 3/4" (19 mm)	1-1/4" (32 mm)	3-1/2" (89 mm)	R62-06
#7 - 7/8" (22 mm)	1-3/8" (35 mm)	4" (102 mm)	R62-07
#8 - 1" (25 mm)	1-5/8" (41 mm)	4-1/2" (114 mm)	R62-08
#9 - 1-1/8" (29 mm)	1-7/8" (48 mm)	5" (127 mm)	R62-09
#10 - 1-1/4" (32 mm)	2" (51 mm)	5-1/2" (140 mm)	R62-10
#11 - 1-3/8" (36 mm)	2-1/4" (57 mm)	6" (152 mm)	R62-11
#14 - 1-3/4" (43 mm)	2-7/8" (73 mm)	6" (152 mm)	R62-14
#18 - 2-1/4" (57 mm)	3-1/2" (89 mm)	7-1/8" (181 mm)	R62-18
#20 - 2-1/2" (64 mm)	4" (102 mm)	8" (203 mm)	R62-20
#24 - 3" (76 mm)	5" (127 mm)	9-3/4" (248 mm)	R62-24
#28 - 3-1/2" (89 mm)	5-1/2" (140 mm)	12" (305 mm)	R62-28
#32 - 4" (102 mm)	5-3/4" (146 mm)	15" (381 mm)	R62-32

Couplings are available as tap thru upon request

R63 Hex Nuts & R64 Collar Nuts

Bar Desig. & Nominal Dia.	Across Flats	OD/Across Corners	Thickness	Part Number
#6 - 3/4" (19 mm)	1-1/4" (32 mm)	1.44" (37 mm)	1-1/8" (29 mm)	R63-06
#7 - 7/8" (22 mm)	1-7/16" (37 mm)	1.66" (42 mm)	1-1/4" (32 mm)	R63-07
#8 - 1" (25 mm)	1-5/8" (41 mm)	1.88" (48 mm)	1-3/8" (35 mm)	R63-08
#9 - 1-1/8" (29 mm)	1-7/8" (48 mm)	2.17" (55 mm)	1-1/2" (38 mm)	R63-09
#10 - 1-1/4" (32 mm)	2" (51 mm)	2.31" (59 mm)	2" (51 mm)	R63-10
#11 - 1-3/8" (36 mm)	2-1/4" (57 mm)	2.60" (66 mm)	2-1/8" (54 mm)	R63-11
#14 - 1-3/4" (43 mm)	2-3/4" (70 mm)	3.18" (81 mm)	3" (76 mm)	R63-14
#18 - 2-1/4" (57 mm)	3-3/4" (95 mm)	4.33" (110 mm)	3-3/4" (95 mm)	R63-18
#20 - 2-1/2" (64 mm)	4" (102 mm)	4.62" (117 mm)	3-3/4" (95 mm)	R63-20
#24 - 3" (76 mm) *	4-1/2" (114 mm)	OD 5" (127 mm)	4-3/8" (111 mm)	R64-24
#28 - 3-1/2" (89 mm) *	5-1/2" (140 mm)	OD 6" (152 mm)	5-1/2" (140 mm)	R64-28
#32 - 4" (102 mm) *	5-3/4" (146 mm)	OD 6.25" (159 mm)	7" (178 mm)	R64-32

* Round Collar Nut



R81 Spherical Washers

Bar Desig. & Nominal Dia.	Thickness	Outside Dome	Part Number
#6 - 3/4" (19 mm)	35/64" (14 mm)	2" (51 mm)	R81-0675
#7 - 7/8" (22 mm)	39/64" (15 mm)	2-1/4" (57 mm)	R81-0775
#8 - 1" (25 mm)	5/8" (16 mm)	2-1/2" (64 mm)	R81-0875
#9 - 1-1/8" (29 mm)	3/4" (19 mm)	2-3/4" (70 mm)	R81-0975
#10 - 1-1/4" (32 mm)	53/64" (21 mm)	3" (76 mm)	R81-1075
#11 - 1-3/8" (36 mm)	29/32" (23 mm)	3-1/4" (83 mm)	R81-1175
#14 - 1-3/4" (43 mm)	1-7/64" (28 mm)	3-3/4" (95 mm)	R81-1475
#18 - 2-1/4" (57 mm)	1-13/32" (36 mm)	5" (127 mm)	R81-1875
#20 - 2-1/2" (64 mm)	1-1/2" (38 mm)	5-1/4" (133 mm)	R81-2075
#24 - 3" (76 mm)	1-7/8" (48 mm)	6-1/2" (165 mm)	R81-2475
#28 - 3-1/2" (89 mm)	1-1/2" (38 mm)	7" (178 mm)	R81-2875
#32 - 4" (102 mm)	-	-	-

Provides up to 5° angle when used with a dished plate.



Hex Jam Nut

Round Collar Jam Nut

Jam Nuts can not be substituted for full strength nuts. Larger diameters will be a rounded collar jam nut, with special order machined hex available.



R9F Hardened Washers

Bar Desig. & Nominal Dia.	Outside Diameter	Inside Diameter	Thickness	Part Number
#6 - 3/4" (19 mm)	1-3/4" (44 mm)	15/16" (24 mm)	5/32" (4 mm)	R9F-07-436
#7 - 7/8" (22 mm)	2" (51 mm)	1-1/16" (29 mm)	5/32" (4 mm)	R9F-08-436
#8 - 1" (25 mm)	2-1/4" (57 mm)	1-3/16" (30 mm)	5/32" (4 mm)	R9F-09-436
#9 - 1-1/8" (29 mm)	2-1/4" (57 mm)	1-3/16" (30 mm)	5/32" (4 mm)	R9F-09-436
#10 - 1-1/4" (32 mm)	2-1/2" (64 mm)	1-3/8" (35 mm)	5/32" (4 mm)	R9F-10-436
#11 - 1-3/8" (36 mm)	3" (76 mm)	1-5/8" (41 mm)	5/32" (4 mm)	R9F-12-436
#14 - 1-3/4" (43 mm)	3-3/8" (86 mm)	1-7/8" (48 mm)	7/32" (6 mm)	R9F-14-436
#18 - 2-1/4" (57 mm)	4-1/2" (114 mm)	2-5/8" (67 mm)	9/32" (7 mm)	R9F-20-436
#20 - 2-1/2" (64 mm)	5" (127 mm)	2-7/8" (73 mm)	9/32" (7 mm)	R9F-22-436
#24 - 3" (76 mm)	6" (142 mm)	3-3/8" (86 mm)	9/32" (7 mm)	R9F-26-436
#28 - 3-1/2" (89 mm)	7" (178 mm)	3-7/8" (98 mm)	9/32" (7 mm)	R9F-30-436
#32 - 4" (102 mm)	7-3/4" (197 mm)	4-3/8" (111 mm)	5/16" (8 mm)	R9F-34-436

Record Drawings have been reviewed by the Project Engineer and represent the project as constructed.

Jacob Etanson

5/7/26

Signature

Date

R63/R64-JN Jam Nuts

Bar Desig. & Nominal Dia.	Across Flats	OD/Across Corners	Thickness	Part Number
#6 - 3/4" (19 mm)	1-1/4" (32 mm)	1.44" (37 mm)	9/16" (14 mm)	R63-06JN
#7 - 7/8" (22 mm)	1-7/16" (37 mm)	1.66" (42 mm)	5/8" (16 mm)	R63-07JN
#8 - 1" (25 mm)	1-5/8" (41 mm)	1.88" (48 mm)	11/16" (17 mm)	R63-08JN
#9 - 1-1/8" (29 mm)	1-7/8" (48 mm)	2.17" (55 mm)	3/4" (19 mm)	R63-09JN
#10 - 1-1/4" (32 mm)	2" (51 mm)	2.31" (59 mm)	15/16" (24 mm)	R63-10JN
#11 - 1-3/8" (36 mm)	2-1/4" (57 mm)	2.60" (66 mm)	1" (25 mm)	R63-11JN
#14 - 1-3/4" (43 mm) *	2-5/8" (67 mm)	OD 2.88" (73 mm)	1-3/16" (30 mm)	R64-14JN
#18 - 2-1/4" (57 mm) *	3-1/4" (83 mm)	OD 3.5" (89 mm)	1-11/16" (43 mm)	R64-18JN
#20 - 2-1/2" (64 mm) *	3-3/4" (95 mm)	OD 4" (102 mm)	1-11/16" (43 mm)	R64-20JN
#24 - 3" (76 mm) *	4-1/2" (114 mm)	OD 5" (127 mm)	2" (51 mm)	R64-24JN
#28 - 3-1/2" (89 mm) *	5" (127 mm)	OD 5.5" (140 mm)	2-1/4" (57 mm)	R64-28JN
#32 - 4" (102 mm) *	5-3/4" (146 mm)	OD 6.25" (159 mm)	2-1/2" (64 mm)	R64-32JN

*Round Collar Jam Nut

R8M Beveled Washers

Bar Desig. & Nominal Dia.	Degree of Bevel	Outside Diameter	Inside Diameter	Maximum Thickness	Minimum Thickness	Part Number
#6 - 3/4" (19 mm)	15°	2-1/16" (52 mm)	1" (25 mm)	3/4" (19 mm)	1/4" (6 mm)	R8M-08S
#7 - 7/8" (22 mm)	15°	2-1/16" (52 mm)	1" (25 mm)	3/4" (19 mm)	1/4" (6 mm)	R8M-08S
#8 - 1" (25 mm)	15°	2-13/16" (71 mm)	1-5/16" (33 mm)	1" (25 mm)	5/16" (8 mm)	R8M-09S
#9 - 1-1/8" (29 mm)	15°	2-13/16" (71 mm)	1-5/16" (33 mm)	1" (25 mm)	5/16" (8 mm)	R8M-09S
#10 - 1-1/4" (32 mm)	15°	3-3/8" (86 mm)	1-9/16" (40 mm)	1-15/64" (44 mm)	3/8" (10 mm)	R8M-12S
#11 - 1-3/8" (36 mm)	15°	3-1/2" (89 mm)	1-3/4" (44 mm)	1-1/4" (32 mm)	3/8" (10 mm)	R8M-13S
#14 - 1-3/4" (43 mm)	15°	4-1/2" (114 mm)	2-1/8" (54 mm)	1-5/8" (41 mm)	15/32" (12 mm)	R8M-14S
#18 - 2-1/4" (57 mm)	15°	5" (127 mm)	3" (76 mm)	1-5/8" (41 mm)	19/64" (8 mm)	R8M-18
#20 - 2-1/2" (64 mm)	10°	5-1/2" (140 mm)	3" (76 mm)	1-23/32" (44 mm)	3/4" (19 mm)	R8M-20
#24 - 3" (76 mm)	10°	7" (178 mm)	3-5/8" (92 mm)	2" (51 mm)	3/4" (19 mm)	R8M-24
#28 - 3-1/2" (89 mm)	10°	8" (203 mm)	4-1/4" (108 mm)	2-19/64" (58 mm)	7/8" (22 mm)	R8M-28
#32 - 4" (102 mm)	-	-	-	-	-	-

To achieve full strength of the system, beveled washers must be used in conjunction with a hardened washer



Jacob Etanson

5/7/26

Signature

Date

Plates, End Caps, Centralizers & Eye Nuts

Bearing Plates

Williams steel bearing plates are standard with a round hole for non-grouted grout and anchors. Also available are dished plates for use with spherical hex nuts and keyhole plates which provide free access for grout tube entry. Bearing plates are customized for each application. Plate dimensions should be specified around the parameters of the project. In addition, corrosion protection should be considered along with specifying hole diameter and bar angle.

S1K - Round



R80 - Dished



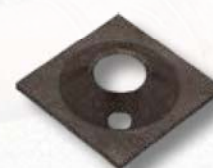
S1K - Keyhole



S0K - Studed



S2K - Domed



End Caps

Williams offers several different types of end caps to provide corrosion protection at otherwise exposed anchor ends. Most often the caps are packed with corrosion inhibiting grease. Caps made from steel are used in exposed impact areas.

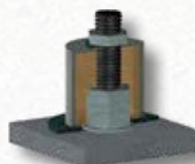
Screw-on Fiber Reinforced Nylon Cap



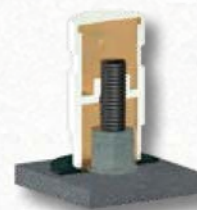
Steel Tube welded on Flange with Threaded Screw Connections



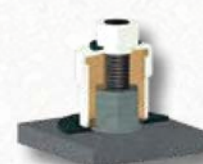
Steel Tube with Jam Nut



Screw-on PVC Cap



Slip-on PVC Cap w/ Plastic Nut



PVC Centralizer

The Williams PVC Centralizer is used to center the anchor assembly in the drill hole. They are usually spaced 10 to 15 feet along the bar. To order, specify drill hole diameter, bar size or the outer diameter of sleeve when used over bar.

Eye Nuts

Williams Eye Nuts may be used as lifting eyes for forms, concrete blocks, concrete cylinders, machinery or equipment. The large base on three of the models makes them excellent for anchoring guy wires. Safety factors and working loads based on the ultimate strength of the Eye Nuts should be determined for the specific application by the project design engineer.

E1N



E1N1C



E1N3



E1N4



Eye Nut Designation	Minimum Inside Width	Inside Height	Ring Diameter	Overall Height	Taps Available				SWL (3:1 FS)	SWL (5:1 FS)	Blank Part Number
					UNC & Coil Tie Rods	Grade 60 Grade 75	150 KSI All-Thread	B7X Hollow			
E1N * Cast Steel	1-1/2" (38 mm)	2-1/2" (64 mm)	7/8" (22 mm)	5-1/8" (130 mm)	1/2" to 1" (13 to 25 mm)	#4 to #8	-	-	23 kips (104 kN)	14 kips (62 kN)	E1M-00-E1N
E1N1C Forged Steel	2" (51 mm)	2-1/2" (64 mm)	1.15" Oval (29 mm)	5-1/2" (140 mm)	1" to 1-1/8" (25 to 29 mm)	#8 to #9	1" (26 mm)	32 mm	41 kips (182 kN)	25 kips (109 kN)	E1M-00-E1N1C
E1N3 Forged Steel	2" (51 mm)	3" (76 mm)	1-3/4" (45 mm)	8" (203 mm)	1-1/8" to 1-3/8" (29 to 35 mm)	#10 to #11	1" to 1-3/8" (26 to 36 mm)	38 mm	87 kips (386 kN)	52 kips (231 kN)	E1M-00-E1N3
E1N4 Forged Steel	2-1/2" (64 mm)	3-3/4" (95 mm)	2-3/16" (56 mm)	10" (254 mm)	1-3/4" to 2" (45 to 51 mm)	#14 to #18	1-3/4" (46 mm)	51 mm	137 kips (608 kN)	82 kips (365 kN)	E1M-00-E1N4
E1N4C Forged Steel	3" (76 mm)	5-3/4" (146 mm)	2" (51 mm)	11-1/2" (292 mm)	1-1/4" to 2" (32 to 51 mm)	#10 to #18	1-3/8" to 1-3/4" (36 to 46 mm)	51 mm	124 kips (550 kN)	74 kips (330 kN)	E1M-00-E1N4C
E1N5C * Forged Steel	4-1/4" (108 mm)	4-1/2" (114 mm)	2-5/8" (67 mm)	12" (305 mm)	-	#18 to #20	2-1/4" to 2-1/2" (57 to 65 mm)	76 mm	204 kips (907 kN)	122 kips (544 kN)	E1M-00-E1N5C

* Non-Domestic

** SWL based on straight tension loading only. Angled loading should be considered with caution, as it will significantly reduce eyenut capacity. Contact your Williams representative for more information.