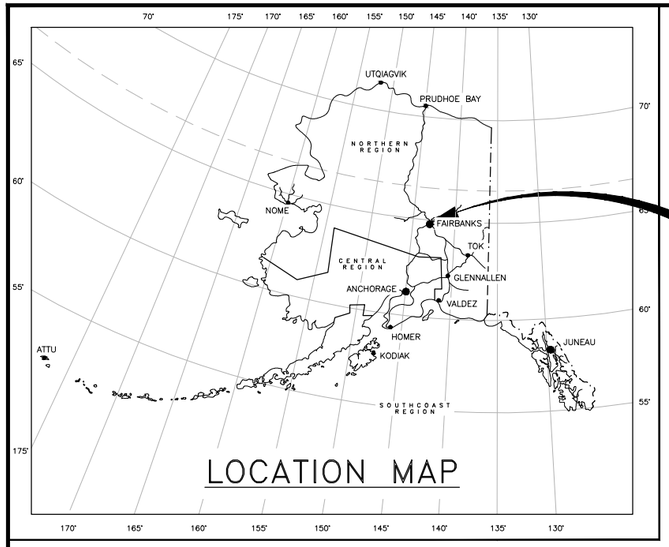
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	A1	58

CDS ROUTE:	175425	MILEPOINT:	0.00	TO	0.7139
CDS ROUTE:	150148	MILEPOINT:	0.00	TO	1.6688



PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0002378 / NFHWY00139

YANKOVICH/MILLER HILL ROAD RECONSTRUCTION AND MULTI-USE PATH

GRADING, DRAINAGE, PAVING, SIGNING, STRIPING

INDEX OF SHEETS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
C-06.00
D-06.10
I-81.00
L-23.03
M-20.15, M23.13
S-05.02
T-21.04

DESIGN DESIGNATIONS

ADT (2017)	830 / 1250
ADT (2035)	970 / 1470
DHV (11%)	110 / 160
PERCENT TRUCKS (T)	6.15%
DIRECTIONAL SPLIT (D)	40 / 60
DESIGN SPEED (V)	40 MPH
DESIGN ESALS (?? YEARS)	

PROJECT SUMMARY

WIDTH OF PAVEMENT	30 FT
LENGTH OF GRADING	12,570 FT
LENGTH OF PAVING	12,570 FT
LENGTH OF PROJECT	12,570 FT

IVET HALL, P.E., PROJECT MANAGER
JOSHUA KUNZ, DESIGNER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

Lauren Little, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION:

_____ DATE _____

Joseph P. Kemp, P.E.
Regional Director, Northern Region

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	A2	A3

	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		BM
REBAR AND CAP	⊙	⊙
REBAR	⊕	●
IRON PIPE	✱	
PK NAIL		▽
SPIKE		×
HUB AND TACK		⊡

CONSTRUCTION CENTERLINE — 5+00

MISCELLANEOUS CENTERLINE — 10+00

STATION EQUATION — "L"48+97.23 POT BK= / "O"48+97.23 PC AHD

PROJECT RIGHT-OF-WAY LINE — R/W

EXISTING RIGHT-OF-WAY LINE

EXISTING PROPERTY LINE

CONTROLLED ACCESS LINE — C/A

UTILITY EASEMENT LINE — PUE

TEMPORARY EASEMENT LINE (TCP OR TCE) — TCP

ACCESS OR SECTION LINE EASEMENT — ACCESS EASEMENT

PROPOSED CUT SLOPE LIMIT

PROPOSED FILL SLOPE LIMIT

SECTION LINE

1/4 SECTION LINE

1/16 SECTION LINE

TOWNSHIP & RANGE LINE — T. 2 N. / T. 1 N. — T. 1 E. — T. 2 E.

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)	SS	SS
FUEL LINE	O	O
GAS LINE	G	G
WATER LINE	W	W
METER, VALVE, FIRE HYDRANT	W	W
EXISTING STORM DRAIN (FLOW DIRECTION →)	SD	
PROPOSED STORM DRAIN	S-10, S-11, P-11, P-10, MH	
FIBER OPTIC LINE	FO	
DIRECT BURIAL TELEPHONE CABLE	T	T
DIRECT BURIAL ELECTRIC CABLE	E	E
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT	T	T
TELEPHONE PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE	MH	MH
SANITARY SEWER CLEAN OUT		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT	CANTILEVER, SWITCH
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H	H = HOUSE G = GARAGE M = MERCHANT/STORE B = BARN S = SHED P = PRIVY SS= SERVICE STATION W = WAREHOUSE
POST OR BOLLARD		
WELL OR MONITORING WELL	W	
SEPTIC PIPE	S, MW	
FUEL TANK FILL PIPE/VENT	P	
SATELLITE DISH	SAT. DISH	
TEST HOLE	TH	
CONIFER TREE		
DECIDUOUS TREE		
GRAVE		
THERMOSIPHON		
PARKING METER		
VEHICLE PLUG-IN		
DELINEATOR/GUIDE MARKER		

	EXISTING	PROPOSED
JUNCTION BOX, TYPE IA		5
JUNCTION BOX, TYPE II		6
JUNCTION BOX, TYPE III		3
SIGNAL FACE, VEHICULAR	42	42
SIGNAL FACE, BACKPLATE	42	42
SIGNAL FACE, LEFT TURN, BACKPLATE	43	43
SIGNAL FACE, PEDESTRIAN		
LOOP DETECTOR	33	73
VIDEO DETECTOR	2	2
RADAR DETECTOR	4	4A
OPTICOM DETECTOR	1	1
PEDESTRIAN PUSH BUTTON	1	1
SIGNAL POST W/O MAST ARM		1
SIGNAL POLE W/MAST ARM		4
SIGNAL CONTROLLER		
LOAD CENTER		
LUMINAIRE		2
RIGID METAL CONDUIT		

ABBREVIATIONS:

APPROX	APPROXIMATLY
℄	CENTERLINE
CY	CUBIC YARD
E	EAST, EASTING
ELE, ELEV	ELEVATION
FT. '	FOOT, FEET
H	HORIZONTAL
HW/D	HEADWATER TO DIAMETER RATIO
IE	INVERT ELEVATION
IN, "	INCH, INCHES
L	LENGTH OF CURVE
L.C.L	LEFT OF CENTERLINE
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
PC	POINT OF CURVATURE
POT	POINT ON TANGENT
PST	PERFORATED STEEL TUBE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
R.C.L	RIGHT OF CENTERLINE
RT	RIGHT
S	SOUTH
SQ. FT.	SQUARE FOOT
STA	STATION
T	TANGENT
TCE	TEMPORARY CONSTRUCTION EASEMENT
TS	TUBE STEEL
TYP	TYPICAL
V	VERTICAL
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WWR	WELDED WIRE REINFORCEMENT
Ø	DIAMETER

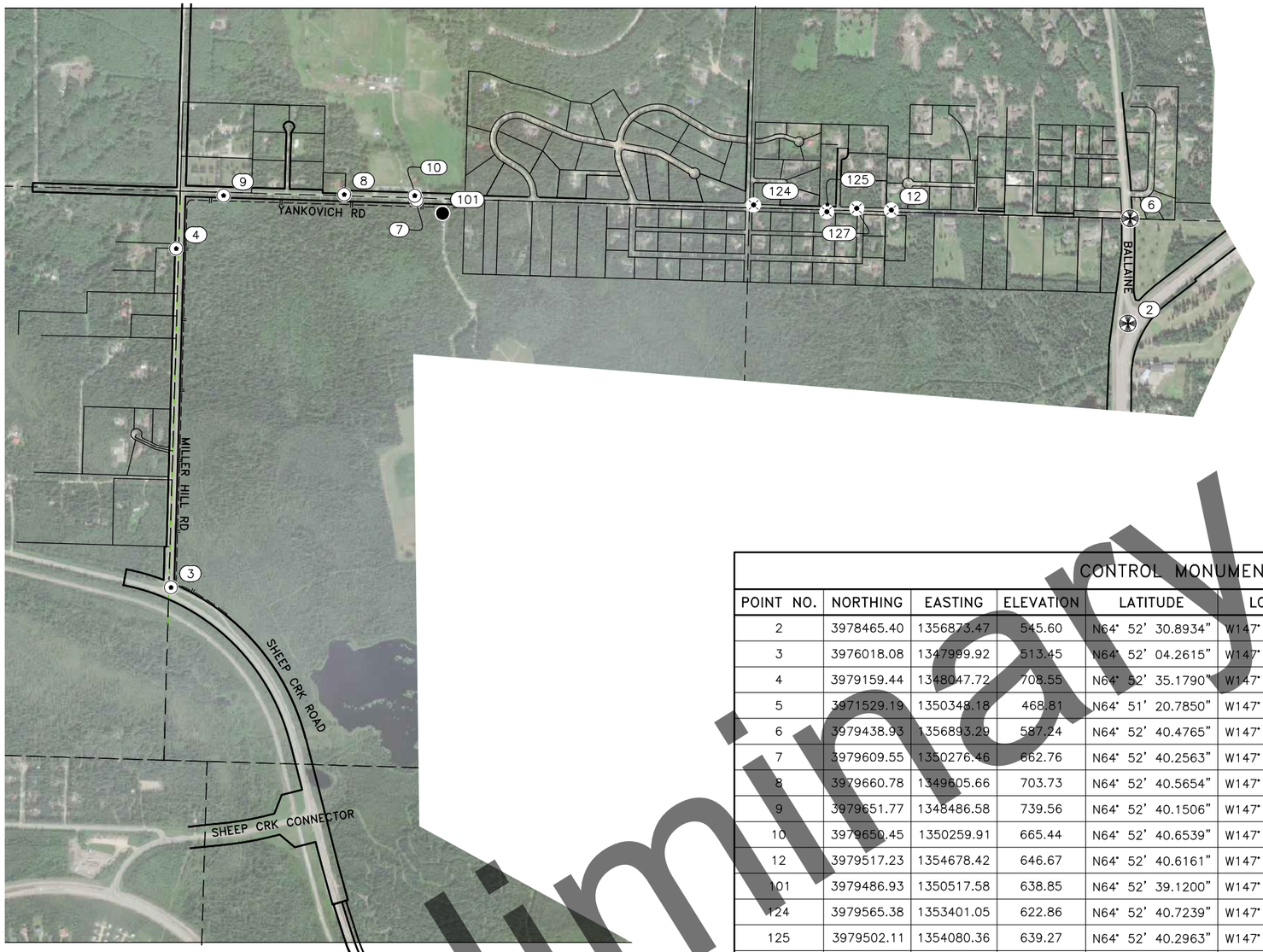
LEGEND & ABBREVIATIONS

STATE OF ALASKA 49TH ### ### REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\A\NFHWY00139_Title-HWYS Legend & Abbreviations Wed, Nov/22/23 02:43pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	A3	A3



GENERAL NOTES

1. VERIFY HORIZONTAL AND VERTICAL CONTROL PRIOR TO USE. ON MULTI YEAR PROJECTS, VERIFY ALL CONTROL ON A SEASONAL BASIS.

2. BACKGROUND MAPPING IS SHOWN FOR ORIENTATION PURPOSES ONLY. THIS SHEET DOES NOT PURPORT TO DEPICT RIGHT OF WAY.

3. THIS PROJECT IS LOCATED ENTIRELY WITHIN A MODIFIED STATE PLANE PROJECTION.

ORIGINALLY DESIGNED BY USING:
STATE PLANE ZONE 3
SCALED FROM POINT 6, "YANK 1", N 3979438.99 SFT, E 1356893.16 SFT
USING THE INVERSE COMBINED SCALE FACTOR, 1/CSF
COMBINED SCALE FACTOR (CSF) = 0.99996266

RESULTING IN THE FOLLOWING COORDINATE REFERENCE SYSTEM:

PROJECTION DEFINITION:
NAME: YANKOVICH SPZ3 MOD
LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: TRANSVERSE MERCATOR
CENTRAL MERIDIAN: 145°W
LATITUDE OF ORIGIN: 54°N
FALSE NORTHING: −148.583 SFT
FALSE EASTING: 1640427.253 SFT
SCALE FACTOR AT ORIGIN: 0.99993733 (EXACT)

4. BASIS OF BEARING IS STATE PLANE ZONE 3

5. THE BASIS OF ELEVATION IS YANK 1, FROM OPUS AVERAGE, GEIOD12.

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
2	3978465.40	1356873.47	545.60	N64° 52' 30.8934"	W147° 49' 25.8572"	PRIM MON FND FARMWEST
3	3976018.08	1347989.92	513.45	N64° 52' 04.2615"	W147° 52' 49.5216"	REBAR CAP FND MILLER1
4	3979159.44	1348047.72	708.55	N64° 52' 35.1790"	W147° 52' 50.5762"	REBAR CAP FND MILLER2
5	3971529.19	1350348.18	468.81	N64° 51' 20.7850"	W147° 51' 52.1332"	PRIM MON FND CHENA WESTBASE
6	3979438.93	1356893.29	587.24	N64° 52' 40.4765"	W147° 49' 26.0480"	PRIM MON FND YANK1
7	3979609.55	1350276.46	662.76	N64° 52' 40.2563"	W147° 51' 59.3045"	REBAR CAP FND YANK3
8	3979660.78	1349605.66	703.73	N64° 52' 40.5654"	W147° 52' 14.8645"	REBAR CAP FND TP8
9	3979651.77	1348486.58	739.56	N64° 52' 40.1506"	W147° 52' 40.7580"	REBAR CAP FND TP9
10	3979650.45	1350259.91	665.44	N64° 52' 40.6539"	W147° 51' 59.7155"	REBAR CAP FND MUSKOX LS14471 2017
12	3979517.23	1354678.42	646.67	N64° 52' 40.6161"	W147° 50' 17.3625"	SPIKE SET TCP 12
101	3979486.93	1350517.58	638.85	N64° 52' 39.1200"	W147° 51' 53.6404"	REBAR SET CP101
124	3979565.38	1353401.05	622.86	N64° 52' 40.7239"	W147° 50' 46.9588"	SPIKE SET
125	3979502.11	1354080.36	639.27	N64° 52' 40.2963"	W147° 50' 31.1938"	SPIKE SET
127	3979532.93	1354357.62	642.60	N64° 52' 40.6789"	W147° 50' 24.7978"	SPIKE SET

LEGEND

- BLM MONUMENT FOUND
- PRIMARY MONUMENT FOUND
- REBAR AND CAP SET
- REBAR AND CAP FOUND

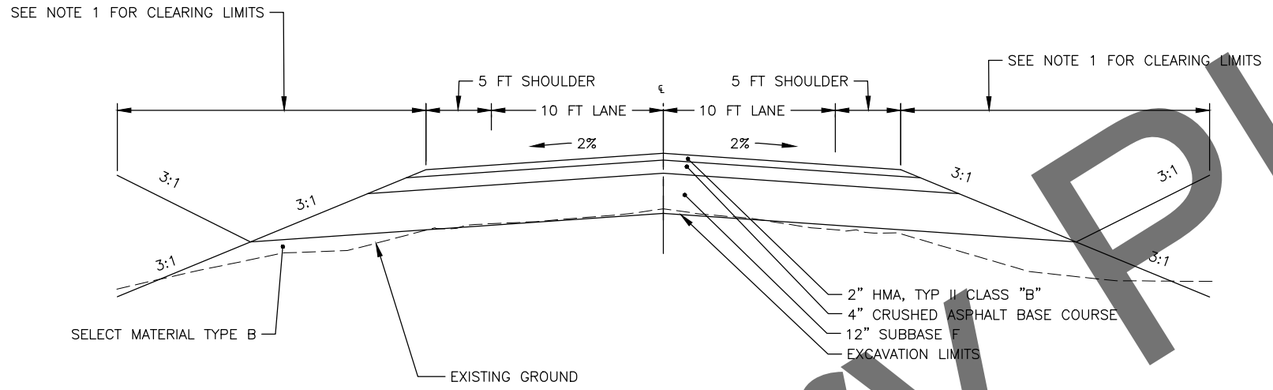
STATE OF ALASKA 49TH
TROY M. HICKS
Nov 22, 2023
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\30139 yankovich\6 Design\4 C3D\1 Plots\A\NFHWY00139_Control-A3 Wed, Nov/22/23 02:43pm

NO.	DATE	REVISION

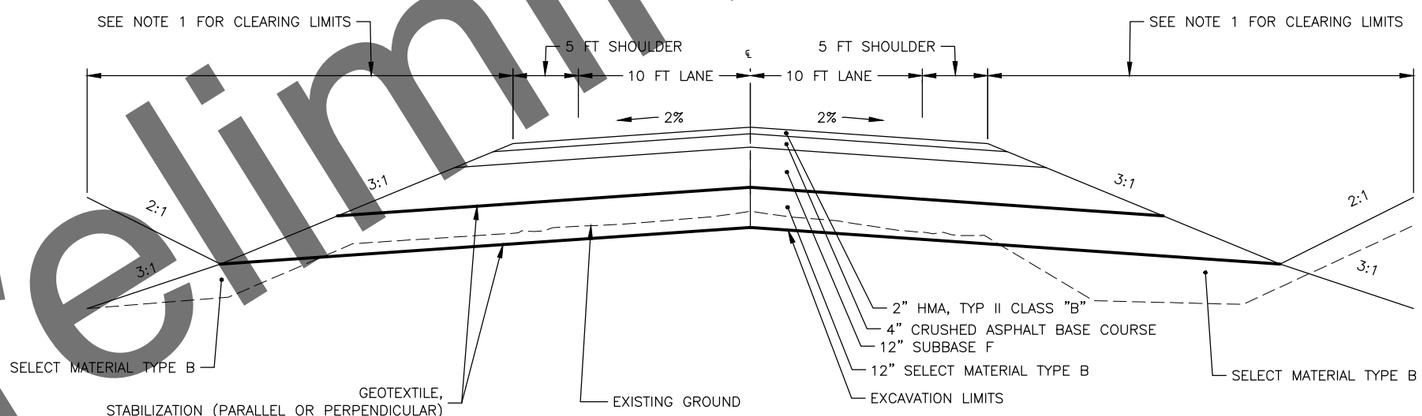
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	B1	B3



MILLER HILL TYPICAL SECTION

10+30 TO 11+50

27+25 TO 48+00



MILLER HILL TYPICAL SECTION

11+50 TO 27+25

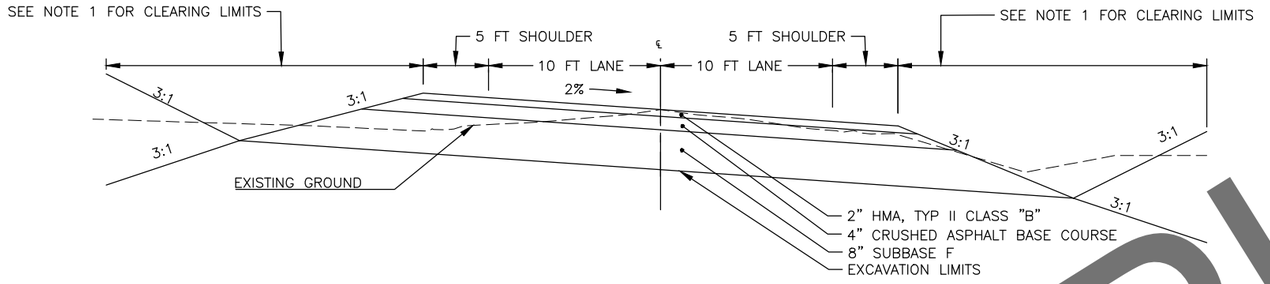
TYPICAL SECTIONS
1 OF 3

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\B\NFHWY00139_B-TYPICAL SECTIONS 1 Wed, Nov/22/23 02:43pm

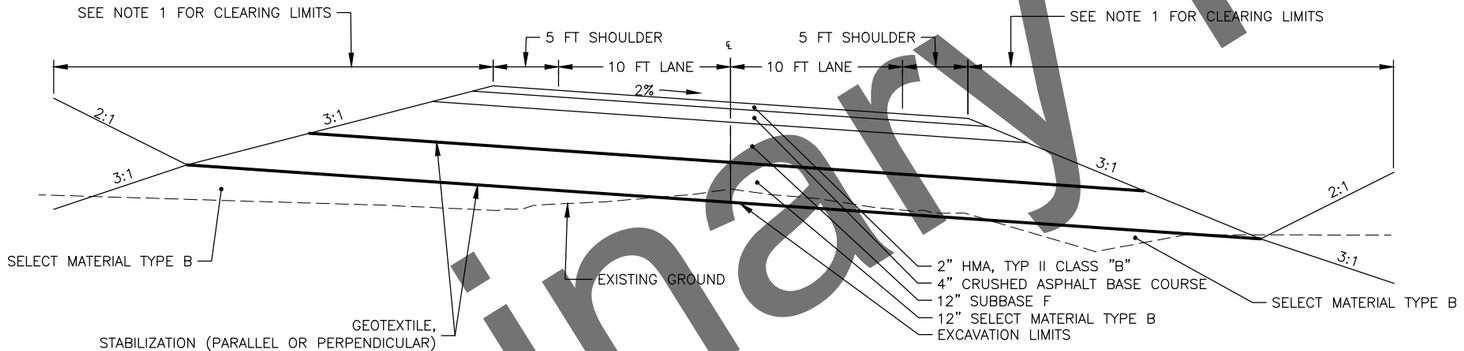
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	B2	B3



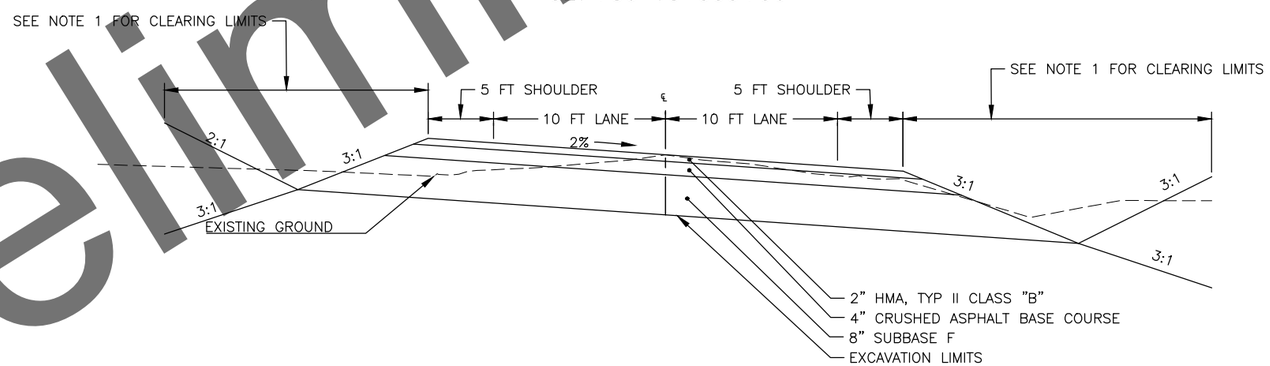
YANKOVICH ROAD TYPICAL SECTION

500+00 TO 527+80
585+00 TO 587+50



YANKOVICH ROAD TYPICAL SECTION

527+80 TO 553+50



YANKOVICH ROAD TYPICAL SECTION

553+50 TO 582+85

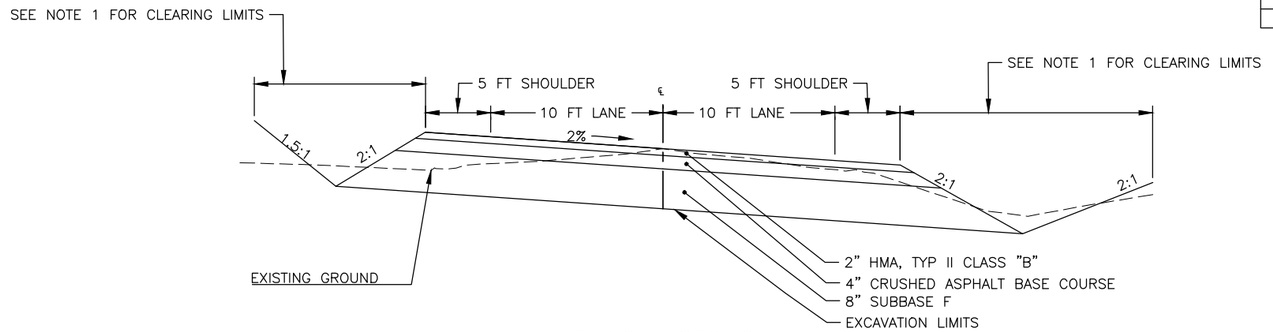
TYPICAL SECTIONS 2 OF 3

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

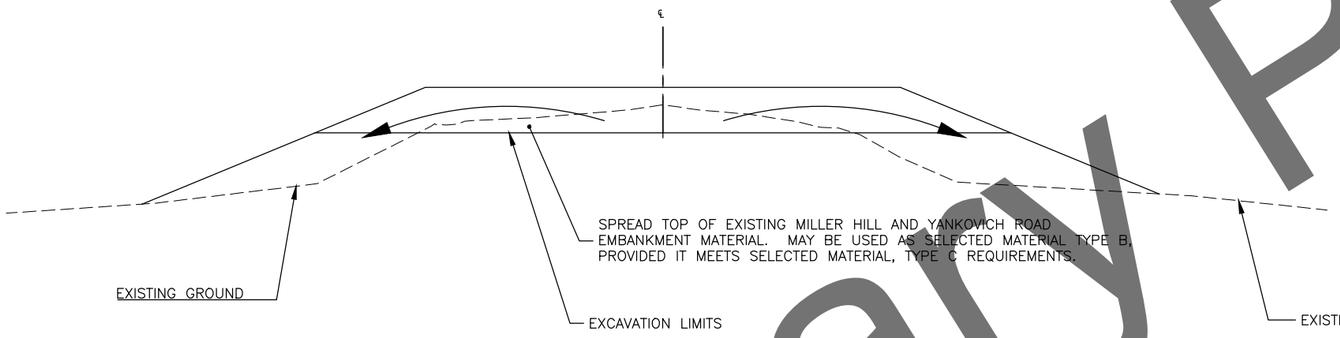
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\B\NFHWY00139_B-TYPICAL SECTIONS 2 Wed, Nov/22/23 02:43pm

NO.	DATE	REVISION

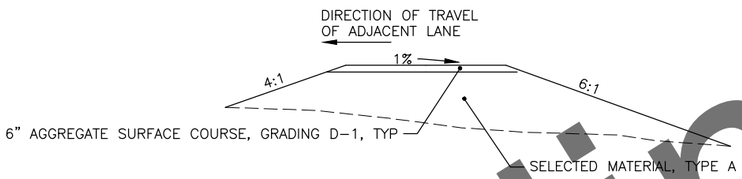
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	B3	B3



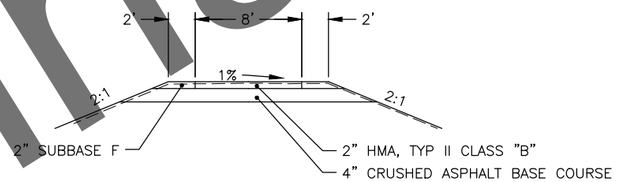
TYPICAL SECTION
582+50 TO 585+00



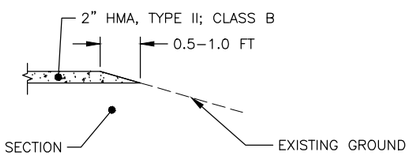
MATERIAL SPREADING DETAIL



MILLER HILL ACCESS PATH TYPICAL SECTION



MILLER HILL SEPARATED PATH TYPICAL SECTION
5+00 – 23+53



SHOULDERING DETAIL

TYPICAL SECTION NOTES:

1. IN AREAS OF CUT, CLEAR 1 FOOT BEHIND CUT LIMITS. IN AREAS OF FILL, CLEAR 2 FEET BEYOND FILL LIMITS. SEE F SHEETS FOR ADDITIONAL CLEARING INSTRUCTIONS.
2. STAKE OR FLAG PROPOSED CLEARING LIMITS. REQUEST PROJECT ENGINEER APPROVAL A MINIMUM OF 48 HOURS PRIOR TO CLEARING ACTIVITIES.
3. THE CONTRACTOR MAY PLACE AGGREGATE BASE COURSE, GRADING D-1 UNDER HMA TO ESTABLISH FINISH GRADE ONLY AFTER EXCESS USABLE CRUSHED AGGREGATE BASE COURSE HAS BEEN DEPLETED, OR AS DIRECTED BY THE PROJECT ENGINEER.
4. TYPICAL RECLAMATION DEPTH IS 6" MEASURED FROM TOP OF THE EXISTING PAVEMENT SURFACE
5. IN AREAS WHERE HMA THICKNESS EXCEEDS 10 INCHES, EXCAVATE THE EXISTING HMA THICKNESS TO THE BOTTOM OF THE HMA LAYER, BUT NO DEEPER THAN 36 INCHES BELOW THE ORIGINAL TOP OF SURFACING. THIS WORK WILL BE PAID UNDER 203.2041.000 PAY ITEM.
6. PRIOR TO PAVING MILLER HILL SEPARATED PATH, REMOVE TOP 6 INCHES OF EXISTING PATH EMBANKMENT AND REBUILD AS SHOWN IN THE MILLER HILL SEPARATED PATH TYPICAL SECTION.
7. SAWCUT AT BOP AND EOP AND CONSTRUCT FLUSH JOINT TO MATCH EXISTING PAVEMENT AS DIRECTED BY THE ENGINEER. APPLY THE VERTICAL FACE OF EXISTING PAVEMENT WITH STE-1 TACK COAT.

TYPICAL SECTIONS 3 OF 3

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\B\NFHWY00139_B-TYPICAL SECTIONS 3 Wed, Nov/22/23 02:43pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	C1	C2

ESTIMATE OF QUANTITIES

ITEM NUMBER	DESCRIPTION	PAY UNIT	QUANTITY
201.0003.0000	CLEARING AND GRUBBING	ACRE	6
202.0010.0000	SINGLE MAIL BOX INSTALLATION	EACH	18
202.0012.0000	DOUBLE MAIL BOX INSTALLATION	EACH	39
202.0017.0000	REMOVAL OF CULVERT PIPE	EACH	34
202.2029.0000	RESOLUTION OF CONFLICTS	CS	ALL REQUIRED
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	15,000
203.0006.0000	BORROW	TON	12,896
203.2041.0000	UNCLASSIFIED EXCAVATION	CS	ALL REQUIRED
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	8,239
304.0001.000F	SUBBASE, GRADING F	TON	26,398
308.0001.0000	CRUSHED ASPHALT BASE COURSE	SY	27,933
401.0001.002B	HMA, TYPE II; CLASS B	TON	4,964
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40 GRADE PG 52E-40	TON	278
401.0008.002B	HMA PRICE ADJUSTMENT, TYPE II: CLASS B	CS	ALL REQUIRED
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CS	ALL REQUIRED
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	TON	459
401.0013.0000	JOB MIX DESIGN	EACH	1
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQUIRED
603.0001.0012	CSP 12 INCH	LF	95
603.0001.0018	CSP 18 INCH	LF	1,050
603.0001.0024	CSP 24 INCH	LF	797
603.0020.0024	END SECTION FOR 24 INCH	EACH	18
613.0002.0000	CULVERT MARKER POST	EACH	18
615.0001.0000	STANDARD SIGN	SF	312
618.0002.0000	SEEDING	LB	503
630.0003.0001	GEOTEXTILE, REINFORCEMENT - TYPE 1	SY	44,213
639.0002.0000	DRIVEWAY, RESIDENTIAL	EACH	29
639.0002.0000	DRIVEWAY, COMMERCIAL	EACH	16
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LS	ALL REQUIRED
641.0004.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CS	ALL REQUIRED
641.0006.0000	WITHHOLDING	CS	ALL REQUIRED
641.0007.0000	SWPPP MANAGER	LS	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQUIRED
642.0013.0000	THREE PERSON SURVEY PARTY	CS	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQUIRED
643.2005.0000	PUBLIC INFORMATION PROGRAM	LS	ALL REQUIRED
644.0001.0000	FIELD OFFICE	LS	ALL REQUIRED
652.0001.0000	INTERIM WORK PRICE ADJUSTMENT	CS	ALL REQUIRED
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION - SITE 1	LS	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LS	ALL REQUIRED

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	FACTOR
203.0006.0000	BORROW	2 TONS/CY
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	2 TONS/CY
401.0001.002B	HMA, TYPE II; CLASS B	2.025 TONS/CY
401.0004.5240	ASPHALT BINDER, GRADE PG 52E-40	5.6% TOTAL WEIGHT OF 401.0001.002B
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	2.025 TONS/CY
618.0002.0000	SEEDING	2 LBS/MSF

ESTIMATE OF LUMP SUM QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY
670.0001.0000	PAINTED TRAFFIC MARKINGS	37,710 LF

GENERAL NOTES:

1. THE ALIGNMENT AND PROFILE ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
2. WHERE NEW PAVEMENT IS TO BE MATCHED TO EXISTING PAVEMENT, A STRAIGHT SAWCUT SHALL BE MADE AND THE EXISTING PAVEMENT EDGE SHALL BE CLEANED AND PAINTED WITH STE-1 ASPHALT FOR TACK COAT. IF DAMAGE OCCURS AS A RESULT OF SAWCUTTING, THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OR REPLACEMENT COSTS. THIS WORK IS SUBSIDIARY TO 401.0001.0028 HMA, TYPE II, CLASS B.
3. UNLESS OTHERWISE NOTED, ALL EXISTING UTILITIES SHALL REMAIN IN-PLACE AND IN-SERVICE DURING CONSTRUCTION. UTILITIES (OVERHEAD AND BURIED) TO THE EXTENT THEY ARE KNOWN ARE SHOWN ON THE PLANS. BEFORE CONDUCTING ANY GROUND-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL VERIFY UTILITY LOCATION BY CONTACTING THE DIGLINE AT 1-800-478-3121 OR THE UTILITY COMPANY.
4. PRESERVE EXISTING PRIMARY AND SECONDARY MONUMENTS TO THE EXTENT PRACTICABLE. REPLACE MONUMENTS WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES. PROVIDE THE ENGINEER A RECORD OF DESTROYED MONUMENTS. ANY ADDITIONAL MONUMENTS ENCOUNTERED SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AND PAID FOR AT THE UNIT PRICE, 642.0004.0000.
5. EXCAVATION REQUIRED TO COMPLETE CULVERT INSTALLATION IS SUBSIDIARY.
6. ALL UNUSABLE MATERIAL IS TO BE DISPOSED OF OUTSIDE THE PROJECT LIMITS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING WASTE DISPOSAL SITES AT THE AREAS APPROVED BY THE ENGINEER.
7. SEED ALL FORESLOPES, BACKSLOPES, DITCHES, AND DISTURBED AREAS IN ACCORDANCE WITH SECTION 618. ADDITIONAL MOBILIZATIONS REQUIRED TO MEET THE CGP ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.

ESTIMATE TABLES

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\C\NFHWY00139_C-ESTIMATE TABLES Mon, Nov/27/23 10:04am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	C2	C2

SUPERELEVATION SUMMARY

P.I. STATION	BEGIN TRANSITION	TRANSITION LENGTH (FEET)	BEGIN FULL SUPERELEVATION	SUPERELEVATION RATE (%)	END FULL SUPERELEVATION	TRANSITION LENGTH (FEET)	END TRANSITION
581+77	581+15	5	581+20	2.2	582+40	5	582+45
583+96	582+69	85	583+54	4	584+45	85	585+30

SUPERELEVATION NOTES:

1. ROTATE SUPERELEVATION ABOUT CENTERLINE.
2. SUPERELEVATION SHALL BE BUILT INTO THE SUBGRADE AND CARRIED THROUGH THE FULL WIDTH INCLUDING SHOULDERS.
3. SEE STANDARD DRAWING I-81.00 FOR SUPERELEVATION TRANSITION DETAILS. THE TRANSITION LENGTHS GIVEN IN THE SUMMARY DO NOT INCLUDE THE 1/2 VERTICAL CURVE LENGTHS SHOWN ON EACH END OF THE TRANSITION.
4. BETWEEN THESE CLOSELY SPACED REVERSE CURVES, P.I. STATIONS 581+77 AND 583+96, CONTINUOUSLY ROTATE THE ROADWAY ABOUT THE CENTERLINE AS A PLANE SECTION. DO NOT TRANSITION TO A NORMAL CROWN SECTION. THE ROADWAY CROSS SLOPE WILL BE FLAT AT STATION 528+69.
5. WHERE SUPERELEVATION TRANSITIONS OCCUR, THE ROADWAY MUST HAVE MINIMUM OF 0.5% SLOPE IN ANY DIRECTION TO ENSURE ADEQUATE DRAINAGE.

SUPERELEVATION SUMMARY

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\C\NFHWY00139_C-SUMMARIES Wed. Nov/22/23 02:43pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	D1	D1

MAILBOX AND BOX SUMMARY

EXISTING			PROPOSED		SINGLE	DOUBLE	NEWSPAPER	REMARKS
NUMBER	STATION	OFFSET	STATION	OFFSET				
12	20+84	LT				6		
7	23+68	LT			1	3		
1	30+62	LT			1			
4	37+36	LT				2		
1	40+97	LT			1			
9	46+40	LT			1	4		
1	503+23	LT			1			
5	510+30	LT			1	2		
1	515+04	LT			1			
2	526+58	LT				1		
5	532+20	LT			1	2		
1	539+22	LT			1			
2	540+75	LT				1		
6	542+56	LT				3		
1	546+42	LT			1			
7	554+56	RT			1	3		
1	556+02	LT			1			
1	560+60	LT			1			
4	562+08	LT				2		
9	563+15	LT			1	4		
2	566+42	LT				1		
2	572+54	LT				1		
4	574+95	LT				2		
1	576+00	LT			1			
4	578+75	LT				2		
1	580+96	LT			1			
1	582+48	LT			1			
1	585+87	LT			1			
				TOTALS	18	39		

MAILBOX NOTES:

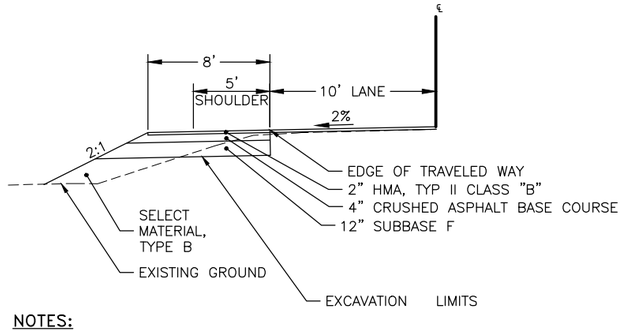
1. STATIONS AND NUMBERS OF MAILBOXES/NEWSPAPER BOXES SHOWN IN THE SUMMARY ARE APPROXIMATE AND SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
2. INSTALL NEW MAILBOXES ACCORDING TO WOOD CANTILEVER INSTALLATION DETAILS IN STANDARD PLAN M-23.13.
3. LOCATE NEW MAILBOXES ACCORDING TO STANDARD PLAN M-20.15, EXCEPT DISREGARD THE FIRST SENTENCE OF NOTE 6.

MAILBOX TURNOUT SUMMARY

NO.	STATION	OFFSET	WIDTH	LENGTH

MAILBOX TURNOUT NOTES:

1. MAILBOX TURNOUTS MUST BE CONSTRUCTED ACCORDING TO STANDARD PLAN M-20.13, AND THE MAILBOX TURNOUT DETAIL.
2. WIDTHS SHOWN IN THE SUMMARY INCLUDE THE 5' SHOULDERS.
3. MATERIALS USED FOR CONSTRUCTING MAILBOX TURNOUTS SHALL BE MEASURED AND PAID FOR DIRECTLY UNDER THEIR RESPECTIVE PAY ITEMS.



NOTES:

1. SLOPES ARE 2:1, OR AS DIRECTED BY THE ENGINEER.
2. ENSURE EXISTING DRAINAGE PATTERNS ARE MAINTAINED. MINOR DITCH RECONDITIONING MAY BE REQUIRED AS DIRECTED BY THE ENGINEER AND IS SUBSIDIARY TO PAY ITEM 203.003.000

MAILBOX TURNOUT DETAIL, TYP

MAILBOX SUMMARY

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\D\NFHWY00139_Mailbox summary-MAILBOX SUMMARY Wed, Nov/22/23 02:43pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	E1	E5

CULVERT SUMMARY

SHEET NO.	CENTERLINE STATION	OFFSET	CULVERTS TO BE REMOVED		SKEW ANGLE	CULVERT DIMENSIONS (FT)				CULVERT END SECTIONS (EACH)			NEW CULVERT TYPE	CULVERT MARKER POSTS	THAW PIPE	REMARKS	AS-BUILT CENTERLINE LOCATION		
			DIA.	LENGTH		18"	24"	36"	12"	18"	24"	36"					STATION	LATITUDE	LONGITUDE
F1	20+60	LT, 25'	18"	21'		60							C A						
F2	23+26	RT. 24							36'				C T			ACCESS TO MULTI-USE TRAIL			
	23+34	LT. 27	18"	42'		54'							C A						
	30+40	RT. 24							36'				C T			ACCESS TO MULTI-USE TRAIL			
	30+47	LT. 23	18"	26'		31'							C A			APPROACH LT			
	33+84	LT. 25	18"	21'		37'							C A			APPROACH LT			
F3	37+59	LT, 21'	18"	57'		32'							C A			APPROACH LT			
	37+66	RT. 21'							23'				C T			ACCESS TO MULTI-USE TRAIL			
	40+09	LT, 21'	18"	23'		31'							C A			APPROACH LT			
	40+83	LT, 21'	18"	24'		33'							C A			APPROACH LT			
	41+84	LT, 21'	18"	23'		32'							C A			APPROACH LT			
F4	503+68	LT. 20'				82'							C A			APPROACH LT			
	509+96	LT, 23	24"	36'		56'							C A			LONE PINE DRIVE			
F5	514+87	LT, 20'	18"	24'		32'							C A			APPROACH LT			
	518+24	LT, 21'	18"	45'		59'							C A			LARS EXIT			
	522+38	LT, 20'	18"	41'		59'							C A			LARS ENTRANCE			
	523+18	LT, 21'	18"	38'		35'							C A			LARS SERVICE ENTRANCE			
F6	524+65	RT, 20	18"	61'		63'							C A			SEISMIC ROAD			
	526+37	RT, 20	18"	24'		44'							C A			APPROACH RT			
	528+66		24"	45'			73'				2		C X	2	1				
	529+50		24"	30'			51'				2		C X	2	1				
	532+34	RT, 23'	18"	22'		79'							C A			APPROACH RT			
	532+81	LT, 23'	24"	90'			35'						C A			ALYESKA DRIVE			
	535+81		24"	39'			79'				2		C X	2	1				
F7	542+04	LT, 23'	24"	92'			92'						C A			SUN VALLEY DRIVE			
	544+53		24"	29'			60'				2		C X	2	1				
	546+16	RT, 23'	18"	34'			32'						C A			APPROACH RT			
F8	552+78	LT, 23'	24"	49'			67'						C A			DALTON TRAIL			
	561+00	LT, 19'	18"	28'		46'							C A			SAMIEL COURT			
	561+95		18"	39'			48'				2		C X	2					
F9	563+64		24"	31'			44'				2		C X	2					
	569+65		24"	31'			44'				2		C X	2					
F10	577+14		24"	31'			51'				2		C X	2					
	579+21	LT, 18'				66'							C A			GOLD DUST DRIVE			
	581+03	LT, 18'	18"	29'		31'							C A			APPROACH LT			
	582+66	LT, 18'	18"	32'		42'							C A			APPROACH LT			
	585+54	LT, 22'	18"	36'		46'							C A			APPROACH LT			
	586+87	LT, 22'	24"	61															
	587+42		24"	120'			121'				2		C X	2					
		SUBTOTAL:		1374'		1050'	797'		95'		18			18	4				

NEW CULVERT TYPE LEGEND

C = CORRUGATED STEEL
X = CROSS CULVERT
A = APPROACH CULVERT
T = MULTI-USE TRAIL CULVERT
F = FISH PASSAGE
G = GALVANIZED
S = STRUCTURAL PLATE PIPE

CULVERT SUMMARY
1 OF 2

STATE OF ALASKA 49TH
Ivet Hall
CE 12815
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	E2	E5

CULVERT NOTES:

1. STATIONS SHOWN FOR CROSSING CULVERTS REFER TO THE POINT WHERE THE CULVERT CROSSES THE CENTERLINE. STATIONS AND OFFSETS SHOWN FOR APPROACH REFER TO THE CULVERT MIDPOINT, PERPENDICULAR TO THE ROADWAY CENTERLINE.
2. CULVERT LENGTH, SKEW ANGLE, AND LOCATION ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
3. CULVERT LENGTH DOES NOT INCLUDE END SECTION LENGTHS.
4. ALL CULVERTS SHALL BE INSTALLED IN EXCAVATIONS ABSENT OF STANDING WATER.
5. CULVERT BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 204 OF THE SPECIFICATIONS.
6. STATIONING, OFFSET, AND SKEW ANGLE FOR CULVERTS ARE APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
7. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. WHEN INSTALLING SKEWED CULVERTS, ENSURE THE FINAL LENGTH IS DETERMINED FROM THE NEAREST EDGE TO THE CENTERLINE.
8. EXISTING CULVERTS, MARKER POSTS, AND THAW PIPES DESIGNATED FOR REMOVAL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OF AT NO ADDITIONAL COST TO THE DEPARTMENT, UNLESS NOTED OTHERWISE.
9. IN AREAS OF POOR FOUNDATION, SUBEXCAVATE 1 FOOT TO 3 FEET, OR GREATER TO PROVIDE ADEQUATE FOUNDATION, AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AS 203(3) UNCLASSIFIED EXCAVATION.
10. MINIMUM ALLOWABLE CULVERT CROSS SLOPE IS 0.5%, UNLESS NOTED OTHERWISE ON THE PLANS.
11. NO CULVERT SHALL BE PLACED UNTIL THE BED HAS BEEN APPROVED BY THE ENGINEER. CULVERT BEDDING AND BACKFILL, AS SHOWN IN CULVERT FOUNDATION DETAILS ON SHEET E4, SHALL BE PAID FOR AS 304(1) SUBBASE, GRADING F.
12. INSTALL THAW PIPES AT LOCATIONS SHOWN IN THE SUMMARY ACCORDING TO DETAILS ON SHEET E4.
13. NEW CULVERT MARKER POSTS MUST BE INSTALLED ON CULVERTS AS SHOWN IN THE SUMMARY ACCORDING TO DETAILS ON SHEET E3. REMOVAL OF EXISTING CULVERT MARKER POSTS AND HARDWARE WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT IS SUBSIDIARY TO PAY ITEM 613(2).
14. THE CONTRACTOR SHALL ENTER AS–BUILT LOCATIONS FOR ALL CULVERTS IN THE CULVERT SUMMARY TABLE. COORDINATES SHALL BE LOCATED AT THE INTERSECTION OF THE CULVERT AND ROAD CENTERLINE. USE NAD 83 COORDINATE SYSTEM FORMATTED TO DECIMAL DEGREES TO A PRECISION OF 5 DECIMAL PLACES (000.00000°). THIS WORK IS SUBSIDIARY TO 603 SERIES PAY ITEMS.
15. USE 14 GAGE STEEL FOR ALL 18", 24", 36", AND 48" CULVERTS.
16. FOR CULVERT INSTALLATIONS, WARP THE EMBANKMENT SLOPE AS SHOWN IN THE CULVERT SLOPE WARPING DETAILS ON SHEET E3. THIS WORK IS SUBSIDIARY TO 602 AND 603 PAY ITEMS.
17. INSTALL CULVERT END SECTIONS PER STANDARD DRAWING D–06.10, AS SHOWN ON SHEETS V1–V3. TOE PLATE EXTENSIONS ARE NOT REQUIRED.

NEW CULVERT TYPE LEGEND

C = CORRUGATED STEEL
X = CROSS CULVERT
A = APPROACH CULVERT
T = MULTI–USE TRAIL CULVERT
F = FISH PASSAGE
G = GALVANIZED
S = STRUCTURAL PLATE PIPE

CULVERT SUMMARY
2 OF 2

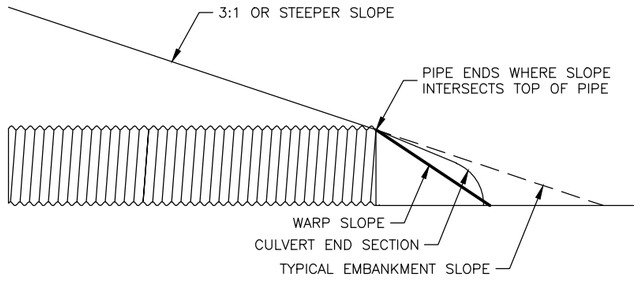
STATE OF ALASKA
49 TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451–2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\E\00139_E_DETAILS–E2 Wed, Nov/22/23 02:44pm

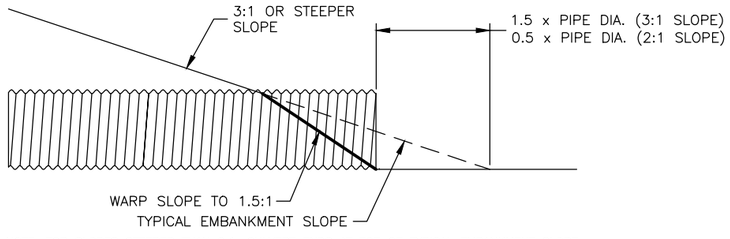
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\E\00139_E_DETAILS-CULVERT DETAILS (1 OF 3) Wed, Nov/22/23 02:44pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	E3	E5

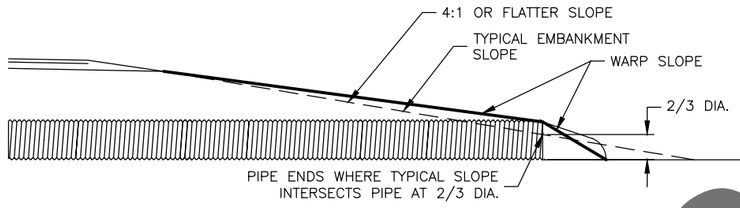


CULVERT END SECTION SLOPE WARPING DETAIL
3:1 OR STEEPER FORESLOPES

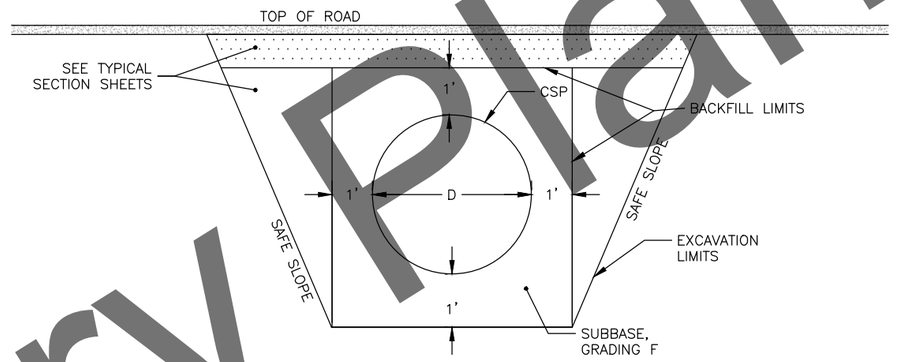


NOTE: FOR SLOPES STEEPER THAN 2:1, CULVERT ENDS AT TOE OF TYPICAL EMBANKMENT SLOPE.

CULVERT SLOPE WARPING DETAIL
3:1 OR STEEPER FORESLOPES



CULVERT END SECTION SLOPE WARPING DETAIL
4:1 OR FLATTER FORESLOPES

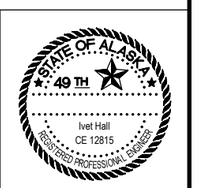


TYPICAL CULVERT FOUNDATION DETAIL

CULVERT FOUNDATION NOTES:

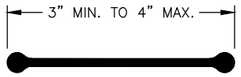
1. ALL BACKFILL AND BEDDING MATERIAL MUST BE SUBBASE, GRADING F. BACKFILL MATERIAL PLACEMENT LIMITS ARE DEFINED BY THE TOP OF FOUNDATION RIP RAP, PARALLEL VERTICAL PLANES LOCATED 12 INCHES OUTSIDE THE HORIZONTAL PROJECTION OF THE OUTERMOST PIPES OUTSIDE DIAMETER AND THE HORIZONTAL PLANE 12 INCHES ABOVE THE HIGHEST PIPE'S OUTSIDE DIAMETER.
2. EXCAVATION REQUIRED TO BED THE CULVERTS ACCORDING TO THE CULVERT FOUNDATION DETAILS IS SUBSIDIARY TO THE 603 PAY ITEMS.
3. GEOTEXTILE, REINFORCEMENT TYPE 2 MUST BE INSTALLED PER SECTION 630.
4. INSTALL CENTERED AND PARALLEL TO CULVERT CENTERLINE, 15 FOOT MINIMUM WIDTH. INSTALL IN CONTINUOUS LAYERS, NO SEAMS TO BE ALLOWED.

CULVERT DETAILS 1 OF 3

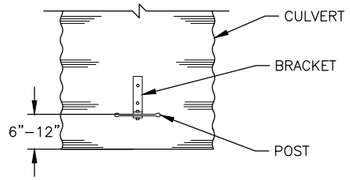


NO.	DATE	REVISION

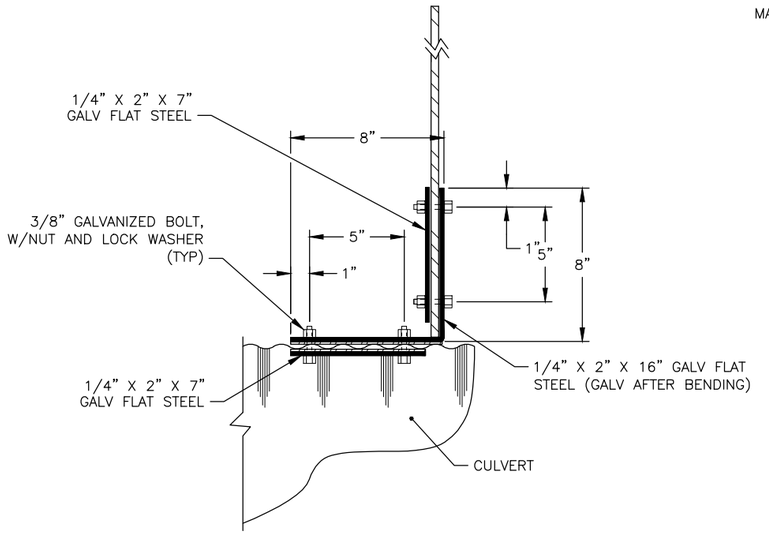
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	E4	E5



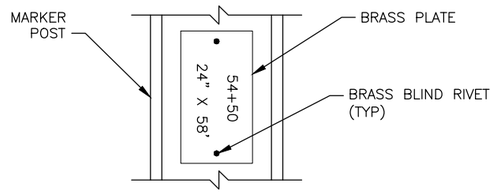
POST DETAIL



TOP VIEW

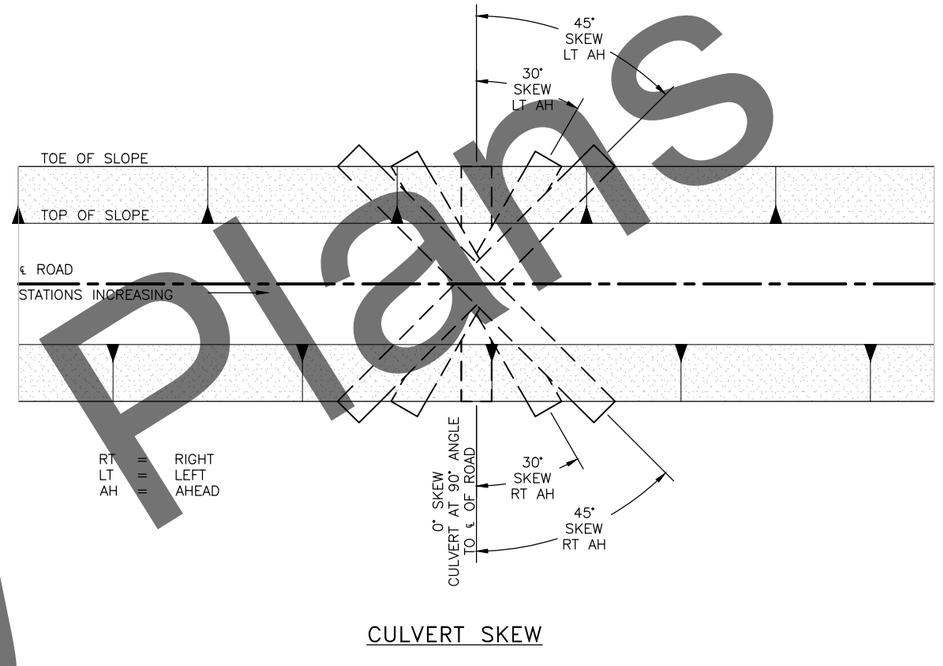


BRACKET DETAIL

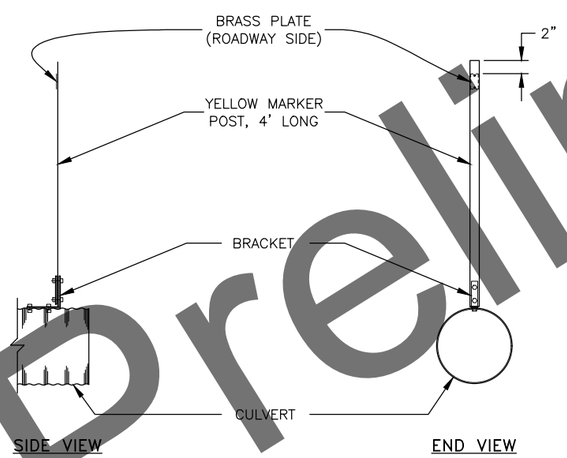


STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2" X 4" X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL



CULVERT SKEW



CULVERT MARKER POST DETAIL

CULVERT MARKER POSTS NOTES:

1. MARKER POSTS ARE TO BE INSTALLED ON CROSSING CULVERTS AND CULVERTS FOR NAMED APPROACHES ONLY, UNLESS OTHERWISE LISTED IN THE CULVERT SUMMARY.
2. DRILL ALL BOLT HOLES. COAT HOLES WITH BRUSH APPLIED ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
3. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.
4. STATION STAMPS ON BRASS PLATES TO BE PER INSTALLED LOCATION AND NOT NECESSARILY THE LOCATION INDICATED ON THE PLANS.

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\E\00139_E_DETAILS-CULVERT DETAILS (2 OF 3) Wed, Nov/22/23 02:44pm

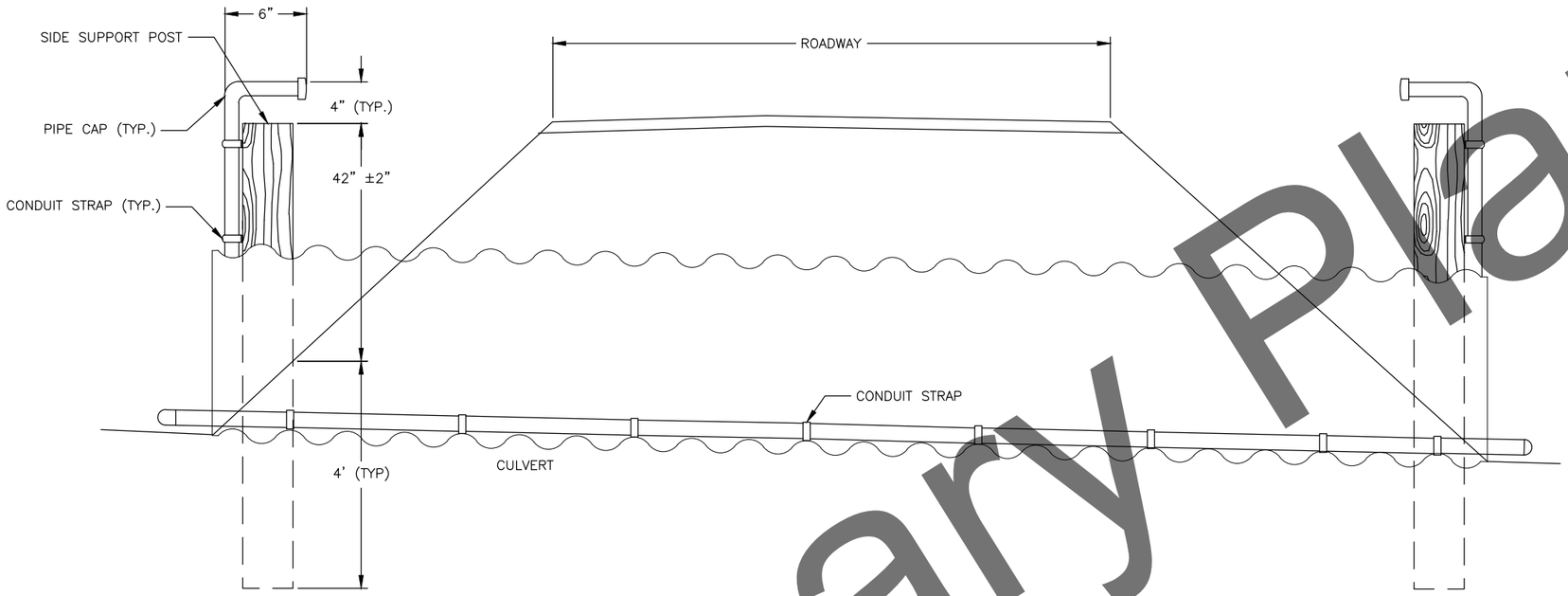
STATE OF ALASKA 49TH
Ivet Hall
CE 12815
REGISTERED PROFESSIONAL ENGINEER

CULVERT DETAILS 2 OF 3

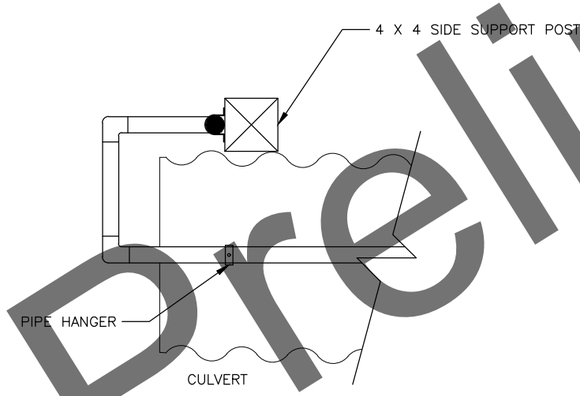
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	E5	E5

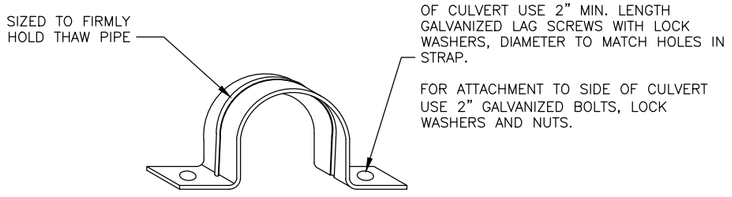
LOW FILL CONDITION



CULVERT WITH THAW PIPE



LOW FILL CONDITION
TOP VIEW



GALVANIZED RIGID CONDUIT
STRAP DETAIL

GENERAL NOTES:

1. THESE THAW PIPES ARE INTENDED FOR USE IN STEAM THAWING.
2. USE 1/2" I.D. ASTM A53 GALVANIZED PIPE AND FITTINGS TO MATCH.
3. WHEN THE HEIGHT OF FILL IS LESS THAN 5' TO TOP OF PIPE, LOCATE SUPPORT POST AT THE TOE OF SLOPE.
4. FOR 18", 24", AND 36" CULVERTS, PLACE THAW PIPES IN THE BOTTOM OF THE CULVERT, OR AS DIRECTED BY THE ENGINEER. ATTACH WITH GALVANIZED RIGID CONDUIT STRAPS ON 4' CENTERS MAX. THE MAXIMUM DISTANCE FROM END OF CULVERT TO FIRST CONDUIT STRAP IS 12 INCHES. ATTACH PIPES TO POSTS AS SHOWN.
5. USE PRESSURE TREATED SUPPORT POSTS OF HEM–FIR, NO. 2 OR BETTER. USE AMMONIACAL COPPER ZINC ARSENATE (ACZA) OR CHROMATED COPPER ARSENATE (CCA) PRESERVATIVES ON SUPPORT POSTS. PRESSURE TREAT IN ACCORDANCE WITH AASHTO M133.
6. FASTEN THAW PIPE TO SUPPORT POSTS WITH GALVANIZED RIGID CONDUIT STRAPS AND MINIMUM 2" LONG GALVANIZED LAG SCREWS AT MAX. 12" CENTERS, IF MORE THAN ONE IS REQUIRED.
7. FILL THAW PIPE WITH A MINUS 50° FAHRENHEIT MIX OF RV ANTIFREEZE AND WATER, THEN CAP. THIS WORK IS SUBSIDIARY TO 616 PAY ITEM.
8. DO NOT USE ANY COUPLINGS OR CONNECTION HARDWARE WITHIN 2' OF A CORNER.

STATE OF ALASKA 49TH
Ivet Hall
CE 12815
REGISTERED PROFESSIONAL ENGINEER

CULVERT DETAILS 3 OF 3

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\E\00139_E_DETAILS-CULVERT DETAILS (3 OF 3) Wed, Nov/22/23 02:44pm

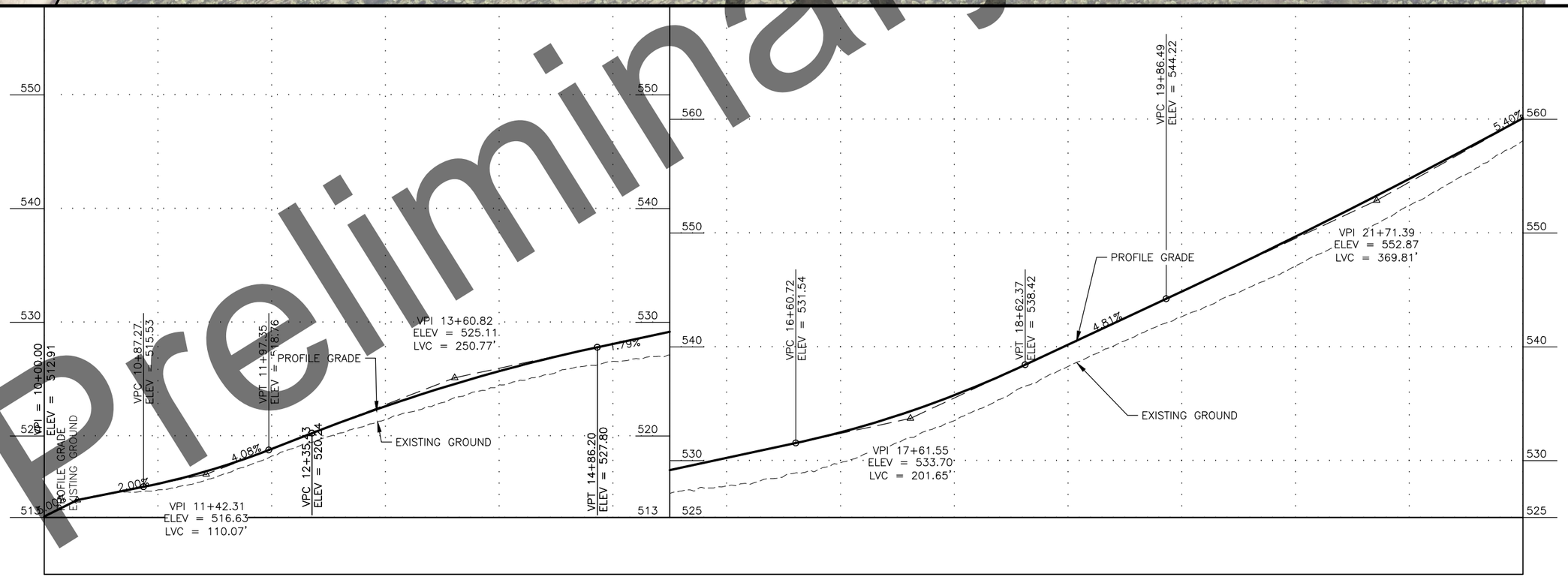
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F1	F10

PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (X) STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*

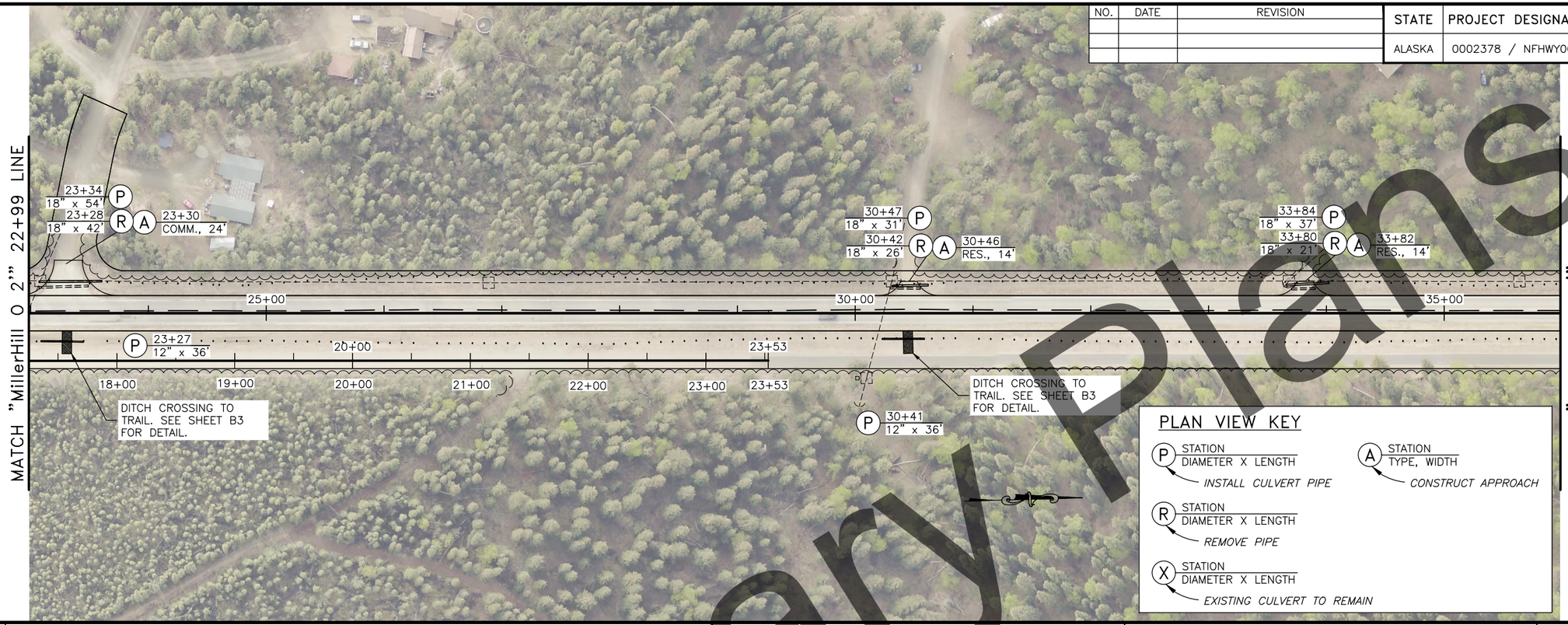
STATE OF ALASKA
49 TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER



PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-10+00.00-23+00.00 Wed, Nov/22/23 02:44pm

NO.	DATE	REVISION

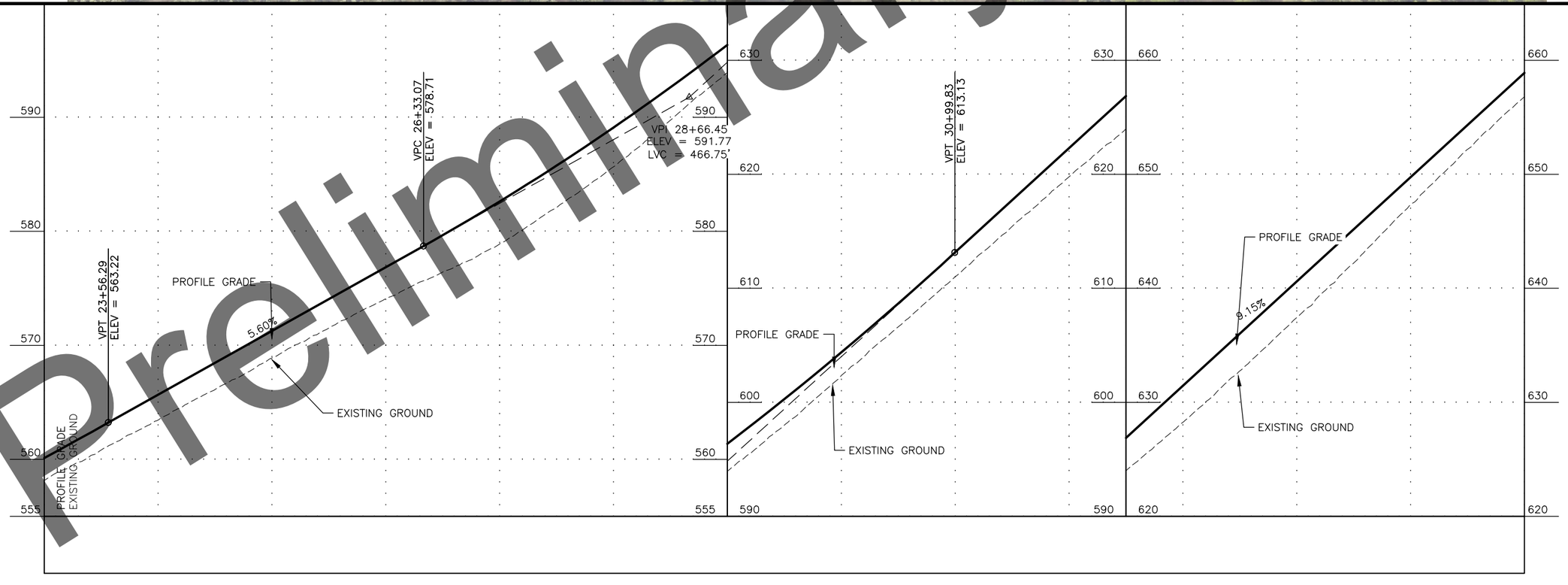
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F2	F10



PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (X) STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*

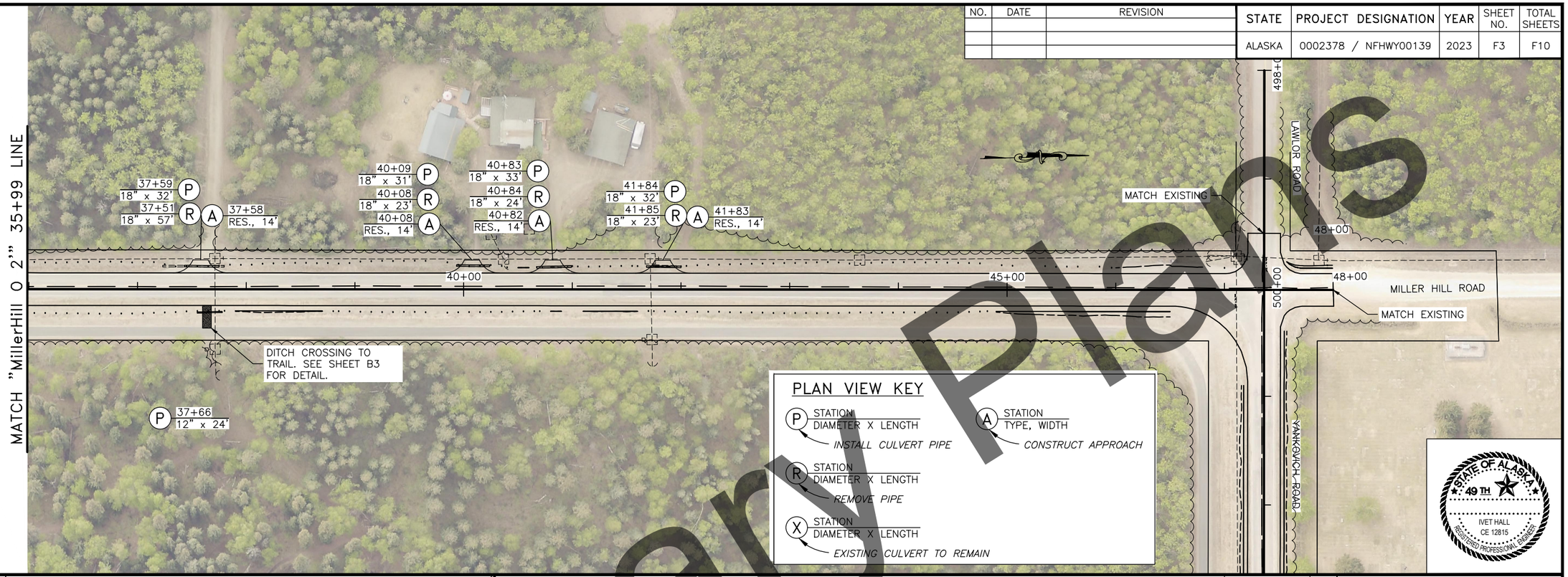
STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

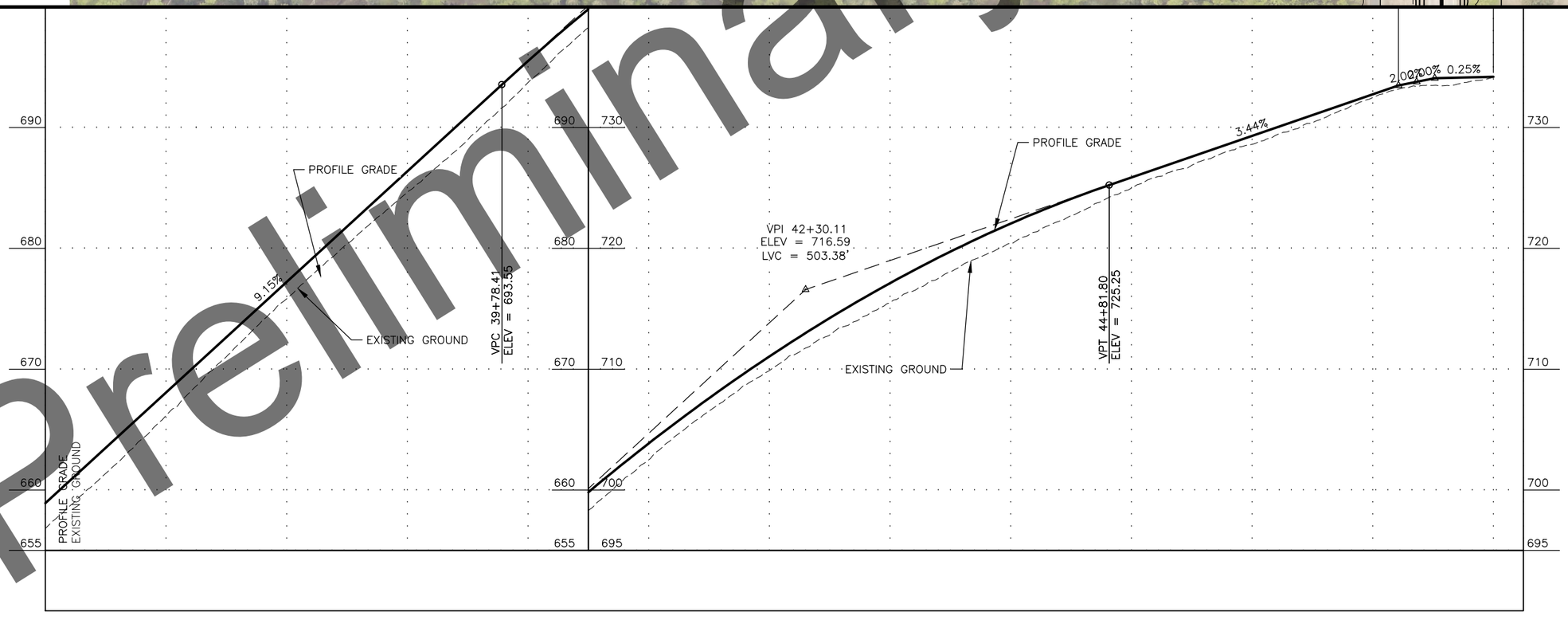


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-23+00.00-36+00.00 Wed, Nov/22/23 02:44pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F3	F10

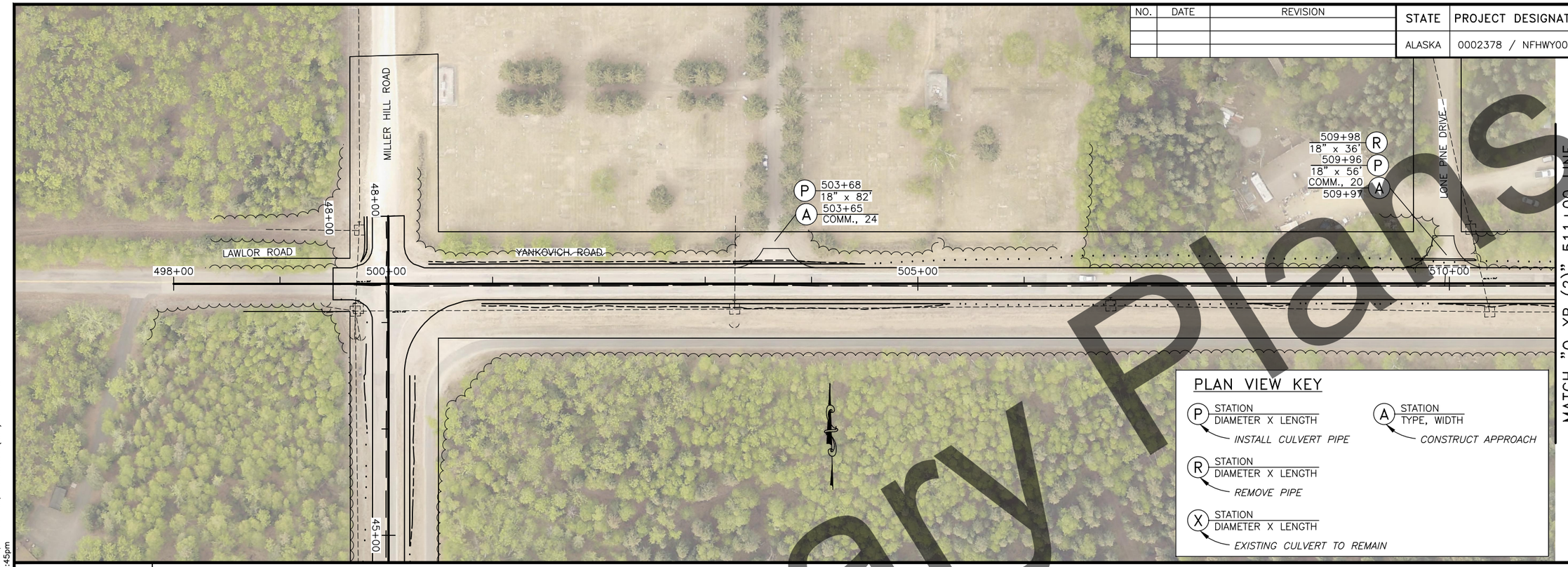




PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-36+00.00-48+25.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION

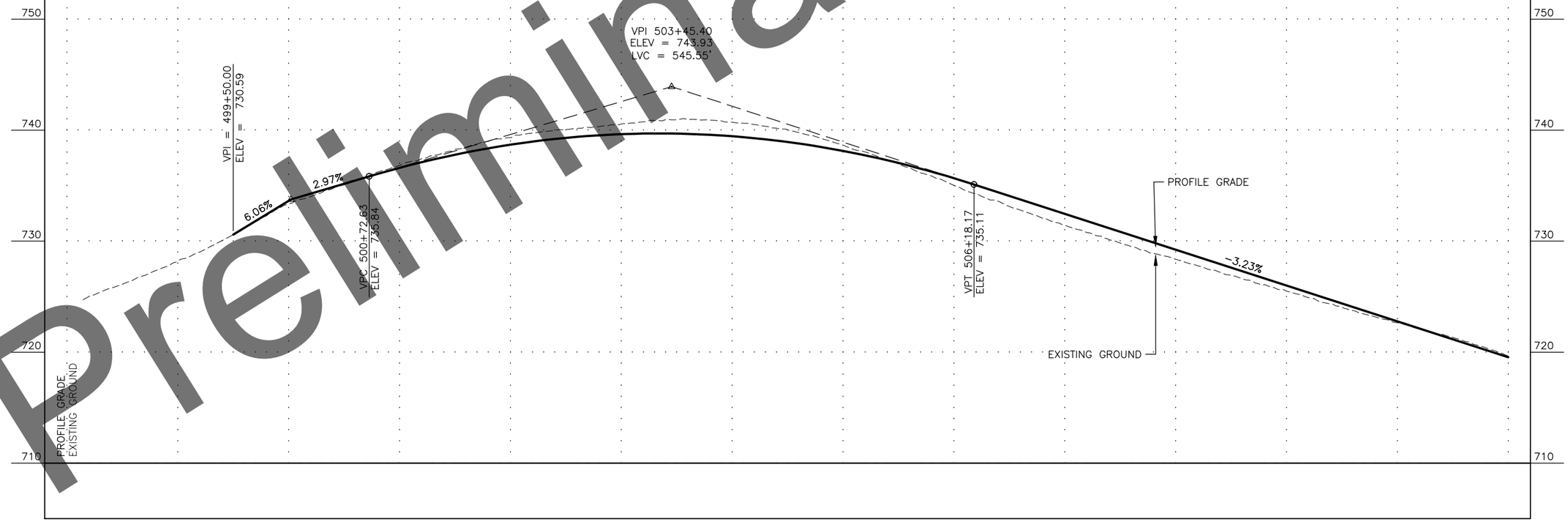
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F4	F10



PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (X) STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*

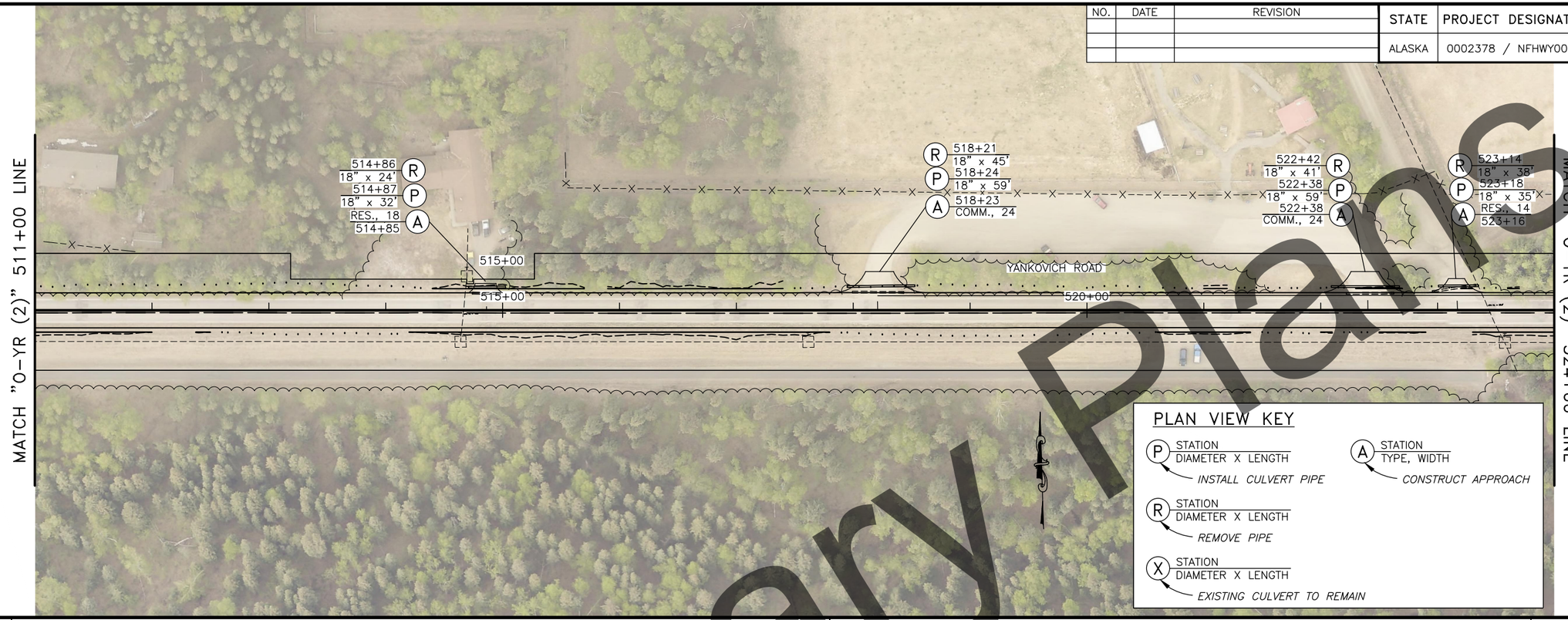
STATE OF ALASKA 49TH
IVET HALL
12815
REGISTERED PROFESSIONAL ENGINEER

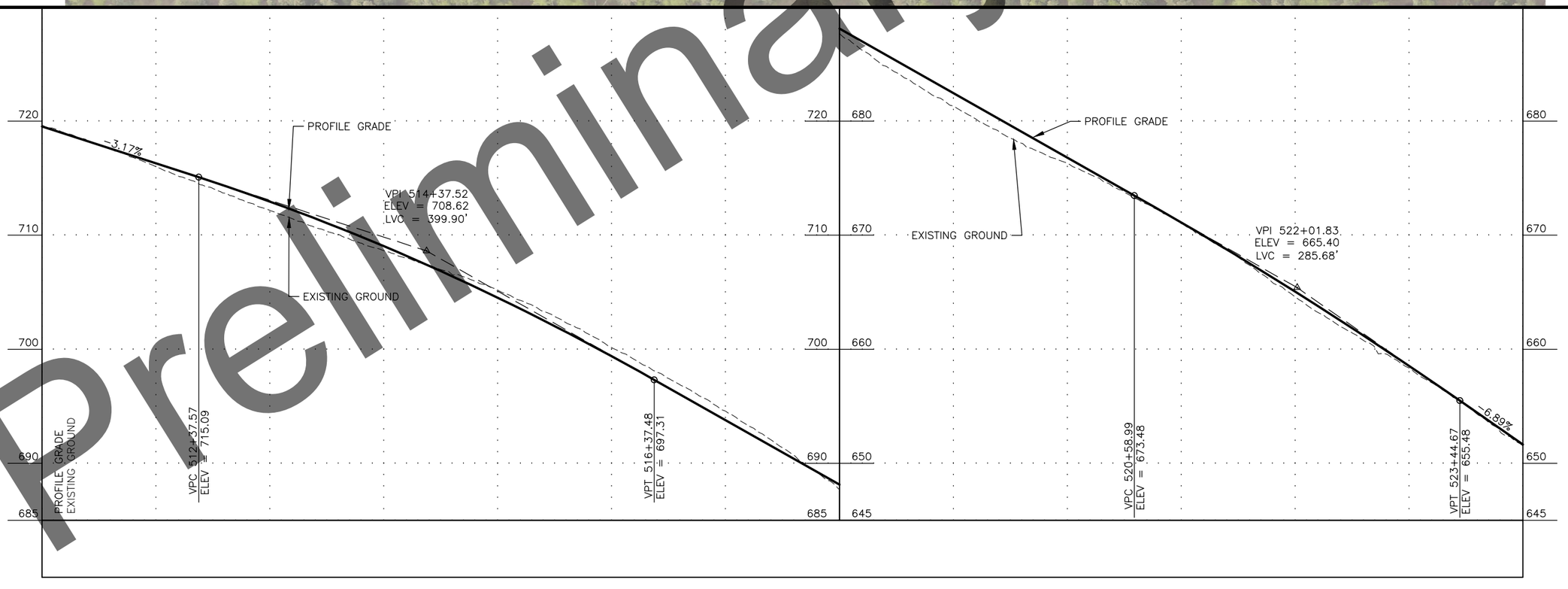


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yonkovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-498+00.00-511+00.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F5	F10



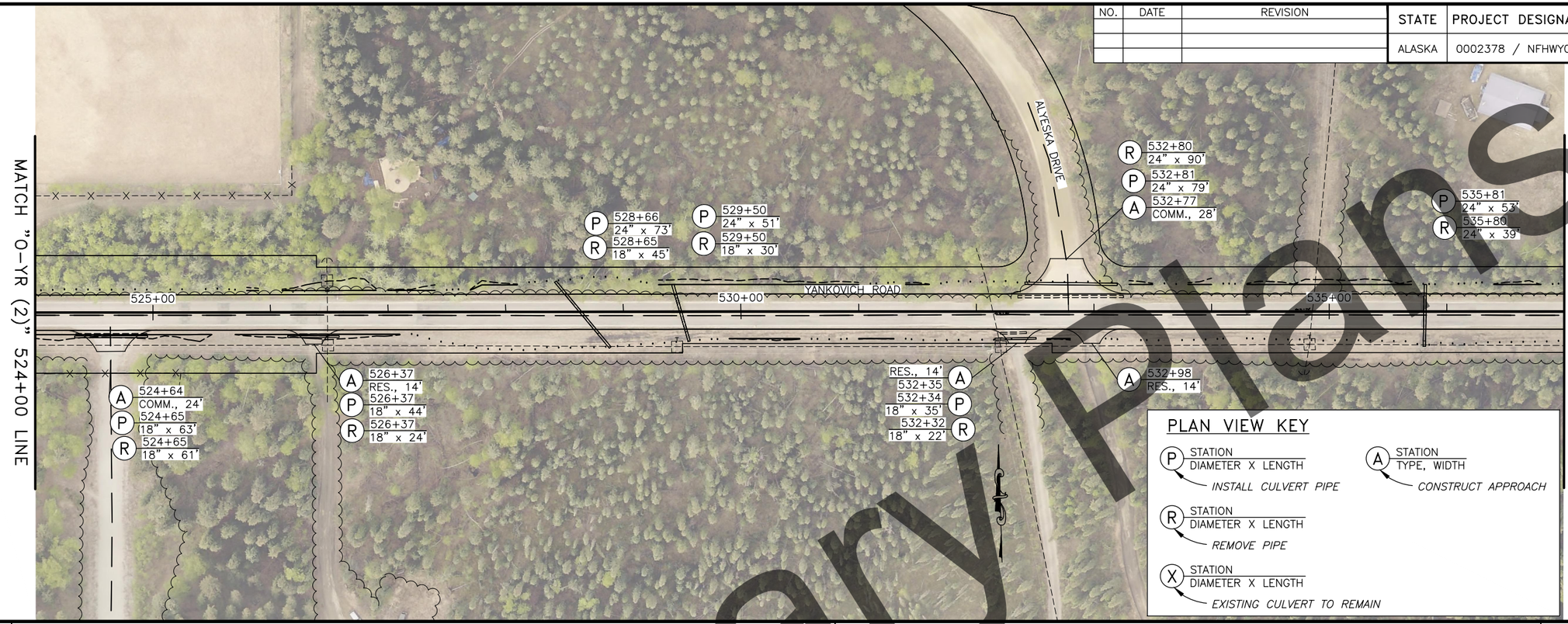


STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139_yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-511+00.00-524+00.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION

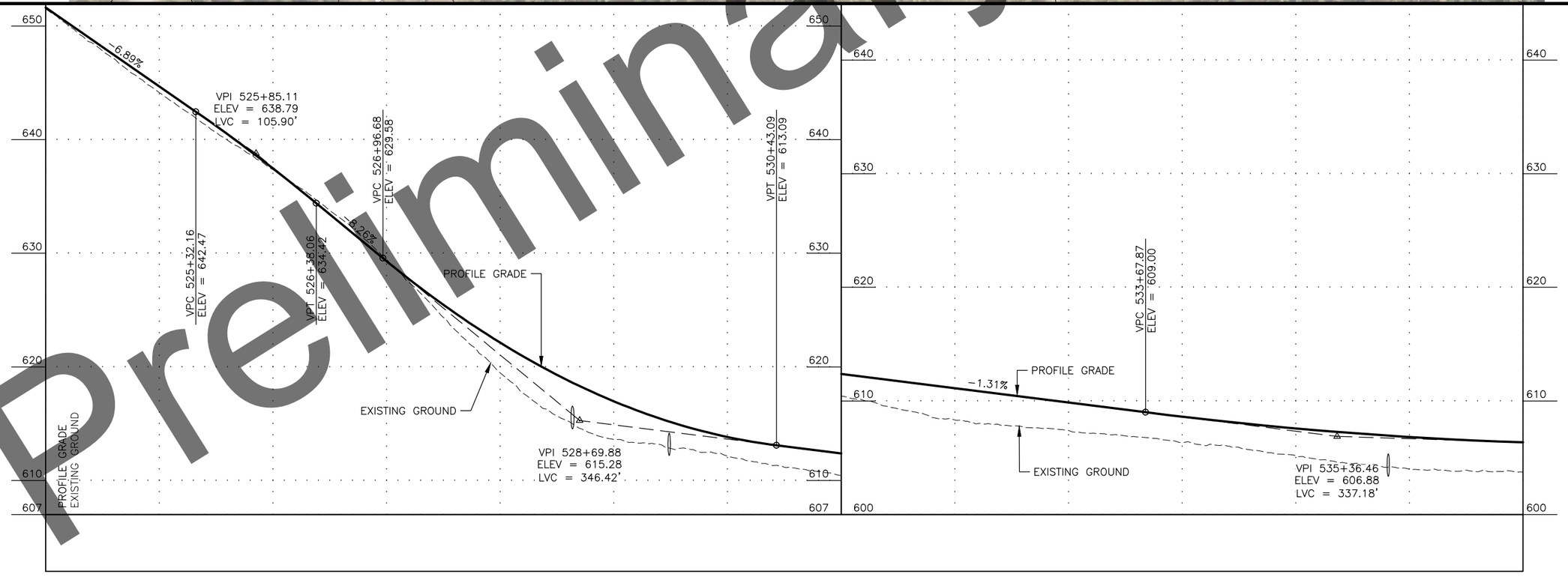
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F6	F10



PLAN VIEW KEY

- P — STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- A — STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- R — STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- X — STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*

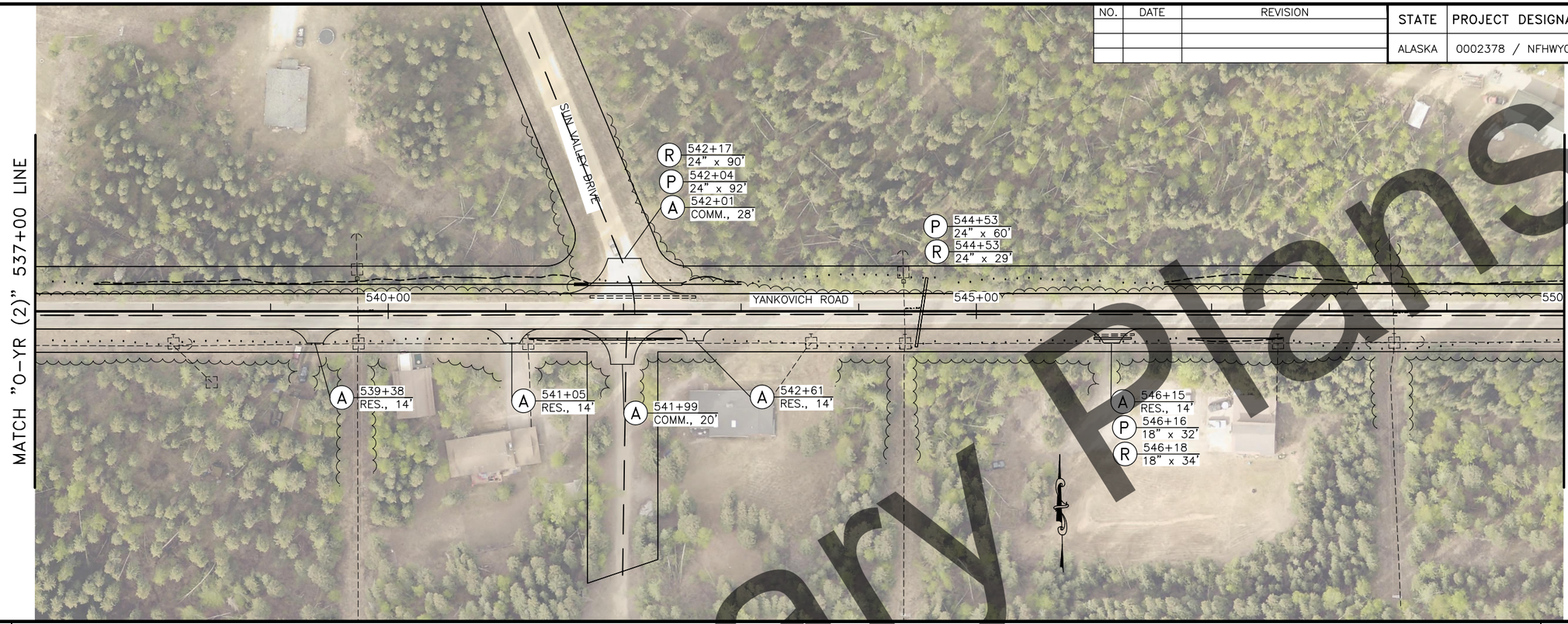
STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

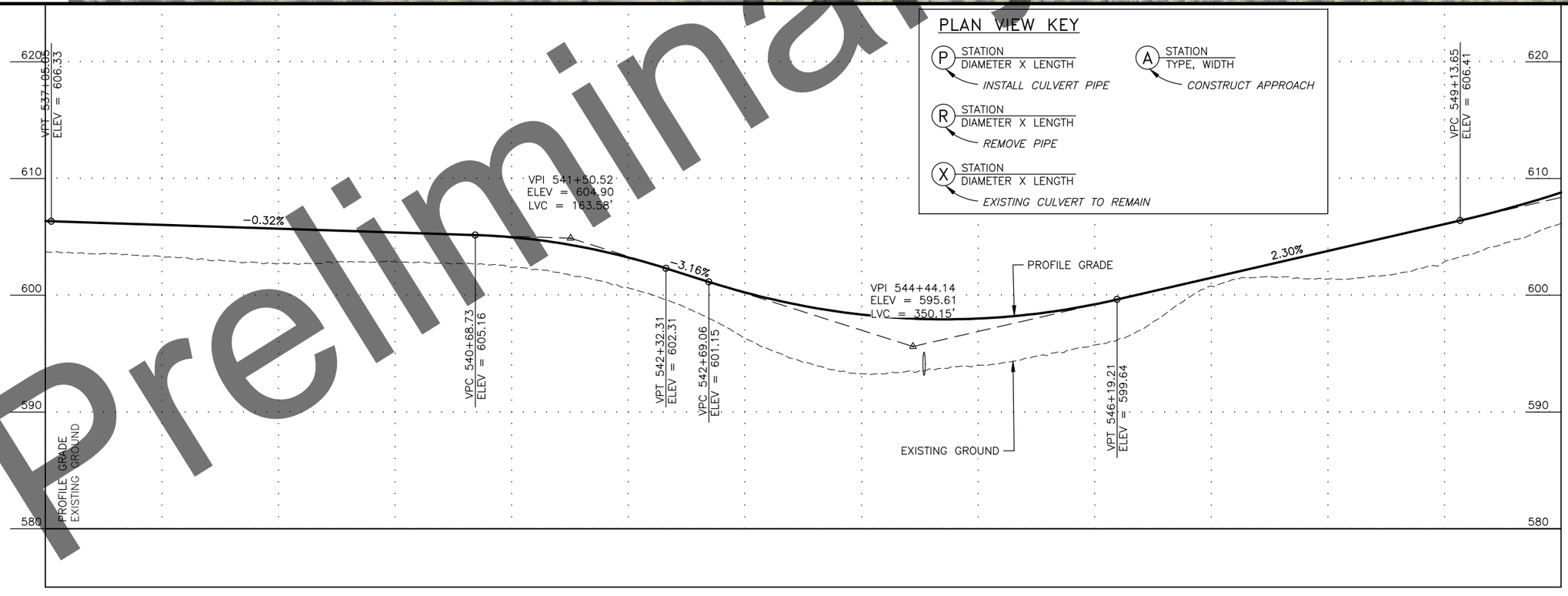


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-524+00.00-537+00.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F7	F10





STATE OF ALASKA 49TH
Ivet Hall
CE 12815
REGISTERED PROFESSIONAL ENGINEER

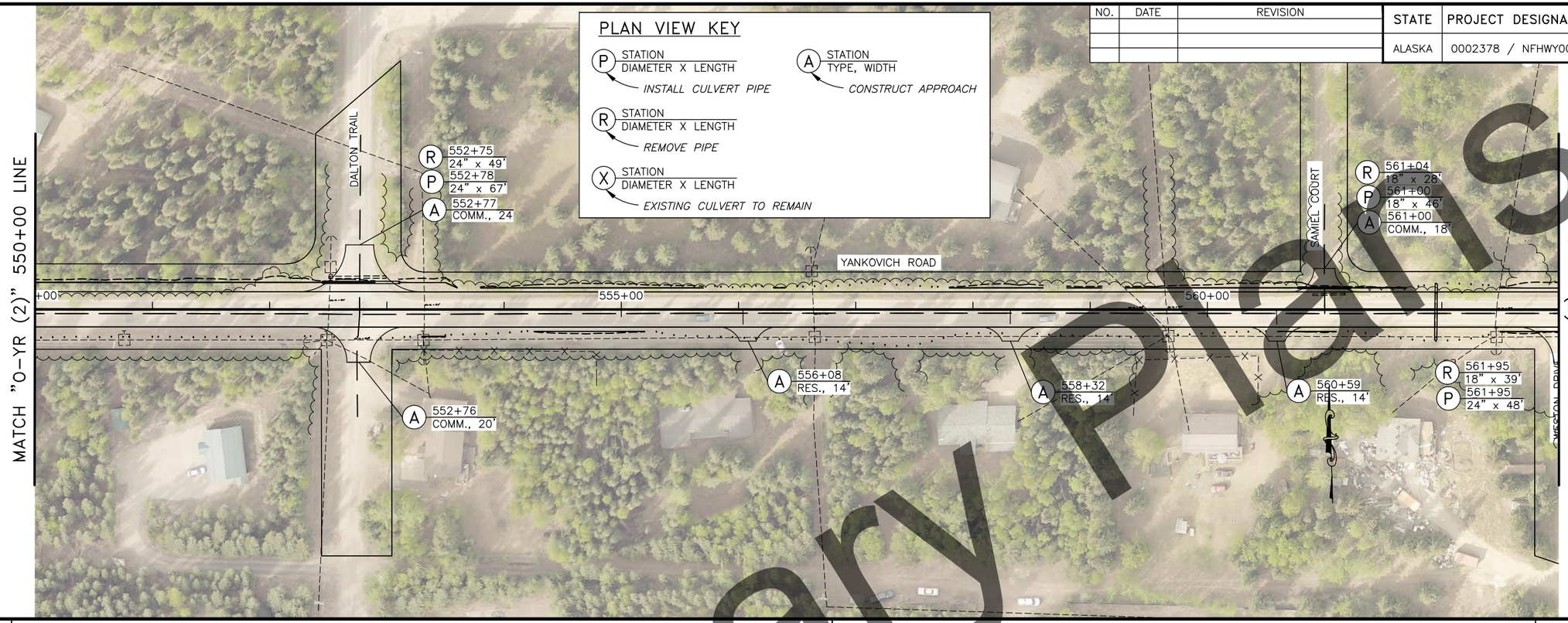
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-537+00.00-550+00.00 Wed, Nov/22/23 02:45pm

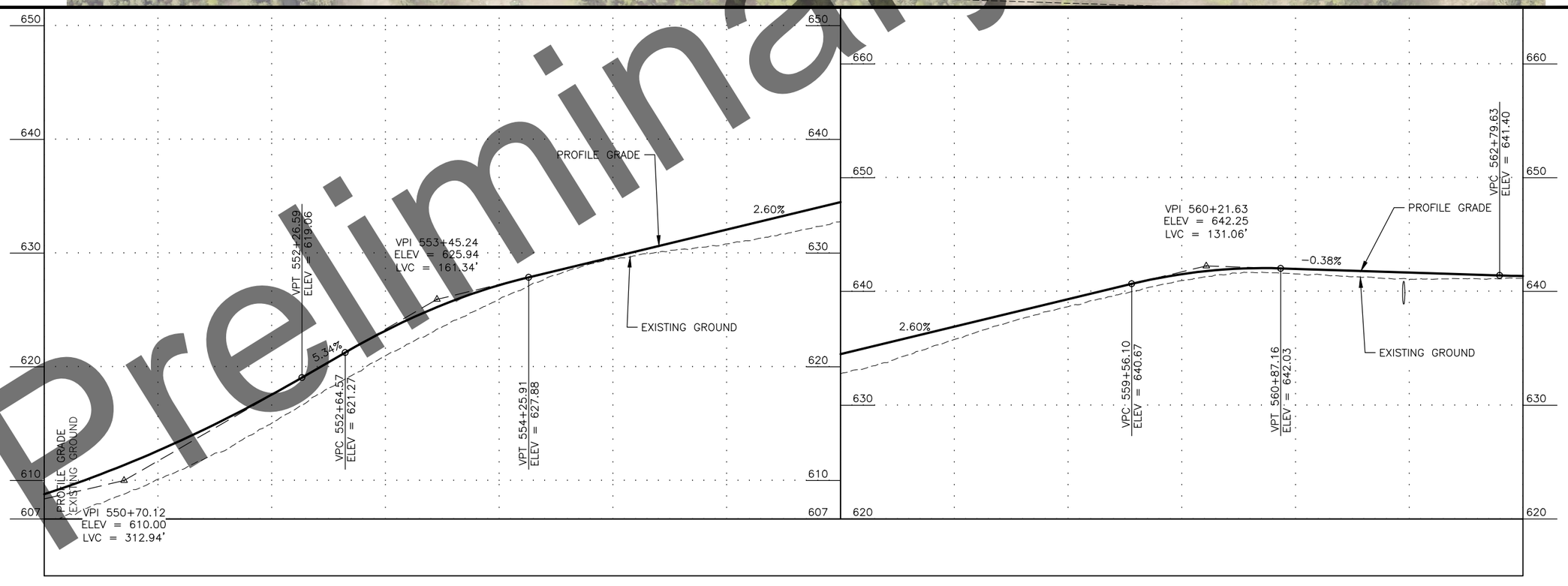
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F8	F10

PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (X) STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*





STATE OF ALASKA 49TH
IVET HALL
12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139_yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-550+00.00-563+00.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F9	F10

PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / TYPE, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (X) STATION / DIAMETER X LENGTH — *EXISTING CULVERT TO REMAIN*

MATCH "O-YR (2)" 563+00 LINE

MATCH "O-YR (2)" 576+00 LINE

(P) 563+64 / 24" x 44'
(R) 563+64 / 24" x 31'

(P) 569+65 / 24" x 44'
(R) 569+65 / 24" x 31'

(A) 574+06 COMM., 24

YANKOVICH ROAD

CHATANIKA DRIVE

565+00

570+00

575+00

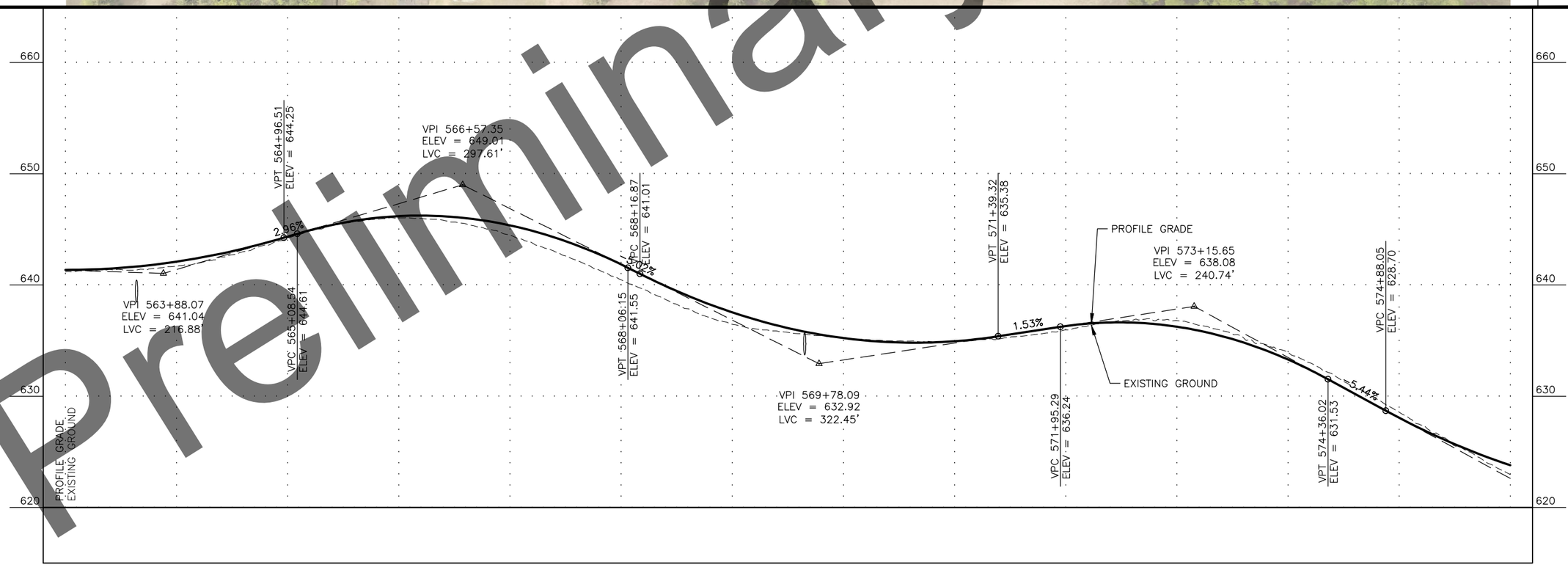
(A) 563+11 COMM., 20'

(A) 566+75 RES., 14'

(A) 570+90 RES., 14'

(A) 572+29 RES., 14'

SEE SHEET K2 FOR AVC DETAILS

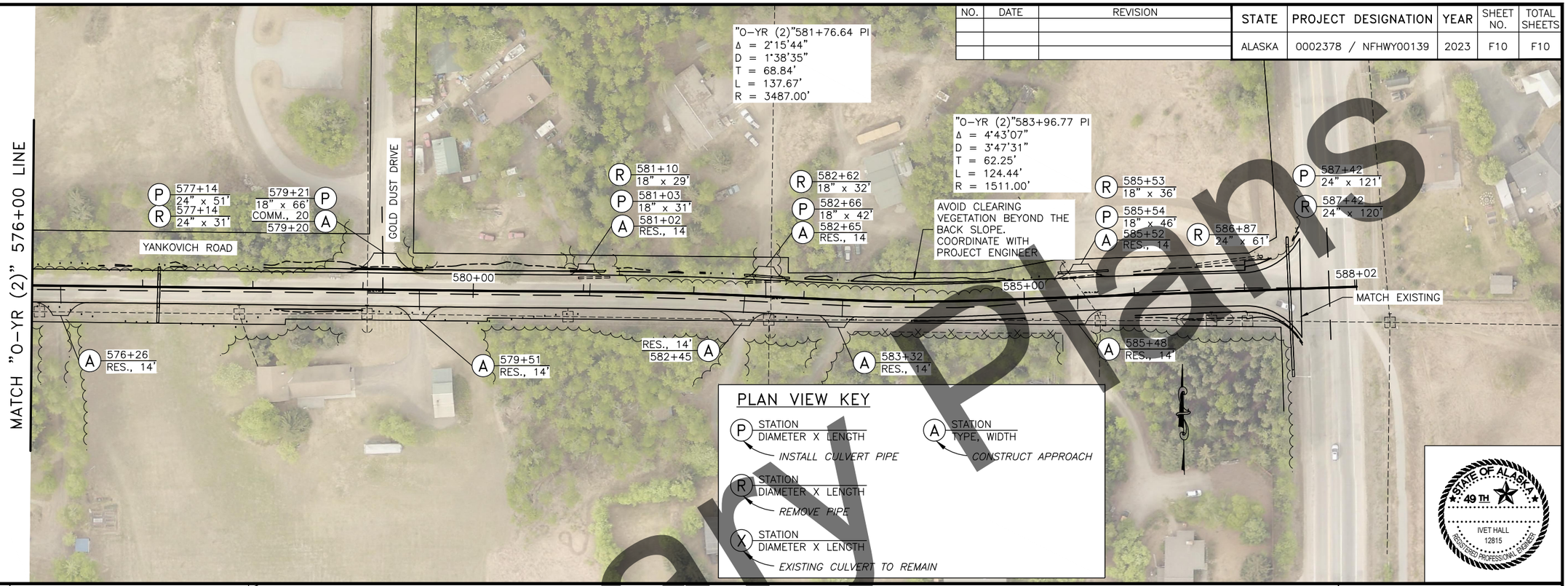


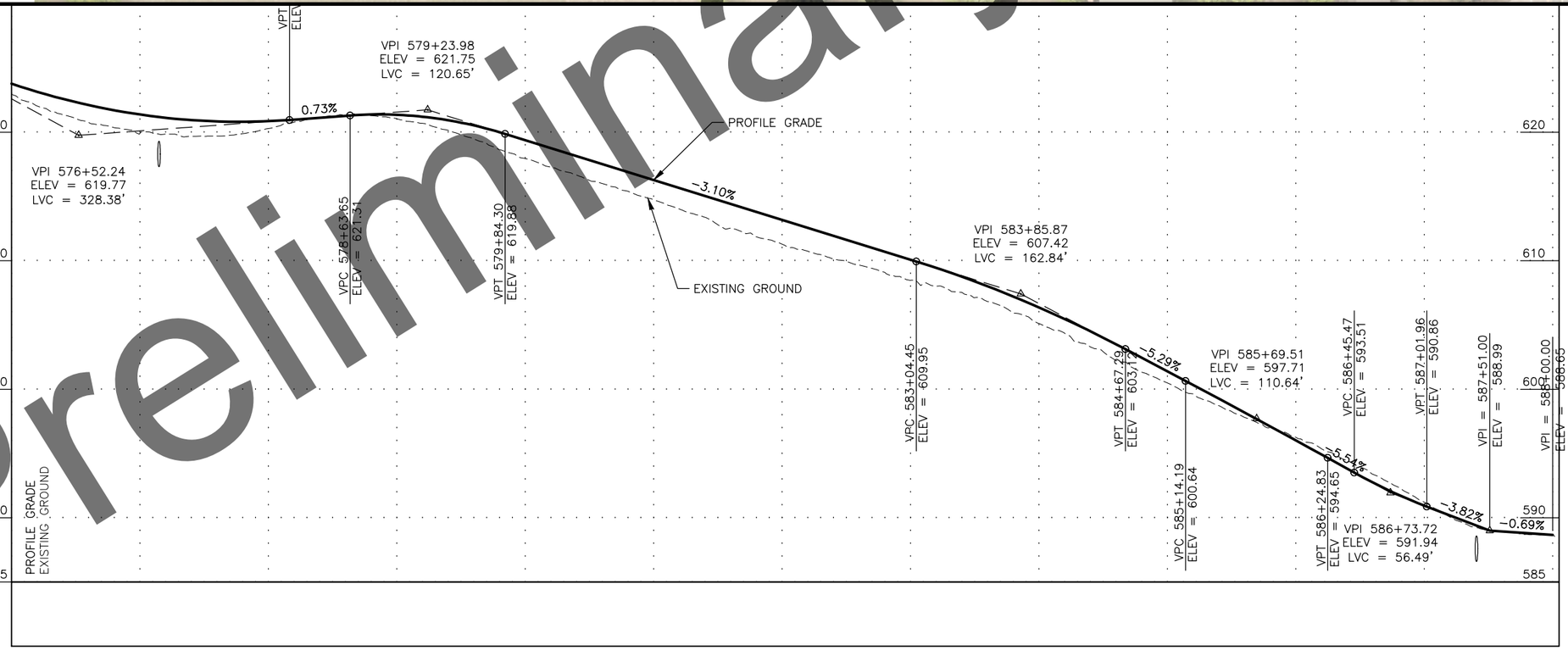
STATE OF ALASKA 49TH
IVET HALL
12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139_yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-563+00.00-576+00.00 Wed, Nov/22/23 03:42pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	F10	F10



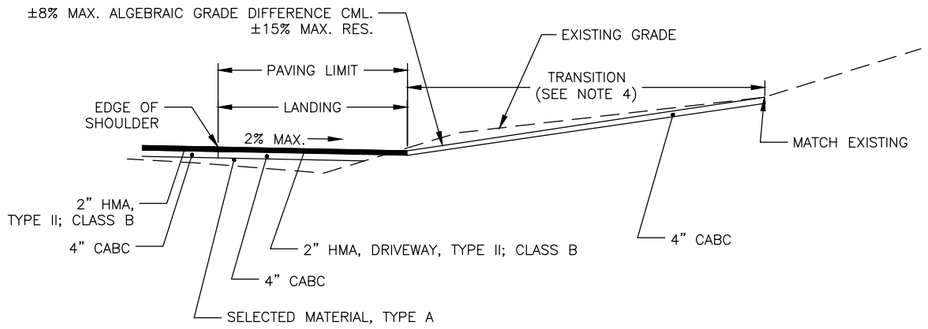


STATE OF ALASKA 49TH
IVET HALL
12815
REGISTERED PROFESSIONAL ENGINEER

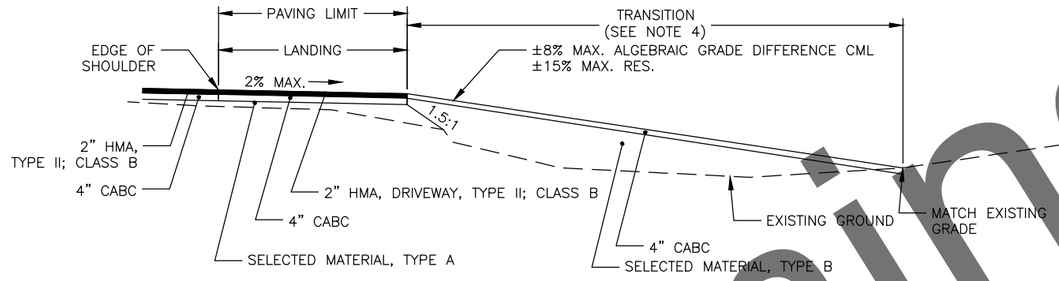
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\F\90139_2022_P&P-576+00.00-588+05.00 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION
2	4/30/20	ADDENDUM NO. 2

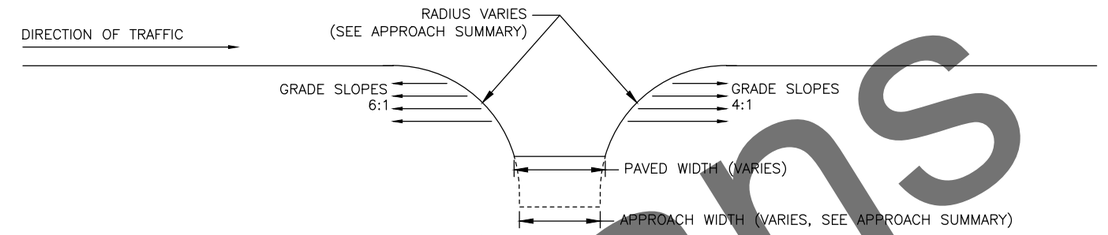
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	G1	G2



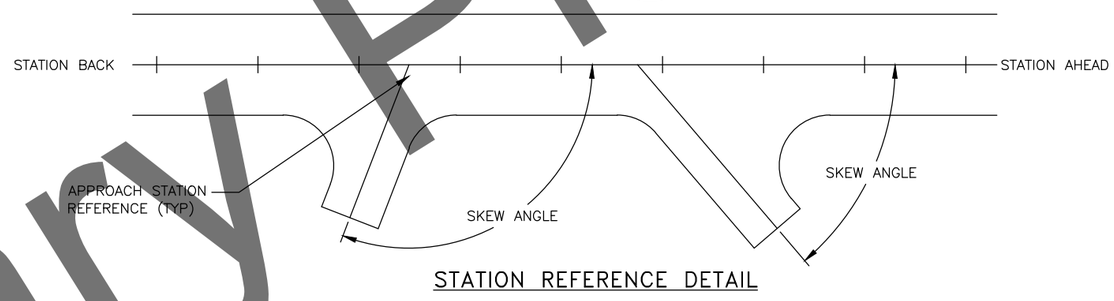
APPROACH ELEVATION – CUT CONDITION



APPROACH ELEVATION – FILL CONDITION

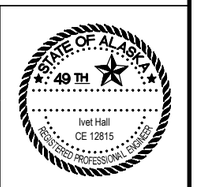


APPROACH DETAIL
RESIDENTIAL/COMMERCIAL APPROACH



STATION REFERENCE DETAIL

APPROACH DETAILS



PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\G\G_00139-G1 Wed, Nov/22/23 02:45pm

NO.	DATE	REVISION
2	4/30/20	ADDENDUM NO. 2

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	G2	G2

APPROACH SUMMARY

SHEET NO.	CENTERLINE STATION	RT/LT	APPROACH TYPE		NAMED APPROACH	WIDTH (FT)	RADIUS (FT)		LANDING LENGTH (FT)
			CML	RES			BK STA	AHD STA	
F1	20+58	LT	X		SOLOMON LN	24	20	20	30
F2	23+30	LT	X		B LINE CT	24	30	30	30
	30+46	LT		X		14	20	20	12
	33+82	LT		X		14	20	20	12
F3	37+58	LT		X		14	20	20	12
	40+08	LT		X		14	20	20	12
	40+82	LT		X		14	20	20	12
	41+83	LT		X		14	20	20	12
F4	503+65	LT	X		NORTHERN LIGHTS MEMORIAL PARK	24	40	40	18
	509+97	LT	X		LONE PINE DR	20	20	20	30
F5	514+85	LT		X		18	10	10	10
	518+23	LT	X		LARS	24	30	30	18
	522+38	LT	X		LARS	24	30	30	18
	523+16	LT		X		14	20	20	12
F6	524+64	RT	X		SEISMIC RD	24	30	30	25
	526+37	RT		X		14	20	20	12
	532+35	RT		X		14	20	20	12
	532+77	LT	X		ALYESKA DR	28	40	40	30
	532+98	RT		X		14	20	20	12
F7	539+38	RT		X		14	20	20	12
	541+05	RT		X		14	20	20	12
	541+99	RT	X		WESTON DR	20	30	30	30
	542+01	LT	X		SUN VALLEY DR	28	40	40	30
	542+61	RT		X		14	10	10	10
	546+15	RT		X		14	20	20	12
F8	552+76	RT	X		DALTON TRAIL	20	30	30	30
	552+77	LT	X		DALTON TRAIL	24	40	40	40
	556+08	RT		X		14	20	20	12
	558+32	RT		X		14	20	20	12
	560+59	RT		X		14	20	20	12
	561+00	LT	X		SAMIEL CT	18	20	20	20
F9	563+11	RT	X		WESTON DR	20	40	40	25
	566+75	RT		X		14	20	20	12
	570+90	RT		X		14	20	20	12
	572+29	RT		X		14	5	40	12
	574+06	LT	X		CHATANIKA DR	24	40	40	25
F10	576+26	RT		X		14	20	20	12
	579+20	LT	X		GOLD DUST DR	20	30	30	18
	579+51	RT		X		14	20	20	12
	581+02	LT		X		14	10	10	10
	582+45	RT		X		14	20	20	10
	582+65	LT		X		14	20	20	12
	583+32	RT		X		14	20	20	10
	585+48	RT		X		14	20	20	12
	585+52	LT		X		14	20	20	12
		TOTAL	16	29					

APPROACH NOTES:

1. CONSTRUCT APPROACHES IN THE LOCATION AND TO THE DIMENSIONS SHOWN IN THE APPROACH SUMMARY TABLE AND DETAILS.
2. APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
3. RE-GRADING DRIVEWAY SLOPES IS SUBSIDIARY TO PAY ITEMS 639(1) AND 639(2).
4. PAVED TRANSITIONS: WHERE NEW PAVEMENT IS TO MATCH EXISTING PAVEMENT, SAWCUT EXISTING PAVEMENT AND APPLY STE-1 ASPHALT FOR TACK COAT. THIS WORK IS SUBSIDIARY TO THE APPROACH PAY ITEMS.

   UNPAVED TRANSITIONS: RECONSTRUCT THE UNPAVED TRANSITION USING 4" OF CABC. IF APPROVED BY THE ENGINEER, AGGREGATE BASE COURSE, GRADING D-1 MAY BE USED TO SUBSTITUTE.
5. USE CRUSHED ASPHALT BASE COURSE UNDER HMA TO ESTABLISH FINISHED GRADE PRIOR TO PAVING. IF APPROVED BY THE ENGINEER, AGGREGATE BASE COURSE, GRADING D-1 MAY BE USED TO SUBSTITUTE.
6. GRADE ALL APPROACH SLOPES TRANSITIONS WITHIN 30-FT OF THE EDGE OF TRAVELED WAY AT 6:1 AND 4:1 AS SHOWN IN THE DETAILS ON THIS SHEET.
7. ENSURE POSITIVE DRAINAGE AWAY FROM THE ROADWAY AND APPROACH EMBANKMENTS.

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\G\G_00139-02 Wed, Nov/22/23 02:45pm

APPROACH SUMMARY

STATE OF ALASKA 49TH
Ivet Hall
CE 12815
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H1	H8

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	10+72	X		D3-100	Sheep Creek Rd	42 X 8	X		2.33		N	PST	2.5	1	
				D3-100	Sheep Creek Rd	42 X 8	X		2.33		S				
				D3-100	Miller Hill Rd	36 X 8	X		2.00		E				
				D3-100	Miller Hill Rd	36 X 8	X		2.00		W				
				R1-1	STOP	30 X 30	X		6.25		N				
2	12+86		X	R2-1	SPEED LIMIT 40	24 X 30	X		5.00		S	PST	2.5	1	
3	15+12		X	W3-1	STOP AHEAD	36 X 36	X		9.00		S	PST	2.5	1	
4	20+44	X		D3-100	Solomon Ln	36 X 8	X		2.00			PST	2.5	1	
				D3-100	Solomon Ln	36 X 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
5	23+10	X		D3-100	B-Line Ct	36 x 8	X		2.00			PST	2.5	1	
				D3-100	B-Line Ct	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
6	37+42	X		D3-100	Pruitt Lane	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Pruitt Lane	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
7	43+49		X	W2-1	INTERSECTION (Symbol)	30 X 30	X		6.25		N	PST	2.5	1	
				W16-8P	Yankovich Rd	30 X 18	X								
8	45+51	X		R2-1	SPEED LIMIT 40	24 X 30	X		5.00		S	PST	2.5	1	
9	47+16	X		D3-100	Yankovich Rd	42 X 8	X		2.33			PST	2.5	1	
				D3-100	Yankovich Rd	42 X 8	X		2.33						
				D3-100	Miller Hill Rd	36 X 8	X		2.00						
				D3-100	Miller Hill Rd	36 X 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
10	47+60	X		W14-2	NO OUTLET	30 X 30			6.25			PST	2.5	1	
11	47+60	X		D3-100	Lawlor Rd	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Lawlor Rd	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
12	500+46	X		R1-2	YIELD		X					PST	2.5	1	
13			X	R2-1	SPEED LIMIT 40	24 X 30	X		5.00			PST	2.5	1	

SUBTOTAL = 141.27 SQ FT

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
14	505+26	X		W3-2	YIELD AHEAD	36 x 36	X		9.00			PST	2.5	1	
15	505+28		X	R5-3	NO MOTOR VEHICLES	24 x 24	X		4.00			PST	2.5	1	
16	509+81	X	X	D3-100	Lone Pine Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Lone Pine Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
17	518+03	X		R1-1	STOP	30 X 30	X		6.25			PST	2.5	1	
18	518+39	X		R5-1	DO NOT ENTER	30 X 30	X		6.25			PST	2.5	1	
19	523+27		X	R5-3	NO MOTOR VEHICLES	18 X 18	X		2.25			PST	2.5	1	ADJACENT TO SEPERATED PATH
20	523+41	X		SPECIAL 1	TRAIL CROSSING	36 X 36			9.00			PST	2.5	1	
				W16-7(PL)	ARROW	30 18			3.75						
21	523+42		X	W8-8	ROUGH ROAD	30 x 30			6.25						
22	523+59		X	SPECIAL 1	TRAIL CROSSING	36 X 36			9.00			PST	2.5	1	
				W16-7(PL)	ARROW	30 18			3.75						
23	524+86		X	D3-100	Seismic Rd	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Seismic Rd	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
24	532+46	X		D3-100	Alyeska Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Alyeska Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
25	541+73	X		D3-100	Sun Valley Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Sun Valley Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
26	542+21		X	D3-100	Weston Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Weston Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
27	552+55	X		D3-100	Dalton Tr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Dalton Tr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
28	552+94		X	D3-100	Dalton Tr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Dalton Tr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
29	560+85	X		D3-100	Samiel Ct	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Samiel Ct	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
30	563+26		X	D3-100	Weston Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Weston Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						

SUBTOTAL = 138.75 SQ FT

POST TYPE LEGEND:

PST = PERFORATED STEEL TUBE
TS = TUBE STEEL (SQUARE STRUCTURAL STEEL TUBING)
W_X_ = WIDE FLANGE

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #

SIGNING SUMMARY (1 OF 2)

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-SIGNING SUMMARY (1 OF 2) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H2	H8

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
31	573+90	X		D3-100	Chatanika Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Chatanika Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
32	578+99	X		D3-100	Gold Dust Dr	36 x 8	X		2.00			PST	2.5	1	
				D3-100	Gold Dust Dr	36 x 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
33	582+17		X	W3-1	STOP AHEAD (Symbol)	30 x 30	X		6.25			PST	2.5	1	
34	584+06	X		R2-1	SPEED LIMIT 40	24 X 30			5.00			PST	2.5	1	
35	587+32	X		D3-100	Ballaine Rd	42 X 8	X		2.33			PST	2.5	1	
				D3-100	Ballaine Rd	42 X 8	X		2.33						
				D3-100	Yankovich Rd	36 X 8	X		2.00						
				D3-100	Yankovich Rd	36 X 8	X		2.00						
				R1-1	STOP	30 X 30	X		6.25						
								SUBTOTAL =	46.67	SQ FT					
								PROJECT TOTAL =	326.69	SQ FT					

SIGNING NOTES:

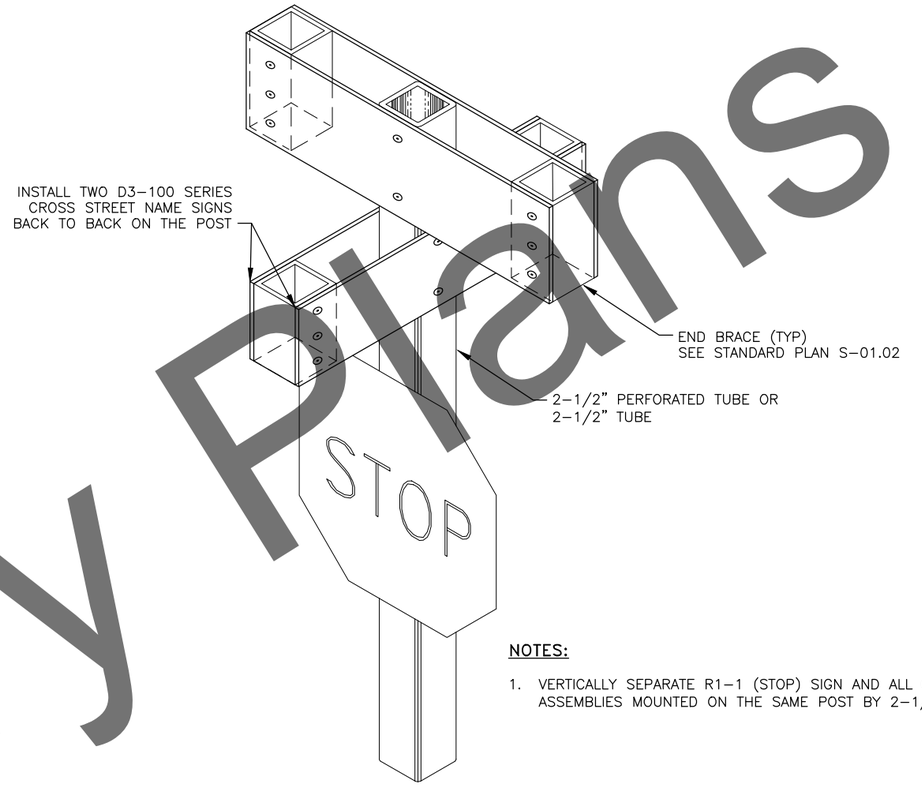
1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT THOSE DESIGNATED FOR REINSTALLATION, SALVAGE OR OTHERWISE NOTED.
2. ALL SALVAGED SIGN PANELS REMOVED AND NOT DESIGNATED FOR REINSTALLATION, SHALL BE DELIVERED TO THE STATE OF ALASKA FAIRBANKS M&O MAINTENANCE STATION AT XXXX. CONTRACTOR SHALL CONTACT , M&O DISTRICT SUPERINTENDENT (xxx-xxx-xxxx) AT LEAST 24 HOURS IN ADVANCE TO COORDINATE DELIVERY.
3. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
5. INSTALL PST SIGN POSTS WITH SLEEVE TYPE SOIL EMBEDMENT. EMBED PST IN SLEEVE 12"-24". ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED 3/8" BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
6. 1/4" X 1-1/2" ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES AS SHOWN ON STANDARD PLAN S-01.02.
7. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PST POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
8. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" UNDER SECTION 730-2.07 OF THE SSHC.
9. STOP (R1-1) SIGN LOCATIONS, ESPECIALLY THOSE AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. NOTIFY THE ENGINEER 48 HOURS PRIOR TO INSTALLATION TO APPROVE FINAL LOCATIONS.
10. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
11. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
12. LOCATE AND RROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO: PIPELINES, INTERCONNECT CABLES, SIGNAL SYSTEMS, LIGHTING SYSTEMS, STORM AND SANITARY SEWERS, WATER SYSTEMS, AND TELEPHONE AND ELECTRICAL CABLES, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
13. CLEARING, AS DIRECTED BY THE ENGINEER, MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.

POST TYPE LEGEND:

PST = PERFORATED STEEL TUBE
TS = TUBE STEEL (SQUARE STRUCTURAL STEEL TUBING)
W_X_ = WIDE FLANGE

SIGNING KEY

(#) STATION
SIGN CODE(S)
SIGN LOCATION #



NOTES:

1. VERTICALLY SEPARATE R1-1 (STOP) SIGN AND ALL OTHER SIGN ASSEMBLIES MOUNTED ON THE SAME POST BY 2-1/2 INCHES.

STREET NAME SIGN MOUNTING DETAIL

670.0001.0000 PAINTED TRAFFIC MARKINGS SUMMARY

DESCRIPTION	LENGTH (FT)	REMARKS
6" WHITE	25,140	
4" DOUBLE YELLOW	12,570	SEE NOTE 4

TRAFFIC MARKING NOTES:

1. IF NEW AND EXISTING LONGITUDINAL MARKINGS ARE NOT ALIGNED AT THE MATCH LINE, TRANSITION BETWEEN THE TWO USING A 100:1 TAPER.
2. DISTANCE BETWEEN CENTERLINE AND LANE EDGE LINE IS 10 FEET UNLESS OTHERWISE NOTED; THIS DIMENSION IS TO CENTER OF STRIPE OR STRIPE GROUP.
3. PAVEMENT MARKINGS WILL BE PLACED IN ACCORDANCE WITH STANDARD DRAWING T-21 AND SECTION 670.
4. LENGTH OF 4" DOUBLE YELLOW IS BASED ON A CONTINUOUS 4" DOUBLE YELLOW STRIPE THROUGH THE LENGTH OF THE PROJECT. NO ADJUSTMENT WILL BE MADE TO THE 670(1) PAY ITEM FOR DIFFERENCES IN QUANTITY OF YELLOW STRIPE INSTALLED ACCORDING TO 670-3.05, PRELIMINARY SPOTTING.

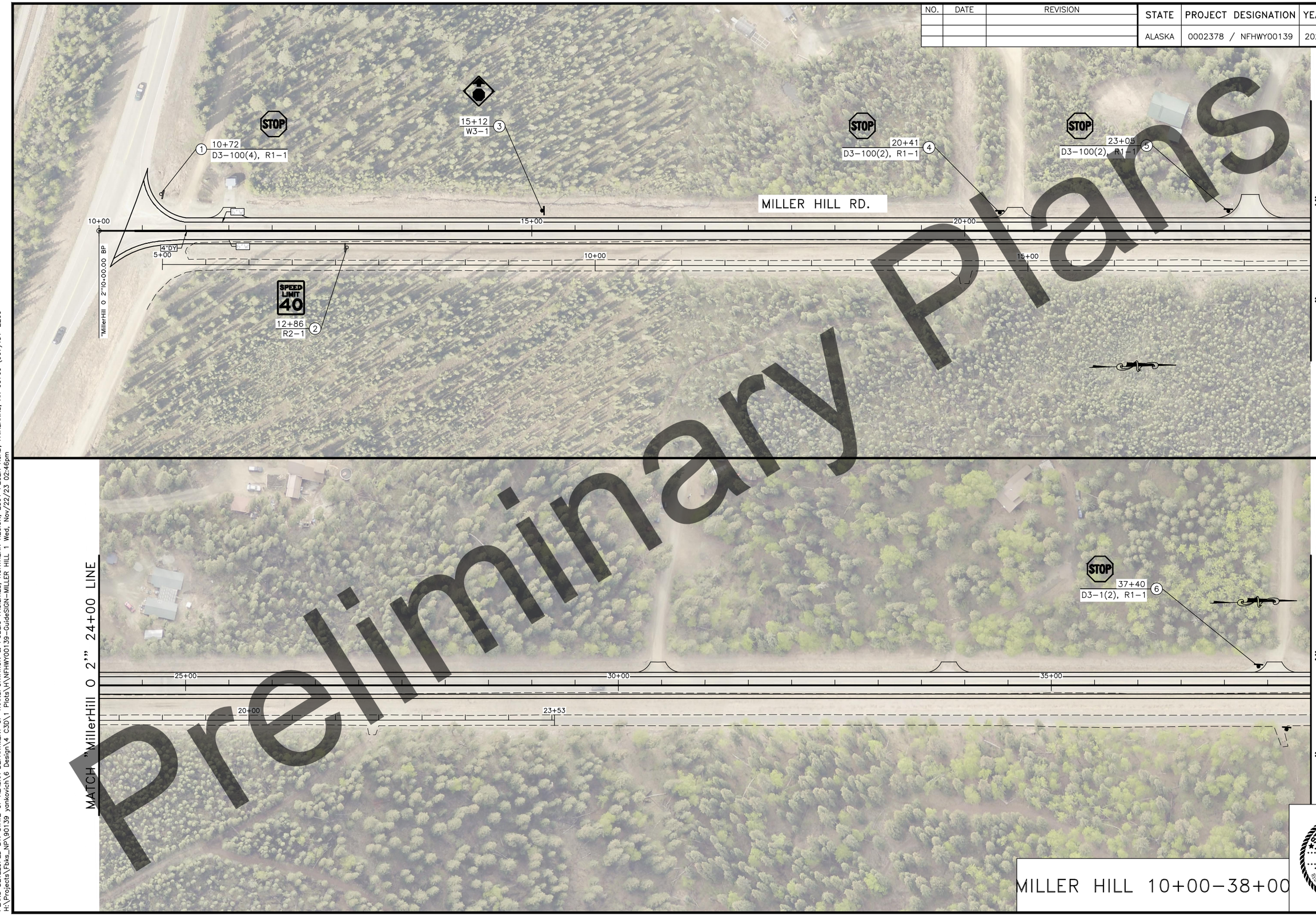
SIGNING SUMMARY (2 OF 2)

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-SIGNING SUMMARY (2 OF 2) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H3	H8



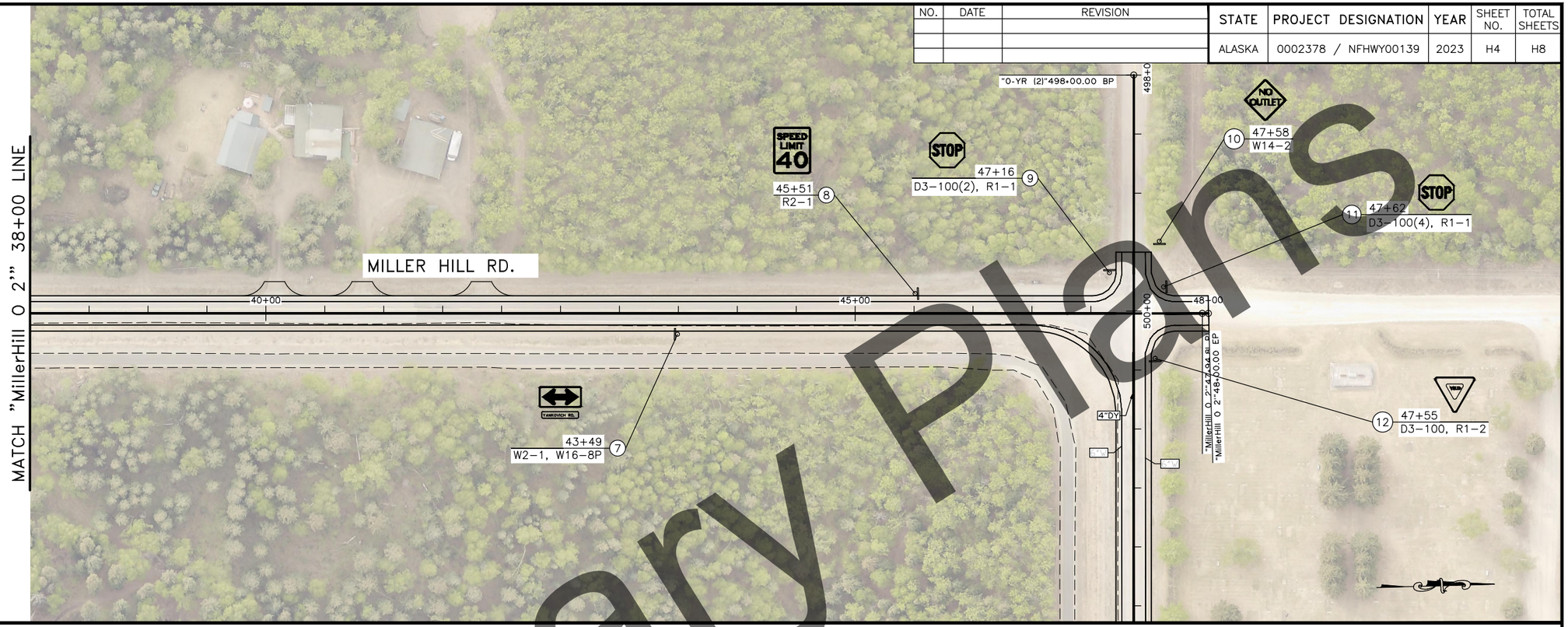
MILLER HILL 10+00–38+00

STATE OF ALASKA 49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-MILLER HILL 1 Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H4	H8

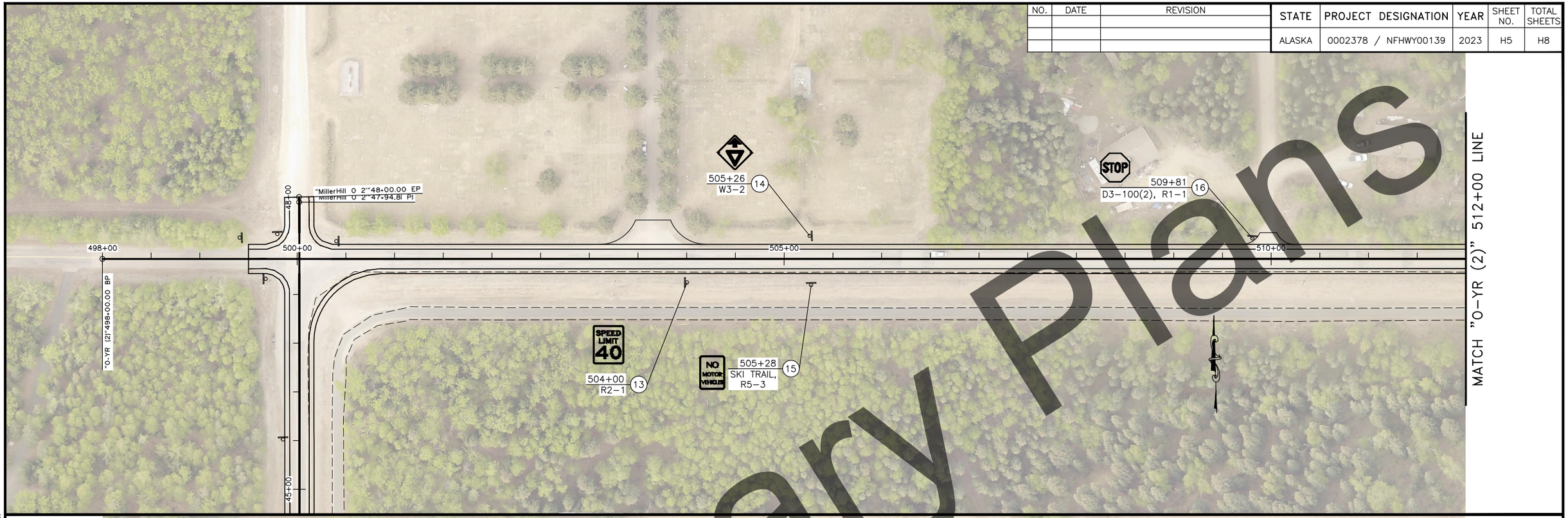


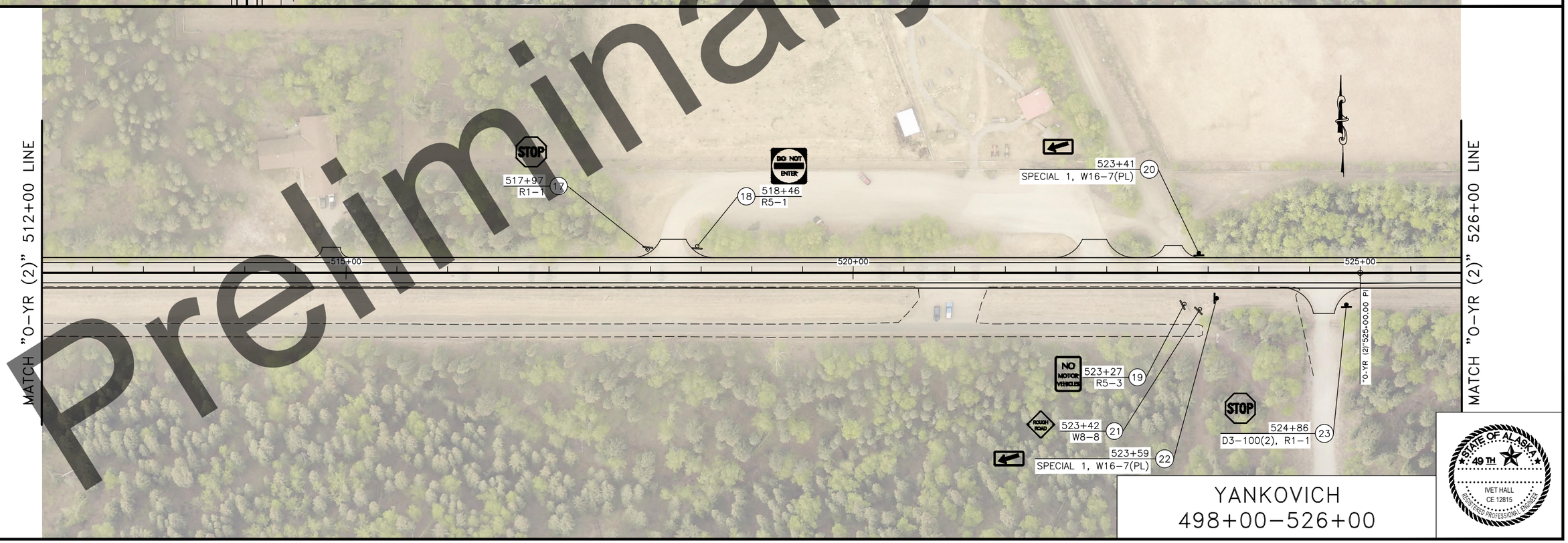
MILLER HILL
38+00–48+00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yonkovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-MILLER HILL 2 Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H5	H8





YANKOVICH
498+00–526+00

STATE OF ALASKA
49TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-Sheet - (3) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H6	H8

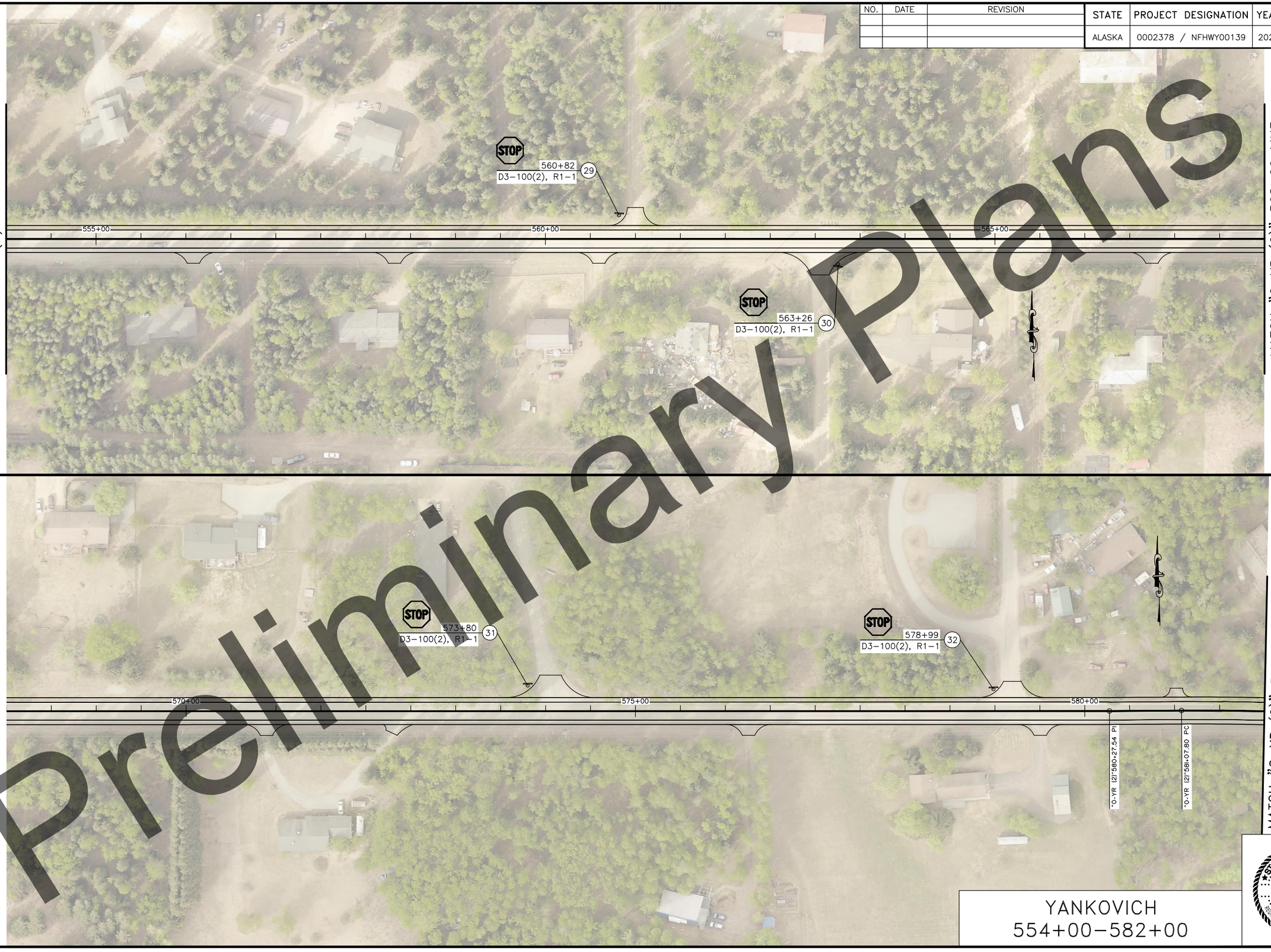
YANKOVICH
526+00–554+00

STATE OF ALASKA
49 TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\NFHWY00139-GuideSIGN-Sheet - (4) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H7	H8

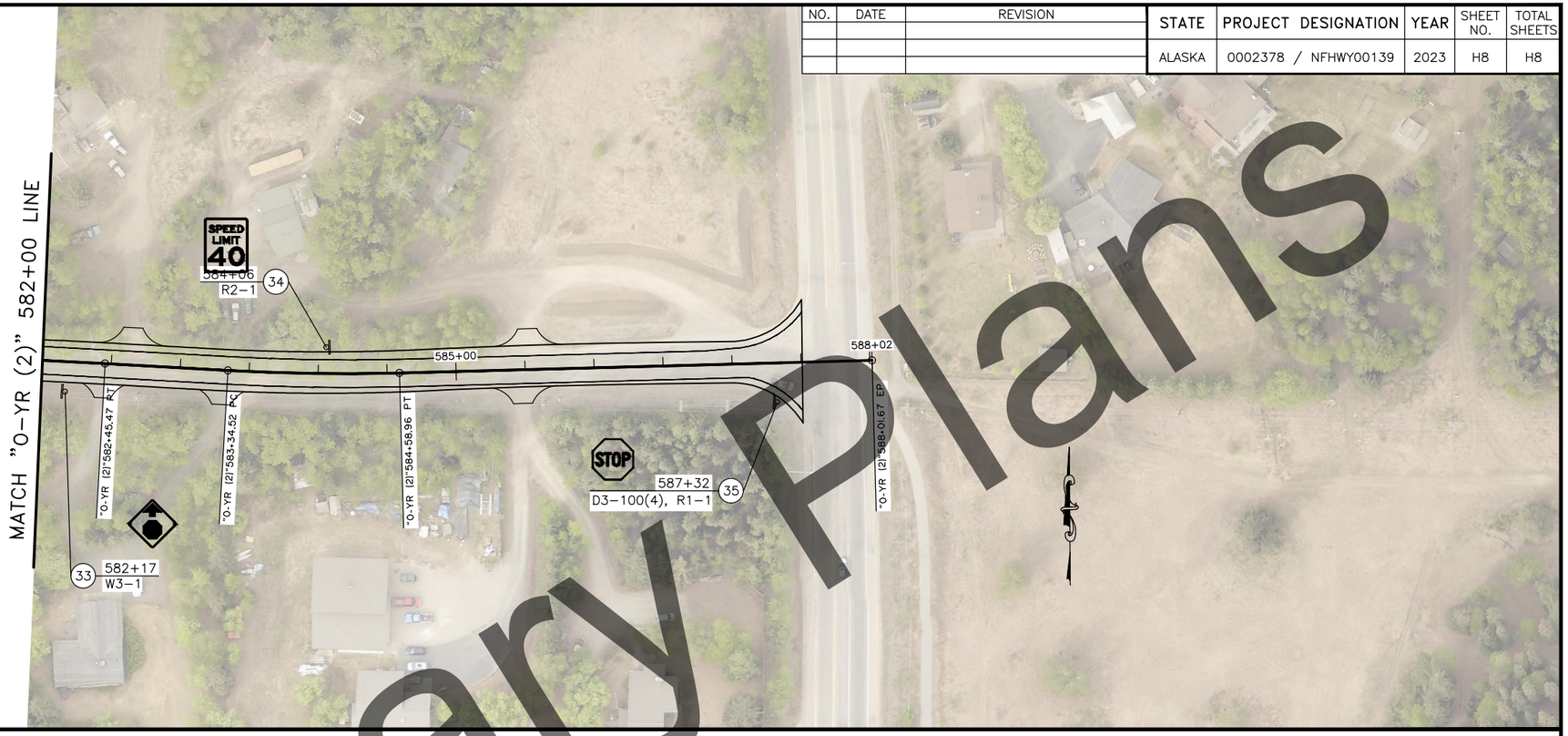


YANKOVICH
554+00–582+00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-Sheet - (5) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	H8	H8



YANKOVICH
572+00–588+02

STATE OF ALASKA
49 TH
IVET HALL
CE 12815
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\H\NFHWY00139-GuideSIGN-Sheet - (6) Wed, Nov/22/23 02:46pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K1	K9

GENERAL NOTES:

1. FURNISH AND INSTALL NEW CABINET AND HARDWARE INCLUDING ALL OTHER NECESSARY ELECTRICAL COMPONENTS, REFER TO SECTION 669, TRAFFIC CABINET EQUIPMENT SCHEDULE, AND DETAILS ON SHEET K6 THROUGH K9.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING AND PROPOSED CONDITIONS AND DIMENSIONS AND COORDINATE FINAL SITE INSTALLATION WITH THE ENGINEER. THE ENGINEER SHALL APPROVE ALL MODIFICATIONS TO THE INSTALLATION.
3. COORDINATE AND PROVIDE CELLULAR SERVICE TO THE SITE AS REQUIRED.
4. INSTALLATION OF EQUIPMENT AND MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRIC CODE, ALASKA DOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, THE PROJECT SPECIAL PROVISIONS, AND THE PLANS.
5. PROVIDE AS-BUILT PLANS, REFER TO SUBSECTION 669-1.04.

LAYOUT NOTES:

1. INSTALL 1/2 INCH PREFORMED BITUMINOUS JOINT MATERIAL BETWEEN JUNCTION BOX AND PAVEMENT WHEN JUNCTION BOXES ARE LOCATED IMMEDIATELY ADJACENT TO A SIDEWALK OR ROAD SURFACE.
2. INSTALL PLASTIC SLEEVED GROUNDING BUSHINGS ON ALL CONDUITS BEFORE PULLING ANY WIRE. GROUND WITH A MINIMUM #6 BARE COPPER.
3. INSTALL AND TEST ALL LOOP DETECTORS PRIOR TO OVERLAYING PAVEMENT.
4. THE MINIMUM CLEARANCE BETWEEN A DETECTION LOOP AND THE TAIL OF ANOTHER DETECTION LOOP OR PIEZOELECTRIC SENSOR SHALL NOT BE LESS THAN 12 INCHES. LOOP TAILS SHALL NOT CROSS EACH OTHER, BUT HAVE NO MINIMUM CLEARANCE.
5. JUNCTION BOX STATION AND OFFSETS ARE TO CENTER OF STRUCTURE, ADJUST LOCATIONS AS DIRECTED BY THE ENGINEER.

AUTOMATIC VEHICLE CLASSIFICATION COUNTER ASSEMBLIES SCHEDULE

SITE NUMBER	STATION NUMBER	CABINET STATION	CABINET OFFSET	CONTROL CABINET	LOAD CENTER	NUMBER OF TYPE II JUNCTION BOXES	NUMBER OF LANES	NUMBER OF INDUCTIVE LOOPS	NUMBER OF 11-FOOT PIEZOELECTRIC SENSORS	AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS
1	30295030 (SITE NO. TO BE VERIFIED)	"O-YR" 565+60	28.00' RT	NEW	NEW GVEA SERVICE AND LOAD CENTER	3	2	4	4	NO

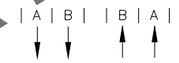
TRAFFIC CABINET EQUIPMENT SCHEDULE

INSTALL AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS	FURNISH DATA LOGGER	INSTALL TELEPHONE SERVICE	INSTALL CELLULAR MODEM WITH EXTERNAL ANTENNA	INSTALL REMOTELY CONTROLLABLE SERIAL SWITCH	INSTALL LOAD CENTER WITH TRANSIENT VOLTAGE SURGE PROTECTION	INSTALL RECEPTACLES	INSTALL INTERIOR LED LIGHT	INSTALL COOLING FAN AND THERMOSTAT	INSTALL HEATER AND THERMOSTAT	INSTALL INTERIOR POWER CIRCUITS	INSTALL TERMINAL BLOCK	INSTALL AVC COUNTER
NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

LABELS:

1. ALL CABLES SHALL BE LABELED AT BOTH ENDS AND AT EVERY JUNCTION BOX THROUGH WHICH THE CABLES PASS, PER SUBSECTION 660-3.05.13.
2. ALL WIRE PAIRS SHALL BE LABELED AT THE TERMINAL BLOCK AND AT ANY LOOSE ENDS.
3. THE FOLLOWING CONVENTIONS SHALL APPLY TO DESIGNATING AND LABELING CABLES AND WIRE PAIRS:

   LANES: TRAFFIC LANES AND THEIR RESPECTIVE LOOPS AND SENSORS SHALL BE LABELED FROM OUTSIDE EDGE OF THE ROAD TOWARD THE CENTER AS FOLLOWS:

   FOUR LANE EXAMPLE

   TERMINAL BLOCKS: WIRES FROM SENSORS PLACED IN LANES WHICH ARE CLOSEST TO THE CONTROL BOX SHALL BE PLACED AT THE LEFT OR AT THE TOP OF THE TERMINAL BLOCK, DEPENDING ON ORIENTATION OF THE ROAD.
4. WIRES FOR INDUCTIVE LOOPS AND SENSORS ARE LABELED AS FOLLOWS:

   PnDLc

   WHERE:

   P IS THE PREFIX:
   - V TRAFFIC VOLUME LOOP
   - H VEHICLE CLASSIFICATION/SPEED LOOP
   - GL AUTOMATIC VEHICLE CLASSIFICATION (AVC) SENSOR
   - Ga AUTOMATIC VEHICLE CLASSIFICATION PIEZO

   n NUMBER SUFFIX FOR MULTIPLE LOOPS IN THE SAME LANE

   D TRAFFIC DIRECTION (N, S, E, W, NE, SE, SW, NW)

   L IS THE PREFIX FOR ROAD DESIGNATION
   - L LANE*
   - R RAMP**
   - SR SPUR RAMP**
   - LP LOOP**
   - LP LOOP RAMP**
   - * ROADS AND HIGHWAYS
   - ** INTERCHANGES

   c IS THE SUFFIX FOR LANE DESIGNATION (A, B)

SYMBOL LEGEND AND ABBREVIATIONS:

RMC: RIGID METAL CONDUIT, GALVANIZED

(TG) GROUND TEMPERATURE PROBE

(TA) AMBIENT AIR TEMPERATURE SENSOR

(TP) IN-PAVEMENT TEMPERATURE SENSOR

(#) CONDUIT REFERENCE NUMBER

[#] NOTE REFERENCE NUMBER

PIEZOELECTRIC SENSOR

H2SLA INDUCTIVE LOOP SENSOR

STATE OF ALASKA 49TH PRELIMINARY ZAID SAHER HUSSEIN CE 14683 REGISTERED PROFESSIONAL ENGINEER

AUTOMATIC VEHICLE CLASSIFICATION COUNTER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\Temp\AcadTemp\AcPublish_29208\00139_K_AVC-K1 Wed, Nov/22/23 12:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K2	K9

R/W

SEE NOTE 3

+33.00
17.50'LT

C-2

PAVEMENT EDGE

5'

SHOULDER LINE

10'

YANKOVICH ROAD

SEE NOTE 1 & 2 ON SHEET K2

"0-YR" 565+00

+01.00
0.00'T

+37.87
5.00'LT

H2WLA

Ga2WLA

H1WLA

Ga1WLA

APPROX. 105' TO NEAREST DRIVEWAY

+64.00
0.00'T

"0-YR" 566+00

APPROX. 180' TO WESTON DRIVE

Ga1ELA

H1ELA

Ga2ELA

H2ELA

+27.87
5.00'RT

SEE NOTE 1 & 2 ON SHEET K2

10'

SHOULDER LINE

5'

PAVEMENT EDGE

C-1

+33.00
17.50'RT

SEE NOTE 3

C-0

+60.00
24.00'RT

SERVICE EQUIPMENT, SEE SHEET K9 FOR DETAILS

TRAFFIC CABINET (CBA2)
+60.00
28.00'RT

R/W

R/W

R/W

R/W

1 2 3 4 5 6 7 8 9 10 11 12

NOTES:

1. EXCAVATE AND PLACE A MINIMUM OF 4" AGGREGATE BASE COURSE, GRADING D-1. THIS WORK IS PAID UNDER ITS RESPECTIVE PAY ITEM.
2. HMA THICKNESS SHALL BE INCREASED FROM 2.0" TO 3.0". THIS WORK IS PAID UNDER ITS RESPECTIVE PAY ITEM.
3. FOR JUNCTION BOXES C-1 AND C-2 INSTALLATION, REFER TO JUNCTION BOX INSTALLATION ON SLOPE DETAIL ON SHEET K4. FROM STA "0-YR" 565+22 TO STA "0-YR" 565+43 FLATTEN DITCH FORESLOPE TO 4H:1V. MAINTAIN POSITIVE DRAINAGE ALONG DITCH BOTTOM AND ADJUST AS DIRECTED BY THE ENGINEER.

AVC SITE 1
1"=5' SCALE

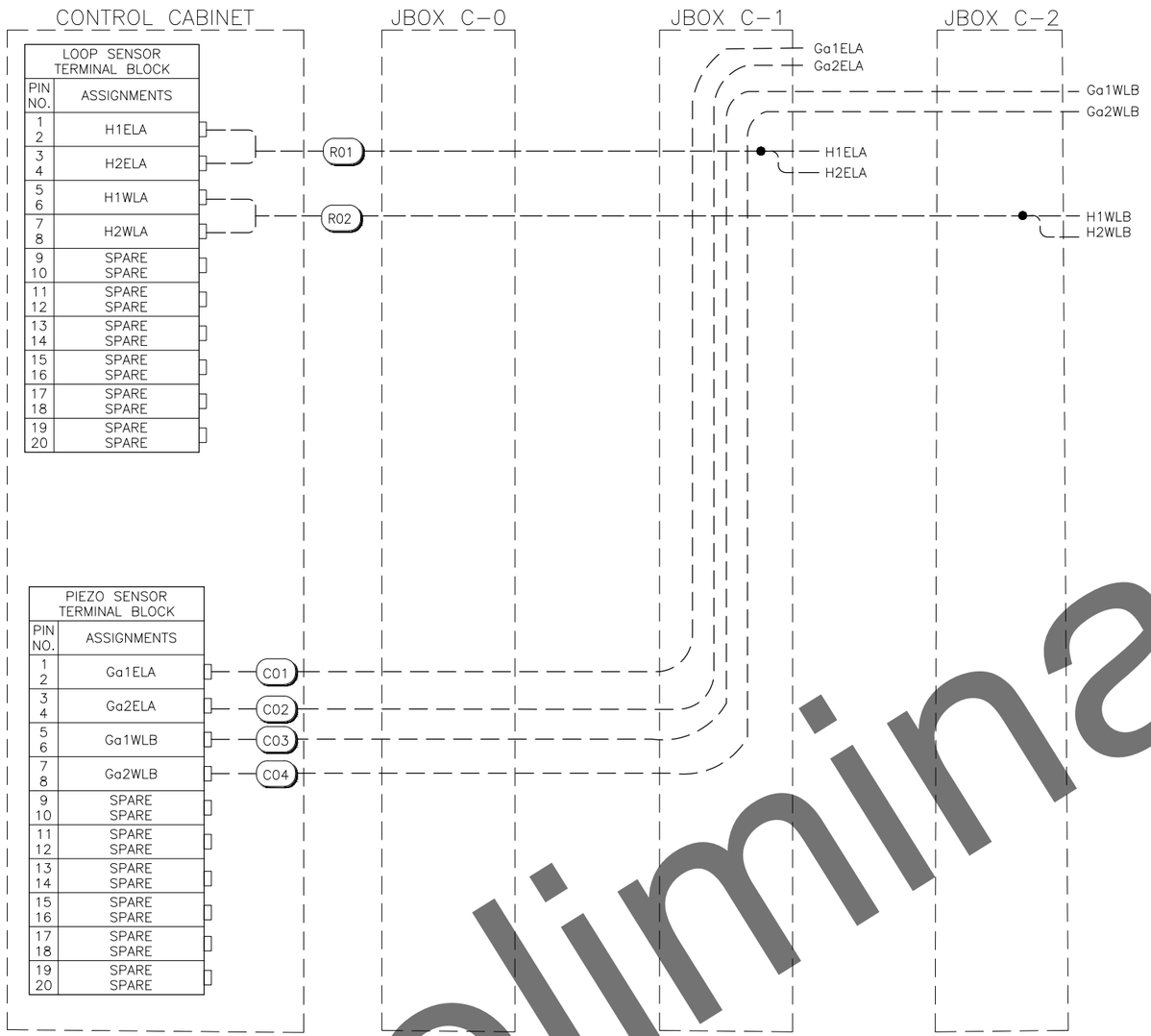
LAYOUT PLAN

STATE OF ALASKA
49 TH
PRELIMINARY
ZAID SAHER HUSSEIN
CE 14683
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0411584\00139_K_AVC-K2 Wed, Nov/22/23 03:33pm

NO.	DATE	REVISION

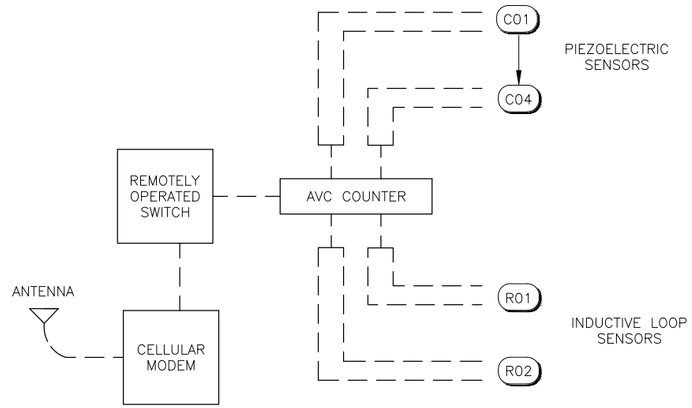
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K3	K9



WIRING DIAGRAM
NTS

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT					CABLE		
#	QTY	SIZE (INCHES)	FROM	TO	QTY	TYPE	NUMBER
1	1	1	JBOX C-2	Ga1WLA	1	RG58 COAX	CO3
2	1	1	JBOX C-2	H1WLA	1	1 PR#14	SPLICE TO RO2 IN JUNCTION BOX C-2
3	1	1	JBOX C-2	Ga2WLA	1	RG58 COAX	CO4
4	1	1	JBOX C-2	H2WLA	1	1 PR#14	SPLICE TO RO2 IN JUNCTION BOX C-2
5	1	2	JBOX C-2	JBOX C-1	2	RG58 COAX	CO3, CO4
					1	7 PR#18	RO2
	1	2			SPARE	SPARE	
6	1	1	JBOX C-1	Ga1ELA	1	RG58 COAX	CO1
7	1	1	JBOX C-1	H1ELA	1	1 PR#14	SPLICE TO RO1 IN JUNCTION BOX C-1
8	1	1	JBOX C-1	Ga2ELA	1	RG58 COAX	CO2
9	1	1	JBOX C-1	H2ELA	1	1 PR#14	SPLICE TO RO1 IN JUNCTION BOX C-1
10	1	2	JBOX C-1	JBOX C-0	4	RG58 COAX	CO1-CO4
	1	2			2	7 PR#18	RO1, RO2
	1	2			SPARE	SPARE	
11	1	2	JBOX C-0	CONTROL CABINET	4	RG58 COAX	CO1-CO4
					2	7 PR#18	RO1, RO2
	1	2			SPARE	SPARE	
12	SEE ELECTRICAL DETAILS ON SHEET K9						



DATA/COMMUNICATION CIRCUITS
NTS

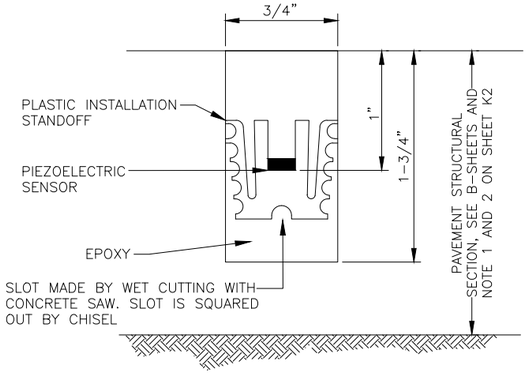
STATE OF ALASKA
49 TH
PRELIMINARY
ZAID SAHER HUSSEIN
CE 14683
REGISTERED PROFESSIONAL ENGINEER

WIRING DIAGRAM

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_29208\00139_K_AVC-K3 Wed, Nov/22/23 12:31pm

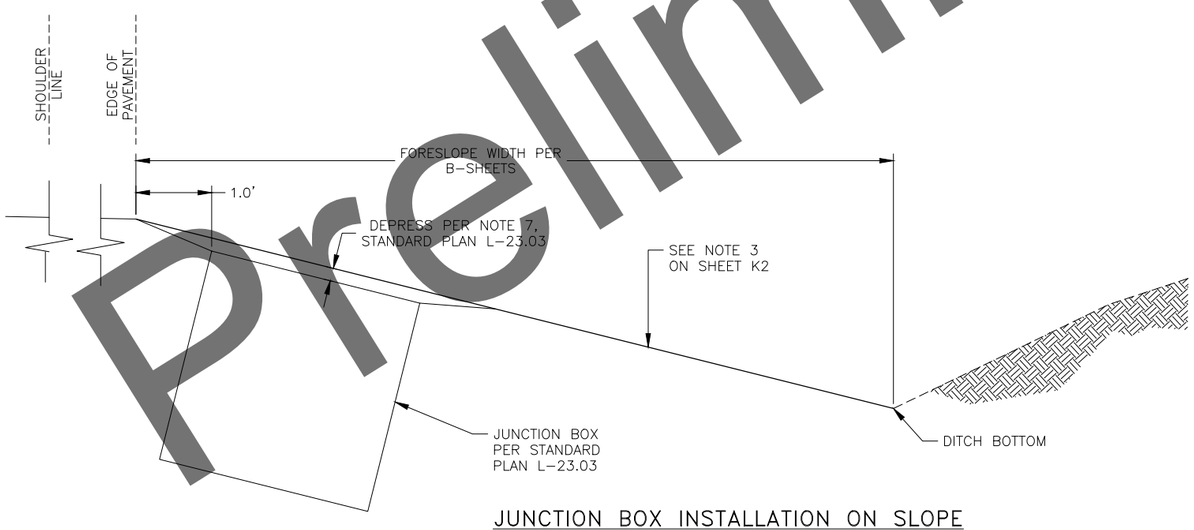
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K4	K9



SECTION A–A

NTS

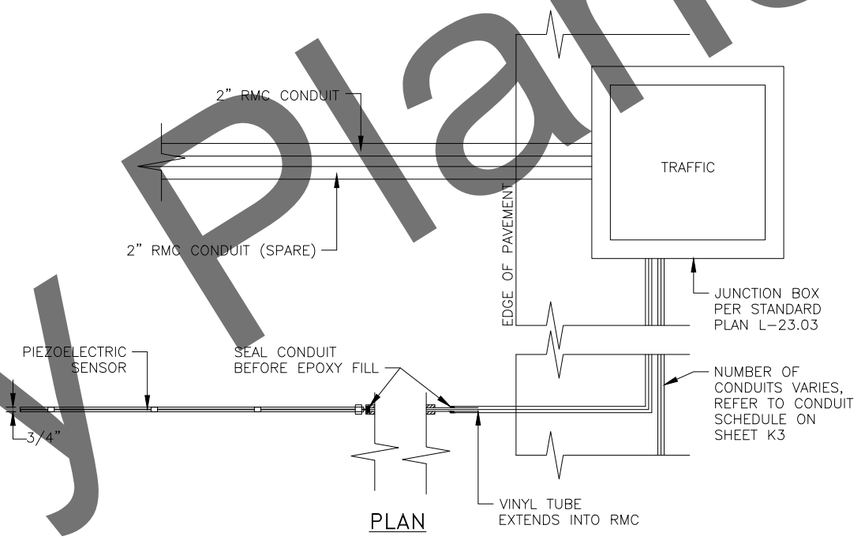


JUNCTION BOX INSTALLATION ON SLOPE

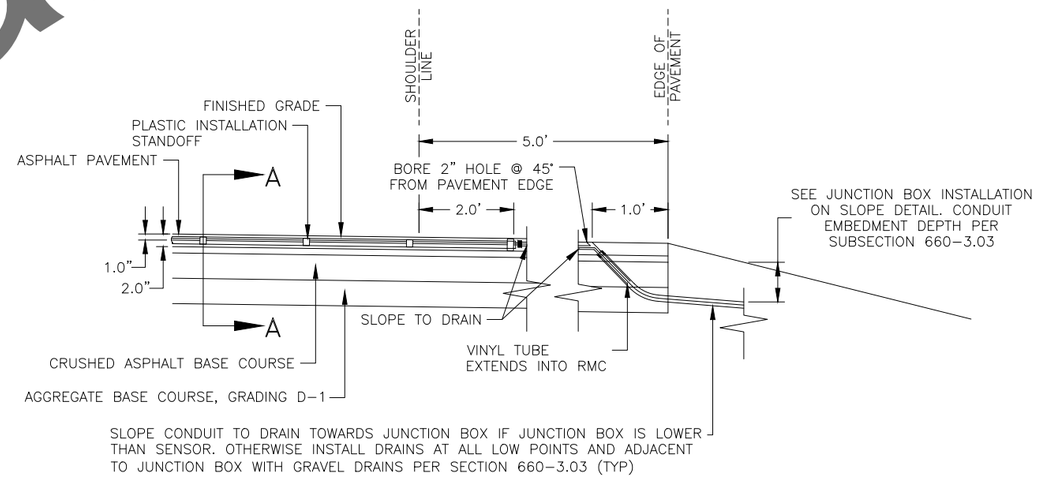
NTS

SENSOR LAYOUT NOTES:

1. PIEZOELECTRIC SENSORS: PLACE WITH THE INSIDE END EXTENDED ONE (1) FOOT FROM THE MIDDLE POINT OF CENTERLINE STRIPE AND OUTSIDE END EXTENDED TWO (2) FEET BEYOND THE SHOULDER LINE (FOG LINE).
2. COAX CABLE FOR PIEZOELECTRIC SENSORS SHALL BE RUN WITHOUT SPLICES TO "F" CONNECTOR AT THE TERMINAL BLOCK IN THE CABINET. TAIL LENGTH SHALL PROVIDE A MINIMUM OF 6–FOOT OF SLACK IN THE CABINET PRIOR TO THE TERMINAL BLOCK.



PLAN



PROFILE

PIEZOELECTRIC SENSOR INSTALLATION DETAILS

NTS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\Temp\AcadTemp\AcPublish_29208\00139_K_AVC_DTLS-K4 Wed, Nov/22/23 12:30pm

STATE OF ALASKA 49TH
PRELIMINARY
ZAID SAHER HUSSEIN
CE 14683
REGISTERED PROFESSIONAL ENGINEER

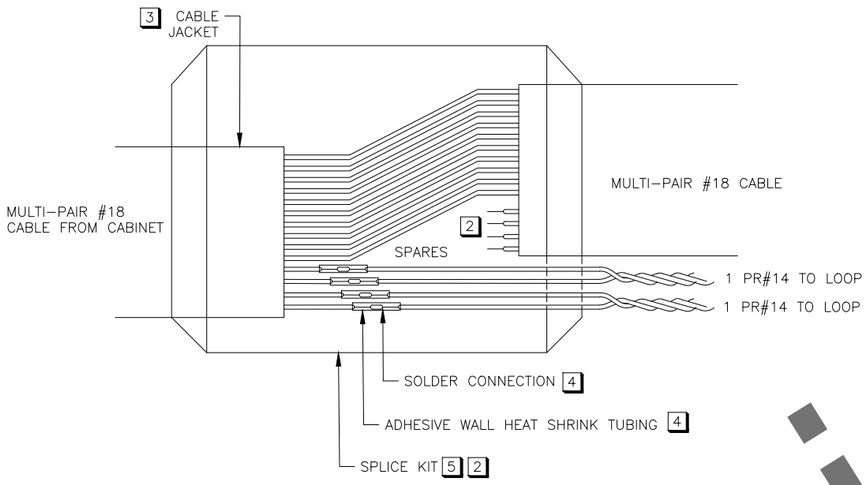
PIEZOELECTRIC SENSOR DETAILS

NO.	DATE	REVISION

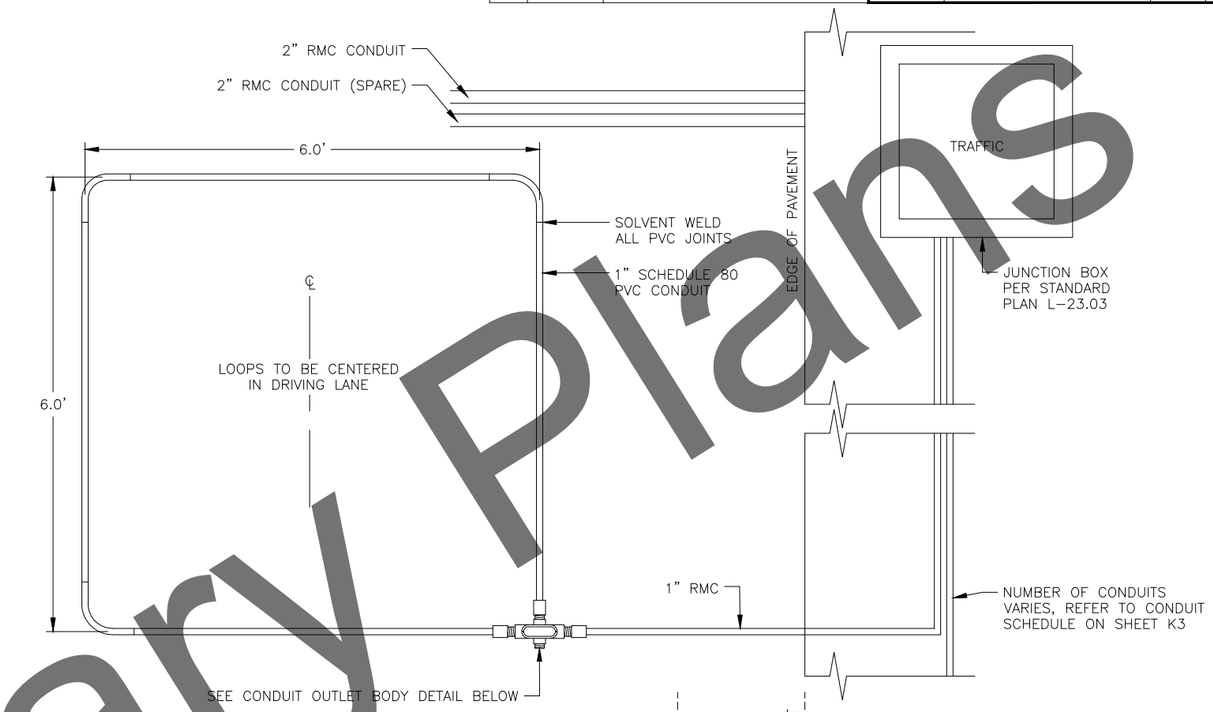
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K5	K9

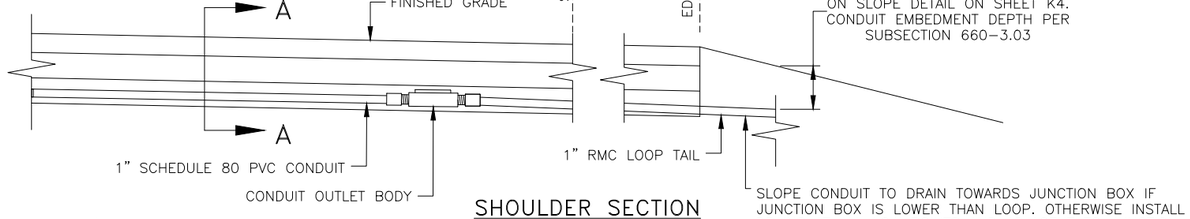
SPLICE NOTES:

1. SCHEMATIC SKETCH SHOWS AN EXAMPLE OF TWO PAIRS USED AND SPARES.
2. TERMINATE ALL SPARES WITHIN THE SPLICE BODY.
3. SPLICE BODY TO ENCLOSE ALL CABLE JACKETS.
4. STAGGER SPLICE POINTS. SOLDER CONNECTIONS, ENCLOSE EXPOSED CONDUCTORS IN ADHESIVE WALL HEAT SHRINK TUBING. DO NOT USE COMPRESSION CONNECTORS. WRAP CONDUCTOR OVER EACH OTHER BEFORE SOLDERING.
5. USE A NON–REENTERABLE, WET LOCATION, COMMERCIAL SPLICE KIT 3M TYPE 82–A1 OR A2 OR EQUIVALENT AS APPROVED BY THE ENGINEER.
6. COVER ALL EXPOSED CONDUCTORS WITH HEAT SHRINK TUBING, INCLUDING SPARES.

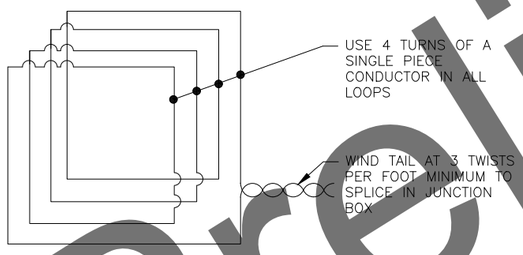


TYPICAL SPLICE DETAIL
NTS

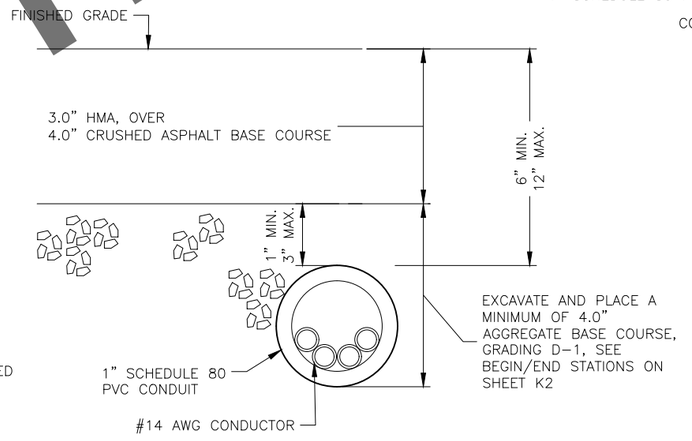




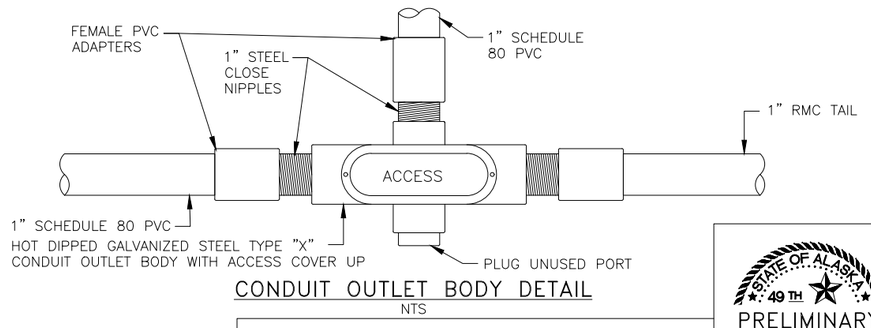
SHOULDER SECTION
NTS



LOOP WIRING DETAIL
NTS



SECTION A–A



CONDUIT OUTLET BODY DETAIL
NTS

INDUCTIVE LOOP NOTES:

1. ALL INDUCTIVE LOOPS SHALL BE WOUND IN THE SAME DIRECTION WITH THE STARTING LEAD MARKED "S" PER SUBSECTION 660–3.05.13.
2. LEAD–IN WIRES FOR EACH LOOP SHALL BE IN SEPARATE CONDUITS TO THE FIRST JUNCTION BOX.
3. INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING THE SECTION OF ROADWAY. FINAL LIFT OF ASPHALT PAVEMENT SHALL BE SMOOTH OVER ALL INDUCTIVE LOOPS AND WITHOUT TRANSVERSE SEAMS, JOINTS, OR ROUGHNESS WITHIN 50 FEET OF THE LOOPS.

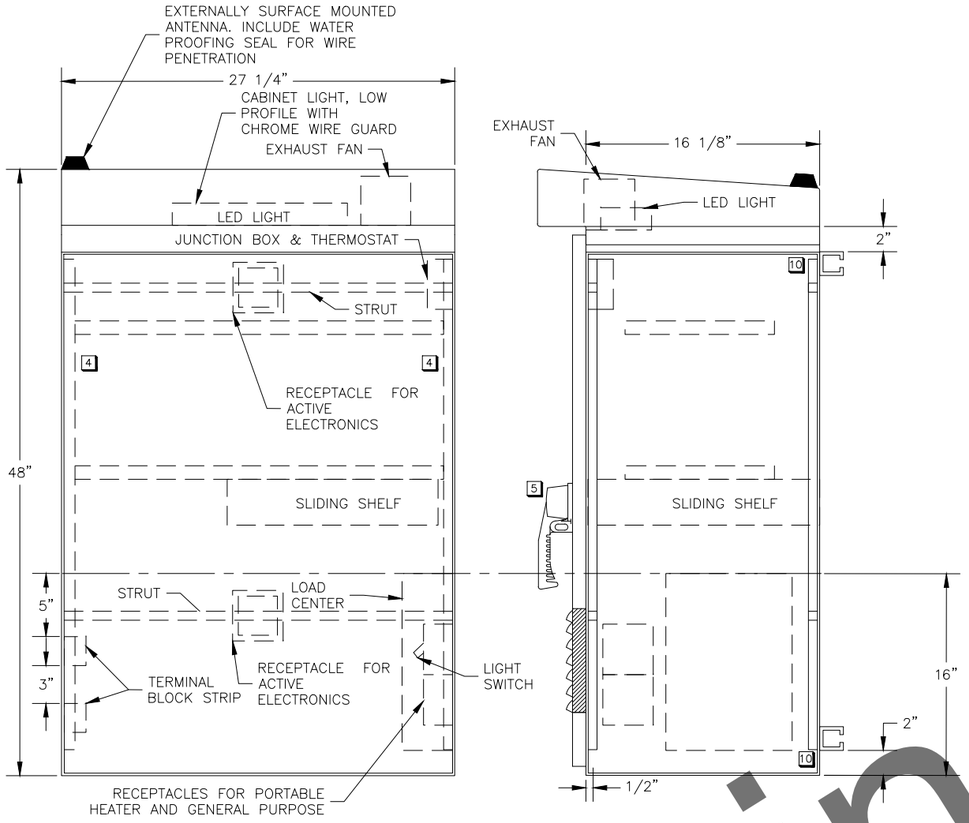
SPLICE AND PRESENCE LOOP DETAILS

STATE OF ALASKA 49TH
PRELIMINARY
ZAID SAHER HUSSEIN
CE 14683
REGISTERED PROFESSIONAL ENGINEER

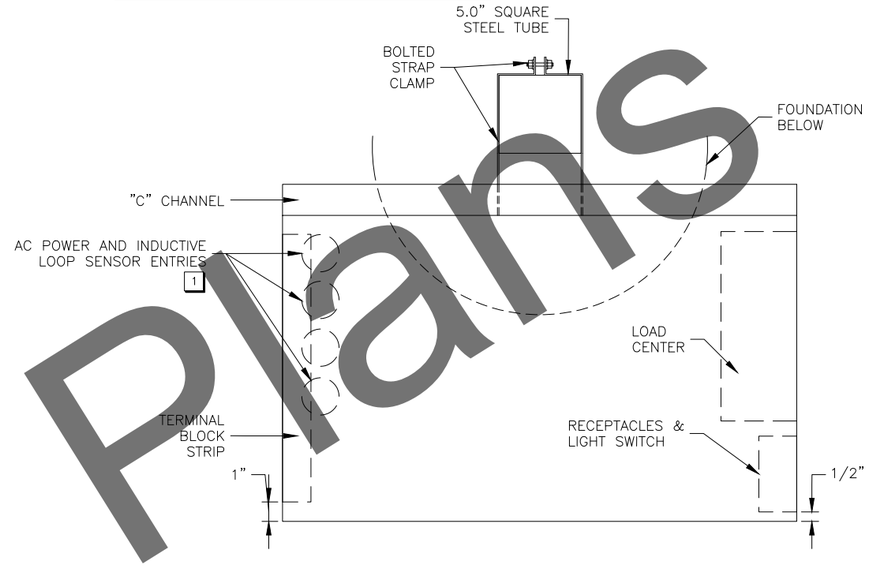
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374–0275
C:\Temp\AcadTemp\AcPublish_29208\00139_K_AVC_DTLS–K5 Wed, Nov/22/23 12:30pm

NO.	DATE	REVISION

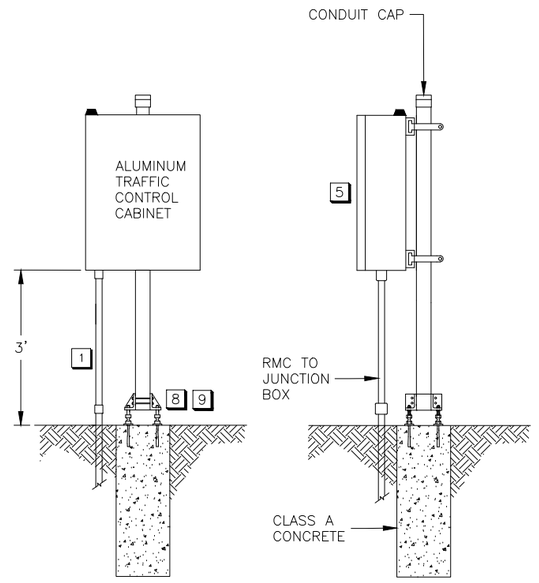
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K6	K9



CABINET ENCLOSURE
NTS



TOP VIEW
NTS



FRONT ELEVATION
NTS

SIDE ELEVATION
NTS

NOTES:

1. NOT ALL CONDUITS SHOWN IN DETAIL, ADD OTHERS AS REQUIRED. USE CONDUIT HUBS IN BOTTOM OF CABINET. USE TYPE CHT WITH NEOPRENE SEAL AND INSULATED THROAT FOR NON–POWER CONDUITS WITH DETECTOR LEAD–IN CABLES. USE TYPE CHN FOR SERVICE ENTRANCE CONDUIT AND CONNECT FLEXIBLE METAL CONDUIT TO CIRCUIT BREAKER PANEL INSIDE CABINET.

   SERVICE EQUIPMENT MOUNTING, STRUT FRAMING, AND CONDUITS ARE NOT SHOWN FOR CLARITY, SEE ELECTRICAL AND SERVICE EQUIPMENT ELEVATION DETAILS ON SHEET K9.

2. REFER TO SUBSECTION 669–2.02 FOR DESCRIPTION OF CABINET REQUIREMENTS AND ADDITIONAL ACCESSORIES WHICH MAY NOT BE SHOWN. CABINET SHALL BE CERTIFIED BY NATIONALLY RECOGNIZED INDEPENDENT THIRD PARTY TESTING AGENCY (UL, CSA, FM, ETC.)

3. ALL EQUIPMENT INSIDE CABINET FASTENED TO RAIL SHALL HAVE NO SCREW PENETRATIONS OF THE CABINET SURFACE.

4. SIDE RAILS SHALL BE INSTALLED TO PERMIT HORIZONTAL ADJUSTMENT OF VERTICAL RAILS.

5. CONTROLLER CABINET DOOR TO OPEN AWAY FROM ROADWAY.

6. USE FACTORY 90° ELBOWS TO/FROM JUNCTION BOXES ON ALL CONDUITS LARGER THAN 1 INCH.

7. ALL CONDUIT SHALL BE RMC UNLESS NOTED OTHERWISE. SEE SCHEDULE FOR SIZE.

8. INSTALL FLANGE, FRANGIBLE COUPLING AND FOUNDATION PER STANDARD PLAN S–31.02

9. INSTALL FOUNDATION IN SELECT MATERIAL, TYPE A (OR SUBBASE, GRADING F MATERIAL). THE CONTRACTOR SHALL EXCAVATE AND BACKFILL WITH GRAVEL 2 FEET BELOW AND SURROUNDING THE FOUNDATION.

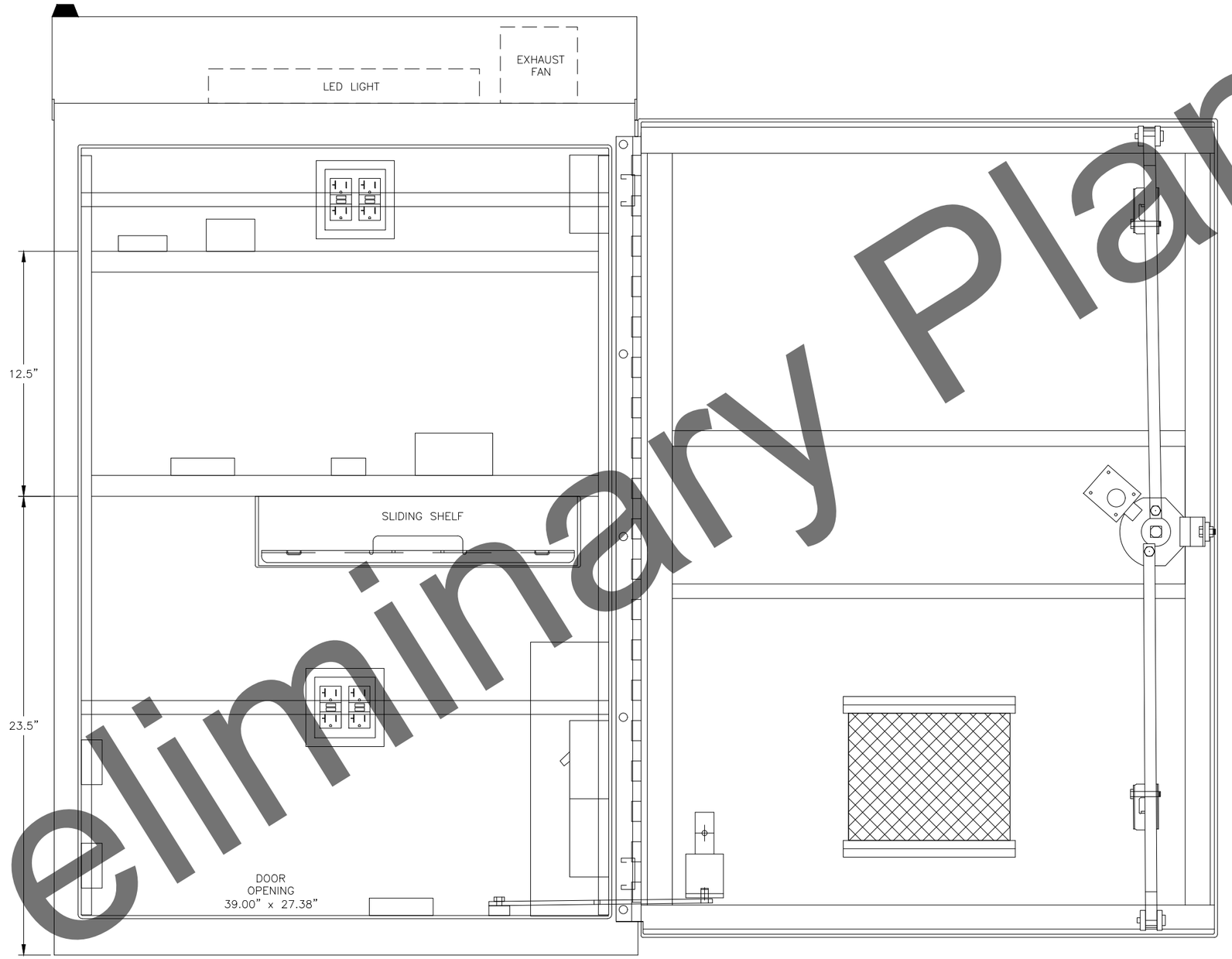
10. INSTALL A GALVANIC ISOLATOR BETWEEN THE GALVANIZED STEEL "C" CHANNEL AND ALUMINUM CABINET. ISOLATOR SHALL BE 0.125" CLOSED–CELL NEOPRENE TAPE OR APPROVED EQUAL. PROVIDE A NEOPRENE SEALING WASHER BETWEEN HEX NUT AND INTERIOR OF CABINET WALL TO FASTEN "C" CHANNEL.

11. POST, "C" CHANNEL, RMC, HUBS, CONDUIT, BODIES, BUSHINGS, LOCKNUTS, AND MOUNTING HARDWARE (BOLTS, WASHERS, NUTS, FASTENERS, AND BRACKETS) SHALL BE HOT–DIPPED GALVANIZED AND MEET THE REQUIREMENTS OF SECTION 669.

CABINET DETAILS

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K7	K9



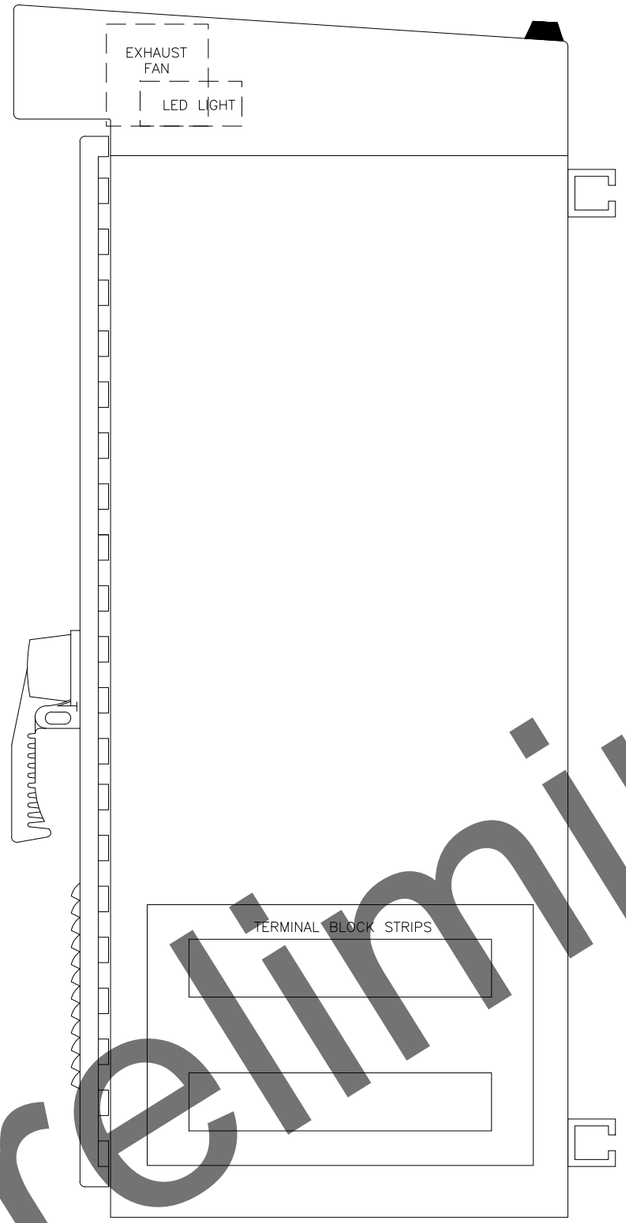
CABINET INTERIOR DETAILS
NTS

CABINET DETAILS

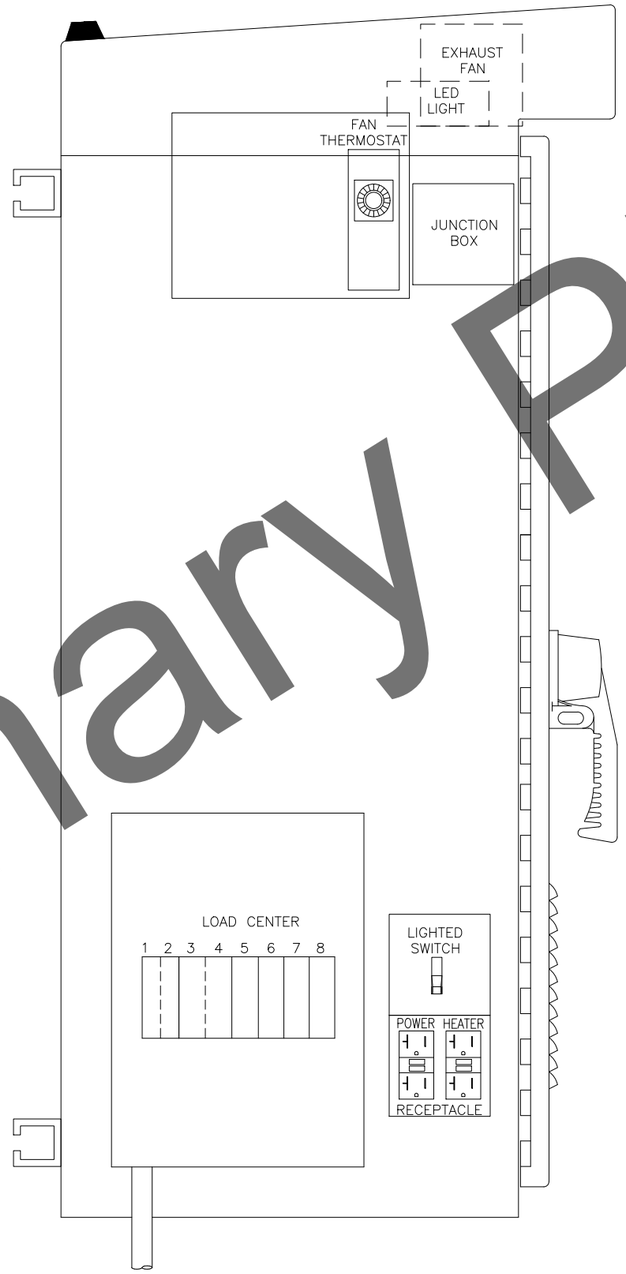
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_29208\00139_K_AVC_DTLS-K7 Wed, Nov/22/23 12:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378/NFHWY00139	2023	K8	K9



LEFT SIDE VIEW



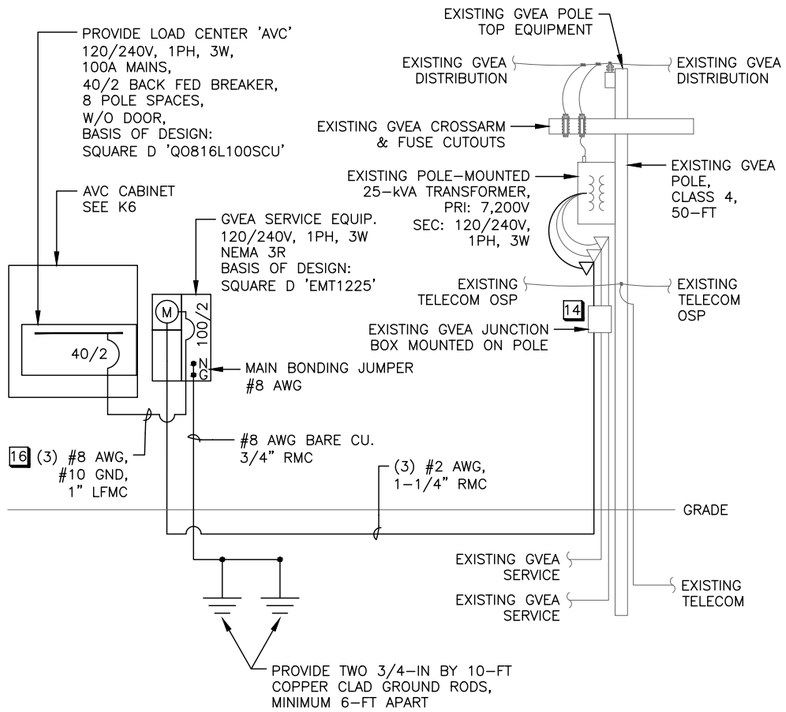
RIGHT SIDE VIEW

CABINET INTERIOR DETAILS
NTS

CABINET DETAILS

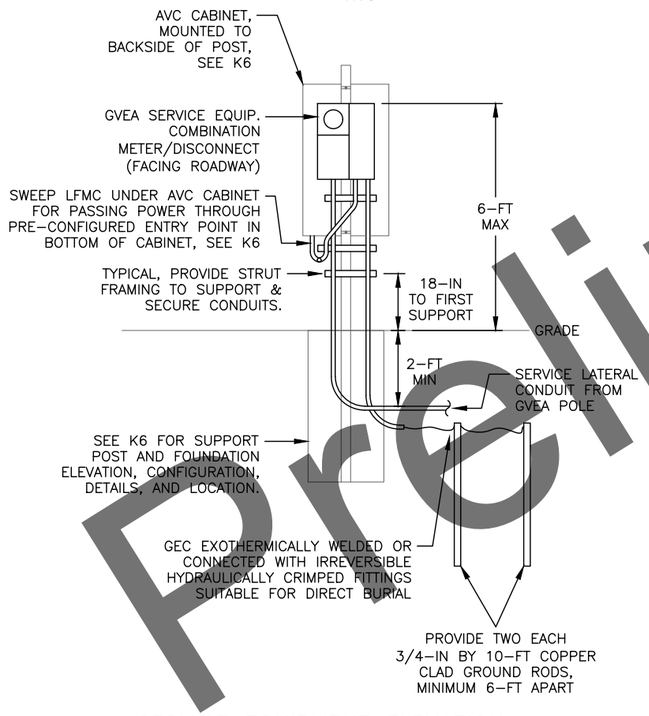
STATE OF ALASKA 49TH
PRELIMINARY
ZAID SAHER HUSSEIN
CE 14683
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_29208\00139_K_AVC_DTLS-K8 Wed, Nov/22/23 12:30pm



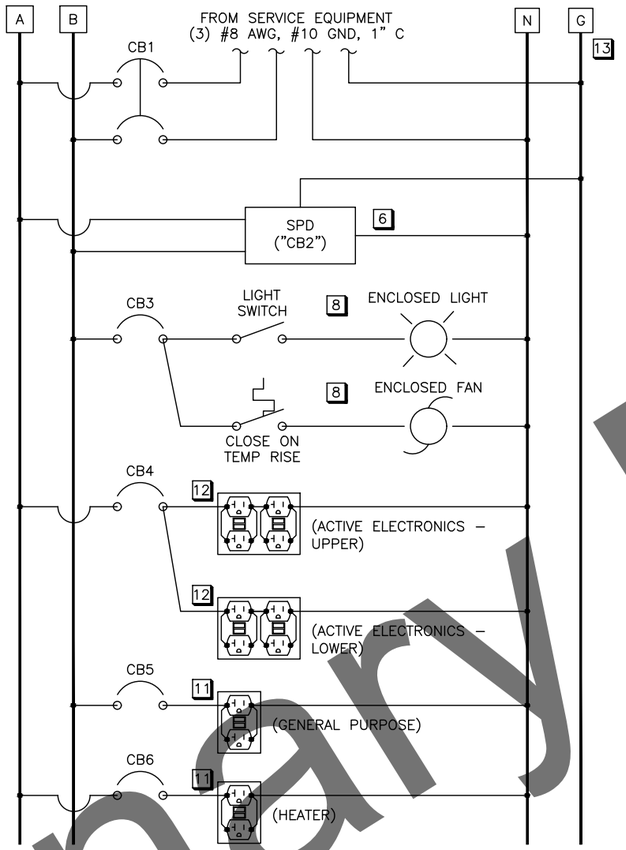
ONE LINE DIAGRAM

NTS



SERVICE EQUIPMENT ELEVATION

NTS



LOAD CENTER 'AVC' WIRING DIAGRAM

NTS

LOAD CENTER 'AVC'					
LOCATION:	YANKOVICH RD, TRAFFIC CABINET (SITE 1)	MAINS RATING:	100A		
VOLTAGE RATING:	120/240V, 1PH	MCB RATING:	40A, TWO-POLE (BACK FED)		
POWER SOURCE:	GVEA SERVICE	INTERRUPTING RATING:	10,000A		
CIRCUIT BREAKER NUMBER	BRANCH CIRCUIT BREAKER RATING	CIRCUIT PURPOSE	LOAD (VA)		
			ϕA	ϕB	TOTAL
CB1	40 AMP, 240V	MAIN CIRCUIT BREAKER (BACK FED)	~SEE TOTALS BELOW~		
CB2	240V, 2-POLE SLOTS	SURGE PROTECTIVE DEVICE	0	0	0
CB3	20 AMP, 120V	LIGHT & FAN	--	575	575
CB4	20 AMP, 120V	REC, ELECTRONICS (UPPER & LOWER)	375	--	375
CB5	20 AMP, 120V	REC, GENERAL PURPOSE	--	1,000	1,000
CB6	20 AMP, 120V	REC, PORTABLE HEATER	1,000	--	1,000
		CONNECTED LOAD:	1,375	1,575	2,950
		CONNECTED AMPS (@240V, 1PH):	5.7	6.5	12.3
		DEMAND LOAD [x125%]:	1,720	1,970	3,690
		DEMAND AMPS (@240V, 1PH) [x125%]:	7.2	8.2	15.4

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	002378/NFHWY000139	2023	K9	K9

NOTES:

1. ALL BRANCH CIRCUITS WITHIN THE TRAFFIC CABINET SHALL UTILIZE METAL-CLAD (MC) CABLE. ALL PHASE, NEUTRAL, AND EQUIPMENT GROUNDING CONDUCTORS FOR 15 & 20 AMP BRANCH CIRCUITS SHALL UTILIZE MINIMUM #12 AWG CONDUCTORS.
2. SHARED NEUTRAL CONDUCTORS ARE NOT PERMITTED. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL CIRCUITS REQUIRING A NEUTRAL.
3. PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR FOR EACH CIRCUIT. UTILIZING THE RACEWAY AS THE ONLY EQUIPMENT GROUNDING CONDUCTOR IS NOT PERMITTED. BOND AND GROUND ALL METAL ENCLOSURES AND RACEWAYS AS REQUIRED BY NEC ARTICLE 250.
4. ALL CONDUCTORS SHALL UTILIZE MINIMUM XHHW INSULATION.
5. ALL ELECTRICAL EQUIPMENT, BOXES, AND BRANCH CIRCUITS WITHIN THE TRAFFIC CABINET SHALL BE FASTENED AND SECURED TO RAILS OR STRUT CHANNEL WITHIN THE CABINET, AND SHALL NOT PENETRATE THE CABINET SURFACE.

6. PROVIDE TYPE 2 SURGE PROTECTIVE DEVICE (SPD), MINIMUM RATED 22.5kA PER PHASE. SPD SHALL BE PLUGGED DIRECTLY INTO LOAD CENTER AND OCCUPY CIRCUIT POLE SPACES. BASIS OF DESIGN IS SQUARE D 'QO2175SB' OR APPROVED EQUAL.

7. ALL RECEPTACLES SHALL BE MINIMUM NEMA 5-20R, EXTRA HEAVY-DUTY, INDUSTRIAL GRADE, WEATHER-RESISTANT, WITH INTEGRAL CLASS A (4mA-6mA) GROUND-FAULT PROTECTION.

8. SEE SUBSECTION 669-2.02 FOR FURTHER INFORMATION REGARDING EQUIPMENT CONTAINED WITHIN THE TRAFFIC CABINET.

9. PROVIDE A TYPED & LAMINATED CIRCUIT SCHEDULE FOR LOAD CENTERS 'AVC'.
10. ON EACH RECEPTACLE FACEPLATE, PROVIDE A LABEL INDICATING PURPOSE (IE "HEATER", "GENERAL", "ELECTRONICS", ETC).

11. LOCATE THE GENERAL PURPOSE RECEPTACLE AND THE HEATER RECEPTACLE IN A SINGLE 4-SQUARE BOX AT THE BOTTOM OF THE CABINET. SEE SHEET K6-K8 FOR CABINET ELEVATIONS AND DETAILS.

12. LOCATE ONE DOUBLE-DUPLEX FOR ACTIVE ELECTRONICS AT THE TOP OF THE CABINET AND ONE AT THE BOTTOM OF THE CABINET, MOUNTED TO THE HORIZONTAL STRUT CHANNEL AT THE BACK OF THE CABINET. SEE SHEET K6-K8 FOR CABINET ELEVATIONS AND DETAILS.

13. NOT ALL GROUNDING CONNECTIONS ARE SHOWN IN THIS DETAIL. SEE NOTE 3.

14. EXISTING JUNCTION BOX. CONTRACTOR TO COORDINATE WITH GVEA FOR NEW WEATHER TIGHT PENETRATIONS IN JUNCTION BOX, ALLOWING NEW RISER TO ENTER AND EXIT JUNCTION BOX.

15. COMPLETE AND SUBMIT GVEA SERVICE APPLICATION FOR CONNECTION OF NEW ELECTRICAL SERVICE TO EXISTING GVEA TRANSFORMER. COORDINATE WITH GVEA FOR PROVISION OF SERVICE RISER CONDUIT ON POLE TO ENSURE A COMPLETE AND FUNCTIONAL SYSTEM.

16. PROVIDE #4 AWG PIGTAILS FOR CONNECTION TO LOAD SIDE OF 100/2 CIRCUIT BREAKER IN SERVICE DISCONNECT. PROVIDE LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC) FOR ROUTING CONDUIT OVER SERVICE LATERAL CONDUIT AND TO BOTTOM OF AVC CABINET. SECURE LFMC WITHIN 12" OF EACH BOX PER NEC ARTICLE 350.

PRELIMINARY
PS&E

ELECTRICAL DETAILS

PLANS DEVELOPED BY: DESIGN ALASKA, INC, AECC511, 601 COLLEGE ROAD, FAIRBANKS, AK 99701 (907)452-1241
P:\922302\E\Drawings\00139_K_DA-K9 Thu, Nov/09/23 12:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q1	Q7

ESCP GENERAL NOTES:

1. THIS ESCP IS A GENERAL PLAN FOR GUIDING THE DEVELOPMENT OF THE CONTRACTOR'S SWPPP. THE CONTRACTOR IS EXPECTED TO PROVIDE ADDITIONAL DETAILS AND BMPS BASED ON THE CONTRACTORS ACTUAL SCHEDULE AND CONSTRUCTION METHODS, AS REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
2. CONSTRUCTION ENTRANCE/EXIT MUST BE ESTABLISHED TO MINIMIZE OFF-SITE IMPACTS.
3. INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25 FOOT VEGETATIVE BUFFER IS NOT RETAINED.
4. IF EXCAVATION DE-WATERING WILL OCCUR WITHIN 1,500FT OF AN ADEC IDENTIFIED CONTAMINATED SITE, THEN THE PROJECT MUST COMPLY WITH THE ADEC EXCAVATION DE-WATERING GENERAL PERMIT.
5. ALL IN-WATER WORK MUST BE ISOLATED FROM WATERS OF THE U.S. USING APPROPRIATE BMPS. ISOLATION METHODS MAY INCLUDE:
   - 5.1. SILT CURTAINS
   - 5.2. COFFERDAMS
   - 5.3. DIVERSIONS
   - 5.4. OTHER METHODS APPROVED BY THE ENGINEER
6. INLET / OUTLET PROTECTION REQUIRED FOR ALL CULVERTS, CROSSING CULVERT PROTECTION IS SHOWN ON THE ESCP SHEETS, DRIVEWAY CULVERTS ARE NOT SHOWN FOR VISUAL CLARIFICATION.
7. AREAS OF DISTURBANCE, TEMPORARY AND PERMANENT STABILIZATION, WILL BE MARKED AS WORK PROCEEDS AND ADDED TO THE LEGEND.
8. REFER TO APPENDIX A OF THE CONTRACT FOR ENVIRONMENTAL PERMIT INFORMATION.
9. REFER TO APPENDIX C OF THE CONTRACT FOR THE ESCP TEMPLATE.

ENVIRONMENTAL COMMITMENTS:

1. TRAFFIC CONTROL PLAN TO ENSURE ACCESS TO EQUINOX MARATHON TRAIL WILL BE PROVIDED. FLAGGERS WILL ENSURE SAFETY OF TRAIL USERS WHEN CONSTRUCTION ACTIVITIES ARE OCCURRING ADJACENT TO THE TRAIL.
2. MECHANIZED VEGETATION CLEARING WILL BE RESTRICTED FROM MAY 1 – JULY 15 IN ORDER TO AVOID DISTURBANCES OF NESTING MIGRATORY BIRDS.

LEGEND:

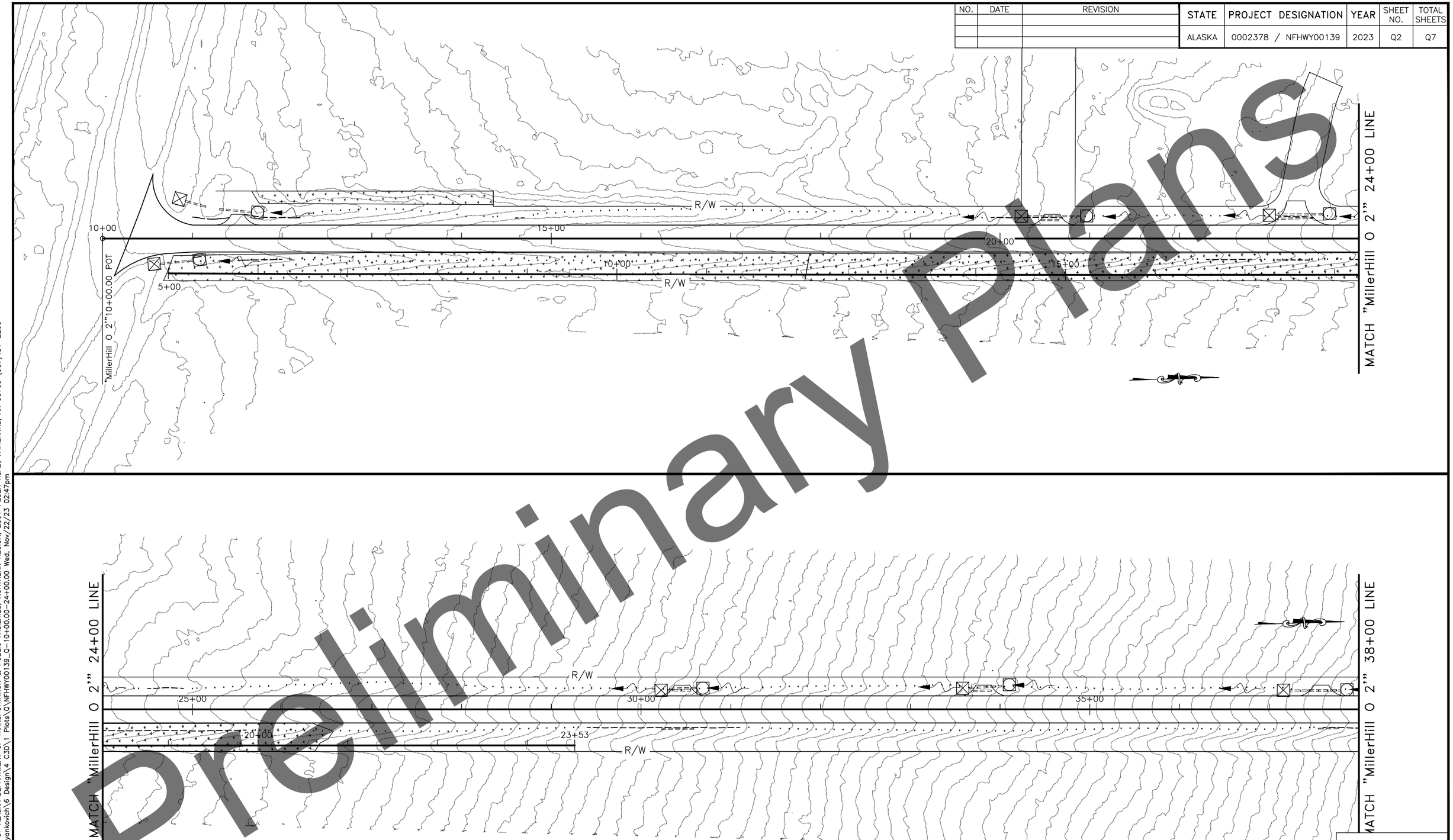
- WETLANDS
- APPROACH
- CULVERT
- RIPRAP
- REVEGETATIVE EFFORT
- PERIMETER CONTROL
- INLET PROTECTION
- OUTLET PROTECTION
- EXISTING SURFACE FLOW DIRECTION
- CHECK DAMS OR OTHER VELOCITY CONTROL BMPS
- CONSTRUCTION ENTRANCE AND EXIT

ESCP LEGEND

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-ESCP Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q2	Q7

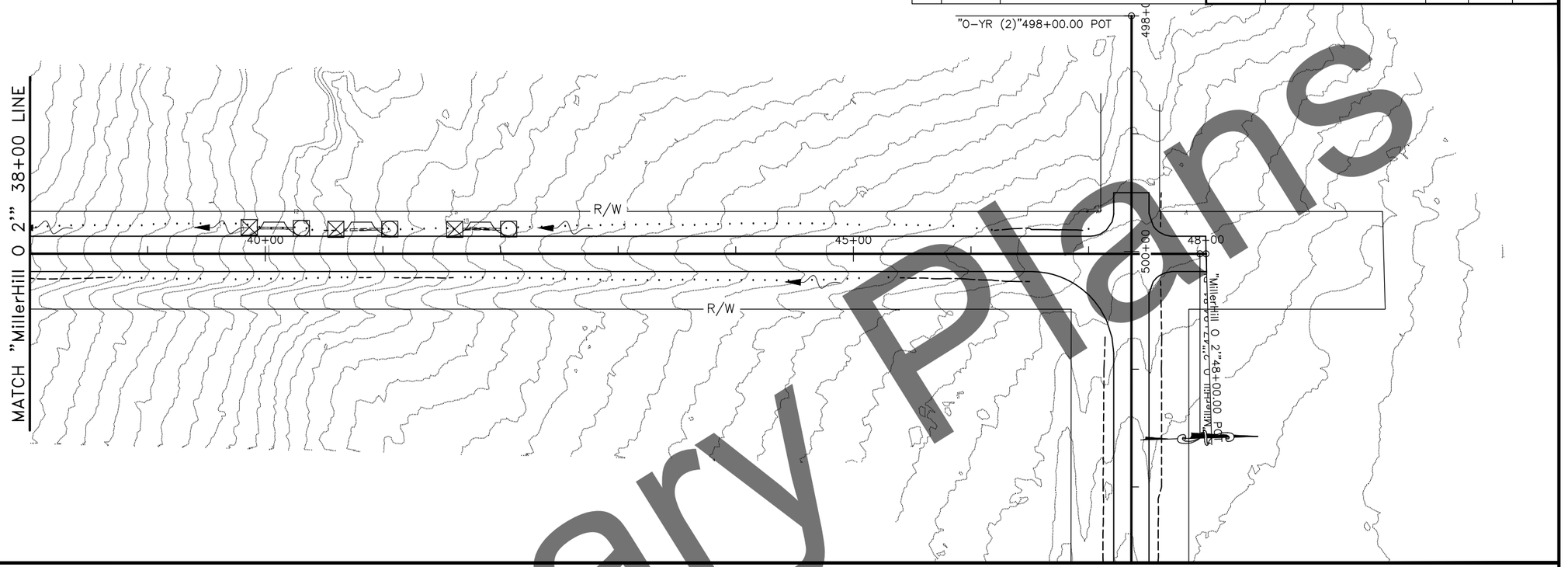


10+00.00–24+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-10+00.00-24+00.00 Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q3	Q7

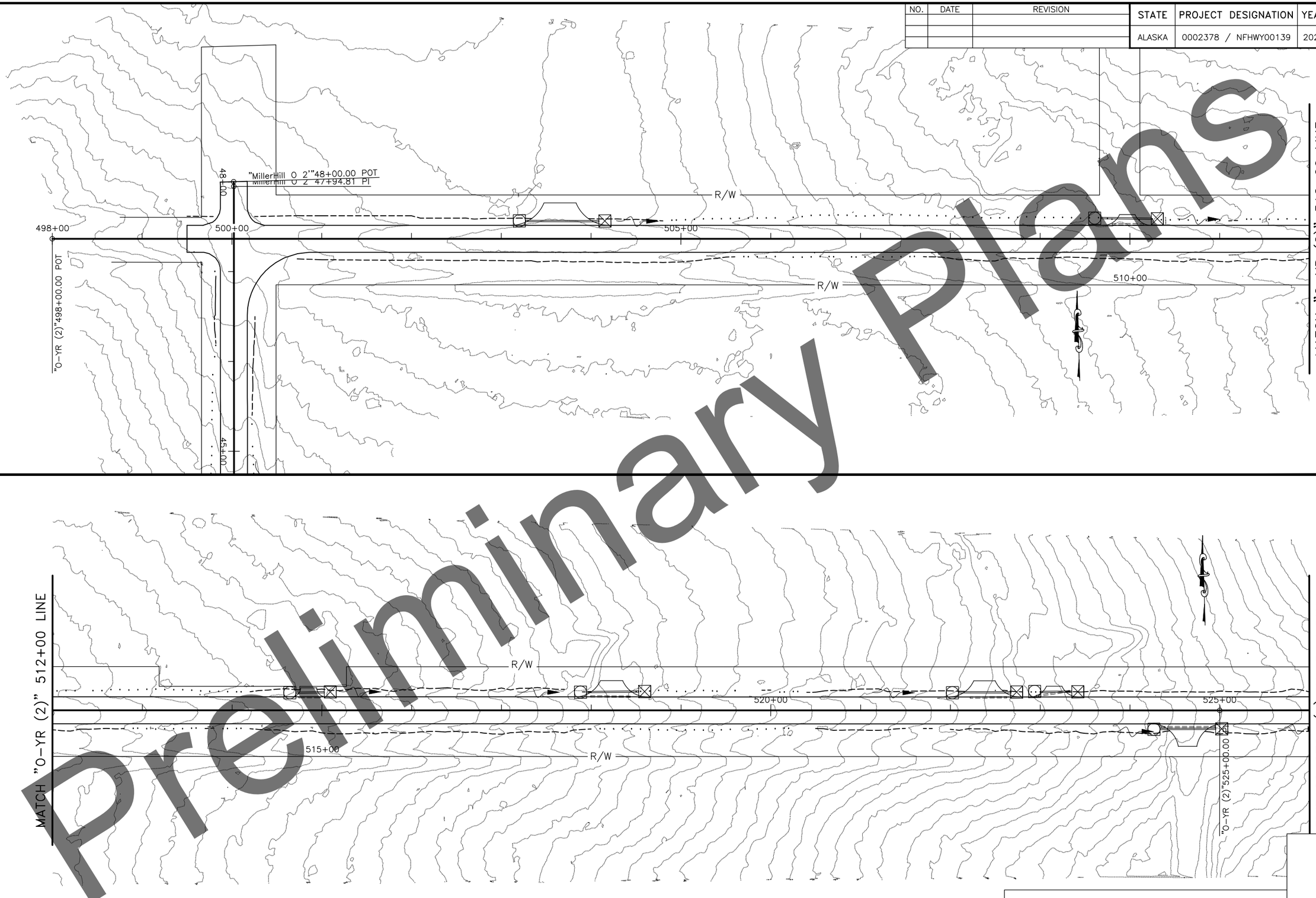


38+00.00-48+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yonkovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-38+00.00-48+00.00 Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q4	Q7

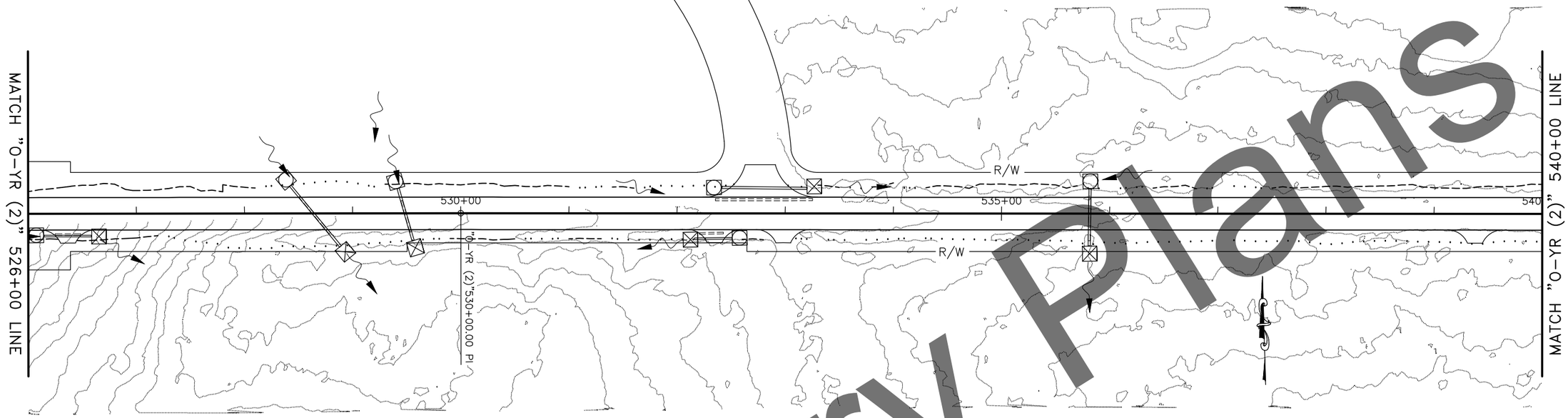


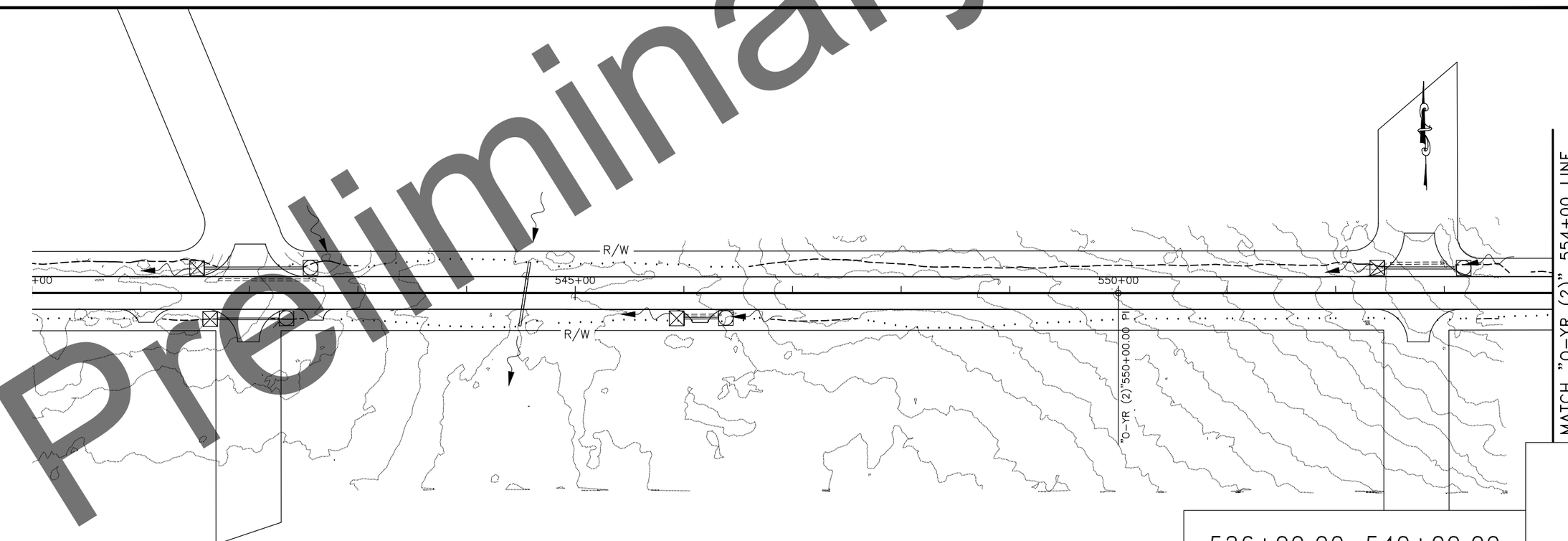
498+00.00–512+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yonkovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-498+00.00-512+00.00 Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q5	Q7



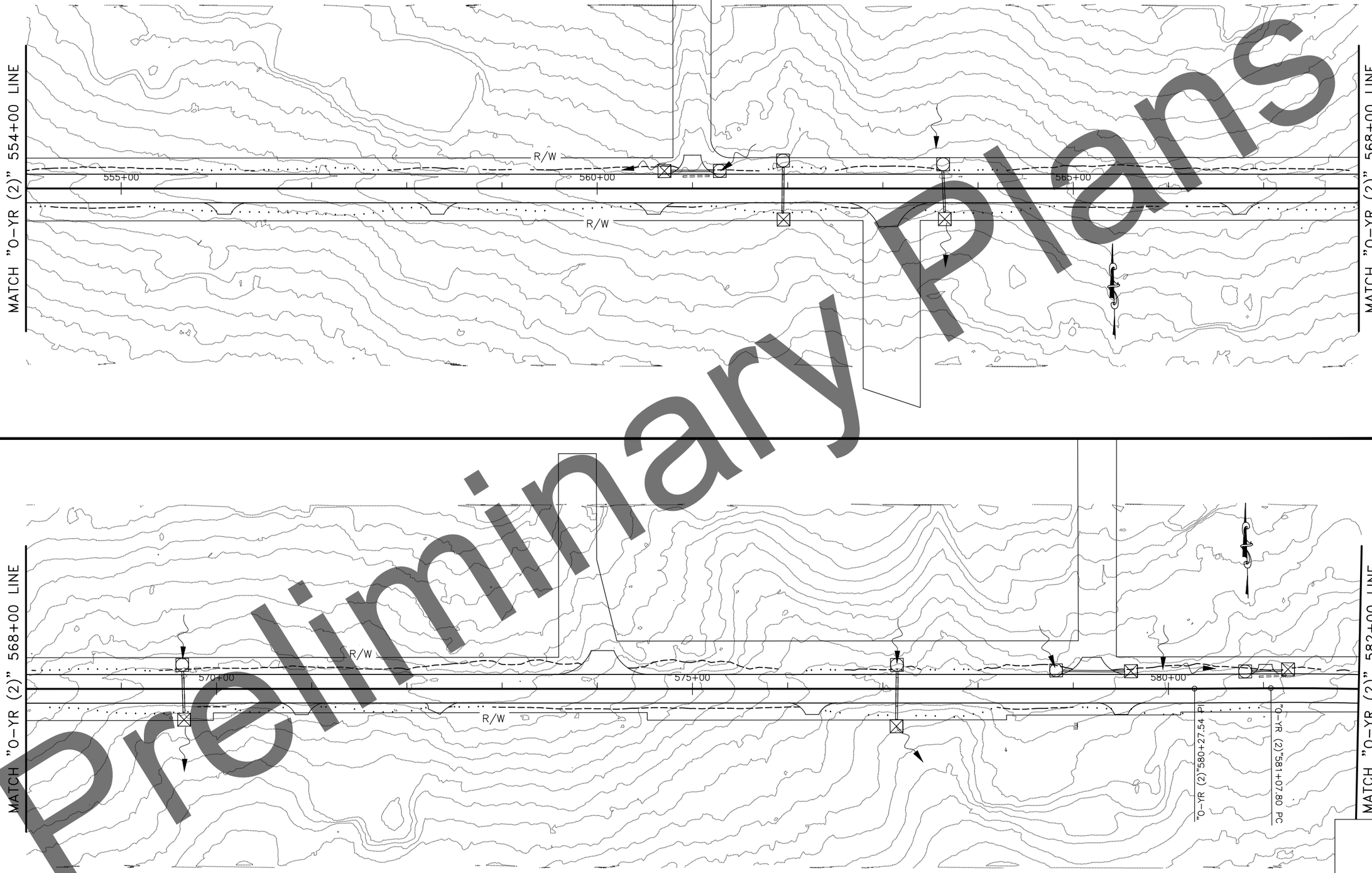


526+00.00–540+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-526+00.00-540+00.00 Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q6	Q7

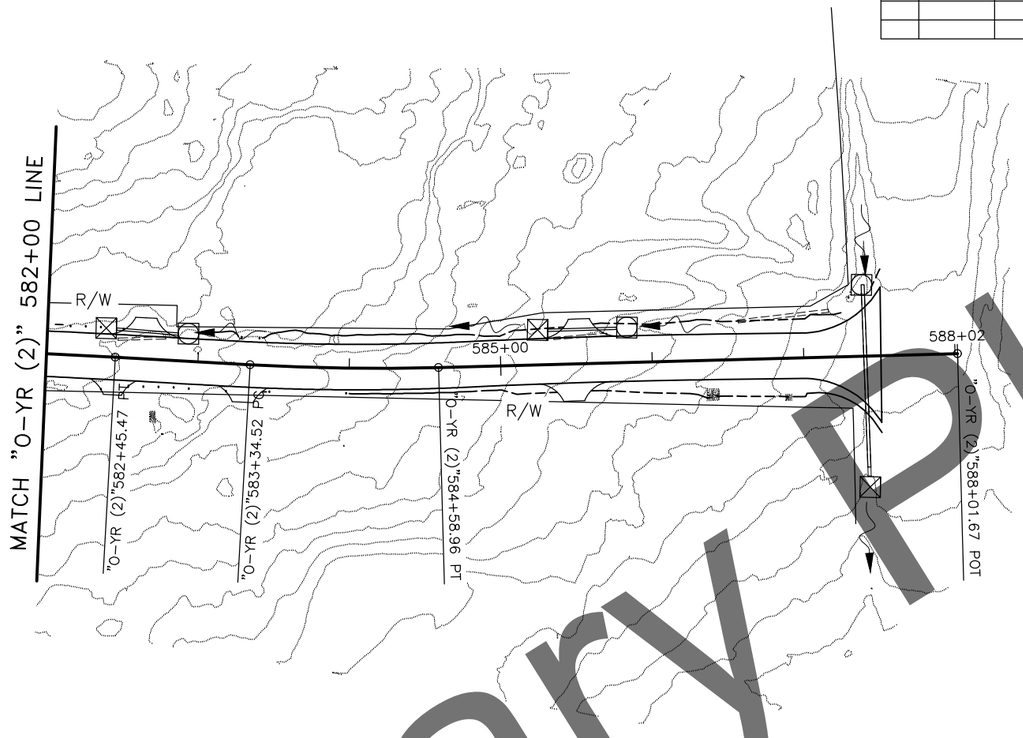


554+00.00–568+00.00

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-554+00.00-568+00.00 Wed, Nov/22/23 02:47pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0002378 / NFHWY00139	2023	Q7	Q7



582+00.00–588+01.67

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\90139 yankovich\6 Design\4 C3D\1 Plots\Q\NFHWY00139_Q-582+00.00-588+01.67 Wed, Nov/22/23 02:47pm

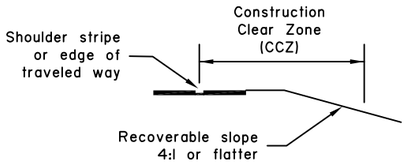


FIGURE 1

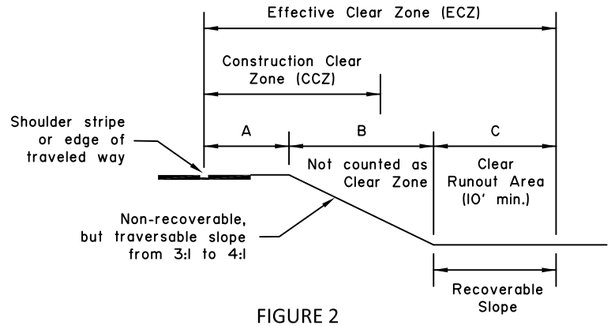


FIGURE 2

Table 1 - Width of Construction Clear Zone (feet)

Hazard	AADT	Posted Speed Limit (MPH)							
		<=30 MPH		35 to 40 MPH		45 to 55 MPH		>=60 MPH	
		6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1	6:1 or flatter	5:1 to 4:1
Fill (Fore) & Cut (Back) Slopes	Under 750	5'	5'	6'	8'	8'	12'	12'	16'
	750 - 6,000	6'	10'	8'	12'	14'	18'	20'	26'
	Over 6,000	10'	10'	12'	14'	16'	20'	22'	28'
Fixed Objects	All	15'		30'					

Table 2 - Treatment for Hazards Within Construction Clear Zone

Roadside Condition to be Treated	Category	Treatment
Fill (Fore) Slopes, including trenches	Steeper than 3:1 or water 3 ft. or deeper	Use Table 5 to select from the following two options: 1. Install rigid barrier or guardrail if the condition warrants barrier, or 2. Use drums or Type II barricades if the condition does not warrant barrier.
	3 : 1 to 4 : 1	1. Use drums or Type II barricades if 10 ft. of runout at the bottom of the slope is not clear of obstructions. 2. No traffic control devices are required if 10 ft. of runout at the bottom of the slope is clear of obstructions. 3. If water 3 ft. or deeper is at bottom of slope, use Table 5.
	Flatter than 4 : 1	No traffic control devices are required, except when water 3 ft. or deeper is in construction clear zone use Table 5.
Fixed Objects	All	Install rigid barrier or guardrail if called for by the plans or specifications. Otherwise use SSHC Section 643-3.04.3 - Fixed Objects.

GENERAL NOTES:

1. The "Construction Clear Zone" (CCZ) may be called "Work Zone Clear Zone" or "Clear Zone in Work Zones" in other publications.
2. In the case of conflicts, this Standard Plan has lesser precedence than Section 643 (Traffic Maintenance) of the Standard Specifications for Highway Construction (SSHC).
3. During seasonal shutdown or if construction activiy is scheduled for suspension for 45 days or more, treat hazards within a 30 foot CCZ width or within the permanent design clear zone (CZ) width.
4. These guidelines are not comprehensive and are not intended to limit the use of safety measures.
5. During pilot car operations, keep fixed objects and other hazards, 2 feet or farther, away from the edge of traveled way and delineate with channelizing devices as required by the Engineer.

INSTRUCTIONS FOR USING TABLES 1 THROUGH 5:

Use The following tables to determine how to treat roadside fixed object or slopes (including trenches, berms and moterial stockpiles) in construction clear zones.

TABLE 1: Use to determine whether the hazard in withing the CCZ

TABLE 2: Use to determine the appropriate treatment for hazards within the CCZ. No treatment is required for fixed objects or slopes outside the CCZ.

TABLES 3a and 3b: Use to determine appropriate treatment for pavement edge dropoffs.

TABLE 4: Use to determine barrier flare rates.

TABLE 5: Use to determine whether drums or Type II barricades, or temporary barrier or guardrail, are required on fill slopes or for water hazards.

TABLE 1 NOTES:

1. Measure CCZ from the shoulder stripe. If there is no shoulder stripe, measure from the edge of the traveled way. See Figure 1.
2. If CCZ include or ends on a slope of 3:1 to 4:1, use the Effective Clear Zone (ECZ) that extends beyond the bottom of the slope to proved a clear runout area of 10 foot minimum width. The ECZ width must equal or greater than the CCZ width from Table 1. See Figure 2 and verify that A+C ≥ CCA and C ≥ 10 feet.
3. If a CCZ includes or ends on a slope steeper than 3:1, the top of slope must be delineated by channelizing devices or protected by barrier.
4. The term "fixed objects" is defined in Section 643-1.02 of the SSHC.
5. AADT stands for Average Annual Daily Traffic. Use the higher of the as listed in the plans or the average of June/July/August ADT's, unless otherwise specified by the Engineer.

TABLE 2 NOTES:

1. Eliminate non-traversable slopes (those steeper than 3:1) and fixed objects (as defined in Section 643-1.02 of the SSHC) within the CCZ when practicable. They should only be left in place and treated as treated as shown in this table when elimination is not practicable.
2. Maintain a 2-foot minimum wide lateral buffer space between the edge of traveled way and work areas. This provides an area to install barriers or other delineation by channelizing devices.
3. If necessary to treat multiple hazards on the same road segment (slopes and fixed objects), choose treatments from Table 2 that satisfy the requirements for the most significant of the multiple hazards.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date: 09/15/2032

C-06.00

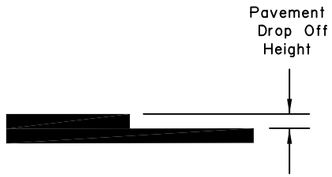


FIGURE 3
Pavement Drop-off Detail

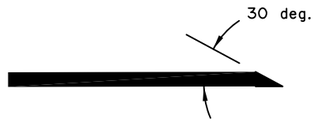


FIGURE 4
Safety Edge Detail

Table 3a - Treatment for Pavement Edge Drop-offs for Posted Speeds > 30 MPH

Nominal Lift Thickness / Height of Pavement Edge Drop-off	Between Active Lanes of traffic moving in same direction	Between Active Lanes of traffic moving in opposing directions	Outside Pavement Edge (if within 3' of traveled way)	Outside Pavement Edge if more than 3' from traveled way and within the CCZ	Across Active Lane, and Entrance and Exit Ramps
0 to 1.0"	No Edge Treatment or Signage Required				
More than 1.0" to 2.0"	**UNEVEN LANE** Signs		**LOW SHOULDER** Signs		Taper Drop-off at slope of 15H:1V or flatter Use BUMP Sign
More than 2.0" to 3.0"	**UNEVEN LANES** Signs - Use Channelizing Devices or Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**LOW SHOULDER** Signs - Use Channelizing Devices - Consider Safety Edge	**LOW SHOULDER** Signs	
More than 3.0" to 6.0"	**UNEVEN LANES** Signs - Use Channelizing Devices and Use Safety Edge	**UNEVEN LANES** Signs - Use Channelizing Devices	**SHOULDER DROP OFF** Signs - Use Channelizing Devices and Safety Edge; or Use Barrier	**SHOULDER DROP OFF** Signs - Use Channelizing Devices or Barrier	
More than 6"	**Prohibited**		**Barrier** - Installed on traffic side of drop-off	**Channelizing Devices** or **Barrier** according to Table 5	

Table 3b - Sign Numbers

Legend	Number	ATM * Ref.
UNEVEN LANES	W8-11	6F.45
LOW SHOULDER	W8-9	6F.44
SHOULDER DROP OFF (Symbol)	W8-17	6F.44
SHOULDER DROP OFF (Plaque)	W8-17P	6F.44
BUMP	W8-1	2C.28

* ATM = Alaska Traffic Manual

Table 4 - Barrier Flare Rates

Speed (mph)	Flare Rate	
	Rigid	Semi-Rigid
70	20:1	15:1
60	18:1	14:1
55	16:1	12:1
50	14:1	11:1
45	12:1	10:1
40	10:1	8:1
30	8:1	7:1

TABLE 3 NOTES:

1. This table applies to pavement edge drop-offs that are adjacent to traffic and left after the pavement shift ends and for posted speeds > 30 mph. Use engineering judgment for edge treatment for posted speeds ≤30 mph.
2. Use interim pavement markings and signs as required according to Standard Plan C-05 (for all conditions).
3. A Safety Edge is a formed pavement edge taper sloped at approximately 30°, but not more than 35° from horizontal.
4. Use a Safety Edge for longitudinal or diagonal pavement edge drop-offs more than 2 inches within a traveled lane. See Figure 3. Use a Safety Edge on longitudinal joints between lanes as required by Table 3a.
5. The "Across Active Lane, and Entrance and Exit Ramps" column applies to any location where motorists will cross pavement drop-offs (includes transverse construction joints) at an acute angle (45° or more). Taper may be reduced to 6:1 at posted speeds of 30 mph or less.
6. Signage applies to all posted speed for edge drop-offs as shown in Table 3a. For information on signs and locations, see SSHC Section 643-3.04 and the Alaska Traffic Manual (ATM). Signs should be place at the beginning and end points of each paved segment, and in locations between as specified. Also, see Table 3b.
7. "Channelizing Devices" means drums with steady-burn lights, candle, or cones.
8. Treatment for pavement edge drop-offs are in addition to Treatment for Hazards within Construction Clear Zones (CCZs) (i.e. fixed obstacle or slope protection may also be required).

BARRIER TERMINATION AND TABLE 4 NOTES:

1. Terminate portable rigid barrier (concrete or metal) with one of the following methods:
   a) An NCHRP 350 or MASH TL-3 approved end treatment or crash cushion.
   b) An NCHRP 350 or MASH TL-3 approved buried-in-backslope treatment
   c) A Thrie-Beam transition according to Std. Plan G-32 (except attached to a rigid barrier instead of a bridge rail) and terminated with a MASH TL-3 end treatment.
   d) Terminate outside the CCZ by flaring barriers away from the roadway at the rate shown in Table 4 for rigid barriers (maximum 10:1 cross slope in front of the barrier).
   e) Sloped ends may be used to terminate barriers within the CZ when the regulatory (black on white sign) speed limit is 30 mph or below. For speeds more than 30 mph, the Engineer may approve sloped ends if they determine NCHRP 350 or MASH compliant end treatments are impracticable. See Std. Plan G-46 for concrete barrier sloped ends.
2. Terminate temporary W-Beam guardrail with one of the following methods:
   a. With a MASH TL-3 approved end treatment
   b. By burying it in a backslope according to Std. Plan G-16
   c. By flaring the guardrail away from the road at the rate shown in Table 4 for semi-rigid barriers (maximum 10:1 cross slope in from of the guardrail).
   d. Terminate outside the CZ.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date: 09/15/2032

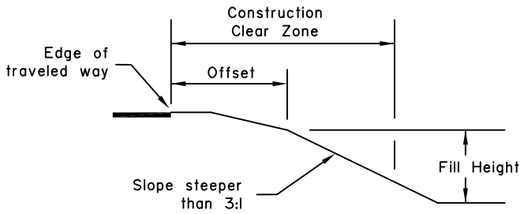


FIGURE 5

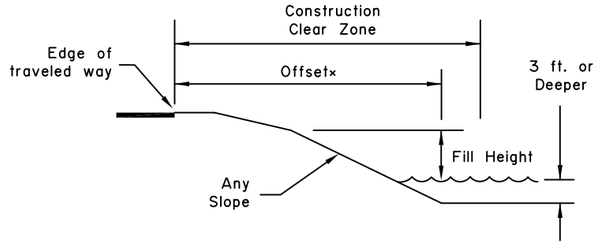


FIGURE 6

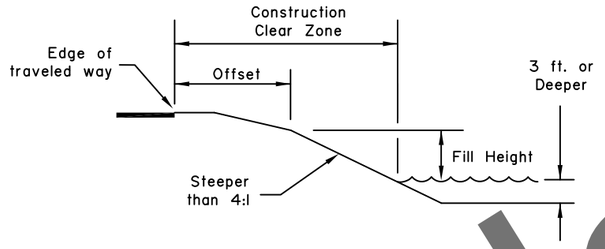


FIGURE 7

Table 5 - Minimum Fill Height at which Temporary Barrier Is Waranted

			Seasonal Traffic Volume - ADT																
			0-750	751-1500			1501-6000				6001-15000				15001+				
Posted WZ Speed Limit	Duration (# days)	Offset (ft)	All Slopes/ Water Condition	slope		Water	slope			Water	slope			Water	slope			Water	
				2.9:1 to 1.1:1	1:1 to Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.		2.9:1 to 2.1:1	2:1-1.1:1	1:1-Vert.		
30 MPH and lower	4-30	5-10																	
		3-5											11'	11'			11'	11'	
		0-3																	
	31-100	5-10																	
		3-5							11'	11'			11'	11'		35'	11'	11'	
		0-3										35'				31'			
	101+	5-10														35'			
		3-5							11'	11'		35'	11'	11'		29'	11'	11'	
		0-3			11'	11'						31'				17'	8'	8'	
35 to 45 MPH	4-30	6-12																	
		3-6											10'	10'			10'	10'	
		0-3														29'			
	31-100	6-12																	
		3-6							10'	10'		29'	10'	10'		29'	10'	10'	
		0-3														19'	9'	9'	
	101+	6-12										29'	10'	10'		27'	10'	10'	
		3-6			10'	10'			10'	10'		28'				12'	7'	7'	
		0-3						29'				18'	9'	9'		7'	6'	6'	
45 to 55 MPH	4-30	9-18																	
		3-9											8'	8'		13'	8'	8'	
		0-3																	
	31-100	9-18														13'	8'	8'	
		3-9							8'	8'		13'	8'	8'			7'	7'	
		0-3						13'								7'	6'	6'	
	101+	9-18										13'	8'	8'		13'	7'	7'	
		3-9			8'	8'		13'	8'	8'		12'	7'	7'	37'	6'	5'	5'	
		0-3										7'	6'	6'	23'	5'	3'	3'	
60 MPH and above	4-30	13-26																	
		3-13											6'	6'		10'	6'	6'	
		0-3										10'							
	31-100	13-26														10'	6'	6'	
		3-13							6'	6'		10'	6'	6'					
		0-3						10'							40'	6'	5'	5'	
	101+	13-26														10'	6'	6'	
		3-13			6'	6'		10'	6'	6'		10'	6'	6'	30'	6'	4'	4'	
		0-3									34'	6'	5'	5'	10'	3'	1'	1'	

TABLE 5 NOTES:

1. Use this table for fill slopes steeper than 3:1 or water hazards that start within the Construction Clear Zone (CCZ). See Figures 5, 6, and 7.
2. Near Lane AADT, as used in this table, means the higher of the AADT listed in the plans or the seasonal Average Daily Traffic (ADT) for June, July, and August in the lane nearest the slope or water hazard during the planned construction period. Assume an even distribution of traffic across lanes - i.e. if there is 6000 one-way AADT on three lanes, use 2000 AADT in each lane.
3. Duration is the estimated number of days traffic will be exposed to the fill (fore) slope or water hazard.
4. To use Table 5, fine the cell that corresponds to the speed limit, duration, offset, traffic volume, and the presence of a slope or water hazard.
   a. If the cell is unshaded, a Temporary Barrier is required when the fill height equals or exceeds the height (in feet) shown in the cell.
   b. If the cell is shaded or fill height is less than the height shown in the cell, use drums or Type II barricades.
5. A water hazard is defined as:
   a. Water 3 feet or deeper within the CCZ, or
   b. Where a slope steeper than 4:1 starts within the CCZ and leads to water 3 feet or deeper.
6. Consider water depth to be the highest level anticipated during the duration period.
7. If both a water hazard and a slope steeper than 3:1 are present, install Temporary Barrier if warranted for either condition.
8. Temporary Barrier is rigid barrier (concrete or metal) or guardrail meeting NCHRP or MASH TL-3, or higher.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

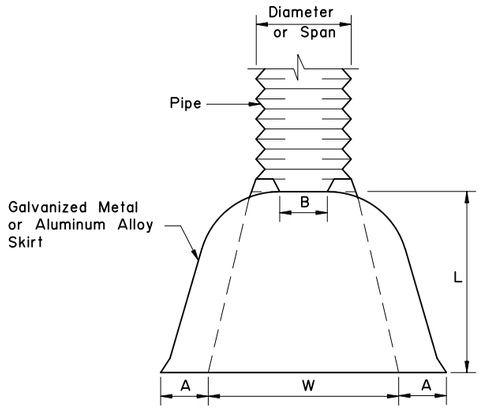
Adopted as an Alaska Standard Plan by: Carolyn H Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

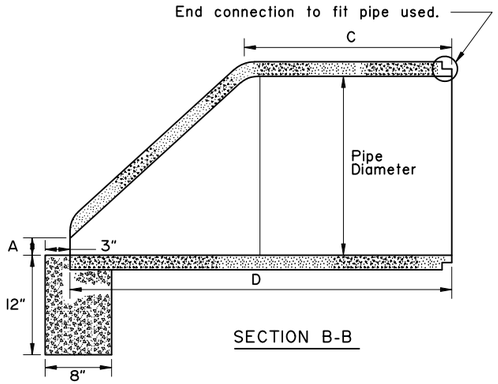
Last Code and Stds. Review
By: LRG Date: 09/15/2022

Next Code and Standards Review date: 09/15/2032



PLAN

ROUND AND PIPE ARCH

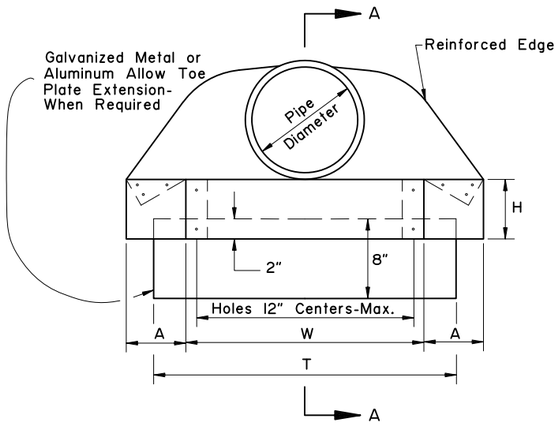


SECTION B-B

MINIMUM DIMENSIONS					
Pipe Diameter	A	B	C	D	E
12"	4"	1 3/4"	24"	46"	24"
18"	9"	2"	25"	50"	36"
24"	9 1/2"	2 1/2"	30"	72"	48"
30"	12"	3"	20"	73"	60"
36"	15"	3 3/8"	35"	97"	72"
42"	21"	3 3/4"	35"	98"	78"
48"	24"	4 1/4"	26"	98"	84"
54"	27"	4 5/8"	33"	99"	82"

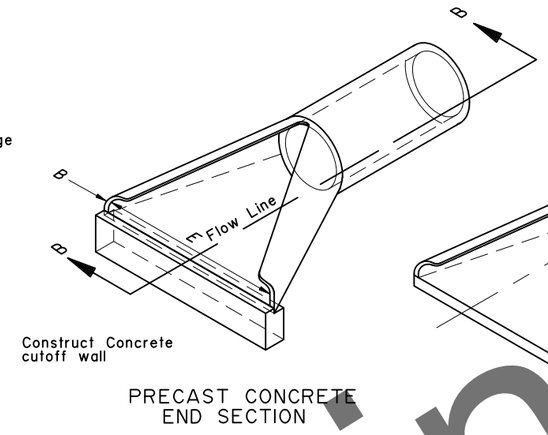
ROUND PIPE									
Pipe Diam. Inches	Thickness For Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
12"	0.060	0.064	6"	6"	6"	21"	24"	34"	1 Pc.	2 1/2
15"	0.060	0.064	7"	8"	6"	26"	30"	40"	1 Pc.	2 1/2
18"	0.060	0.064	8"	10"	6"	31"	36"	46"	1 Pc.	2 1/2
21"	0.060	0.064	9"	12"	6"	36"	42"	52"	1 Pc.	2 1/2
24"	0.075	0.064	10"	13"	6"	41"	48"	58"	1 Pc.	2 1/2
30"	0.075	0.079	12"	16"	8"	51"	60"	70"	1 Pc.	2 1/2
36"	0.105	0.079	14"	19"	9"	60"	72"	94"	2 Pc.	2 1/2
42"	0.105	0.109	16"	22"	11"	69"	84"	106"	2 Pc.	2 1/2
48"	0.105	0.109	18"	27"	12"	78"	90"	112"	2 Pc.	2 1/4
54"	0.105	0.109	18"	30"	12"	84"	102"	122"	2 Pc.	2 1/4
60"	0.135	0.109	18"	33"	12"	87"	114"	134"	3 Pc.	2 1/4
66"	0.135	0.109	18"	36"	12"	87"	120"	142"	3 Pc.	2 1/4
72"	0.135	0.109	18"	39"	12"	87"	126"	146"	3 Pc.	2 1/4
78"	—	0.109	18"	42"	12"	87"	132"	152"	3 Pc.	1 1/4
84"	—	0.109	18"	45"	12"	87"	138"	158"	3 Pc.	1 1/6

PIPE-ARCH										
Pipe-Arch Dimension Inches Span	Rise	Thickness for Aluminum	Thk. for Galv. Metal	Dimension Inches A 1" Tol.	B Max.	H 1" Tol.	L 1 1/2" Tol.	W 2" Tol.	T 2" Tol.	Skirt	Approx. Slope
17"	13"	0.060	0.064	7"	9"	6"	19"	30"	40"	1 Pc.	2 1/2
21"	15"	0.060	0.064	7"	10"	6"	23"	36"	46"	1 Pc.	2 1/2
24"	18"	0.060	0.064	8"	12"	6"	28"	42"	52"	1 Pc.	2 1/2
28"	20"	0.075	0.064	9"	14"	6"	32"	48"	58"	1 Pc.	2 1/2
35"	24"	0.075	0.079	10"	16"	6"	39"	60"	70"	1 Pc.	2 1/2
42"	29"	0.105	0.079	12"	18"	8"	46"	75"	85"	1 Pc.	2 1/2
49"	33"	0.105	0.109	13"	21"	9"	53"	85"	103"	2 Pc.	2 1/2
57"	38"	0.105	0.109	18"	26"	12"	63"	90"	114"	2 Pc.	2 1/2
64"	43"	0.105	0.109	18"	30"	12"	70"	102"	130"	2 Pc.	2 1/4
71"	47"	0.135	0.109	18"	33"	12"	77"	114"	144"	3 Pc.	2 1/4
77"	52"	0.135	0.109	18"	36"	12"	84"	120"	158"	3 Pc.	2 1/4
83"	57"	0.135	0.109	18"	39"	12"	90"	126"	170"	3 Pc.	2 1/4

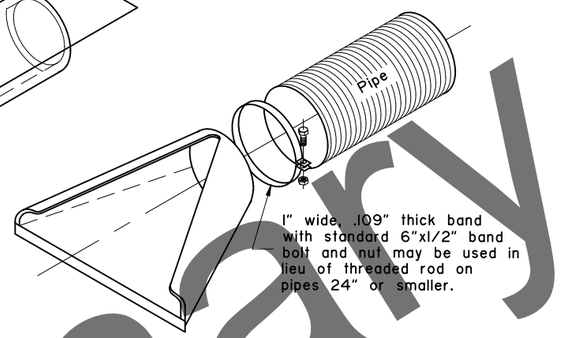


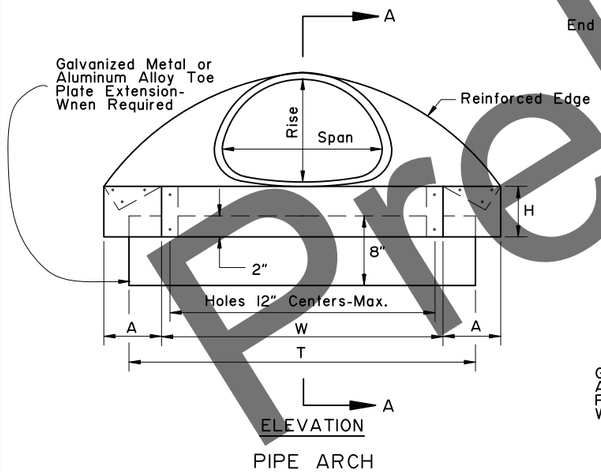
ELEVATION

ROUND PIPE



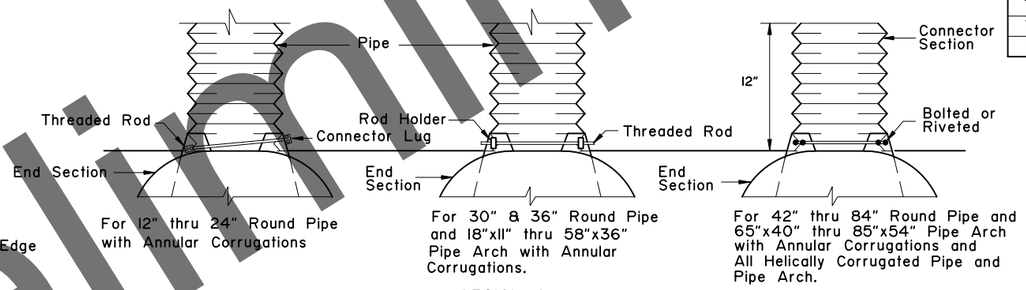
PRECAST CONCRETE END SECTION





ELEVATION

PIPE ARCH

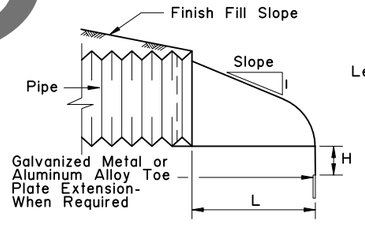


For 12" thru 24" Round Pipe with Annular Corrugations

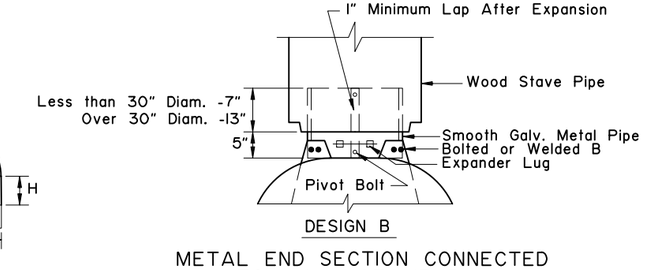
For 30" & 36" Round Pipe and 18"x11" thru 58"x36" Pipe Arch with Annular Corrugations.

For 42" thru 84" Round Pipe and 65"x40" thru 85"x54" Pipe Arch with Annular Corrugations and All Helically Corrugated Pipe and Pipe Arch.

DESIGN A



SECTION A-A



DESIGN B

METAL END SECTION CONNECTED TO WOOD STAVE PIPE

GENERAL NOTES:

1. Toe plate extensions will be required only when provided for on the plans. When required, the toe plate extensions shall be punched with holes to match those in lip of skirt and fastened with 3/8 inch or larger galvanized nuts and bolts and shall be the same gage as the end section.
2. Galvanized Metal or Aluminum Alloy End Sections may be used on Wood Stave and Plastic Pipe.
3. All 3 piece bodies shall have 12 gage sides and 10 gage center panels. Multiple panel bodies shall have lap seams which are to be tightly joined by 3/8" galvanized rivets or bolts.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CULVERT END SECTIONS

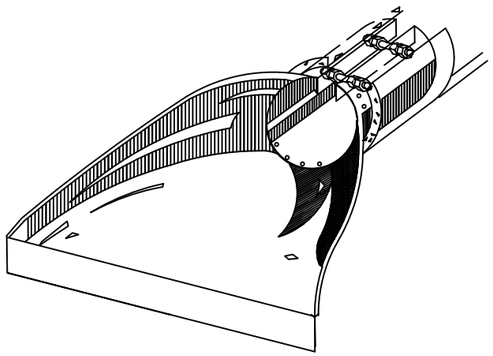
Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E. Chief Engineer

Adoption Date: 02/08/2019

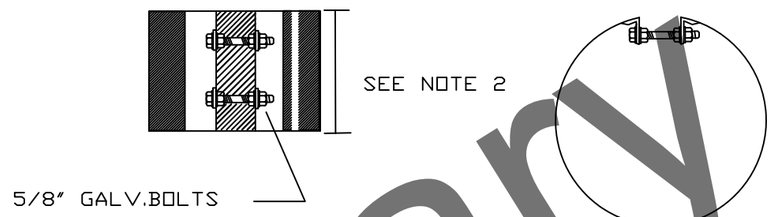
Last Code and Stds. Review By: Date:

Next Code and Standards Review date: 02/08/2029

D-06.10



FOR CONNECTING CONCRETE PIPE OR CORRUGATED POLYETHYLENE PIPE TO METAL END SECTION.



GENERAL NOTES

1. See general notes on sheet 1 of 3.
2. See sheet 1 of 3 for metal end section dimensions.
3. Insert bolts, washers and rivets shall be galvanized. Insert thickness is the same as the end section.
4. Use culvert inserts only at inlet.

METAL INSERTS FOR USE WITH CORRUGATED PLASTIC PIPE AND METAL END SECTIONS

State of Alaska DOT&PF
ALASKA STANDARD PLAN

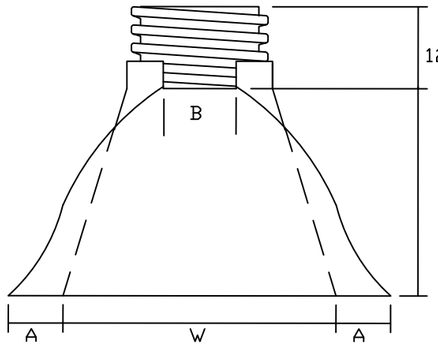
CULVERT END SECTIONS

Adopted as an Alaska Standard Plan by: Kenneth J. Fisher
Kenneth J. Fisher, P.E.
Chief Engineer

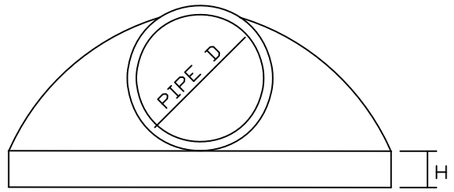
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

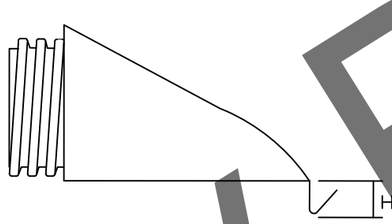
Next Code and Standards Review date: 02/08/2029



TOP VIEW



END VIEW



SIDE VIEW

PIPE DIAMETER	DIMENSIONS IN MILLIMETERS				
	A(1"±)	B MAX	H(1"±)	L(1/2"±)	W(2"±)
12" and 15"	6 1/2"	10"	6 1/2"	25"	29"
18"	7 1/2"	15"	6 1/2"	32"	35"
24"	7 1/2"	18"	6 1/2"	36"	45"
30"	10 1/2"	N/A	7"	53"	68"
36"	10 1/2"	N/A	7"	53"	68"

PLASTIC END SECTION FOR CORRUGATED PLASTIC PIPE

GENERAL NOTES

1. Plastic flared end sections may be used with HDPE corrugated culvert pipes where noted in project plans or approved by project engineer.
2. Consult manufacturer's recommendations for proper sizing and coupling devices. Recommended fasteners may include connecting bands or cinch ties. Fittings across dimension B may include threaded rods with wing nuts or bolts and washers. plastic welds may be recommended.
3. Align coupling to accomodate pipe corrugations.
4. Metal components e.g. bolts or washers must be galvanized.
5. Attachment of end section should preserve culvert alignment and not impair pipe function. Use end sections only on culvert inlet.
6. Toe plate extensions will be required only when designated on the plans.
7. End sections will not be used on HDPE culvert pipes larger than 36" unless indicated by project plans or approved by the Engineer.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CULVERT END SECTIONS

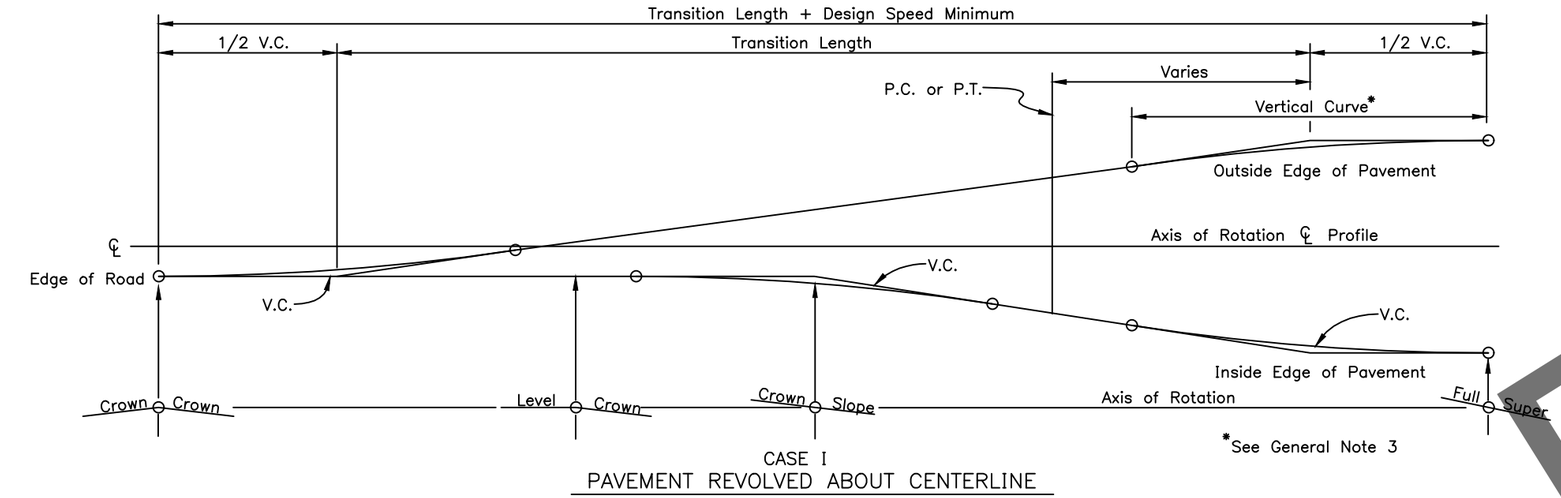
Adopted as an Alaska Standard Plan by: Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

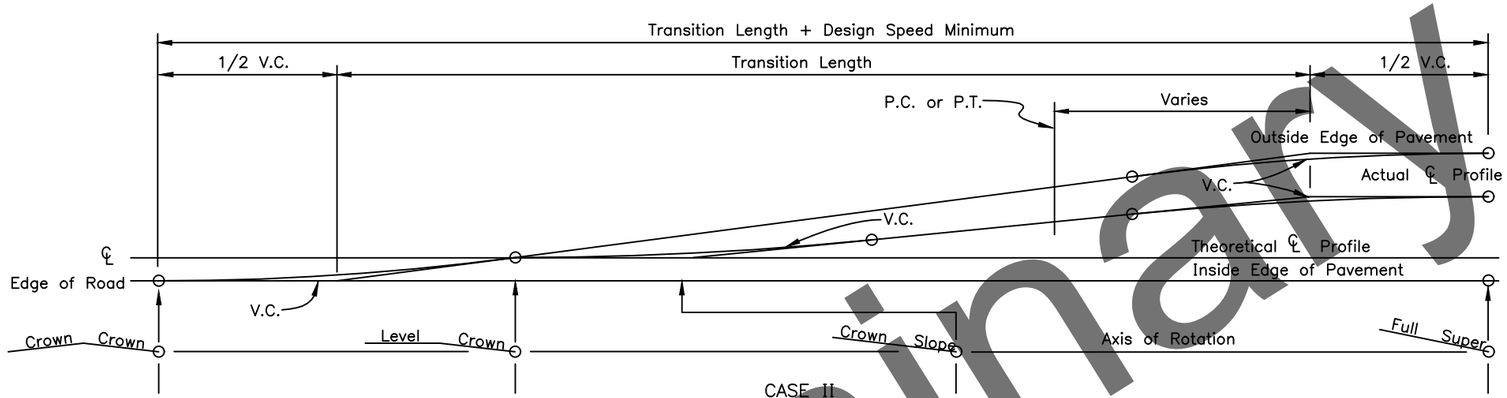
Next Code and Standards Review date: 02/08/2029

D-06.10

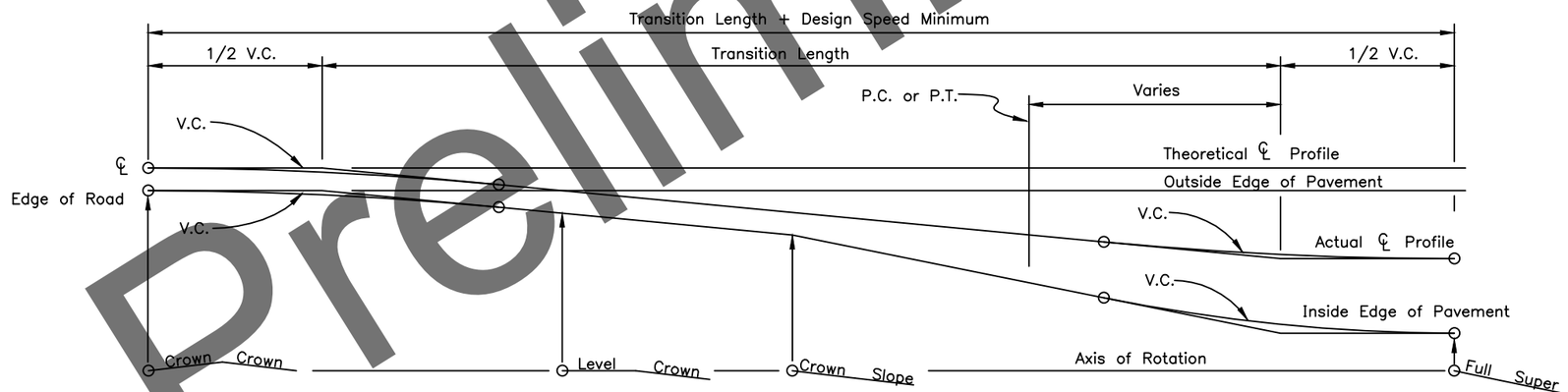


*See General Note 3

CASE I
PAVEMENT REVOLVED ABOUT CENTERLINE



CASE II
PAVEMENT REVOLVED ABOUT INSIDE EDGE
TO BE USED WHERE DRAINAGE IS THE GOVERNING CONSIDERATION



CASE III
PAVEMENT REVOLVED ABOUT OUTSIDE EDGE TO BE
USED WHERE OVERALL APPEARANCE IS THE MAIN CONTROL

GENERAL NOTES:

1. Location of transition length relative to horizontal curves will be shown on the plans or as directed by the Engineer.
2. Widening for guardrail or curvature will not change the location of the axis of rotation.
3. Minimum vertical curve length in feet shall be the numerical value of the design speed in M.P.H.
4. Superelevation shall be built into the subgrade and carried through the shoulders.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

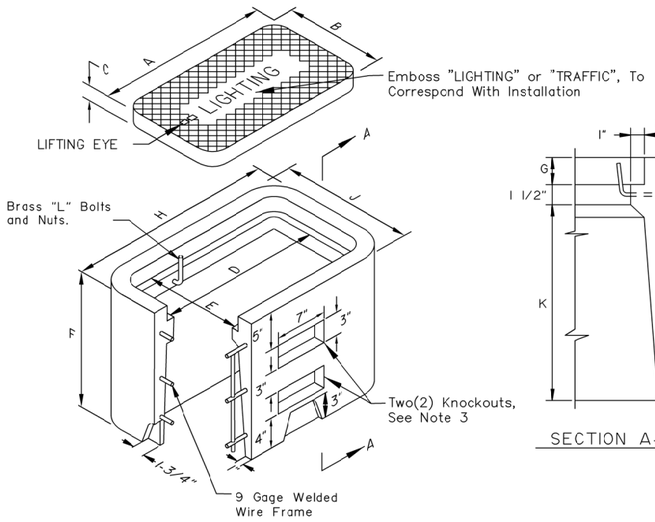
SUPERELEVATION TRANSITION

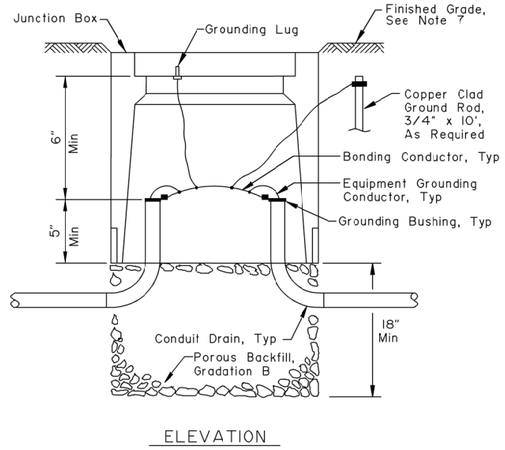
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

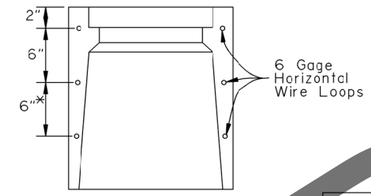
Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030



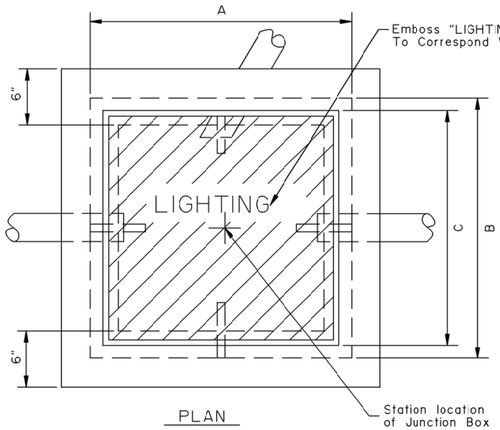


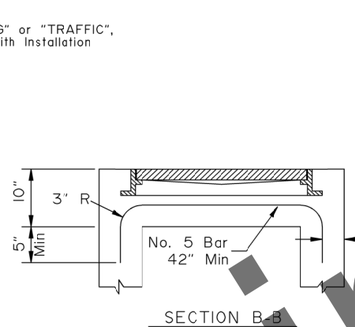


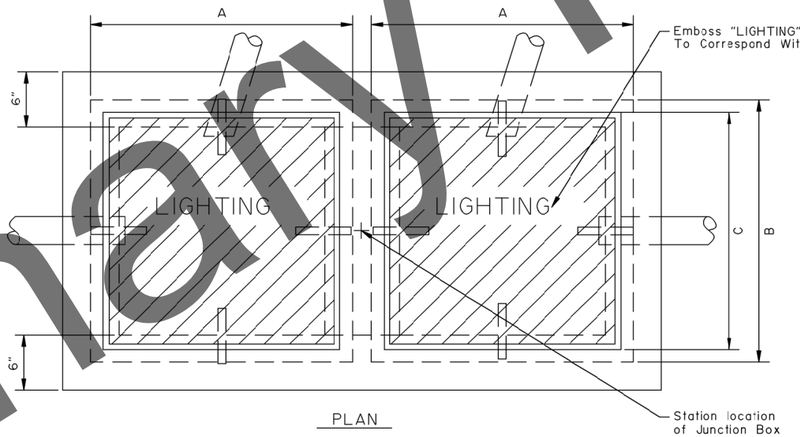
	DIMENSIONS (IN)	
	TYPE I	TYPE IA
A	15	22 3/4
B	10	13 1/4
C	1 3/4	2
D	13 1/2	21 1/4
E	8 1/2	11 3/4
F	12	18
G	1 3/4	2
H	19 1/2	27 1/4
J	14 1/2	17 3/4
K	8 3/4	14 1/2

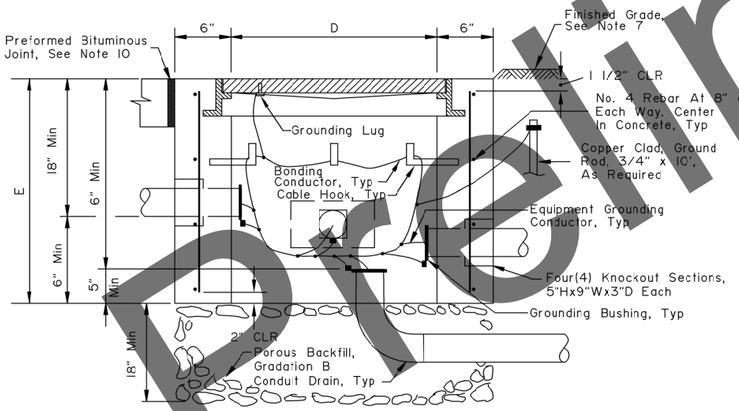
	DIMENSIONS (IN)		
	TYPE II	TYPE III	TYPE IV
A (Max)	30	30	30
B (Max)	30	30	36
C (Min)	22	22	30
D (Min)	22	22	24
E (Min)	24	24	30

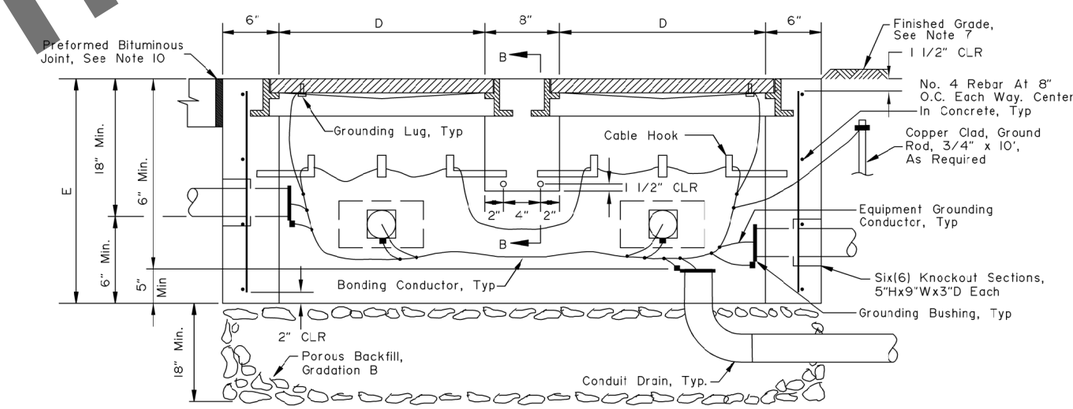
TYPE I & IA JUNCTION BOX











GENERAL NOTES:

1. See the Standard Specificcations for Highway Construction (SSHC) for additional requirements.
2. See Section 660-2.01 of the SSHC for concrete and reinforcing steel requirements.
3. Provide knockouts indicated in Type IA junction box when installed for loop detection. Conduit for loop detectors to enter junction box through knockouts.
4. Covers for junction boxes shall be cast iron. Type I and IA shall be secured to junction box with a minimum of two bolts and be rated ANSI/SCTE 77, Tier 8, minimum. Type II, Type III and Type IV cover shall weigh over 100 pounds and be ANSI/SCTE77, AASHTO H-20 traffic rated.
5. The minimum required bearing capacity for Type I shall be 6,800psf, for Type IA shall be 5,100psf, for Type II shall be 3,500psf, for Type III shall be 2,300psf, and for Type IV shall be 2,000psf.
6. See section 703-2.10 of the SSHC for Porous Backfill material requirements.
7. See section 660-3.04 of the SSHC for top of junction box placement to finished grade requirements.
8. Provide conduits as required, size and quantity indicated in plans.
9. Provide grout around conduits in knockouts and for unused knockouts.
10. Provide a 1/2" thick preformed bituminous joint material around junction boxes installed in concrete walkways.
11. Metal conduits and junction box covers shall be bonded together to be electrically continuous using No. 8 AWG minimum copper bonding conductor. Cover shall be bonded using a tinned copper braided bonding jumper.

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

JUNCTION BOXES FOR ELECTROLIER & TRAFFIC SIGNALS

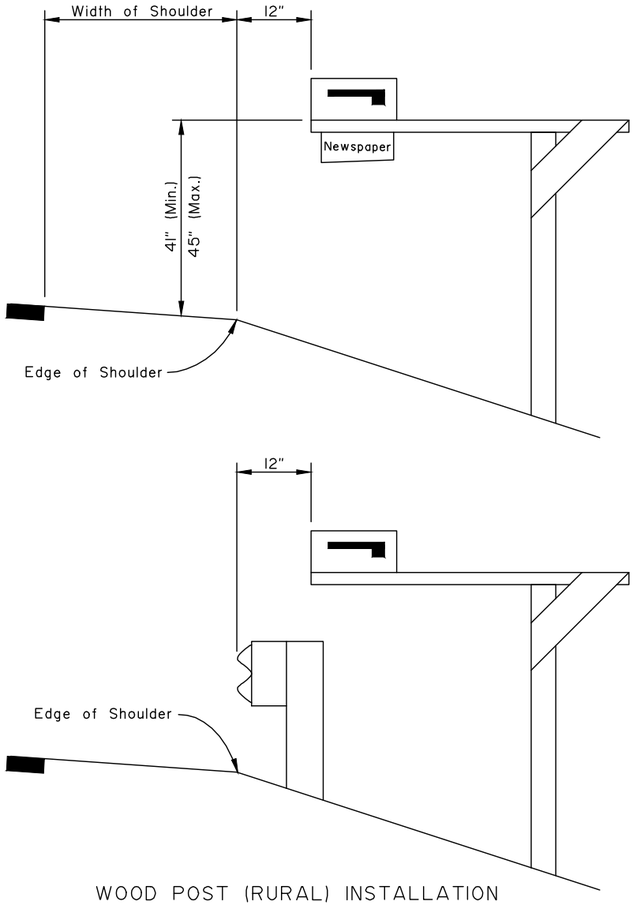
Adopted as an Alaska Standard Plan by: Carolyn H Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

Last Code and Stds. Review
By: CNH Date: 7/15/2020

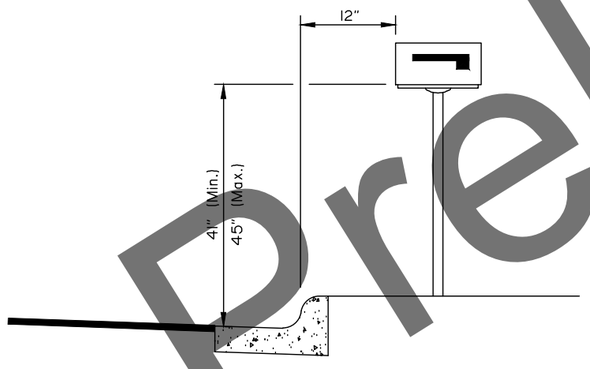
Next Code and Standards Review date: 7/15/2030

L-23.03



WOOD POST (RURAL) INSTALLATION

Single or Double Box



METAL POST (URBAN) INSTALLATION

Single or Double Box

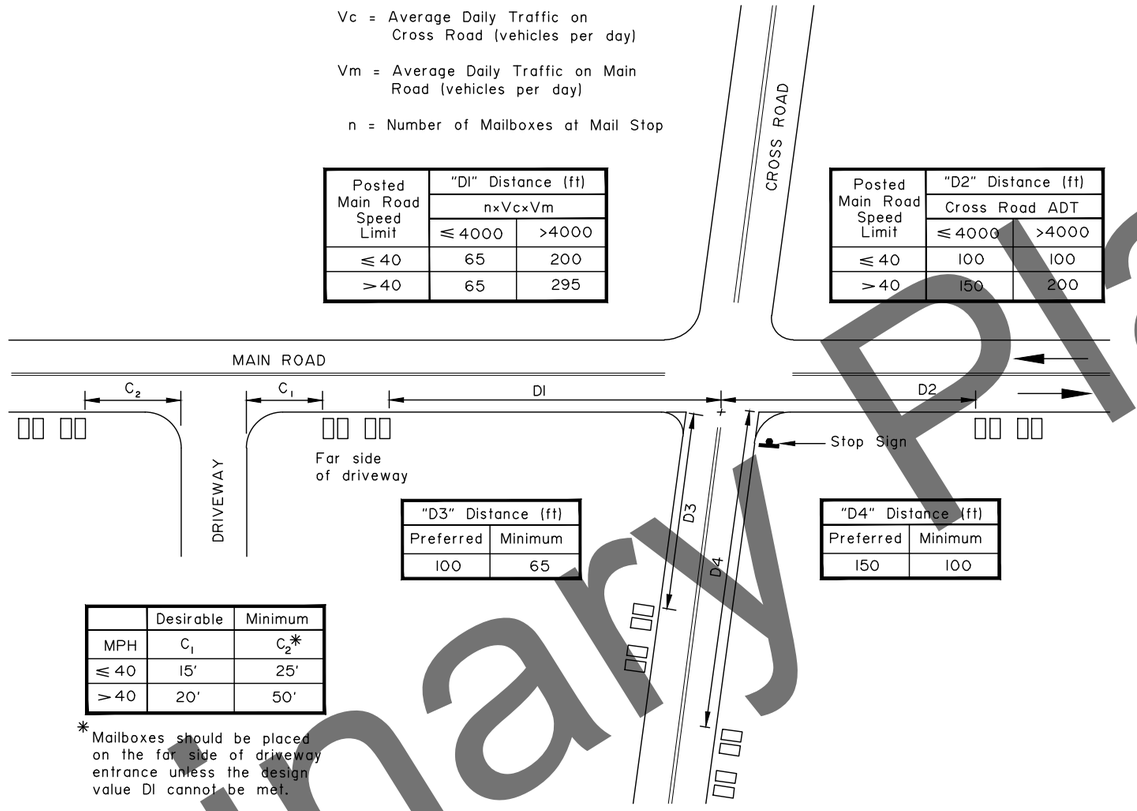
Vc = Average Daily Traffic on Cross Road (vehicles per day)

Vm = Average Daily Traffic on Main Road (vehicles per day)

n = Number of Mailboxes at Mail Stop

Posted Main Road Speed Limit	"D1" Distance (ft) n×Vc×Vm	
	≤ 4000	>4000
≤ 40	65	200
> 40	65	295

Posted Main Road Speed Limit	"D2" Distance (ft) Cross Road ADT	
	≤ 4000	>4000
≤ 40	100	100
> 40	150	200



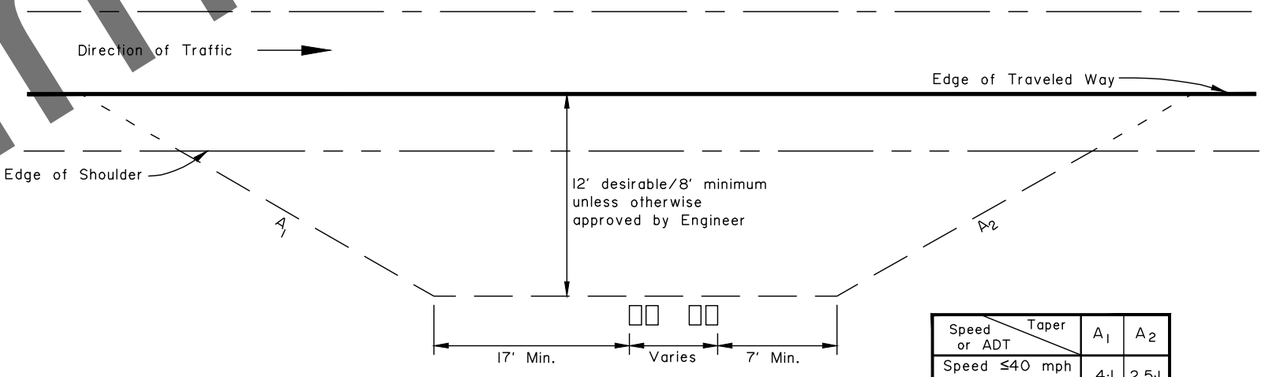
"D3" Distance (ft)	
Preferred	Minimum
100	65

"D4" Distance (ft)	
Preferred	Minimum
150	100

	Desirable	Minimum
MPH	C_1	C_2*
≤ 40	15'	25'
> 40	20'	50'

*Mailboxes should be placed on the far side of driveway entrance unless the design value D1 cannot be met.

MAILBOX LOCATION AT INTERSECTIONS AND DRIVEWAYS



TURNOUTS FOR GROUPED BOXES

Speed or ADT \ Taper	A_1	A_2
Speed ≤40 mph and ADT ≤400	4:1	2.5:1
Speed >40 mph or ADT >400	20:1	12:1

TURNOUT TAPERS

GENERAL NOTES:

1. Install mailboxes conforming to U.S. Postal Service requirements.
2. Mailbox supports shall not present a rigid, unyielding impact resistant hazard to road traffic, but shall be flexible and yielding to vehicular impact. Install crashworthy supports in accordance with Standard Plan M-23.
3. Installation shall be on the right side of roadway in the direction of mail carrier travel with the exception of one-way streets where they may be placed on either side.
4. Locate mailboxes to minimize dangers to road traffic, carriers and postal recipients.
5. Provide a minimum shoulder width of 8' unless otherwise approved by Engineer. Install single and double mailbox supports separated by at least 3', and desirably 4', from each other. More than two boxes on a single support is allowable only as shown on Standard Plan M-23.
6. Newspaper receptacles shall conform to the same setback and support regulations as mailboxes. Where newspaper receptacles and mailboxes are to be mounted together, the newspaper receptacle may be mounted beneath the mailbox or on the side of the mailbox support opposite the reflecting marker.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MAILBOX LOCATION

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

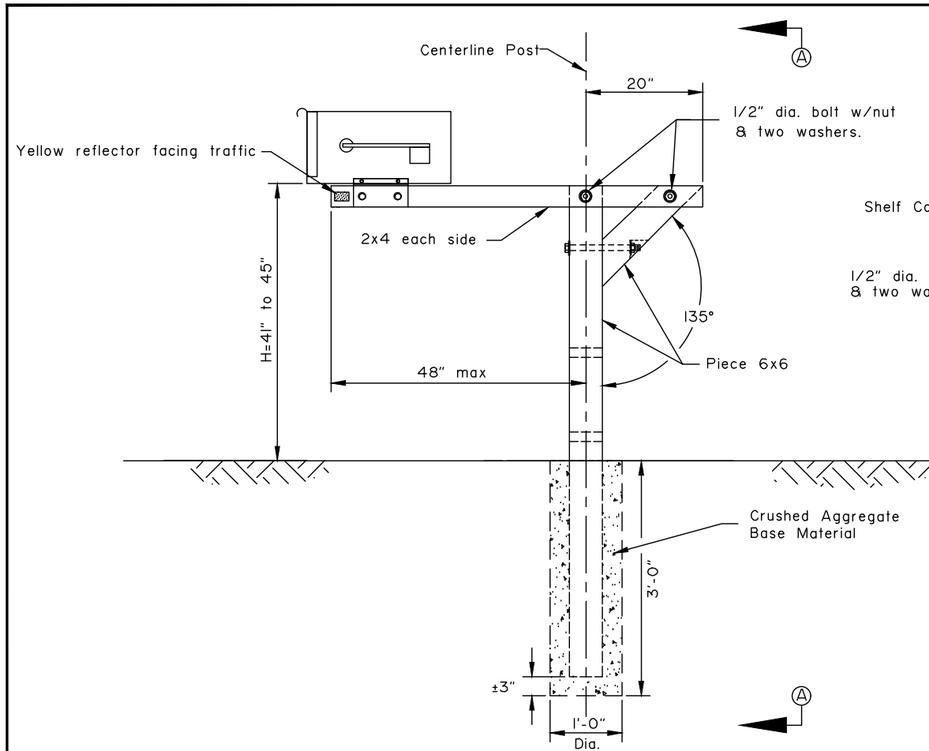
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

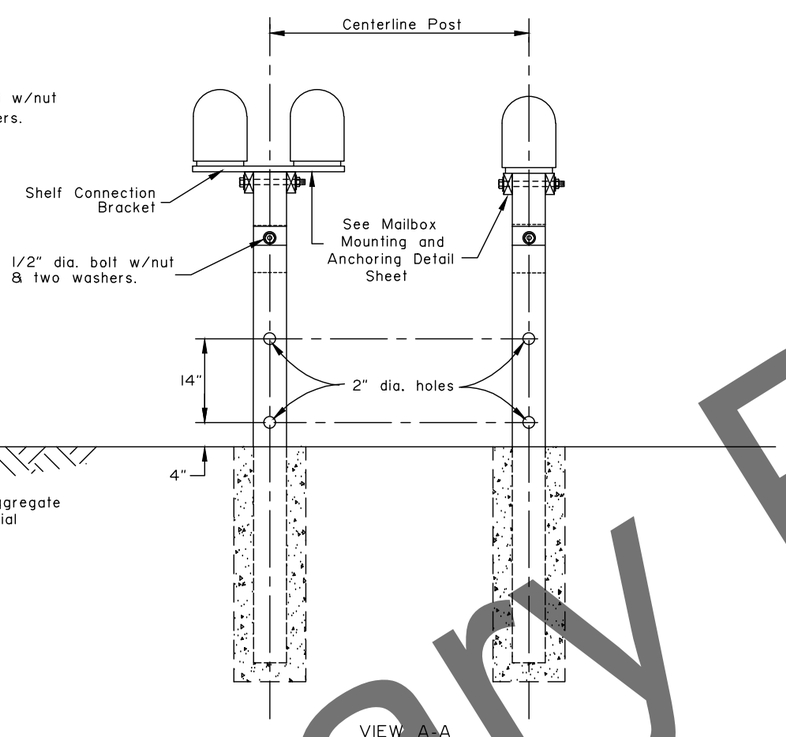
Last Code and Stds. Review
By: KLH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

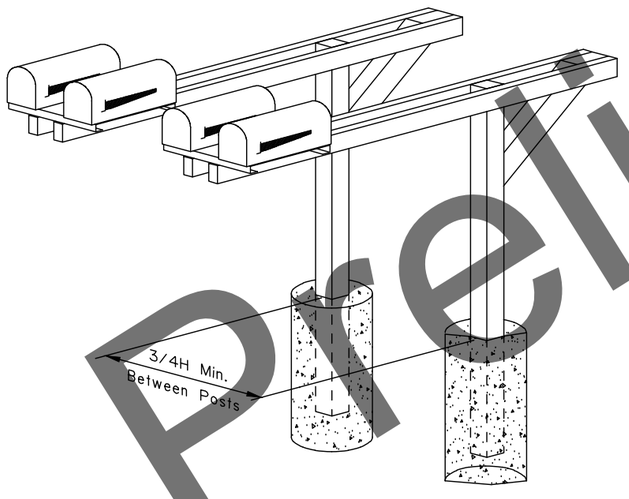
M-20.15



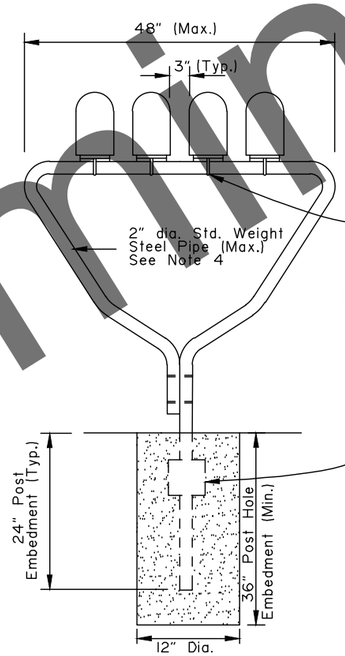
TYPICAL WOOD CANTILEVER INSTALLATION



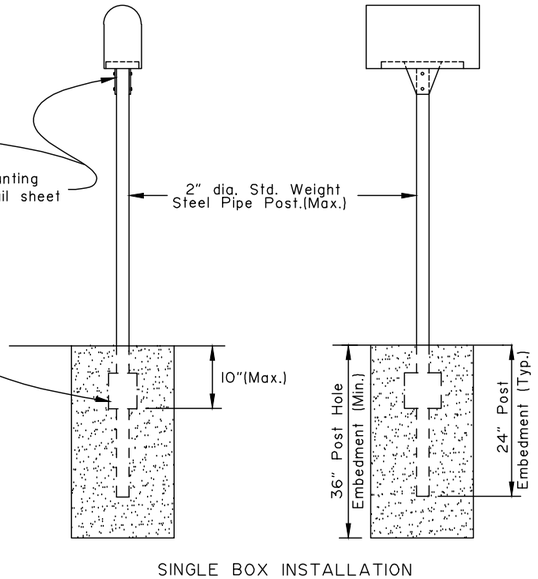
VIEW A-A



TYPICAL GANG BOX INSTALLATION



MULTIPLE BOX INSTALLATION
(U.S.P.S. Approved)



SINGLE BOX INSTALLATION

METAL POST SUPPORTS (URBAN ONLY)

GENERAL NOTES:

1. See Standard Plan M-20 for locating posts and boxes along roadway.
2. Posts shall be 6"x6" Treated Wood Post S4S or 2" (Max.) Standard Weight Steel Pipe.
3. Each support structure shall not accomodate more than two mailboxes unless the support structure conforms to the requirements of the U.S. Postal Service and is approved by the Engineer.
4. Other steel or aluminum structural sections may be used except, the stiffness properties equivalent to the 2" dia. standard weight steel pipe shall not be exceeded.
5. Reflectors shall have a minimum area of 4.5 sq. in.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MAILBOX INSTALLATION

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

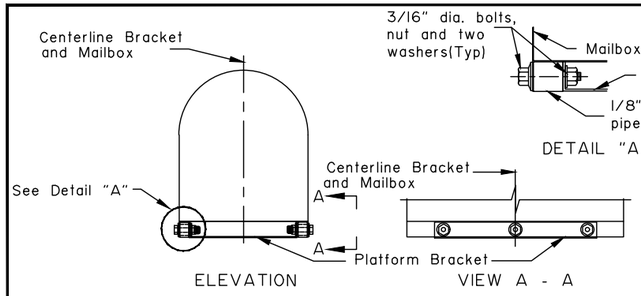
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

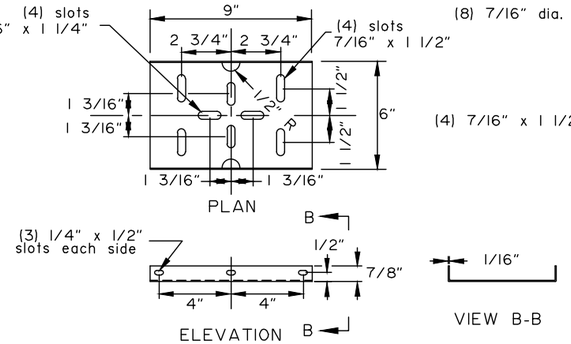
Last Code and Stds. Review
By: KLH Date: 7/8/2020

Next Code and Standards Review date: 7/8/2030

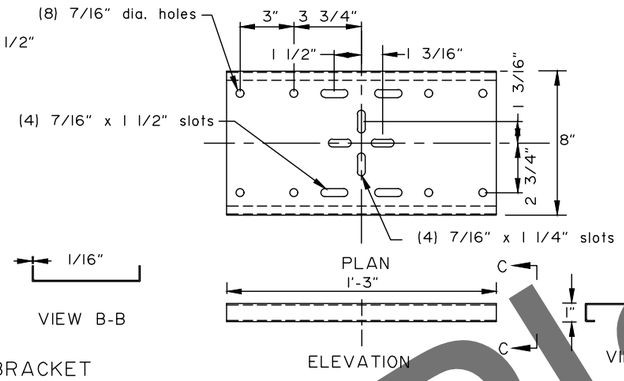
M-23.13



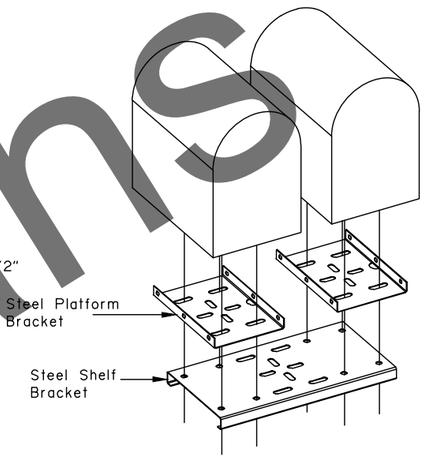
MAILBOX SUPPORT PLATFORM ASSEMBLY



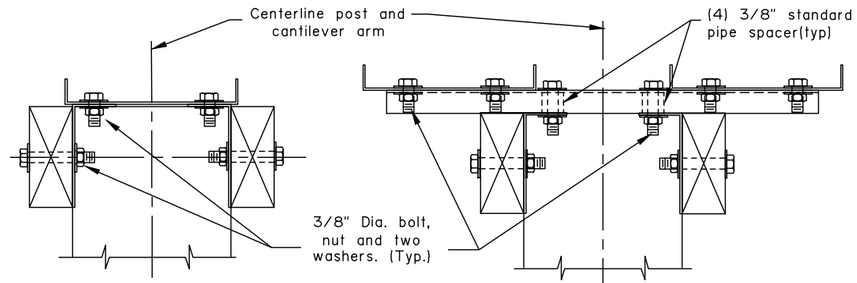
STEEL PLATFORM BRACKET



STEEL SHELF BRACKET

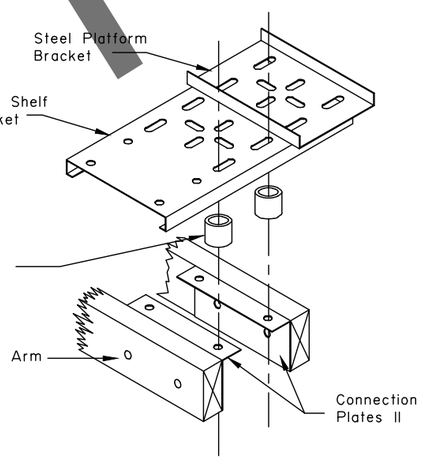


MAILBOX CONNECTION DETAIL

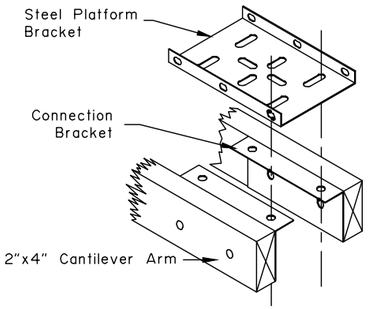


WOOD CANTILEVER ARM PLATFORM CONNECTION

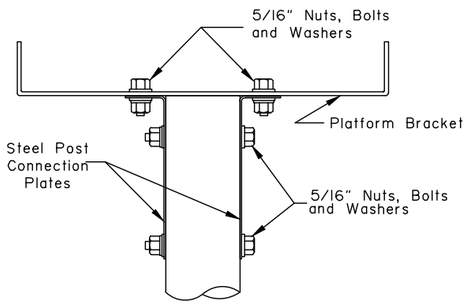
WOOD CANTILEVER ARM SHELF CONNECTION



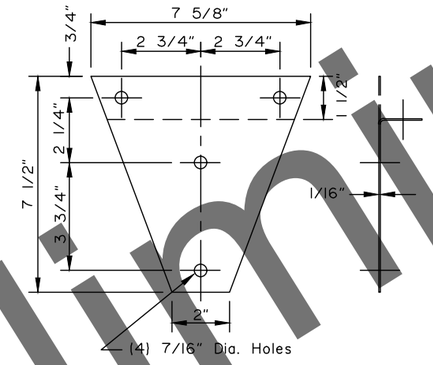
SHELF BRACKET CONNECTION DETAIL



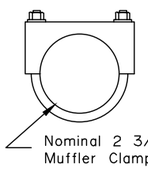
PLATFORM BRACKET CONNECTION DETAIL



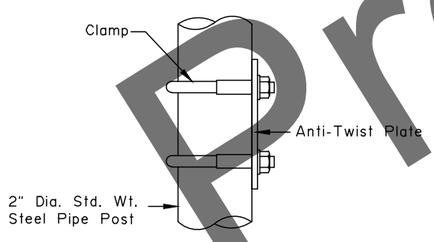
BRACKET ASSEMBLY DETAIL



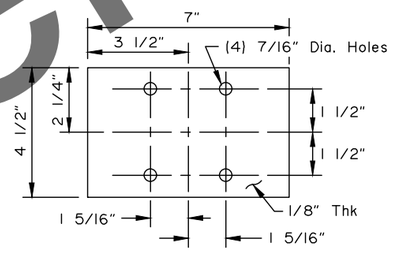
STEEL POST CONNECTION PLATES for STEEL PIPE POST



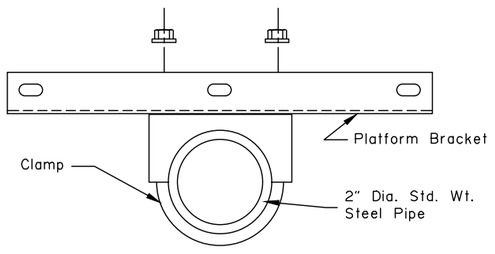
CLAMP



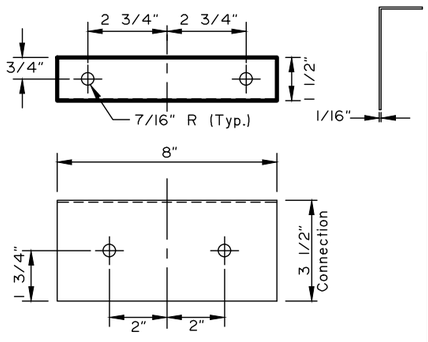
ANTI-TWIST PLATE ASSEMBLY DETAIL



ANTI-TWIST PLATE for STEEL PIPE POST



MULTIPLE BOX CLAMP ASSEMBLY DETAIL



CONNECTION PLATES for WOOD CANTILEVER ARM

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MAILBOX MOUNTING AND ANCHORING DETAILS

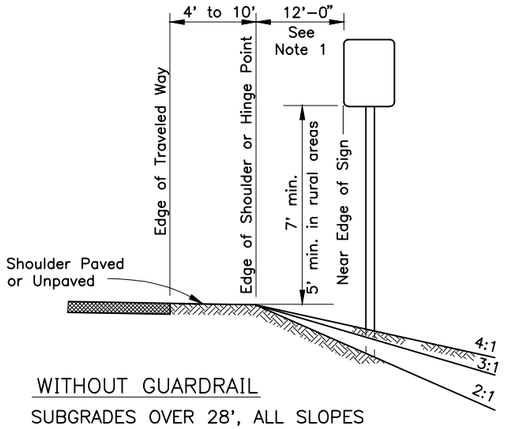
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review By: KLH Date: 7/8/2020

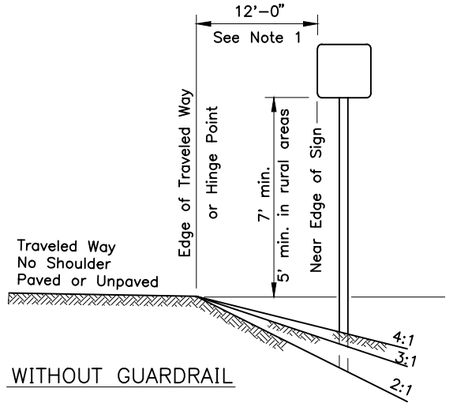
Next Code and Standards Review date: 7/8/2030

M-23.13



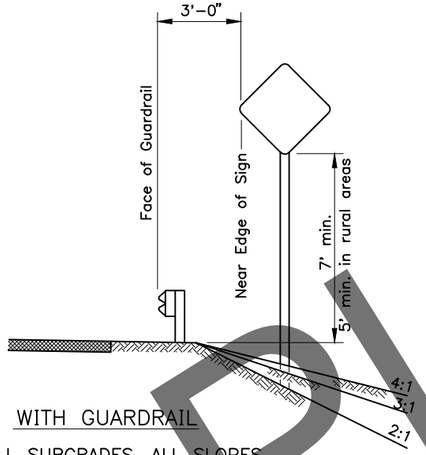
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

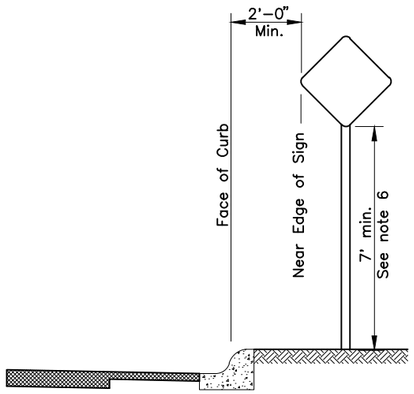


WITH GUARDRAIL

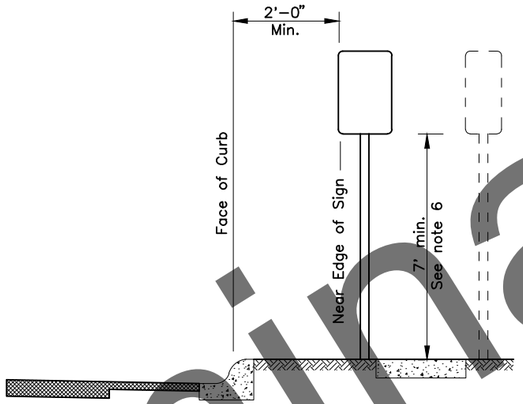
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.
2. Add 6" to mounting height on unpaved roads.
3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
4. When signs are placed 30' or more from the edge of traveled way, mount them with the bottom of the sign at least 5' above the road surface at the near edge of the road.
5. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.
6. Minimum mounting height is 7'-0" where parking or pedestrian movements are likely to occur, or where sings extend over sidewalks.
7. For construction signs in rural areas, mounting height shall be 7' minimum.

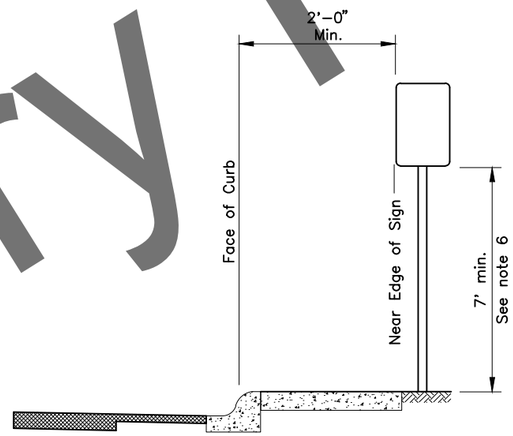


CURB WITHOUT SIDEWALK

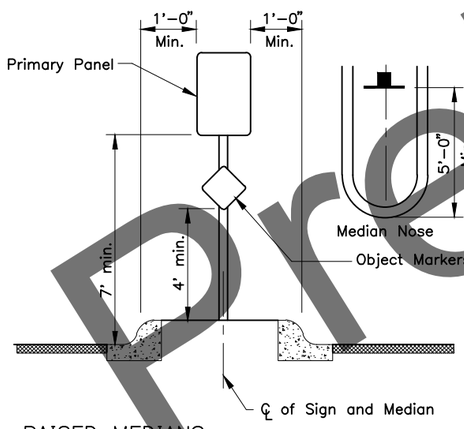


CURB WITH PARKWAY AND SIDEWALK

(If R/W width permits, signs should be placed behind sidewalk.)

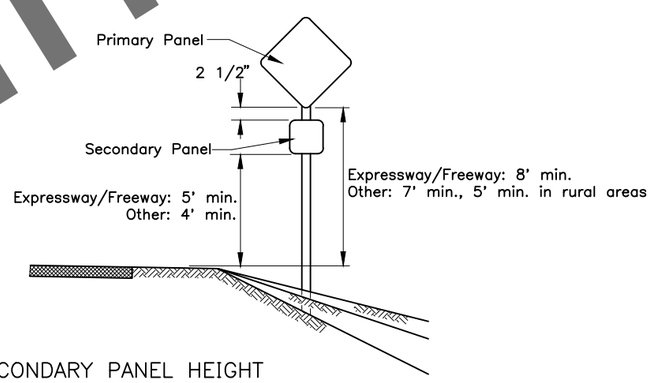


CURB WITH SIDEWALK WITHOUT PARKWAY



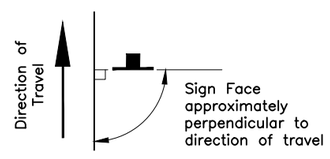
RAISED MEDIANS

Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT

ALL TWO PANEL MOUNTING



SIGN POSITIONING

State of Alaska DOT&PF
ALASKA STANDARD PLAN

POST MOUNTED SIGN
OFFSET AND HEIGHT

Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020

Next Code and Standards Review Date: 7/8/2030

S-05.02