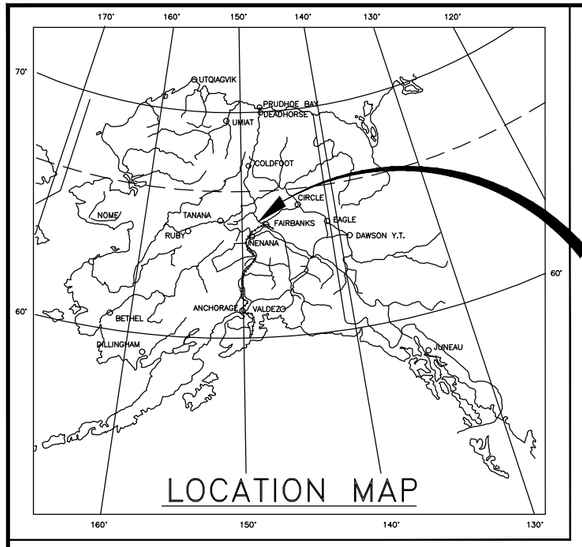
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	A1	63
CDS ROUTE: ROUTE	MILEPOINT: 165.2 TO 1654.2			



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

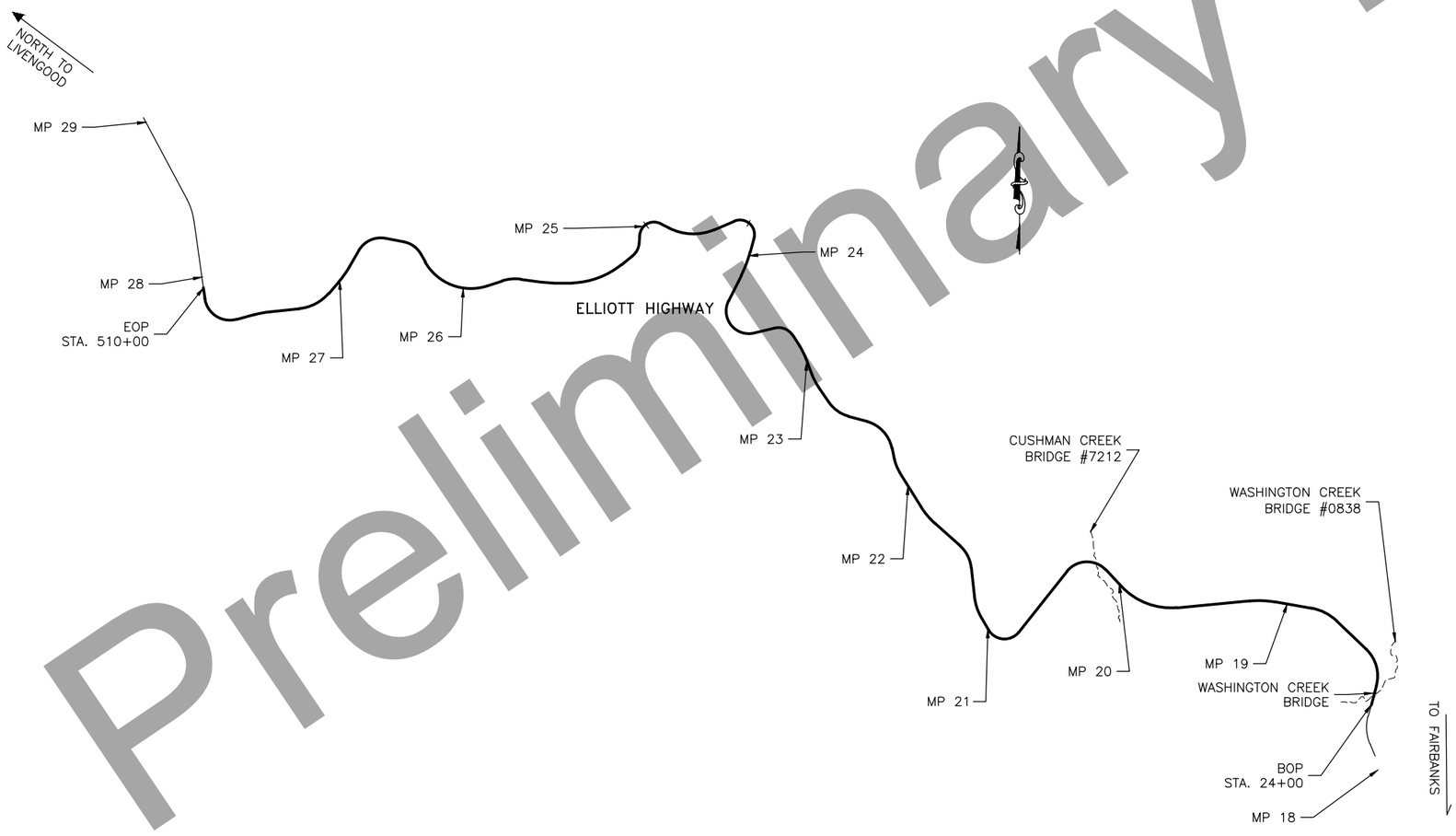
PROPOSED HIGHWAY PROJECT

0650035/NFHWY00588

ELLIOTT HIGHWAY MP 18–29 RESURFACING

GRADING, DRAINAGE, PAVING, BRIDGE(S), ROADSIDE HARDWARE

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2–A3	LEGEND & SURVEY CONTROL
B1–B2	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES & GENERAL NOTES
D1	SUMMARIES
E1–E5	CULVERT/DRAINAGE DETAILS & SUMMARY
F1–F17	PLAN & PROFILE
G1	APPROACH SUMMARY & DETAILS
H1–H4	SIGNING & STRIPING
N1–N4	BRIDGE PLANS
Q1–Q10	EROSION SEDIMENT CONTROL PLANS
T1–T2	TRAFFIC CONTROL PLANS (and/or DEVICES)
V1–V17	STANDARD PLANS



THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
D–01.02, D–04.22, D–09.00
G–04.00, G–20.12
I–81.00
S–00.12, S–01.02, S–05.02, S–20.11, S–30.05, S–31.02, S–32.02
T–21.04

DESIGN DESIGNATIONS	
ADT (2020)	500
ADT (2040)	610
DHV (14.1%)	80
PERCENT TRUCKS (T)	22.4%
DIRECTIONAL SPLIT (D)	40/60
DESIGN SPEED (V)	60 MPH
DESIGN ESALS (15 YEARS)	508,581

PROJECT SUMMARY	
WIDTH OF PAVEMENT	30 ft –32 ft
LENGTH OF PAVING	52,550 ft
LENGTH OF PROJECT	52,550 ft

JOHN JARO NETARDUS, P.E., ENGINEERING MANAGER
NICHOLAS BREHM, DESIGNER
ETHAN MAHONEY, DESIGNER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:

_____ DATE _____

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

ACCEPTED FOR CONSTRUCTION:

_____ DATE _____

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

PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_A1-Title Fri, Jun/16/23 11:38am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	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:

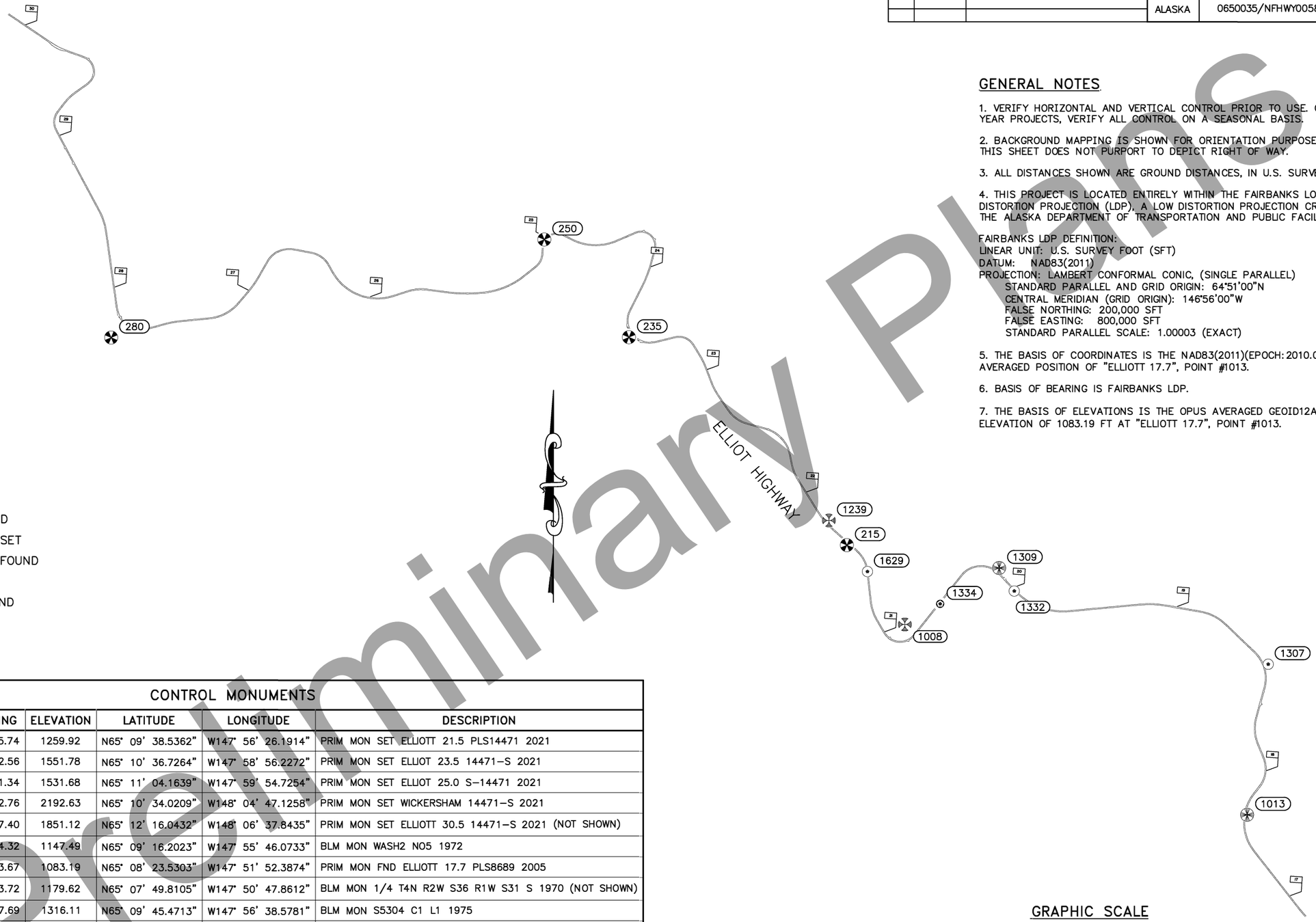
APPROX	APPROXIMATLY
℄	CENTERLINE
CY	CUBIC YARD
E	EAST, EASTING
ELE, ELEV	ELEVATION
FT. '	FOOT, FEET
H	HORIZONTAL
IE	INVERT ELEVATION
IN, "	INCH, INCHES
L	LENGTH OF CURVE
L.C.L	LEFT OF CENTERLINE
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH, NORTHING
NO.	NUMBER
NTS	NOT TO SCALE
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
ROW	RIGHT OF WAY
R/W	DOT ROW BOUNDARY
NTS	NOT TO SCALE
PI	POINT OF INTERSECTION
BOP	BEGINNING OF PROJECT
EOP	END OF PROJECT
GR	GAURDRAIL

STATE OF ALASKA 49TH — John Jaro Netardus 124494 — REGISTERED PROFESSIONAL ENGINEER

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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_A1-Legend Fri, Apr/21/23 09:24am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0650035/NFHWY00588	2024	A3	A3



LEGEND

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

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. ALL DISTANCES SHOWN ARE GROUND DISTANCES, IN U.S. SURVEY FEET.

4. THIS PROJECT IS LOCATED ENTIRELY WITHIN THE FAIRBANKS LOW DISTORTION PROJECTION (LDP), A LOW DISTORTION PROJECTION CREATED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.

FAIRBANKS LDP DEFINITION:
LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: LAMBERT CONFORMAL CONIC, (SINGLE PARALLEL)
STANDARD PARALLEL AND GRID ORIGIN: 64°51'00"N
CENTRAL MERIDIAN (GRID ORIGIN): 146°56'00"W
FALSE NORTHING: 200,000 SFT
FALSE EASTING: 800,000 SFT
STANDARD PARALLEL SCALE: 1.00003 (EXACT)

5. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF "ELLIOTT 17.7", POINT #1013.

6. BASIS OF BEARING IS FAIRBANKS LDP.

7. THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF 1083.19 FT AT "ELLIOTT 17.7", POINT #1013.

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
215	314889.29	645035.74	1259.92	N65° 09' 38.5362"	W147° 56' 26.1914"	PRIM MON SET ELLIOTT 21.5 PLS14471 2021
235	320905.61	638722.56	1551.78	N65° 10' 36.7264"	W147° 58' 56.2272"	PRIM MON SET ELLIOT 23.5 14471-S 2021
250	323735.01	636271.34	1531.68	N65° 11' 04.1639"	W147° 59' 54.7254"	PRIM MON SET ELLIOT 25.0 S-14471 2021
280	320890.62	623732.76	2192.63	N65° 10' 34.0209"	W148° 04' 47.1258"	PRIM MON SET WICKERSHAM 14471-S 2021
305	331342.67	619197.40	1851.12	N65° 12' 16.0432"	W148° 06' 37.8435"	PRIM MON SET ELLIOTT 30.5 14471-S 2021 (NOT SHOWN)
1008	312592.98	646714.32	1147.49	N65° 09' 16.2023"	W147° 55' 46.0733"	BLM MON WASH2 NO5 1972
1013	307089.25	656623.67	1083.19	N65° 08' 23.5303"	W147° 51' 52.3874"	PRIM MON FND ELLIOTT 17.7 PLS8689 2005
1212	303622.99	659333.72	1179.62	N65° 07' 49.8105"	W147° 50' 47.8612"	BLM MON 1/4 T4N R2W S36 R1W S31 S 1970 (NOT SHOWN)
1239	315602.34	644517.69	1316.11	N65° 09' 45.4713"	W147° 56' 38.5781"	BLM MON S5304 C1 L1 1975
1307	311447.92	657233.19	872.33	N65° 09' 06.5080"	W147° 51' 39.6312"	REBAR CAP FND TP8 PLS8689 2005
1309	314227.42	649443.87	964.90	N65° 09' 32.7040"	W147° 54' 42.8175"	PRIM MON FND ELLIOTT 20.1 PLS8689 2005
1332	313559.96	649882.16	996.98	N65° 09' 26.2029"	W147° 54' 32.3230"	REBAR CAP FND CUSHMAN1 PLS11297 2012
1334	313189.52	647736.42	1055.85	N65° 09' 22.2299"	W147° 55' 22.3837"	REBAR CAP SET CUSHMAN3 PLS11297 2012
1629	314124.42	645631.17	1218.44	N65° 09' 31.1031"	W147° 56' 11.9768"	REBAR CAP FND PC 1258+51.51 1992

GRAPHIC SCALE

0 1500 3000 4500 6000 7500

SCALE 1"=1500'

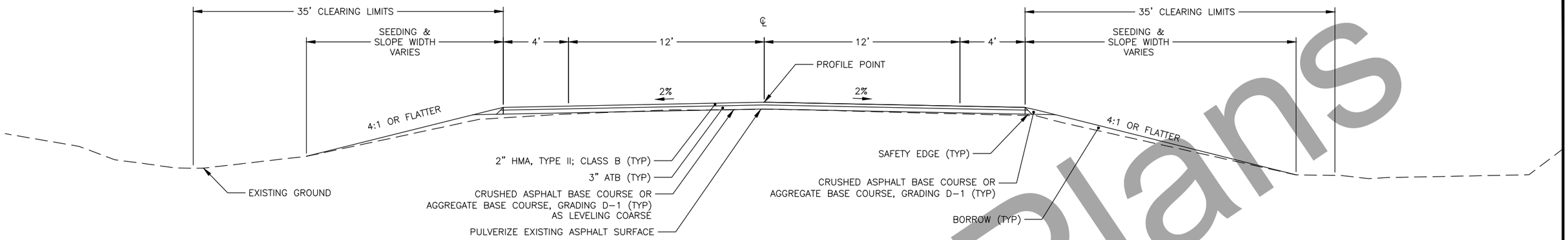
STATE OF ALASKA 49TH
TROY M. HICKS
Sep 14, 2022
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
K:\21_Projects\Elliott Hwy 18_29 NFHWY00588\5-CAD Drawings\2-Control\NFHWY00588_Control-A3 Wed, Sep/14/22 03:50pm

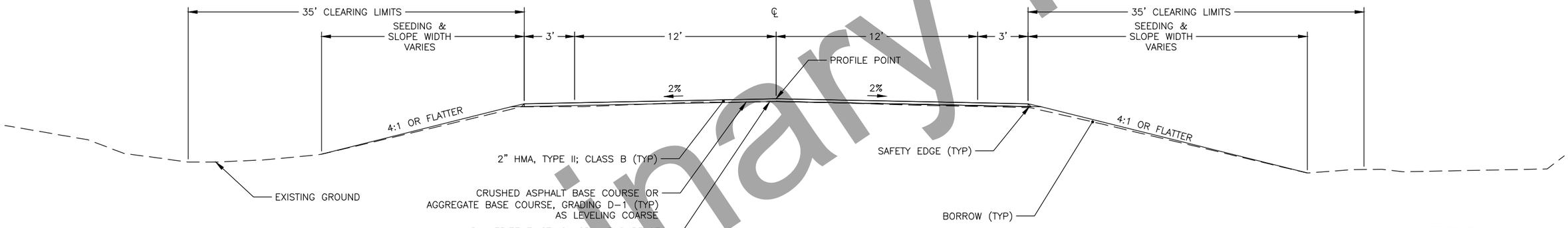
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	B1	B2



WASHINGTON CREEK TYPICAL SECTION 1

STATION 25+00 TO STATION 44+00



RESURFACING TYPICAL SECTION 2

STATION 44+00 TO STATION 94+00

NOTES:

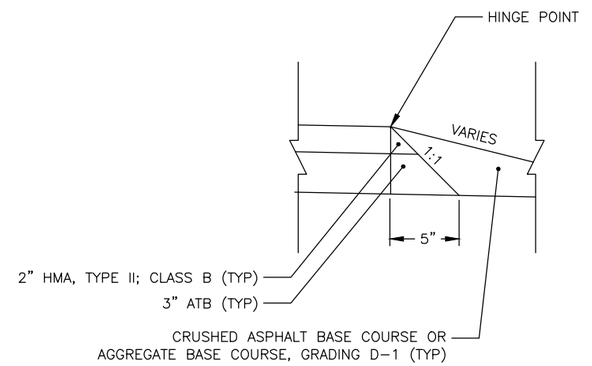
1. THE EXISTING ROADWAY PROFILE HAS LARGE SETTLEMENT AREAS. TYPICAL SECTIONS 1 & 2 SHOW WORST CASE FILL LOCATIONS. DESIGN PROFILE IS INTENDED TO MATCH AS-BUILT PROFILE CONDITIONS. LEVELING COARSE WILL NOT BE REQUIRED IN ALL LOCATIONS.
2. HORIZONTAL ALIGNMENT AND VERTICAL PROFILE GRADE OF CRUSHED ASPHALT BASE COURSE WILL BE ADJUSTED BY ENGINEER TO ELIMINATE MINOR CUT AND FILL CONDITIONS. SEE SECTION 308-3.03 SHAPING AND GRADING.
3. INSTALL SAFETY EDGE ON ALL PAVEMENT EDGES. ALL LABOR AND EQUIPMENT TO CONSTRUCT SAFETY EDGES WILL BE SUBSIDIARY TO 306 AND 401 PAY ITEMS.
4. CONTRACTOR WILL PULVERIZE EXISTING ASPHALT. EXISTING ASPHALT THICKNESS VARIES THROUGHOUT THE PROJECT LIMITS VARY DUE TO STATE MAINTENANCE ACTIVITIES. SEE EXISTING ASPHALT THICKNESS TABLE.
5. UNLESS OTHERWISE NOTED ON THE PLANS, MAINTAIN EXISTING DRAINAGE THROUGH CULVERTS AND DITCHES WITHIN THE PROJECT LIMITS.
6. USE EXCESS CABC MATERIAL FOR PROFILE SMOOTHING AND SHOULDERING. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D-1 UNTIL AFTER ALL USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED. PLACEMENT OF AGGREGATE BASE COURSE, GRADING D-1 SHALL BE APPROVED BY ENGINEER.
7. RECONDITION DITCHES FROM STATION 44+00 TO 94+00. SMOOTH AND RESHAPE DITCHES AS SHOWN IN THE PLANS. CONTRACTOR WILL ENSURE POSITIVE DRAINAGE. SEE SPECIFICATION SECTION 303.

EXISTING ASPHALT THICKNESS

TEST HOLE	NEAR MILE POST	THICKNESS (INCHES)	REMARKS
TH22-2600	29	6	NOTE 2
TH22-2001	27.7	6	
TH22-2002	25.5	5	
TH22-2003	23.0	6.5	
TH22-2004	22.0	2.5	NOTE 2
TH22-2005	20.5	10	NOTE 2
TH22-2007	19.2	2(6)	NOTE 3
TH22-2007	18	4	

ASPHALT NOTES:

1. SEE PRELIMINARY GEOPHYSICAL REPORT: SURFICIAL ASPHALT LAYER MAPPING W/GROUND PENETRATING RADAR (GPR) IN PROJECT'S SUPPLEMENTAL INFORMATION.
2. OBSERVED APPROXIMATELY 0.5 FEET OF ASPHALT TREATED BASE UNDERLYING THE ASPHALT SURFACING.
3. THE ORIGINAL 6 INCHES OF ASPHALT SURFACING WERE FIRST COVERED BY 2 INCHES OF GRAVEL, AND THEN 2 INCHES OF ASPHALT.
4. AREAS NORTHBOUND OF WASHINGTON CREEK HAVE EXPERIENCED DIFFERENTIAL SETTLEMENT AND PATCH REPAIR HAS RESULTED IN AREAS OF THICKER ASPHALT UP TO 1 FOOT, AND AREAS WHERE THIN ASPHALT LAYERS OVERLIES GRAVEL ON THE ORIGINAL ASPHALT SURFACE.



SAFETY EDGE DETAIL

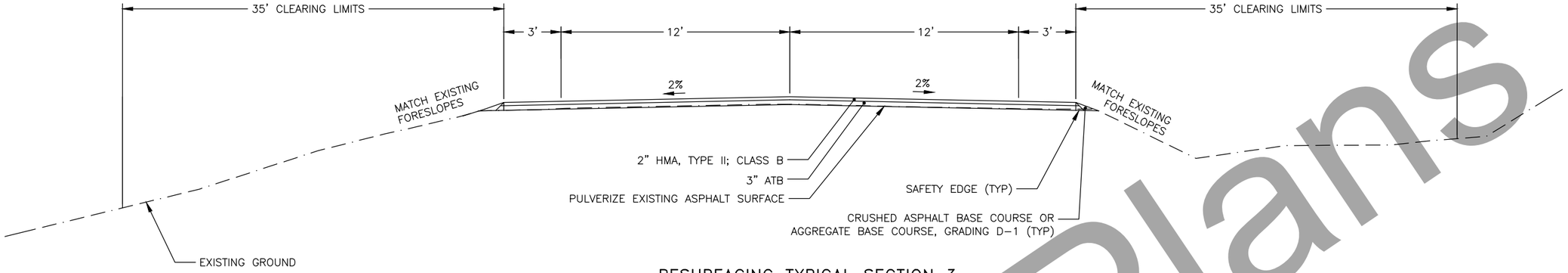
TYPICAL SECTIONS 1 OF 2

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_B1-B1 Tue, Jun/13/23 09:33am

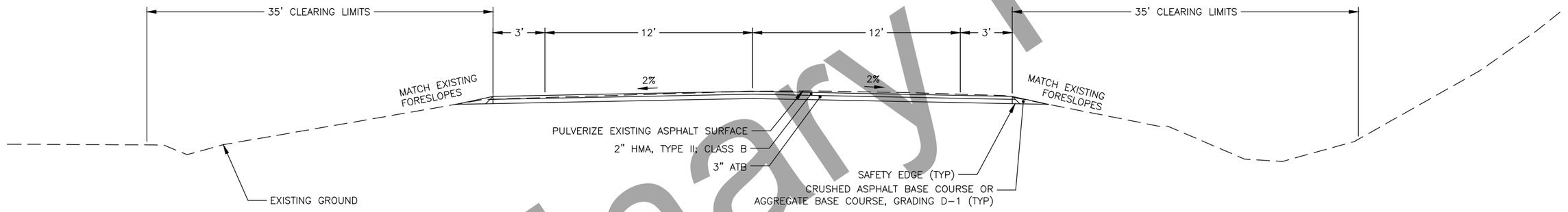
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	B2	B2



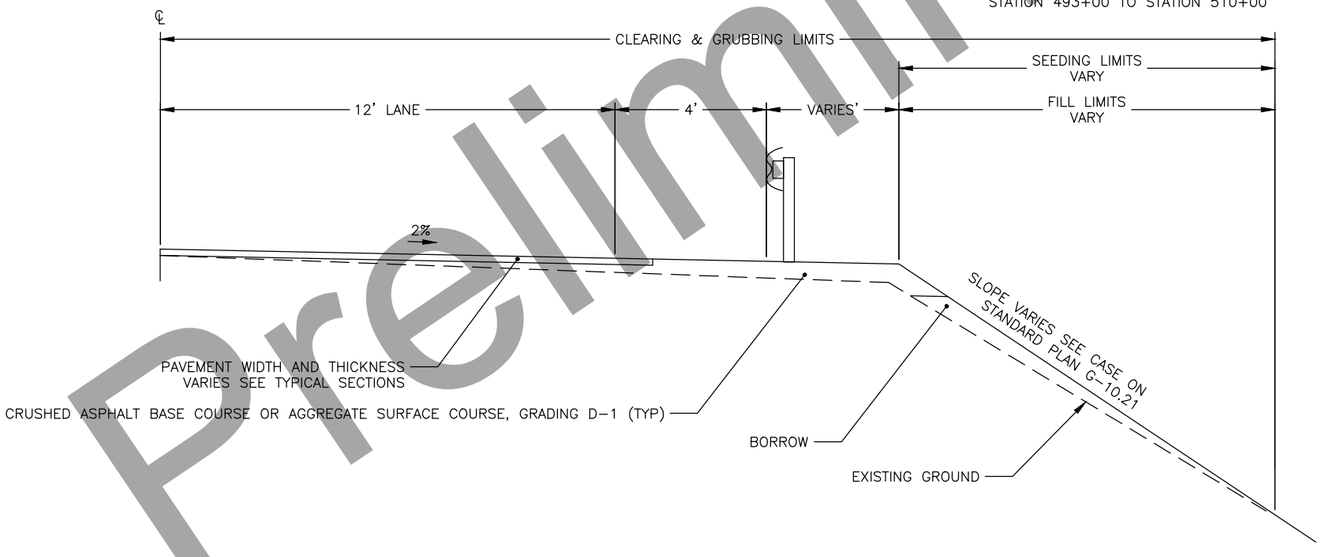
RESURFACING TYPICAL SECTION 3

STATION 94+00 TO STATION 493+00



RESURFACING TYPICAL SECTION 4

STATION 493+00 TO STATION 510+00



GRAUDRAIL TYPICAL SECTION 4

*SEE GUARDRAIL SUMMARY TABLE FOR LOCATIONS.

TYPICAL SECTIONS 2 OF 2

STATE OF ALASKA
49 TH
JOHN JARO NETARDUS
NO. CE 124494
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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_B2-B2 Thu, Jun/08/23 10:30am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0650035/NFHWY00588	2024	C1	C1

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
201.0001.0000	CLEARING	ACRE	77.9
202.0004.0000	REMOVAL OF CULVERT PIPE	LF	512
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	1,000
203.0006.0000	BORROW	TON	2500
301.0001.00D1	AGGREGATE SURFACE COURSE, GRADING D-1	TON	3,895.5
303.0001.0000	RECONDITIONING	STA	52
306.0001.0000	ATB	TON	25182.6
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	TON	1,133.2
308.0001.0000	CRUSHED ASPHALT BASE COURSE	SY	158,631
308.0004.0000	CRUSHED ASPHALT BASE COURSE	LS	158,631
401.0001.002B	HMA, TYPE II; CLASS B	TON	18,708.4
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	1,048.0
401.0008.002B	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CS	ALL REQUIRED
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CS	ALL REQUIRED
401.0010.0001	PAVEMENT SMOOTHNESS PRICE ADJUSTMENT, METHOD 1	CS	ALL REQUIRED
401.0013.0000	JOB MIX DESIGN	EACH	1
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQUIRED
402.0001.0000	STE-1 ASPHALT FOR TACK COAT	TON	491
501.2001.0000	SPALL REPAIR	SF	5
508.0001.0000	WATERPROOFING MEMBRANE, SPRAY-APPLIED	LS	ALL REQUIRED
603.0001.0024	CSP 24 INCH	LF	512
603.2001.0036	DRIVEN PIPE 36 INCH	LF	384
603.2014.0000	PIPE ABANDONMENT	LS	ALL REQUIRED
606.0001.0000	W-BEAM GUARDRAIL	LF	6,775
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LF	7,695
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	20
606.0016.0001	TRANSITION RAIL, MODIFICATION	EACH	4
611.0001.0002	RIPRAP, CLASS II	CY	72
613.0002.0000	CULVERT MARKER POST	EACH	18
615.0001.0000	STANDARD SIGN	SF	862.17
616.0002.0050	THAW PIPE 1/2" DIAMETER	EACH	5
618.0002.0000	SEEDING	LB	630
639.2000.0000	APPROACH	EACH	17
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
641.2002.0000	SWPPPTRACK	LS	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQUIRED
642.0003.0000	THREE PERSON SURVEY PARTY	HR	10
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQUIRED
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQUIRED
644.0001.0000	FIELD OFFICE	LS	ALL REQUIRED
644.0002.0000	FIELD LABORATORY	LS	ALL REQUIRED
644.0006.0000	VEHICLE	LS	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LS	ALL REQUIRED

TABLE OF LUMP SUM QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	REMARKS
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	4 EACH	

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
203.0006.0000	BORROW	2 TON/CY
301.0004.00E1	AGGREGATE SURFACE COURSE, GRADING D-1	2 TON/CY
306.0001.0000	ATB	151 PCF
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	4.5% OF TOTAL WEIGHT OF 306.0001.0000
401.0008.002B	HMA, TYPE II; CLASS B	151 PCF
401.0004.5240	ASPHALT BINDER, GRADE PG 52E-40	5.6% OF TOTAL WEIGHT OF 401.0001.002B

LUMP SUM PAINTED PAVEMENT MARKING ITEMS SUMMARY

ROAD	4" WHITE (LF)	4" DOUBLE YELLOW (LF)	4" SKIP YELLOW (LF)
ELLIOTT HWY	48,500	36,375	12,125
4" EQUIVALENT	97,000	72,750	3,031

GENERAL NOTES:

1. STATE OF ALASKA MATERIAL SITE 680-003-2 LOCATED AND AT MP 11 ON THE ELLIOTT HIGHWAY IS AVAILABLE FOR USE ON THIS PROJECT BY THE CONTRACTOR PER SUB-SECTION 106-1.02.4.d.
2. MECHANIZED LAND VEGETATION CLEARING AND GRUBBING IS PROHIBITED DURING THE MIGRATORY BIRD NESTING SEASON (MAY 1 – JULY 15).
3. CONTRACTOR SHALL MAINTAIN ACCESS TO THE WICKERSHAM DOME TRAILHEAD DURING CONSTRUCTION, NO CONTRACTOR STAGING WILL OCCUR IN THE 4(F) RESOURCE.

ESTIMATE OF QUANTITIES

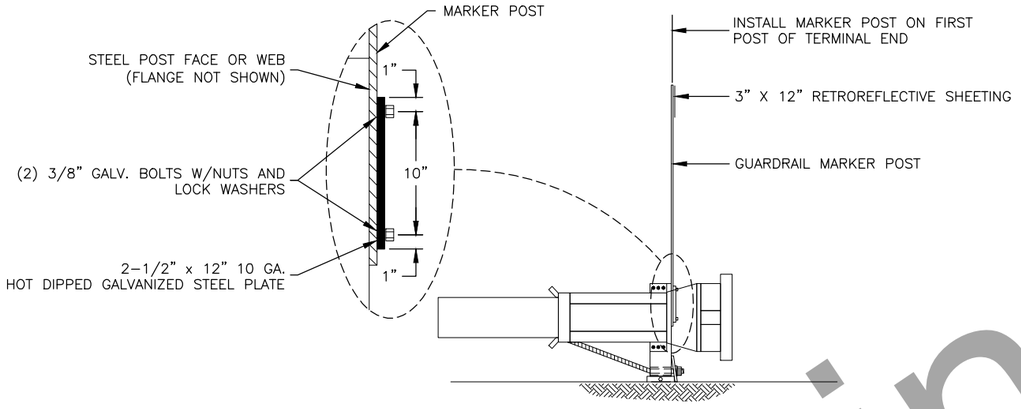
STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_A1-Estimate of Quantities Mon, Jun/12/23 04:04pm

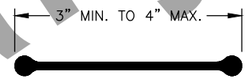
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	D1	D1

GUARDRAIL SUMMARY

LOCATION NUMBER	BEGIN STATION	END STATION	REMOVING AND DISPOSING OF GUARDRAIL	RT/LT	APPROX. EXISTING LENGTH (LF)	W-BEAM GUARDRAIL (LINEAR FOOT)	PARALLEL GUARDRAIL TERMINAL (EACH)	POST LENGTH (FT)	REMARKS
1	125+00		YES	LT	516	187.5	2		
2	125+00		YES	RT	391	325	2		
3	285+00		YES	LT	390	287.5	2		
4	296+00		YES	LT	3072	2975	2		
5	323+00		YES	RT	452	525	2		
6	352+00		YES	LT	582	487.5	2		
7	352+00		YES	RT	469	525	2		
8	441+00		YES	LT	931	825	2		
				TOTAL	6803.00	6137.50	16.00		



GUARDRAIL MARKER POST ATTACHMENT DETAIL
PARALLEL GUARDRAIL TERMINAL



POST DETAIL
CROSS-SECTIONAL VIEW

GUARDRAIL MARKER NOTES:

1. GUARDRAIL BEGIN AND END STATIONS INCLUDE PARALLEL GUARDRAIL TERMINALS.
2. INSTALL END TERMINALS PER MANUFACTURER'S INSTRUCTIONS.
3. CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE "ALTERNATIVE GUARDRAIL TERMINAL WIDENING DETAIL" ON STANDARD DRAWING G-20.12. THE END OFFSET (X) SHALL BE 2 FEET. USE 50' PARALLEL GUARDRAIL TERMINALS.
4. GUARDRAIL MARKER POSTS SHALL BE YELLOW AND AT LEAST 72" LONG. POSTS SHALL MEET THE REQUIREMENTS OF SECTION 730-2.05 FLEXIBLE DELINEATOR POSTS.
5. RETROREFLECTIVE SHEETING SHALL MEET ASTM D4956 REQUIREMENTS FOR TYPE VIII, IX, OR XI. COLOR OF RETROREFLECTIVE SHEETING SHALL MATCH COLOR OF ADJACENT EDGE LINE STRIPE. PLACE RETROREFLECTIVE SHEETING ON SIDE OF MARKER POST FACING TRAFFIC IN ADJACENT LANE.
6. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
7. ALL WORK AND MATERIAL REQUIRED TO INSTALL GUARDRAIL MARKER POSTS IS SUBSIDIARY TO 606 PAY ITEMS.

GUARDRAIL NOTES:

1. USE 50' PARALLEL END TREATMENT.
2. FOR PARALLEL GUARDRAIL TERMINALS (PGT), CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE "STANDARD DETAIL" ON STANDARD DRAWING G-20.11. THE END OFFSET (X) SHALL BE 2 FEET.
3. INSTALL PARALLEL GUARDRAIL TERMINALS AT A HEIGHT OF 31" TO TOP OF THE RAIL. POST LENGTHS OF THE PGT POSTS ARE TO BE PER MANUFACTURER RECOMMENDATIONS.
4. PER SUBSECTION 606-3.01, INSTALL SIDE-MOUNTED GUARDRAIL REFLECTORS "STARTING WITH THE FIRST STANDARD POST". DO NOT INSTALL THESE REFLECTORS WITHIN THE LIMITS OF PARALLEL GUARDRAIL TERMINALS.
5. FILL MATERIAL TO IMPROVE WIDENING SHALL BE SELECTED MATERIAL, TYPE A PER 703-2.07 AND PAID FOR UNDER PAY ITEM BORROW 203.006.0000. ANY MATERIAL NOT MEETING SELECTED MATERIAL, TYPE A REQUIREMENTS CAN BE REJECTED BY THE ENGINEER AND WILL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE.
6. UPON REMOVAL OF THE OLD POSTS, HOLES CREATED BY THE OLD POST REMOVAL SHALL BE FILLED AND COMPACTED IN ACCORANCE WITH SECTION 606-3.07.

GUARDRAIL SUMMARY

STATE OF ALASKA 49TH
John Jaro Netardus
CE 124494
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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Guardrail Summary-GUARDRAIL SUMMARY Fri, Apr/21/23 09:41am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2023	E1	E5

603.0001.0024 CULVERT SUMMARY

PROJECT STATION	LENGTH (FT)	613.0002.0000 MARKER POSTS (EA)	616.0002.0050 DIA. THAW PIPE (EA)	CULVERT DIAMETER (INCH)	NEW CULVERT TYPE	REMARKS	AS-BUILT CENTERLINE LOCATION		
							STATION	LATITUDE	LONGITUDE
66+43	61	2		24	C X				
75+59	78	2		24	C X				
231+82	80	2	1	24	C X				
446+14	99	2	1	24	C X				
449+61	69	2	1	24	C X				
479+60	63	2	1	24	C X				
488+99	62	2	1	24	C X				
SUBTOTALS:	512	14	5						

603.2001.0036 CULVERT SUMMARY

PROJECT STATION	LENGTH (FT)	613.0002.0000 MARKER POSTS (EA)	616.0002.0050 DIA. THAW PIPE (EA)	CULVERT DIAMETER (INCH)	NEW CULVERT TYPE	REMARKS	AS-BUILT CENTERLINE LOCATION		
							STATION	LATITUDE	LONGITUDE
324+54	176	2	0	36	SS	DRIVEN CULVERT, DEEP CULVERT MP 24			
355+20	208	2	0	36	SS	DRIVEN CULVERT, DEEP CULVERT MP 25			
SUBTOTALS:	384	4	0						

202.0004.0000 REMOVAL OF CULVERT PIPE SUMMARY

PROJECT STATION	DESCRIPTION	LENGTH (FT)	REMARKS
66+43	24" CMP	61	BURIED
75+59	24" CMP	78	BURIED
231+82	24" CMP	80	
446+14	24" CMP	99	
449+61	24" CMP	69	
479+60	24" CMP	63	
488+99	24" CMP	62	
SUBTOTALS:		512	

603.2014.0000 PIPE ABONDONMENT SUMMARY

PROJECT STATION	DESCRIPTION	LENGTH (FT)	REMARKS
324+72	36" CMP	180	CAP OFF ENDS
324+69	24" CMP	161	CAP OFF ENDS/ VERIFY REMOVAL LENGTH
355+11	36" CMP	231	CAP OFF ENDS
355+12	24" CMP	210	CAP OFF ENDS/ VERIFY REMOVAL LENGTH
SUBTOTALS:		782	

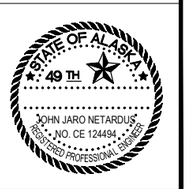
NEW CULVERT TYPE LEGEND

C = CORRUGATED STEEL
X = CROSS CULVERT
A = APPROACH CULVERT
F = FISH PASSAGE
G = GALVANIZED
S = STRUCTURAL PLATE PIPE
SS = SMOOTH STEEL WALL PIPE

CULVERT NOTES:

1. FOLLOW MANUFACTURERS INSTALLATION SPECIFICATIONS IN ALL CULVERT INSTALLATIONS.
2. ALL CULVERTS SHALL BE INSTALLED IN EXCAVATIONS ABSENT OF STANDING WATER.
3. STATIONING AND SKEW FOR CULVERTS ARE APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
4. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR. WHEN INSTALLING SKEWED CULVERTS, ENSURE THE FINAL LENGTH IS DETERMINED OFF THE NEAR EDGE, NOT THE CENTERLINE OF THE CULVERT.
5. REMOVAL OF EXISTING CULVERTS, MARKER POSTS, AND THAW PIPES BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OF AT NO ADDITIONAL COST TO THE DEPARTMENT.
6. IN AREAS OF POOR FOUNDATION, SUBEXCAVATE BENEATH CULVERTS 1 FOOT TO 3 FEET, OR GREATER TO PROVIDE ADEQUATE FOUNDATION, AS DIRECTED BY THE ENGINEER.
7. MINIMUM ALLOWABLE CULVERT CROSS SLOPE IS 0.5%, UNLESS NOTED OTHERWISE ON THE PLANS.
8. ALL CULVERTS SHALL HAVE A MINIMUM CAMBER EQUAL TO 1% OF THE LENGTH OF THE PIPE, UNLESS THE PROJECT ENGINEER DIRECTS OTHERWISE.
9. NO CULVERT SHALL BE PLACED UNTIL THE BED HAS BEEN APPROVED BY THE ENGINEER.
10. 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 DEGREE TO A PRECISION OF 5 DECIMAL PLACES (DDD.DDDDDo). THIS WORK IS SUBSIDIARY TO 603 SERIES PAY ITEMS.
11. ALL NEW CULVERTS ARE CSP 14 GAUGE THAT REQUIRE A MINIMUM OF 12 INCHES OF COVER.

CULVERT SUMMARY 1 OF 5

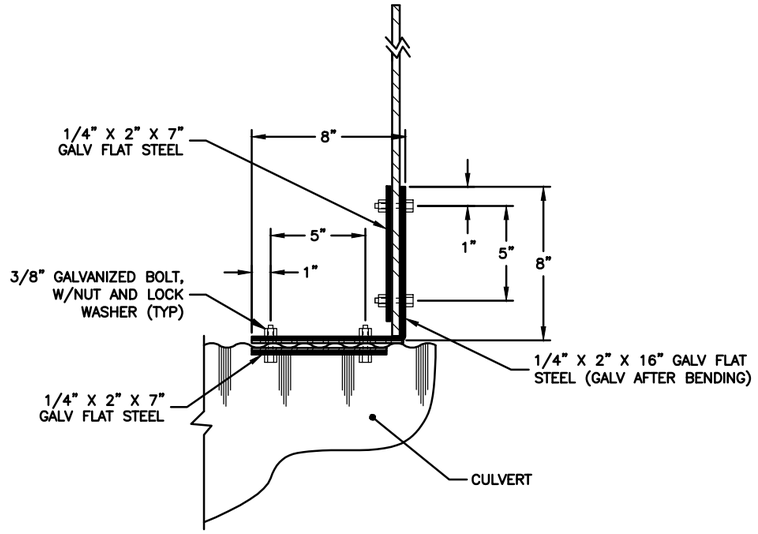


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Culvert Summary-CULVERT SUMMARY 1 OF 5 Tue, Jun/13/23 02:15pm

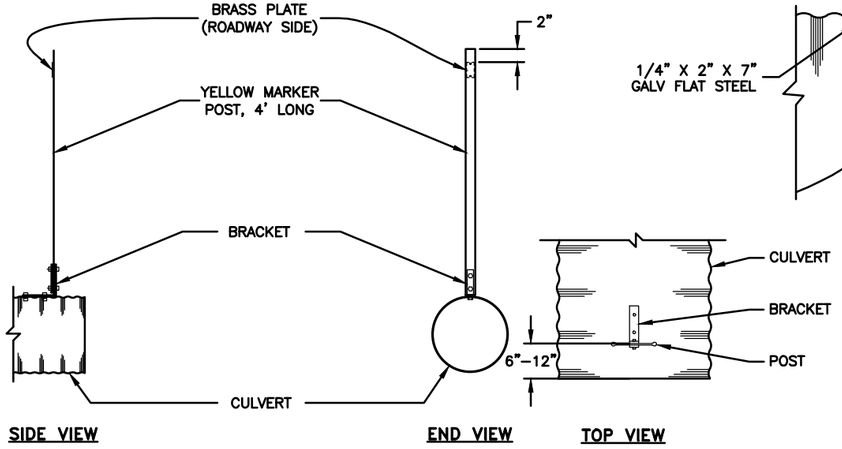
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0650035/NFHWY00588	2024	E2	E5

CULVERT MARKER POSTS NOTES:

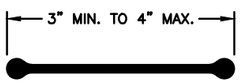
1. MARKER POSTS ARE TO BE INSTALLED ON CROSS CULVERTS ONLY.
2. IF CULVERTS ARE CLOSELY SPACED, MARK ONLY THE FIRST AND LAST CULVERT IN SERIES AS APPROVED BY THE ENGINEER.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. GASKET MATERIAL SHALL BE PLACED BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED PRIOR TO INSTALLATION.



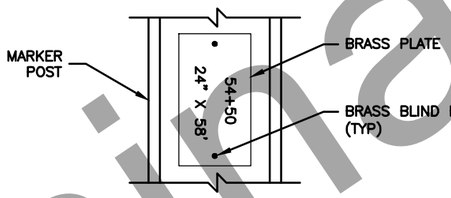
BRACKET DETAIL



CULVERT MARKER POST DETAIL

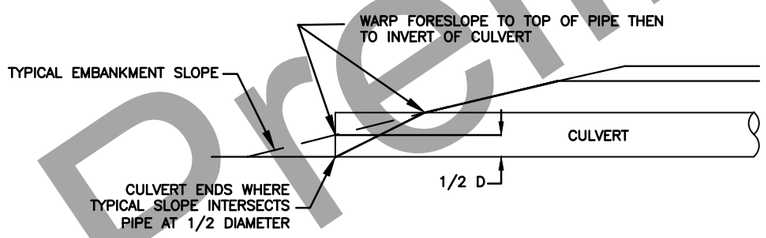


POST DETAIL



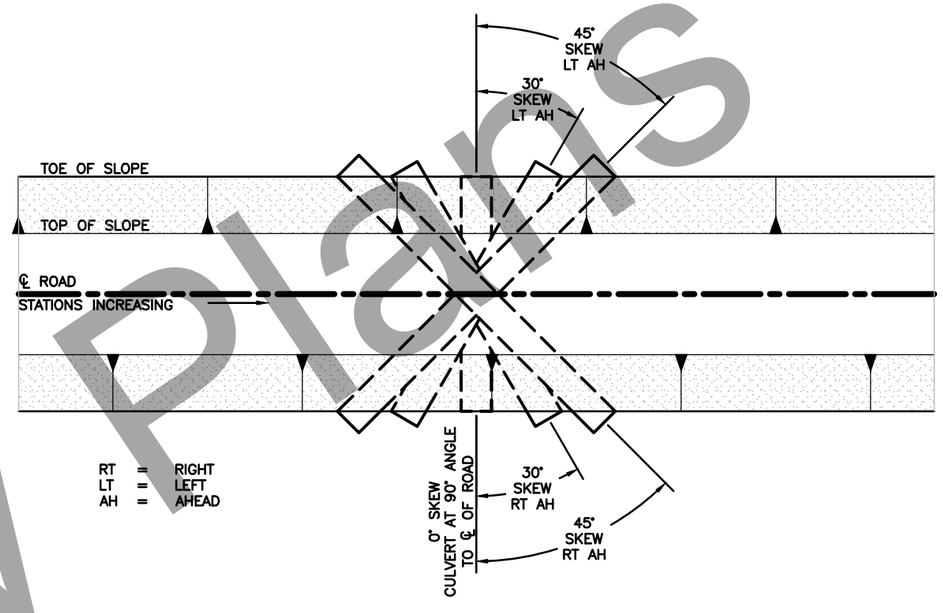
STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2" X 4" X 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL

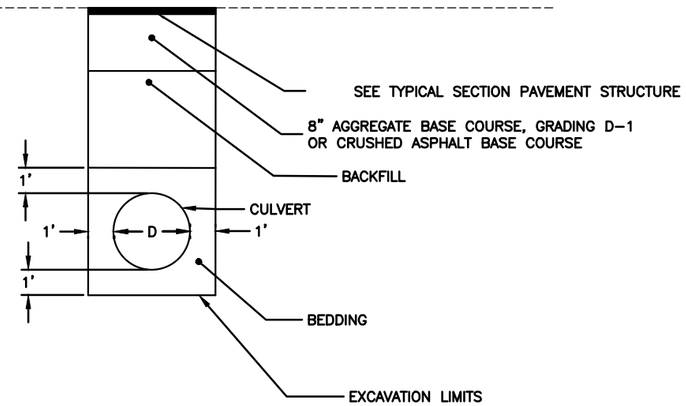


CULVERT SLOPE WARPING DETAIL

2:1 OR FLATTER FORESLOPES



CULVERT SKEW



CULVERT BEDDING DETAIL

END VIEW

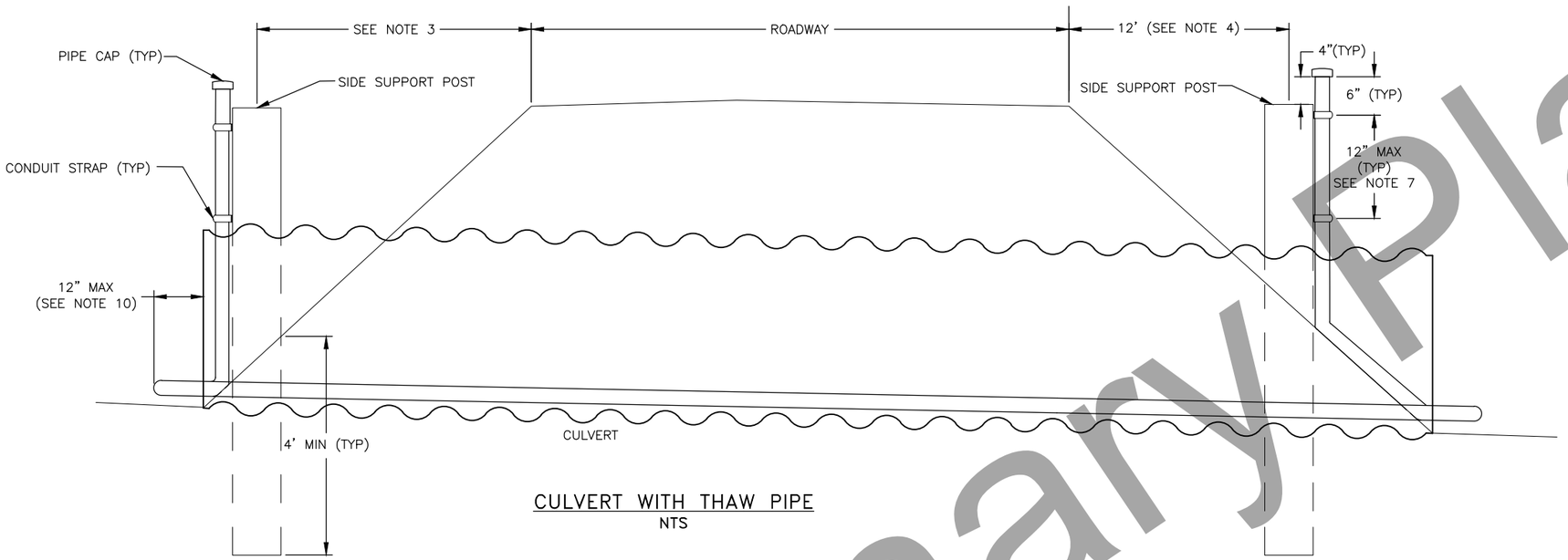
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\elliott_hwy\nfhwy00588 elliott mp 18-29\6 Design\4 C3D\2 drawings\00588 Culvert Summary 2-CULVERT SUMMARY 2 OF 5 Fri, Jun/16/23 11:31am

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

CULVERT SUMMARY 2 OF 5

NO.	DATE	REVISION

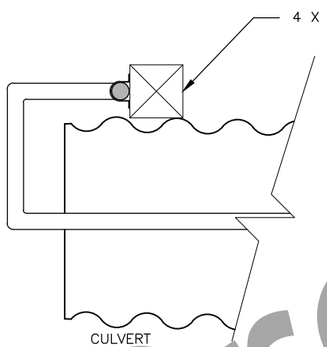
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	E3	E5



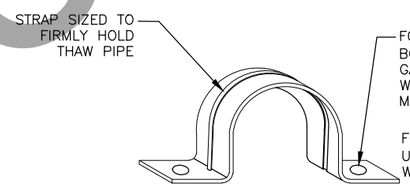
CULVERT WITH THAW PIPE
NTS

GENERAL NOTES:

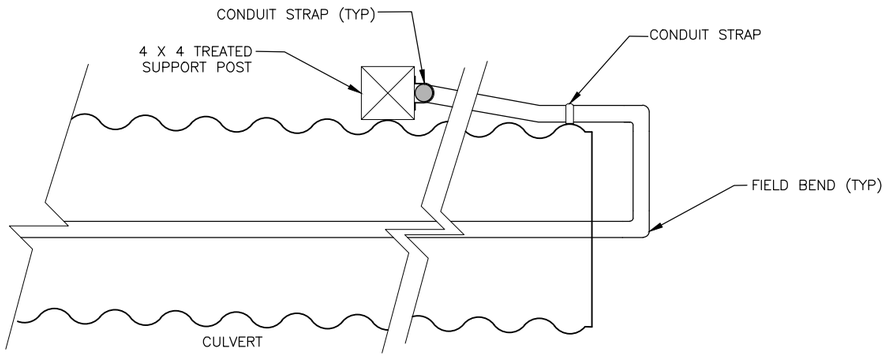
1. THESE THAW PIPES ARE INTENDED FOR USE IN STEAM THAWING.
2. USE ½" ID SCHEDULE 40 GALVANIZED PIPE AND FITTINGS.
3. WHEN THE HEIGHT OF FILL IS LESS THAN 5' TO TOP OF PIPE, LOCATE SUPPORT POST AT THE TOE OF SLOPE.
4. WHEN THE HEIGHT OF FILL EXCEEDS 5' TO TOP OF PIPE, LOCATE THE SUPPORT POST ON THE SIDE SLOPE 12' FROM THE SHOULDER.
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. ALIGN THE TOP OF THE SUPPORT POST WITH THE EDGE OF SHOULDER, OR TO A MAXIMUM HEIGHT OF 5'.
7. FASTEN THAW PIPE TO SUPPORT POSTS WITH GALVANIZED RIGID CONDUIT STRAPS AND 3" LONG GALVANIZED LAG SCREWS AT MAX. 12" CENTERS, IF MORE THAN ONE IS REQUIRED.
8. FILL ALL THAW PIPES WHILE REMOVING ALL AIR WITH A MIX OF TINTED PROPYLENE CLYCOL ANTIFREEZE AND WATER TO PROTECT DOWN TO MINUS 50°, THEN CAP BOTH ENDS OF THE THAW PIPE.
9. PLACE THAW PIPES IN THE BOTTOM OF THE CULVERT.
10. THAW PIPES SHALL BE BENT WITHOUT KINKS 180 DEGREES AROUND CULVERT ENDS FROM THE INSIDE TO OUTSIDE OF THE CULVERT WITH NO GREATER THAN 6-IN BEND RADIUS. THE BEND SHALL NOT PROTRUDE MORE THAN 12 INCHES BEYOND THE END OF THE CULVERT. DO NOT LOCATE THAW PIPE JOINTS OR COUPLINGS WITHIN 6 INCHES OF THE BEND OUTSIDE OF CULVERT ENDS.
11. LAY THE THAW PIPE DOWN INSIDE ON THE BOTTOM OF THE SPECIFIED CULVERT (NO INTERNAL PIPE HANGERS OR INTERNAL TIE-DOWN STRAPS ARE REQUIRED).
12. DO NOT LOCATE THAW PIPE JOINTS OR COUPLINGS WITHIN 30 INCHES OF CULVERT ENDS.
13. ALL THAW PIPES SHALL BE WATER TIGHT. SEAL ALL THAW PIPE JOINTS EXCEPT THE END CAPS WITH AN APPROVED SEALING COMPOUND.
14. ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO INSTALL THE THAW PIPES AND SUPPORT POSTS ARE SUBSIDIARY TO PAY ITEM 616.0002.0050.



LOW FILL CONDITION
TOP VIEW (NTS)



GALVANIZED RIGID CONDUIT
STRAP DETAIL
NTS



DEEP FILL CONDITION
TOP VIEW (NTS)

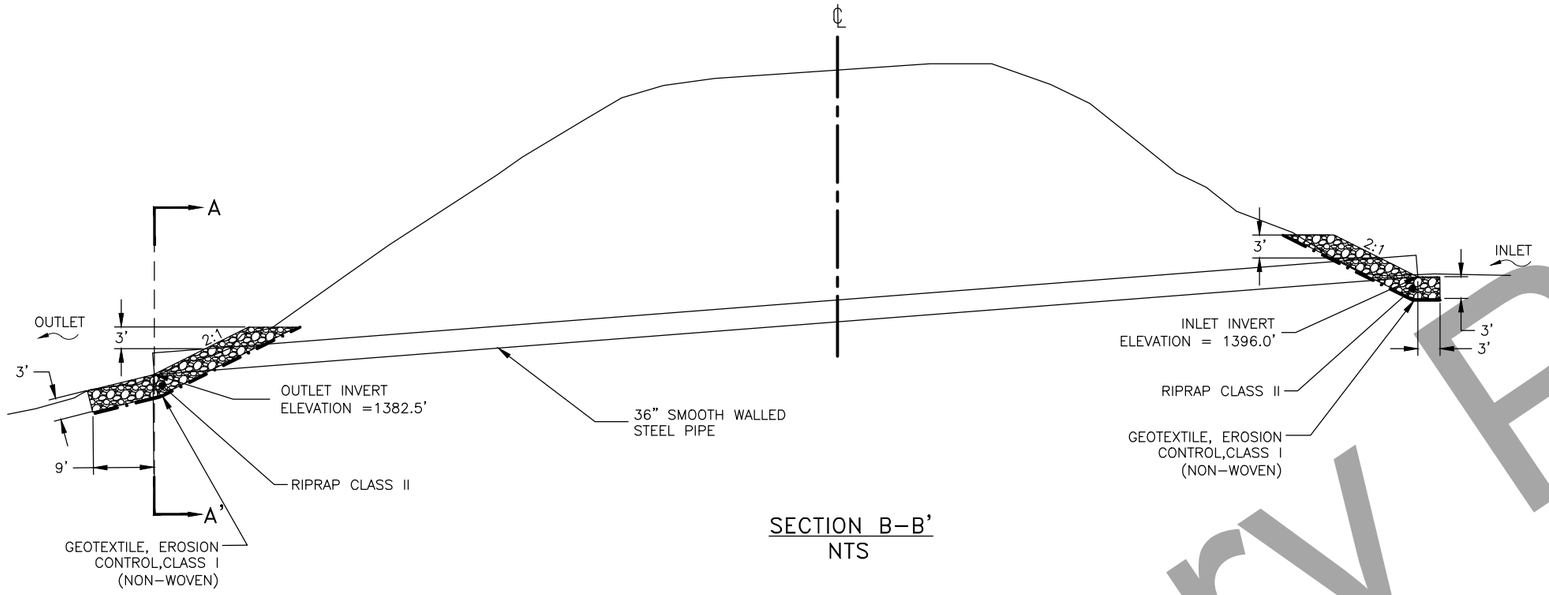
CULVERT SUMMARY 3 OF 5

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
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\elliott_hwy\nfhwy00588 elliott mp 18-29\6 Design\4 C3D\2 drawings\00588 Culvert Summary 2-CULVERT SUMMARY 3 OF 5 Fri, Jun/16/23 11:31am

NO.	DATE	REVISION

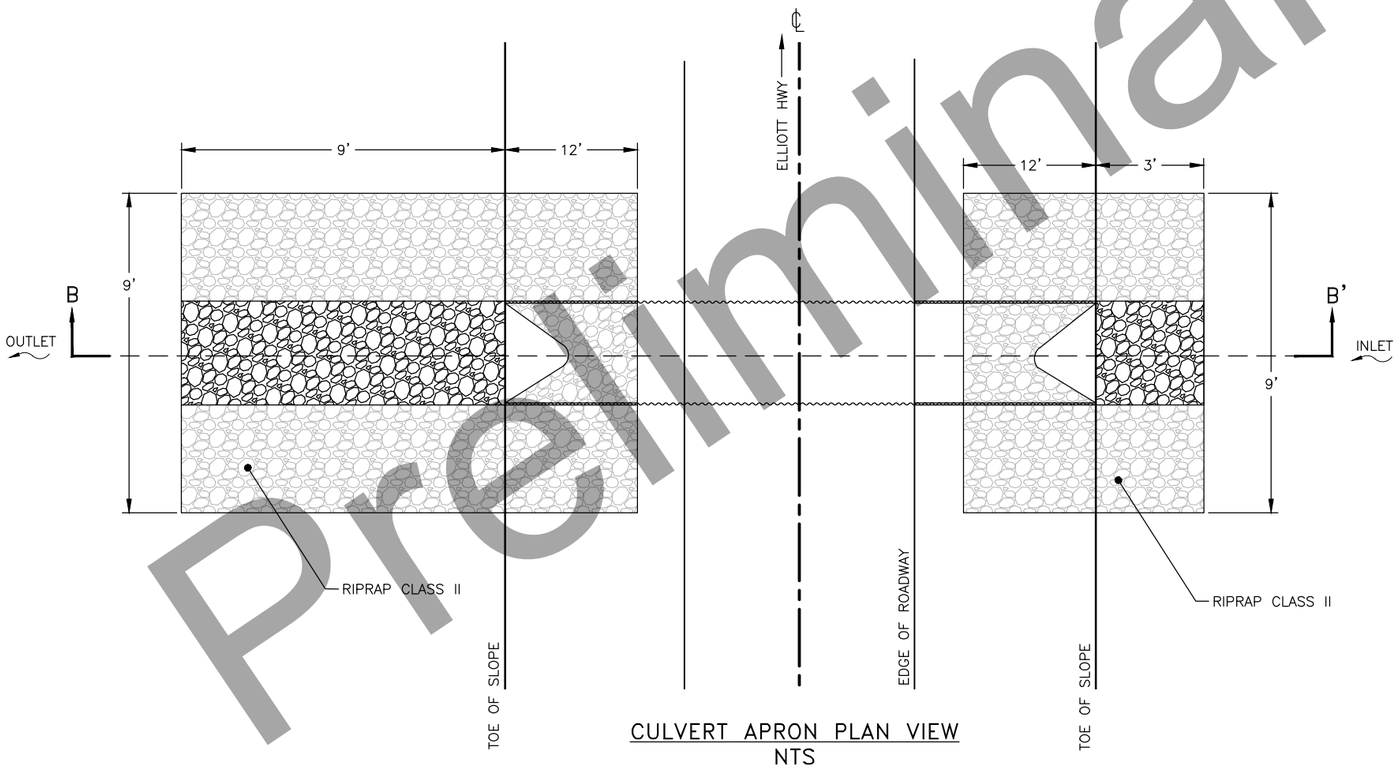
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	E4	E5



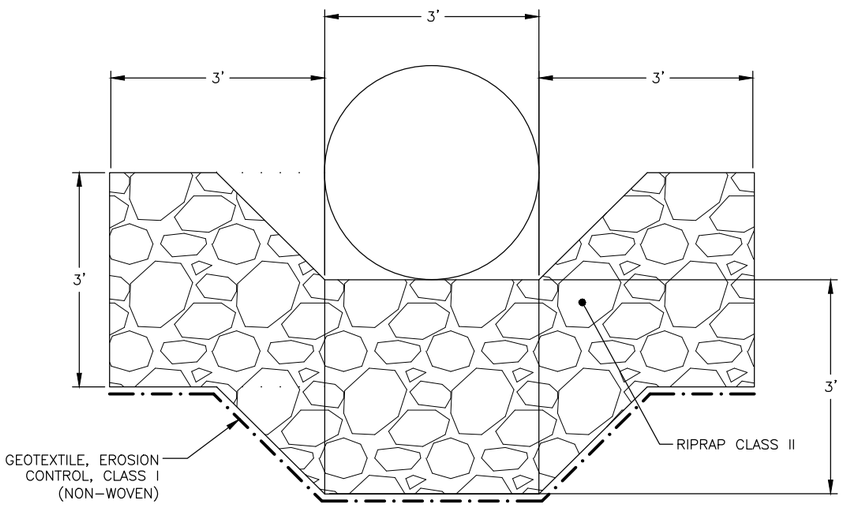
SECTION B–B'
NTS

CULVERT MP24 NOTES:

1. INSTALL 36" CULVERT BY AUGER–BORE METHOD.
2. STATIONING AND SKEW FOR CULVERTS ARE APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
3. BEFORE INSTALLATION OF SMOOTH WALLED CULVERT, CONTRACTOR WILL STAKE INLET ELEVATION AND LOCATION FOR APPROVAL BY THE ENGINEER. CULVERT INLET ELEVATION AND LOCATION MAYBE MOVED AS DIRECTED BY ENGINEER TO ENSURE POSITIVE DRAINAGE FROM CREEK INTO THE CULVERT WITHOUT PONDING.
4. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. DETAIL SECTION A–A' REPRESENTS BOTH INLET AND OUTLET.
6. SHAPE RIPRAP TO FORM A CHANNEL AT INLET AND OUTLET LOCATIONS.
7. DEMO EXISTING 36" MAIN & 24" OVERFLOW CULVERT PER SPECIFICATIONS.



CULVERT APRON PLAN VIEW
NTS



SECTION A–A'
NTS

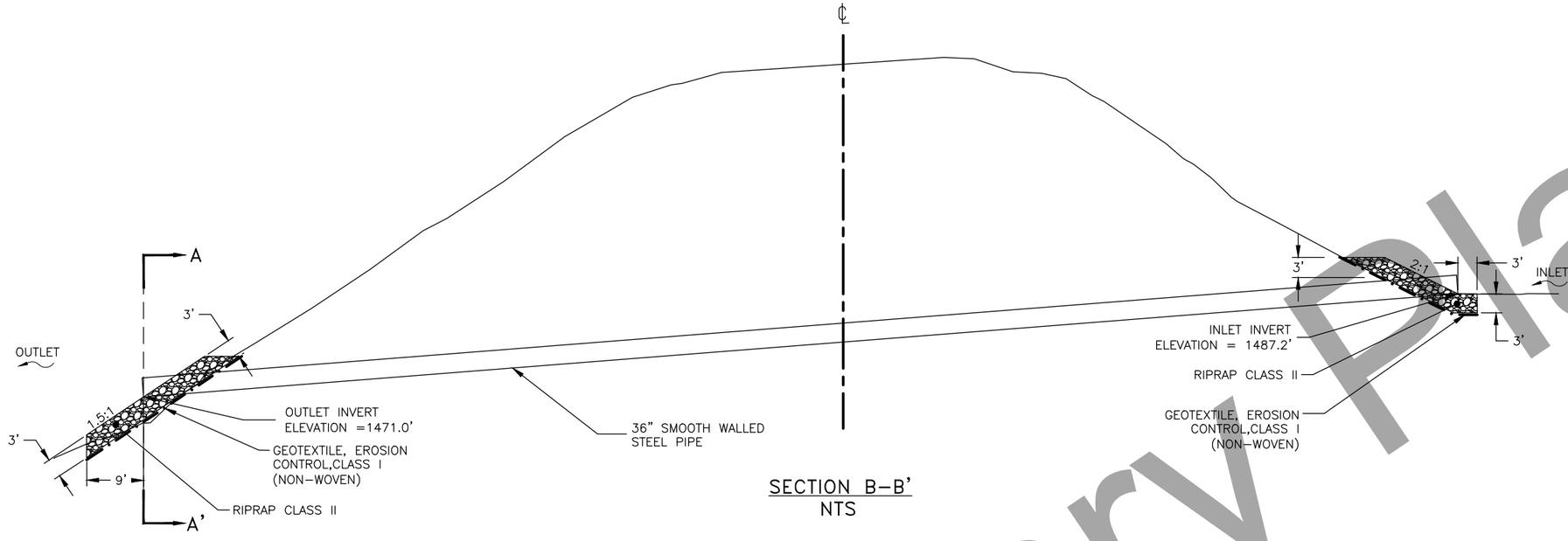
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Culvert Summary 2-Deep Culvert MP24 Tue, Jun/13/23 12:33pm

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

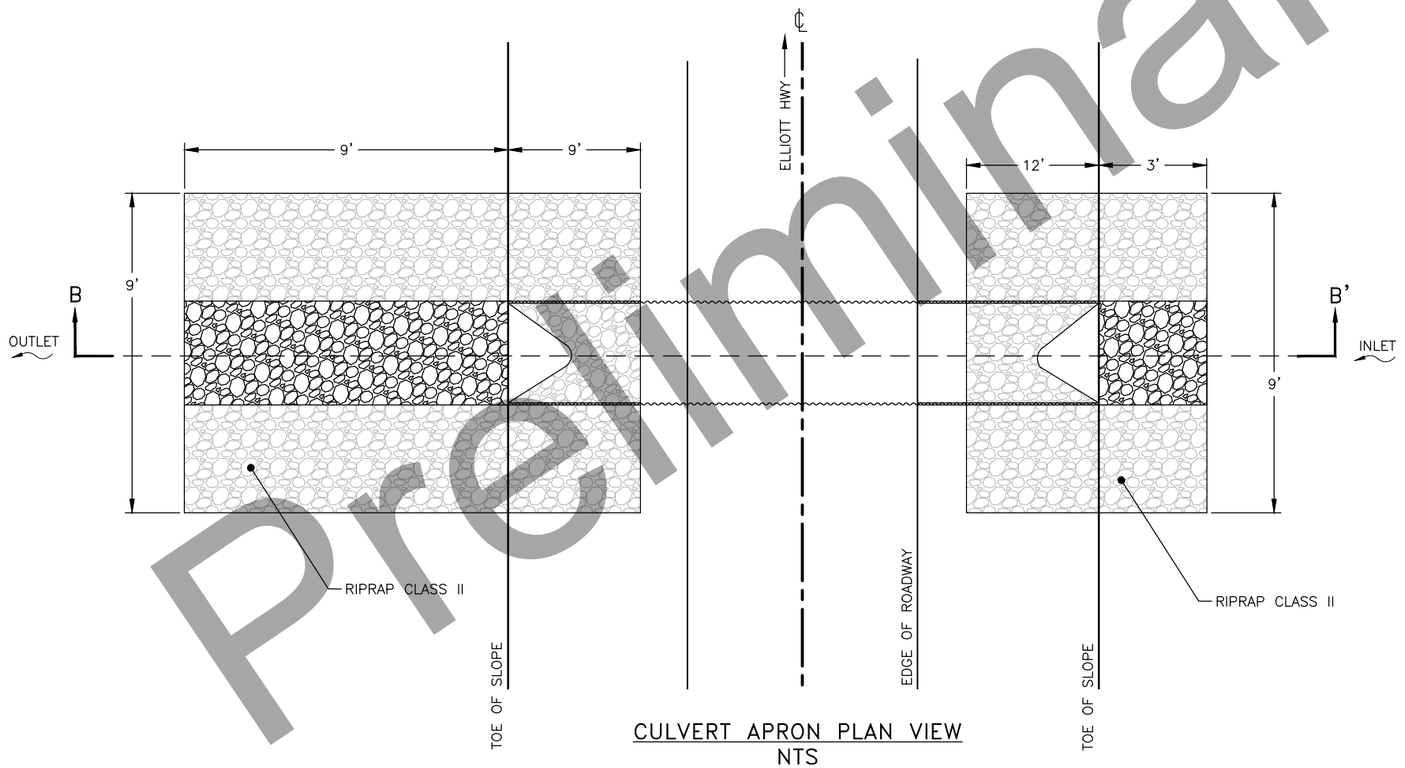
CULVERT SUMMARY 4 OF 5

NO.	DATE	REVISION

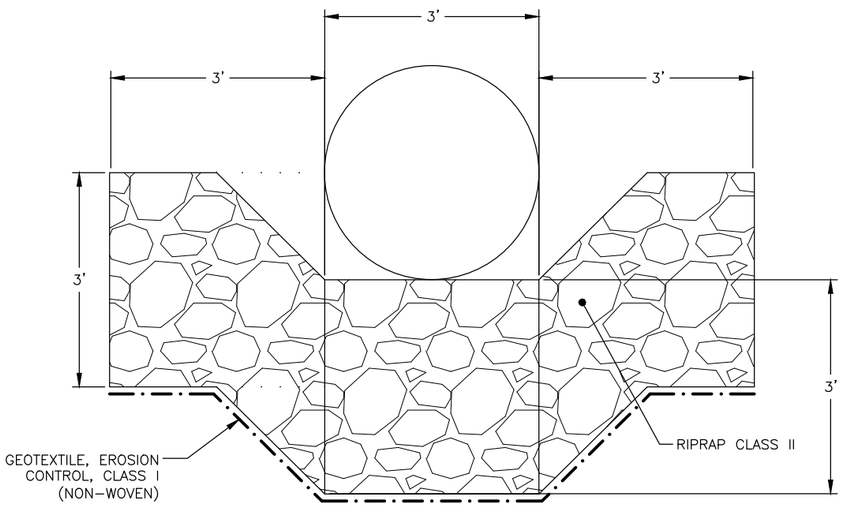
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	E5	E5



SECTION B–B'
NTS



CULVERT APRON PLAN VIEW
NTS



SECTION A–A'
NTS

CULVERT MP25 NOTES:

1. INSTALL 36" CULVERT BY AUGER–BORE METHOD.
2. STATIONING AND SKEW FOR CULVERTS ARE APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
3. BEFORE INSTALLATION OF SMOOTH WALLED CULVERT, CONTRACTOR WILL STAKE INLET ELEVATION AND LOCATION FOR APPROVAL BY THE ENGINEER. CULVERT INLET ELEVATION AND LOCATION MAYBE MOVED AS DIRECTED BY ENGINEER TO ENSURE POSITIVE DRAINAGE FROM CREEK INTO THE CULVERT WITHOUT PONDING.
4. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. DETAIL SECTION A–A' REPRESENTS BOTH INLET AND OUTLET.
6. SHAPE RIPRAP TO FORM A CHANNEL AT INLET AND OUTLET LOCATIONS.
7. DEMO EXISTING 36" MAIN & 24" OVERFLOW CULVERT PER SPECIFICATIONS.

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H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18–29\6 Design\4 C3D\2 Drawings\00588 Culvert Summary 2–Deep Culvert MP25 Tue, Jun/13/23 12:32pm

STATE OF ALASKA
49 TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

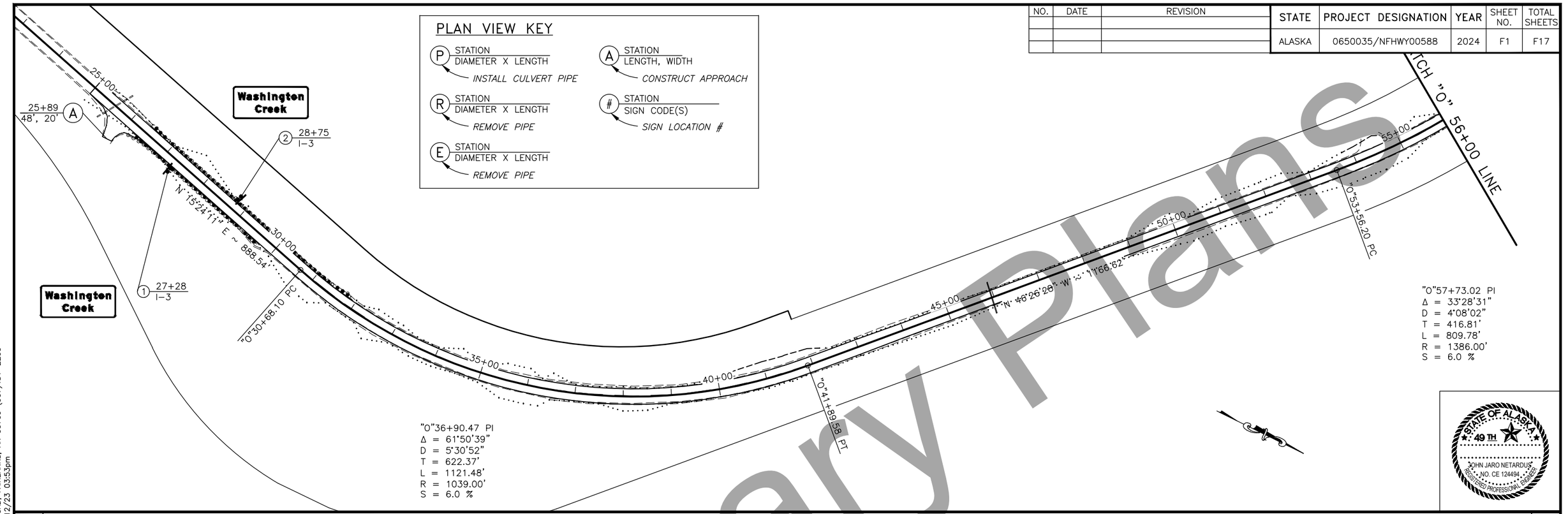
CULVERT SUMMARY 5 OF 5

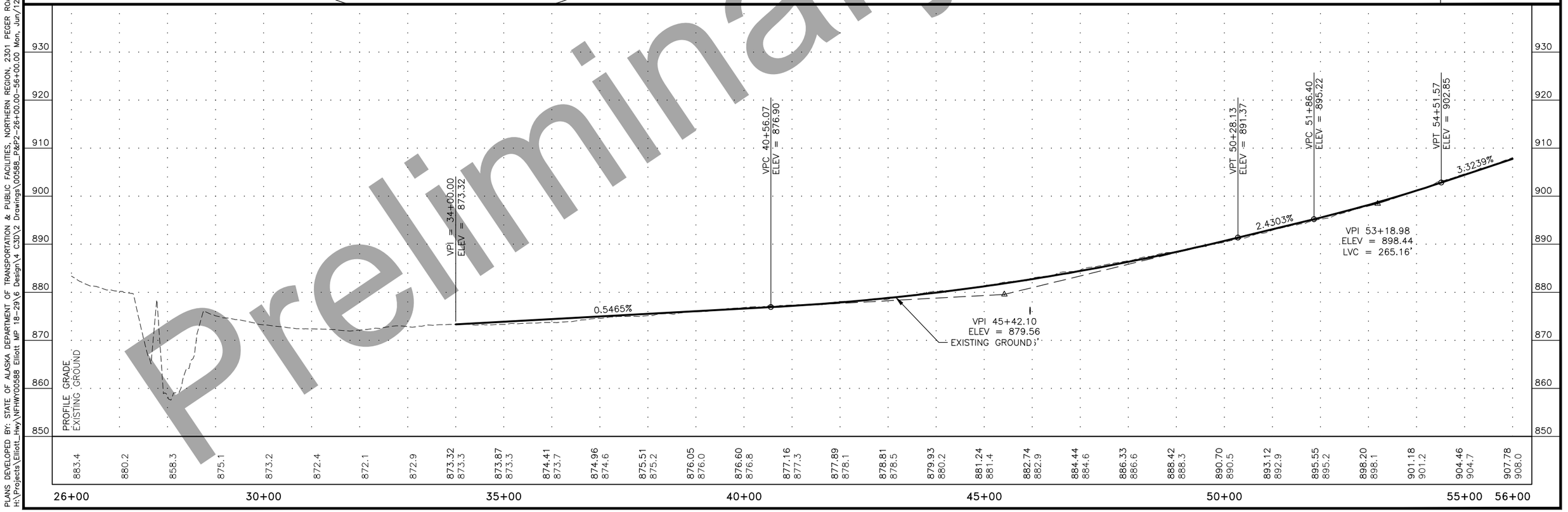
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F1	F17

PLAN VIEW KEY

- (P) STATION / DIAMETER X LENGTH — *INSTALL CULVERT PIPE*
- (A) STATION / LENGTH, WIDTH — *CONSTRUCT APPROACH*
- (R) STATION / DIAMETER X LENGTH — *REMOVE PIPE*
- (#) STATION / SIGN CODE(S) — *SIGN LOCATION #*
- (E) STATION / DIAMETER X LENGTH — *REMOVE PIPE*





STATE OF ALASKA
49TH
JOHN JARO NETARDUS
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REGISTERED PROFESSIONAL ENGINEER

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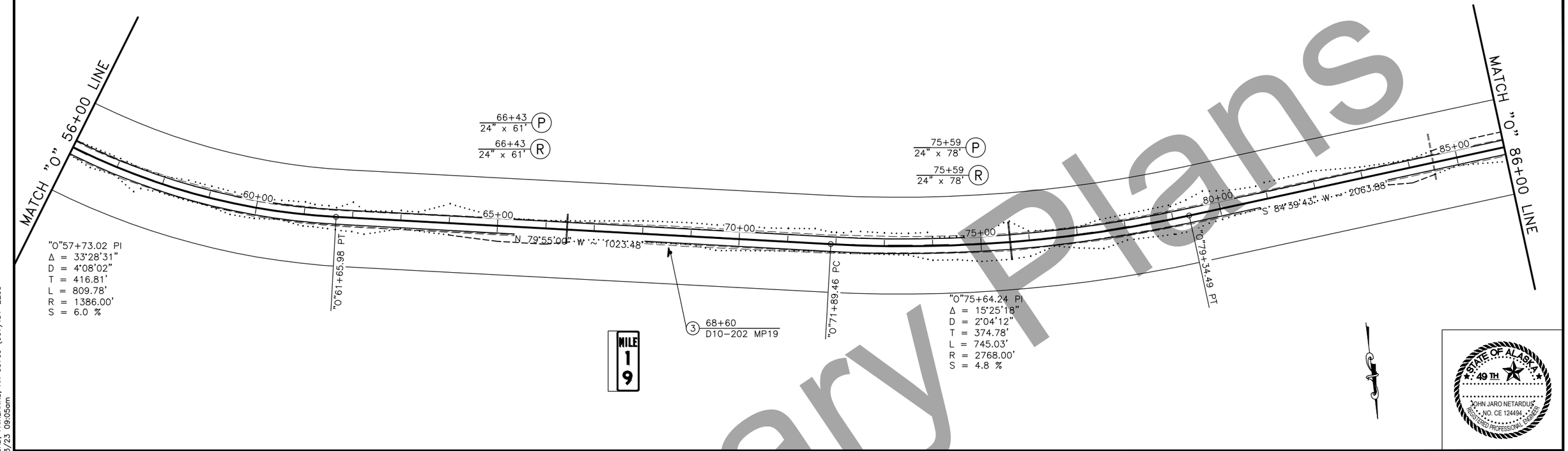
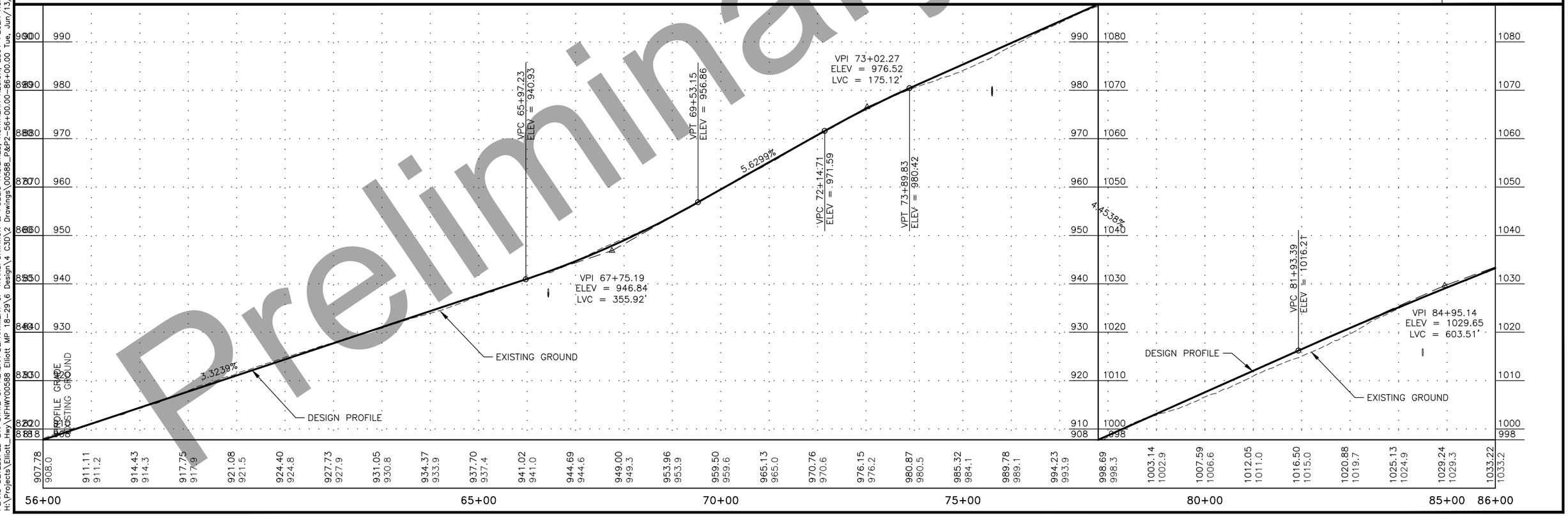
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-26+00.00-56+00.00 Mon, Jun/12/23 03:53pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F2	F17





STATE OF ALASKA 49TH
JOHN JARO NETARDUS
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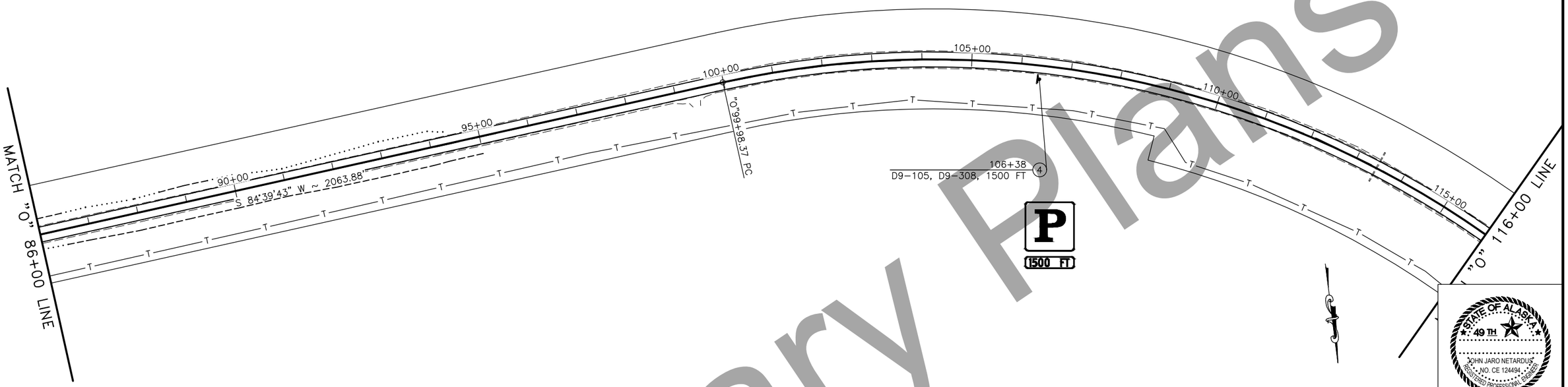
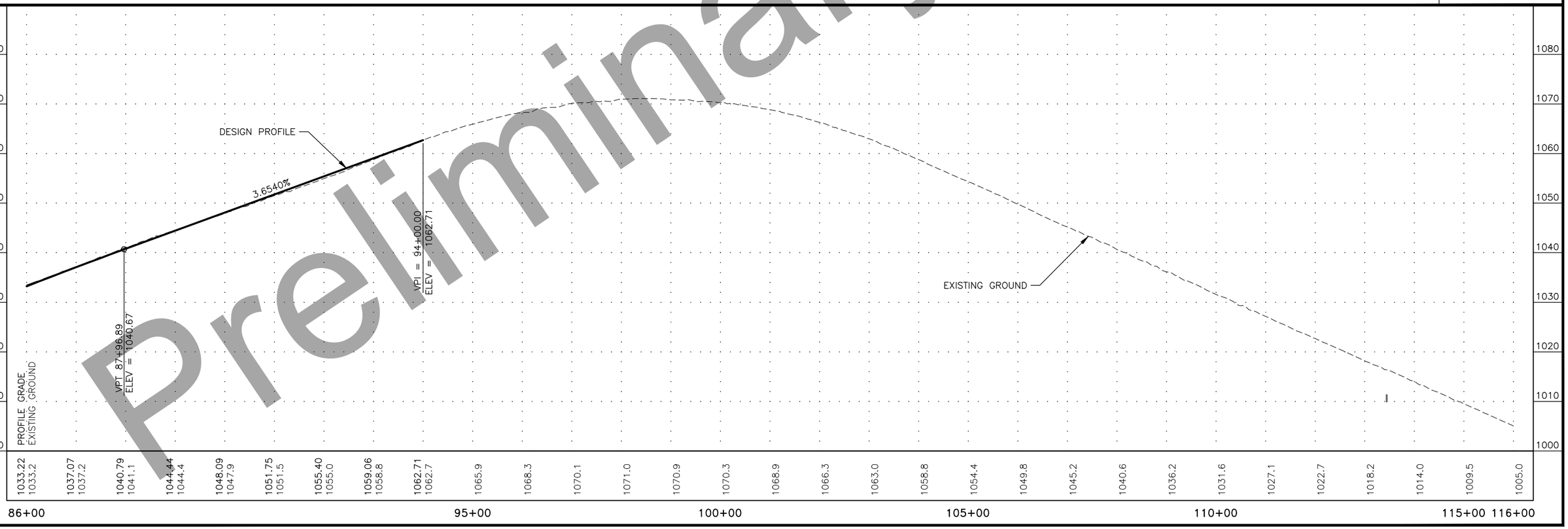
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-56+00.00-86+00.00 Tue, Jun/13/23 09:05am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F3	F17

"O"109+40.18 PI
Δ = 52°11'15"
D = 2°58'46"
T = 941.81'
L = 1751.55'
R = 1923.00'
S = 5.5 %





STATE OF ALASKA
49 TH
JOHN JARO NETARDUS
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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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2_86+00.00-116+00.00 Tue, Jun/13/23 11:40am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F4	F17

MATCH "O" 116+

"O"109+40.18 PI
Δ = 52°11'15"
D = 2°58'46"
T = 941.81'
L = 1751.55'
R = 1923.00'
S = 5.5 %

"O"117+49.92 PT

N 43°09'03" W ~ 653.35'

118+40
D10-202 (5)

121+97
30', 57' (A)

122+41
W1-2L, W13-1P (6)

"O"124+03.27 PC

124+94
23', 32' (A)

130+91
SALVAGE (7)

"O"132+42.87 PI
Δ = 98°22'41"
D = 7°54'10"
T = 839.60'
L = 1244.84'
R = 725.00'
S = 6.0 %

138+37
W1-2R, W13-1P (8)

140+45
D9-105, D9-308 (9)

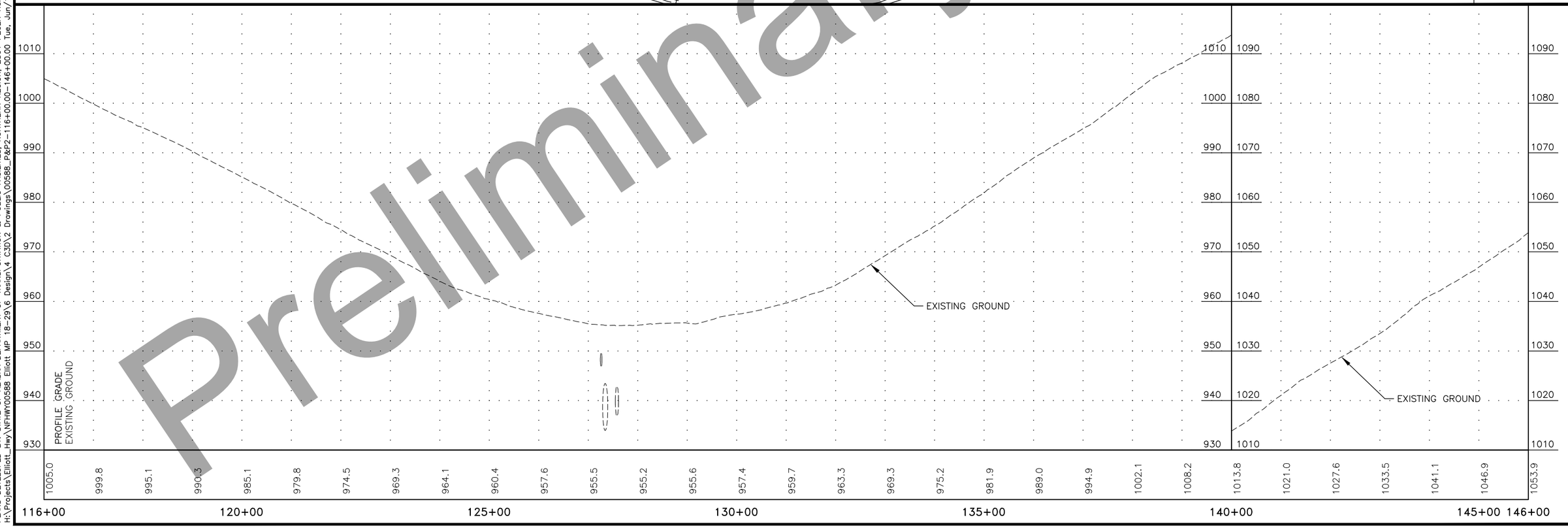
141+60
SALVAGE (10)

S 38°28'16" W ~ 2199.29'

"O"136+48.11 PT

100 LINE

120+00 125+00 130+00 135+00 140+00 145+00



STATE OF ALASKA 49TH
JOHN JARO NETARDUS
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PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-116+00.00-146+00.00 Tue, Jun/13/23 11:42am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F5	F17

160+74 A 36', 16'

161+96 (19) W1-8

161+17 (18) W1-8

160+56 (17) DO NOT DISTURB

160+39 (16) W1-8

159+74 (15) W1-8

159+04 (14) W1-8

158+45 (13) W7-1

158+05 (12) W1-8

MATCH "O"

(BM)

A 146+40 16', 25'

150+00

155+00

160+00

165+00

"O" 158+47.40 PC

"O"166+09 PI
Δ = 111°02'40"
D = 10°57'19"
T = 761.60'
L = 1013.62'
R = 523.00'
S = 6.0 %

"S" 36°28'16" W ~ 2199.29'

(11) 155+28 W1-2R, W13-1P

(20) 162+76 W1-8

(21) 163+46 W1-8

(22) 164+23 W1-8

166+44 A 32', 25'

"O" 168+61.02 PT

N 30°29'03" W ~ 421.42'

170+00

168+86 (29) D10-202

(23) 165+01 W1-8

(24) 165+71 W1-8

(25) 166+48 W1-8

(26) 167+22 W1-8

(27) 168+00 W1-8

(28) 168+82 W1-8

(30) 170+63 W1-2L, W13-1P

"O" 172+82.45 PC

"O"175+80.47 PI
Δ = 24°18'16"
D = 4°08'24"
T = 298.02'
L = 587.08'
R = 1384.00'
S = 6.0 %

175+00

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
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PROFILE GRADE
EXISTING GROUND

EXISTING GROUND

EXISTING GROUND

1130	1120	1110	1100	1090	1080	1070	1060	1050
1220	1210	1200	1190	1180	1170	1160	1150	1140

1053.9	1059.4	1065.4	1070.5	1076.3	1082.0	1087.7	1093.1	1098.5	1103.6	1108.3	1112.8	1117.0	1121.2	1124.3	1127.4	1130.7	1133.9	1136.9	1140.1	1143.5	1146.6	1150.3	1153.7	1156.9	1160.5	1164.0	1167.6	1171.2	1174.8	1178.6

146+00 155+00 160+00 165+00 170+00 175+00 176+00

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H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-146+00.00-176+00.00 (1) Tue, Jun/13/23 11:45am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F6	F17

MATCH "O" 176+00 LINE

181+03
W1-2L, W13-1P (31)

"O"175+80.47 PI
Δ = 24°18'16"
D = 4°08'24"
T = 298.02'
L = 587.08'
R = 1384.00'
S = 6.0 %

"O"178+69.53 PT

N 6°10'48" W ~ 858.60'

186+09
W1-2L, W13-1P (32)

50 MPH

"O"187+28.12 PC

"O"191+00.53 PI
Δ = 42°05'07"
D = 5°55'08"
T = 372.41'
L = 711.02'
R = 968.00'
S = 6.0 %

"O"194+39.14 PT

N 48°15'55" W ~ 956.74'

"O"203+95.88 PC

"O"207+02.91 PI
Δ = 16°18'24"
D = 2°40'25"
T = 307.03'
L = 609.90'
R = 2143.00'
S = 5.4 %

MATCH "O" 206+00 LINE

176+00 180+00 185+00 190+00 195+00 200+00 205+00

PROFILE GRADE
(EXISTING GROUND)

3.3239%

EXISTING GROUND

EXISTING GROUND

1260 1250 1240 1230 1220 1210 1200 1190 1180

1260 1250 1240 1230 1220 1210 1200 1190 1180

1350 1340 1330 1320 1310 1300 1290 1280 1270

1350 1340 1330 1320 1310 1300 1290 1280 1270

1178.6 1182.3 1185.5 1189.2 1192.9 1196.8 1200.6 1204.3 1207.3 1210.3 1213.3 1217.1 1220.9 1223.6 1226.4 1230.0 1234.0 1238.6 1243.7 1248.6 1254.0 1259.4 1264.6 1270.0 1274.6 1278.9 1283.0 1286.7 1290.4 1294.4 1298.2

STATE OF ALASKA
49 TH
JOHN JARO NETARDUS
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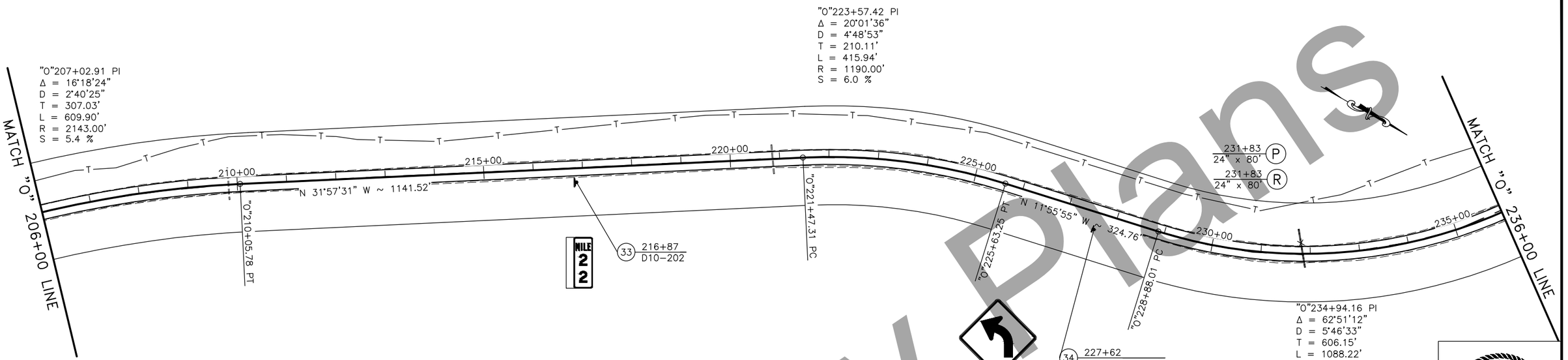
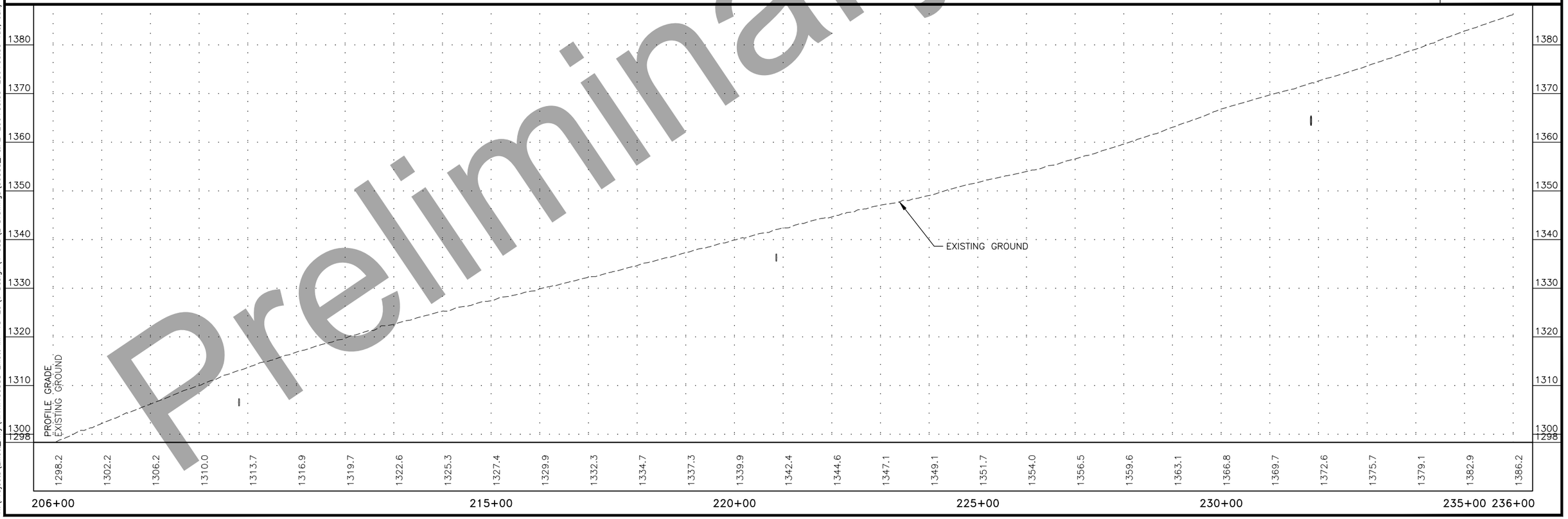
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F7	F17





STATE OF ALASKA 49TH
JOHN JARO NETARDUS
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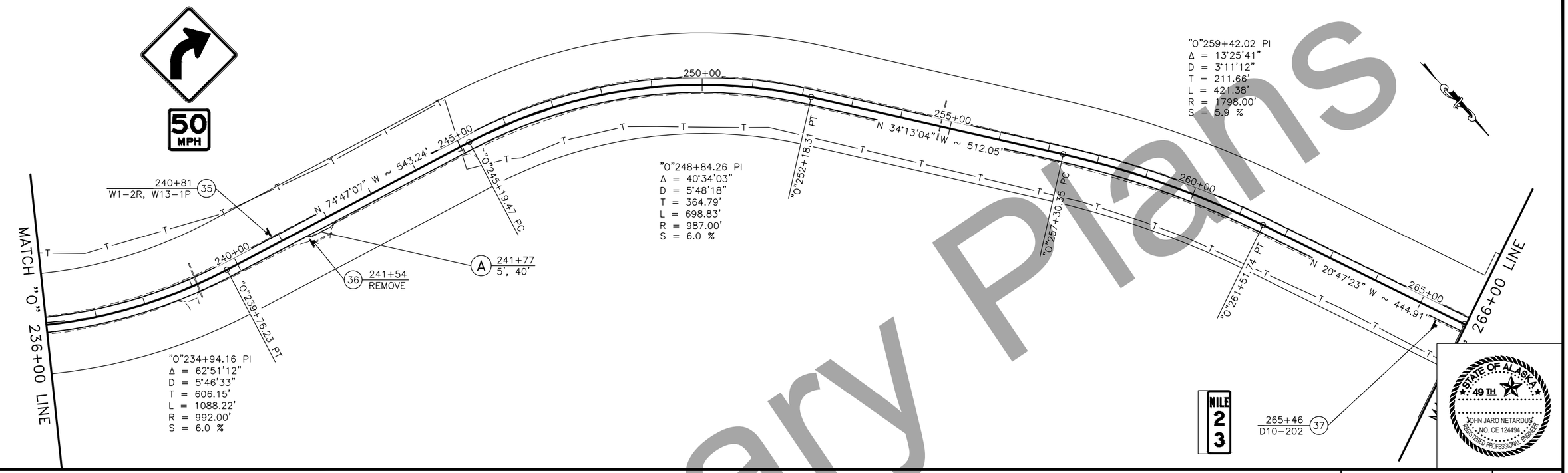
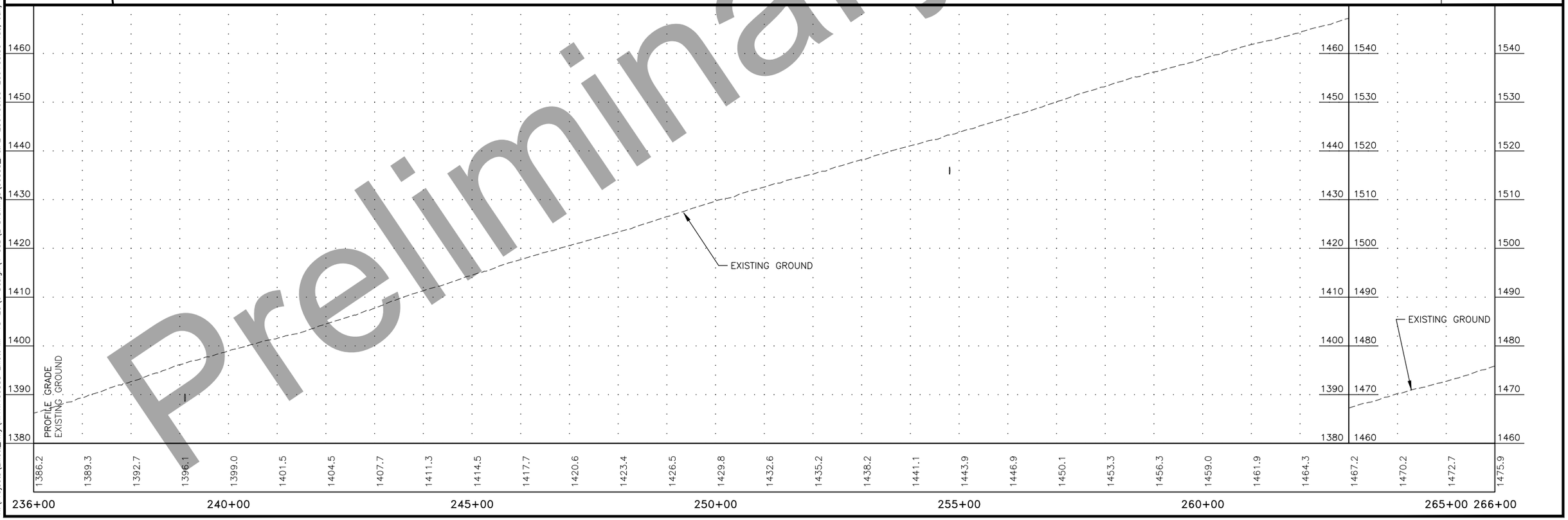
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-206+00.00-236+00.00 Tue, Jun/13/23 11:51am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F8	F17





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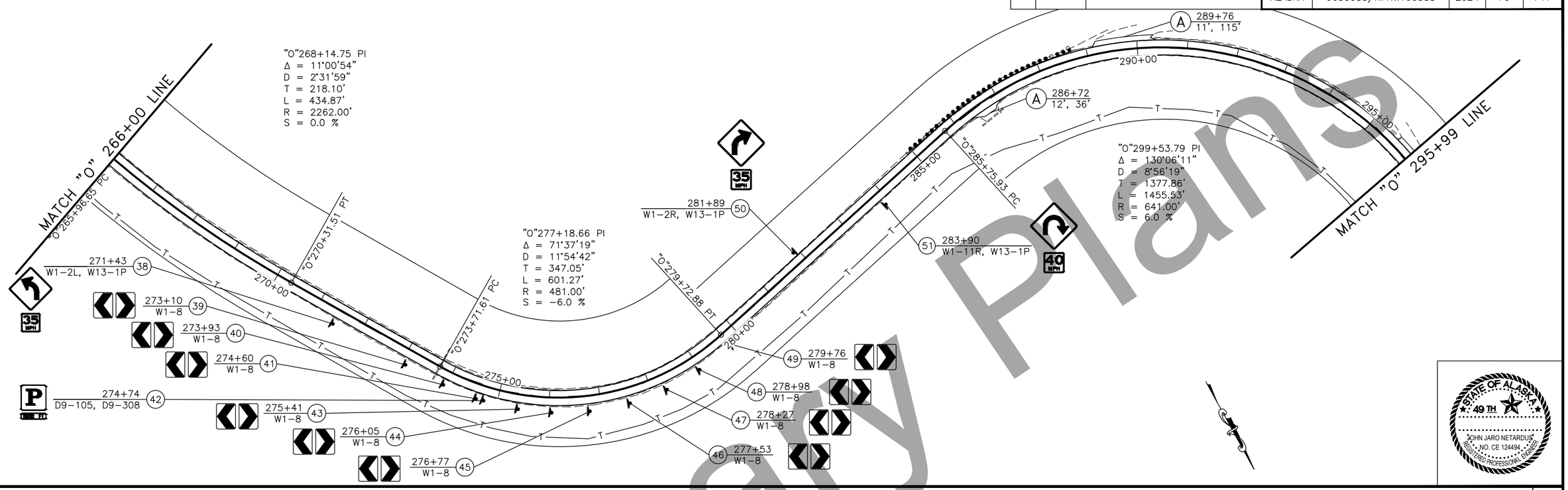
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-236+00.00-266+00.00 Tue, Jun/13/23 11:52am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F9	F17



STATE OF ALASKA
49 TH
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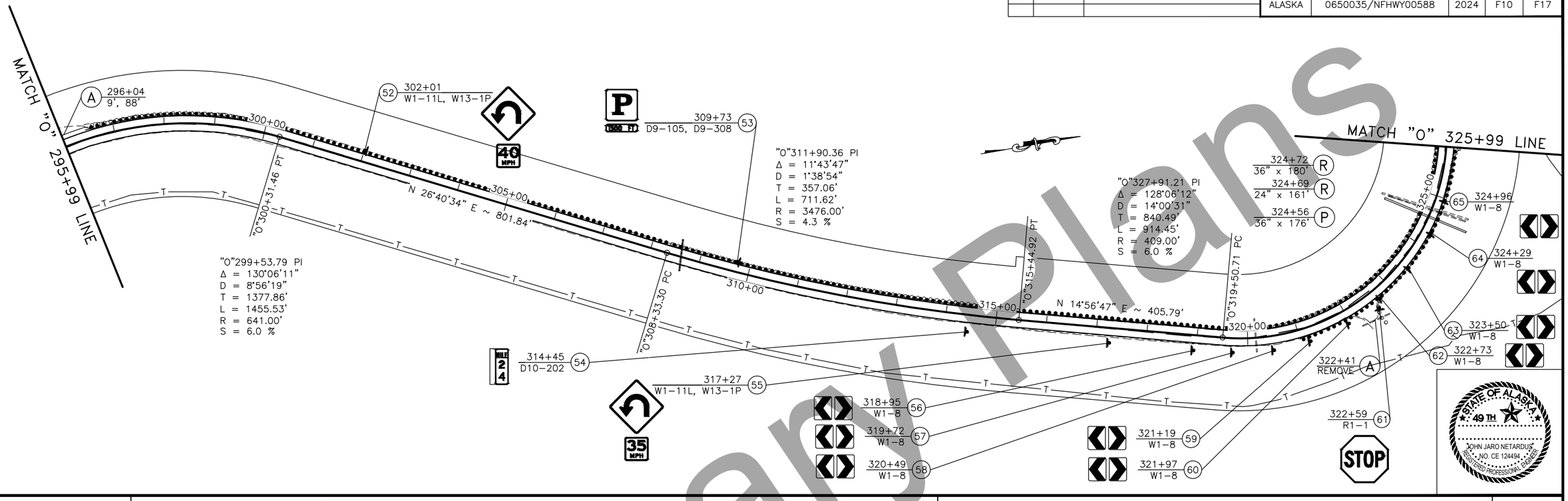
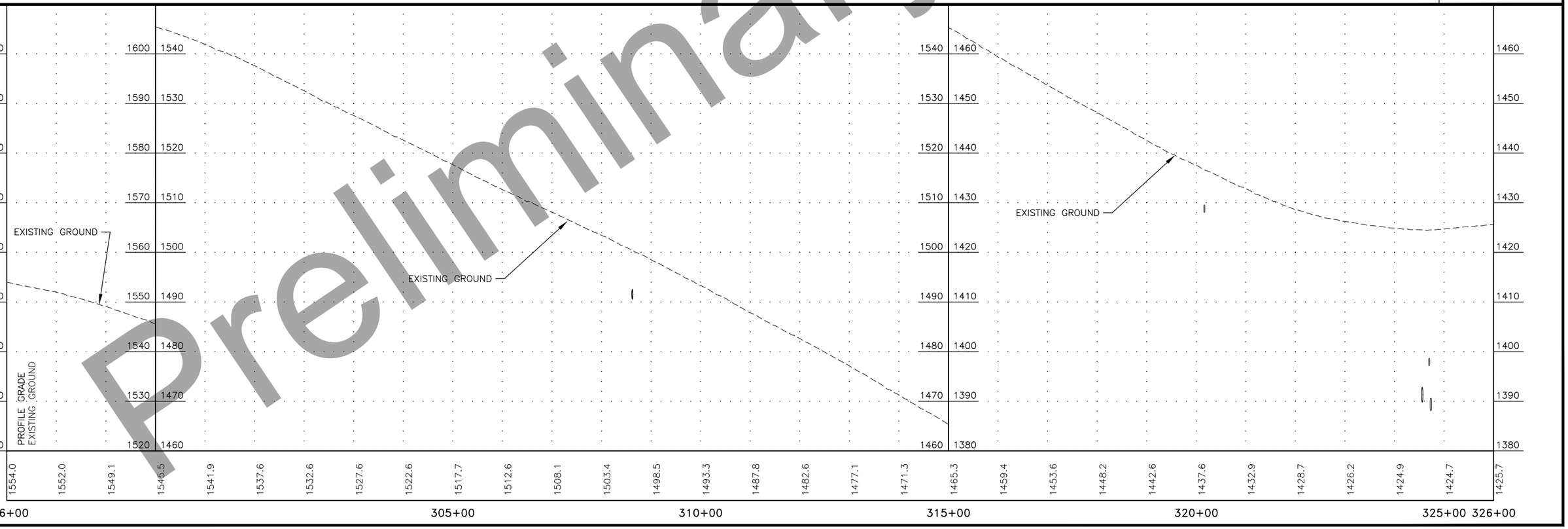
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F10	F17





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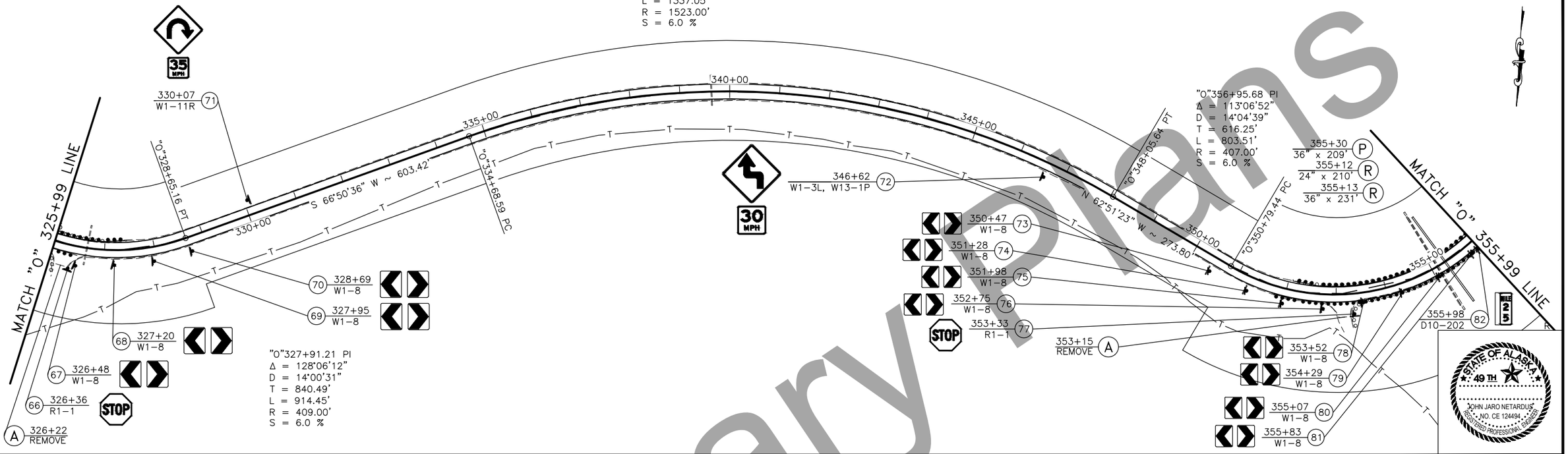
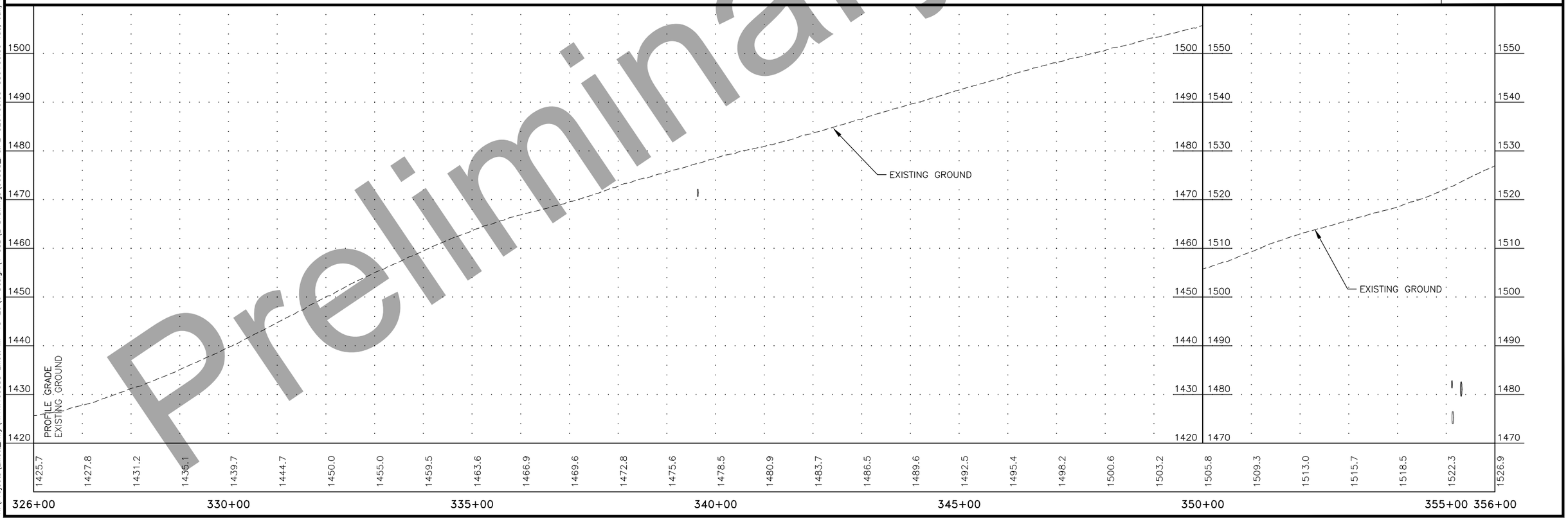
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-296+00.00-326+00.00 Tue, Jun/13/23 11:58am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F11	F17





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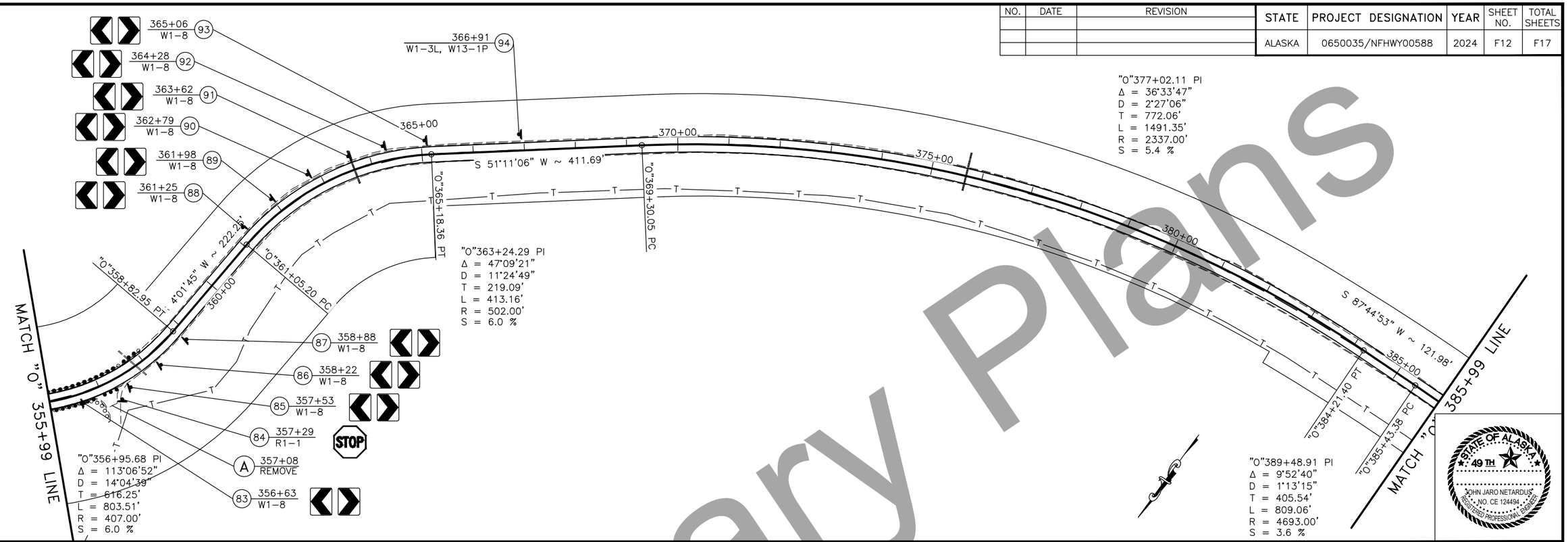
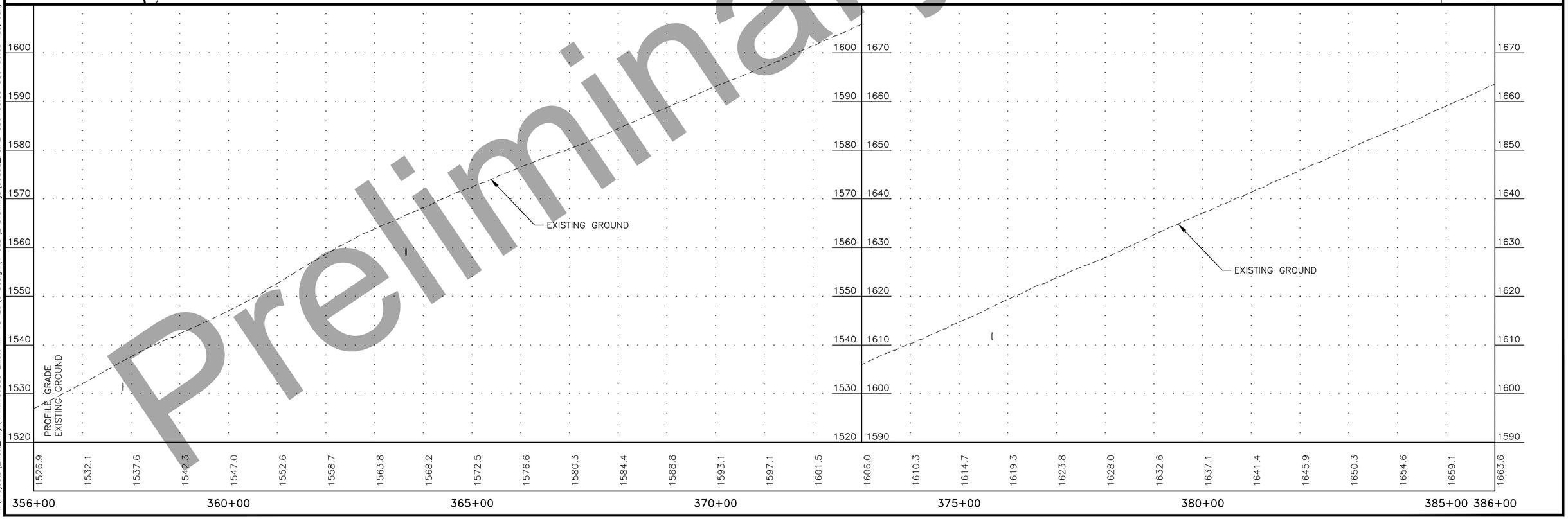
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2_326+00.00-356+00.00 Tue, Jun/13/23 12:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F12	F17





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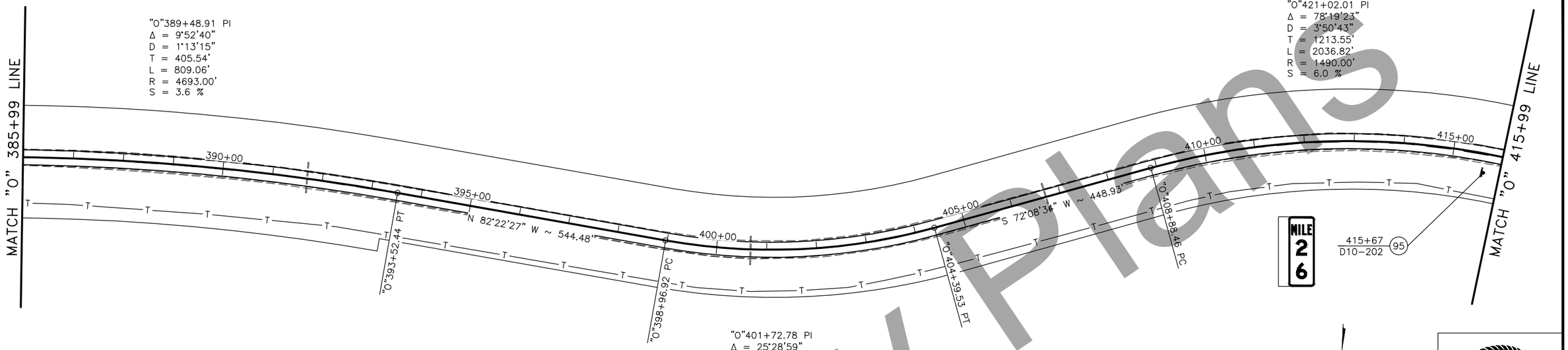
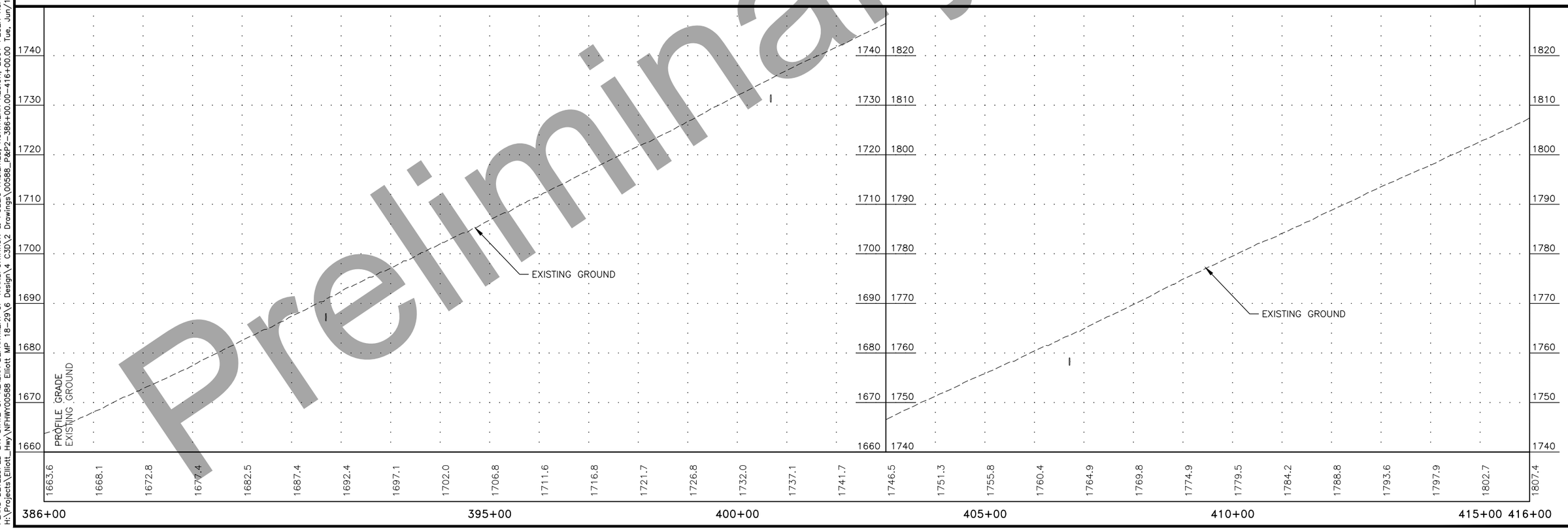
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-356+00.00-386+00.00 Tue, Jun/13/23 12:08pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F13	F17





STATE OF ALASKA 49TH
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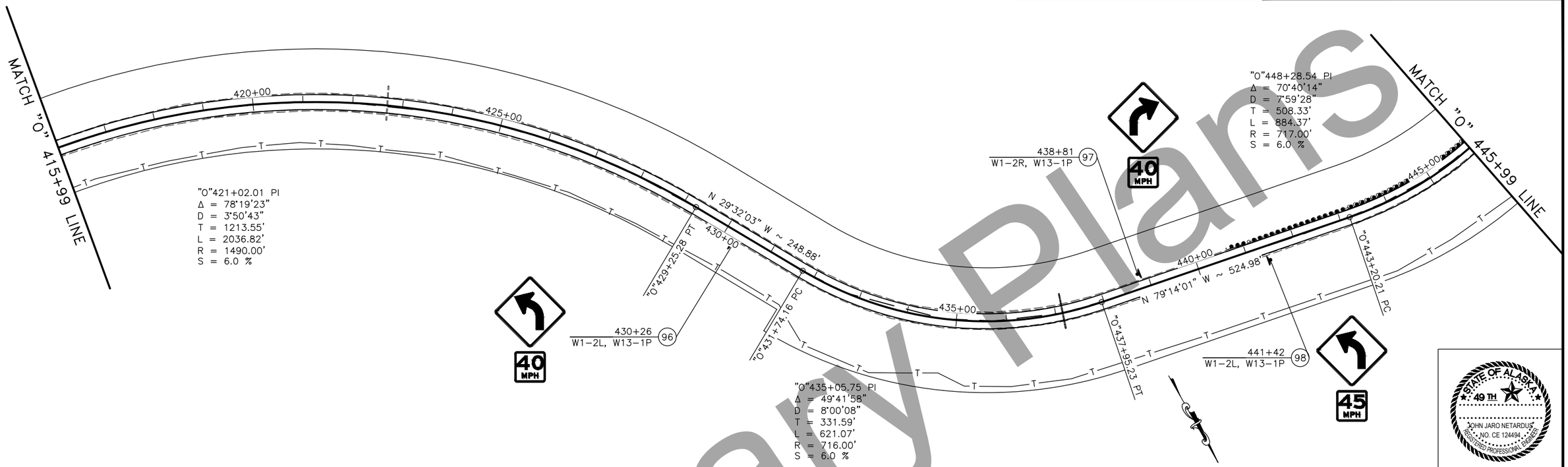
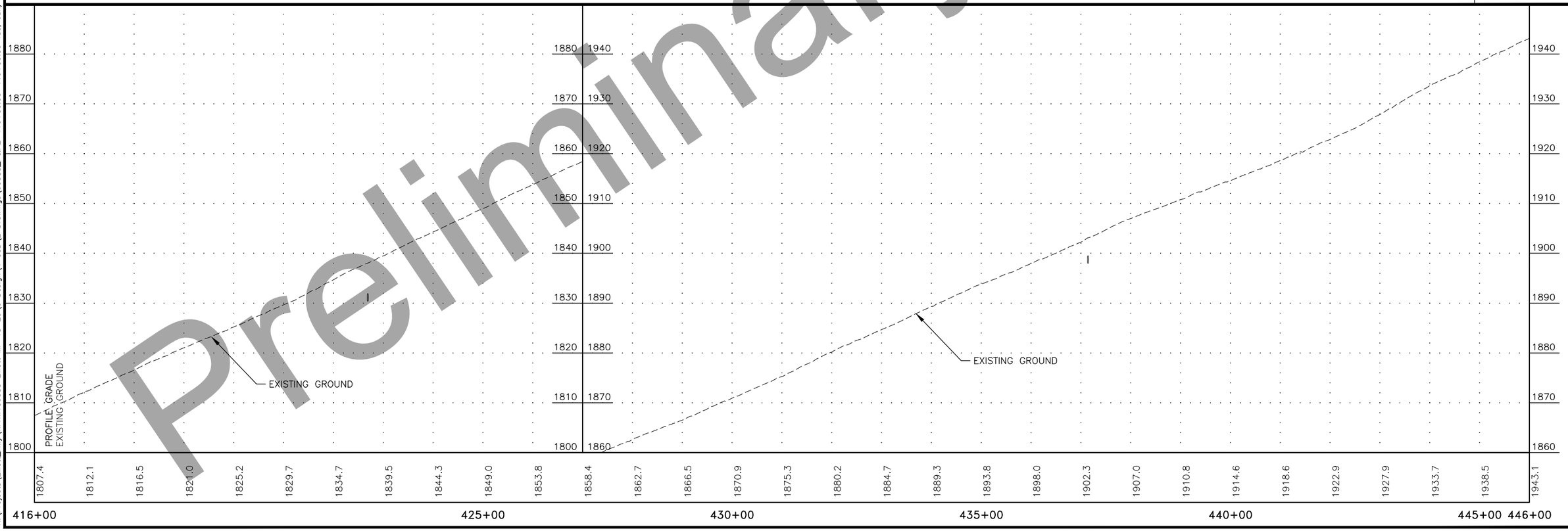
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F14	F17



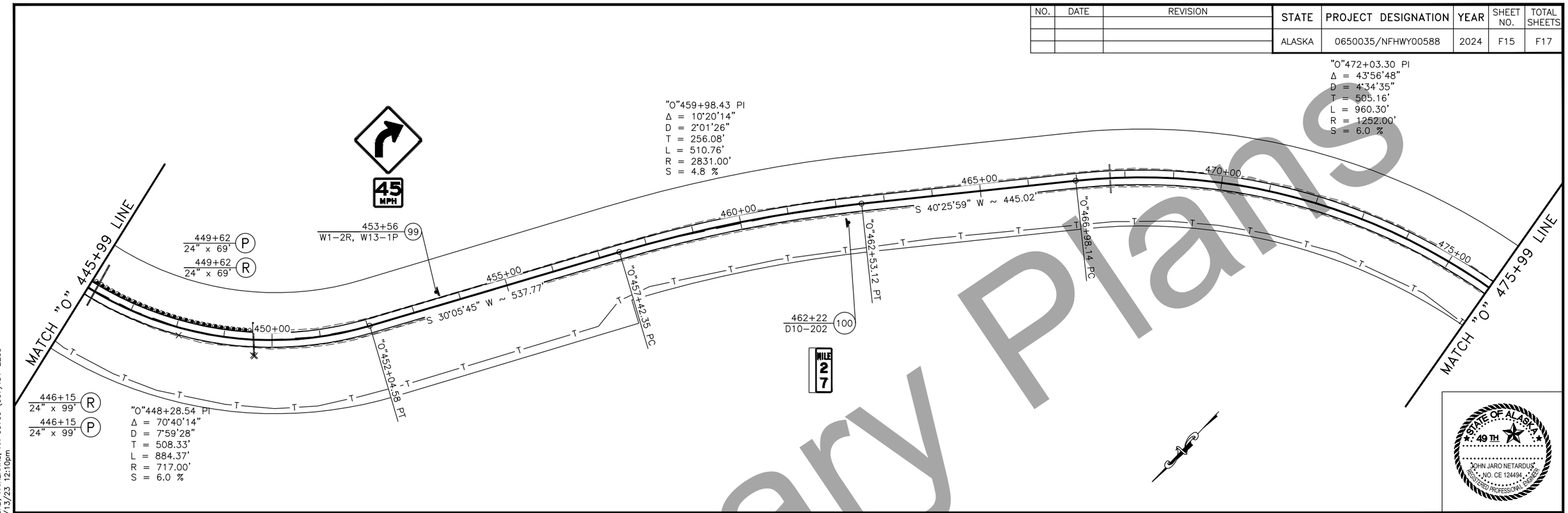


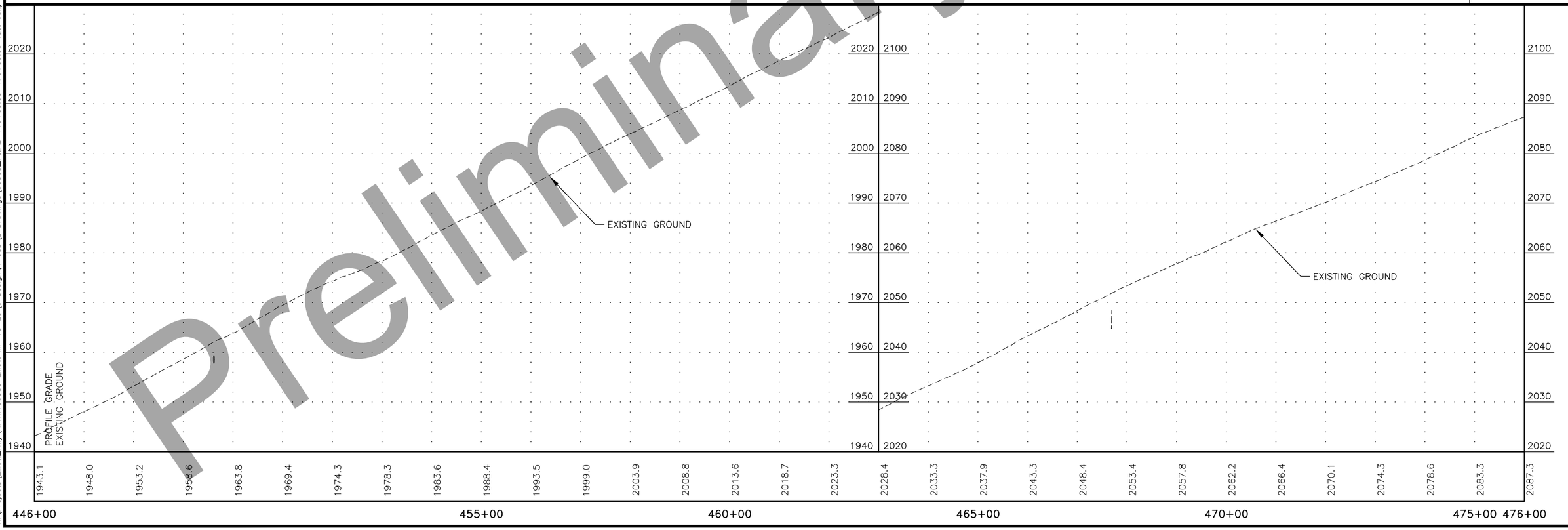
STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-416+00.00-446+00.00 Tue, Jun/13/23 12:09pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F15	F17



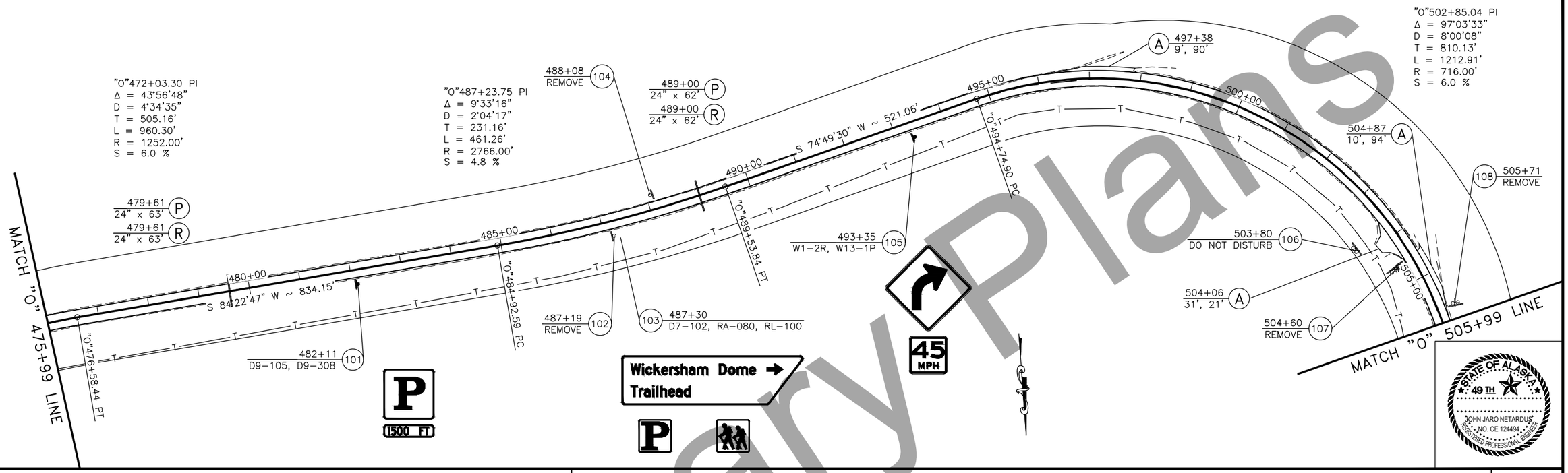


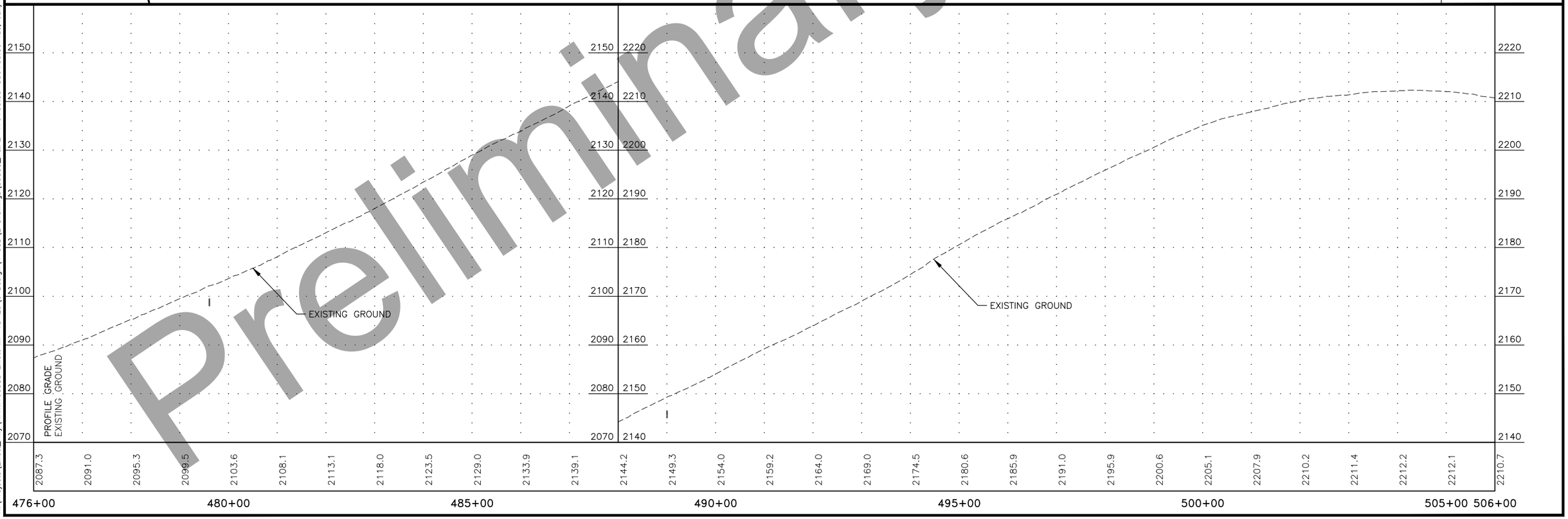
STATE OF ALASKA
49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-446+00.00-476+00.00 Tue, Jun/13/23 12:10pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F16	F17





STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
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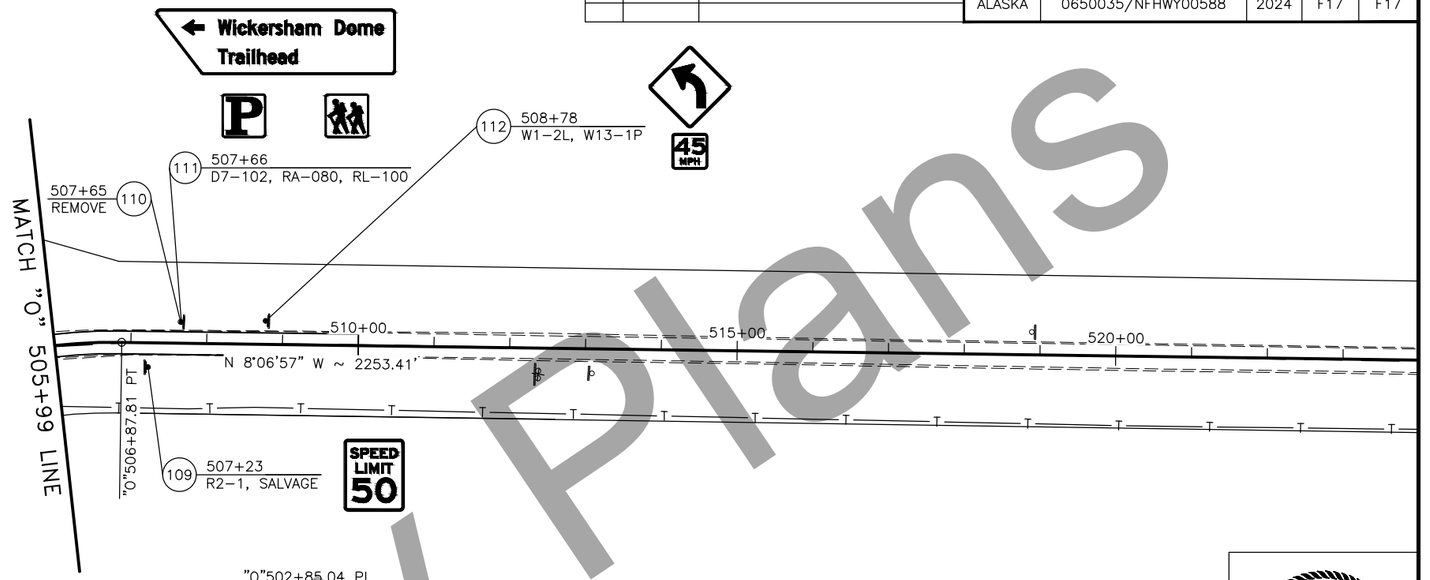
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-476+00.00-506+00.00 Tue, Jun/13/23 12:11pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	F17	F17



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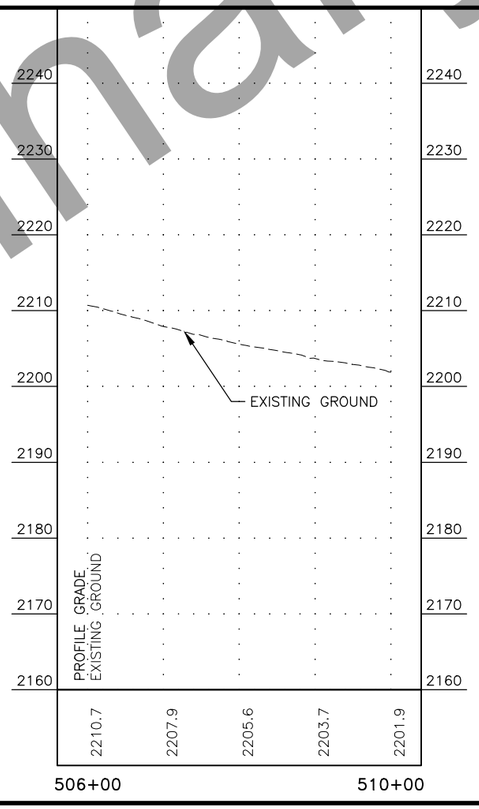
D = 8°00'08"
T = 810.13'
L = 1212.91'
R = 716.00'
S = 6.0 %



STATE OF ALASKA 49TH
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PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_P&P2-506+00.00-510+00.00 Tue, Jun/13/23 12:11pm Tue, Jun/13/23 12:11pm

NO.	DATE	REVISION

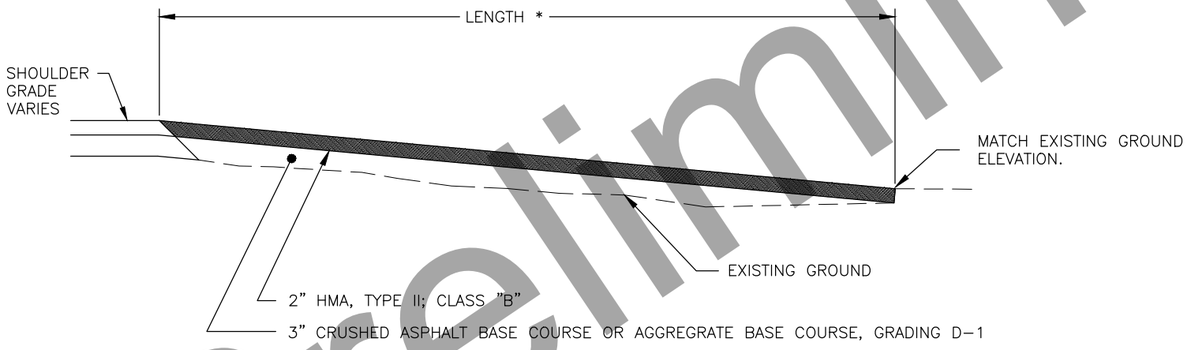
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	G1	G1

APPROACH SUMMARY

APPROACH	CENTERLINE STATION	LT	RT	WIDTH (FT)	LENGTH (FT)	REMARKS
1	25+89		X	20	49	
2	121+97		X	57	36	
3	124+94		X	32	25	
4	146+40		X	24	15	
5	160+74	X		15	37	
6	166+44		X	23	31	
7	241+77		X	43	6	
8	286+72		X	26	12	
9	289+76	X		23	11	
10	296+04	X		23	13	
11	322+41		X	23	34	DO NOT PAVE
12	326+22		X	27	30	DO NOT PAVE
13	353+15		X	23	32	DO NOT PAVE
14	357+08		X	21	30	DO NOT PAVE
15	497+38	X		36	39	
16	504+06		X	21	31	
17	504+87	X		36	36	

APPROACH DETAIL NOTES:

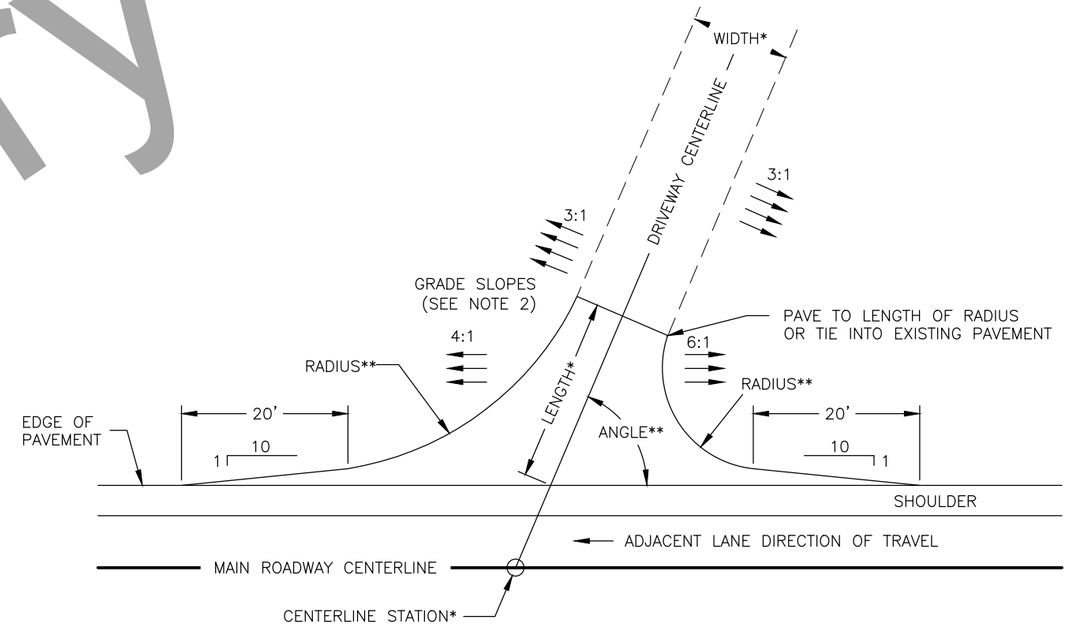
1. APPROACH DIMENSIONS AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
2. REMOVAL OF EXISTING APPROACH EMBANKMENT WILL NOT BE MEASURED FOR PAYMENT AND IS SUBSIDIARY.
3. BLEND AND GRADE FOR A SMOOTH TRANSITION BETWEEN THE DRIVEWAY AND THE EXISTING GROUND.
4. APPROACH RADIUS BEGINS AT END OF TAPER.
5. ENSURE POSITIVE DRAINAGE AWAY FROM THE ROADWAY AND DRIVEWAY EMBANKMENTS.
6. DRIVEWAY AND APPROACH TERMS ARE USED INTERCHANGEABLY.
7. STAKE EACH APPROACH AND PROVIDE THE ENGINEER WITH GRADING DETAILS FOR APPROACH LANDING, TRANSITION, AND SIDE SLOPES; OBTAIN ENGINEER APPROVAL PRIOR TO DEMOLITION OR CONSTRUCTION OF ANY APPROACH.
8. REPAVE APPROACH RADII AND SKEW ANGLE TO MATCH EXISTING CONDITIONS.



APPROACH PROFILE CROSS-SECTION TYPICAL

* ACCORDING TO THE VALUES LISTED IN THE APPROACH SUMMARY

** SEE NOTE 8.



APPROACH PLAN VIEW

APPROACH SUMMARY

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
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\elliott_hwy\nfhwy00588 elliott mp 18-29\6 Design\4 C3D\2 drawings\00588_Approaches-G1 - Approach Summary Fri, Jun/16/23 11:42am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	H1	H4

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X W (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	27+28		X	I-3	Washington Creek	42 X 18	X		5.25			PST	2.5	2	
2	28+75	X		I-3	Washington Creek	42 X 18	X		5.25			PST	2.5	2	
3	68+60		X	D10-202	MP 19	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
4	106+38		X	D9-105	PARKING (SYMBOL)	24 X 24	X		4.0			PST	2.5	1	
				D9-308	1500 FT	24 X 6			1.0						BLUE BACKGROUND
5	118+40		X	D10-202	MP 20	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
6	122+41		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18			2.25						
7	130+91		X		DIP										SALVAGE
8	138+37	X		W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18			2.25						
9	140+45	X		D9-105	PARKING (SYMBOL)	24 X 24	X		4.0			PST	2.5	1	
				D9-308	1500 FT	24 X 6			1.0						BLUE BACKGROUND
10	141+60	X			DIP										SALVAGE
11	155+28		X	W1-2R	CURVE (RIGHT)	36 X 36	X		9.0			PST	2.5	1	
				W13-1P	35 MPH	24 X 24			4.0						
12	158+05	X		W1-8	CHEVRON (SYMBOL)	24 X	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
13	158+45	X		W7-1	STEEP GRADE (SYMBOL)	36 X 36	X		9.00			PST	2.5	1	
14	159+04	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
15	159+74	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
16	160+39	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
17	160+56				STOP										DO NOT DISTURB
18	161+17	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
19	161+96	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
20	162+76	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
21	163+46	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
22	164+23	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
23	165+01	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
24	165+71	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
25	166+48	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X W (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
26	167+22	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
27	168+00	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
28	168+82	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0		E/W	PST	2.5	1	2 SIGNS BACK TO BACK
29	168+86		X	D10-202	MP 21	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
30	170+63	X	X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	35 MPH	18 X 18			2.25						
31	181+03	X		W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	50 MPH	18 X 18			2.25						
32	186+09		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	50 MPH	18 X 18			2.25						
33	216+87		X	D10-202	MP 22	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
34	227+62		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	50 MPH	18 X 18			2.25						
35	240+81			W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
		X		W13-1P	50 MPH	18 X 18			2.25						
36	241+54		X		MP 22.5										REMOVE
37	265+46		X	D10-202	MP 23	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
38	271+43		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	35 MPH	18 X 18			2.25						
39	273+10		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
40	273+93		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
41	274+60		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
42	274+74		X	D9-105	PARKING (SYMBOL)	24 X 24	X		4.0			PST	2.5	1	
				D9-308	1500 FT	24 X 6			1.0						BLUE BACKGROUND
43	275+41		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
44	276+05		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
45	276+77		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
46	277+53		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
47	278+27		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
48	278+98		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
49	279+76		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
50	281+89	X		W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	35 MPH	18 X 18			2.25						

POST TYPE LEGEND:

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

SIGNING SUMMARY 1 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\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Sign Summary-Signing Summary 1 Tue, Jun/13/23 09:28am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	H2	H4

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X W (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
51	283+90		X	W1-11R	HAIRPIN CURVE (SYMBOL)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18	X		2.25						
52	302+01	X		W1-11L	HAIRPIN CURVE (SYMBOL)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18	X		2.25						
53	309+73	X		D9-105	PARKING (SYMBOL)	24 X 24	X		4.0			PST	2.5	1	
				D9-308	1500 FT	24 X 6			1.0						BLUE BACKGROUND
54	314+45		X	D10-202	MP 24	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
55	317+27		X	W1-11L	HAIRPIN CURVE (SYMBOL)	30 X 30	X		6.25			PST	2.5	1	
				W13-IP	35 MPH	18 X 18			2.25						
56	318+95		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
57	319+72		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
58	320+49		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
59	321+19		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
60	321+97		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
61	322+59		X	R1-1	STOP SIGN	36 X 36	X		9.00			PST	2.5	1	
62	322+73		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
63	323+50		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
64	324+29		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
65	324+96		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
66	326+36		X	R1-1	STOP SIGN	36 X 36	X		9.00			PST	2.5	1	
67	326+48		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
68	327+20		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
69	327+95		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
70	328+69		X	W1-8	CHEVRON (SYMBOL)	18 X 24	X		6.0			PST	2.5	1	2 SIGNS BACK TO BACK
71	330+07	X		W1-11R	HAIRPIN CURVE (SYMBOL)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	35 MPH	18 X 18			2.25						
72	346+62	X		W1-3L	REVERSE TURN (SYMBOL)	36 X 36	X		9.0			PST	2.5	1	
				W13-1P	30 MPH	24 X 24			4.0						
73	350+47		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X W (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
74	351+28		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
75	351+98		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
76	352+75		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
77	353+33		X	R1-1	STOP SIGN	36 X 36	X		9.00			PST	2.5	1	
78	353+52		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
79	354+29		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
80	355+07		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
81	355+83		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
82	355+98		X	D10-202	MP 25	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
83	356+63		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
84	357+29		X	R1-1	STOP SIGN	36 X 36	X		9.00			PST	2.5	1	
85	357+53		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
86	358+22		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
87	358+88		X	W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
88	361+25	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
89	361+98	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
90	362+79	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
91	363+62	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
92	364+28	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
93	365+06	X		W1-8	CHEVRON (SYMBOL)	24 X 30	X		10.0			PST	2.5	1	2 SIGNS BACK TO BACK
94	366+91	X		W1-3L	LEFT REVERSE TURN (SYMBOL)	36 X 36	X		9.0			PST	2.5	1	
				W13-1P	30 MPH	24 X 24			4.0						
95	415+67		X	D10-202	MP 26	14 X 27	X		2.63			PST	2.5	1	
96	430+26		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18			2.25						
97	438+81	X		W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	40 MPH	18 X 18			2.25						

POST TYPE LEGEND:

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

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Sign Summary-Signing Summary 2 Tue, Jun/13/23 09:31am

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

SIGNING SUMMARY 2 OF 3

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	H3	H4

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X W (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
98	441+42		X	W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	45 MPH	18 X 18			2.25						
99	453+56	X		W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	45 MPH	18 X 18			2.25						
100	462+22		X	D10-202	MP 27	14 X 27	X		2.63			PST	2.5	1	MESSAGE ON BOTH SIDES
101	482+11		X	D9-105	PARKING (SYMBOL)	24 X 24	X		4.0			PST	2.5	1	
				D9-308	1500 FT	24 X 6			1.0						BLUE BACKGROUND
102	487+19		X		WICHERSHAM DOME TRAILHEAD										REMOVE
					1500 FT										
103	487+30		X	D7-102	Wickersham Dome -> Trailhead	132 X 36		X	33.0			TS	3	2	
				RA-080	PARKING (SYMBOL)	24 X 24			4.0						
				RL-100	HIKING (SYMBOL)	24 X 24			4.0						
104	488+08	X		???											NO SIGN - ONLY BASE
105	493+36		X	W1-2R	CURVE (RIGHT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	45 MPH	18 X 18			2.25						
106	503+80		X		WICKERSHAM DOME TRAILHEAD WHITE MOUNTAINS NATIONAL RECREATION AREA BLM										DO NOT DISTURB
107	504+60		X		ENTERING LIVENGOOD - TOLOVANA MINING DISTRICT										REMOVE
108	505+71	X			ENTERING FAIRBANKS MINING DISTRICT										REMOVE
109	507+23		X	R2-1	SPEED LIMIT 50 MPH	30 X 36	X		7.5			PST	2.5	1	
					15 MPH WHEN PASSING CREW										SALVAGE
110	507+65				WICKERSHAM DOME TRAILHEAD										REMOVE
111	507+66	X		D7-102	<- Wickersham Dome Trailhead	132 X 36		X	33.0			TS	3	2	
				RA-080	PARKING (SYMBOL)	24 X 24			4.0						
				RL-100	HIKING (SYMBOL)	24 X 24			4.0						
112	508+78	X		W1-2L	CURVE (LEFT)	30 X 30	X		6.25			PST	2.5	1	
				W13-1P	45 MPH	18 X 18			2.25						

POST TYPE LEGEND:

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

SIGNING SUMMARY 3 OF 3

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

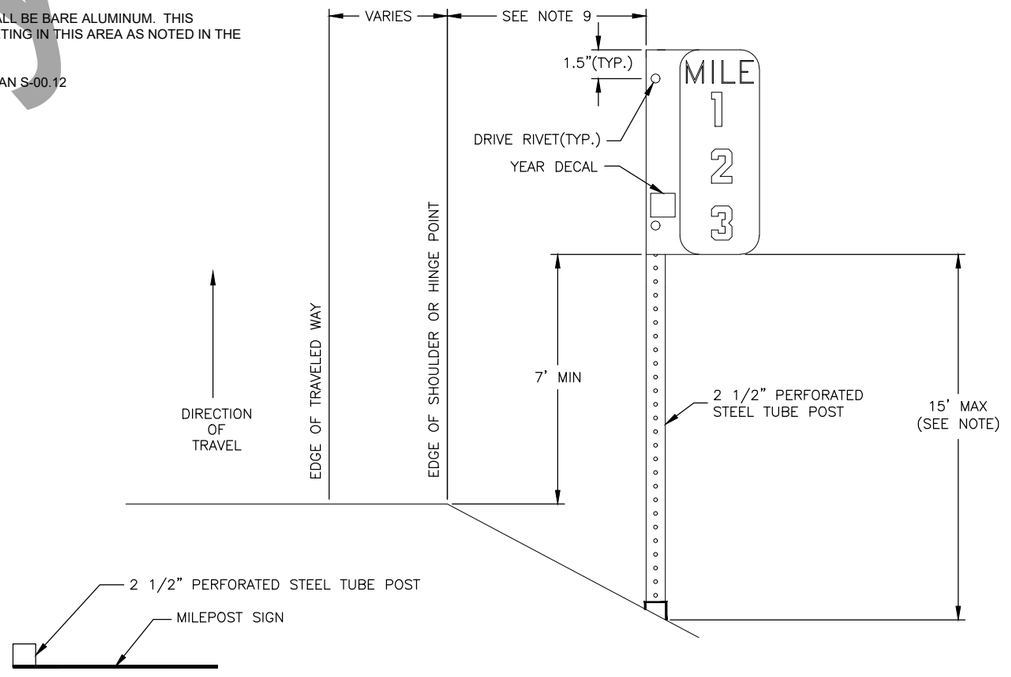
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Sign Summary-Signing Summary 3 Tue, Jun/13/23 09:31am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	H4	H4

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. INSTALL MILEPOST SIGNS (D10 SERIES) IN ACCORDANCE WITH STANDARD PLAN S-05.02, EXCEPT WITH A 15 TO 30 FOOT OFFSET. REDUCE THE OFFSET AS NECESSARY SO THE BOTTOM OF THE SIGN IS NO MORE THAN 15 FEET ABOVE THE GROUND. THE SIGN OFFSET SHALL NOT BE LESS THAN THE OFFSETS SHOWN IN S-05.02.
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 CONCRETE FOUNDATION OR SOIL EMBEDMENT. EMBED PST IN SLEEVE 24". PER STANDARD PLAN S-30.05. 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. INSTALL 48" DIAMOND WARNING SIGNS ON A SINGLE POST WITH A BRACE HAVING EFFECTIVE BRACE LENGTH OF 54" OR WITH THREE WIND FRAMING MEMBERS AS SHOWN ON STANDARD PLAN S-00.12. THIS MODIFIES STANDARD PLAN S-01.02.
8. 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.
9. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" UNDER SECTION 730-2.07 OF THE SSHC.
10. STOP (R1-1) AND YIELD (R1-2) SIGN LOCATIONS, ESPECIALLY THOSE AT LARGE RADIUS INTERSECTIONS, MAY NEED ADJUSTMENT IN THE FIELD. THE ENGINEER WILL APPROVE FINAL LOCATIONS.
11. INSTALL D3-100 SIGNS ABOVE THEIR RESPECTIVE STOP SIGNS. WHEN TWO D3-100 SERIES SIGNS ARE TO BE LOCATED ON THE SAME POST, INSTALL THE CROSS-STREET PANEL IN THE LOWER POSITION.
12. D3-100 SERIES SIGNS REQUIRE TWO SEPARATE SINGLE SIDED PANELS. END-BRACE PANELS PER SMALL STREET NAME SIGN BRACING DETAILS IN STANDARD PLAN S-01.01.
13. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
14. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
15. USE SERIES C LETTERS FOR D3-100 SERIES SIGNS UNLESS OTHERWISE NOTED. USE 4.5" FOR DIMENSION "E" FOR 12" D3-100 SIGNS. THE LETTERING INDICATING THE TYPE OF STREET (SUCH AS St, Ave, OR Rd) WILL BE UPPER CASE AND LOWER CASE. THIS MODIFIES THE ASDS.
16. USE A 3" HORIZONTAL SPACING BETWEEN WORDS, BETWEEN CARDINAL DIRECTIONS AND WORDS, AND BETWEEN WORDS AND NUMBERS ON D3-100 AND D3-100A SIGNS UNLESS OTHERWISE NOTED.
17. LOCATE AND PROTECT 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.
18. 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.
19. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
20. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
21. HINGED JOINTS WITH FRANGIBLE FUSE PLATES ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGN, INSTEAD OF THE 6" MINIMUM SHOWN ON STANDARD PLAN S-31.02. SEE MANUFACTURER'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.
22. INSTALL TS SIGN POST BASES AND FOUNDATIONS BEHIND BARRIER IN ACCORDANCE WITH STANDARD PLAN S-32.02. PLACE SIGNS TO MEET 3' MINIMUM TO EDGE OF SIGN AND 5' MINIMUM TO SIGN POST FROM FACE OF GUARDRAIL.
23. THE 4" MOUNTING AREA ON MILEPOST SIGNS (D10-200 SERIES) SHALL BE BARE ALUMINUM. THIS ELIMINATES THE OPTION OF INSTALLING GREEN REFLECTIVE SHEETING IN THIS AREA AS NOTED IN THE ASDS.
24. ADHESIVE TAPE IS NOT PERMITTED. THIS MODIFIES STANDARD PLAN S-00.12



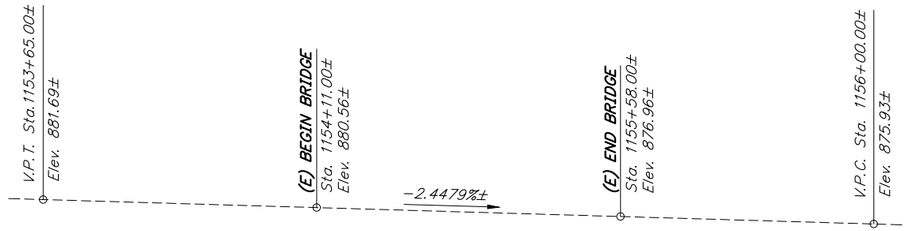
MILEPOST DETAIL
(D10-202)

SIGNING SUMMARY 4

STATE OF ALASKA 49TH
JOHN JARO NETARDUS
NO. CE 124494
REGISTERED PROFESSIONAL ENGINEER

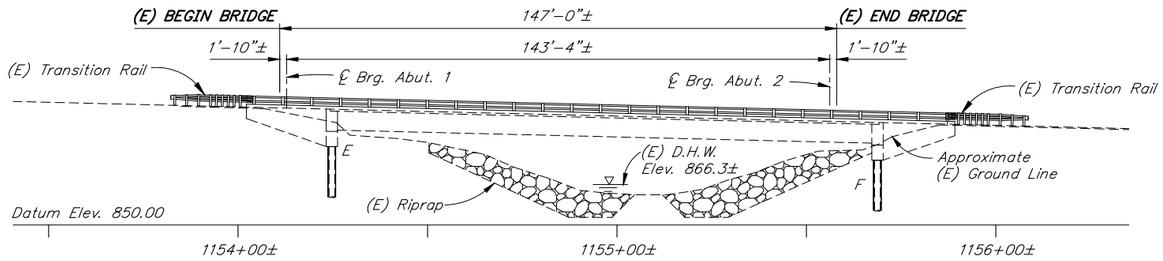
PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588 Sign Summary-Signing Summary 4 Tue, Jun/13/23 09:32am

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00588	2023	N1	N4

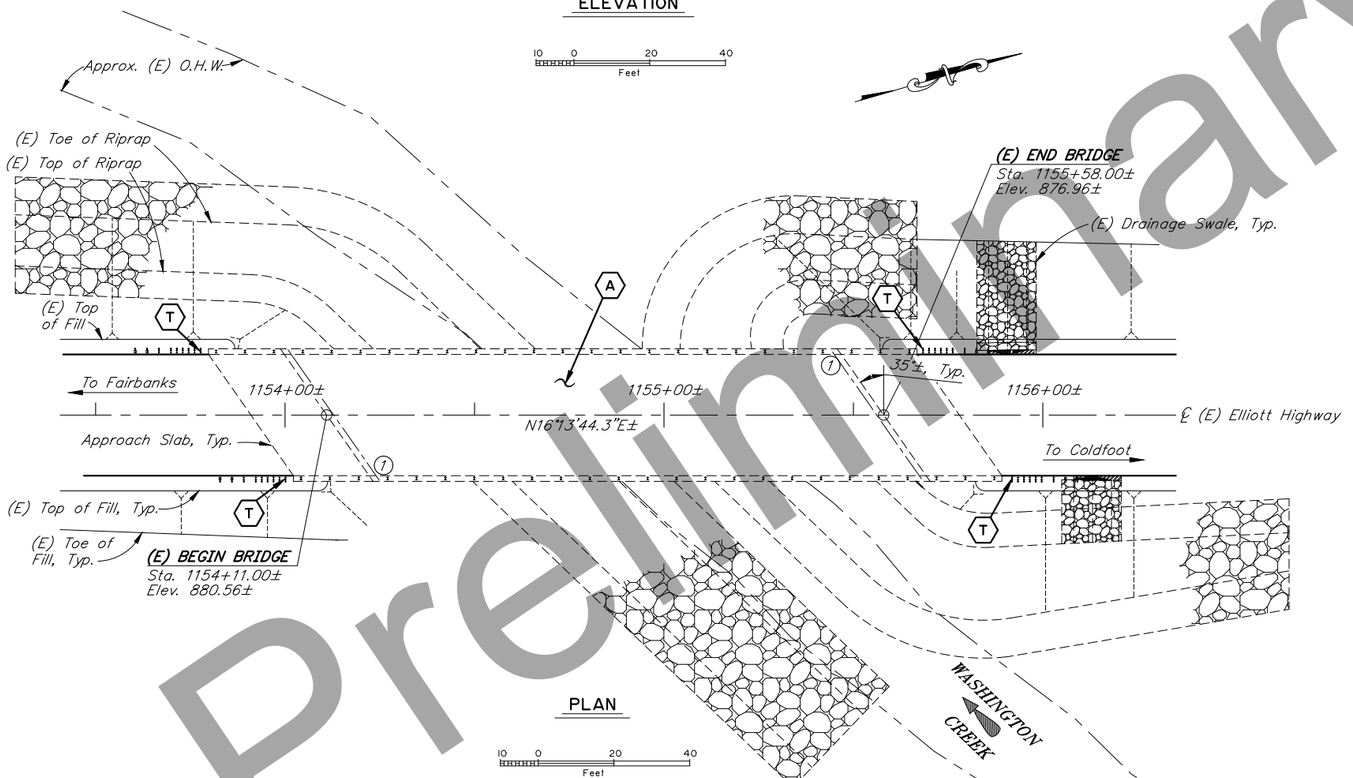


PROFILE GRADE DATA

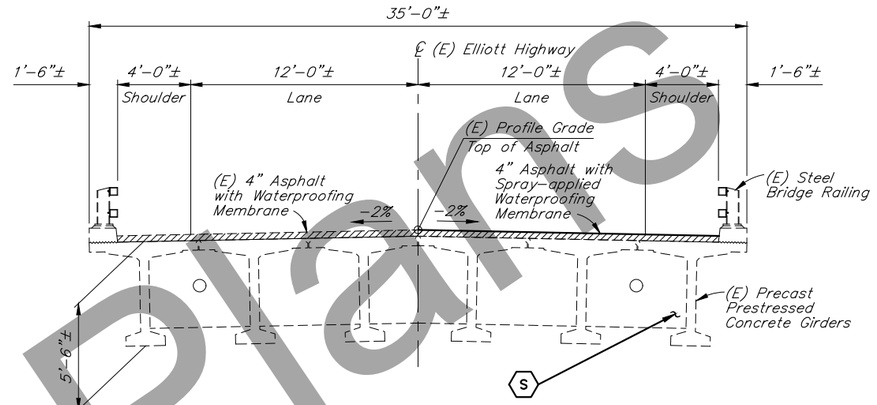
No Scale



ELEVATION



PLAN



TYPICAL SECTION

LEGEND

- (A) – Remove and replace 4"± Asphalt w/ Waterproofing Membrane, spray-applied
- (S) – Repair Spalls
- (T) – Replace Thrie Beam to W-Beam Transition section

BRIDGE DRAWING INDEX

NOTES:

(E) = Existing

– – – – – = Existing

——— = Proposed

Bridge elevations are based on 2006 as-built drawings.

For project stations and elevations, see roadway sheets.

Verify controlling field dimensions before ordering or fabricating any material.

(1) *Approximate location of Bridge Number Plate.*

The following Alaska Standard Plans apply to this project: G-00, G-05, G-05.11S, G-10.21, G-32.03

PRELIMINARY PLAN

REHABILITATION

DESIGNED BY: Julie Tibor	CHECKED: Nick Murray	LAYOUT BY: Julie Tibor	CHECKED BY: Nick Murray
DRAWN BY: Javier De Leon	CHECKED: Julie Tibor	SPECIFICATIONS BY: Julie Tibor	P S & E COMPARED: Nick Murray
QUANTITIES BY: Julie Tibor	CHECKED: Nick Murray	APPROVAL RECOMMENDED BY: Leslie Daugherty	

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

WASHINGTON CREEK BRIDGE

ELLIOTT HIGHWAY

GENERAL LAYOUT

BRIDGE NO. 838

DWG. NO. 1

R:\cad\838\838 Rehab-GEN Mon, Jan/09/23 04:21pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00588	2023	N2	N4

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBSTRUCURE	SUPERSTRUCTURE	TOTAL QUANTITY
501.2001.0000	Spall Repair	SF	SF	---	5	5
508.0001.0000	Waterproofing Membrane, Spray-Applied	LS	SF	---	5,984	5,984
606.0016.0001	Transition Rail, Modification	EA	EA	---	4	4

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

GENERAL NOTES

DESIGN:..... AASHTO LRFD Bridge Design Specifications, 2020 Edition, with latest interim specifications.

LIVE LOAD:..... See "As-Builts"

CONCRETE:.....Class A Concrete unless otherwise noted, f'c = 4000 psi

Existing stations, elevations and dimensions are based on as-built plans, and those plans may not show existing dimensions and conditions. Where dimensions of the proposed work depend on the existing bridge dimensions, field-verify the controlling dimensions and adjust proposed dimensions of the work to fit existing conditions.

PRELIMINARY PLAN

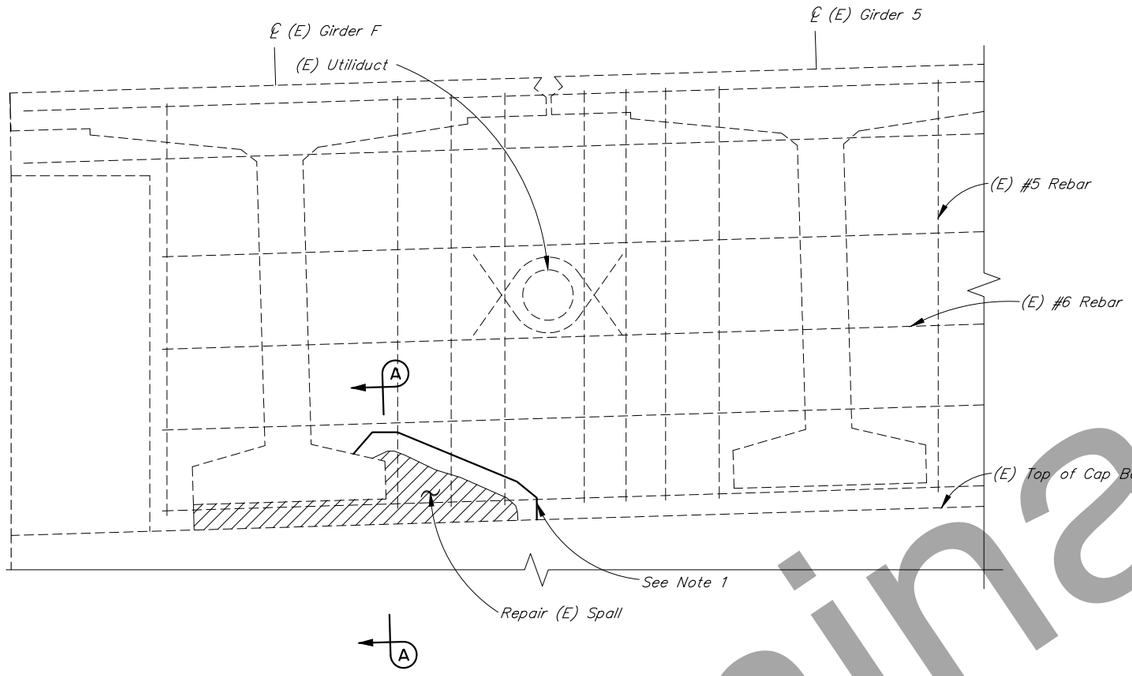
ABBREVIATIONS:

℄	= centerline	e.f.	= each face	min.	= minimum
℔	= plate	e.w.	= each way	MSE	= mechanically stabilized earth
&	= and	Ext.	= exterior	n.f.	= near face
@	= at	F	= fixed	No.	= number
ø	= diameter	f.f.	= front/air face	o.c.	= on center
±	= approximate	f'c	= specified concrete compressive strength	O.H.W.	= ordinary high water
Abut.	= abutment			pcf	= pounds per cubic foot
Approx.	= approximate	f'ci	= specified concrete compressive strength at release	psf	= pounds per square foot
b.f.	= back/dirt face			psi	= pounds per square inch
bot.	= bottom			R	= radius
Br.	= bridge	Ft.	= feet	R.O.W.	= right of way
btwn.	= between	Fy	= yield stress	RT.	= right
Brg.	= bearings	Galv.	= galvanize	Rd.	= road
C.G.	= center of gravity	H.S.	= high strength	spcs.	= space, spaces
C.I.P.	= cast in place	Hwy.	= highway	Sta.	= station
CJP	= complete joint penetration	ID	= internal diameter	SF	= square feet
Clr.	= clear, clearance	Int.	= interior	SY	= square yard
CMP	= corrugated metal pipe	Jt.	= joint	Std.	= standard
CY	= cubic yard	K	= kips	Symm.	= symmetric
D.H.W.	= design high water	ksf	= 1000 pounds per square foot	Typ.	= typical
Dia.	= diameter	ksi	= 1000 pounds per square inch	UT	= ultrasonic testing
Dwg.	= drawing	LBS or lb	= pounds	V.P.C.	= point of vertical curve
E	= expansion	LF	= linear foot	V.P.I.	= point of vertical intersection
(E)	= existing	LS	= lump sum	V.P.T.	= point of vertical tangent
EA	= each	LT.	= left	w/	= with
Elev.	= elevation	max.	= maximum		

DESIGNED BY: Julie Tibor	CHECKED: Nick Murray	**REHABILITATION**	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975		WASHINGTON CREEK BRIDGE ELLIOTT HIGHWAY GENERAL NOTES
DRAWN BY: Javier De Leon	CHECKED: Julie Tibor				BRIDGE NO. 838 DWG. NO. 2
QUANTITIES BY: Julie Tibor	CHECKED: Nick Murray				

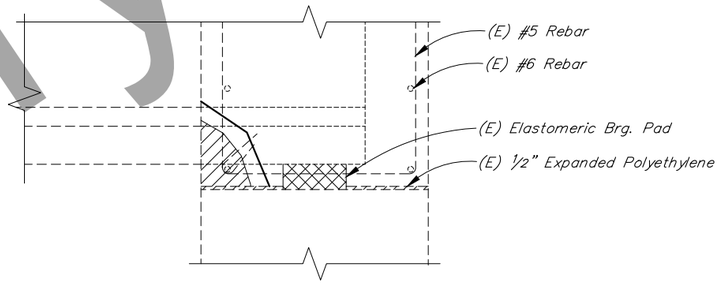
R:\cad\838\838 Rehab-EST Mon, Jan/09/23 04:21pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00588	2023	N3	N4



ABUTMENT 1 PARTIAL EXISTING ELEVATION

No Scale
(Looking Back on Station)



SECTION A-A

No Scale

NOTES:

= *Unsound Concrete*
(E) = *Existing*
= *Existing*
= *Proposed*

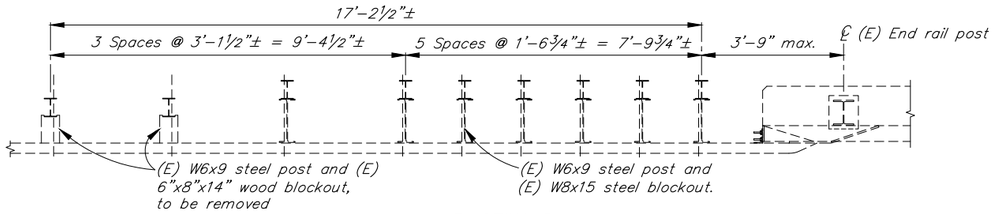
1. *Outline each area with a ¾" deep cut perpendicular to the surface prior to the removal of deteriorated concrete. The Engineer may require additional saw cut outlines and additional concrete removal.*

PRELIMINARY PLAN

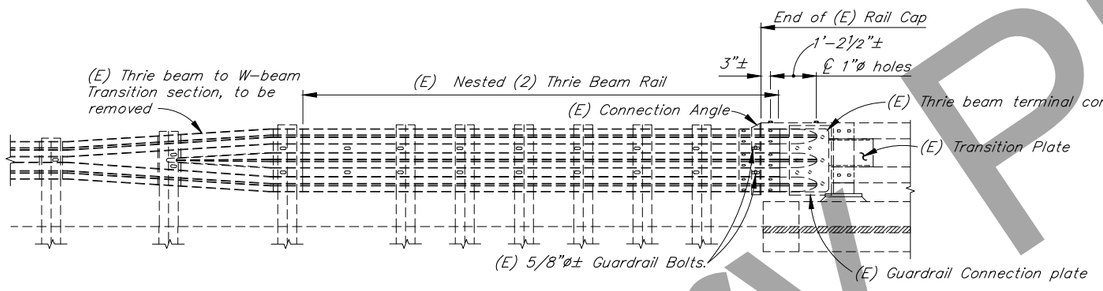
DESIGNED BY: Julie Tibor	CHECKED: Nick Murray	**REHABILITATION**	STATE OF ALASKA **DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES** BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975		WASHINGTON CREEK BRIDGE ELLIOTT HIGHWAY DIAPHRAGM REPAIR DETAILS
DRAWN BY: Javier De Leon	CHECKED: Julie Tibor				BRIDGE NO. 838 DWG. NO. 3
QUANTITIES BY: Julie Tibor	CHECKED: Nick Murray				

R:\cad\838\838 Rehab-GIRDER Mon, Jan/09/23 04:21pm

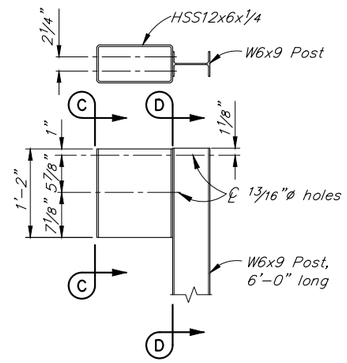
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00588	2023	N4	N4



EXISTING PLAN

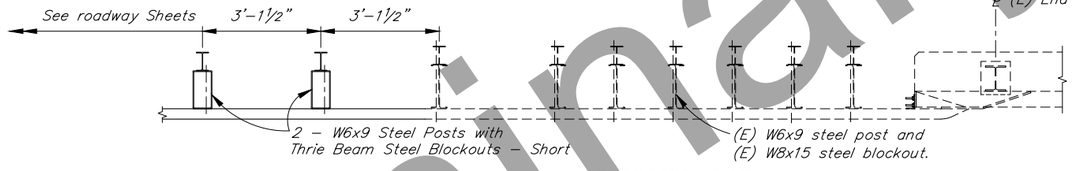


EXISTING ELEVATION

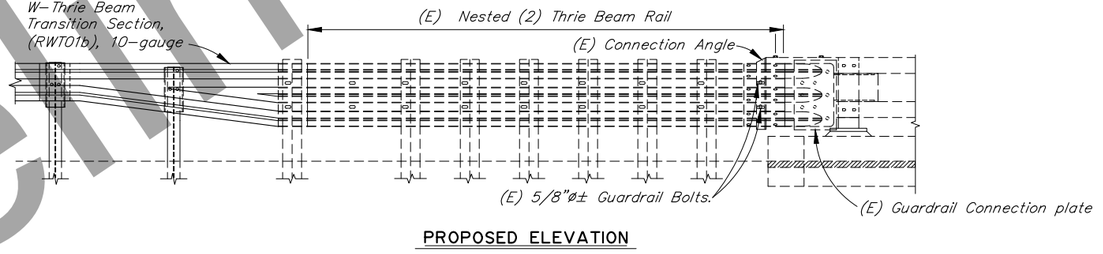


THRIE BEAM STEEL BLOCKOUT - SHORT

VIEW C-C SECTION D-D



PROPOSED PLAN



PROPOSED ELEVATION

NOTES:

(E) = Existing

– – – – – = Existing

——— = Proposed

1. Conform to G-00, G-05, G-10, and G-32.03 of the Standard Plans for all Thrie Beam Transition details not shown.
2. Thrie Beam Transition part numbers are listed in parentheses () and referenced in the "Task Force 13 Guide to Standardize Roadside Hardware."
3. Details not to scale.

PRELIMINARY PLAN

DESIGNED BY:	Julie Tibor	CHECKED:	Nick Murray
DRAWN BY:	Javier De Leon	CHECKED:	Julie Tibor
QUANTITIES BY:	Julie Tibor	CHECKED:	Nick Murray

REHABILITATION

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

WASHINGTON CREEK BRIDGE

ELLIOTT HIGHWAY

PROPOSED TRANSITION RAIL DETAILS

BRIDGE NO. 838

DWG. NO. 4

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NO.	DATE	REVISION

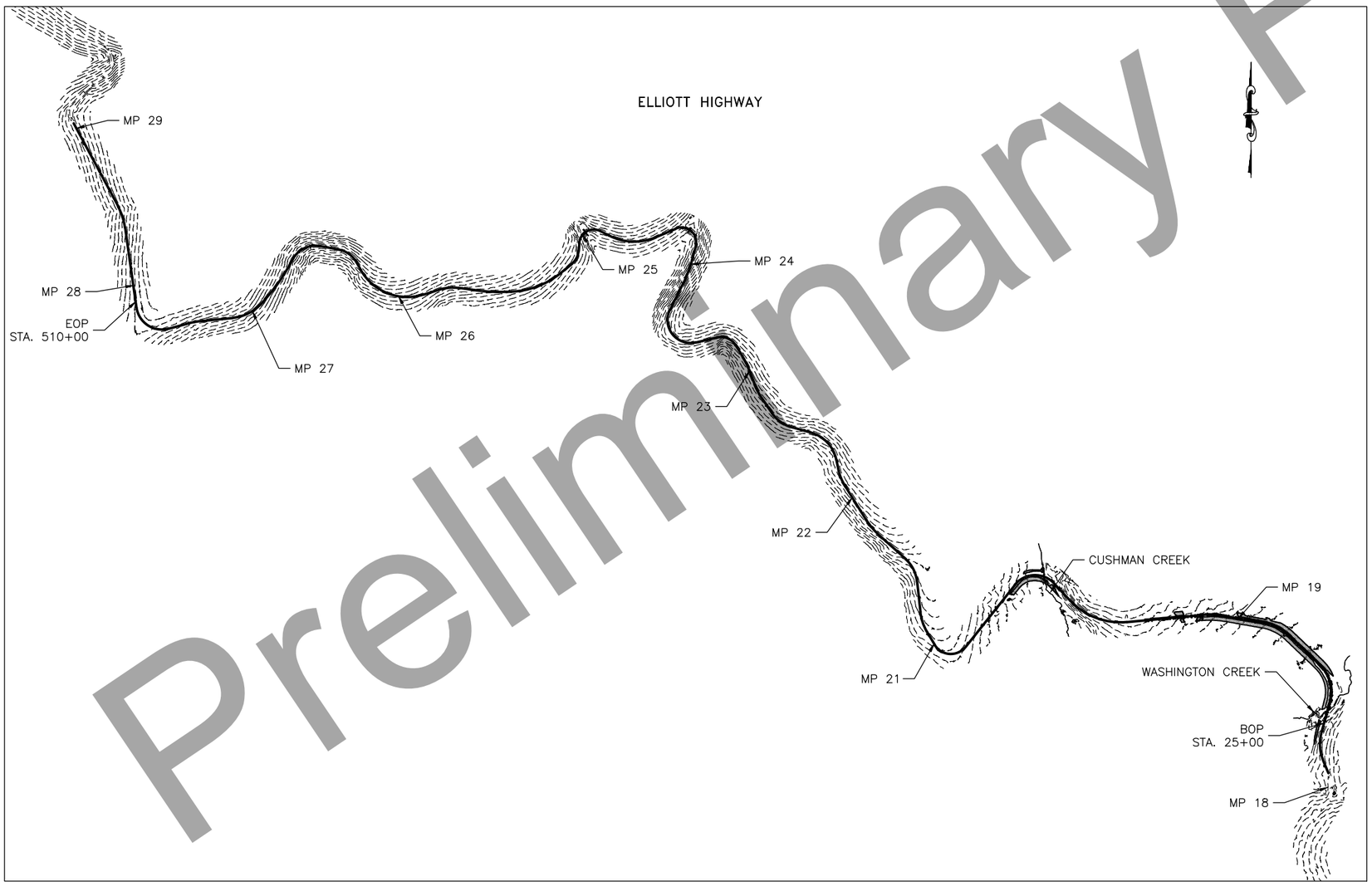
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q1	Q10

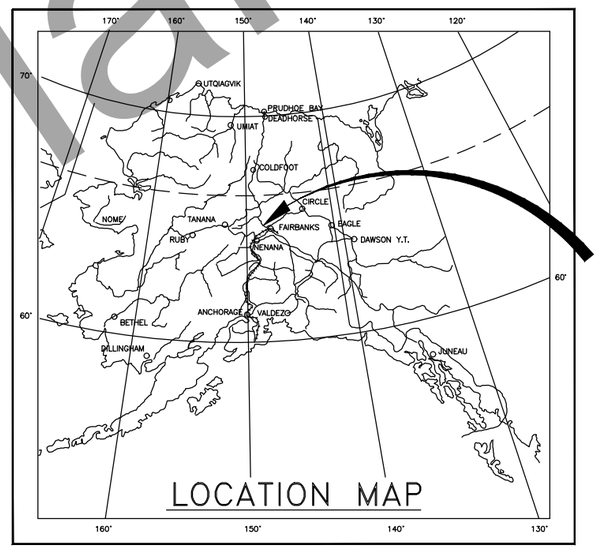
ESCP GENERAL NOTES:

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 COMMITTMENTS:

1. Mechanized vegetation/land clearing activities will be avoided during the migratory bird nesting season (May 1–July 15) unless a mitigative work plan is submitted by the contractor and approved by DOT&PF.
2. Contractors will maintain access to the Wickersham Dome Trailhead during construction, no contractor staging will occur in the 4(f) resource.





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 1 OF 10

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Elliott_Hwy\NFHWY00588 Elliott MP 18-29\6 Design\4 C3D\2 Drawings\00588_ESCP_Q1 Tue, Jun/13/23 12:15pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q2	Q10

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\elliott_hwy\nfhwy00588 elliott mp 18-29\6 Design\4 C3D\2 drawings\00588_ESCP-02 Fri, Jun/16/23 12:01pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q3	Q10

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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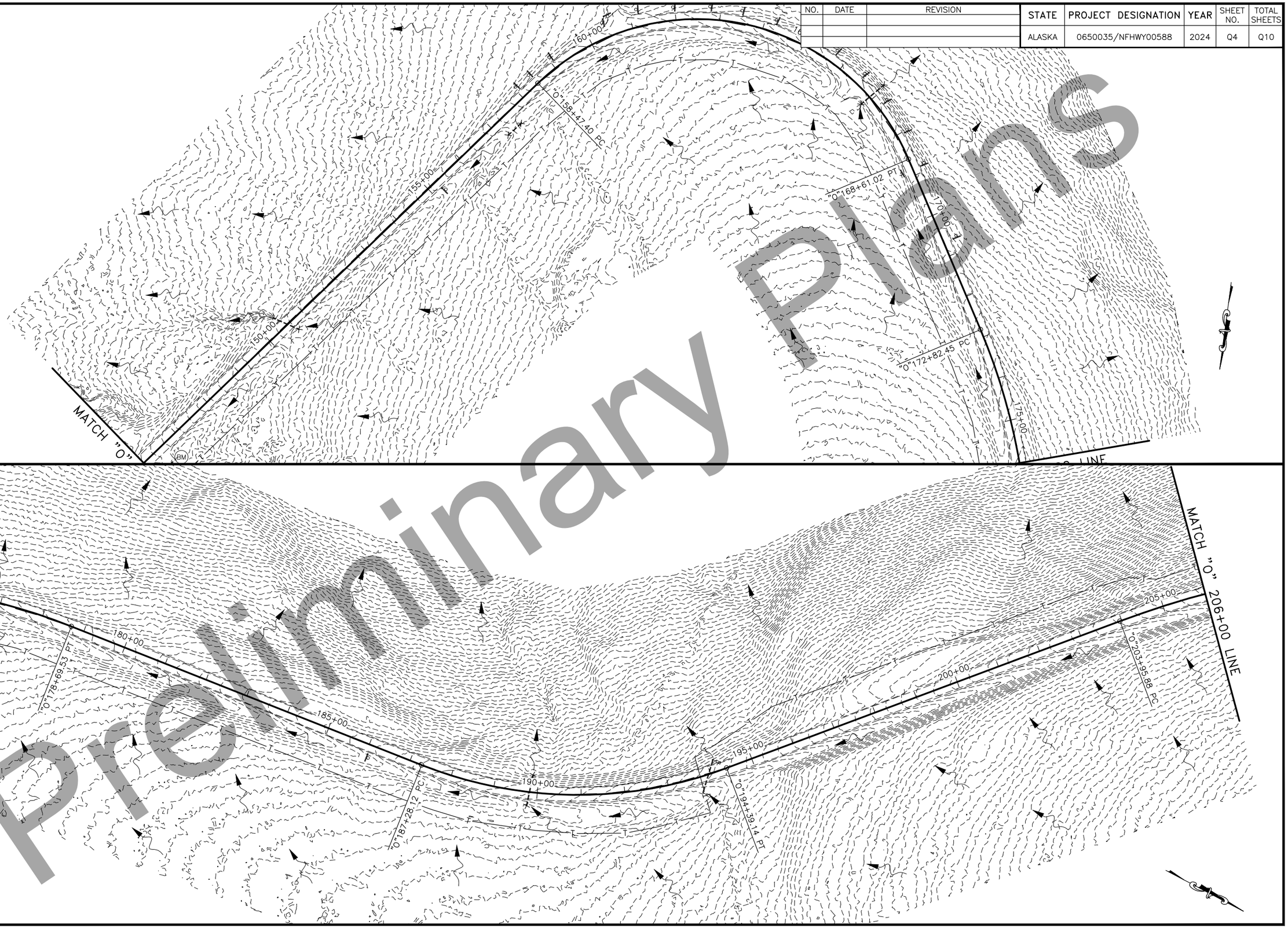

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q5	Q10

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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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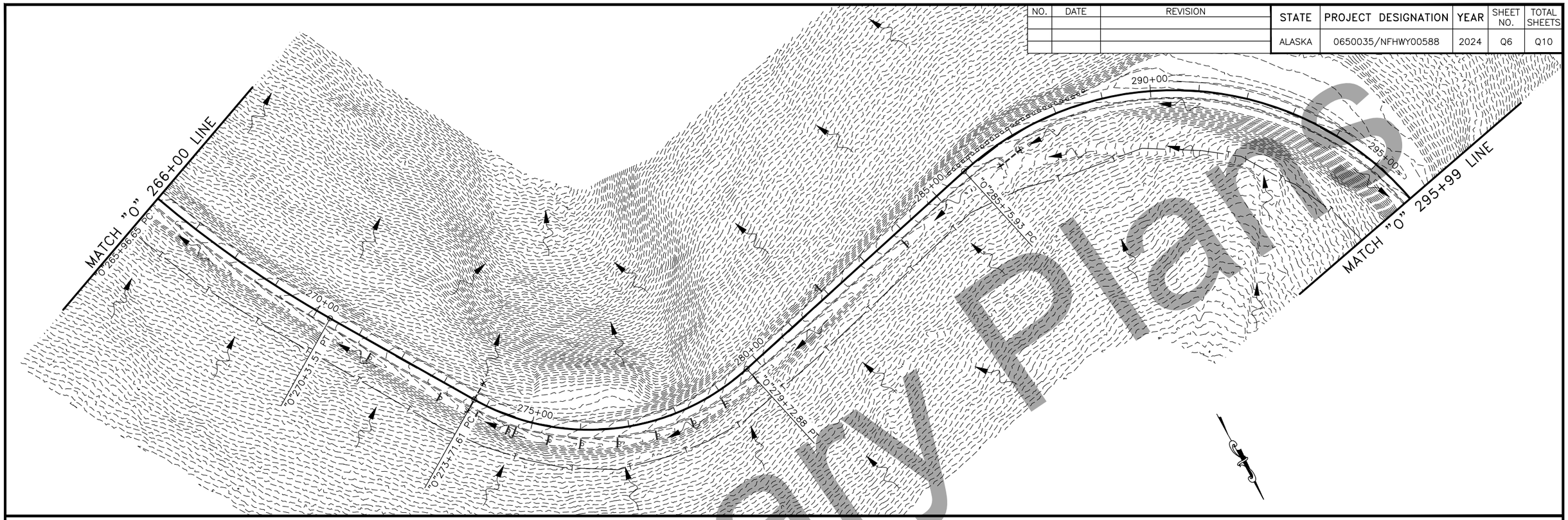

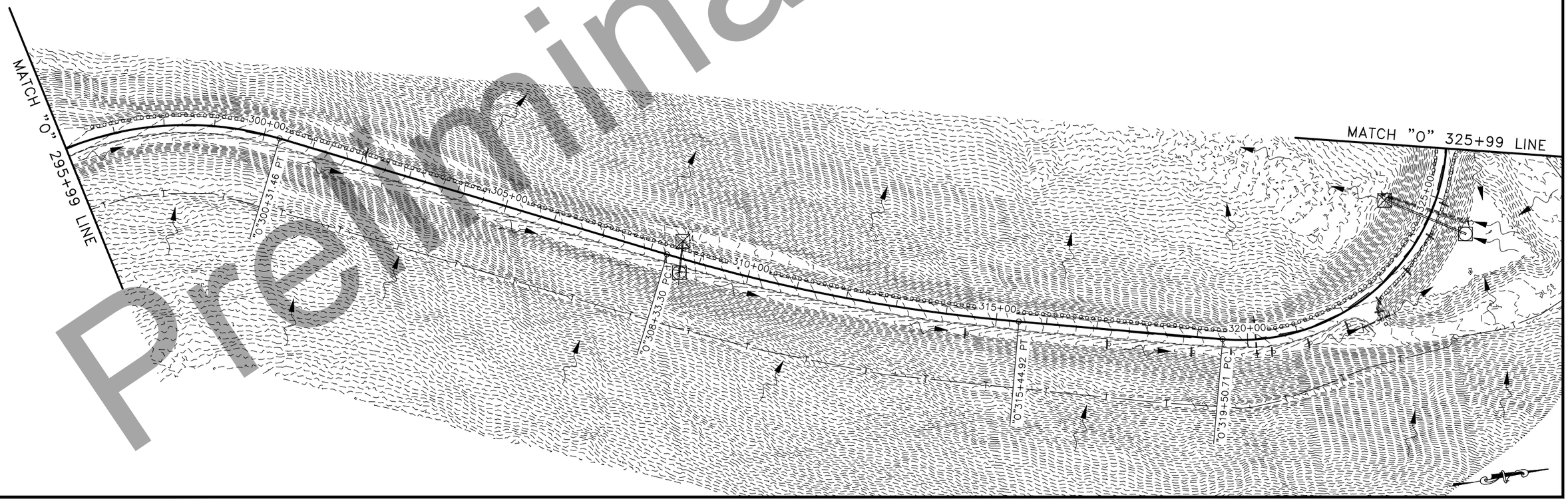

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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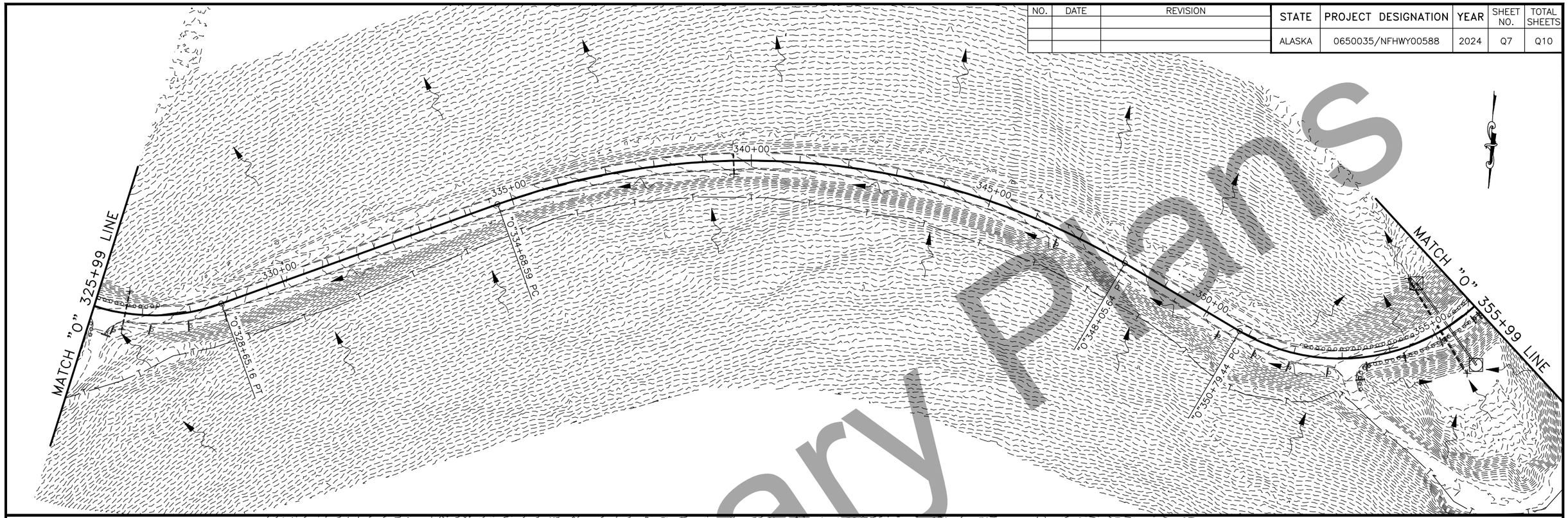

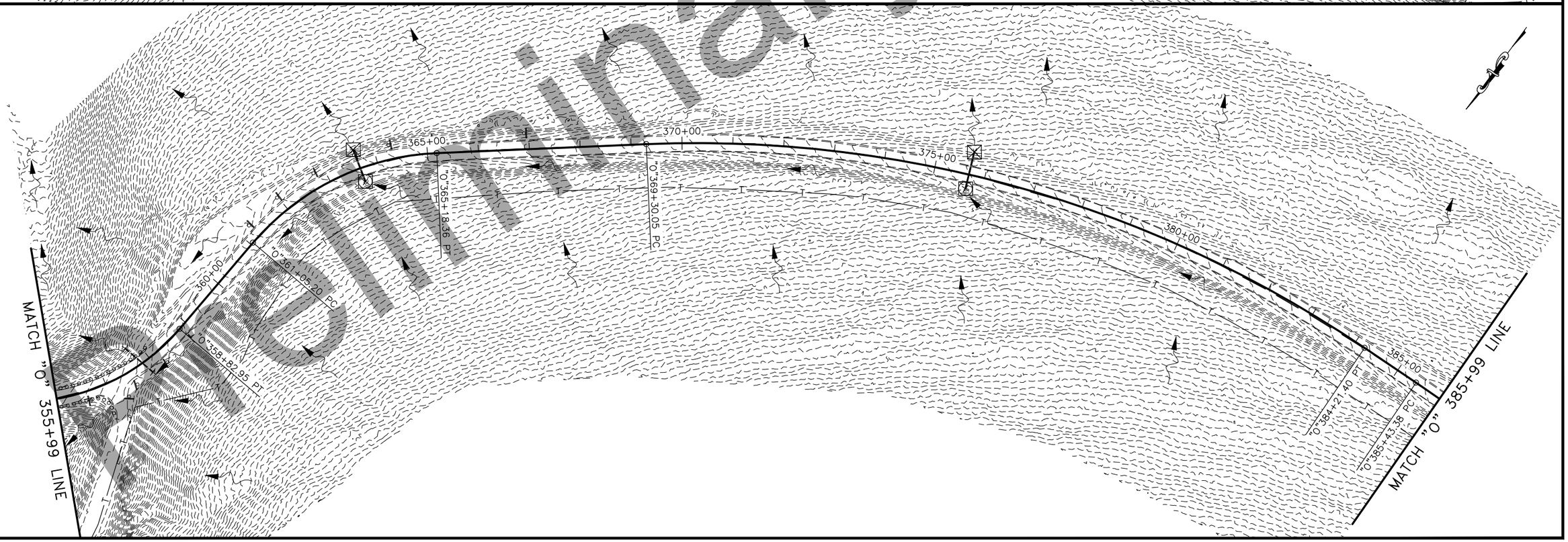

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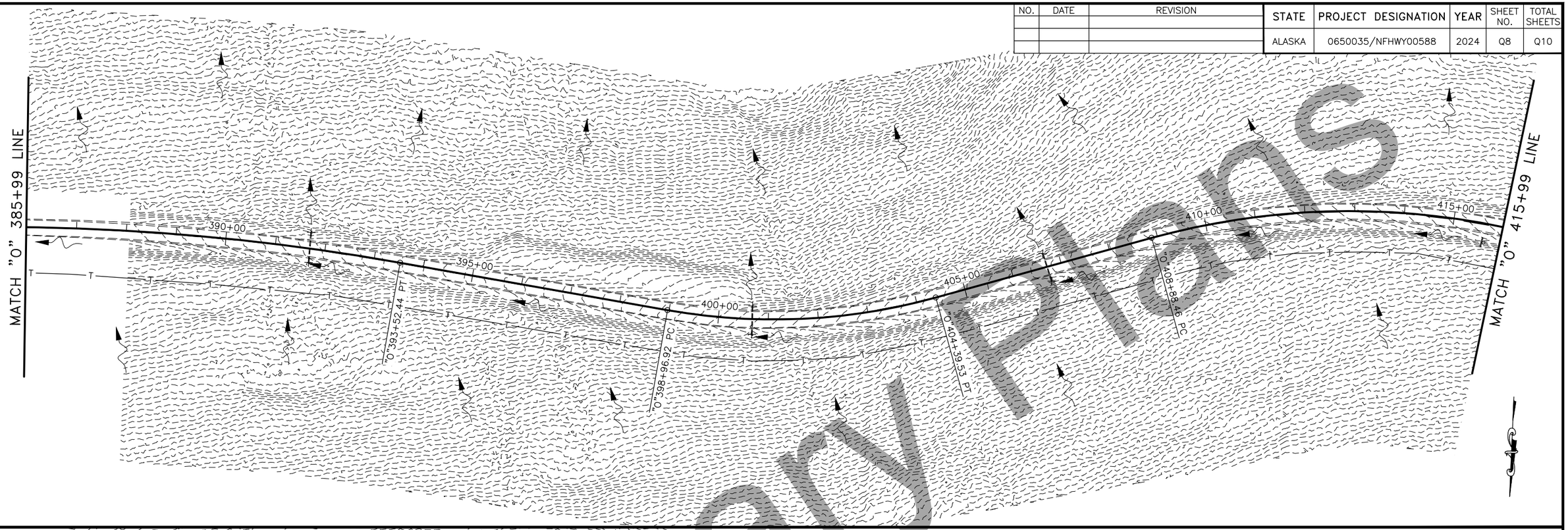
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q8	Q10



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NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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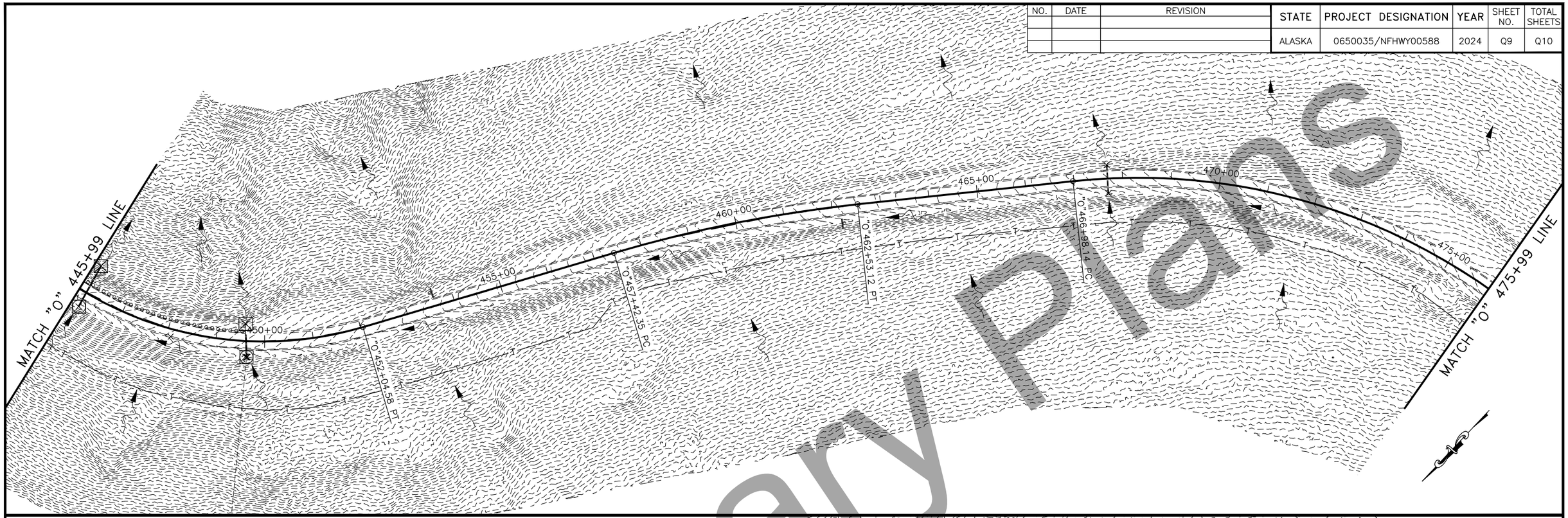

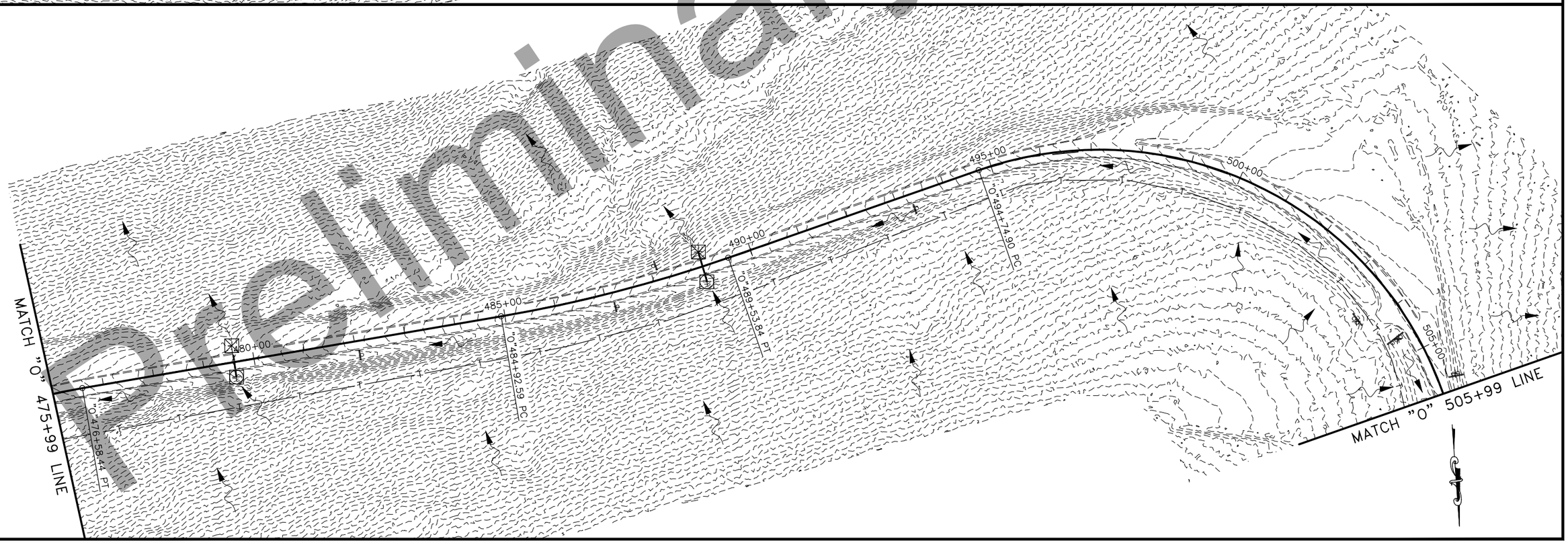

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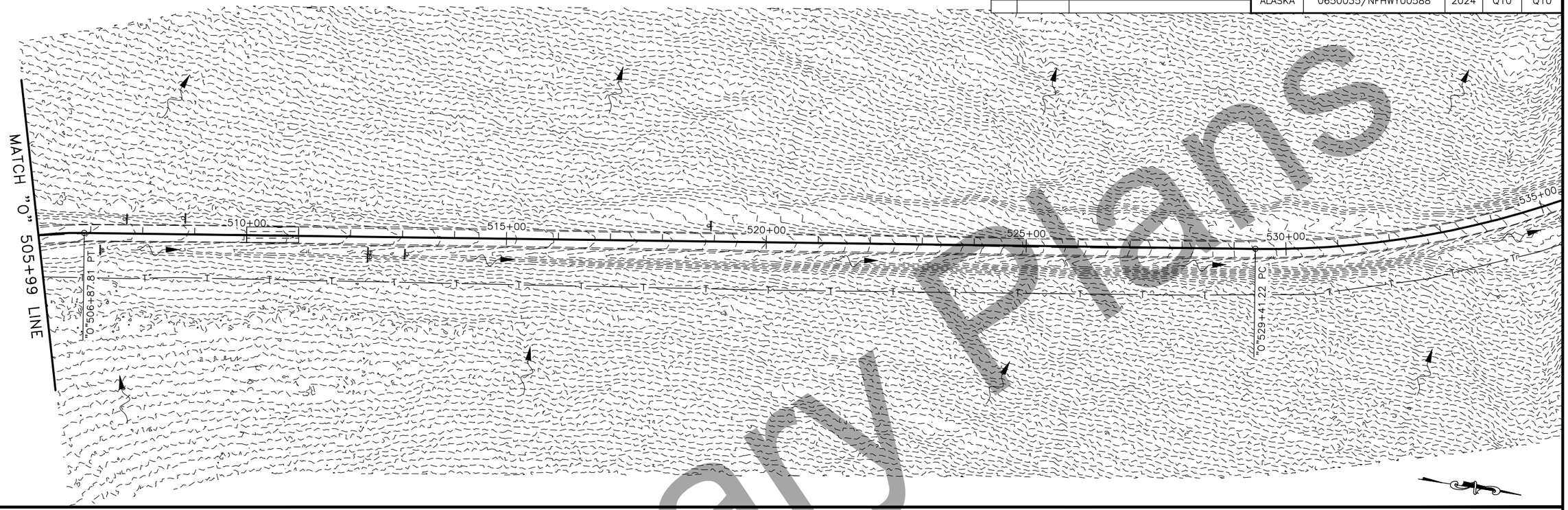
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	Q10	Q10



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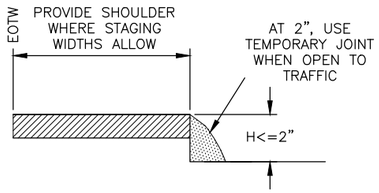
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	T1	T2

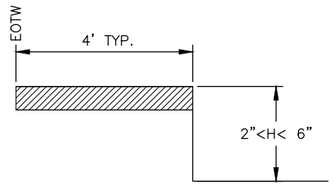
VERTICAL DROP–OFFS



CASE A

DROP–OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

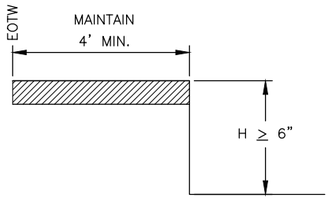
1. USE "UNEVEN LANES" (W8–11) SIGNS FOR ALL DROP–OFFS IN BETWEEN TRAFFIC LANES
2. LEAVE NO DROP–OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK



CASE B

2"< DROP–OFFS < 6"
(ALL ROADWAY SURFACES)

1. PLACE CONES OR CANDLES FOR DROP–OFFS ≥ 4 FEET AND ≤ 30 FEET FROM EOTW.
2. USE DRUMS OR TYPE II BARRICADES FOR DROP–OFFS < 4 FEET FROM THE EOTW.



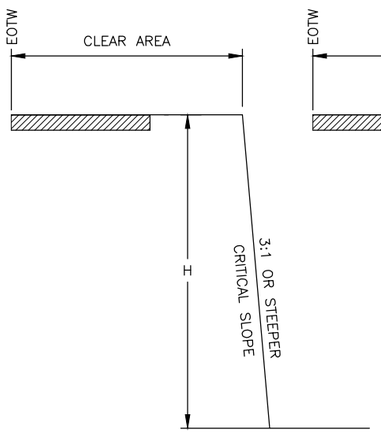
CASE C

DROP–OFFS ≥6"
(ALL ROADWAY SURFACES
AND ROADSIDE SLOPES)

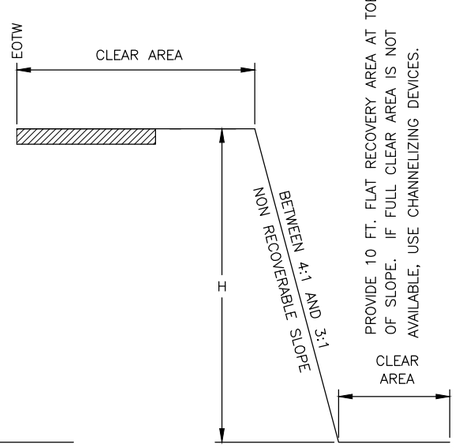
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP–OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIERS FOR DROP–OFFS > 24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

FILL SLOPES

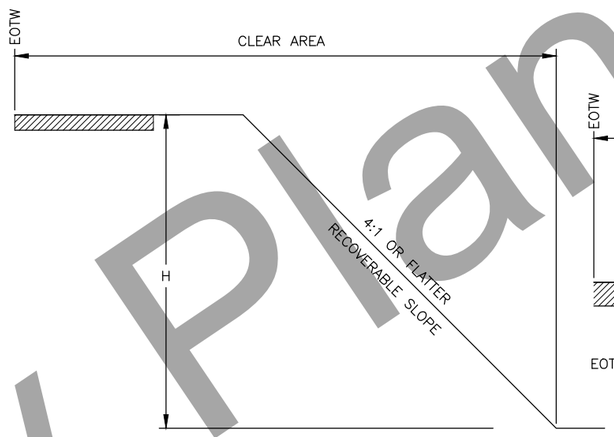
STEEPER THAN OR EQUAL TO 3:1



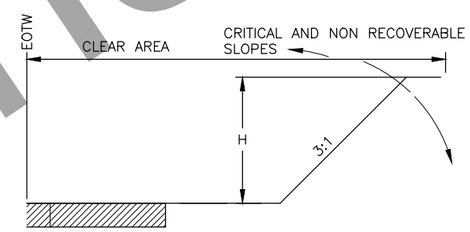
BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CUT SLOPES



EOTW = EDGE OF TRAVELED WAY

CLEAR AREA REQUIREMENTS

	LOW SPEED < = 35 MPH	INTERMEDIATE SPEED 40 MPH TO 45 MPH	HIGH SPEED ≥ = 50 MPH
RURAL	15'	24'	30'
URBAN	10' DITCH SECTIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB	15' DITCH CONDITIONS, OR 2' BEHIND CURB

CHANNELIZING DEVICE REQUIREMENTS FOR SLOPES 3:1 OR STEEPER WITHIN THE CLEAR AREA

	H <= 15'	H > 15'
< 2000 VPD LOW VOLUME	CANDLES OR CONES	TYPE II BARRICADES OR DRUMS
> 2000 VPD	TYPE II BARRICADE OR DRUMS	PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL

TRAFFIC CONTROL NOTES:

1. USE THE EXISTING CROSS–SECTION (PRIOR TO CONSTRUCTION) AS A BASIS FOR DETERMINING WHEN CHANNELIZING DEVICES ARE NEEDED.
2. INSTALL CHANNELIZING DEVICES WHEN THE HORIZONTAL OR VERTICAL CURVATURE IS MADE MORE SEVERE.
3. INSTALL FLEXIBLE DELINEATORS WHEN ALL VEGETATION OVER 4 FEET HIGH IS CLEARED FROM FILL SLOPES THAT ARE 3:1 OR STEEPER IN THE CLEAR AREA.
4. USE PORTABLE CONCRETE BARRIER FOR WARRANTING CONDITIONS WHICH LAST LONGER THAN 3 DAYS. FOR CONDITIONS LASTING LESS THAN 3 DAYS, OTHER CHANNELIZING DEVICES MAY BE INSTALLED.
5. TERMINATE RUNS OF PORTABLE CONCRETE BARRIER USING THE FOLLOWING METHODS:
   - A) CONNECT TO A PORTABLE CRASH CUSHION, OR
   - B) PROVIDE A CONCRETE BARRIER WITH THRIE BEAM TRANSITION TO W–BEAM GUARDRAIL, TREATED WITH A PARALLEL TERMINAL (SEE SECTION 710).
   - C) FLARE THE ENDS OF THE PORTABLE CONCRETE BARRIER AWAY FROM THE ROADWAY AT A RATE OF 7:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER, OUTSIDE OF THE CLEAR AREA. INSTALL A SLOPING PORTABLE CONCRETE BARRIER END TREATMENT, OR
   - D) BURY IN THE BACKSLOPE.
6. TERMINATE THE RUNS OF TEMPORARY W–BEAM GUARDRAIL USING THE FOLLOWING METHODS:
   - A) PROVIDE A PARALLEL TERMINAL (SEE SECTION 710)
   - B) FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 6:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER OUTSIDE OF THE CLEAR AREA, TERMINATE WITH A STANDARD W–BEAM END SECTION, OR
   - C) BURY IN THE BACKSLOPE.

EQUIPMENT NOTES:

1. WHEN THERE IS ACTIVE, NONMOBILE CONSTRUCTION EQUIPMENT WITHIN THE CLEAR AREA, DELINEATE THE ROADSIDE WITH TRAFFIC CONES.
2. SEPARATE PROCEDURES ARE REQUIRED FOR MOBILE WORK ZONE OPERATIONS AND SHORT DURATION WORK OF LESS THAN 12 HOURS.

WINTER SHUTDOWN NOTES:

1. WHEN REQUIRED, USE CHANNELIZING DEVICES WHICH CAN BE MAINTAINED OVER WINTER.
2. NO CHANNELIZING DEVICES ARE REQUIRED IF:
   - A) CONSTRUCTION SLOPES ARE RECOVERABLE, AND
   - B) SLOPES ARE SMOOTH AND COMPACTED, AND
   - C) REQUIRED CLEAR AREA IS PROVIDED

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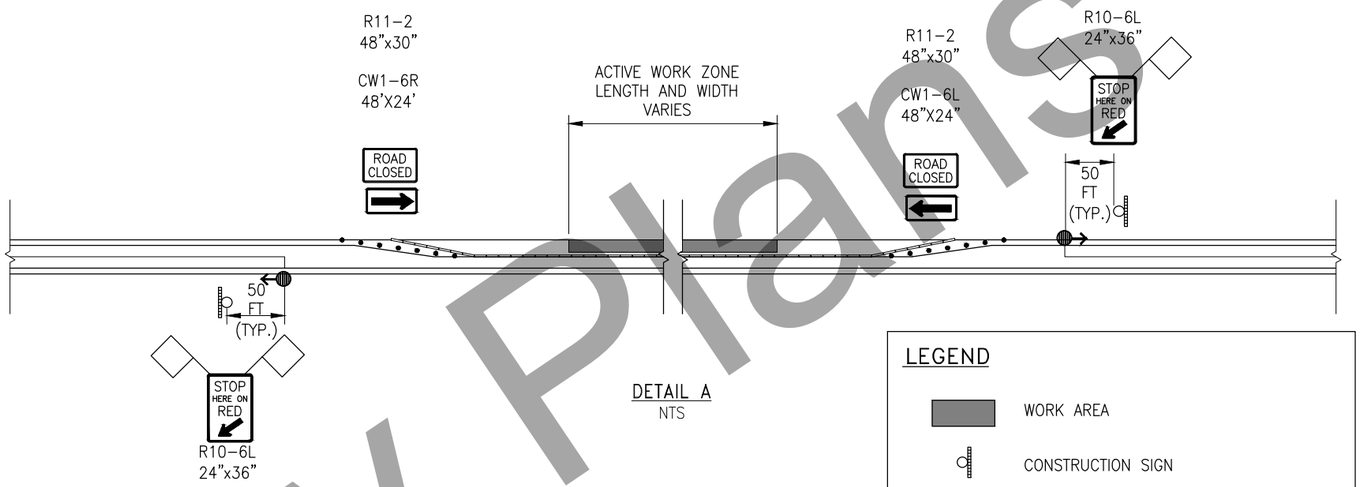
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0650035/NFHWY00588	2024	T2	T2

TRAFFIC CONTROL NOTES:

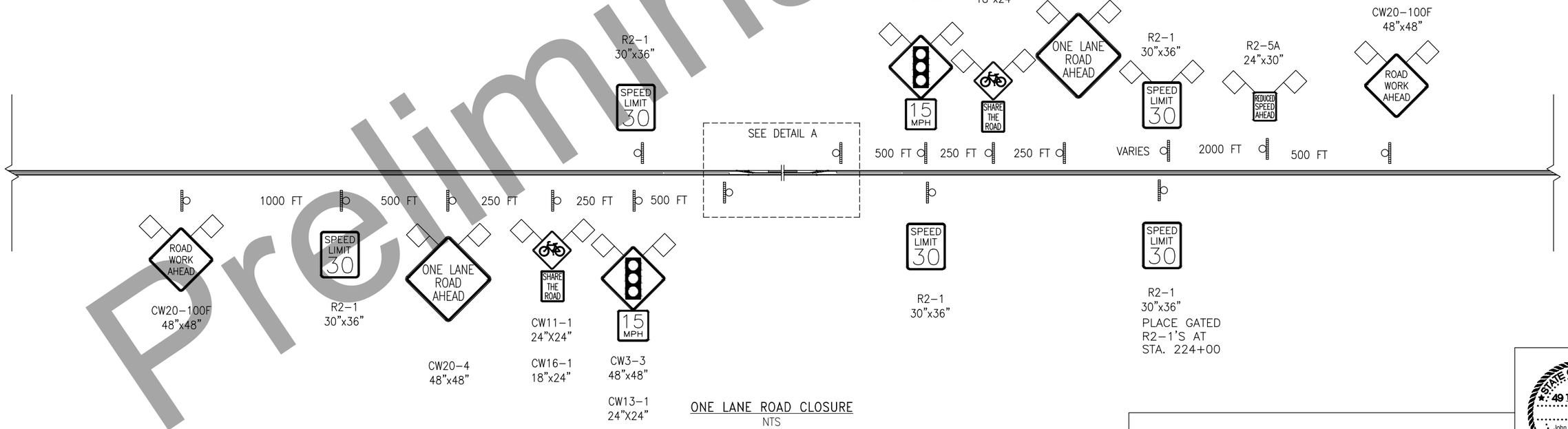
1. THIS TCP IS SCHEMATIC AND MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS. MODIFY AND ADJUST DISTANCES SHOWN ACCORDING TO SITE CONDITIONS.
2. DURING A SINGLE LANE CLOSURE MAINTAIN A MINIMUM OF 18 FEET OF TRAVELED WAY OPEN TO THE PUBLIC. PROVIDE EMERGENCY VEHICLES WITH ACCESS THROUGH THE PROJECT AT ALL TIMES. PROVIDE ACCESS FOR PERMITTED OVERSIZE VEHICLES. SEE SECTION 643.
3. MOUNT CONSTRUCTION SIGNS ON 4" X 4" WOOD POST IN ACCORDANCE WITH STANDARD DRAWINGS S-05.01 AND S-30.04 UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. ALL TEMPORARY TRAFFIC CONTROL SIGNS SHALL HAVE HIGH LEVEL WARNING DEVICES.
5. USE WARNING LIGHTS TO MARK BARRICADES AND OTHER CHANNELIZING DEVICES AT NIGHT. EQUIP THE FIRST DEVICE, FACING THE DIRECTION OF TRAFFIC WITH TYPE A FLASHING WARNING LIGHTS; EQUIP ALL OTHERS WITH STEADY-BURN WARNING LIGHTS.
6. CONCRETE BARRIER AND SIGNALS ARE NOT REQUIRED IF THE LANE CLOSURE IS ANTICIPATED TO BE LESS THAN FOUR DAYS. FLAGGERS ARE REQUIRED IF CONCRETE BARRIERS AND SIGNALS ARE NOT USED.
7. INSTALL OM-3R OBJECT MARKERS FOR TEMPORARY CULVERTS.



DETAIL A
NTS

LEGEND

- WORK AREA
- CONSTRUCTION SIGN
- DRUM
- CANDLE
- PRECAST CONCRETE "F" SHAPE BARRIER
- TEMPORARY SIGNAL OR PORTABLE SIGN
- FLAGGER



ONE LANE ROAD CLOSURE
NTS

STATE OF ALASKA
49 TH
John Jaro Netardus
124494
REGISTERED PROFESSIONAL ENGINEER

TRAFFIC 1 OF 2

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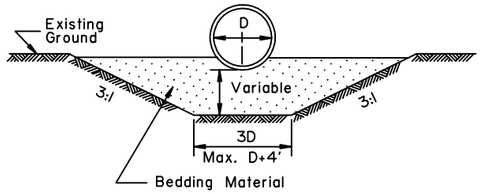
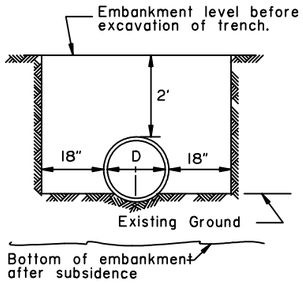
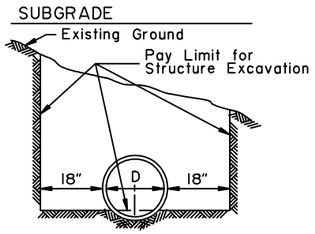


TYPE "A"
FOUNDATION STABILIZATION

To be used in unstable areas as directed by the Engineer.



TYPE "B"



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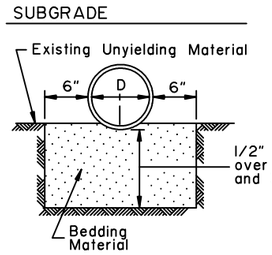
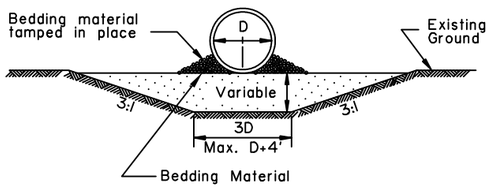


TYPE "D"
ROCK OR UNYIELDING MATERIAL

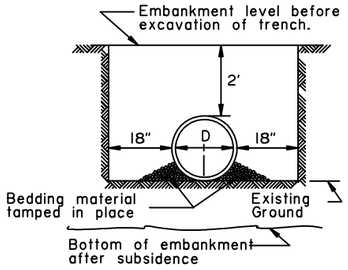
GENERAL NOTES:

1. Sidefill shall be placed and compacted with care under haunches of pipe and shall be brought up evenly and simultaneously on both sides of pipe to 1 foot above the top of the full length of the pipe.
2. Alternate installation methods may only be used when specified or approved by the Engineer.



'ALTERNATE'
TYPE "A"
FOUNDATION STABILIZATION

To be used in unstable areas as directed by the Engineer.



'ALTERNATE'
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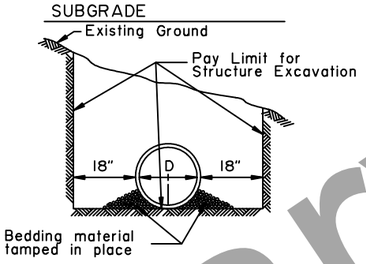

'ALTERNATE'
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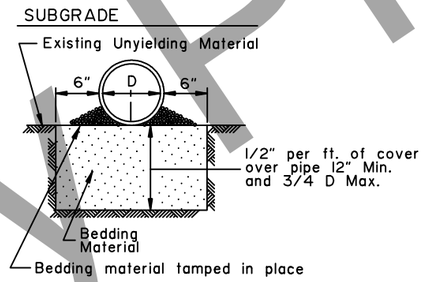
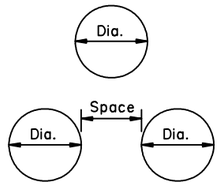


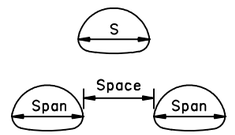
'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



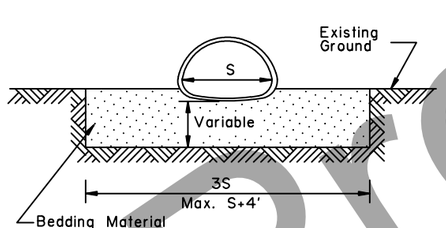
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span



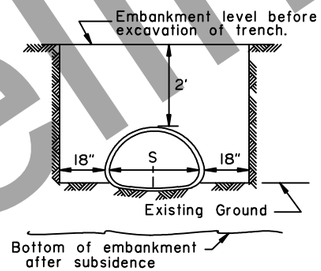
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

CULVERT PIPE

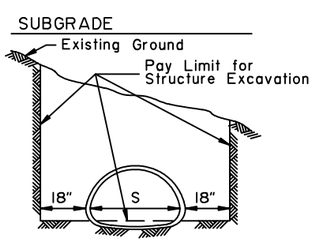


TYPE "A"
FOUNDATION STABILIZATION

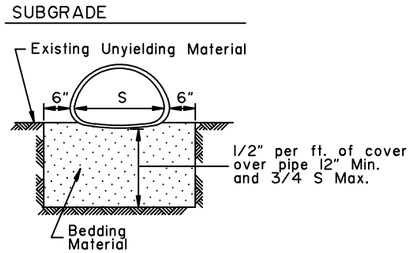
To be used in unstable areas as directed by the Engineer.



TYPE "B"



TYPE "C"



TYPE "D"
ROCK OR UNYIELDING MATERIAL

ARCH

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CULVERT PIPE & ARCH INSTALLATION DETAILS

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-01.02

D-04.22 SHEET 1 of 4

Minimum & Maximum Cover for 2 2/3"X 1/2" Aluminum Pipe						
Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
12	12	100+	100+	100+	100+	100+
15	12	100	100+	100+	100+	100+
18	12	83	100+	100+	100+	100+
21	12	71	89	100+	100+	100+
24	12	62	78	100+	100+	100+
27	12		69	97	100+	100+
30	12		62	87	100+	100+
36	12		51	73	94	100+
42	12			62	80	100+
48	12			54	70	85
54	15			48	62	76
60	15				52	64
66	18					52
72	18					43

Minimum & Maximum Cover for 3" x 1" Aluminum Pipe						
Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
30	12	57	72	100+	100+	100+
36	12	47	60	84	100+	100+
42	12	40	51	72	96	100+
48	12	35	44	62	84	99
54	15	31	39	55	74	88
60	15	28	35	50	67	79
66	18	25	32	45	61	72
72	18	23	29	41	56	66
78	21		27	38	51	61
84	21			35	48	56
90	24			33	44	52
96	24			31	41	49
102	24				39	46
108	24				37	43
114	24					39
120	24					36

Minimum & Maximum Cover for 9" X 2 1/2" Aluminum Structural Plate Pipe*			
Thickness		0.125	0.150
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)
84	18	31	
90	18	27	
96	18	27	
102	18	24	
108	18	24	
114	18	21	
120	24	21	
126	24	19	
132	30	19	
138	30	18	
144	30	18	
150	30		22
156	30		22
162	36		20
168	36		20

*5.33 - 3/4" dia. steel bolts per foot.

GENERAL NOTES:

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflection.
7. These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

CORRUGATED CIRCULAR ALUMINUM PIPE

CORRUGATED ALUMINUM PIPE-ARCH

Minimum & Maximum Cover for 2 2/3"X 1/2" Aluminum Pipe-Arch					
				2 Tons/Sf Corner Bearing Pressure	
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
17	13	3 4/8	16 (0.060)	12	13
21	15	4 1/8	16 (0.060)	12	12
24	18	4 7/8	16 (0.060)	12	12
28	20	5 4/8	14 (0.075)	12	12
35	24	6 7/8	14 (0.075)	12	12
42	29	8 2/8	12 (0.105)	12	12
49	33	9 5/8	12 (0.105)	15	12
57	38	11	10 (0.135)	15	12
64	43	12 3/8	10 (0.135)	18	12
71	47	13 6/8	8 (0.164)	18	12

Minimum & Maximum Cover for 3" x 1" Aluminum Pipe-Arch					
				2 Tons/Sf Corner Bearing Pressure	
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
60	46	18 6/8	14 (0.075)	15	20
66	51	20 6/8	14 (0.075)	18	20
73	55	22 7/8	14 (0.075)	21	20
81	59	20 7/8	12 (0.105)	21	16
87	63	22 7/8	12 (0.105)	24	16
95	67	24 3/8	12 (0.105)	24	16
103	71	26 1/8	10 (0.135)	24	16
112	75	27 6/8	8 (0.164)	24	16

Minimum & Maximum Cover for 9" x 2 1/2" Aluminum Multiplate Pipe-Arch*					
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	2 Tons/Sf Corner Bearing Pressure Max. Cover (Ft)
6-7	5-8	31.75	0.125	24	24
6-11	5-9	31.75	0.125	24	24
7-3	5-11	31.75	0.125	24	18
7-9	6-0	31.75	0.125	24	18
8-5	6-3	31.75	0.125	24	16
9-3	6-5	31.75	0.125	24	15
10-3	6-9	31.75	0.125	30	13
10-9	6-10	31.75	0.125	30	13
11-5	7-1	31.75	0.125	30	13
12-7	7-5	31.75	0.125	30	11
12-11	7-6	31.75	0.125	30	11
13-1	8-2	31.75	0.125	30	11
13-11	8-5	31.75	0.125	36	10
14-8	9-8	31.75	0.125	36	9
15-4	10-0	31.75	0.150	36	8
16-1	10-4	31.75	0.150	36	8
16-9	10-8	31.75	0.150	42	7
17-3	11-0	31.75	0.150	42	7
18-0	11-4	31.75	0.175	42	7
18-8	11-8	31.75	0.175	42	7

*5.33 - 3/4" dia. steel bolts per foot.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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

D-04.22

D-04.22 SHEET 2 of 4

CORRUGATED CIRCULAR STEEL PIPE

Minimum & Maximum Cover for 2 2/3" x 1/2" Steel Pipe

Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
12	12	100+	100+	100+	100+	100+
15	12	100+	100+	100+	100+	100+
18	12	100+	100+	100+	100+	100+
21	12	100+	100+	100+	100+	100+
24	12	100+	100+	100+	100+	100+
30	12	83	100+	100+	100+	100+
36	12	69	86	100+	100+	100+
42	12	59	74	100+	100+	100+
48	12	51	64	91	100+	100+
54	12		57	80	100+	100+
60	12			72	93	100+
66	12			66	85	100+
72	12				78	95
78	12					84
84	12					73

Minimum & Maximum Cover fo 3" x 1" Steel Pipe

Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
36	12			100+	100+	100+
42	12			100+	100+	100+
48	12		74	100+	100+	100+
54	12	53	66	93	100+	100+
60	12	47	59	83	100+	100+
66	12	43	54	76	98	100+
72	12	39	49	69	89	100+
78	12	36	45	64	82	100+
84	12	33	42	59	77	94
90	12	31	39	55	71	87
96	12	29	37	52	67	82
102	18	27	34	49	63	77
108	18		32	46	59	73
114	18		31	43	56	69
120	18		29	41	53	65
126	18			39	51	62
132	18			37	48	59
138	18			36	46	57
144	18				44	54

Minimum & Maximum Cover for 5" x 1" Steel Pipe

Gage		16	14	12	10	8
Thickness		0.060	0.075	0.105	0.135	0.164
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
36	12	71	88	100+	100+	100+
42	12	60	76	100+	100+	100+
48	12	53	66	93	100+	100+
54	12	47	59	82	100+	100+
60	12	42	53	74	96	100+
66	12	38	48	67	87	100+
72	12	35	44	62	79	97
78	12	32	40	57	73	90
84	12	30	37	53	68	83
90	12	28	35	49	63	78
96	12	26	33	46	59	73
102	18	24	31	43	56	69
108	18		29	41	53	65
114	18		27	39	50	61
120	18		26	37	47	58
126	18			35	45	55
132	18			33	43	53
138	18			32	41	50
144	18				39	48

Minimum & Maximum Cover for 6" x 2" Steel Multiplate Pipe*

Gage		12	10	8	7	5	3	1
Thickness		0.111	0.140	0.170	0.188	0.218	0.249	0.280
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
60	12	46	67	87	100	100+	100+	100+
66	12	42	60	79	91	100+	100+	100+
72	12	38	55	73	83	100+	100+	100+
78	12	35	51	67	77	93	100+	100+
84	12	32	47	62	71	86	100+	100+
90	12	30	44	58	67	80	95	100+
96	12	28	41	54	62	75	89	97
102	18	27	39	51	59	71	84	91
108	18	25	37	48	55	67	79	86
114	18	24	35	45	52	63	75	82
120	18	22	33	43	50	60	71	77
126	18	21	31	41	47	57	68	74
132	18	20	30	39	45	54	64	70
138	18	19	28	37	43	52	62	67
144	18	18	27	36	41	50	59	64

*4 - 3/4" dia. steel bolts per foot.

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

CORRUGATED STEEL PIPE-ARCH

Minimum & Maximum Cover for 2 2/3"X 1/2"Steel Pipe-Arch

			2 Tons/Sf Corner Bearing Pressure		
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
17	13	3 4/8	16 (0.060)	12	11
21	15	4 1/8	16 (0.060)	12	11
24	18	4 7/8	16 (0.060)	12	11
28	20	5 4/8	16 (0.060)	12	11
35	24	6 7/8	16 (0.060)	12	11
42	29	8 2/8	16 (0.060)	12	11
49	33	9 5/8	14 (0.075)	12	11
57	38	11	12 (0.109)	12	11
64	43	12 3/8	12 (0.109)	12	11
71	47	13 6/8	10 (0.138)	12	11
77	52	15 1/8	10 (0.138)	12	11
83	57	16 4/8	8 (0.168)	12	11

Minimum & Maximum Cover for 3"X 1"Steel Pipe-Arch

			2 Tons/Sf Corner Bearing Pressure		
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
53	41	10 2/8	14 (0.079)	12	10
60	46	18 6/8	14 (0.079)	15	29
66	51	20 6/8	14 (0.079)	15	29
73	55	22 7/8	14 (0.079)	18	18
81	59	20 7/8	14 (0.079)	18	15
87	63	22 7/8	14 (0.079)	18	15
95	67	24 3/8	14 (0.079)	18	15
103	71	26 1/8	14 (0.079)	18	14
112	75	27 6/8	14 (0.079)	21	14
117	79	29 4/8	12 (0.109)	21	14
128	83	31 2/8	10 (0.138)	24	14
137	87	33	10 (0.138)	24	14
142	91	34 6/8	10 (0.138)	24	13
150	96	36	10 (0.138)	30	13
157	96	38	10 (0.138)	30	13
164	105	40	10 (0.138)	30	14
171	110	41	10 (0.138)	30	13

Minimum & Maximum Cover for 5"X 1"Steel Pipe-Arch

			2 Tons/Sf Corner Bearing Pressure		
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	Min. Cover (In)	Max. Cover (Ft)
53	41	10 2/8	14 (0.079)	12	10
60	46	18 6/8	14 (0.079)	15	29
66	51	20 6/8	14 (0.079)	15	29
73	55	22 7/8	14 (0.079)	18	18
81	59	20 7/8	14 (0.079)	18	15
87	63	22 7/8	14 (0.079)	18	15
95	67	24 3/8	14 (0.079)	18	15
103	71	26 1/8	14 (0.079)	18	14
112	75	27 6/8	14 (0.079)	21	14
117	79	29 4/8	12 (0.109)	21	14
128	83	31 2/8	10 (0.138)	24	14
137	87	33	10 (0.138)	24	14
142	91	34 6/8	10 (0.138)	24	13
150	96	36	10 (0.138)	30	13
157	96	38	10 (0.138)	30	13
164	105	40	10 (0.138)	30	14
171	110	41	10 (0.138)	30	13

Minimum & Maximum Cover for Steel Multiplate Pipe-Arch 6" x 2" *

			2 Tons/Sf Corner Bearing Pressure		
Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Gage (In)	Min. Cover (In)	Max. Cover (Ft)
6-1	4-7	18	12 (0.111)	12	14
7-0	5-1	18	12 (0.111)	12	12
7-11	5-7	18	12 (0.111)	12	10
8-10	6-1	18	12 (0.111)	18	9
9-9	6-7	18	12 (0.111)	18	8
10-11	7-1	18	12 (0.111)	18	6
11-10	7-7	18	12 (0.111)	18	5
12-10	8-4	18	12 (0.111)	24	5
13-3	9-4	31	10 (0.140)	24	11
14-2	9-10	31	10 (0.140)	24	10
15-4	10-4	31	10 (0.140)	24	9
16-3	10-10	31	10 (0.140)	30	8
17-2	11-4	31	10 (0.140)	30	8
18-1	11-10	31	10 (0.140)	30	7
19-3	12-4	31	10 (0.140)	30	7
19-11	12-10	31	10 (0.140)	30	6
20-7	13-2	31	10 (0.140)	36	6

*4 - 3/4" dia. steel bolts per foot.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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

D-04.22

D-04.22 SHEET 3 of 4

Maximum Cover for Type S Corrugated Polyethelene Pipe	
Size (in)	Max. Cover (ft)
12	24
15	25
18	24
24	20
30	20
36	18
42	16
48	17

GENERAL NOTES

1. All materials and workmanship shall be in accordance with the State of Alaska Standard Specifications for Highway Construction.

2. For foundation and structural backfill details see Standard Plan D-01 "Culvert Pipe & Arch Installation Details".

3. Pipe cover height is measured from top of the pipe to top of rigid pavement, or to the bottom of subgrade for flexible pavement. In all cases the minimum cover shall be no less than 2 ft. Where loads traverse the culvert during construction minimum cover shall be no less than 4 ft.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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

D-04.22

D-04.22 SHEET 4 of 4

GENERAL NOTES

1. All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
2. The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
3. No more than one type of pipe may be used on any single installation or installation grouping.
4. All structural plate pipes shall be placed on a pre-shaped foundation conforming to the depth of the bottom plates with clearance for assembling to the adjacent plates allowed.
5. See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
6. Minimum cover shall be measured from the top of pipe to the top of rigid pavement or to the bottom of flexible pavement subgrade. In all cases, the minimum cover shall not be less than 12". Minimum cover during construction shall be that required to protect the pipe from damage or deflecton.
7. These tables have been developed for an HL-93 live load and for compacted soil weighing 120 lbs. per cubic foot or less. If compacted soil cover exceeds 120 lbs. per cubic foot, the contractor shall use the depth of cover shown in the plans for the specific pipe. Where compacted soil cover exceeds 120 lbs. per cubic foot and no specific cover requirements are provided in the plans, the contractor shall determine the required minimum pipe cover in accordance with Section 12 of the 2017 AASHTO "LRFD Bridge Design Specifications".

ALUMINUM SPIRAL RIB PIPE

Minimum & Maximum Cover for Aluminum Spiral Rib Circular Pipe*

Gage		16	14	12	10
Thickness		0.064	0.079	0.109	0.138
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
18	12	43	61		
21	12	38	52	84	
24	12	33	45	73	
30	15	26	36	58	
36	18	21	30	49	69
42	21		25	41	59
48	24			36	51
54	24			32	46
60	24			29	41
66	24				37
72	30				34

*¾ x ¾ x 7½ in. Corrugations

Minimum & Maximum Cover for Aluminum Spiral Rib Pipe-Arch*

Gage			16	14	12	10
Thickness			0.060	0.075	0.105	0.135
Span (Ft.-In.)	Rise (Ft.-In.)	Min. Cover (In)	Max. Cover (Ft)			
20	16	12	16			
23	19	12	15			
27	21	15	13	13		
33	26	18	13	13	13	
40	31	21		13	13	
46	36	24			13	13
53	41	24			13	13
60	46	24			13	13
66	51	24				13

*¾ x ¾ x 7½ in. Corrugations

STEEL SPIRAL RIB PIPE

Minimum & Maximum Cover for Steel and Aluminized Steel Spiral Rib Circular Pipe*

Gage		16	14	12	10
Thickness		0.064	0.079	0.109	0.138
Dia. (In)	Min. (In)	Max. (Ft)	Max. (Ft)	Max. (Ft)	Max. (Ft)
18	12	91			
24	12	68	95	100+	
30	12	54	76	100+	
36	12	45	63	100+	
42	12	38	54	90	
48	12	33	47	79	
54	18	30	42	70	
60	18	27	38	63	92
66	18	24	34	57	83
72	18		31	52	76
78	24		29	48	70
84	24		27	45	65
90	24			42	61
96	24			39	56
102	30			36	50
108	30			32	45

*¾ x ¾ x 7½ in. Corrugations.

Minimum & Maximum Cover for Steel Spiral Rib Pipe-Arch*

			2 Tons/Sf Corner Bearing Pressure		
Thickness			0.064	0.079	0.109
Span (Ft.-In.)	Rise (Ft.-In.)	Min. Cover (In)	Max. Cover (Ft)		
20	16	12	13		
23	19	12	13		
27	21	12	11		
33	26	12	11		
40	31	12	11		
46	36	12	11		
53	41	18		11	
60	46	18		19	
66	51	18		19	
73	55	18			18
81	59	18			15
87	63	18			15
95	67	18			15

*¾ x ¾ x 7½ in. Corrugations

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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

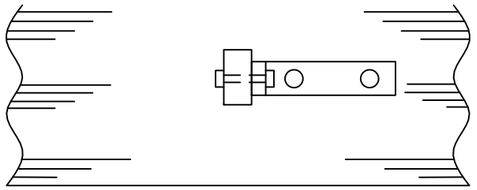
Next Code and Standards Review date: 7/8/2030

D-04.22

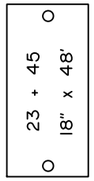
D-09.00 SHEET | of |

DIRECTION OF TRAFFIC

Shoulder of Road



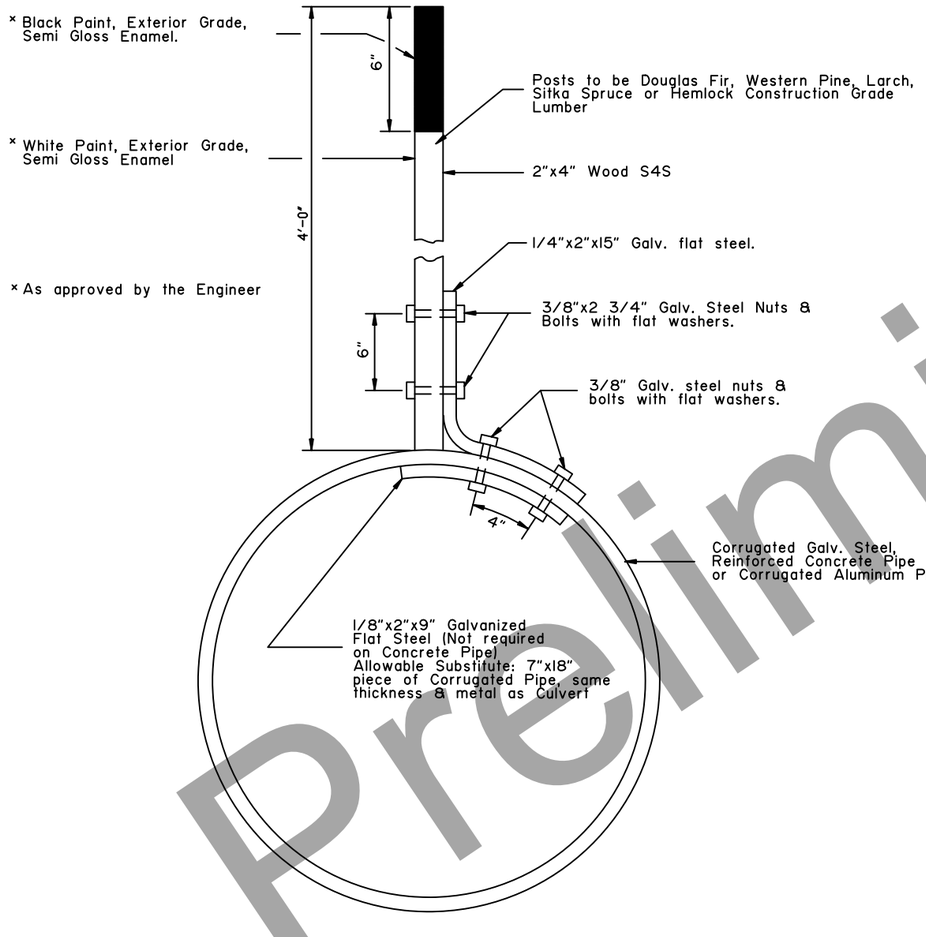
TOP VIEW



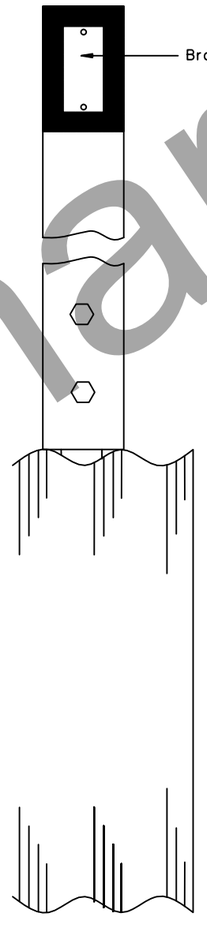
Sta. and size of Culvert to be stamped into a 2"x4"x0.064" thick brass plate, fastened, with No. 8 round head brass screws, to the marker post as shown. Plate to be on side of post facing traffic.

GENERAL NOTES:

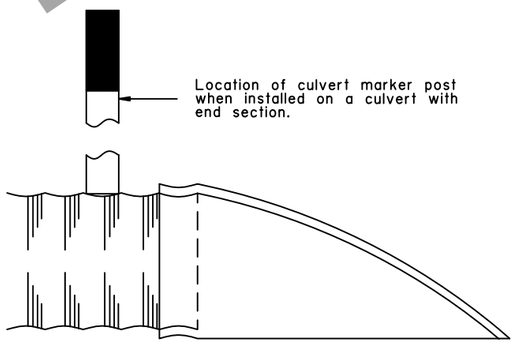
1. Culvert marker post shall be installed with galvanized steel hardware meeting the following requirements: Galvanizing for nuts and washers shall meet the requirements of ASTM A-153, Class C. Galvanizing for steel mounting supports shall meet the requirements of MIL-P-26915A, or ASTM A-153, Class C.



END VIEW



SIDE VIEW



END SECTION SIDE VIEW

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CULVERT MARKER POST

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

Adoption Date: 02/08/2019

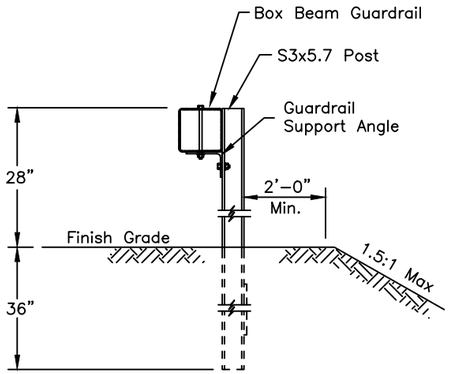
Last Code and Stds. Review
By: Date:

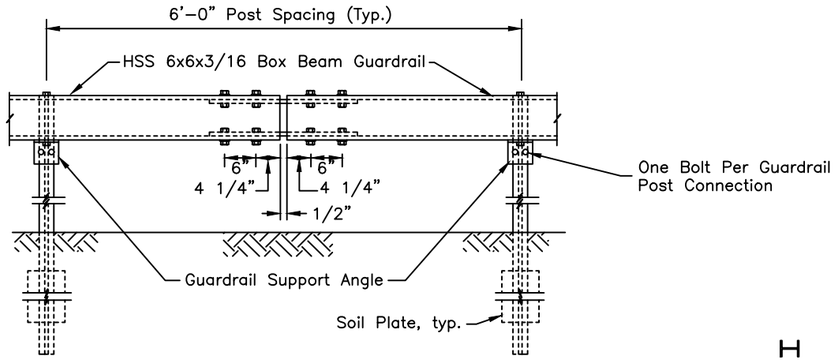
Next Code and Standards Review date: 02/08/2029

D-09.00

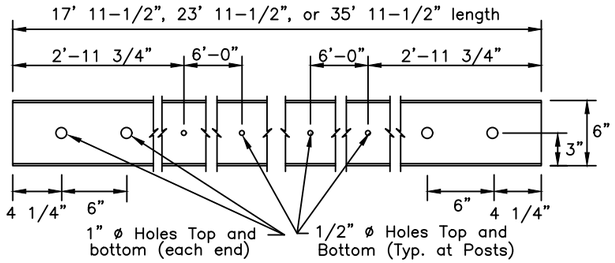
G-04.00

SHEET 1 of 1

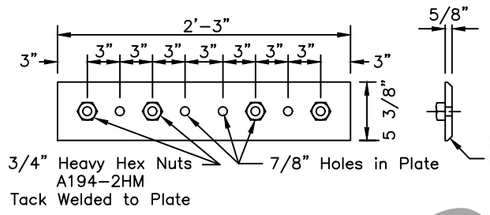




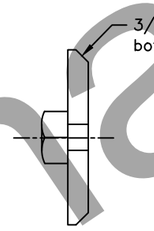
POST INSTALLATION



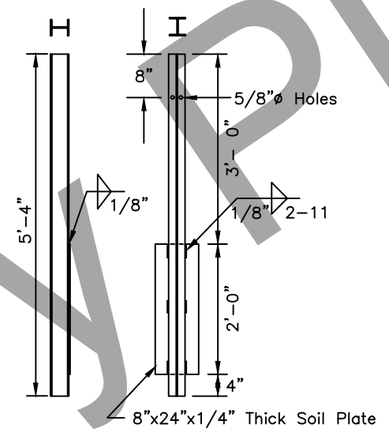
HSS 6x6 x 3/16 BOX BEAM GUARDRAIL



SPLICE PLATE

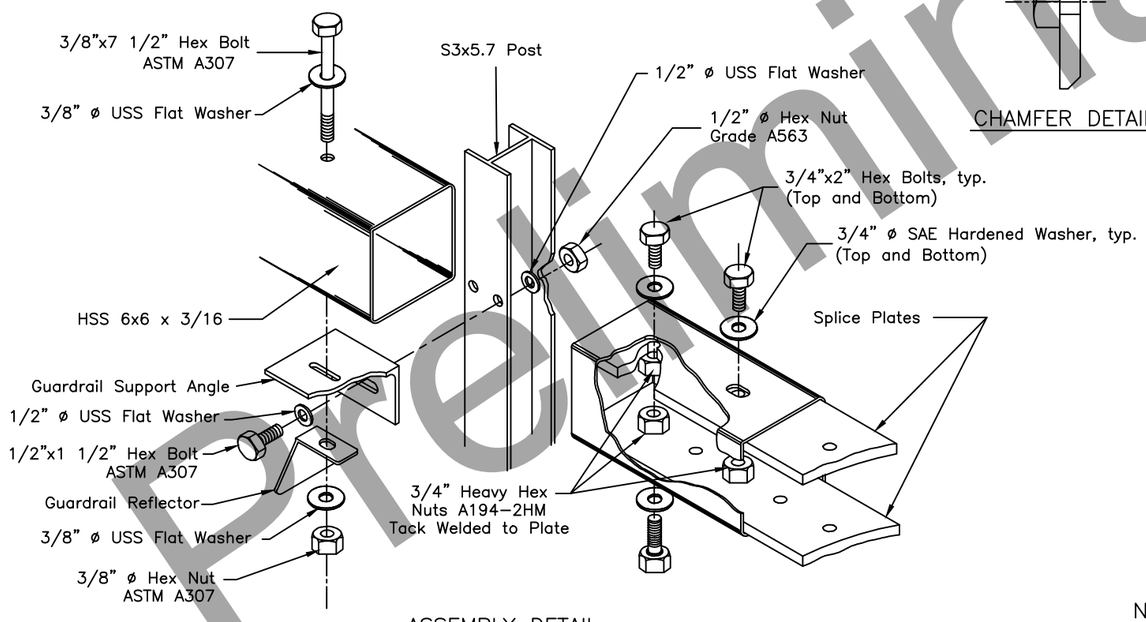


CHAMFER DETAIL

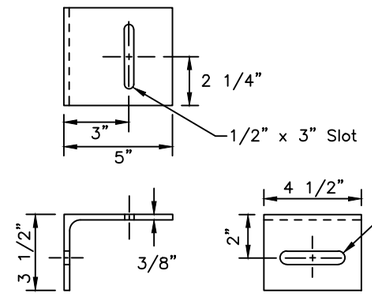


S3x5.7 BOX BEAM GUARDRAIL POST

ASTM A992 Post, ASTM A36 Plate



ASSEMBLY DETAIL



GUARDRAIL SUPPORT ANGLE

L 5 x 3.5 x 3/8 – ASTM A36

Note: Drawing not to scale

CONSTRUCTION NOTES:

1. No fixed objects allowed within 60" of the back of the guardrail post.
2. Shop form guardrail on curves with a radius of less than 717'.
3. Splice plate connections shall meet ASTMF3125, Grade A325 for bolts and A563, Grade A for hex nuts.
4. HSS Steel Tube box beam rail elements shall meet ASTM A500 Grade B.
5. Provide guardrail reflectors conforming to Standard Plan G–00 and Section 606 of the Standard Specifications.
6. Mount guardrail reflectors every 48' on tangents and 24' on curves. Start reflector installation on the first post. Use Type A reflectors unless shown otherwise on the plans.
7. Do not galvanize contact surfaces between the splice plate and the interior HSS tube surface.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MASH BOX BEAM GUARDRAIL

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

Adoption Date: 07/30/2021

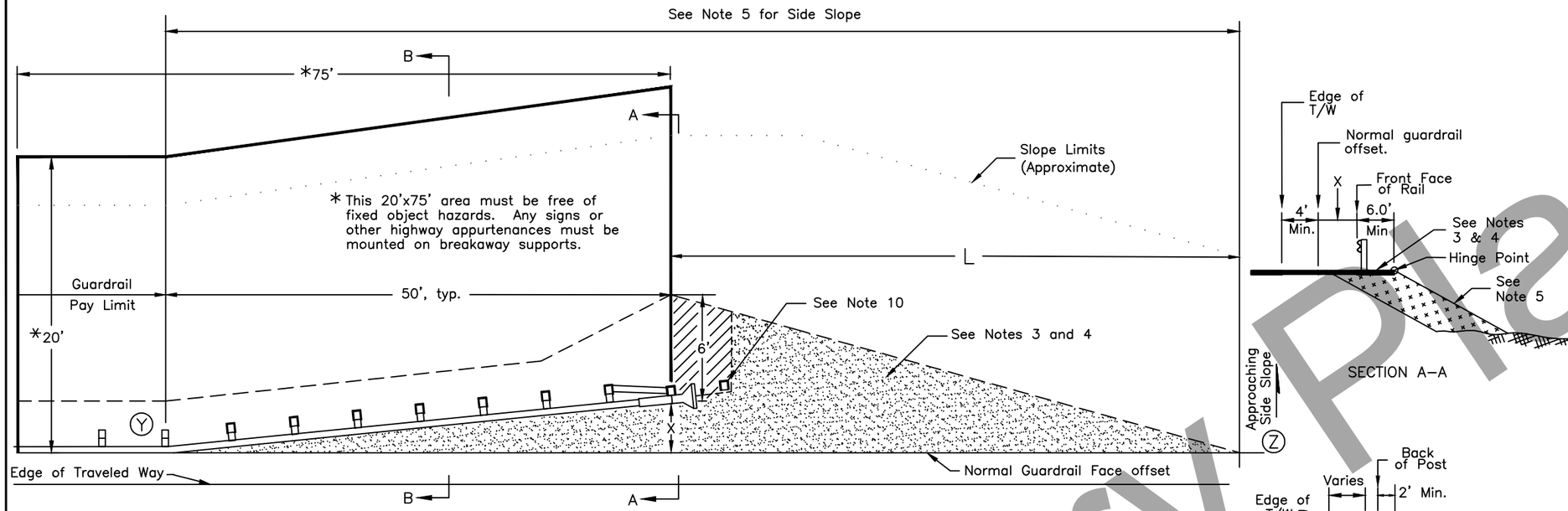
Last Code and Stds. Review
By: LRG Date: 07/30/2021

Next Code and Standards Review date: 7/30/2021

G–04.00

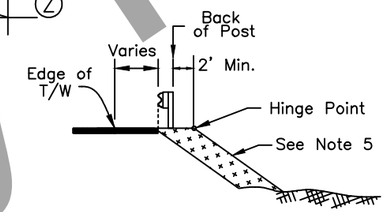
G-20.12

SHEET 1 of 1

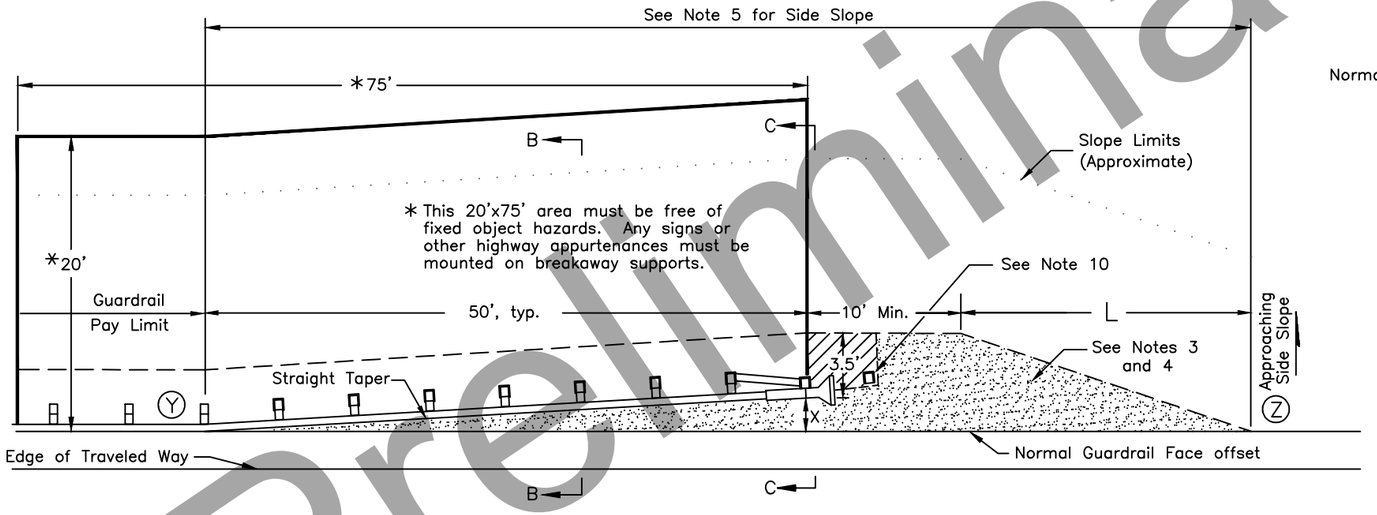


STANDARD GUARDRAIL TERMINAL WIDENING DETAIL

SECTION A–A

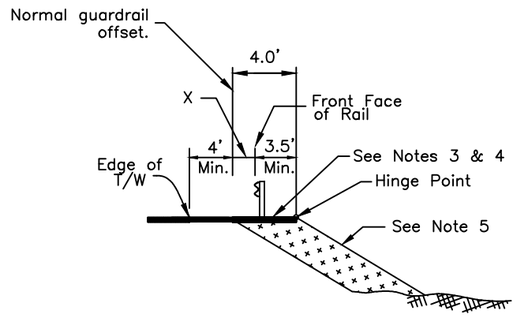


SECTION B–B
(Applies to both details)



ALTERNATE GUARDRAIL TERMINAL WIDENING DETAIL

(USE ONLY WHEN LIMITED RIGHT–OF–WAY OR LIMITING SITE CONDITIONS MAKE THE STANDARD DETAIL INFEASIBLE)



SECTION C–C

X= End offset. See manufacturer's information for the range of acceptable end offsets for each MASH compliant terminal.

Taper Lengths (L) for Common End Offsets (X)		
End Offset	Standard Detail	Alternate Detail
0'	24.0'	13.0'
1'	26.0'	17.0'
1.5'	28.0'	19.0'
2'	30.0'	21.0'
2.5'	32.0'	22.0'
4'	37.0'	28.0'
Interpolate if the end offset falls between table values		

GENERAL NOTES

1. This Std. Dwg. applies to all MASH approved guardrail end terminals (GETs). The alternate detail may only be used with parallel or tangent GETs. The terminal details shown are for illustration only – see manufacturer's drawings for actual post, rail, strut, etc. configuration and layout.
2. Use this Std. Widening Detail for all GETs except when limited right–of–way or limiting site conditions make the use of the Std. Widening Detail infeasible. In that case, the alternate detail is permissable.
3. Construct the shaded areas to match the slope of the adjacent shoulder. The slope may be increased to 10:1 if identified in the plans or when approved by the engineer. Match the slope when the shoulder slopes toward the road as well as away from the road.
4. On paved roads, the shaded areas shall be paved. On gravel roads, surface the shaded areas with the same materials used to surface the travel lanes.
5. From point Ⓨ to point Ⓩ make the side slope match the approaching side slope except where it is flatter than 4:1. In that case, the slope may be steepened to 4:1.
6. Attach a flexible marker at the beginning of each GET.
7. The max. allowable height for foundation tubes or other steel components of terminal post breakaway systems is 4" above the surrounding grade.
8. The details on this sheet do not apply to W31 Downstream End Anchors (Std Dwg G–14).
9. The details on this sheet apply to GETs on both the approach and downstream ends on two–way undivided roads and to any downstream MASH compliant GETs.
10. Some MASH GET systems have an additional post/anchor at the approximate location shown. If this post/anchor is present do not pave the diagonally hatched area. If not present, pave the diagonally hatched area also.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

WIDENING FOR GUARDRAIL END TERMINALS

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

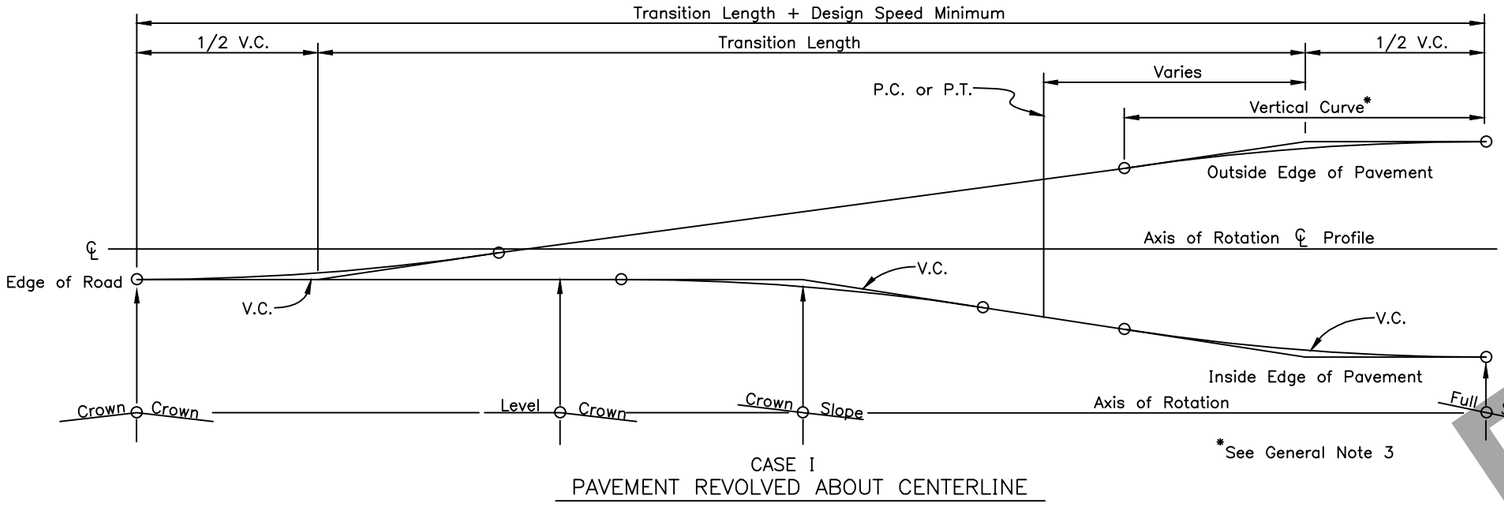
Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

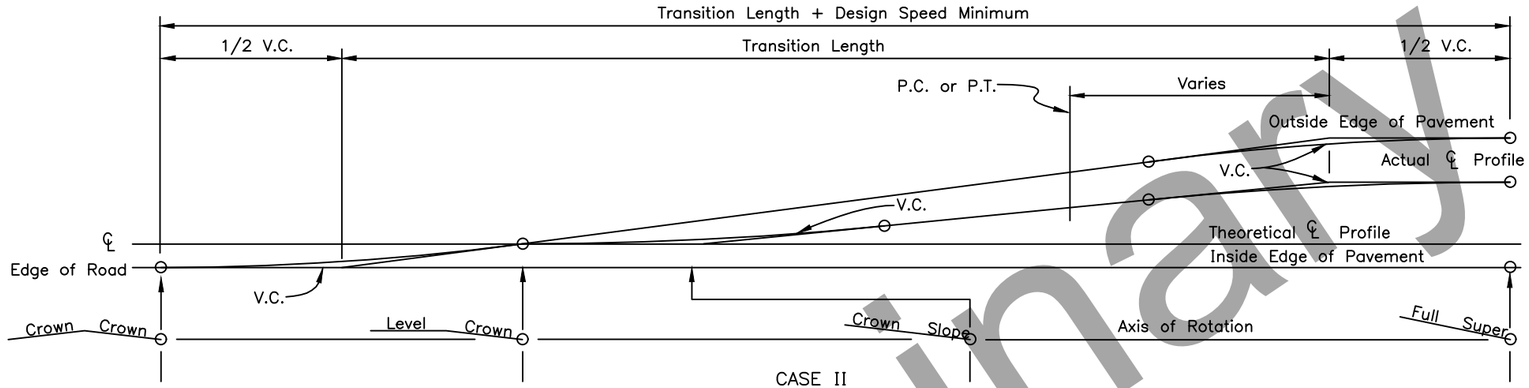
Next Code and Standards Review date:02/08/2029

G–20.12

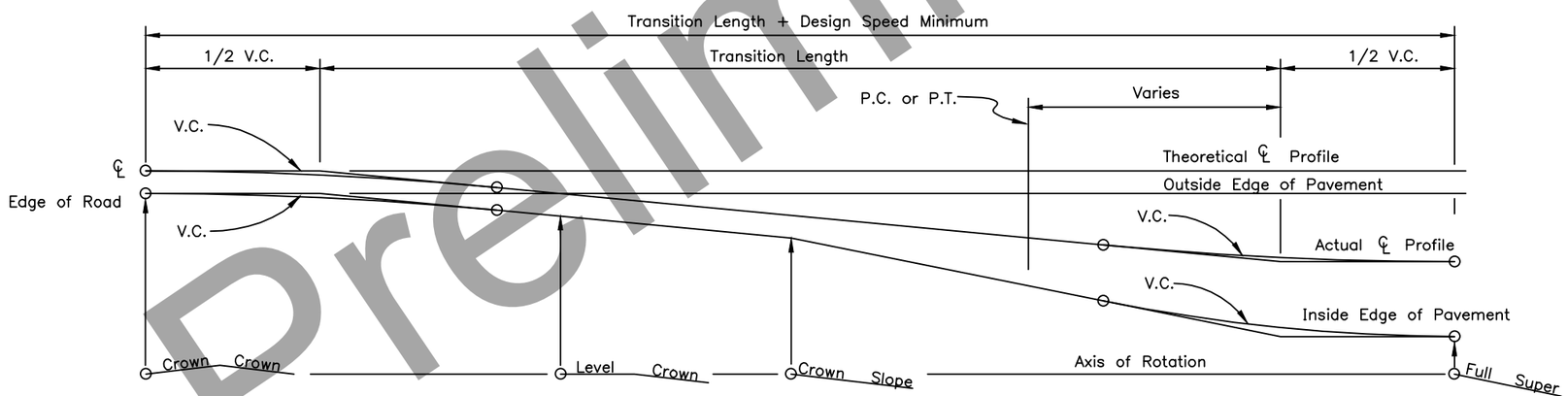
I-81.00 | SHEET 1 of 1



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, P.E.
Chief Engineer

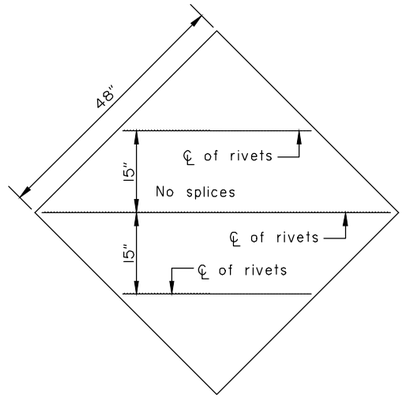
Adoption Date: 7/17/2020

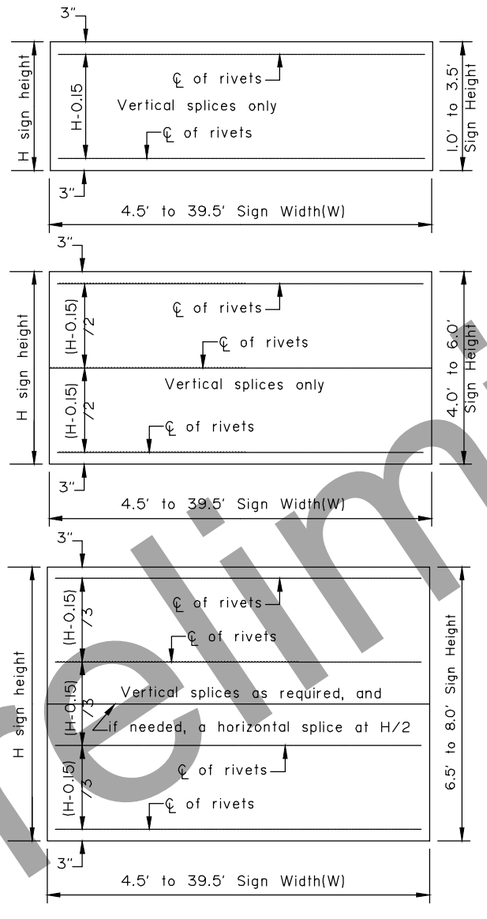
Last Code and Stds. Review
By: KLK Date: 7/8/2020

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

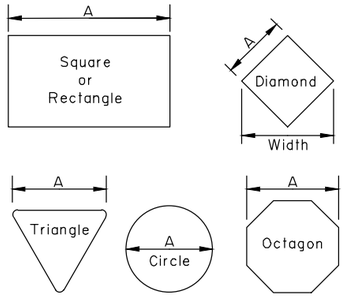
I-81.00

S-00.12 SHEET | of |





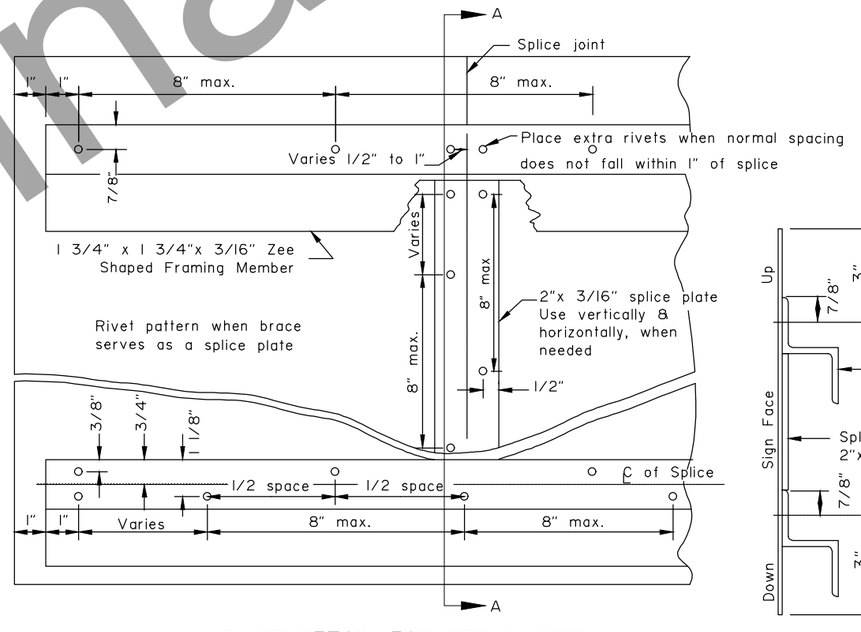
WIND FRAMING LOCATIONS



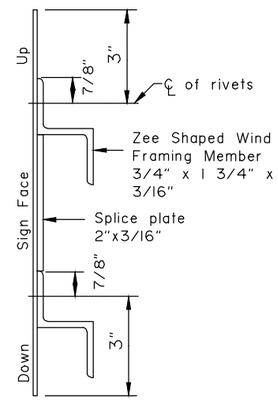
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

Install wind framing on all signs that exceed the dimensions listed.

LIGHT SIGNS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

Note: Drawing not to scale

GENERAL NOTES

1. See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
2. Fabricate all signs from 0.125" thick aluminum sheeting.
3. Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
4. Install one piece wind framing members on all signs up to 23.5' wide. Use one splice in each wind frame on all signs wider than 23.5'. Locate splices at least 18" from all posts and panel edges. Stagger splices in adjacent framing members at least 8.0' apart.
5. Attach wind framing members with rivets or with an engineer approved, double sided, high strength, adhesive tape. Clean and handle sheeting and framing members and apply tape in accordance with the tape manufacturer's written instructions. Install two rivets in both ends of each framing member.
6. Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
7. Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
8. Frame all signs taller than 8.0' with five wind framing members located (H-0.15)/4 spaces. If needed, make a horizontal splice at the middle wind frame.
9. Do not use round pipes for sign supports.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN FRAMING

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

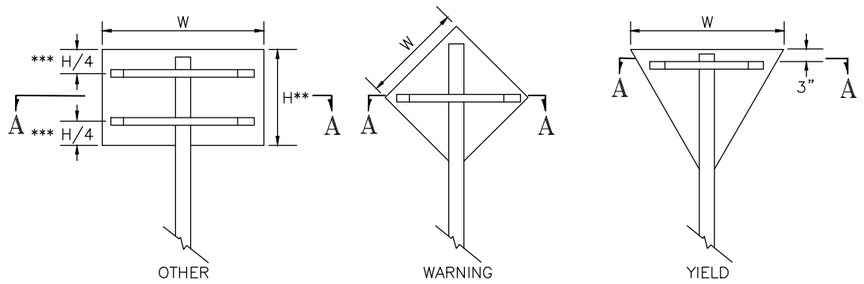
Adoption Date: 7/17/2020

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

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

S-00.12

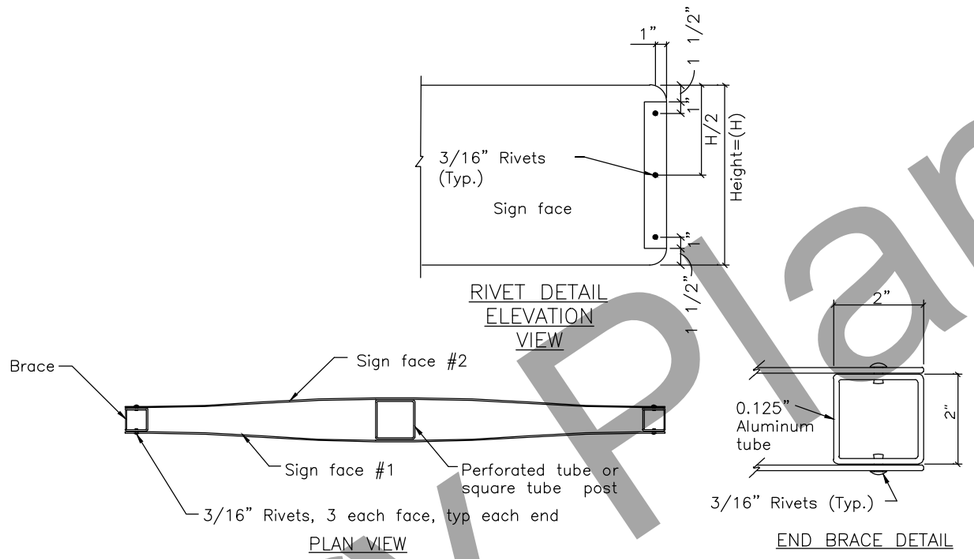
S-01.02 | SHEET | of |



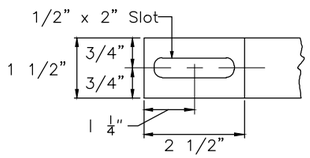
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

** Position of brace may be varied to match Predrilled mounting holes in panel

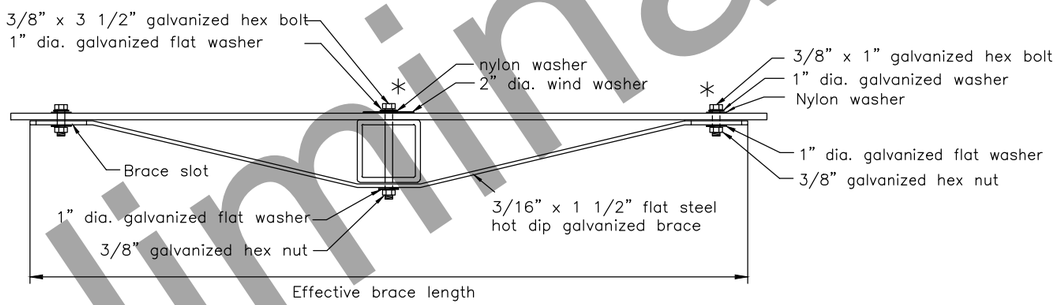
SIGN BRACING PLACEMENT



SMALL STREET NAME SIGN (D3-1, D3-1A, D3-1D) BRACING DETAILS



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING SECTION A-A
Plan view

Sign Width(W)	Effective Brace Length		
	Warning	Yield	Other
30"	36"	24"	24"
36"	42"	30"	30"
42"	48"	–	36"
48"	Two posts	36"	42"

< 30" No bracing required and use square tube

* Adjust location of bracing so that bolts and washers will miss the sign legend

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

BRACING FOR SIGNS MOUNTED ON SINGLE POST

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

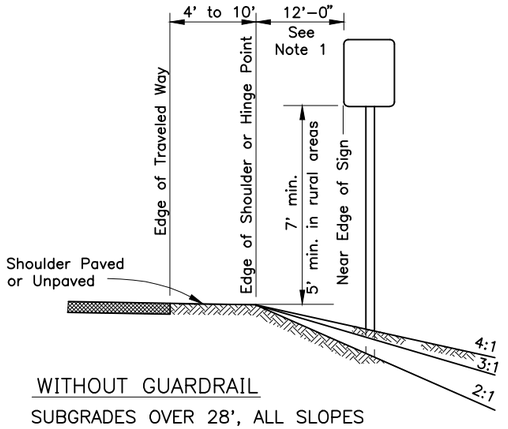
Adoption Date: 7/17/2020

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

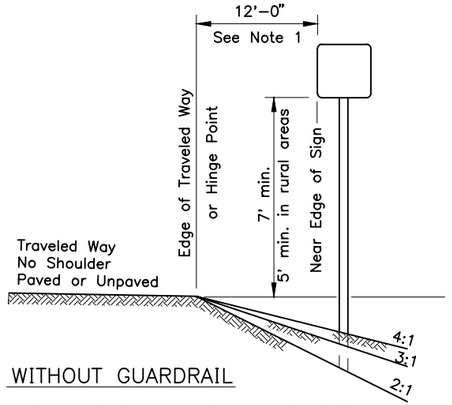
Next Code and Standards Review date: 7/8/2030

S-01.02

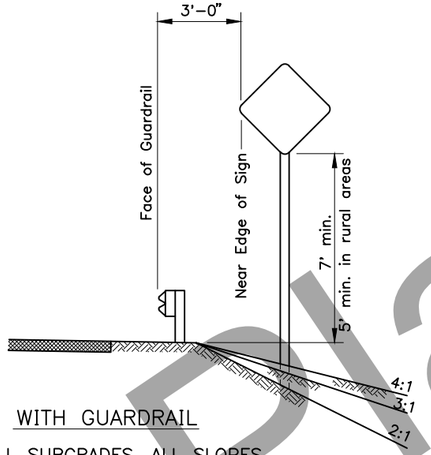
S-05.02 SHEET 1 of 1



WITHOUT GUARDRAIL
SUBGRADES OVER 28', ALL SLOPES



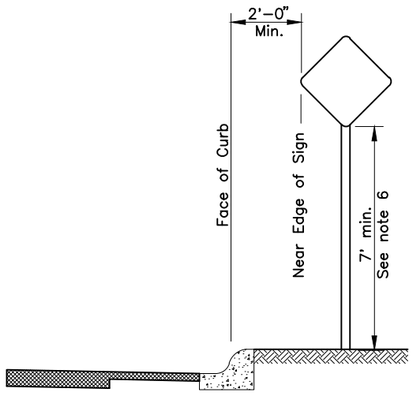
WITHOUT GUARDRAIL
SUBGRADES 24' TO 28', ALL SLOPES



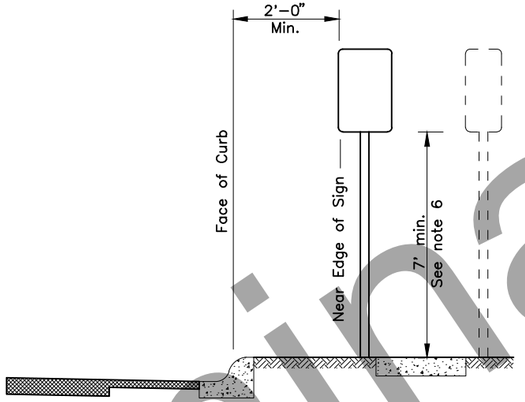
WITH GUARDRAIL
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

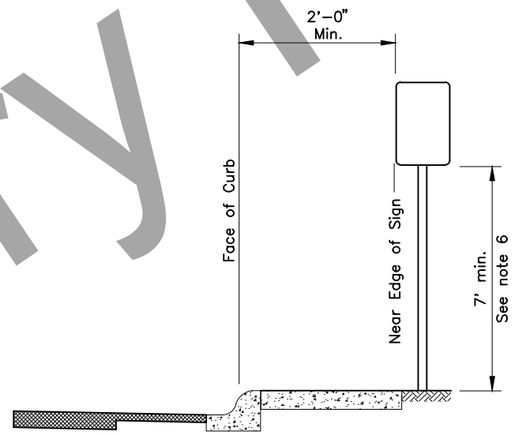
1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.
2. Add 6" to mounting height on unpaved roads.
3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".
4. When signs are placed 30' or more from the edge 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.



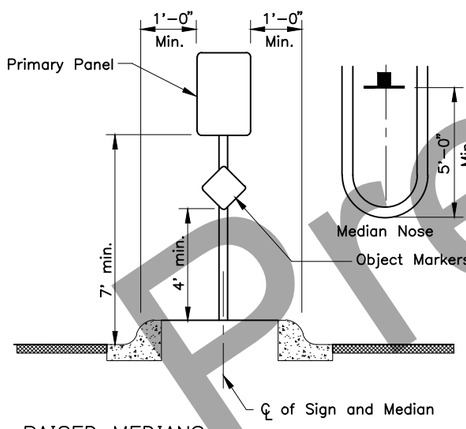
CURB WITHOUT SIDEWALK



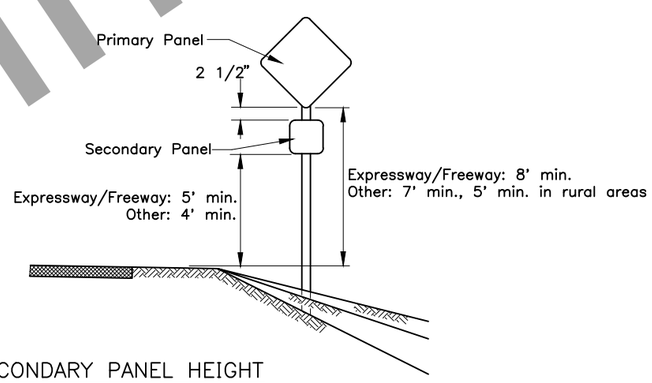
CURB WITH PARKWAY AND SIDEWALK
(If R/W width permits, signs should be placed behind sidewalk.)



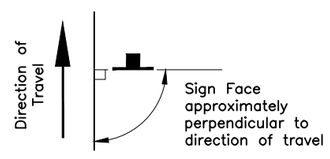
CURB WITH SIDEWALK WITHOUT PARKWAY



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

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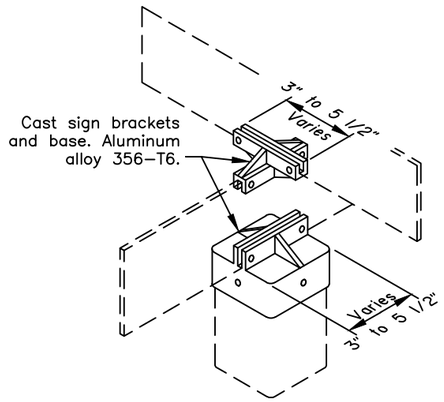
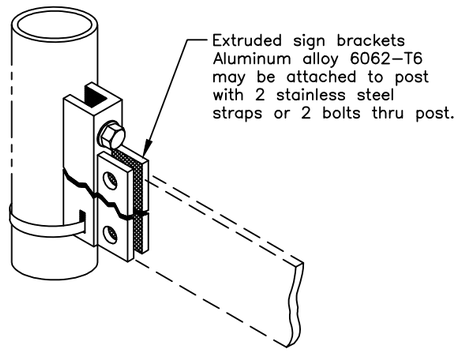
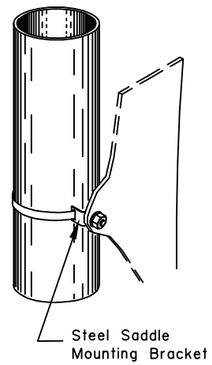
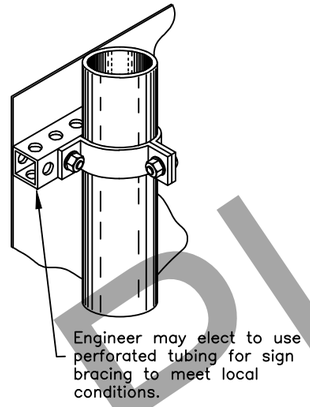
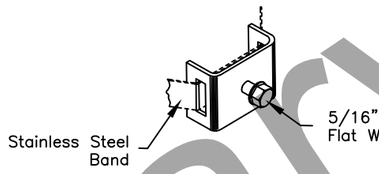


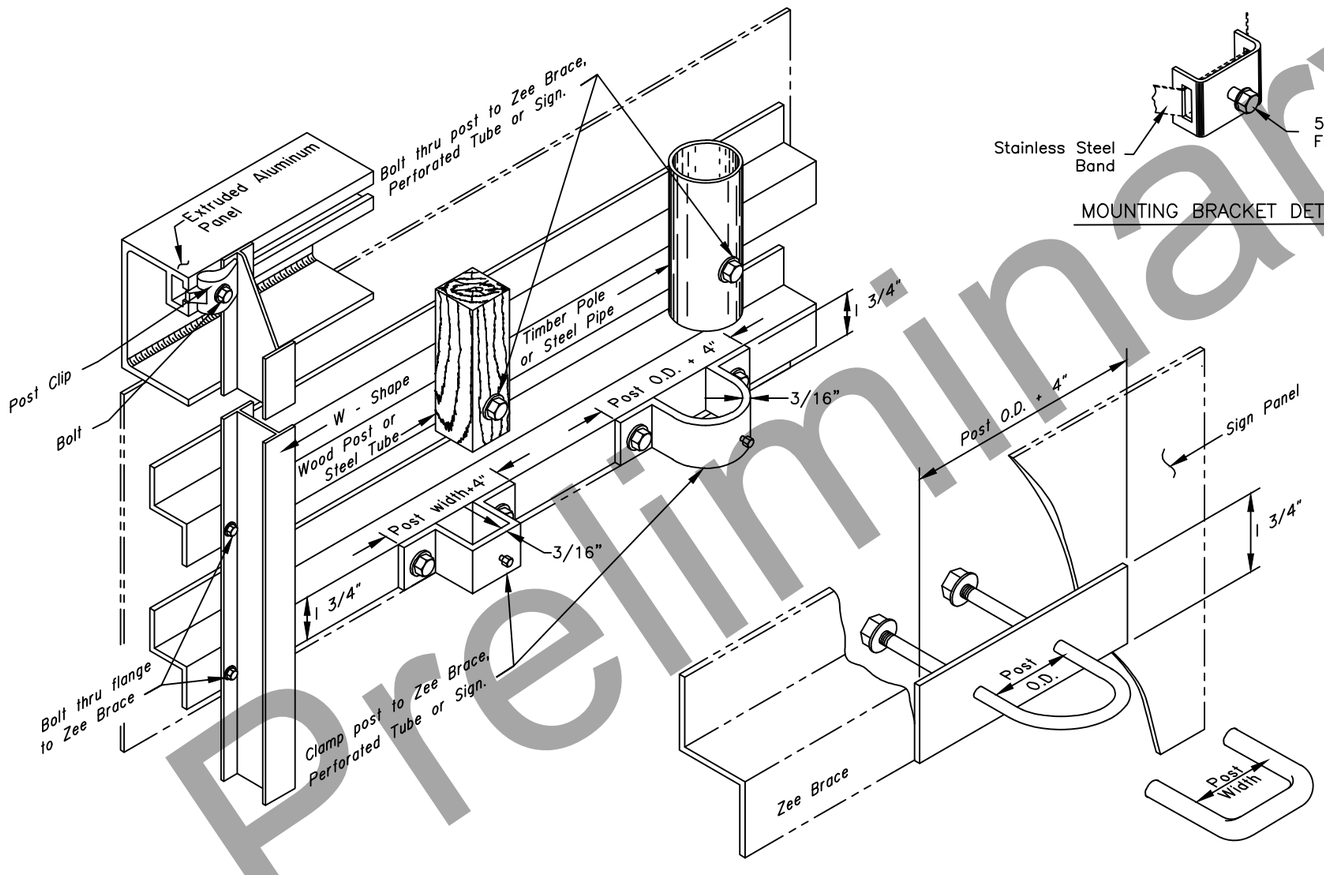


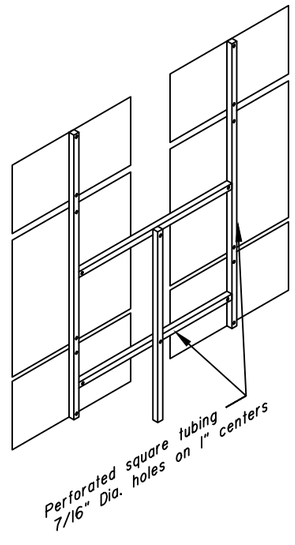






MOUNTING BRACKET DETAIL





CONSTRUCTION NOTES

1. Details shown indicate general design only. Dimensions and design may vary among manufacturers.
2. Install weather tight caps on all pipe and tube post (except perforated tubing).
3. Protect driven sign posts with drive caps during installation.
4. Bolt braces to posts at each point where they cross posts.
5. Install signs with top of post, mounting brackets, etc. with a minimum of 3" below top of sign.
6. Paint all sign mounting fasteners on sign face a color closely matching the sign face.
7. Attach all signs, zees and braces mounted to the posts with 5/16" bolts, nuts and washers.
8. Furnish all aluminum nuts, bolts and washers with anodized finish.

FASTENER SPECIFICATION TABLE
(ALL REFERENCES ARE TO ASTM)

FASTENERS		ALUMINUM	STEEL STAINLESS STEEL	
BOLTS	MACHINE F468 2024-T4 A307			F593
	CARRIAGE "U" F468 2024-T4 A307 A276 TYPE 304			
NUTS	REGULAR F467 6061-T6		A563	F594
	LOCKING	F467 2017-T4		
WASHERS				A480
POST CLIP		A356-T6	N/A	N/A

F468 2024-T4 F467

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN TO SIGN POST CONNECTION

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

Adoption Date: 07/30/2021

Last Code and Stds. Review
By: LRG Date: 07/30/2021

Next Code and Standards Review date: 07/30/2031

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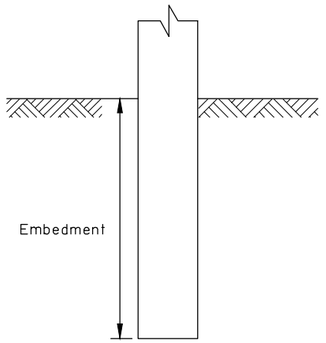

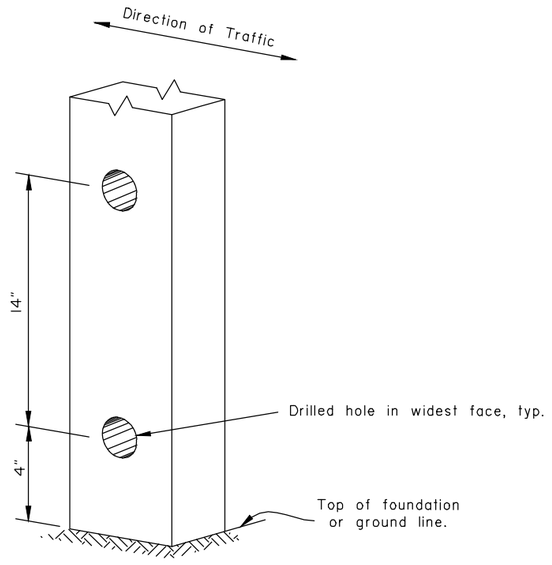

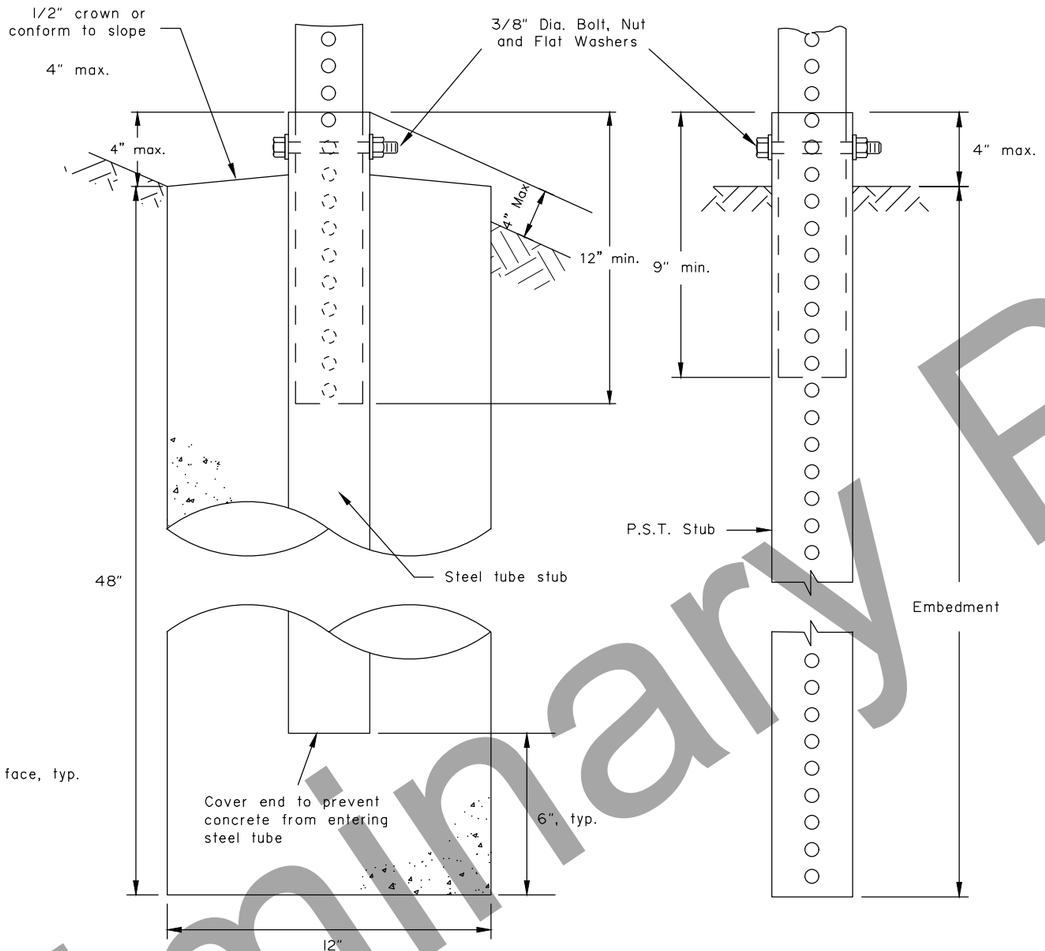

SLEEVE TYPE
CONCRETE FOUNDATION

SLEEVE TYPE*
SOIL EMBEDMENT

GENERAL NOTES:

1. Sign shall be placed symmetrically around posts and refer to Standard Plan S-00 for sign framing details.
2. See plans for type of post, size and embedment type.
3. To maintain crashworthiness, install no more than the number of P.S.T.s or wood posts specified in the tables within 7' of each other.
4. Concrete shall be class B.
5. Do not use the supports on this drawing for multiple support signs if supports are separated by more than 7 feet.
6. Treat all field cuts and field drilled holes in wood posts in accordance with Section 730-2.04 of the Standard Specifications.

SIGN POST SPACING NOTES:

1. Install sign support in accordance with the table below, unless otherwise required by plans or specifications.
2. Exceptions:
   a. Use one post for all E5-1 gore signs, regardless of width.
   b. Use one 2.5" P.S.T. for all STOP signs, with or without street name signs.
3. Supports placed within 7' of each other must be acceptable for that use. See tables below for the sizes of wood posts and P.S.T.s that may be used within 7'. See Manufacturer's documentation for breakaway couplings and tubes that may be used within 7'.
4. See Standard Plan S-31 for frangible couplings, hinges, and foundations for tube and W-shape sign supports.

WOOD SIGN POSTS			
SIZE	HOLE DIA.	EMBEDMENT*	NO. OF POSTS WITHIN 7 Ft. PATH
4"x4"	NONE	4'-1"	2
4"x6"	1 1/2"	5'-3"	2
6"x6"	1 1/2"	4'-9"	1
6"x8"	3"	4'-9"	1

* Embedment depth applies in both strong and weak soil.

WOOD POSTS

PERFORATED STEEL TUBES (P.S.T.)		
POST SIZE	Embedment Depth	No. of P.S.T.s permitted within 7 ft path
1 1/2" x 1 1/2"	4'-8"	2
1 3/4" x 1 3/4"	4'-6"	2
2" x 2"	4'-3"	2
2 1/4" x 2 1/4"	5'-0"	1
2 1/2" x 2 1/2"	4'-6"	1

* Use 3"x3"x3/16" Stub for 2 1/2"x2 1/2" PST Applications.

PERFORATED STEEL TUBE (PST) POSTS

TUBE SIGN POST SPACING								
Sign Width (feet)	No. of Posts	Distance Between Posts	Sign Overhang	Post Type				Notes
				P.S.T.	Wood	Steel Tube	W-Shape	
0.5 to 4.0	1	-	0.5W	X	X	X		See Note 2.
4.5 to 10.0	2	0.6W	0.2W	X	X	X		See Note 3.
10.5 to 11.0	2	6	Varies	X	X	X		See Note 3.
11.5 to 13.0	2	8	Varies				X	
13.5 to 20.0	2	0.6W	0.2W				X	
20.5 to 22.5	3	8	Varies				X	
23.0 to 29.5	3	0.35W	0.15W				X	
30.0 to 31.5	4	8	Varies				X	
32.0 to 40.0	4	0.25W	0.125W				X	

TUBE SIGN POST SPACING

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

LIGHT SIGN STRUCTURE
POST EMBEDMENT

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

Adoption Date: 7/17/2020

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

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

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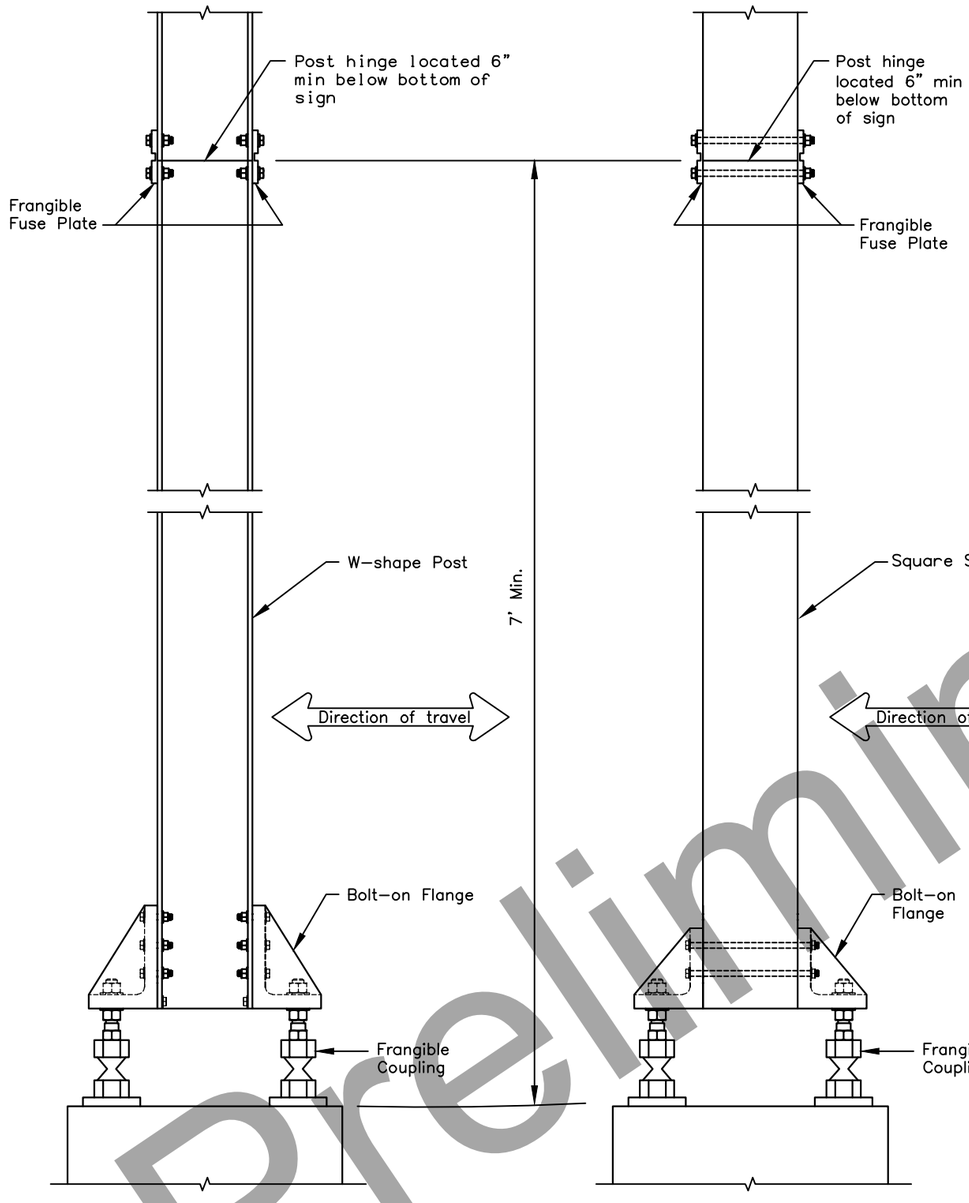
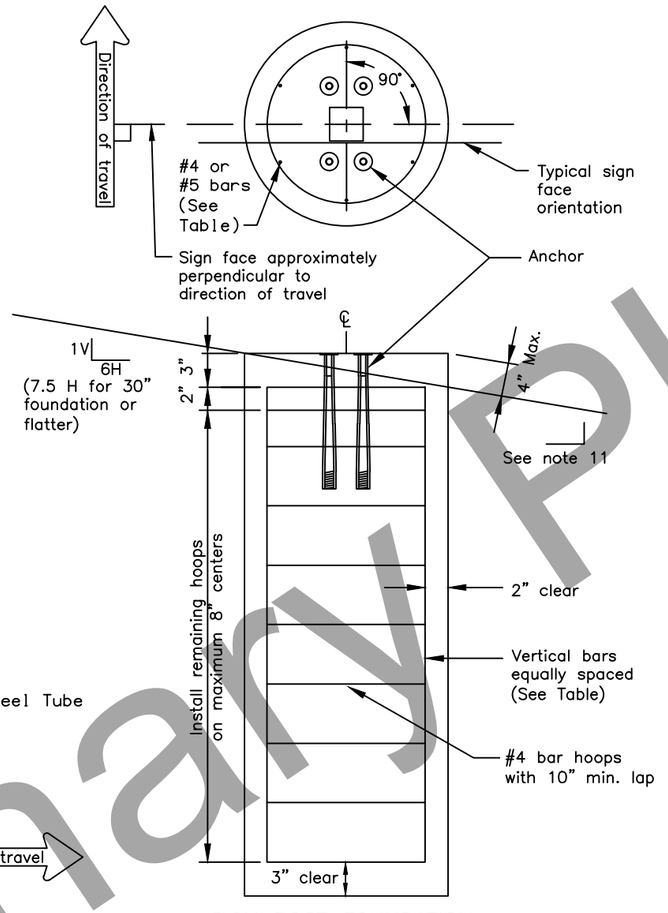
NOTE:
Install hinges when more than one post is used to support a sign. Do not install hinges on single post installations.



FRANGIBLE COUPLING SYSTEM FOR W–SHAPE POST

FRANGIBLE COUPLING SYSTEM FOR SQUARE STEEL TUBES



SIGN POST FOUNDATION
See Table for depth and diameter

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					
	DIA.	MIN. DEPTH	CY^3 CONC.	VERTICAL BARS QTY.	SIZE	LGTH.	HOOPS QTY.	SIZE	DIA.
2 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
4" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
4 1/2" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
5" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 9	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 12	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 15	3'–0"	6'–6"	1.70	8	#11	6'–0"	12	#4	2'–8"
W6 x 30	3'–0"	7'–6"	1.96	8	#11	7'–0"	13	#4	2'–8"

FOUNDATION TABLE

* Foundations sized for use where there are no loose, high moisture, or fine grained soils.

GENERAL NOTES

1. Furnish sign posts with NCHRP 350 compliant frangible couplings designed to break away safely when struck from any direction. There is no MASH compliant device at this time. See SPDR report for more info.
2. Furnish frangible coupling systems with bolt–on flanges.
3. Details on this sheet illustrate only the general components of a frangible coupling system, and are not intended to specify a particular product.
4. Install frangible fuse plates as specified by the manufacturer and hinged joints when multiple posts are used to support a sign. Do not use round pipes.
5. Install the components of the breakaway system, including hinges, in accordance with the written instructions of the system manufacturer.
6. Use Class A, B or W concrete conforming to Sections 501 or 550 of the Standard Specifications. Furnish ASTM A615 grade 60 steel bars for concrete reinforcement conforming to AASHTO M31.
7. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral option shall consist of #3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
8. Install the concrete anchors using a rigid template. Locate the anchors on centers and within tolerances specified by the manufacturer.
9. Install the anchors in fresh concrete as recommended by the manufacturer. Adjust the template's final position until it is level. Remove and replace all foundations that need more than 2 shims under any 1 coupling or more than a total of 3 shims under any pair of couplings to plumb the post.
10. Drill the holes for attaching brackets before the sign posts are hot dip galvanized. Test fit templates in the holes to ensure the brackets can be installed square to the posts.
11. Special grading detail and/or shielding may be required to maintain 4" maximum clear distance.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN POST BASE AND FOUNDATION

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

Adoption Date: 7/17/2020

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

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

S-31.02

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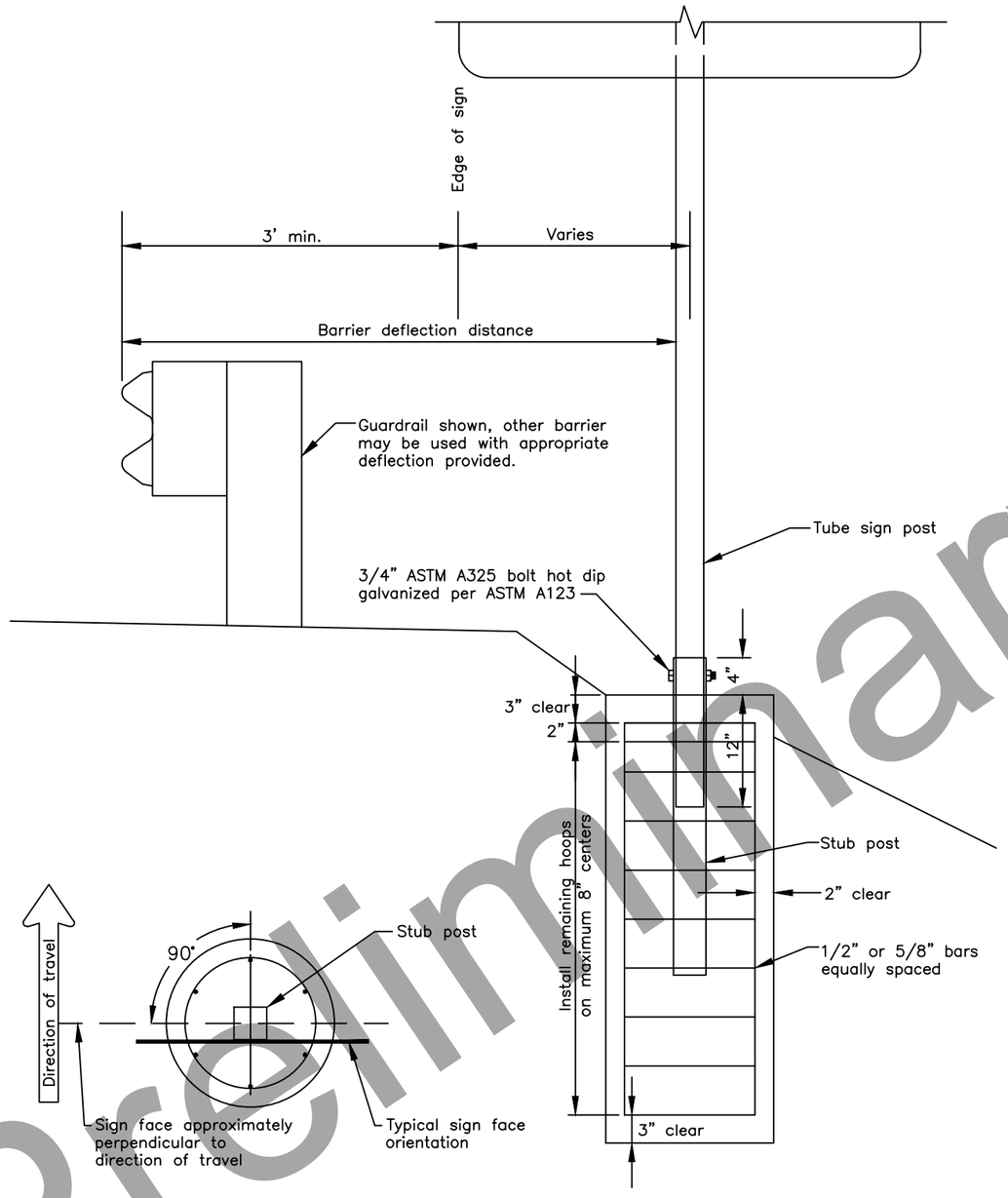

SIGN POST FOUNDATION
(Plan view)

SIGN POST FOUNDATION
See table for depth and diameter

GENERAL NOTES

1. This is a non–crashworthy sign support. It may only be used at locations shielded by a guardrail, barrier, or wall. It may not be used if the sign post is within 20' of the rail and is closer than 75' from the guardrail end post (measured along the rail). For this case use a breakaway sign support. See Standard Plan G–20.
2. Furnish steel tube sign post and stub post that conform to ASTM A500, grade B, and meet ASTM A123 for hot dip galvanizing.
3. Install tubes and stub post with a 0.1875" wall thickness.
4. For Perforated Tubes use Standard Plan S–30.
5. Spiral reinforcing steel may be substituted for hoops in concrete foundation. Spiral option shall consist of No. 3 plain spiral with 6" pitch with three flat turns at the top and one flat turn at the bottom.
6. Use Class A, B or W concrete.

POST SIZE & TYPE	FOUNDATION *			REINFORCEMENT					STUB POST	
	DIA.	MIN. DEPTH	C.Y. CONC.	VERTICAL BARS			HOOPS		SLEEVE	
				QTY.	SIZE	LGTH.	SIZE	DIA.	SIZE	LGTH.
2 1/2" TUBE	1'–0"	4'–6"	0.13	6	#4	4'–0"	#4	8"	3"	3'
3" TUBE	1'–6"	4'–0"	0.25	7	#5	3'–6"	#4	1'–2"	3 1/2"	3'
3 1/2" TUBE	1'–6"	4'–6"	0.27	7	#5	4'–0"	#4	1'–2"	4"	3'
4" TUBE	2'–6"	4'–0"	0.69	8	#8	3'–6"	#4	2'–2"	4 1/2"	3'
4 1/2" TUBE	2'–6"	4'–6"	0.78	8	#8	4'–0"	#4	2'–2"	5"	3'

* Foundation sized for use where there are no loose, high moisture, or fine grained soil.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN POST BASE AND FOUNDATION BEHIND BARRIER

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

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By: KLK Date: 7/8/2020

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

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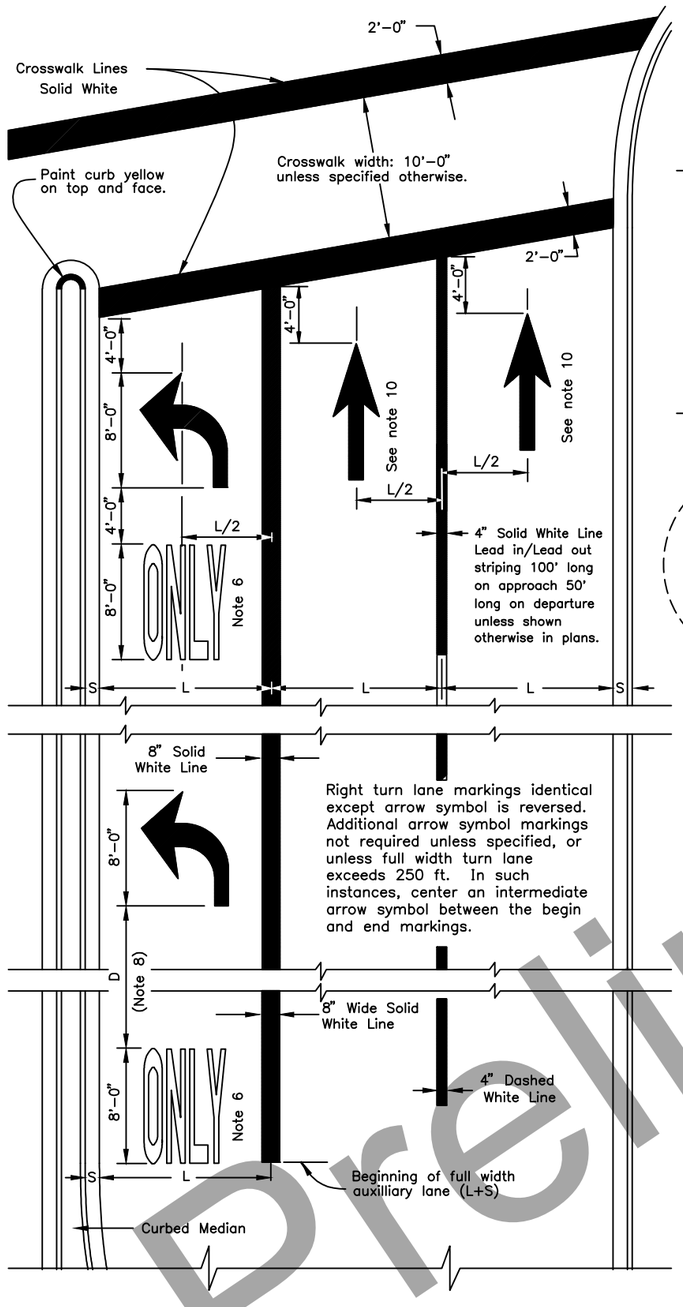
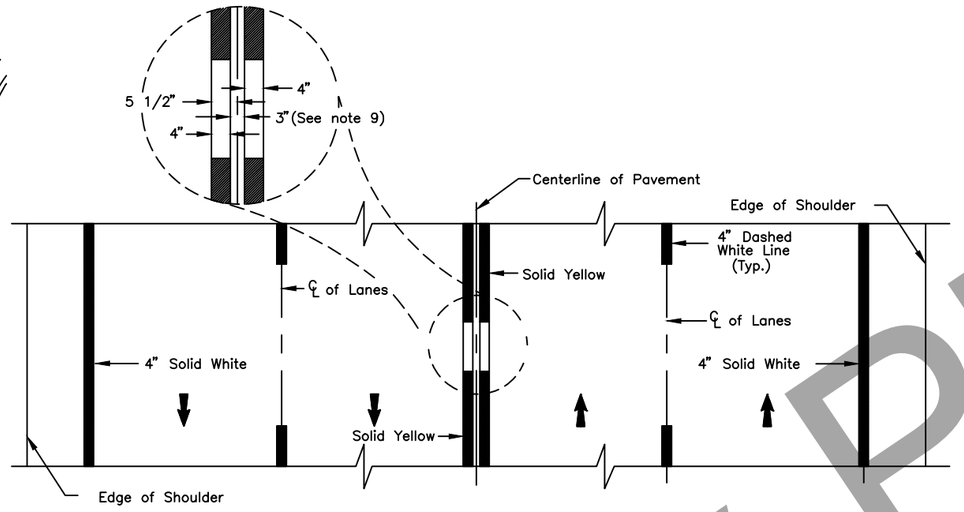
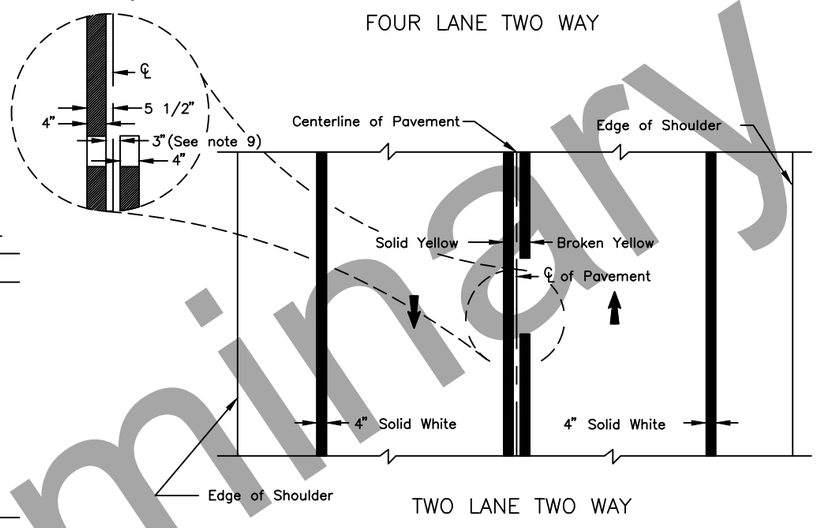


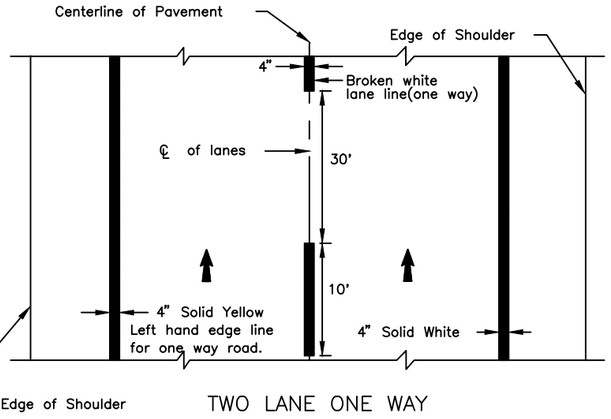
APPROACH TO INTERSECTION



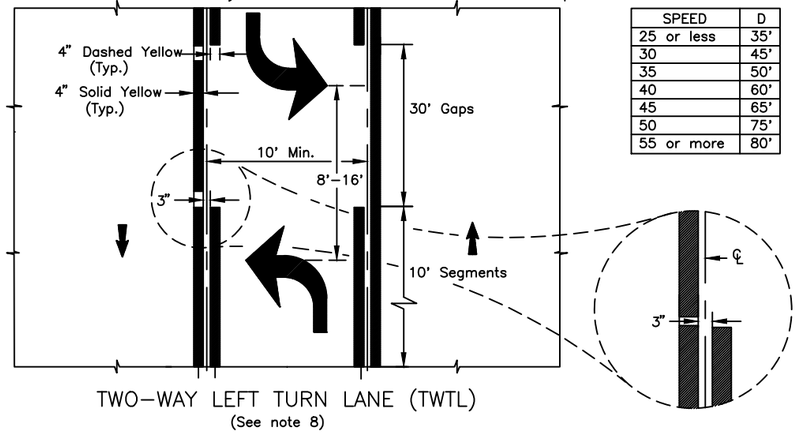
FOUR LANE TWO WAY



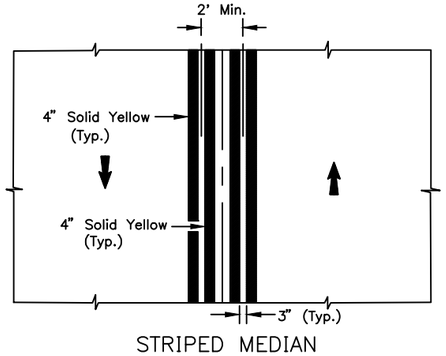
TWO LANE TWO WAY



TWO LANE ONE WAY



TWO-WAY LEFT TURN LANE (TWTL)
(See note 8)



STRIPED MEDIAN

GENERAL NOTES:

1. All markings white unless indicated otherwise.
2. Lengths of stripe and gap for lane and center lines identical.
3. Lane lines for auxiliary lanes are unbroken solid lines.
4. "L" = driving lane width.
5. "S" = shy distance as shown on plans, otherwise 1 to 2 feet.
6. ONLY markings are required where through lanes change to turn lanes. In other cases, apply ONLY markings as indicated on plans.
7. See ALASKA TRAFFIC MANUAL for additional instruction on the use of TRAFFIC CONTROL DEVICES.
8. Adjust distance D between ONLY and Turn Arrow based on SPEED vs. D table. Table may be used for spacing between pairs of TWLT markings.
9. Adjust centerline spacing from 3" up to 5" where recessed pavement markers are required.
10. Arrows and symbols are used for through lanes only when the lane layout deviates from the normal intersection rules, and shall only be used where indicated in the plans.

SPEED	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MARKING
APPLICATIONS

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

Adoption Date: 7/17/2020

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By: KLK Date: 7/8/2020

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

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