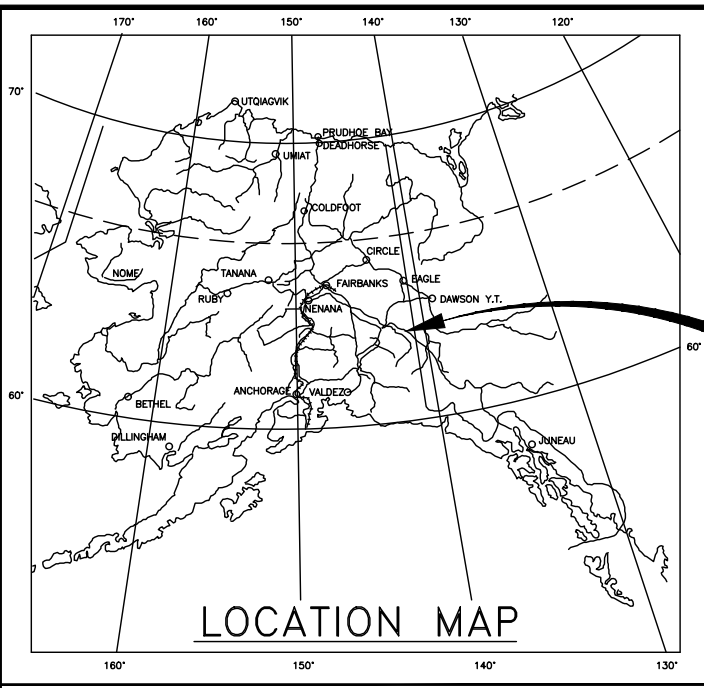


NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	A1	134
			CDS ROUTE:	180000	MILEPOINT:	29.56 TO	44.97



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT
PENDING/Z607520000
ALASKA HIGHWAY MP 1252-1268 REHABILITATION
GRADING, DRAINAGE, PAVING, SIGNING & STRIPING

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2	SITE PLAN
A3	LEGEND
A4	PROJECT CONTROL
A5	ALIGNMENT CONTROL & SUPERELEVATION
B1-B5	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES & GENERAL NOTES
D1-D2	SUMMARIES
E1-E3	CULVERT SUMMARY
E4-E7	CULVERT DETAILS
E8-E9	SILVER CREEK FISH PASSAGE CULVERT
E10	GUARDRAIL DETAILS
E11	MISCELLANEOUS DETAILS
E12	MP 1252 TURNOUT DETAILS
F1-F28	PLAN & PROFILE
G1-G5	APPROACH SUMMARY & DETAILS
H1-H8	SIGNING & STRIPING
N1-N6	BEAVER CREEK BRIDGE PLANS
Q1-Q15	EROSION SEDIMENT CONTROL PLANS
T1-T10	TEMPORARY DIVERSION & TRAFFIC CONTROL PLANS
V1-V37	STANDARD PLANS

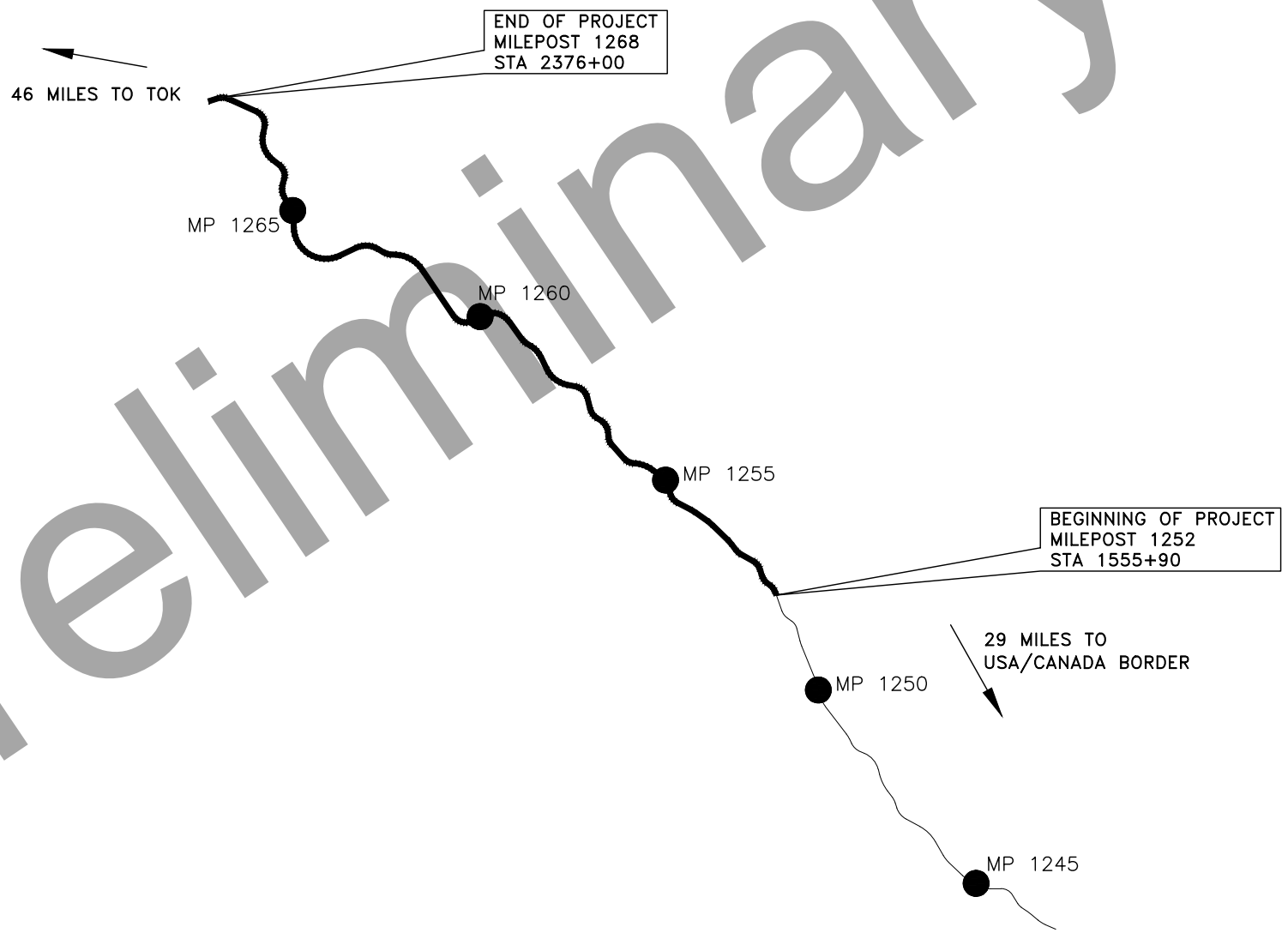
THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
 C-04.12, C-05.20, C-06.00
 D-01.02, D-04.22
 G-00.05, G-05.11S, G-10.21, G-14.01, G-20.12, G32.03
 I-81.00
 M-20.15, M-23.13
 S-00.12, S-01.02, S-05.02, S-30.05, S-31.02, S-32.02
 T-21.04, T-25.10

DESIGN DESIGNATIONS	
ADT (2016)	425
ADT (2040)	479
DHV	95
PERCENT TRUCKS (T)	24.5%
DIRECTIONAL SPLIT (D)	60/40
DESIGN SPEED (V)	65 MPH
DESIGN EAL'S (15 YEARS)	529,911

PROJECT SUMMARY	
WIDTH OF PAVEMENT	36-60 FT
LENGTH OF GRADING	82,010 FT
LENGTH OF PAVING	82,010 FT
LENGTH OF PROJECT	82,010 FT

DAVID FISCHER, P.E., PROJECT MANAGER

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



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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AECC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2022	A2	A5

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

	EXISTING	PROPOSED
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
ROADWAY/PAVEMENT EDGE		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX		
TREE LINE		
WATER BOUNDARY		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS		
POST OR BOLLARD		
WELL OR MONITORING WELL		
SATELLITE DISH		

PLAN VIEW KEY

	STATION DIAMETER X LENGTH INSTALL CULVERT PIPE		STATION DIAMETER X LENGTH SEE CULVERT SUMMARY TABLE
	STATION DIAMETER X LENGTH REMOVE PIPE		STATION TYPE, WIDTH SEE APPROACH SUMMARY

LIST OF ABBREVIATIONS

ACS	ALASKA COMMUNICATIONS SYSTEMS	S	SUPERELEVATION
ADT	AVERAGE DAILY TRAFFIC	SF	SQUARE FEET
AVE	AVENUE	SPP	STRUCTURAL PLATE PIPE
AVEC	ALASKA VILLAGE ELECTRIC COOPERATIVE	ST	STREET
BFS	BEGIN FULL SUPER	STA	STATION
BM	BENCHMARK	SUPER	SUPERELEVATION
BMP	BEST MANAGEMENT PRACTICES	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
BNC	BEGIN NORMAL CROWN	SY	SQUARE YARD
BOP	BEGINNING OF PROJECT	T, TAN	TANGENT LENGTH
BP	BEGIN POINT	TBM	TEMPORARY BENCHMARK
		TCE	TEMPORARY CONSTRUCTION EASEMENT
		TCP	TEMPORARY CONSTRUCTION PERMIT
		TYP.	TYPICAL
CABC	CRUSHED ASPHALT BASE COURSE	UON	UNLESS OTHERWISE NOTED
ε, CL	CENTERLINE	VPC	VERTICAL POINT OF CURVATURE
COM	COMMERCIAL	VPI	VERTICAL POINT OF INTERSECTION
CMP	CORRUGATED METAL PIPE	VPT	VERTICAL POINT OF TANGENCY
CP	CONTROL POINT	W, WTR	WATER
CRREL	COLD REGIONS RESEARCH AND ENGINEERING LABORATORY		
CSP	CORRUGATED STEEL PIPE		
CY	CUBIC YARDS		
D	DEGREE OF CURVATURE		
DEMO	DEMOLITION		
DELTA, Δ	CENTRAL ANGLE OF CURVE		
DHV	DESIGN HOURLY VOLUME		
DIA.	DIAMETER		
DNR	DEPARTMENT OF NATURAL RESOURCES		
DOR	DESIGNER OF RECORD		
DRWY	DRIVEWAY		
DR	DRIVE		
E	EASTING		
EG	EXISTING GROUND		
ELEV., EL	ELEVATION		
ENC	END NORMAL CROWN		
EOP	END OF PROJECT		
EP	END POINT		
EQU	EQUATION		
ESAL	EQUIVALENT SINGLE AXLE LOAD		
ESCP	EROSION AND SEDIMENT CONTROL PLAN		
EX	EXISTING		
FASBC	FOAMED ASPHALT STABILIZED BASE COURSE		
FG	FINISHED GRADE		
FT	FEET		
GALV	GALVANIZED		
HT	HEIGHT		
HWY	HIGHWAY		
IN	INCHES		
L	LENGTH OF CURVE		
LBS	POUNDS		
LDP	LOW DISTORTION PROJECTION		
LF	LINEAR FOOT		
LP	LOW POINT		
LS	LUMP SUM		
LT	LEFT		
LVC	LENGTH VERTICAL CURVE		
MAX	MAXIMUM		
MIN	MINIMUM		
N	NORTHING		
NTS	NOT TO SCALE		
PC	POINT OF CURVATURE		
P.C.C.	POINT OF CURVATURE ON CURVE		
P.E.	PROFESSIONAL ENGINEER		
PED	PEDESTRIAN		
PI	POINT OF INTERSECTION		
POC	POINT ON CURVE		
POT	POINT ON TANGENT		
PT	POINT OF TANGENCY		
PUE	PUBLIC UTILITY EASEMENT		
R, RAD	RADIUS OF CURVE		
RES	RESIDENTIAL		
REHAB	REHABILITATION		
RD	ROAD		
ROW, R/W	RIGHT OF WAY		
RT	RIGHT		

LEGEND

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	A3	A5

Preliminary Plans



USA/CANADA BORDER

SITE PLAN

95%

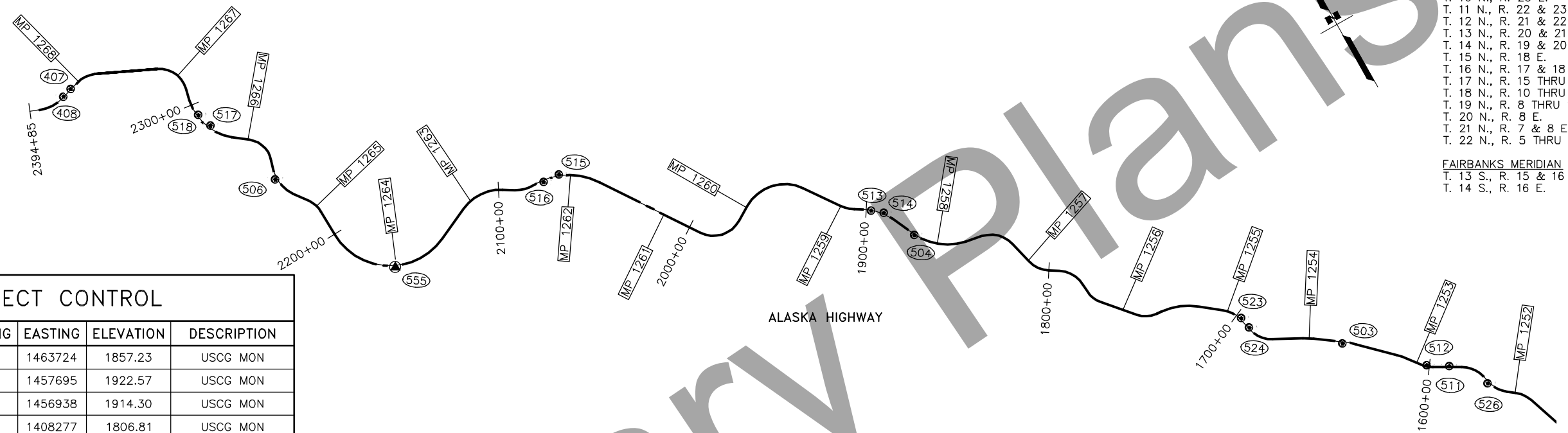
PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	A4	A5

THIS SURVEY LIES WITHIN THE FAIRBANKS AND COPPER RIVER MERIDIANS IN THE FOLLOWING TOWNSHIPS:

COPPER RIVER MERIDIAN
T. 10 N., R. 23 E.
T. 11 N., R. 22 & 23 E.
T. 12 N., R. 21 & 22 E.
T. 13 N., R. 20 & 21 E.
T. 14 N., R. 19 & 20 E.
T. 15 N., R. 18 E.
T. 16 N., R. 17 & 18 E.
T. 17 N., R. 15 THRU 17 E.
T. 18 N., R. 10 THRU 15 E.
T. 19 N., R. 8 THRU 10 E.
T. 20 N., R. 8 E.
T. 21 N., R. 7 & 8 E.
T. 22 N., R. 5 THRU 7 E.

FAIRBANKS MERIDIAN
T. 13 S., R. 15 & 16 E.
T. 14 S., R. 16 E.



VERTICAL PROJECT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
552	1329+18.89	87.97 RT	102347	1463724	1857.23	USCG MON
553	1448+61.30	462.32 RT	112130	1457695	1922.57	USCG MON
554	1459+17.50	78.18 RT	112976	1456938	1914.30	USCG MON
555	2164+96.23	82.24 LT	153284	1408277	1806.81	USCG MON
579	621+00.80	75.64 LT	56196	1512196	2040.95	USCG MON

HORIZONTAL PROJECT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
407	2371+32.65	21.08 RT	168561.5535	1398736.3620	1714.46	REBAR CAP SET
408	2376+45.27	20.51 RT	168406.2116	1398247.8450	1729.73	REBAR CAP SET
501	913+52.16	84.41 RT	78302.4497	1495465.5030	2197.50	REBAR CAP SET
502	1171+00.40	84.93 RT	91947.2959	1474625.2410	1944.30	REBAR CAP SET
503	1643+95.23	87.28 LT	127524.7290	1446636.3080	1987.84	REBAR CAP SET
504	1872+96.11	24.30 LT	142313.2298	1431057.8910	1781.09	REBAR CAP SET
506	2240+17.23	96.97 LT	159860.0340	1405267.4090	1893.53	REBAR CAP SET
507	646+87.38	34.52 LT	58551.8018	1511119.6040	2034.05	REBAR CAP SET
508	618+82.79	19.92 LT	56062.0599	1512378.4730	2051.32	REBAR CAP SET
509	628+29.70	23.17 LT	56829.9939	1511820.2390	2021.80	REBAR CAP SET
510	653+83.02	18.60 LT	59243.8220	1511025.3210	2038.79	REBAR CAP SET
511	1590+34.91	48.95 RT	124035.7331	1450622.4540	1868.71	REBAR CAP SET
512	1601+30.37	67.67 RT	124604.1676	1449701.9970	1875.67	REBAR CAP SET
513	1897+49.07	26.61 LT	144377.1396	1429800.0860	1756.33	REBAR CAP SET
514	1891+30.77	39.72 RT	143980.1351	1430278.6590	1751.62	REBAR CAP SET
515	2069+00.69	63.21 RT	153321.8239	1417423.4610	1785.37	REBAR CAP SET
516	2077+26.04	78.99 LT	153375.7720	1416591.9990	1797.15	REBAR CAP SET
517	2285+92.44	115.31 RT	163689.7022	1403796.3930	1735.04	REBAR CAP SET
518	2294+02.58	60.98 RT	164425.3588	1403533.2650	1749.91	REBAR CAP SET
523	1697+47.96	57.20 RT	131015.6537	1442938.1850	1766.33	REBAR CAP SET
524	1691+43.71	38.31 RT	130419.8589	1443056.1600	1785.10	REBAR CAP SET
526	1568+49.30	90.50 LT	122380.3471	1451845.9740	1979.11	REBAR CAP SET
527	999+17.75	21.17 RT	82564.9209	1488219.8030	2046.47	REBAR CAP SET
528	742+47.93	20.60 RT	66454.6638	1506773.0720	2062.14	REBAR CAP SET

HORIZONTAL CONTROL STATEMENT

COORDINATE SYSTEM:
THIS PROJECT IS LOCATED ENTIRELY THE ALASKA HWY LOW DISTORTION PROJECTION (LDP), A LOW DISTORTION PROJECTION CREATED BY THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES.

ALASKA HWY LDP DEFINITION:
LINEAR UNIT: U.S. SURVEY FOOT
DATUM: NAD83 (2011)
PROJECTION: OBLIQUE MERCATOR (RECTIFIED SKEW ORTHOMORPHIC)
LATITUDE OF LOCAL ORIGIN: 63°02'00.0"N (63.0333333333333)
LONGITUDE OF LOCAL ORIGIN: 143°52'00.0"W (-143.866666666667)
FALSE NORTHING: -16,200,000.0 SFT
FALSE EASTING: 22,000,000.0 FT
PROJECTION SKEW AXIS SCALE: 1.000046 (EXACT)
GRID SCALE FACTOR: 1.000046
SKEW AXIS AZIMUTH AT ORIGIN: -52°00'00.0" (-52.0)

BASIS OF COORDINATES:
COORDINATES FOR CONTROL POINTS 201 AND 207 ARE BASED ON NGS OPUS SHARED SOLUTIONS AT EACH POINT.
POINT 201:
ALASKA HWY LDP COORDINATES: 52,337.00 N, 1,515,501.29 E
ASP ZONE 2, NAD83(2011)(EPOCH 2010.0000) COORDINATES: 3,188,290.46 N, 1,777,896.24 E
NAD83(2011)(EPOCH 2010.0000) GEODETIC COORDINATES: 62°43'23.75189" N, 141°10'50.51118" W

POINT 207:
ALASKA HWY LDP COORDINATES: 423,180.40 N, 929,762.60 E
ASP ZONE 2, NAD83(2011)(EPOCH 2010.0000) COORDINATES: 3,575,963.14 N, 1203257.30 E
NAD83(2011)(EPOCH 2010.0000) GEODETIC COORDINATES: 63°45'38.02834" N, 144°42'03.26675" W

BASIS OF BEARINGS:
PROJECT BEARINGS ARE ALASKA HWY LDP GRID BEARINGS AND ARE BASED ON GPS MEASUREMENTS FROM CONTROL POINTS 201 & 207. THE BEARING BETWEEN "POINT 201" AND "POINT 207" IS N57°39'40"W

VERTICAL CONTROL STATEMENT

THE BASIS OF ELEVATIONS IS NAVD88 ORTHOMETRIC HEIGHTS AS DETERMINED BY GEOID-12A IN U.S. SURVEY FEET HOLDING THE OPUS (SHARED) DERIVED VALUES FOR POINTS 201 AND 207.

NOTES:

1. THE INFORMATION SHOWN HEREON IS BASED ON A FIELD SURVEY PERFORMED BY DOWL FROM AUGUST 27, 2015 THROUGH OCTOBER 12, 2015. BACKGROUND INFORMATION DEPICTED IS SHOWN FOR REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.
2. THIS SURVEY WAS PERFORMED TO PROVIDE SURVEY CONTROL AND PLANNING LEVEL TOPOGRAPHIC AND FEATURE MAPPING OF THE ALASKA HIGHWAY PASSING LANES AND ALASKA HIGHWAY MP 1235-1267 REHABILITATION PROJECTS.
3. PRIMARY HORIZONTAL CONTROL WAS ESTABLISHED USING STATIC GPS TECHNIQUES WITH LEICA DUAL FREQUENCY RECEIVERS. VECTORS WERE ADJUSTED BY A SIMULTANEOUS LEAST SQUARES ADJUSTMENT USING LEICA GEO OFFICE VERSION 8.3. THIS SURVEY MEETS OR EXCEEDS 1:10,000 CLOSURE.
4. THE ROAD RIGHT OF WAY AND PROPERTIES ARE GRAPHICALLY SHOWN FOR REFERENCE ONLY. A TRUE BOUNDARY SURVEY WAS NOT A PART OF THIS SURVEY. NO DETERMINATION HAS BEEN MADE TO ENSURE THE BOUNDARIES AS DEPICTED ARE IN THE PROPER LOCATION.
5. ALL DIMENSIONS AND COORDINATES SHOWN ARE IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
6. THIS SURVEY DOES NOT CONSTITUTE A SUBDIVISION AS DEFINED BY ALASKA STATUTE 40.15.900(5)(A)

PROJECT CONTROL

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	A5	A5

'O' ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
BC	1545+87.57	120658.4428	1453292.8805
PI	1550+15.85	121062.4205	1453150.6708
EC	1554+19.82	121321.7219	1452809.8125
BOP	1556+00.00	121322.1866	1452665.7154
BC	1558+56.41	121586.0581	1452462.3359
PI	1563+42.96	121880.6422	1452075.0976
EC	1567+94.37	122350.2685	1451947.8792
BC	1572+76.87	122815.9828	1451821.7205
PI	1578+78.78	123396.9486	1451664.3410
EC	1584+16.31	123690.4936	1451138.8689
BC	1598+19.31	124374.7286	1449914.0265
PI	1601+69.76	124545.6408	1449608.0782
EC	1605+10.07	124825.6366	1449397.3231
BC	1611+68.78	125351.9262	1449001.1808
PI	1613+97.77	125534.8775	1448863.4719
EC	1616+25.87	125694.8088	1448699.5912
BC	1637+69.74	127192.1521	1447165.2716
PI	1640+55.63	127391.8294	1446960.6634
EC	1643+40.33	127556.7095	1446727.1039
BC	1658+88.45	128449.5371	1445462.3766
PI	1661+82.44	128619.0878	1445222.2009
EC	1664+75.55	128754.9406	1444961.4791
BC	1678+07.79	129370.5628	1443780.0079
PI	1684+78.67	129680.5737	1443185.0506
EC	1690+64.49	130334.7310	1443036.1911
BC	1696+94.94	130949.4585	1442896.3042
PI	1702+14.55	131456.1168	1442781.0095
EC	1706+93.34	131776.0145	1442371.5453
BC	1719+05.35	132522.1833	1441416.4603
PI	1728+38.28	133096.5443	1440681.2868
EC	1737+21.20	133187.3834	1439752.7832
BC	1740+56.30	133220.0125	1439419.2686
PI	1745+53.39	133268.4130	1438924.5463
EC	1750+03.23	133641.5525	1438596.1264
BC	1768+61.71	135036.6329	1437368.2418
PI	1773+03.66	135368.3855	1437076.2487
EC	1777+12.32	135809.7388	1437053.2903
BC	1781+06.73	136203.6104	1437032.8018
PI	1788+55.17	136951.0409	1436993.9218
EC	1794+85.04	137343.2513	1436356.4776
BC	1799+87.21	137606.4025	1435928.7881
PI	1805+70.23	137911.9261	1435432.2324
EC	1810+94.40	138477.5427	1435290.8460
BC	1822+86.67	139634.2145	1435001.7143
PI	1831+71.70	140492.8327	1434787.0867
EC	1838+62.87	140661.6182	1433918.2934
BC	1847+23.68	140825.7837	1433073.2809
PI	1861+61.64	141100.0162	1431661.7178
EC	1873+87.17	142398.3278	1431043.5748
BC	1886+38.20	143527.8692	1430505.7855
PI	1893+73.07	144191.3761	1430189.8813
EC	1900+66.74	144574.2820	1429562.6493

'O' ALIGNMENT COORDINATES CONT'D

DESCRIPTION	STATION	NORTHING	EASTING
BC	1905+97.98	144851.0833	1429109.2256
PI	1909+44.85	145031.8208	1428813.1624
EC	1912+82.33	145314.1000	1428611.5740
BC	1933+00.06	146956.1026	1427438.9450
PI	1952+36.92	148532.2953	1426313.3139
EC	1964+16.62	147517.7470	1424663.4289
BC	1972+41.06	147085.8980	1423961.1448
PI	1986+09.07	146369.3185	1422795.8245
EC	1994+23.94	147501.7605	1422028.3399
BC	2049+03.06	152037.3764	1418954.4383
PI	2065+53.60	153403.6969	1418028.4483
EC	2079+60.13	153470.1815	1416379.2457
BC	2084+40.02	153489.5116	1415899.7457
PI	2088+23.68	153504.9655	1415516.4007
EC	2091+90.70	153705.2445	1415189.1692
BC	2098+08.75	154027.8850	1414662.0138
PI	2110+06.46	154653.1183	1413640.4587
EC	2120+04.67	154140.6294	1412557.9401
BC	2137+90.80	153376.3594	1410943.5897
PI	2185+92.45	151321.7636	1406603.7136
EC	2200+04.49	156121.8144	1406479.6121
BC	2212+94.52	157411.4177	1406446.2704
PI	2217+03.73	157820.4881	1406435.6942
EC	2220+87.41	158149.7445	1406192.7114
BC	2229+02.24	158805.3751	1405708.8730
PI	2236+13.79	159377.9020	1405286.3628
EC	2242+54.62	160083.2012	1405380.4640
BC	2244+40.75	160267.7024	1405405.0801
PI	2245+84.77	160410.4569	1405424.1265
EC	2247+27.88	160546.8308	1405470.4270
BC	2249+85.89	160791.1472	1405553.3751
PI	2258+47.08	161606.6123	1405830.2347
EC	2264+82.78	162135.2967	1405150.4353
BC	2273+74.29	162682.5959	1404446.7006
PI	2290+23.84	163695.2635	1403144.5801
EC	2303+09.60	165302.1528	1403517.3002
BC	2308+35.28	165814.2363	1403636.0787
PI	2318+47.98	166800.7504	1403864.9019
EC	2325+74.62	167299.6030	1402983.5869
BC	2327+47.56	167384.7891	1402833.0900
PI	2329+14.72	167467.1312	1402687.6175
EC	2330+81.64	167535.6385	1402535.1407
BC	2357+23.52	168618.3643	1400125.3151
PI	2362+41.24	168830.5425	1399653.0694
EC	2367+12.58	168673.7602	1399159.6579
EOP	2375+00.00	168435.3037	1398409.2084
BC	2377+02.31	168374.0369	1398216.3949
PI	2383+83.28	168167.8194	1397567.4052
EC	2390+11.09	168416.6011	1396933.5117

SUPERELEVATION SUMMARY

CURVE P.I.	RADIUS (FT)	BEGIN TRANSITION	TRANSITION LENGTH (FT)	CURVE P.C.	BEGIN FULL SUPER	SUPER RATE (%)	END FULL SUPER	CURVE P.T.	TRANSITION LENGTH (FT)	END TRANSITION
1550+15.85	1,430.00	1544+15	225.00	1545+88	1546+40	6	1553+70	1554+20	225.00	1555+95
1563+42.96	1,430.00	1556+85	220.00	1558+56	1559+05	6	1567+45	1567+94	225.00	1569+70
1578+78.78	1,430.00	1571+05	220.00	1572+77	1573+25	6	1583+65	1584+16	225.00	1585+90
1601+69.76	1,660.00	1595+35	335.00	1598+19	1598+70	6	1604+60	1605+10	335.00	1607+95
1613+97.77	3,000.00	1609+25	285.00	1611+69	1612+10	4.8	1615+85	1616+26	285.00	1618+70
1640+55.63	3,600.00	1635+40	265.00	1637+70	1638+05	4.4	1643+05	1643+40	265.00	1645+70
1661+82.44	4,370.00	1656+75	245.00	1658+88	1659+20	3.8	1664+45	1664+76	240.00	1666+85
1684+78.67	1,450.00	1676+35	225.00	1678+08	1678+60	6	1690+15	1690+64	225.00	1692+40
1702+14.55	1,460.00	1695+20	225.00	1696+95	1697+45	6	1706+45	1706+93	220.00	1708+65
1728+38.28	3,210.00	1717+55	190.00	1719+05	1719+45	4.8	1736+80	1737+21	190.00	1738+70
1745+53.39	1,260.00	1738+85	220.00	1740+56	1741+05	6	1749+55	1750+03	220.00	1751+75
1773+03.66	1,270.00	1766+90	220.00	1768+62	1769+10	6	1776+60	1777+12	225.00	1778+85
1788+55.17	1,425.00	1779+35	220.00	1781+07	1781+55	6	1794+35	1794+85	225.00	1796+60
1805+70.23	1,430.00	1798+15	220.00	1799+87	1800+35	6	1810+45	1810+94	225.00	1812+70
1831+71.70	1,390.00	1821+15	220.00	1822+87	1823+35	6	1838+15	1838+63	220.00	1840+35
1861+61.64	2,850.00	1845+70	195.00	1847+24	1847+65	5	1873+45	1873+87	195.00	1875+40
1893+73.07	2,470.00	1884+75	210.00	1886+38	1886+85	5.4	1900+20	1900+67	210.00	1902+30
1909+44.85	1,700.00	1904+25	225.00	1905+98	1906+50	6	1912+30	1912+82	225.00	1914+55
1952+36.92	2,075.00	1931+30	220.00	1933+00	1933+50	5.8	1963+70	1964+17	215.00	1965+85
1986+09.07	1,430.00	1969+55	335.00	1972+41	1972+90	6	1993+75	1994+24	335.00	1997+10
2065+53.60	3,270.00	2046+65	275.00	2049+03	2049+40	4.6	2079+20	2079+60	280.00	2082+00
2088+23.68	1,475.00	2082+65	225.00	2084+40	2084+90	6	2091+40	2091+91	225.00	2093+65
2110+06.46	2,215.00	2096+40	215.00	2098+09	2098+55	5.8	2119+55	2120+05	220.00	2121+75
2185+92.45	3,127.00	2136+40	190.00	2137+91	2138+30	4.8	2199+65	2200+04	190.00	2201+55
2217+03.73	1,300.00	2211+20	225.00	2212+95	2213+45	6	2220+35	2220+87	225.00	2222+60
2236+13.79	1,760.00	2227+30	220.00	2229+02	2229+50	6	2242+05	2242+55	225.00	2244+30
2245+84.77	1,475.00	2242+70	220.00	2244+41	2244+90	6	2246+80	2247+28	220.00	2249+00
2258+47.08	1,210.00	2248+15	220.00	2249+86	2250+35	6	2264+35	2264+83	220.00	2266+55
2290+23.84	2,580.00	2272+15	205.00	2273+74	2274+20	5.4	2302+65	2303+10	205.00	2304+70
2318+47.98	1,355.00	2306+60	225.00	2308+35	2308+85	6	2325+25	2325+75	225.00	2327+50
2329+14.72	3,600.00	2326+05	180.00	2327+48	2327+85	4.4	2330+45	2330+82	180.00	2332+25
2362+41.24	1,355.00	2355+50	225.00	2357+24	2357+75	6	2366+60	2367+13	225.00	2368+85
2383+83.28	1,920.00	237530	225.00	2377+02	2377+55	6	2389+60	2390+11	225.00	2391+85

SUPERELEVATION NOTES:

1. THE SUPERELEVATION POINT IS CENTERLINE AT THE PROFILE GRADE.
2. SEE STANDARD PLAN I-81.00 FOR SUPERELEVATION TRANSITION DETAILS. THE TRANSITION LENGTHS GIVEN IN THE SUMMARY DO NOT INCLUDE THE 1/2 VERTICAL CURVE LENGTHS SHOWN ON EACH END OF THE TRANSITION.

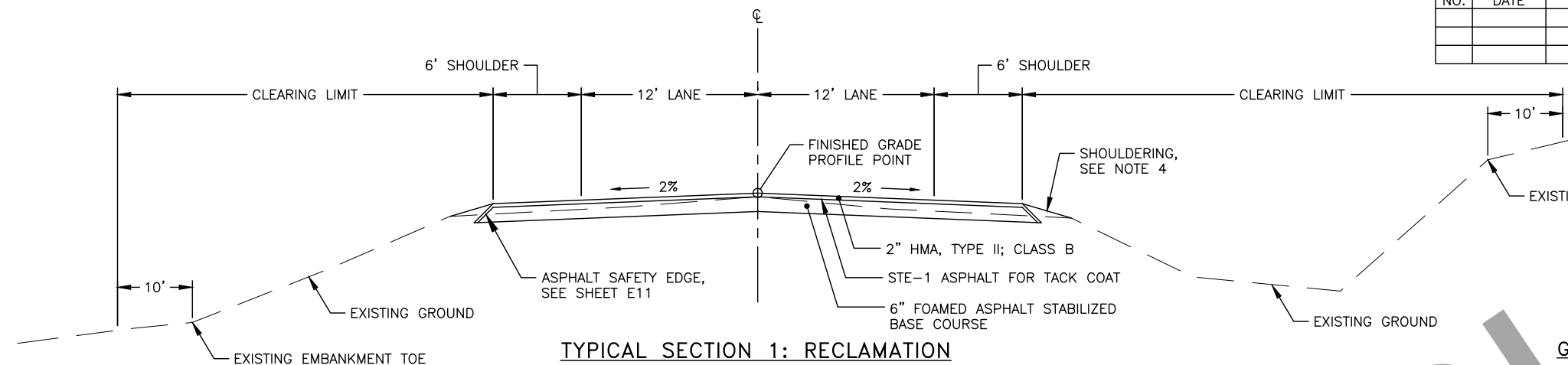
'T1' ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
POT "O" STA = 1564+25.60 0.00' LT	10+29.25	122010.6176	1452088.8807
BC	10+78.24	122010.6089	1452039.8893
EC	12+18.89	122084.0012	1451929.2889
BC	13+91.70	122243.2441	1451862.1699
EC	14+06.66	122257.2363	1451856.8794
BC	14+52.93	122301.0946	1451842.1464
EC	16+22.64	122466.4809	1451805.5084
BC	18+84.60	122726.7999	1451776.2465
EC	19+74.06	122808.4867	1451804.7162
POT "O" STA = 1572+84.68 0.00' LT	19+94.94	122823.5117	1451819.6589

'A1' ALIGNMENT COORDINATES

DESCRIPTION	STATION	NORTHING	EASTING
POT "O" STA = 1640+27.35 49.97' RT	9+50.00	127403.4968	1447006.8815
BC	10+31.38	127341.3397	1446954.3525
EC	11+02.88	127331.2701	1446889.5731
BC	13+77.95	127477.5535	1446656.6256
EC	15+25.81	127511.	

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	B1	B5

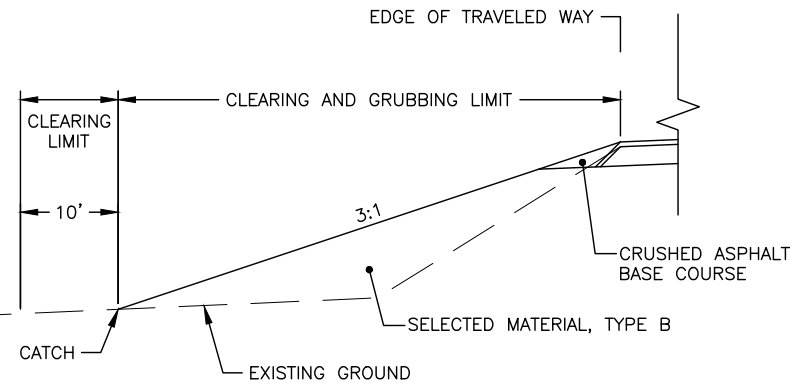


TYPICAL SECTION 1: RECLAMATION

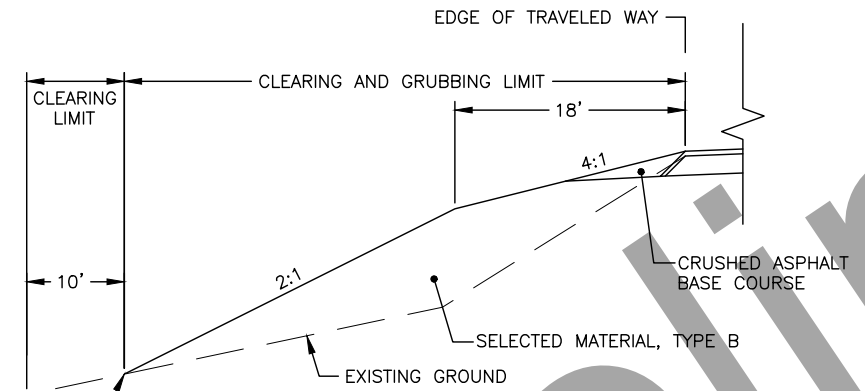
"O" STA 1555+90 TO 1597+00
 "O" STA 1674+00 TO 1977+00
 "O" STA 2067+80 TO 2087+00
 "O" STA 2099+00 TO 2230+50
 "O" STA 2250+00 TO 2369+39.4 (BEGIN BRIDGE)
 "O" STA 2370+25.0 (END BRIDGE) TO 2376+00

GENERAL TYPICAL SECTION NOTES:

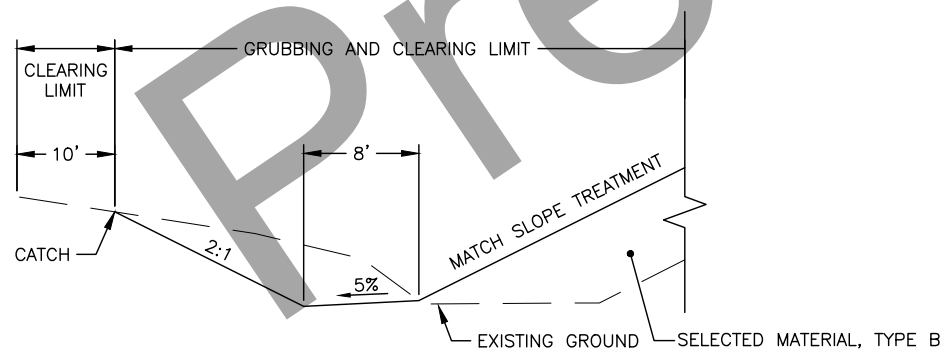
1. POINT OF SUPERELEVATION ROTATION IS ABOUT CENTERLINE. SEE STANDARD PLAN I-81.00 FOR TRANSITION DETAILS.
2. SEED ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES THAT WILL NOT BE COVERED BY: ASPHALT, AGGREGATE BASE COURSE, GRADING D-1, CABC, AGGREGATE SURFACE COURSE, GRADING E-1, DITCH LINING, OR RIPRAP IN ACCORDANCE WITH SECTION 618.
3. SEE SHEET B5 FOR ADDITIONAL RECLAMATION DETAILS, NOTES AND REQUIREMENTS.
4. SHOULDER DAYLIGHT IS TO EXISTING EMBANKMENT HINGE POINT EXCEPT WHERE SPECIFIED IN SLOPE TABLE. USE CRUSHED ASPHALT BASE COURSE FOR SHOULDERING MATERIAL.
5. PERFORM CLEARING AND/OR GRUBBING IN LOCATIONS SPECIFIED. THESE ITEMS WILL NOT BE MEASURED SEPARATELY FOR PAYMENT AND WILL BE PAID UNDER 201.0009.0000 LUMP SUM PAY ITEM.



DEFAULT SLOPE TREATMENT DETAIL



SLOPE TREATMENT 1 DETAIL



DITCH DETAIL

SLOPE TREATMENT SUMMARY			
BEGIN STA	END STA	LT/RT	TREATMENT
1565+00	1572+00	LT	DITCH DETAIL
1594+00	1597+00	LT	SLOPE TREATMENT 1
1703+00	1705+00	LT	SLOPE TREATMENT 1
1717+00	1724+00	LT & RT	SLOPE TREATMENT 1
1718+00	1720+00	RT	DITCH DETAIL
1822+00	1824+00	LT	SLOPE TREATMENT 1
1846+00	1855+00	LT	SLOPE TREATMENT 1
1891+00	1902+00	LT & RT	SLOPE TREATMENT 1

SLOPE TREATMENT NOTES:

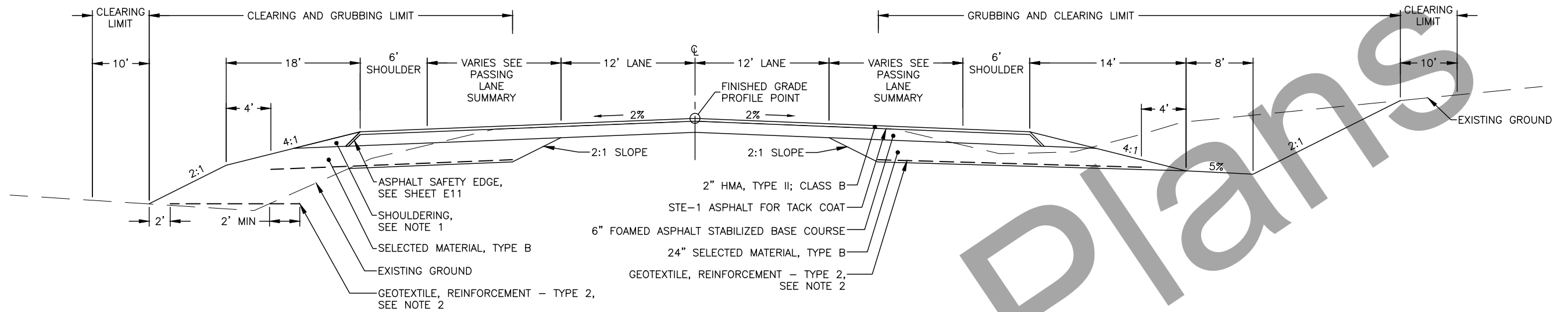
1. USE DEFAULT SLOPE TREATMENT EXCEPT WHERE SPECIFIED IN SLOPE TREATMENT SUMMARY.

TYPICAL SECTIONS
1 OF 3

95%

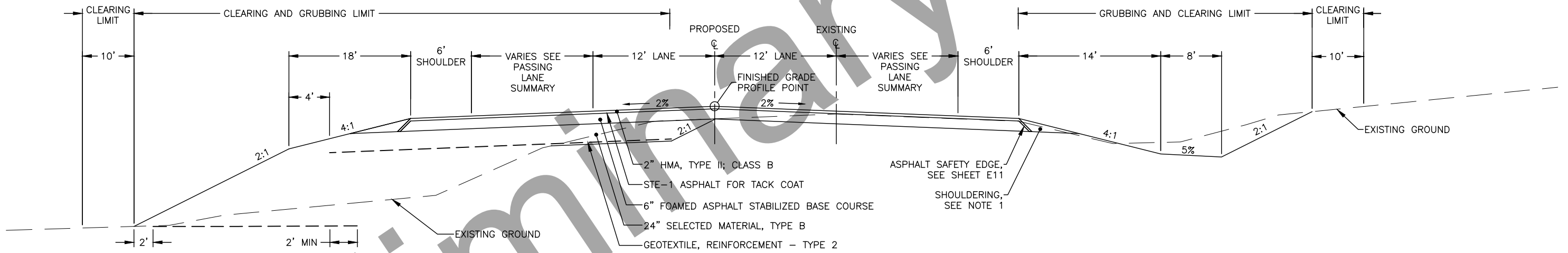
PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	B2	B5



TYPICAL SECTION 2: PASSING LANE

"0" STA 1655+00 TO 1674+00
 "0" STA 1977+00 TO 2067+80



TYPICAL SECTION 3: PASSING LANE

"0" STA 1597+00 TO 1655+00

PASSING LANE SUMMARY

MP 1253.5 PASSING LANE														
DIRECTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	TOTAL LENGTH	TYPICAL SECTION
WESTBOUND	1597+00	12' RT	BEGIN PASSING LANE/TAPER	1602+20	24' RT	END TAPER	1659+00	24' RT	BEGIN TAPER	1666+80	12' RT	END PASSING LANE/TAPER	6980'	PASSING LANE TYPICAL SECTION 2
EASTBOUND	1674+00	12' LT	BEGIN PASSING LANE/TAPER	1668+80	24' LT	END TAPER	1615+00	24' LT	BEGIN TAPER	1607+20	12' LT	END PASSING LANE/TAPER	6680'	PASSING LANE TYPICAL SECTION 2
MP 1261.2 PASSING LANE														
DIRECTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	STATION	OFFSET	DESCRIPTION	TOTAL LENGTH	TYPICAL SECTION
WESTBOUND	1977+00	12' RT	BEGIN PASSING LANE/TAPER	1982+20	24' RT	END TAPER	2060+00	24' RT	BEGIN TAPER	2067+80	12' RT	END PASSING LANE/TAPER	9080'	PASSING LANE TYPICAL SECTION 1
EASTBOUND	2065+00	12' LT	BEGIN PASSING LANE/TAPER	2059+80	24' LT	END TAPER	1998+00	24' LT	BEGIN TAPER	1990+20	12' LT	END PASSING LANE/TAPER	7480'	PASSING LANE TYPICAL SECTION 1

PASSING LANE NOTES:

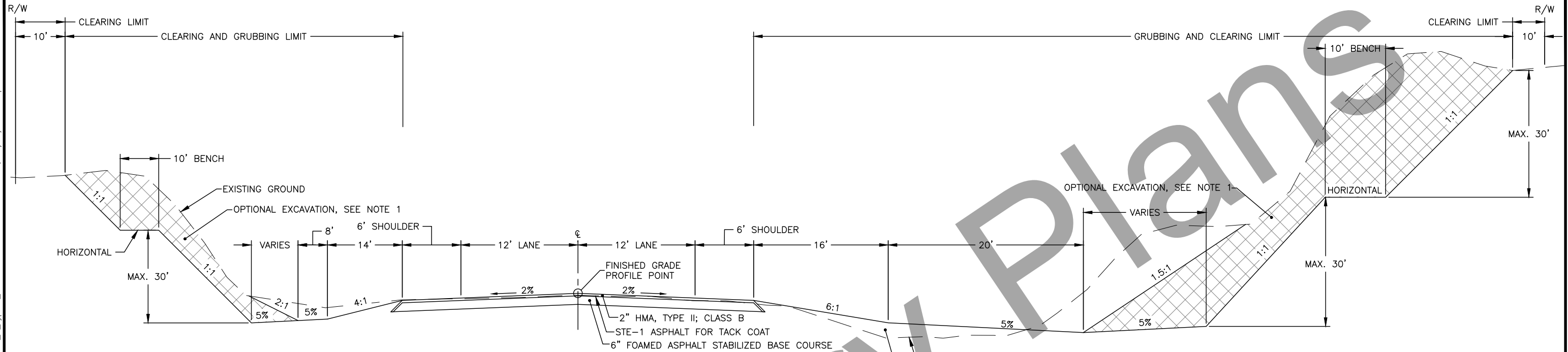
- USE CRUSHED ASPHALT BASE COURSE FOR SHOULDERING MATERIAL.
- BENCH SUBGRADE A MINIMUM OF 2' INTO THE EXISTING EMBANKMENT. LEVEL AND COMPACT THE SURFACE PRIOR TO PLACING THE GEOTEXTILE REINFORCEMENT - TYPE 2. GEOTEXTILE REINFORCEMENT IS NOT REQUIRED WHERE THE PROPOSED TOE CATCHES WITHIN 5' OF THE EXISTING TOE.

TYPICAL SECTIONS
2 OF 3

95%

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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	B3	B5

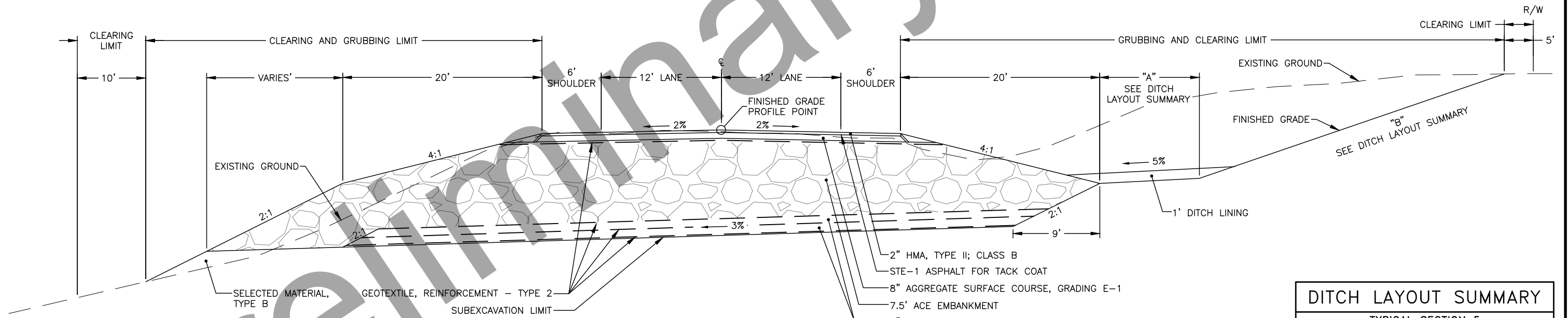


TYPICAL SECTION 4: OPTIONAL EXCAVATION

"0" STA 2230+50 TO 2242+50

TYPICAL SECTION 4 NOTES:

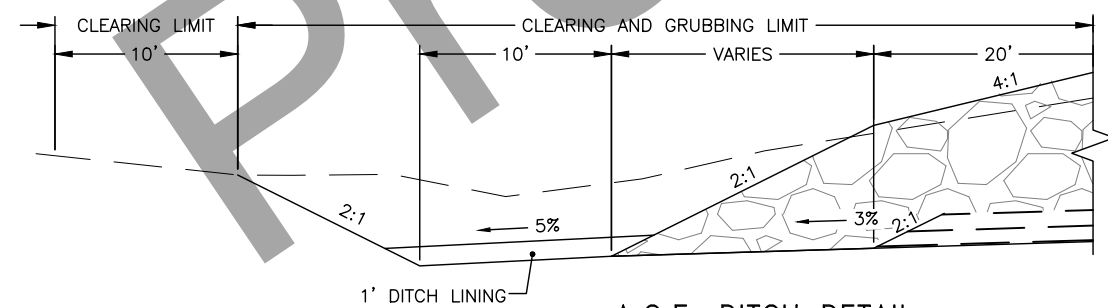
- OPTIONAL EXCAVATION WILL NOT BE MEASURED DIRECTLY FOR PAYMENT UNDER 203.0003.000 UNCLASSIFIED EXCAVATION, BUT MAY BE USED FOR ACE EMBANKMENT OR OTHER PROCESSED MATERIALS PAID FOR AT THE UNIT RATE OF THE CORRESPONDING PAY ITEM.



TYPICAL SECTION 5: A.C.E. EMBANKMENT

"0" STA 2242+50 TO 2250+00

DITCH LAYOUT SUMMARY		
TYPICAL SECTION 5		
STA TO STA	A	B
2245+50 - 2244+00	20'	3:1
2244+00 - 2244+20	TRANSITION	TRANSITION
2244+20 - 2250+00	10'	2:1 OR FLATTER

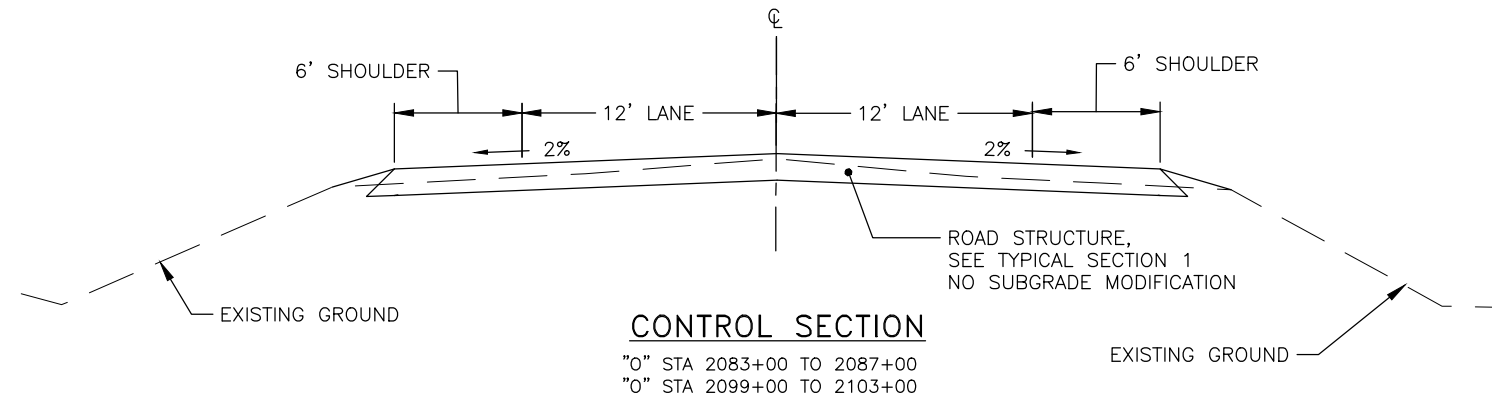


A.C.E. DITCH DETAIL

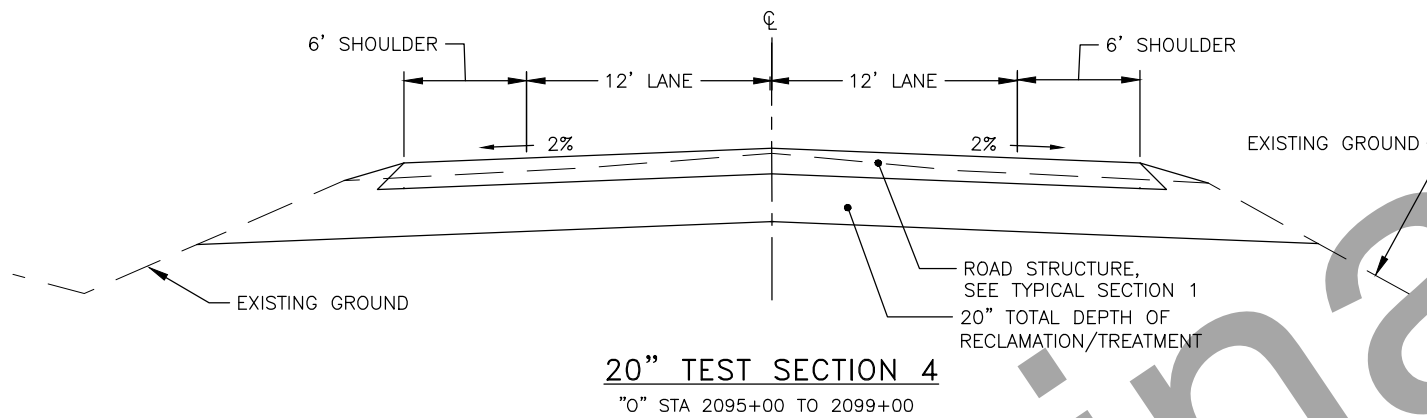
TYPICAL SECTIONS
3 OF 3

95%

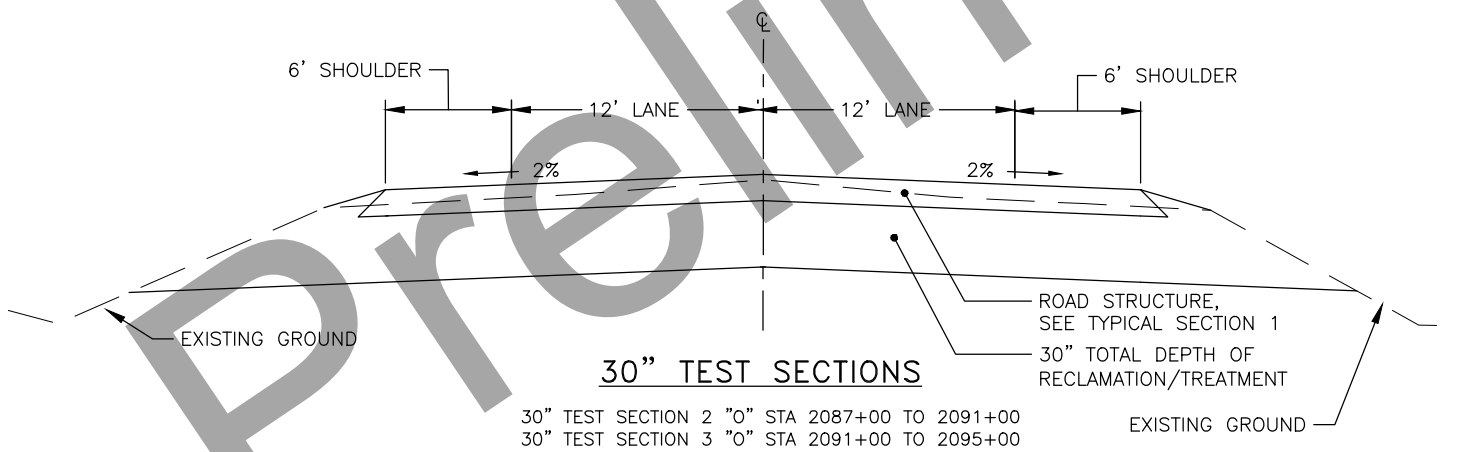
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	B4	B5



SUBGRADE MODIFICATION BY SECTION					
TEST SECTION NUMBER	EMBANKMENT TREATMENT TYPE	DEPTH OF EMBANKMENT EXCAVATION	DEPTH OF RECLAMATION/TREATMENT	BEGIN STATION	END STATION
1	CONTROL	PER TYPICAL SECTION 1	PER TYPICAL SECTION 1	2083+00	2087+00
2	RECOMPACTED CONTROL	20 INCHES	30 INCHES	2087+00	2091+00
3	3.5% CEMENT TREATMENT	20 INCHES	30 INCHES	2091+00	2095+00
4	3.5% CEMENT TREATMENT	10 INCHES	20 INCHES	2095+00	2099+00
5	CONTROL	PER TYPICAL SECTION 1	PER TYPICAL SECTION 1	2099+00	2103+00



302.0003.0000 ESTIMATING FACTORS TOTALS 2083+00 - 2103+00			
ITEM	UNIT	TOTAL QUANTITY	REMARKS
EXCAVATION	TON	6,596	QUANTITIES BEGIN 8 INCHES BELOW FINISH GRADE
CEMENT	TON	231	3.5% BY WEIGHT
STANDARD SIGN	EACH	6	
TEMPORARY MARKER	EACH	6	STAKES/PLATES FOR CONSTRUCTION ONLY
ADDITIONAL TRAFFIC CONTROL	EACH	1	ALL TRAFFIC CONTROL REQUIRED FOR SUBGRADE MODIFICATION ARE SUBSIDIARY TO PAY ITEM 302.0003.0000



SUBGRADE MODIFICATION SIGNING SUMMARY												
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/FRAMING		AREA SQ.FT.	DIR	POST	
		LT.	RT.				BRACED	FRAME			TYPE	SIZE (IN)
EF 1	2083+00	X		SEE DETAIL	A	12 x 18			1.5	N	PST	2.5 1
EF 2	2087+00	X		SEE DETAIL	B	12 x 18			1.5	N	PST	2.5 1
EF 3	2091+00	X		SEE DETAIL	C	12 x 18			1.5	N	PST	2.5 1
EF 4	2095+00	X		SEE DETAIL	D	12 x 18			1.5	N	PST	2.5 1
EF 5	2099+00	X		SEE DETAIL	E	12 x 18			1.5	N	PST	2.5 1
EF 6	2103+00	X		SEE DETAIL	F	12 x 18			1.5	N	PST	2.5 1

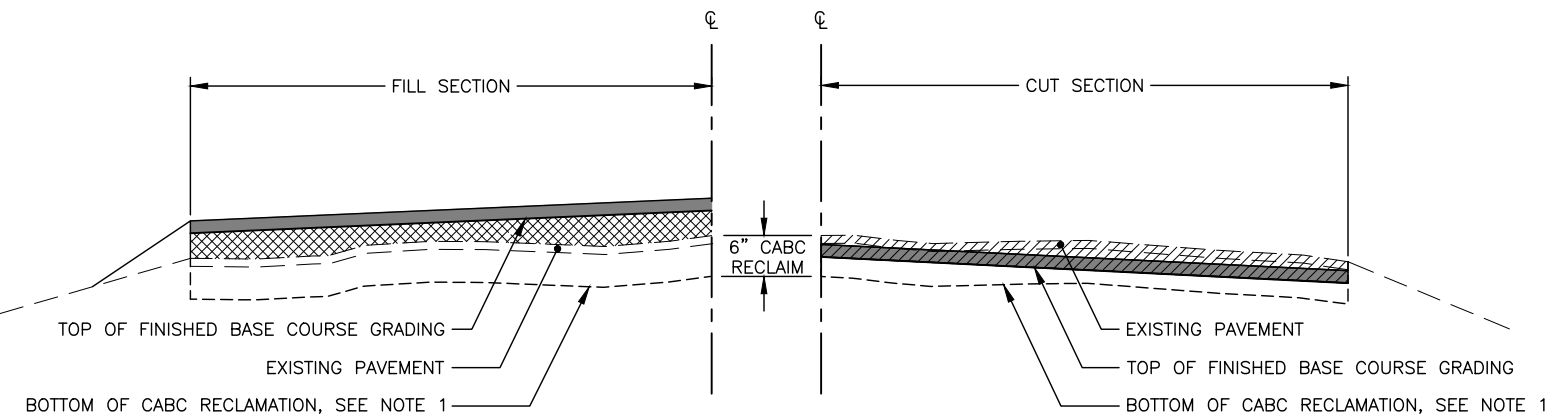
SUBGRADE MODIFICATION NOTES:

1. CONSTRUCT SUBGRADE MODIFICATION PER SPECIFICATION 302.
2. TYPICAL SECTIONS ARE ONLY INTENDED TO SHOW DEPTH OF SUBGRADE MODIFICATION
3. SUBGRADE MODIFICATION DEPTHS BEGIN 8" BELOW FINISH GRADE.
4. CONSTRUCT ROAD STRUCTURE IN A UNISON WITH REMAINDER OF PROJECT.

EXPERIMENTAL FEATURE
TYPICAL SECTIONS

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	B5	B5



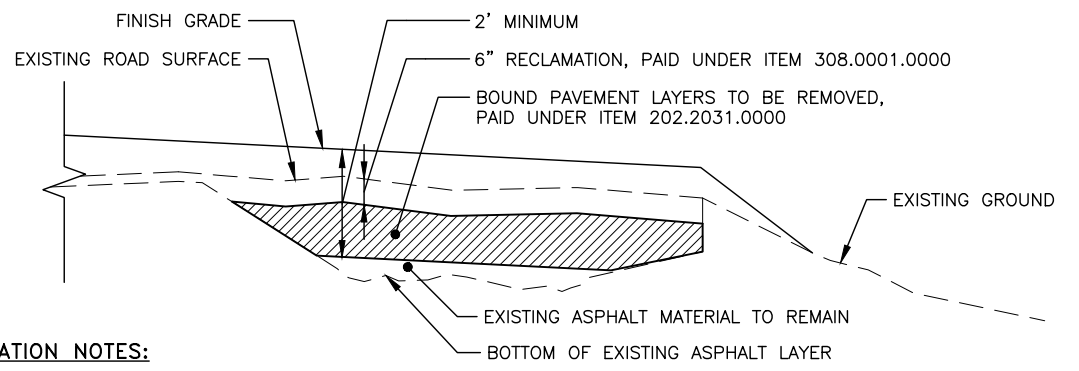
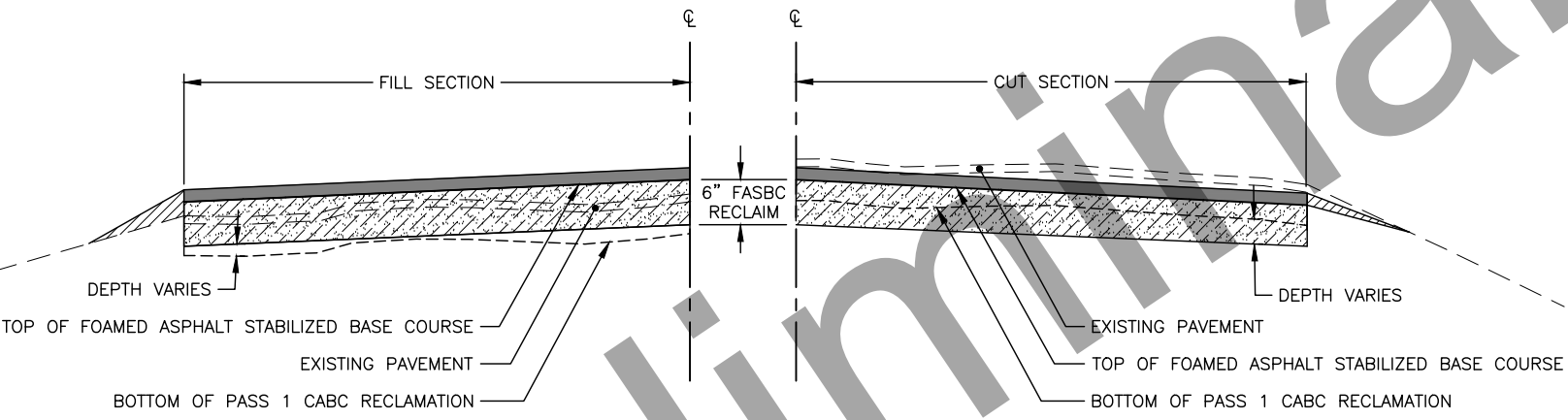
- LEGEND:**
- PROPOSED HMA
 - CABC TO BE ADDED, SEE NOTE 2
 - CABC TO BE REMOVED, SEE NOTE 2

CRUSHED ASPHALT BASE COURSE NOTES:

1. TYPICAL RECLAMATION DEPTH IS 6" MEASURED FROM TOP OF THE EXISTING PAVEMENT SURFACE.
2. THIS WORK INCLUDES ESTABLISHING A FINISHED GRADE SURFACE FOR THE CRUSHED ASPHALT BASE COURSE LAYER. REUSE EXCESS CRUSHED ASPHALT BASE COURSE GENERATED IN CUT SECTIONS OR PASSING LANE FILL SECTIONS PRIOR TO IMPORTING AGGREGATE SURFACE COURSE, GRADING E-1. IMPORTED AGGREGATE SURFACE COURSE WILL BE PAID UNDER ITEM 301.0003.00E1.
3. SEE SPECIAL PROVISIONS SECTION 308 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.
4. DOUBLE HANDLING WILL NOT BE MEASURED DIRECTLY FOR PAYMENT AND IS SUBSIDIARY TO SECTION 308.0001.0000.
5. FINISHED BASE COURSE GRADING MUST BE COMPLETED AND ACCEPTED BY THE ENGINEER PRIOR TO COMMENCING WORK UNDER ITEM 318.2000.0000 FOAMED ASPHALT STABILIZED BASE COURSE IN ANY AREA OF THE PROJECT.

**PASS 1 – CRUSHED ASPHALT BASE COURSE DETAIL
(PAY ITEM 308.0001.0000)**

**PASS 1 – CRUSHED ASPHALT BASE COURSE PASSING LANE DETAIL
(PAY ITEM 308.0001.0000)**



- LEGEND:**
- PROPOSED HMA
 - FASBC RECLAMATION

FOAMED ASPHALT STABILIZED BASE COURSE NOTES:

1. FOAMED ASPHALT STABILIZED BASE COURSE RECLAMATION DEPTH IS 6" MEASURED FROM TOP OF FINISHED BASE COURSE.

**PASS 2 – FOAMED ASPHALT STABILIZED BASE COURSE DETAIL
(PAY ITEM 318.2000.0000)**

SUBEXCAVATION NOTES:

1. THE PROPOSED HMA LAYER IS NOT SHOWN FOR CLARITY.
2. TYPICAL RECLAMATION DEPTH IS 6" BELOW THE EXISTING ROAD SURFACE. NOTIFY THE ENGINEER WHEN ON-SITE EQUIPMENT ACTION INDICATES EXISTING ASPHALT MATERIAL EXCEEDS THIS DEPTH. IN LOCATIONS WHERE THE ENGINEER CONFIRMS THE EXISTING ASPHALT MATERIAL EXCEEDS 6", THE CONTRACTOR HAS THE FOLLOWING OPTIONS:
 - A) RECLAIM TO THE BOTTOM OF THE ASPHALT MATERIAL LAYER, OR TO A MINIMUM RECLAMATION DEPTH OF 2' BELOW FINISH GRADE.
 - B) REMOVE OR DISPOSE OF THE EXISTING ASPHALT MATERIAL BY OTHER MEANS, TO A MINIMUM DEPTH OF 2' BELOW FINISHED GRADE.
3. THE WORK REQUIRED TO RECLAIM ASPHALT MATERIAL TO THE TYPICAL RECLAMATION DEPTH OF 6" WILL BE MEASURED AND PAID UNDER 308.0001.0000 CRUSHED ASPHALT BASE COURSE.
4. THE WORK REQUIRED TO RECLAIM OR REMOVE ASPHALT MATERIAL BELOW THE TYPICAL RECLAMATION DEPTH WILL BE INITIATED BY DIRECTIVE AND PAID UNDER 202.2031.0000 REMOVAL OF PAVEMENT. BACKFILL OF EXCAVATED MATERIAL IS SUBSIDIARY TO THIS ITEM. BACKFILL MATERIAL WILL BE SELECTED MATERIAL, TYPE B TO THE BOTTOM OF THE TYPICAL RECLAMATION DEPTH AND CRUSHED ASPHALT BASE COURSE TO THE TOP OF BASE COURSE GRADING.
5. SEE SPECIAL PROVISIONS SECTION 308 AND 318 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS.

SUBEXCAVATION DETAIL

**CABC AND FASBC
RECLAMATION DETAILS**

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	C1	C1

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	PAY UNIT	QUANTITY
201.0009.0000	CLEARING AND GRUBBING	LS	ALL REQUIRED
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	ALL REQUIRED
202.0002.0000	REMOVAL OF PAVEMENT	SY	328
202.0010.0000	SINGLE MAIL BOX INSTALLATION	EACH	6
202.0017.0000	REMOVAL OF CULVERT PIPE	EACH	72
202.2031.0000	REMOVAL OF PAVEMENT	CY	11,550
203.0003.0000	UNCLASSIFIED EXCAVATION	CY	111,620
203.0006.0000	BORROW	TON	176,400
203.2000.0000	A.C.E. EMBANKMENT FILL	CY	18,570
204.2002.0000	EMBEDMENT MATERIAL	CY	14,400
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	3,100
301.0003.00E1	AGGREGATE SURFACE COURSE, GRADING E-1	TON	35,700
302.0003.0000	PROCESSING FOR SUBGRADE MODIFICATION	STA	20
308.0001.0000	CRUSHED ASPHALT BASE COURSE	SY	369,290
318.2000.0000	FOAMED ASPHALT STABILIZED BASE COURSE	SY	369,290
318.2001.5228	ASPHALT BINDER, GRADE PG 52-28	TON	2,327
318.2002.0012	PORTLAND CEMENT, TYPE I OR II	TON	1,164
318.2003.0000	FOAMED ASPHALT TECHNICIAN	LS	ALL REQUIRED
401.0001.002B	HMA, TYPE II; CLASS B	TON	43,319
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	2,383
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 I	CS	ALL REQUIRED
401.0012.002B	HMA DRIVEWAY, TYPE II; CLASS B	TON	989
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CS	ALL REQUIRED
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	88
406.0005.0000	RUMBLE STRIPS	LS	ALL REQUIRED
507.0001.0002	STEEL BRIDGE RAILING	LF	160
508.0001.0000	WATER PROOFING MEMBRANE, SPRAY APPLIED	LS	ALL REQUIRED
602.0001.0060	STRUCTURAL PLATE PIPE 60" DIAMETER, 10 GAUGE	LF	892
602.0001.0132	STRUCTURAL PLATE PIPE 132" DIAMETER, 10 GAUGE	LF	192
603.0001.0024	CSP 24 INCH	LF	1,879
603.0001.0036	CSP 36 INCH	LF	3,573
603.2018.0000	CLEAN CULVERT	EACH	6
606.0001.0000	W-BEAM GUARDRAIL	LF	1,426
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LF	3,060
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	10
606.0016.0000	TRANSITION RAIL	EACH	4
610.0001.0000	DITCH LINING	CY	2,370
611.0001.0001	RIPRAP, CLASS I	CY	840
611.0001.0002	RIPRAP, CLASS II	CY	80
613.0002.0000	CULVERT MARKER POST	EACH	94
615.0001.0000	STANDARD SIGN	SF	604
615.0002.0000	REMOVE AND RELOCATE SIGN	EACH	1
615.0007.0000	SALVAGE AND DISPOSE SIGN	EACH	41
616.0002.0050	THAW PIPE 1/2 INCH DIAMETER	EACH	47
618.0002.0000	SEEDING	LB	3,400
630.0003.0002	GEOTEXTILE, REINFORCEMENT - TYPE 2	SY	128,630
631.0002.0001	GEOTEXTILE, EROSION CONTROL - CLASS 1	SY	2,730
639.0001.0000	DRIVEWAY	EACH	56

ESTIMATE OF QUANTITIES (CONT'D)

ITEM NO.	DESCRIPTION	PAY UNIT	QUANTITY
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LS	ALL REQUIRED
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LS	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LS	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LS	ALL REQUIRED
641.0004.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CS	ALL REQUIRED
641.0006.0000	WITHHOLDING	CS	ALL REQUIRED
641.0007.0000	SWPPP MANAGER	LS	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LS	ALL REQUIRED
642.0003.0000	THREE PERSON SURVEY PARTY	HR	150
643.0002.0000	TRAFFIC MAINTENANCE	LS	ALL REQUIRED
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LS	ALL REQUIRED
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CS	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CS	ALL REQUIRED
643.2001.0000	TEMPORARY DIVERSIONS	LS	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
644.0015.0000	NUCLEAR TESTING EQUIPMENT STORAGE SHED	EACH	1
644.2006.0000	LODGING, 6 STATE EMPLOYEES	LS	ALL REQUIRED
645.0001.0000	TRAINING PROGRAM, 3 TRAINEES / APPRENTICES	LH	1500
646.0001.0000	CPM SCHEDULING	LS	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LS	ALL REQUIRED

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
203.0006.0000	BORROW	1.94 TON/CY
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	1.94 TON/CY
301.0003.00E1	AGGREGATE SURFACE COURSE, GRADING E-1	1.94 TON/CY
318.2000.0000	FOAMED ASPHALT STABILIZED BASE COURSE	140 LB/CF
318.2001.5228	ASPHALT BINDER, GRADE PG 52-28	2.0% WEIGHT OF 318.2000.0000
318.2002.0012	PORTLAND CEMENT, TYPE I	1.0% WEIGHT OF 318.2000.0000
401.0001.002B	HOT MIX ASPHALT, TYPE II; CLASS B	2.04 TON/CY
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	5.5% WEIGHT OF 401.0001.002B
401.0012.002B	HOT MIX ASPHALT, DRIVEWAY, TYPE II; CLASS B	2.04 TON/CY
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.000290 TON/SY OF 401.0001.002B
610.0001.0000	DITCH LINING	1.8 TONS/CY
611.0001.0001	RIPRAP, CLASS I	1.6 TONS/CY
611.0001.0002	RIPRAP, CLASS II	1.6 TONS/CY

GENERAL NOTES

- PERFORM ALL WORK WITHIN THE EXISTING RIGHT-OF-WAY AND WITHIN THE PERMITTED TEMPORARY CONSTRUCTION AREAS.
- PRESERVE EXISTING PRIMARY AND SECONDARY MONUMENTS TO THE EXTENT PRACTICABLE. REPLACE MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITIES AS FOLLOWS: REPLACE DESTROYED MONUMENTS WITH 2 REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION FOOTPRINT. THIS WORK IS SUBSIDIARY TO PAY ITEM 642.0001.0000.
- FUEL STORAGE WILL NOT BE ALLOWED WITHIN 100-FT OF WATER BODIES AND MUST HAVE SECONDARY CONTAINMENT.
- RIGHT OF WAY AND PROPERTY LINES SHOWN ARE FOR VISUAL REPRESENTATION ONLY AND SHOULD BE VERIFIED IN THE FIELD.

UTILITY NOTES:

- LOCATE & PROTECT ALL UTILITIES PRIOR TO CONSTRUCTION. ALL UTILITIES WITHIN THE PROJECT SHALL REMAIN IN PLACE AND IN SERVICE DURING CONSTRUCTION. THE PRESENCE AND LOCATION OF UTILITIES SHOWN ARE BASED OFF OF LIMITED SURVEY, UTILITY PERMITS & SYSTEM MAPS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE PRESENCE AND LOCATION OF UTILITIES IN THE FIELD PRIOR TO PERFORMING ANY EARTH DISTURBING ACTIVITIES. CALL THE DIGLINE AT 1-800-478-3121 OR 811 FOR LOCATES.
- PROTECT, OR REMOVE AND REPLACE EXISTING UTILITY MARKER POSTS. THIS WORK IS SUBSIDIARY TO OTHER PAY ITEMS.

ESTIMATE OF QUANTITIES

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	D1	D2

201.0009.0000 CLEARING AND GRUBBING SUMMARY

BEGIN STATION	END STATION	OFFSET	CLEARING AREA (ACRE)	CLEARING AND GRUBBING AREA (ACRE)	REMARKS
1556+00	1594+00	LT & RT	3.49	-	TYPICAL SECTION 1
1563+00	1573+00	LT	0.29	-	MP 1252 PULL OFF
1587+00	1589+50	LT	0.08	0.37	SNOW PLOW TURNOUT
1594+00	1597+00	LT	0.14	-	SLOPE TREATMENT 1
1594+00	1597+00	RT	0.28	-	TYPICAL SECTION 1
1597+00	1655+00	LT & RT	2.66	10.65	PASSING LANE TYPICAL SECTION 3
1655+00	1674+00	LT & RT	0.87	3.49	PASSING LANE TYPICAL SECTION 2
1674+00	1703+00	LT & RT	2.66	-	TYPICAL SECTION 1
1675+00	1677+50	RT	0.11	0.58	SNOW PLOW TURNOUT
1703+00	1705+00	LT	0.18	-	SLOPE TREATMENT 1
1703+00	1705+00	RT	0.09	-	TYPICAL SECTION 1
1705+00	1717+00	LT & RT	1.10	-	TYPICAL SECTION 1
1717+00	1724+00	LT & RT	1.29	-	SLOPE TREATMENT 1
1718+00	1720+00	RT*	0.18	-	SLOPE TREATMENT 2
1724+00	1822+00	LT & RT	9.00	-	TYPICAL SECTION 1
1822+00	1824+00	LT	0.23	-	SLOPE TREATMENT 1
1822+00	1824+00	RT	0.09	-	TYPICAL SECTION 1
1824+00	1846+00	LT & RT	2.02	-	TYPICAL SECTION 1
1846+00	1855+00	LT	1.03	-	SLOPE TREATMENT 1
1846+00	1855+00	RT	0.52	-	TYPICAL SECTION 1
1855+00	1977+00	LT & RT	11.20	-	TYPICAL SECTION 1
1973+00	1975+50	LT	0.11	0.59	SNOW PLOW TURNOUT
1977+00	2067+80	RT	4.17	16.68	PASSING LANE TYPICAL SECTION 2
2067+80	2230+00	LT	14.89	-	TYPICAL SECTION 1
2071+00	2073+50	LT	0.10	0.51	SNOW PLOW TURNOUT
2187+00	2206+00	LT	5.23	-	STABILIZATION BERM
2213+00	2227+00	LT	3.86	-	STABILIZATION BERM
2230+00	2250+00	LT & RT	6.89	-	SLIDE AREA & A.C.E. EMBANKMENT
2250+00	2376+00	RT	11.57	-	TYPICAL SECTION 1
1556+00	2376+00	LT & RT	2.67	-	CLEARING AROUND CULVERT ENDS
		TOTALS	87.0	32.9	

406.0005.0000 RUMBLE STRIPS, SHOULDERS

BEGIN STATION	END STATION	LENGTH (FT)	REMARKS
1556+00	2376+00	82,000	LEFT SIDE
1556+00	2376+00	82,000	RIGHT SIDE
	TOTALS	164,000	

RUMBLE STRIP NOTES:

- CONSTRUCT SHOULDER RUMBLE STRIPS IN ACCORDANCE WITH SECTION 406 AND STANDARD PLAN T-25.10

202.0010.0000 MAILBOX

"O" STATION	OFFSET	SINGLE (EACH)
1640+65	36 LT	1
1793+59	24 LT	1
1841+91	24 LT	1
1989+94	24 LT	1
1995+02	24 LT	1
2279+45	32 LT	1

MAILBOX NOTES:

- CONSTRUCT THE MAILBOX IN ACCORDANCE WITH THE "WOOD POST (RURAL) INSTALLATION" AND "TYPICAL WOOD CANTILEVER INSTALLATION" SHOWN ON STANDARD PLANS M-20.15 AND M-23.13 RESPECTIVELY.

202.0001.0000 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

SHEET	BEGIN STATION	END STATION	OFFSET	REMARKS
	2288+00	2290+00	RT	DEBRIS OBSTRUCTING CULVERT INLET

606 GUARDRAIL SUMMARY

BEGIN STATION	END STATION	RT/LT	606.0001.0000 W-BEAM GUARDRAIL (LINEAR FOOT)	606.0006.0000 REMOVING AND DISPOSING OF GUARDRAIL (LINEAR FOOT)	606.2012.0000 BATTER BOARD (LINEAR FOOT)	606.0013.0000 PARALLEL GUARDRAIL TERMINAL (EACH)	606.0016.0000 TRANSITION RAIL (EACH)	REMARKS
1591+77	1595+53	LT	276	377	270	2	-	
1592+01	1595+77	RT	276	377	270	2	-	
1869+83	1873+20	LT	240	324	-	2	-	
1893+38	1895+62	RT	-	224	-	-	-	
2191+54	2196+27	LT	-	373	-	-	-	
2250+58	2252+86	RT	-	228	-	-	-	
2367+27	2369+45	RT	156	313	-	1	1	BEAVER CREEK BRIDGE
2367+79	2369+45	LT	95	177	-	1	1	BEAVER CREEK BRIDGE
2370+25	2371+48	RT	60	176	-	1	1	BEAVER CREEK BRIDGE
2370+25	2374+36	LT	348	486	-	1	1	BEAVER CREEK BRIDGE
		TOTALS	1,452	3,055	540	10	4	

GUARDRAIL NOTES:

- FOR PARALLEL GUARDRAIL TERMINALS, CONSTRUCT THE GUARDRAIL TERMINAL WIDENING IN ACCORDANCE WITH THE STANDARD GUARDRAIL TERMINAL WIDENING DETAIL ON STANDARD PLAN G-20.12. THE END OFFSET (X) SHALL BE NO MORE THAN 2 FEET.
- INSTALL GUARDRAIL POSTS IN ACCORDANCE WITH STANDARD PLAN G-10.20.
- CONSTRUCT BATTER BOARD BETWEEN 1591+76 TO 1595+78. AT BATTER BOARD DISCHARGE POINTS CONSTRUCT THE DRAINAGE APRON FROM SHOULDER TO TOE OF SLOPE. SEE DETAILS ON SHEET ###

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	D2	D2

610.0001.0000 DITCH LINING			
STATION	OFFSET	VOLUME (CY)	REMARKS
1613+04	LT & RT	15	OUTLET APRON
1658+00-1663+00	RT	370	DITCH LINING
1697+89	LT & RT	68	CHANNEL REALIGNMENT
1727+58	LT & RT	24	CHANNEL REALIGNMENT
1744+24	LT	20	OUTLET APRON
1789+62	LT & RT	29	CHANNEL REALIGNMENT
1836+41	LT & RT	41	CHANNEL REALIGNMENT
2013+00-2023+00	RT	741	DITCH LINING
2070+30	LT & RT	24	OUTLET APRON
2244+00-2251+00	RT	1,037	DITCH LINING
	TOTAL	2,370	

CHANNEL REALIGNMENT SUMMARY				
CULVERT LOC. NO.	STATION	CHANNEL LENGTH, LEFT OFFSET (LF)	CHANNEL LENGTH, RIGHT OFFSET (LF)	REMARKS
CUD17A	1697+89	70	70	UNNAMED STREAM
CUD19A	1720+40	55	30	UNNAMED STREAM
CUD24A	1789+62	25	35	UNNAMED STREAM
CUD28A	1836+41	45	40	UNNAMED STREAM
CUD35A	1894+86	140	100	SILVER CREEK

618.0002.0000 SEEDING					
BEGIN STATION	END STATION	OFFSET	AREA (SF)	SEED (LB)	REMARKS
1556+00	2376+00	LT & RT	200,000	400	CULVERT WORK
1556+00	2376+00	LT & RT	187,100	375	TEMPORARY DIVERSION WORK
1597+00	1674+00	LT & RT	401,960	805	PASSING LANE SLOPES
1977+00	2067+80	LT & RT	529,360	1,060	PASSING LANE SLOPES
2187+00	2227+00	LT	380,195	760	STABILIZATION BERMS
		TOTAL	1,698,615	3,400	

CHANNEL REALIGNMENT NOTES:

- ALL CHANNEL REALIGNMENT WORK IS SUBSIDIARY TO ITEMS 610.0001.0000 DITCH LINING, 611.0001.0001 RIPRAP CLASS I, AND 628.2000.0000 FISH PASSAGE SUBSTRATE. THIS INCLUDES LAYOUT, GRADING, EXCAVATION, AND EXCESS EXCAVATION DISPOSAL.
- SEE SHEET E7 AND E9 FOR CHANNEL REALIGNMENT DETAILS.
- PLAN AND PROFILE F SHEETS SHOW APPROXIMATE CHANNEL LAYOUT.
- FINAL CHANNEL LAYOUT AND QUANTITIES ARE SUBJECT TO FIELD REVISIONS BY THE ENGINEER.

GEOTEXTILE SUMMARY				
BEGIN STATION	END STATION	630.0003.0002 GEOTEXTILE, REINFORCEMENT - TYPE 2 (SY)	631.0002.0001 GEOTEXTILE, EROSION CONTROL - CLASS 1 (SY)	REMARKS
1587+00	1589+50	1,335	-	SNOW PLOW TURNOUT 1
1597+00	1674+00	38,927	-	PASSING LANES
1675+00	1677+50	1,335	-	SNOW PLOW TURNOUT 2
1973+00	1975+50	1,335	-	SNOW PLOW TURNOUT 3
1977+00	2067+80	44,160	-	PASSING LANES
2071+00	2073+50	1,335	-	SNOW PLOW TURNOUT 4
2242+50	2250+00	14,372	-	A.C.E. EMBANKMENT
1556+00	2376+00	13,498	-	CULVERT BEDDING
1556+00	2376+00	-	2,730	INLET/OUTLET RIPRAP APRONS & CHANNELLING
	TOTALS	128,630	2,730	

TURNOUT SUMMARY						
NAME	STATION	LT/RT	SURFACE AREA (SF)	SURFACING TYPE	SHEET	REMARKS
MP 1252.2 TURNOUT	1564+50	LT	33,650	AGGREGATE SURFACE COURSE, E-1	SEE SHEET E12	
SNOW PLOW TURNOUT 1	1588+25	LT	10,000	HMA, TYPE II; CLASS B	SEE SHEET G2	
SNOW PLOW TURNOUT 2	1676+25	RT	10,000	HMA, TYPE II; CLASS B	SEE SHEET G2	
SNOW PLOW TURNOUT 3	1974+25	LT	10,240	HMA, TYPE II; CLASS B	SEE SHEET G2	
SNOW PLOW TURNOUT 4	2072+25	LT	9,870	HMA, TYPE II; CLASS B	SEE SHEET G2	

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AECC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E1	E12

CULVERT SUMMARY

LOC. NO.	STATION	EX. DIAM. (IN)	202.0017.0000 REMOVAL OF CULVERT PIPE (EACH)	INLET			OUTLET			602.0001.00XX SPP LENGTH (FT)		603.0001.00XX CSP LENGTH (FT)		CULVERT DEPTH (FT) SEE NOTE 13 SHEET E3	603.2016.0000 CLEAN AND REPAIR CULVERT ENDS	611.0001.0001 RIPRAP CLASS I, CY SHEET E7	613.0002.0000 CULVERT MARKER POSTS SHEET E4	616.0002.0050 THAW PIPE INSTALLATION SHEET E4	REMARKS
				STATION	OFFSET	INVERT ELEVATION	STATION	OFFSET	INVERT ELEVATION	60" DIA.	132" DIA.	24" DIA.	36" DIA.						
CU01	1564+58	24	1	1564+20	64 LT	1956.17'	1564+96	46 LT	1961.39'										APPROACH
CU02	1572+33	24	1	1571+70	34 LT	1949.90'	1572+49	41 LT	1947.68'			90							APPROACH
CU03	1572+54	24	1	1753+08	34 RT	1948.25'	1753+06	36 LT	1945.00'				70	5			2	1	
CU04	1574+45	18	1	1574+32	50 RT	1945.15'	1574+57	44 RT	1943.27'			27							APPROACH
CU05	1581+52	24	1	1581+52	32 RT	1912.34'	1581+56	30 LT	1910.88'				62	4			2	1	
CU06	1589+93	24	1	1589+92	32 RT	1866.80'	1589+94	32 LT	1865.30'				64	6			2	1	
CU07	1593+91	120												42	1		2	1	
CU08	1601+43	24	1	1601+18	50 RT	1867.10'	1601+68	49 RT	1871.55'			49							APPROACH
CU09	1613+04	24	1	1613+04	58 RT	1892.39'	1613+08	87 LT	1874.5'				147	11	30		2	1	
CU10	1620+71	24	1	1620+73	45 RT	1906.40'	1620+73	61 LT	1901.33'				106	9			2	1	
CU11	1628+96	24	1	1628+71	59 RT	1935.05'	1629+21	60 RT	1937.78'			51							APPROACH
CU12	1633+50	24	1	1633+53	49 RT	1954.13'	1633+51	56 LT	1951.59'				105	7			2	1	
CU13	1657+52	24	1	1657+50	47 RT	1923.12'	1657+57	54 LT	1918.77'				102	5			2	1	
CU14	1673+50	24	1	1673+52	56 RT	1830.43'	1673+50	63 LT	1828.04'				119	13			2	1	
CU15	1680+67	24	1	1680+65	35 RT	1823.70'	1680+71	40 LT	1822.47'				75	9			2	1	
CU16	1687+52	24	1	1687+56	31 RT	1801.15'	1687+52	51 LT	1796.50'				82	7			2	1	
CUD17	1697+75	36	1											24			2	1	
CUD17A	1697+87			1698+02	63 RT	1759.75	1697+76	64 LT	1758.50	130				24	70				
CUD18	1720+29	36	1											24			2	1	
CUD18A	1720+40			1720+63	80 RT	1828.00'	1720+22	92 LT	1819.50'	176				24		70	2	1	
CU19	1727+60	24	1	1727+41	42 RT	1839.10'	1727+83	60 LT	1832.50'				110	15	30		2	1	
CU20	1744+24	24	1	1744+28	30 RT	1788.00'	1744+23	47 LT	1782.00'				78	15			2	1	
CU21A	1756+75			1756+75	50 RT	1753.04	1756+78	62 LT	1750.18				113	13	30		2	1	
CU21	1756+86	24	1																
CU22	1765+38	24	1	1765+39	43 RT	1753.01'	1765+39	57 LT	1750.23'				100	14			2	1	
CU23	1785+74	24	1	1785+43	43 RT	1777.67'	1786+04	45 LT	1775.40'			63							APPROACH
CU24	1789+51	24	1											14					
CU24A	1789+61			1789+61	62 RT	1762.00	1789+64	78 LT	1756.00				140	14	30		2	1	
CU25	1793+42	24	1	1793+17	41 RT	1770.56'	1793+67	36 RT	1771.31'			52							APPROACH
CU26	1826+86	24	1	1826+65	56 RT	1792.93'	1827+08	54 RT	1792.10'			44							APPROACH
CU27	1831+11	24	1	1831+14	57 RT	1776.03	1831+14	72 LT	1765.50'				126	-					
CUD28	1836+27	36	1											23			2	1	
CUD28A	1836+39			1836+45	63 RT	1752.50'	1836+38	73 LT	1750.50	136				23	70				
CU29	1842+40	24	1	1842+03	49 LT	1773.42'	1842+77	47 LT	1775.20'				75						APPROACH
CU30	1845+27	24	1	1844+92	46 RT	1781.42'	1845+62	41 RT	1782.07'				70						APPROACH
CUD31	1863+82	24	1	1863+88	45 RT	1768.96'	1863+80	74 LT	1760.73'				120	18			2	1	
CU32	1876+50	24	1	1876+28	41 RT	1771.62'	1876+71	41 RT	1770.60'				43						APPROACH
CU33	1885+87	24												14	1		2	1	
CU34	1891+23	24	1	1890+98	42 RT	1746.67'	1891+47	46 RT	1745.03'				51						APPROACH
CUD35	1894+31	84	1											33					
CUD35A	1894+79			1895+12	93 RT	1714.85'	1894+54	90 LT	1714.23'	192				38	130		2	1	INSTALL DEADMAN SEE SHEET E5, EMBANKMENT REPAIR SEE SHEET E6
CU36	1897+82	24	1	1897+61	44 LT	1750.68'	1898+03	43 LT	1752.47'				41						APPROACH
CU37	1918+77	24	1	1918+32	51 RT	1802.25'	1919+23	42 LT	1806.54'					130			2	1	
CU38	1959+94	24	1	1959+75	70 RT	1890.49'	1960+12	64 RT	1889.67'			40							APPROACH
CU39	1963+80	24	1	1963+81	47 RT	1884.48'	1963+82	52 LT	1881.00'				100	14			2	1	
CU40	1969+60	24	1	1969+08	61 RT	1888.50'	1970+12	73 RT	1888.68'				105						APPROACH
CU41	1974+74	24	1	1974+42	74 RT	1892.04'	1975+06	76 RT	1893.21'				61						APPROACH
CU42	1978+76	24	1	1978+76	48 RT	1896.25'	1978+80	54 LT	1893.47'					102			2	1	
CU43	1986+83	24	1	1986+84	53 RT	1901.00'	1986+84	62 LT	1893.50'					116	30		2	1	
SUB-TOTALS			41	--	--	--	--	--	--	442	192	862	2167	--	2	490	54	27	

CULVERT SUMMARY
1 OF 3

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E2	E12

CULVERT SUMMARY CONT'D

LOC. NO.	STATION	EX. DIAM. (IN)	202.0017.0000 REMOVAL OF CULVERT PIPE (EACH)	INLET			OUTLET			602.0001.00XX SPP LENGTH (FT)		603.0001.00XX CSP LENGTH (FT)		CULVERT DEPTH (FT) SEE NOTE 13 SHEET E3	603.2016.0000 CLEAN AND REPAIR CULVERT ENDS	611.0001.0001 RIPRAP CLASS I, CY SHEET E7	613.0002.0000 CULVERT MARKER POSTS SHEET E4	616.0002.0050 THAW PIPE INSTALLATION SHEET E4	REMARKS
				STATION	OFFSET	INVERT ELEVATION	STATION	OFFSET	INVERT ELEVATION	60" DIA.	132" DIA.	24" DIA.	36" DIA.						
CU44	1989+98	24	1	1989+67	42 RT	1901.24'	1990+30	41 RT	1902.10'			61							APPROACH
CU45	1996+79	24	1	1996+53	40 RT	1909.68'	1997+06	39 RT	1912.26'			54							APPROACH
CU46	2010+04	24	1	2009+80	43 RT	1893.08'	2010+28	43 RT	1891.27'			48							APPROACH
CU47	2019+50	24	1	2019+52	43 RT	1840.75	2019+52	57 LT	1836.75'				100	6			2	1	
CU48	2029+63	24	1	2029+63	48 RT	1803.37'	2029+65	50 LT	1802.68'				98	7			2	1	
CU49	2031+00	12	1	2031+17	51 LT	1799.88'	2030+84	50 LT	1801.75'			34							APPROACH
CU50	2037+76	24	1	2037+78	56 RT	1803.41'	2037+76	76 LT	1792.76'				134	15			2	1	
CUD51	2046+88	24	1	2046+89	64 RT	1802.75'	2046+90	85 LT	1793.50'				148	17			2	1	
CU52	2069+24	24	1	2069+00	44 RT	1780.02'	2069+47	43 RT	1780.03'			48							APPROACH
CU53	2070+27	24	1	2070+27	41 RT	1776.75'	2070+31	47 LT	1770.75				89	11	30		2	1	
CU54	2074+25	24	1	2074+27	58 RT	1783.00'	2074+26	52 LT	1781.00'				110	9			2	1	
CU55	2082+25	24	1	2082+02	44 RT	1804.68'	2082+48	47 RT	1805.97'			47							APPROACH
CU56	2086+43	24	1	2086+28	45 RT	1803.84'	2086+59	44 RT	1803.58'			31							APPROACH
CUD57	2099+62	36	1	2099+66	69 RT	1780.00'	2099+62	76 LT	1778.25'	140				22	70		2	1	
CU58	2105+41	24	1	2105+22	59 LT	1810.94'	2105+60	43 LT	1813.91'			41							APPROACH
CU59	2116+69	24	1	2116+17	46 LT	1862.40'	2117+20	44 LT	1863.41'			101							APPROACH
CU60	2122+74	24	1	2122+39	43 RT	1863.63'	2123+09	43 RT	1863.80'			70							APPROACH
CU61	2136+58	24	1	2136+55	40 RT	1808.18'	2136+65	72 LT	1794.89'				113	16	30		2	1	
CU62	2138+38	24	1	2138+17	40 RT	1803.00'	2138+59	40 RT	1802.75'			42							APPROACH
CU63	2144+26	24	1	2144+01	52 RT	1787.17'	2144+51	53 RT	1786.43'			50							APPROACH
CU64	2146+14	24	1	2146+21	40 RT	1785.00'	2146+11	79 LT	1766.00'				121	17	15		2	1	
CU65	2150+35	24	1	2149+94	45 RT	1793.55'	2150+76	44 RT	1794.27'			81							APPROACH
CU66	2166+05	24	1	2165+60	45 LT	1805.60'	2166+51	43 LT	1805.36'			94							APPROACH
CU67	2171+14	24	1	2170+83	44 RT	1804.90'	2171+44	43 RT	1805.30'			61							APPROACH
CU68	2172+41			2172+21	30 RT	1805.50'	2172+64	46 LT	1801.50'				88	6			2	1	NEW CROSS CULVERT
CU69	2176+52	24													1		2	1	
CU70	2184+42	24	1	2184+13	42 RT	1812.08'	2184+71	43 RT	1811.94'			56							APPROACH
CU71	2186+81	24	1	2186+60	43 RT	1814.67'	2187+01	42 RT	1814.71'			40							APPROACH
CU72	2192+56	36												19	1		2	1	
CUD73	2208+64	24	1	2208+70	56 RT	1843.00'	2208+62	76 LT	1836.50'	132				19		70	2	1	
CU74	2242+37			2242+29	37 RT	1857.00'	2242+47	38 LT	1856.00'				78	6			2	1	NEW CROSS CULVERT
CU75	2245+90			2245+79	38 RT	1834.50'	2246+02	50 LT	1827.50'				92				2	1	NEW CROSS CULVERT
CU76	2252+36	48	1	2252+46	80 RT	1788.90'	2252+29	97 LT	1781.50'	178				16	70		2	1	
CU77	2263+24	24	1	2262+96	39 RT	1780.93'	2263+52	39 LT	1779.98'			58							APPROACH
CU78	2288+87	72												4	1		2	1	
CU79	2308+22	36	1	2308+24	27 RT	1782.82'	2308+23	27 LT	1780.28'				54	4			2	1	
CU80	2323+90	36		2323+63	43 RT	1826.31'	2324+16	44 RT	1828.30'				55						APPROACH
CU81	2344+11	36												6	1		2	1	
CU82	2359+58	36	1	2359+59	68 RT	1710.31'	2359+60	57 LT	1708.25'				126	13			2	1	
SUB-TOTALS			31	---	---	---	---	---	---	450	0	1017	1406	---	4	285	40	20	
TOTALS			72	---	---	---	---	---	---	892	192	1879	3573	---	6	775	94	47	

95%

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			ALASKA	PENDING/Z607520000	2023	E3	E12

GENERAL CULVERT NOTES

- CULVERT LAYOUT IS APPROXIMATE. STAKE CULVERTS TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
- WHEN INSTALLING SKEWED CULVERTS, ENSURE THE FINAL LENGTH IS DETERMINED OFF THE NEAR EDGE, NOT THE CENTERLINE OF THE CULVERT.
- REMOVED CULVERTS, CULVERT MARKER POSTS, DEADMAN, AND THAW PIPES BECOME THE PROPERTY OF THE CONTRACTOR.
- DO NOT PLACE NEW CULVERTS UNTIL THE BEDDING HAS BEEN APPROVED BY THE ENGINEER, SEE SHEET E6 FOR DETAIL.
- WHERE NEW CULVERT MARKER POSTS ARE TO BE INSTALLED, REMOVE AND DISPOSE OF THE EXISTING CULVERT MARKER POSTS. DISPOSAL OF OLD MARKER POSTS IS SUBSIDIARY TO PAY ITEM 613.0002.0000 CULVERT MARKER POSTS.
- DITCH WORK AND GRADING NECESSARY TO ACHIEVE POSITIVE DRAINAGE IS SUBSIDIARY TO 602 AND 603 PAY ITEMS.
- DEWATERING FOR CULVERT INSTALLATION WILL NOT BE MEASURED DIRECTLY FOR PAYMENT AND IS SUBSIDIARY TO THE 602 AND 603 PAY ITEMS.
- DISPOSAL OF EXCESS EXCAVATION IS SUBSIDIARY.
- INSTALL APPROACH CULVERTS IN ACCORDANCE WITH STANDARD PLAN D-01.02 INSTALLATION TYPE "B".
- INSTALL THAW PIPES IN ACCORDANCE WITH SHEET E4.
- INSTALL CULVERTS WITH A MINIMUM CAMBER EQUAL TO 1% OF THE LENGTH OF THE PIPE, OR AS DIRECTED BY THE ENGINEER.
- INSTALL RIPRAP APRONS IN ACCORDANCE WITH SHEET E7. WHERE APRONS ARE NOT SPECIFIED, MINIMIZE DISTURBANCE TO THE VEGETATIVE MAT AROUND THE CULVERT ENDS, BUT CLEAR AND GRADE AS NEEDED TO ENSURE PROPER DRAINAGE.
- CONSTRUCTION OF TEMPORARY DIVERSIONS FOR ALL CULVERTS EXCEEDING A 10 FT CULVERT DEPTH, AS SPECIFIED IN THE CULVERT SUMMARY TABLE, WILL BE PAID UNDER ITEM 643.2001.0000 TEMPORARY DIVERSIONS.
- REPAIR EROSION GULLY WITH EXCESS EXCAVATION AND CONSTRUCT NEW CHANNEL WHERE SPECIFIED AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID UNDER ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.
- HYDROLOGIC & HYDRAULIC SUMMARY TABLES ARE ONLY PROVIDED FOR CULVERTS SIZED 48" AND LARGER FOR WATER CONVEYANCE.
- CORRUGATED STEEL PIPES ARE 12 GAUGE WALL THICKNESS UNLESS OTHERWISE SPECIFIED.

HYDROLOGIC & HYDRAULIC SUMMARY					
UNNAMED CREEK - STATION 1697+78 - MP1254.7					
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q5 (CFS)	Q50 (CFS)	Q100 (CFS)
2.5	--	25.5	49.3	122	147
HEADWATER ELEVATION @Q50 IS 1765.0 FT, HEADWATER ELEVATION @Q100 IS 1765.7 FT					
ROAD OVERTOPS AT APPROXIMATELY 1,133 CFS, Hw/D @ 1 = 98 CFS					
CULVERT PURPOSE: CROSS DRAINAGE					

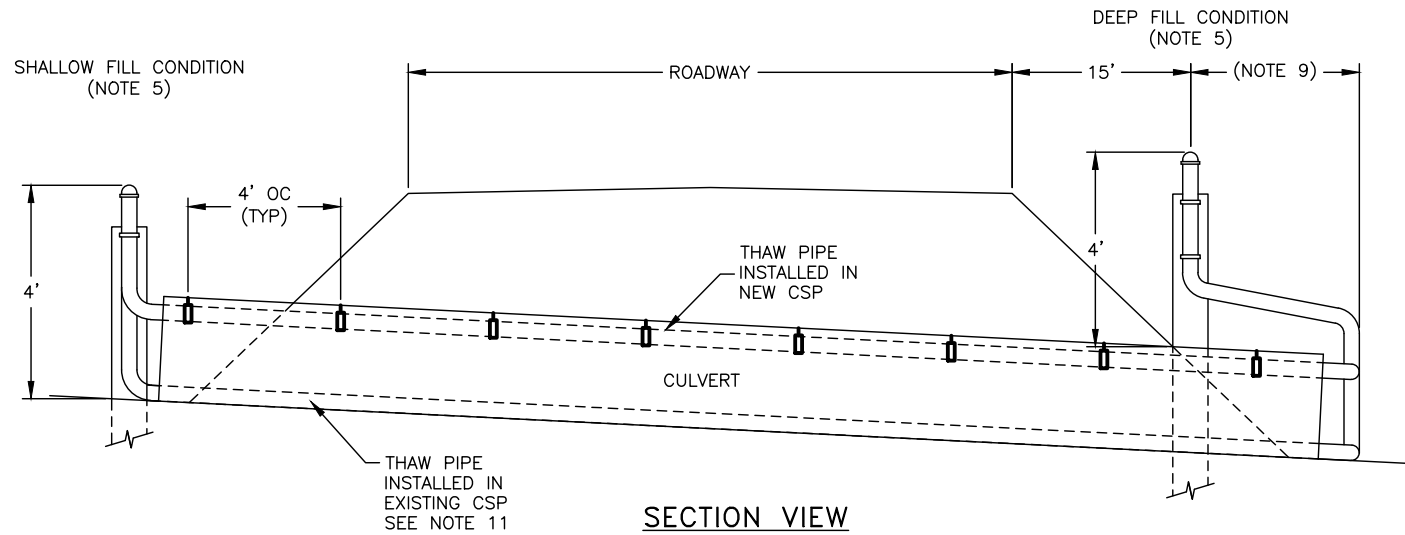
HYDROLOGIC & HYDRAULIC SUMMARY					
UNNAMED CREEK - STATION 1836+23 - MP1257.5					
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q5 (CFS)	Q50 (CFS)	Q100 (CFS)
1.6	--	17.8	35	88.3	108
HEADWATER ELEVATION @Q50 IS 1757.7 FT, HEADWATER ELEVATION @Q100 IS 1758.8 FT					
ROAD OVERTOPS AT APPROXIMATELY 220 CFS, Hw/D @ 1 = 56 CFS					
CULVERT PURPOSE: CROSS DRAINAGE					

HYDROLOGIC & HYDRAULIC SUMMARY					
SILVER CREEK - STATION 1894+31 - MP1258.6					
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q5 (CFS)	Q50 (CFS)	Q100 (CFS)
11.9	62	103	186	417	496
HEADWATER ELEVATION @Q50 IS 1728.2 FT, HEADWATER ELEVATION @Q100 IS 1729.6 FT					
ROAD OVERTOPS AT APPROXIMATELY 1,134 CFS, Hw/D @ 1 = 336 CFS					
CULVERT PURPOSE: FISH PASSAGE/CROSS DRAINAGE					

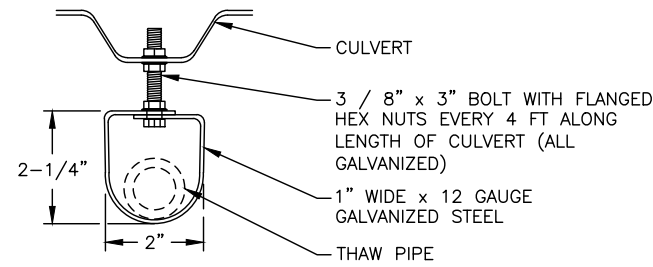
HYDROLOGIC & HYDRAULIC SUMMARY					
UNNAMED CREEK - STATION 2252+36 - MP1265.6					
BASIN AREA (SQ. MI)	QFISH (CFS)	Q2 (CFS)	Q5 (CFS)	Q50 (CFS)	Q100 (CFS)
0.4	--	1	3	37.4	59.5
HEADWATER ELEVATION @Q50 IS 1792.0 FT, HEADWATER ELEVATION @Q100 IS 1793.5 FT					
ROAD OVERTOPS AT APPROXIMATELY 146 CFS, Hw/D @ 1 = 48 CFS					
CULVERT PURPOSE: CROSS DRAINAGE					

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E4	E12



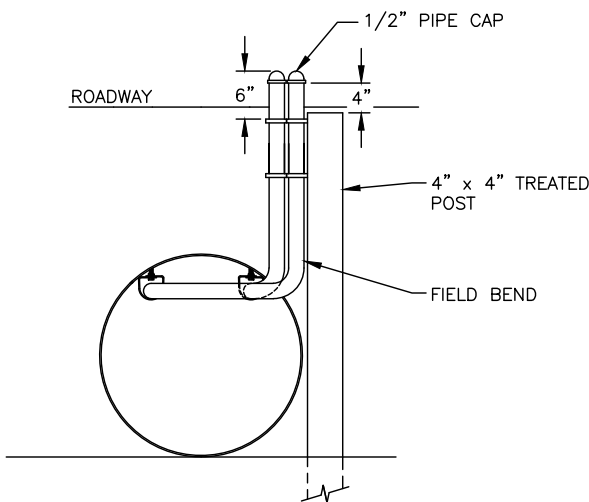
SECTION VIEW



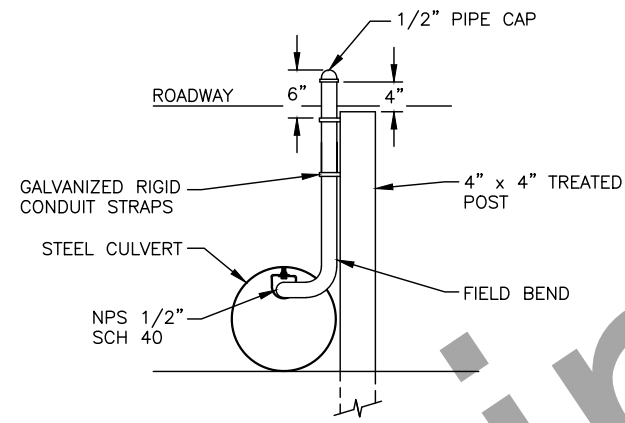
THAW PIPE HANGER DETAIL

THAW PIPE NOTES

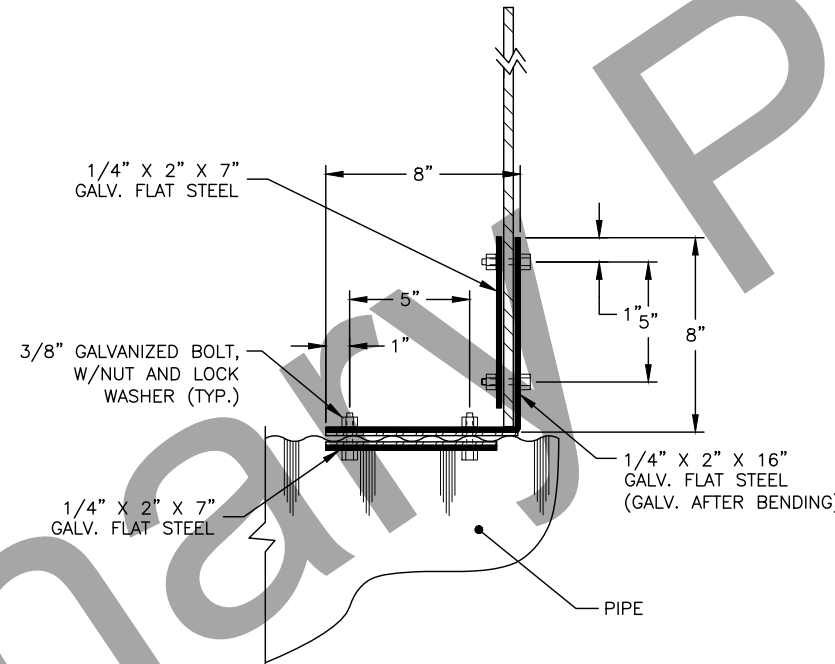
1. WORK WILL BE PAID UNDER THE ITEM 616.0002.0050
2. DO NOT LOCATE ANY JOINTS OR THAW PIPE COUPLINGS WITHIN 30 INCHES OF THE CULVERT ENDS.
3. ENSURE THAW PIPES ARE WATER-TIGHT. SEAL ANY THAW PIPE JOINTS WITH AN APPROVED SEALING COMPOUND EXCEPT THE END CAPS.
4. DO NOT KINK THAW PIPES AT BENDS. PROVIDE NO GREATER THAN 12" BEND RADIUS. FITTINGS MAY BE INSTALLED OUTSIDE OF CULVERT IF AT LEAST 6" PAST CULVERT ENDS.
5. THE FILL CONDITION (SHALLOW OR DEEP) SHALL BE AS APPROVED BY THE ENGINEER. GENERALLY THE DEEP FILL CONDITION REQUIRES AN ADDITIONAL FIELD BEND, TO ALLOW A LONGER PIPE RUN FOR ACCESSIBILITY.
6. INSTALL A PRESSURE TREATED SUPPORT POSTS FOR EACH THAW PIPE SETUP. WHERE TWO THAW PIPES ARE CALLED FOR INSTALL BOTH THAW PIPES ON SINGLE POST, AS APPROVED BY THE ENGINEER.
7. THE LENGTH OF A TREATED SUPPORT POST IS APPROXIMATELY 7.5 FEET. MAINTAIN A MINIMUM EMBEDMENT DEPTH OF 4 FEET.
8. FASTEN THAW PIPES TO POSTS WITH RIGID CONDUIT STRAPS. SECURE STRAPS WITH GALVANIZED LAG SCREWS FASTENED ON 1 FOOT CENTERS.
9. WHEN UNSUPPORTED PIPE LENGTH EXCEEDS 5 FEET, INSTALL A SECOND SUPPORT POST TO SUPPORT THE BEND RUN. THE LOCATION AND CONFIGURATION OF THE SECOND SUPPORT POST WILL BE AS DIRECTED BY THE ENGINEER.
10. FILL ALL THAW PIPES WITH A MIX OF PROPYLENE GLYCOL ANTIFREEZE AND WATER TO PROTECT TO MINUS 50° C, THEN CAP THE THAW PIPE.
11. ALL LABOR AND MATERIALS REQUIRED TO INSTALL THE THAW PIPE AND SUPPORT POSTS ARE SUBSIDIARY TO ITEM 616(2) 1/2 INCH DIAMETER THAW PIPE.
12. FOR EXISTING CULVERTS, INSTALL NEW THAW PIPE AT BOTTOM OF CULVERT AS APPROVED BY THE ENGINEER



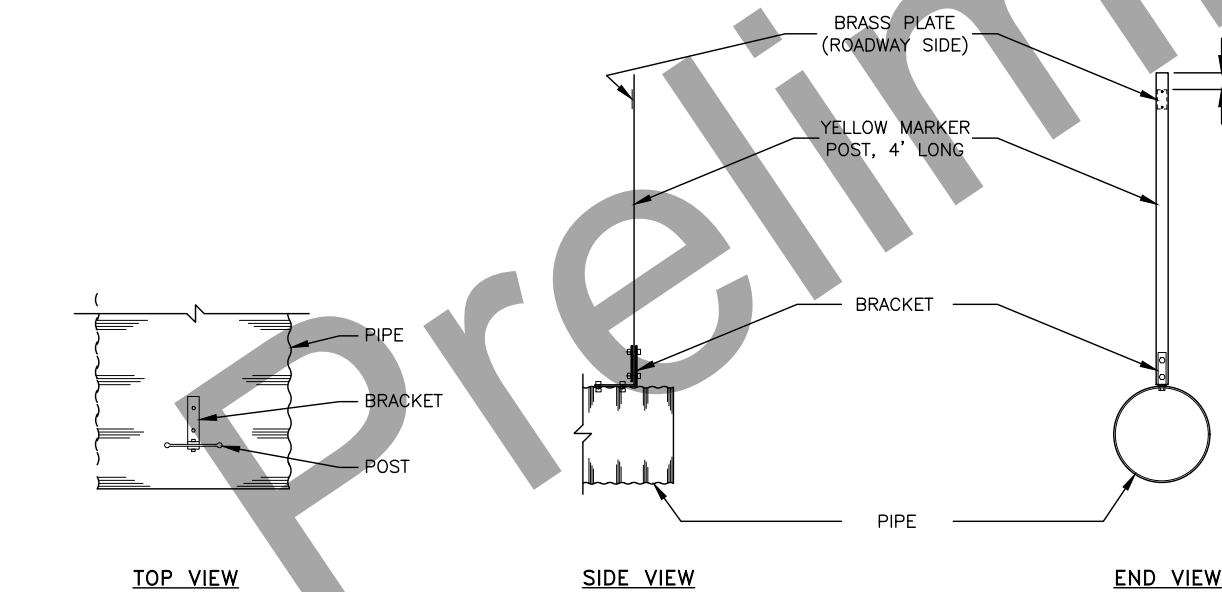
DOUBLE STAND PIPE
60" & LARGER CULVERTS



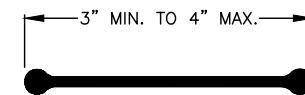
SINGLE STAND THAW PIPE
36" & 48" CULVERTS



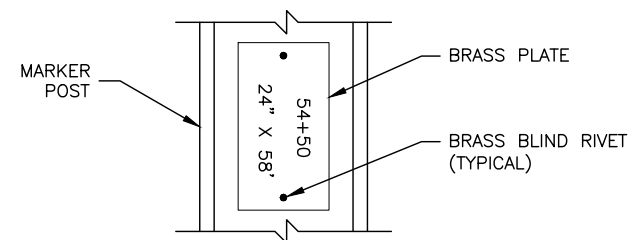
BRACKET DETAIL



CULVERT MARKER POST DETAIL



POST DETAIL
CROSS-SECTIONAL VIEW



STAMP STATION AND PIPE SIZE, USING 3/8" HIGH MINIMUM LETTERS INTO A 2"x4"x 0.064" THICK BRASS PLATE. FASTEN PLATE TO THE SIDE FACING THE ROADWAY WITH TWO 1/8" BRASS BLIND RIVETS.

BRASS PLATE DETAIL

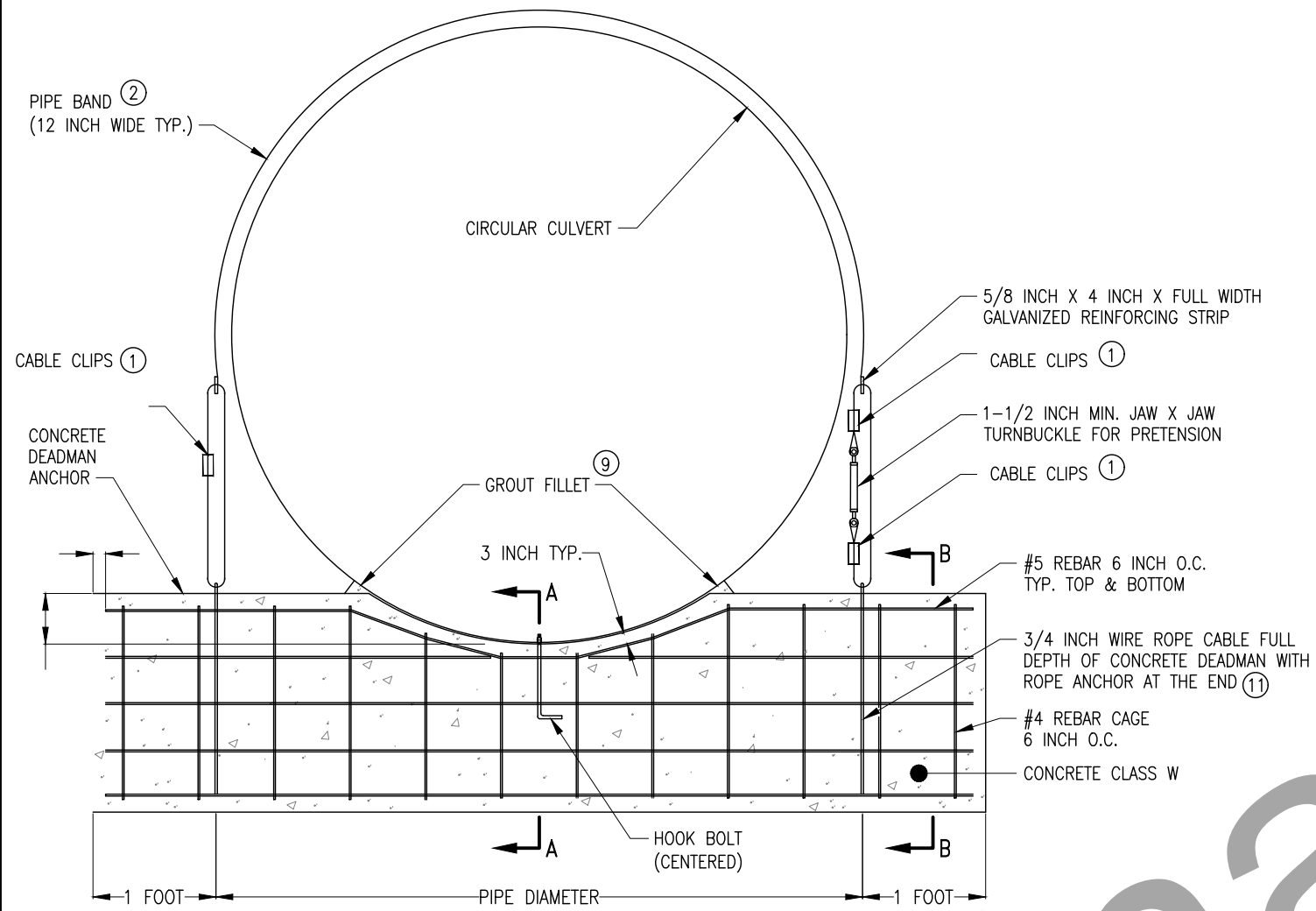
CULVERT MARKER POSTS NOTES:

1. WORK WILL BE PAID UNDER THE ITEM 613.0002.0000
2. INSTALL CULVERT MARKER POSTS AS SCHEDULED IN CULVERT SUMMARY SHEETS E1-E4.
3. PILOT DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING IS NOT BE PERMITTED.
4. INSTALL GASKET MATERIAL BETWEEN DISSIMILAR METALS. GASKET MATERIAL SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION.
5. HOT DIP GALVANIZE FLAT STEEL BRACKETS TO MEET AASHTO M 111. GALVANIZE AFTER BENDING.

95%

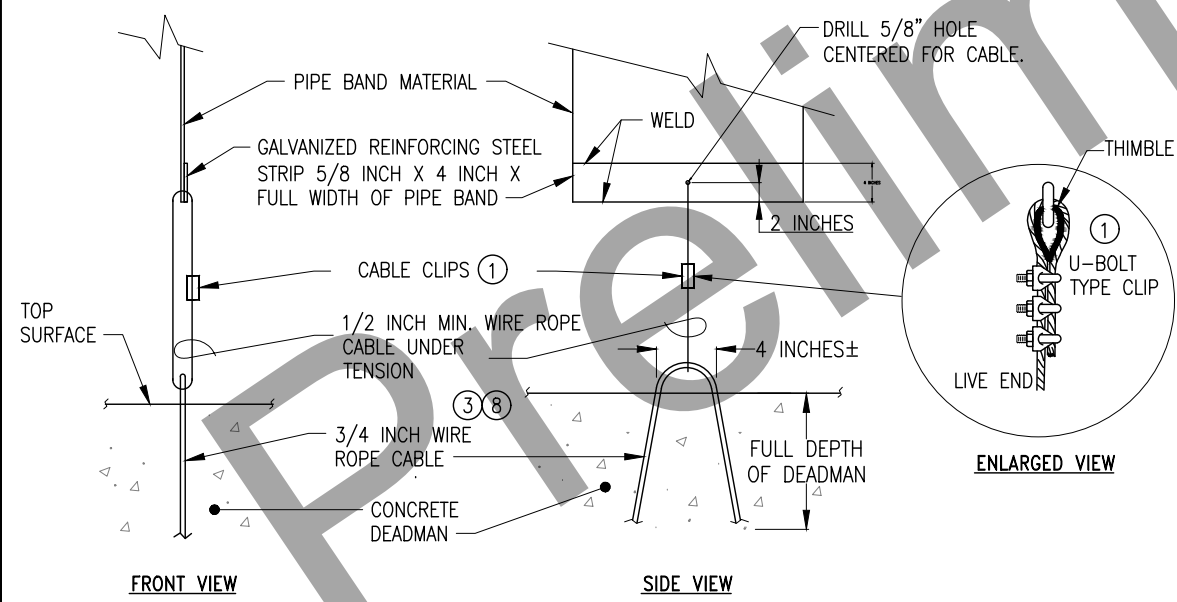
PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E5	E12

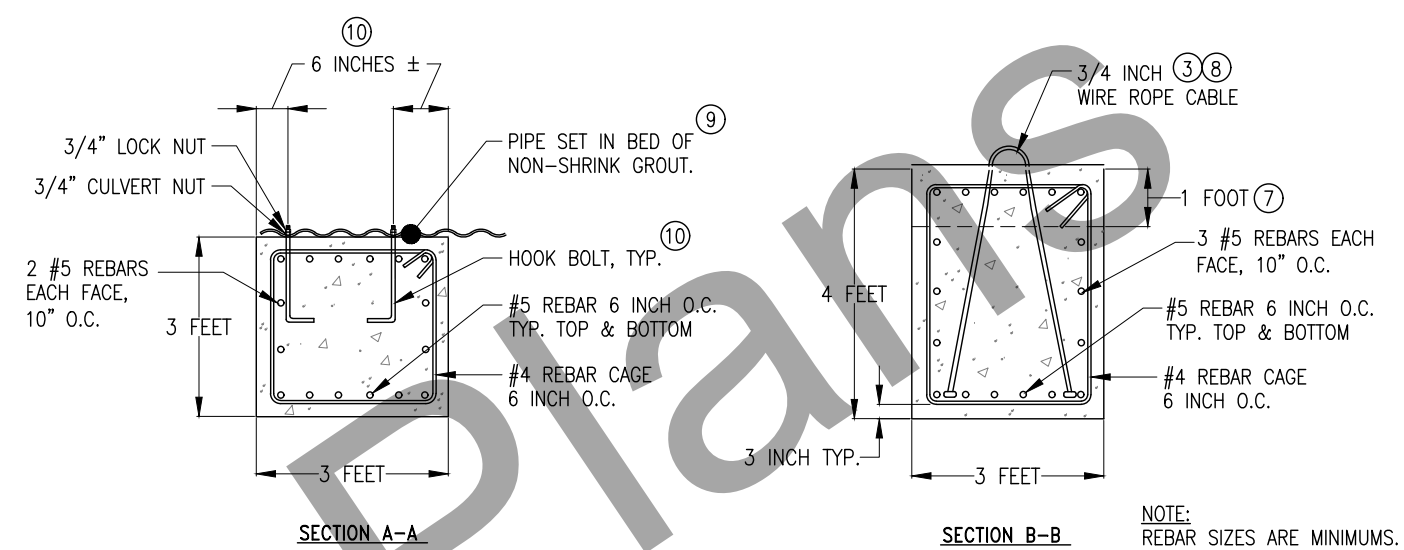


DEADMAN DETAIL

PIPE NO. CUD35A - STATION 1894+75 - INLET SIDE ONLY



PIPE BAND DETAILS

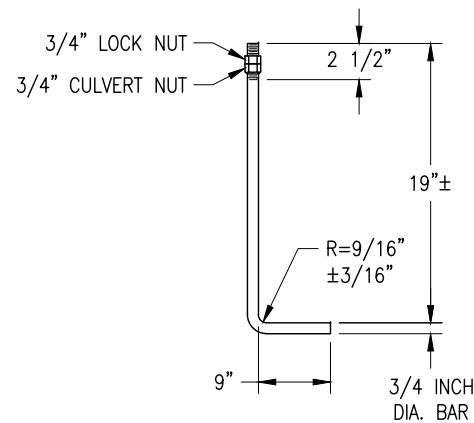


CONCRETE DEADMAN ANCHOR DETAILS

NOTE: REBAR SIZES ARE MINIMUMS.

DEADMAN NOTES:

- ① IF DROP FORGED U-BOLT TYPE CLIPS ARE USED, THEY SHOULD BE INSTALLED USING THE FOLLOWING:
 MIN. AMT. WIRE ROPE TO TURN BACK OR SPLICE (INCHES): $11 \frac{1}{2}$
 TORQUE REQUIRED TO REACH HOLDING POWER (FT-LBS): 65
 SPACING: DIAMETER OF THE ROPE (INCHES) TIMES 6. THE BASE OF THE CLAMPS AND NUTS MUST BE ON THE LIVE END OF THE WIRE
- ② THE LENGTH OF THE PIPE BANDS SHALL BE A MINIMUM OF HALF THE CIRCUMFERENCE OF THE ROUND CULVERT OR SHALL EXTEND TO WITHIN 6" OF THE SPRINGLINE ON PIPE ARCH CULVERT. THE PIPE BANDS SHALL BE A MINIMUM THICKNESS OF 1/16" GALVANIZED ASTM A1011 SS GRADE 36 OR MINIMUM THICKNESS 0.109" GALVANIZED AASHTO M218. THE REINFORCING STRIP SHALL BE GALVANIZED ASTM A36.
- ③ WIRE ROPE SHALL BE 6X19 IWRC, EIPS & GALVANIZED AND MEET AASHTO M30 TYPE II REQUIREMENTS OR APPROVED EQUAL.
- ④ ALL HARDWARE SHALL BE GALVANIZED TO MEET AASHTO M232
- ⑤ CLASS W CONCRETE SHALL BE USED TO CONSTRUCT THE CONCRETE DEADMAN ANCHOR. REINFORCEMENT SHALL BE ASTM A615 GRADE 40.
- ⑥ ALL WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION AND INSTALLATION OF THE DEADMAN SHALL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO 602.0001.0084.
- ⑦ CONCRETE DEADMAN SHALL BE CAST TO CONFORM TO THE OUTER RADIUS OF THE CULVERT.
- ⑧ USE A SPREADER BEAM/BAR WHEN LIFTING DEADMAN TO AVOID BENDING OF TIE-DOWN/LIFTING LOOP.
- ⑨ THE PIPE SHALL BE SET IN A BED OF NON-SHRINK GROUT OF SUFFICIENT THICKNESS TO FULLY FILL THE CORRUGATIONS AFTER TENSIONING OF THE ANCHOR BOLTS AND TIE-DOWN BAND. THE DEADMAN SURFACE SHALL BE PROPERLY PREPARED FOR BEST BONDING WITH GROUT - CLEAN, DUST FREE, SATURATED SURFACE DRY (SSD) CONDITION. BOTTOM OF PIPE SHALL BE AS CLEAN AND DUST FREE AS PRACTICABLE. GROUT SHALL BE FILLETED/CROWNED ALONG SIDES OF PIPE AT THE DEADMAN/PIPE SEAM IN ORDER TO REDUCE WATER INFILTRATION INTO THE GROUTED AREA.
- ⑩ PENETRATE CULVERT INVERT HOOK BOLTS IN A CORRUGATION VALLEY TO PROTECT NUT. ANCHOR BOLT HOLES SHALL BE DRILLED, NOT CUT WITH A TORCH, AND COATED WITH APPROPRIATE ZINC RICH PAINT PRIOR TO INSTALLATION. AFTER INSTALLATION AND ANCHOR BOLT NUTS HAVE BEEN TIGHTENED, COAT THE ANCHOR BOLT AND SURROUNDING AREA WITH ZINC RICH PAINT.
- ⑪ SEE STANDARD PLAN G-00.05 SHEET 4 FOR ROPE ANCHOR DETAILS.

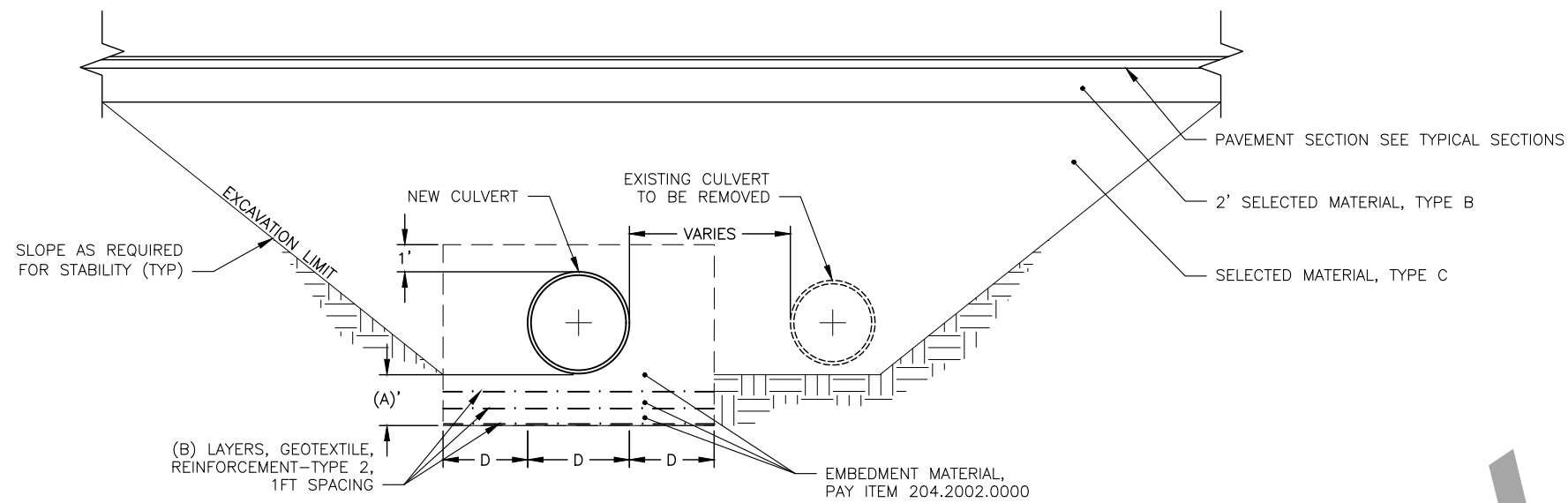


HOOK BOLT (4)

95%

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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E6	E12



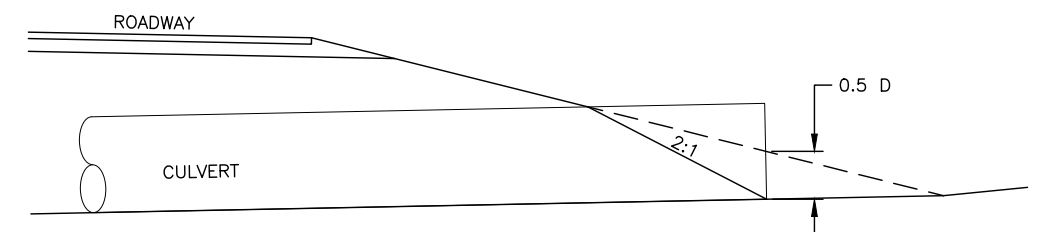
NOTES:

1. SUBEXCAVATE AND PROVIDE GEOTEXTILE REINFORCEMENT-TYPE 2 AS SPECIFIED IN CULVERT SUB-EXCAVATION TABLE. CULVERT SUB-EXCAVATION WILL BE PAID UNDER ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.

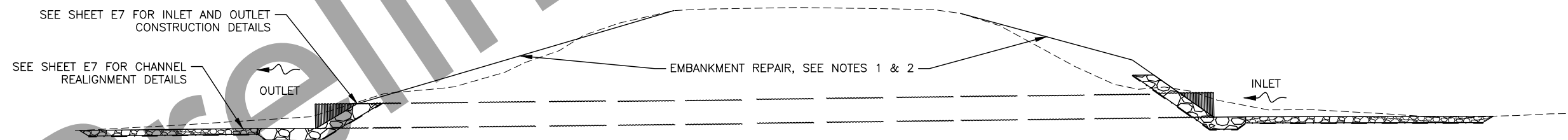
CULVERT SUB-EXCAVATION SUMMARY		
CULVERT DIAMETER	(A) SUB-EXCAVATION DEPTH (FT)	(B) LAYERS OF FABRIC (EACH)
> 36"	3	3
≤ 36"	2	2

*APPLIES ONLY TO CROSS-CULVERTS

CULVERT SUB-EXCAVATION TYPICAL



SLOPE WARPING TYPICAL



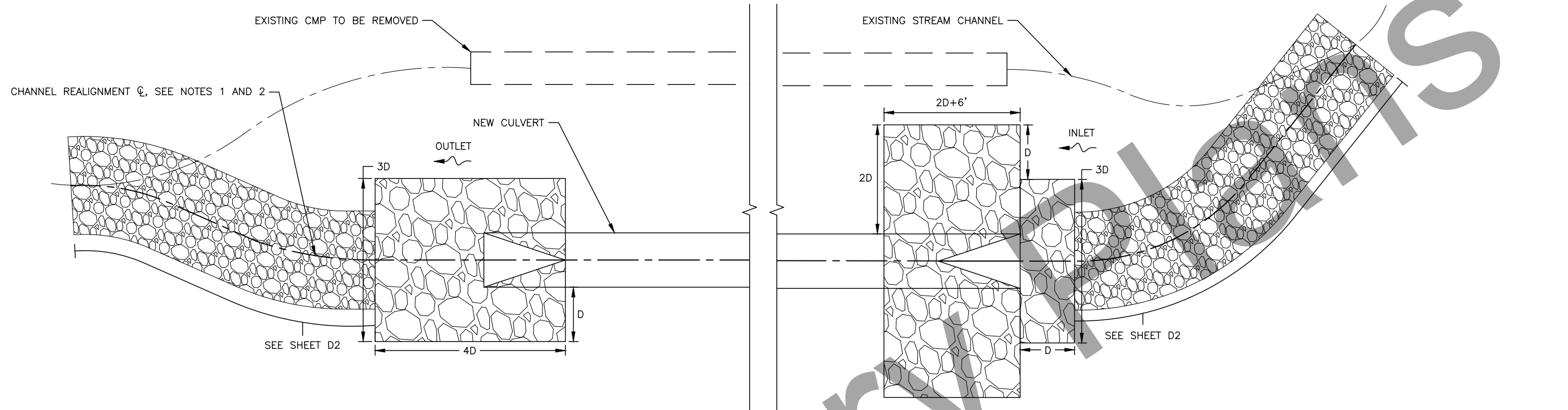
NOTES:

1. WHERE SPECIFIED IN THE CULVERT SUMMARY TABLE, OR AS DIRECTED BY THE ENGINEER, PERFORM REPAIRS TO THE EXISTING EMBANKMENT TO ACCOMMODATE PROPOSED CULVERT LENGTHS. EMBANKMENT REPAIRS WILL EXTEND 50' UPSTATION AND DOWNSTATION OF THE CULVERT UNLESS DIRECTED OTHERWISE BY THE ENGINEER. MATCH NEW SLOPES TO UNDAMAGED PORTIONS OF THE EMBANKMENT.
2. EMBANKMENT REPAIRS WILL BE PAID UNDER 203.0003.0000 UNCLASSIFIED EXCAVATION.

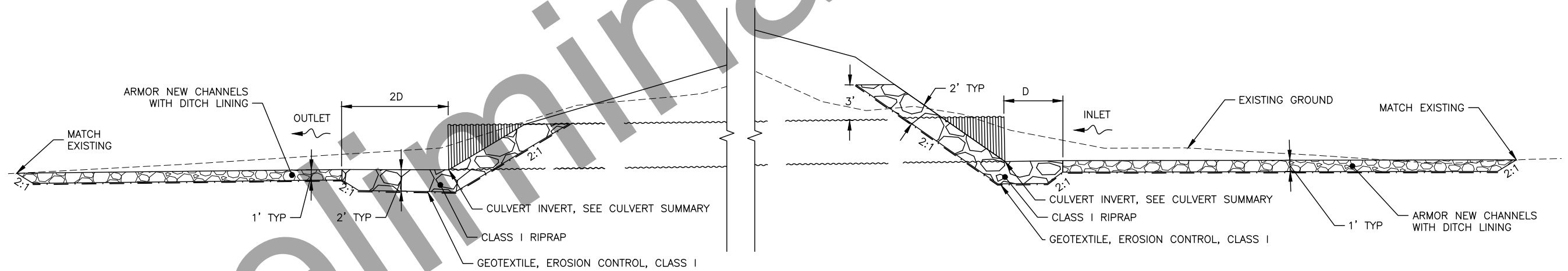
EMBANKMENT REPAIR TYPICAL

95%

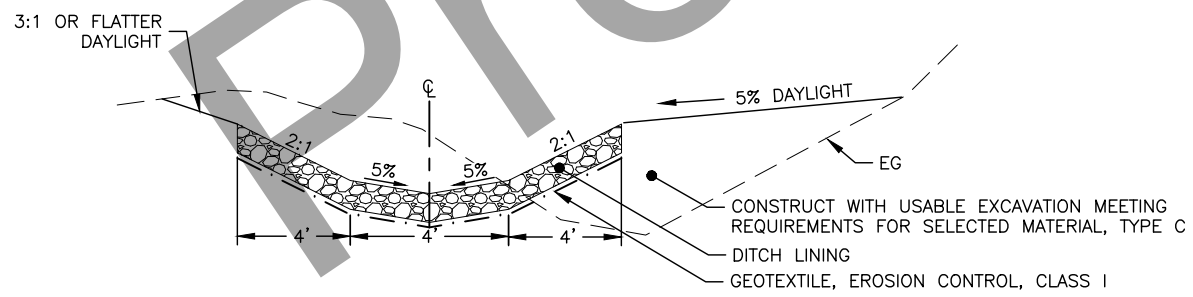
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E7	E12



TYPICAL RIPRAP & CHANNEL REALIGNMENT PLAN
N.T.S.



TYPICAL RIPRAP & CHANNEL REALIGNMENT SECTION
N.T.S.



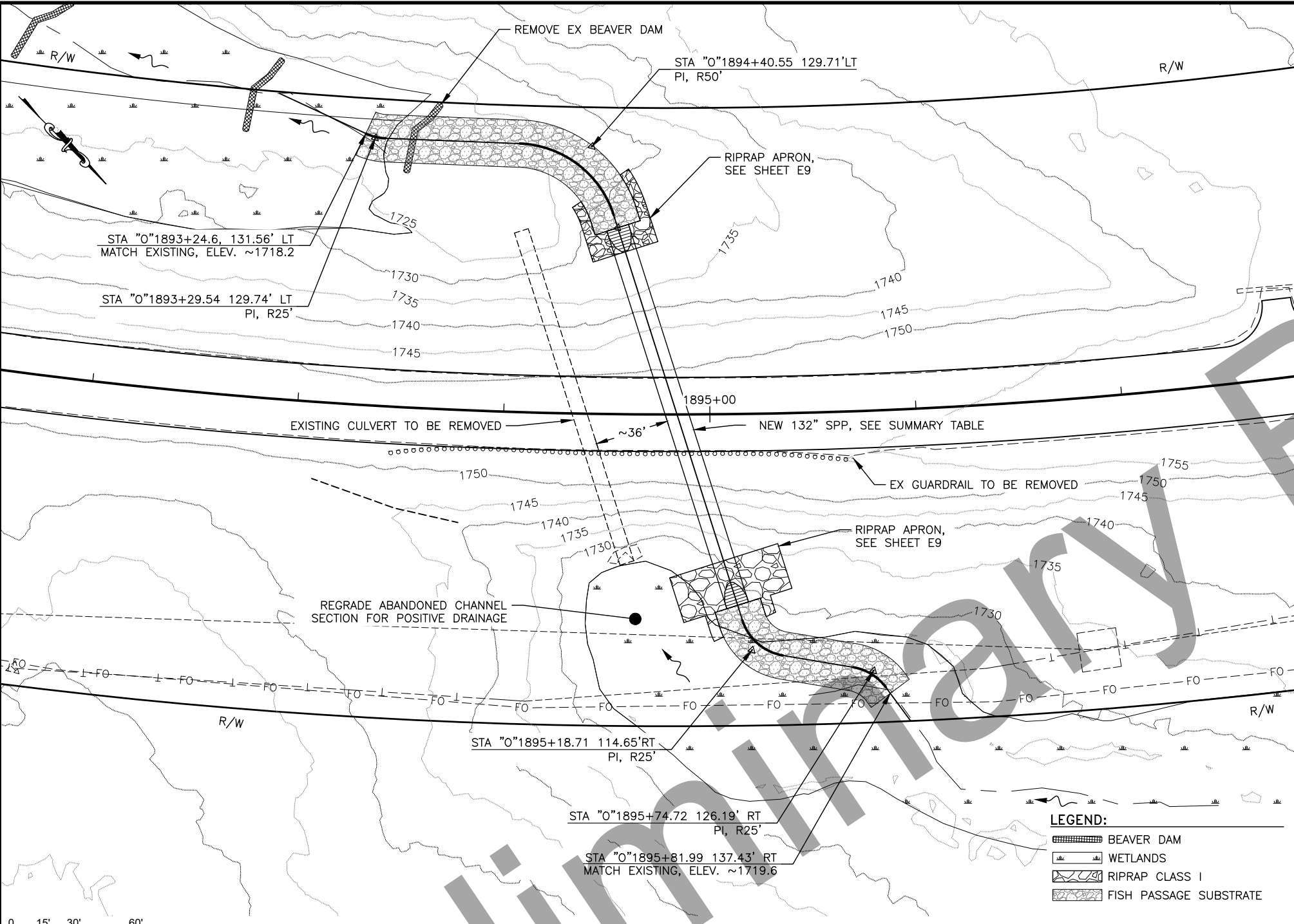
CHANNEL REALIGNMENT TYPICAL
N.T.S.

NOTES:

1. CONSTRUCT NEW CHANNELS WHERE SPECIFIED IN CHANNEL REALIGNMENT SUMMARY ON SHEET D2.
2. CHANNEL LAYOUT AND SECTIONS ARE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.

95%

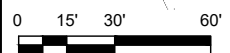
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E8	E12



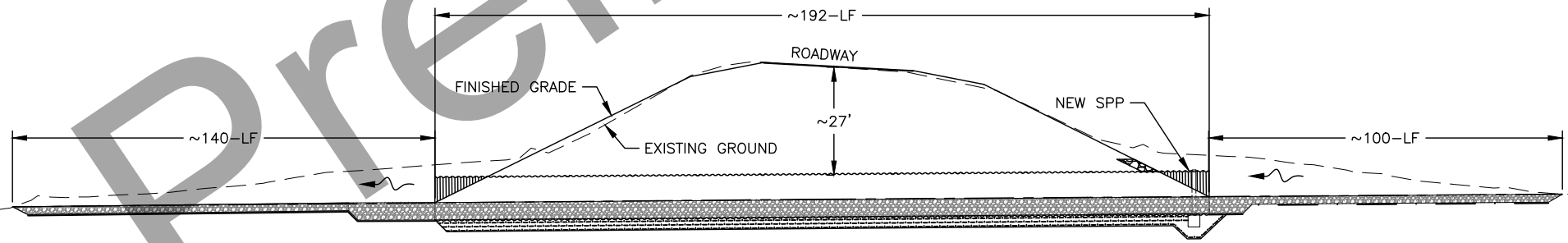
- NOTES:**
1. SEE GENERAL CULVERT NOTES ON SHEET E3.
 2. SEE CULVERT SUMMARY TABLE FOR INVERT ELEVATION. THE SPP IS DEPRESSED 4.4' INTO THE CHANNEL BOTTOM.
 3. CONSTRUCT FISH PASSAGE SUBSTRATE WITHIN THE CULVERT, SEE SPECIAL PROVISION 628 AND DETAILS ON SHEET E9.
 4. CHANNEL LAYOUT IS SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.

LEGEND:

	BEAVER DAM
	WETLANDS
	RIPRAP CLASS I
	FISH PASSAGE SUBSTRATE



SILVER CREEK PLAN



SILVER CREEK PROFILE

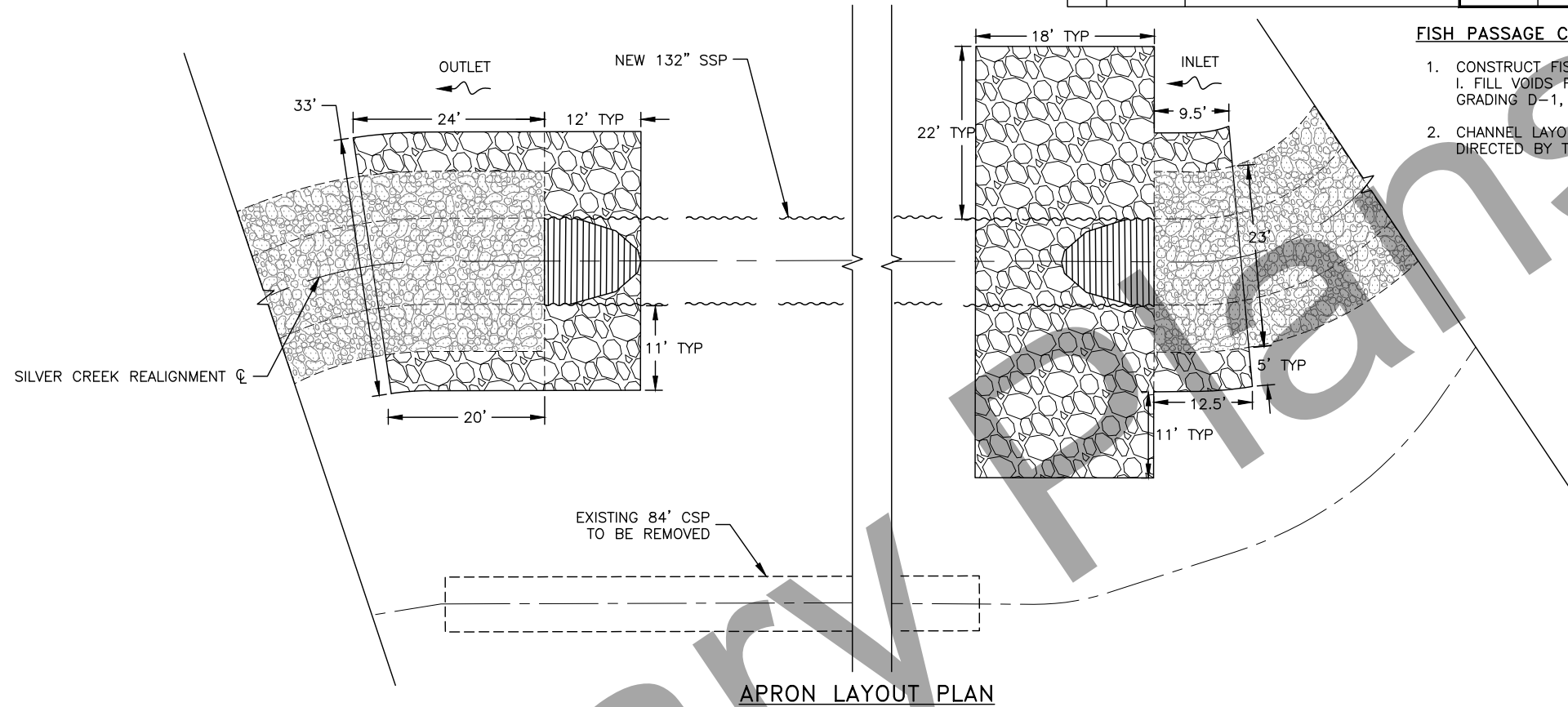
95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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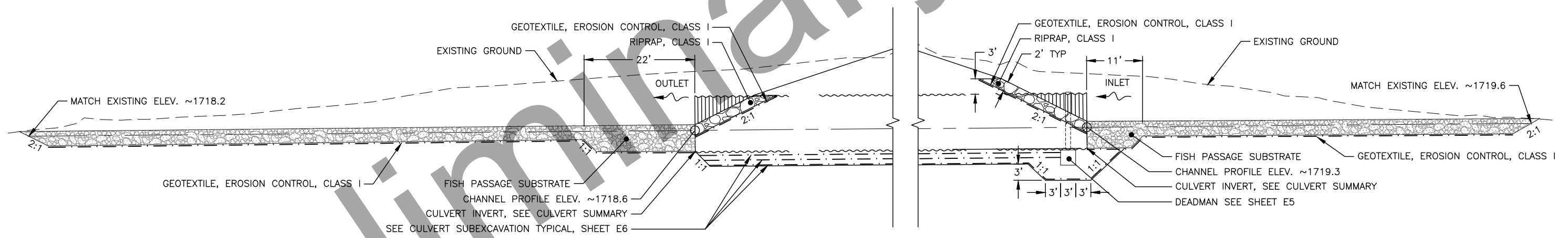
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E9	E12

FISH PASSAGE CULVERT NOTES:

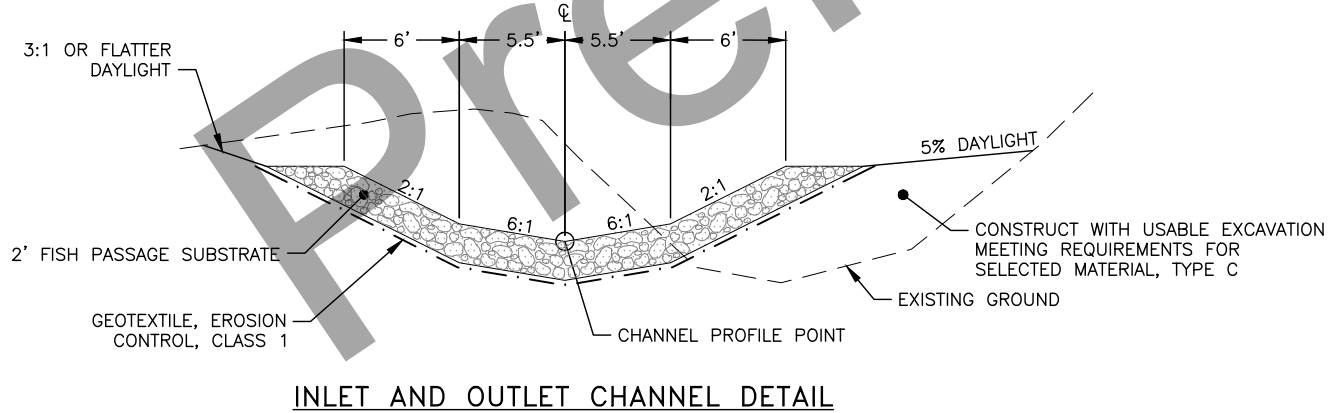
1. CONSTRUCT FISH PASSAGE SUBSTRATE USING RIPRAP, CLASS I. FILL VOIDS FILLED WITH AGGREGATE BASE COURSE, GRADING D-1, AS SPECIFIED IN SPECIAL PROVISION 628.
2. CHANNEL LAYOUT IS SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER.



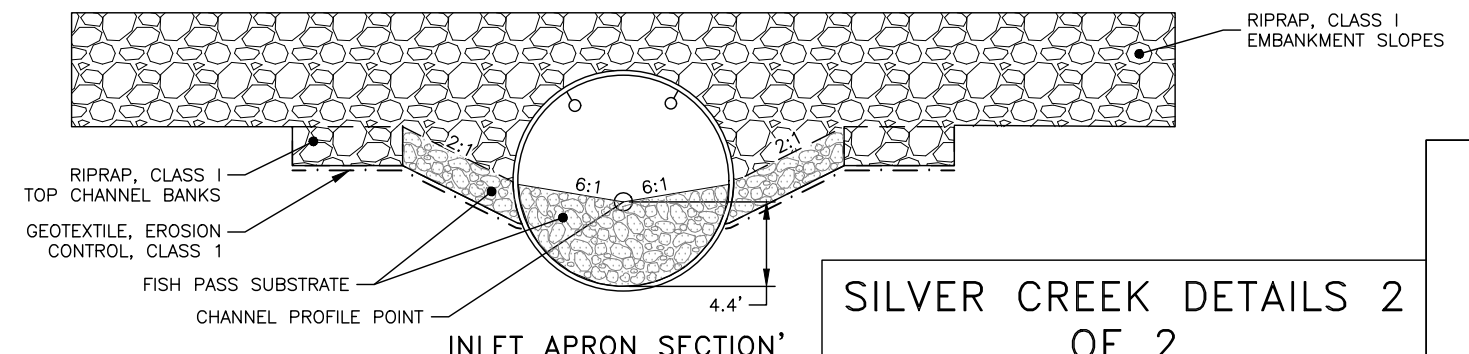
APRON LAYOUT PLAN



APRON AND CHANNEL PROFILE



INLET AND OUTLET CHANNEL DETAIL

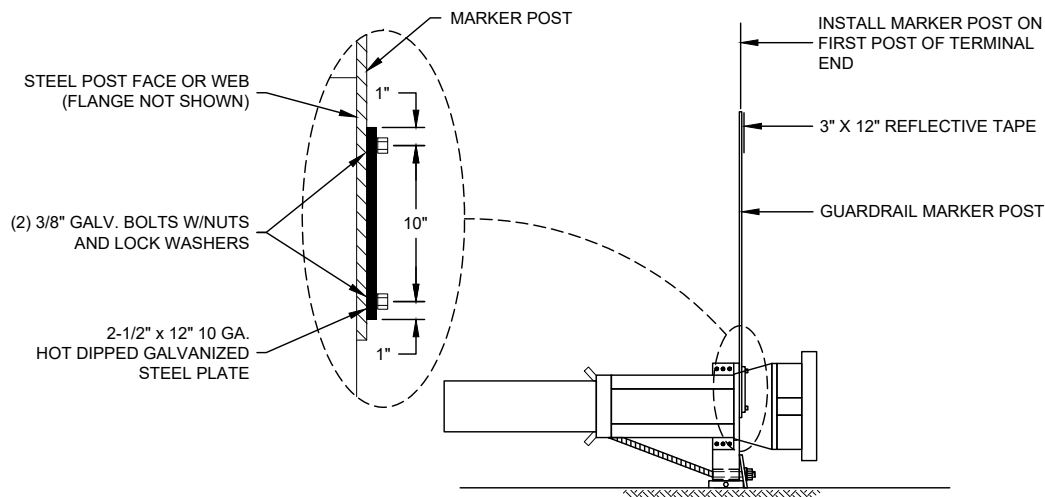


INLET APRON SECTION

SILVER CREEK DETAILS 2 OF 2

95%

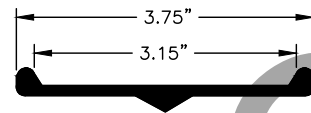
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E10	E12



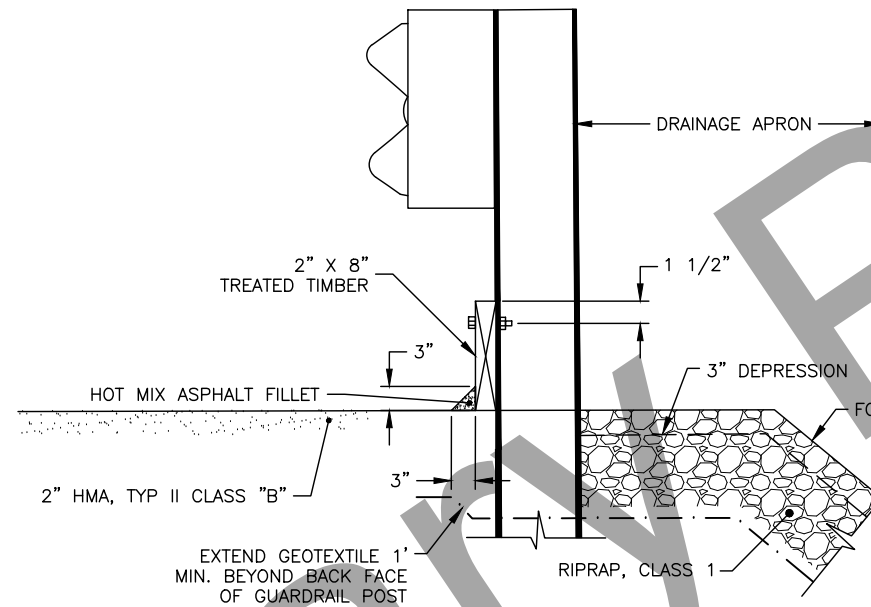
GUARDRAIL MARKER NOTES:

1. GUARDRAIL MARKER POSTS SHALL BE YELLOW AND AT LEAST 78" LONG. POSTS SHALL MEET THE REQUIREMENTS OF SECTION 730-2.05 FLEXIBLE DELINEATOR POSTS.
2. 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.
3. PLACE CENTER OF MARKER POST IN LINE WITH TRAFFIC SIDE OF 0 POST.
4. ALL WORK AND MATERIAL REQUIRED TO INSTALL GUARDRAIL MARKER POSTS IS SUBSIDIARY TO 606 PAY ITEMS.

GUARDRAIL MARKER POST INSTALLATION DETAIL
PARALLEL GUARDRAIL TERMINAL



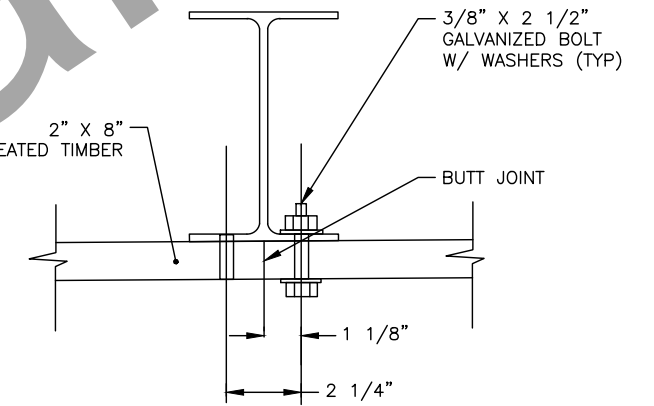
POST DETAIL
CROSS-SECTIONAL VIEW



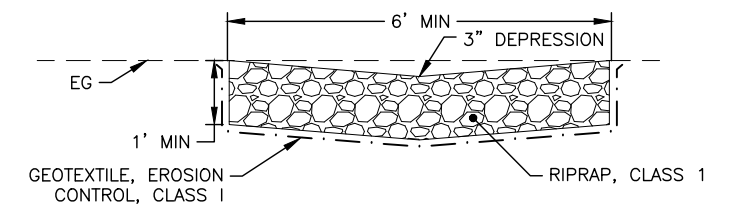
BATTER BOARDS NOTES:

1. HOT MIX ASPHALT FILLET IS SUBSIDIARY TO PAY ITEM 606.2012.0000 BATTER BOARD.
2. USE ONE FASTENER AT POST WITHOUT TIMBER JOINT.
3. POST MOUNTED BATTER BOARDS SHALL BE PAID FOR UNDER PAY ITEM 606.2012.0000 BATTER BOARD.
4. DO NOT MOUNT BATTER BOARDS ON ANY OF THE PARALLEL GUARDRAIL TERMINAL POSTS.

POST-MOUNTED BATTER BOARDS DETAIL

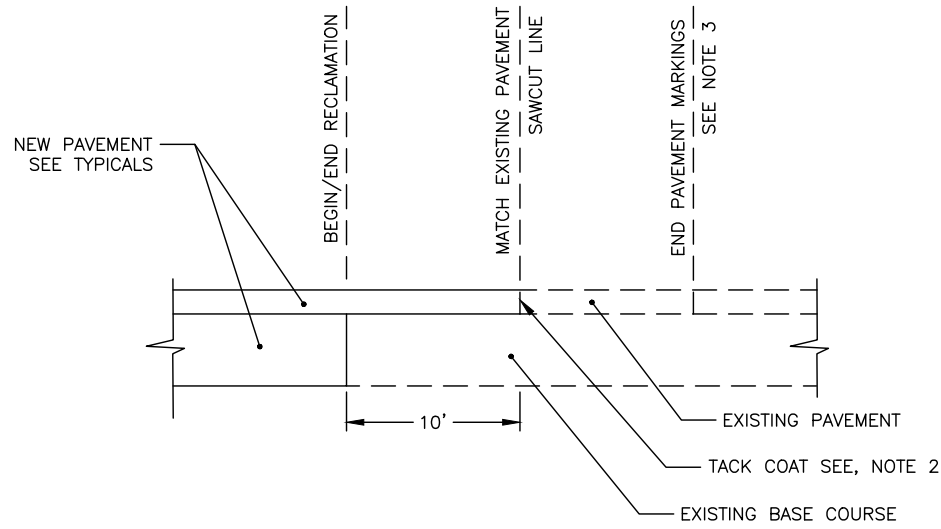


BATTER BOARDS FASTENER DETAIL
6" X 1/2" POST



DRAINAGE APRON DETAIL

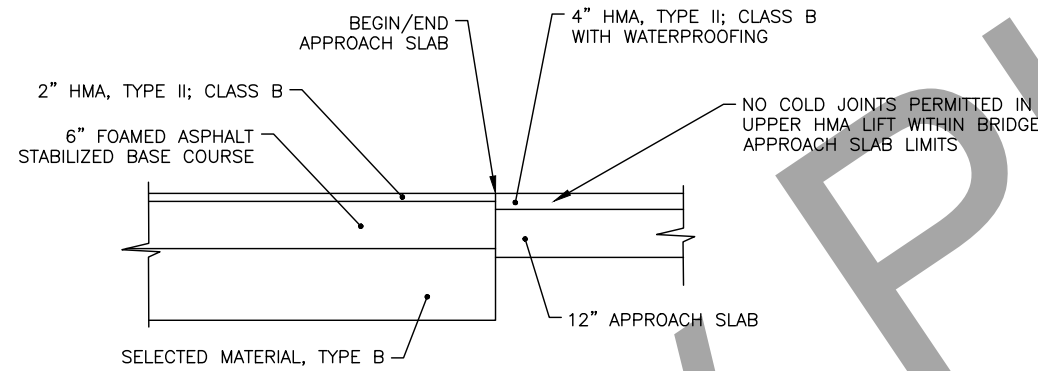
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			ALASKA	PENDING/Z607520000	2023	E11	E12



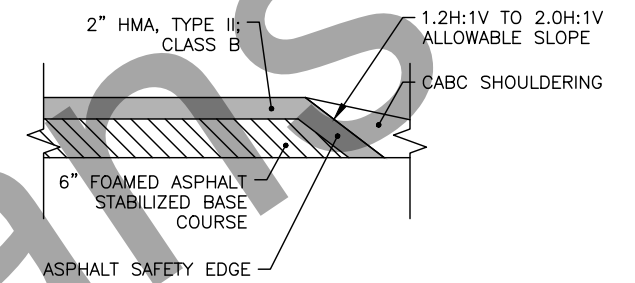
PAVEMENT TRANSITION NOTES:

1. USE WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT.
2. APPLY STE-1 ASPHALT FOR TACK COAT ON THE VERTICAL FACES OF ALL SAWCUTS.
3. EXTEND PAVEMENT MARKINGS 10' BEYOND THE SAW CUT. TRANSITION AND MATCH THE EXISTING STRIPING CONFIGURATION. PAVEMENT MARKING EXTENSIONS ARE NOT REQUIRED AT DRIVEWAYS OR APPROACHES.

PAVEMENT TRANSITION DETAIL



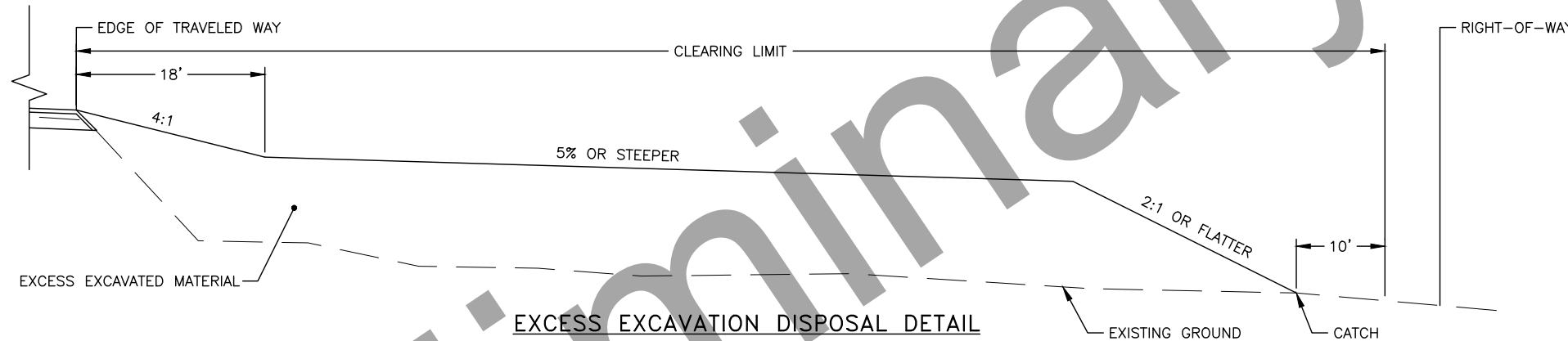
APPROACH SLAB/PAVEMENT TRANSITION DETAIL



ASPHALT SAFETY EDGE NOTES:

1. LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE SAFETY EDGE IS SUBSIDIARY TO 401 SERIES PAY ITEMS.
2. MATERIAL WILL BE MEASURED AND PAID UNDER PAY ITEM 401.0001.002B
3. DO NOT CONSTRUCT THE SAFETY EDGE ACROSS DRIVEWAYS, BRIDGE, OR BRIDGE SLABS.

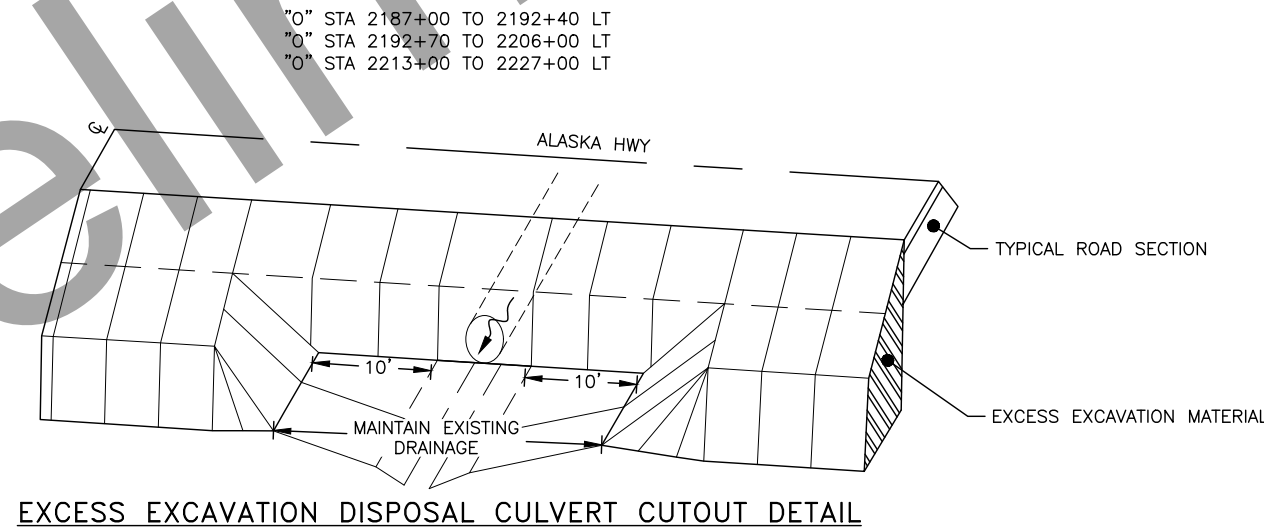
ASPHALT SAFETY EDGE DETAIL



EXCESS EXCAVATION DISPOSAL NOTES:

EXCESS EXCAVATION DISPOSAL NOTES:

1. LOCATIONS AREA INTENDED FOR PLACEMENT OF EXCESS EXCAVATION NOT REUSED ELSEWHERE IN THE PROJECT LIMITS. FULL STABILIZATION IS REQUIRED. ALL SUITABLE EXCAVATION MUST BE INCORPORATED INTO THE FILL PRIOR TO PLACEMENT IN DISPOSAL BERMS PER SECTION 203 OF THE SPECIFICATIONS.
2. MAINTAIN POSITIVE DRAINAGE AND SEED IN ACCORDANCE WITH SECTION 618.



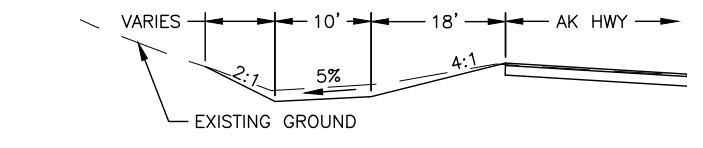
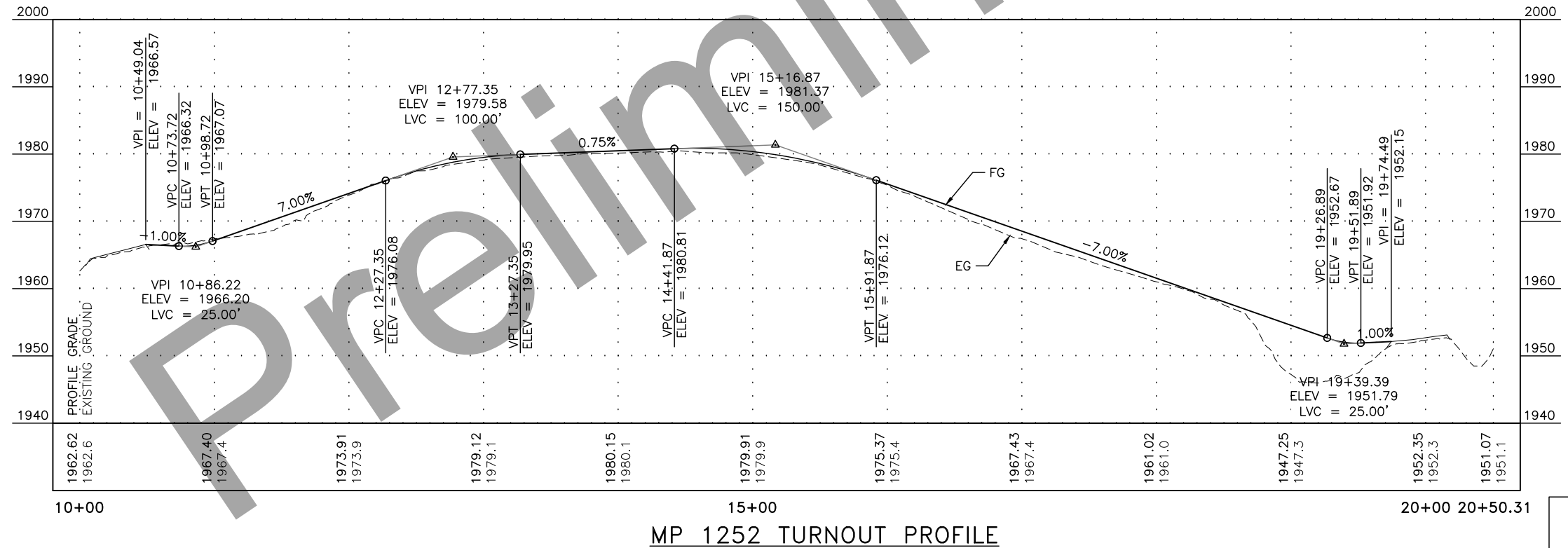
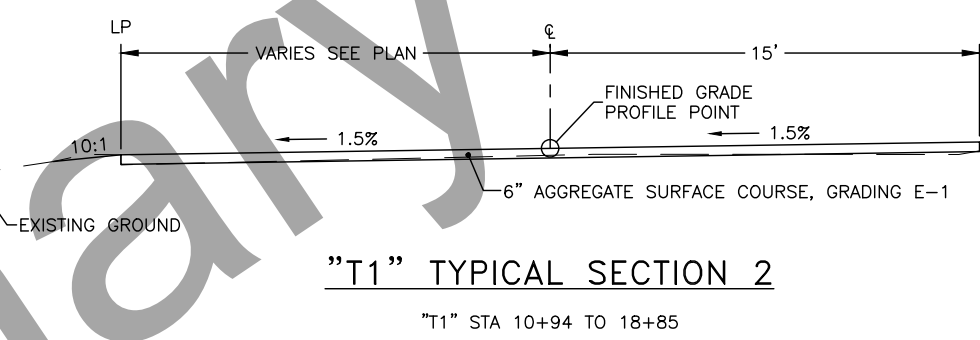
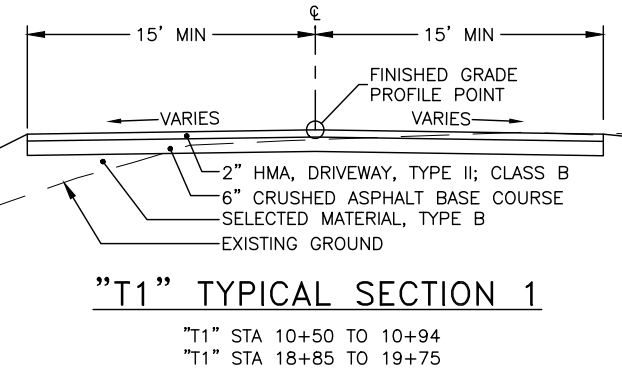
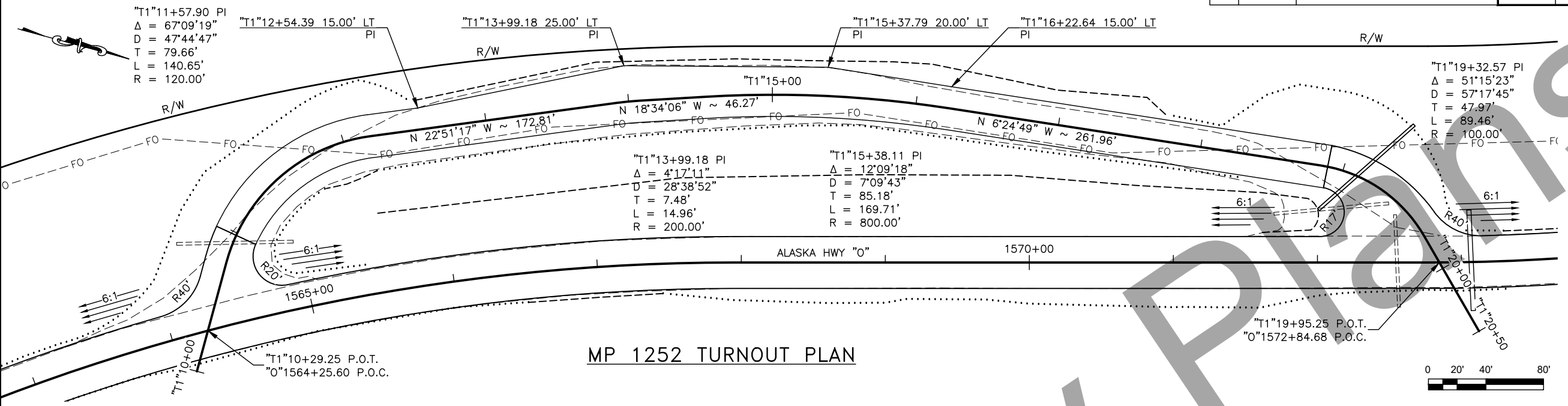
EXCESS EXCAVATION DISPOSAL CULVERT CUTOUT DETAIL

MISCELLANEOUS DETAILS

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	E12	E12

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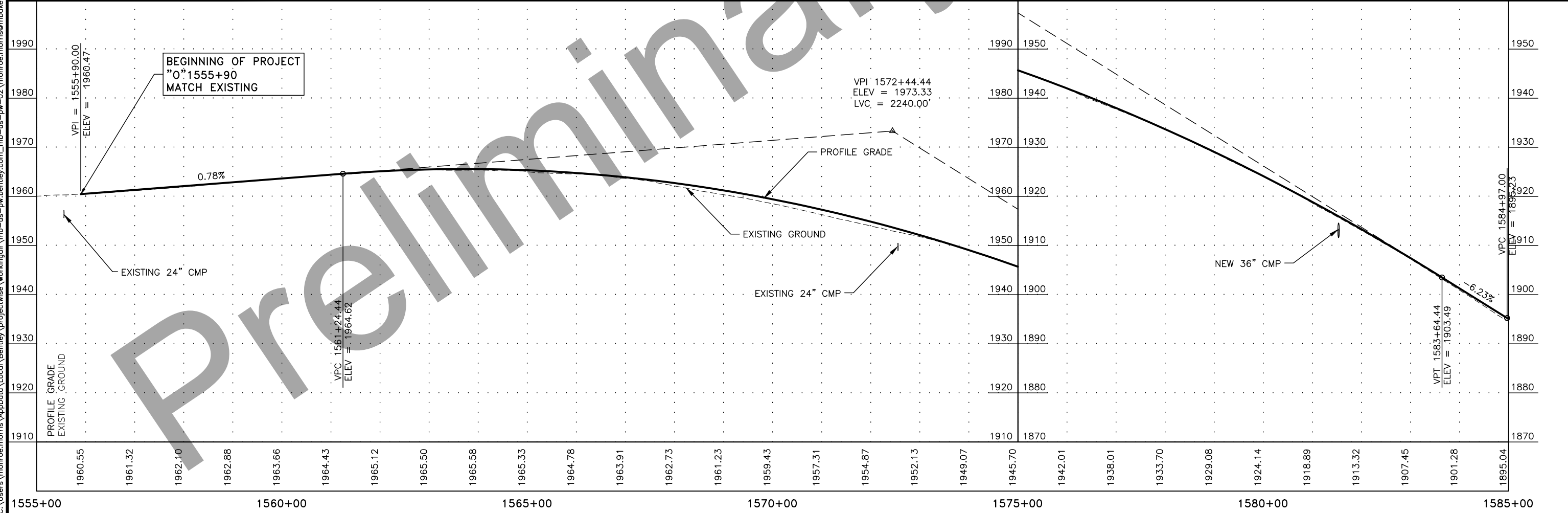
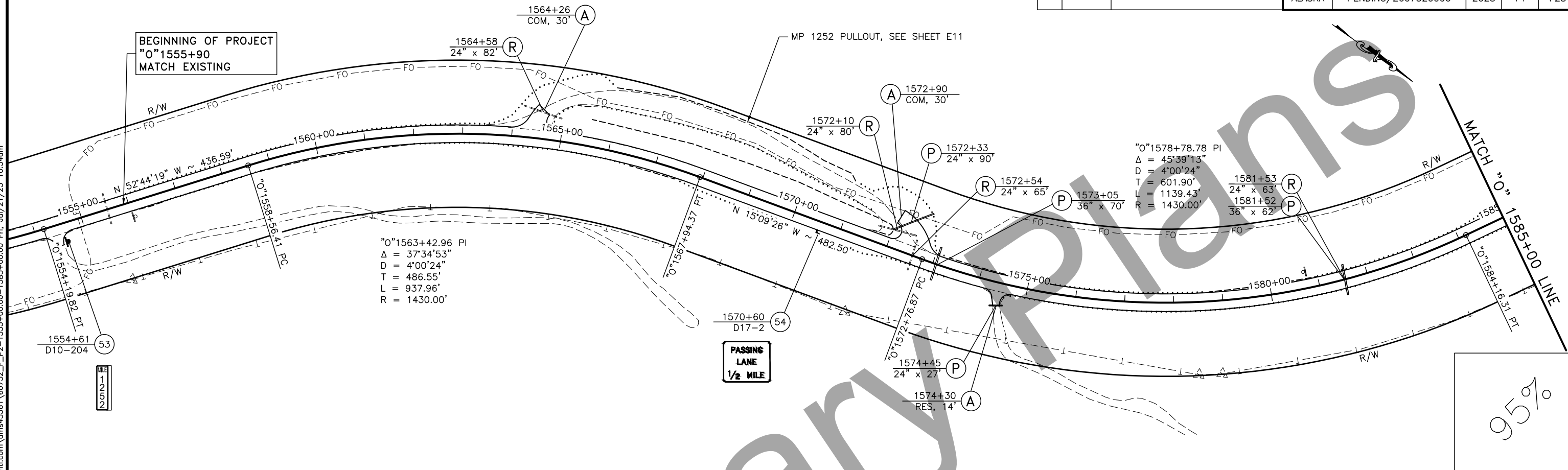
- MP 1252 TURNOUT NOTES:**
- SEED EMBANKMENT SLOPES FOLLOWING THE REQUIREMENTS OF SECTION 618 OF THE PROJECT SPECIFICATIONS.
 - PROTECT IN PLACE ALL SIGNS, TABLES, BOULDERS, AND OTHER LANDSCAPE FEATURES.
 - REPAIR SLOPES AS DIRECTED BY THE ENGINEER. REPAIR OF SLOPES IS SUBSIDIARY TO ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.

TURNOUT MP 1252

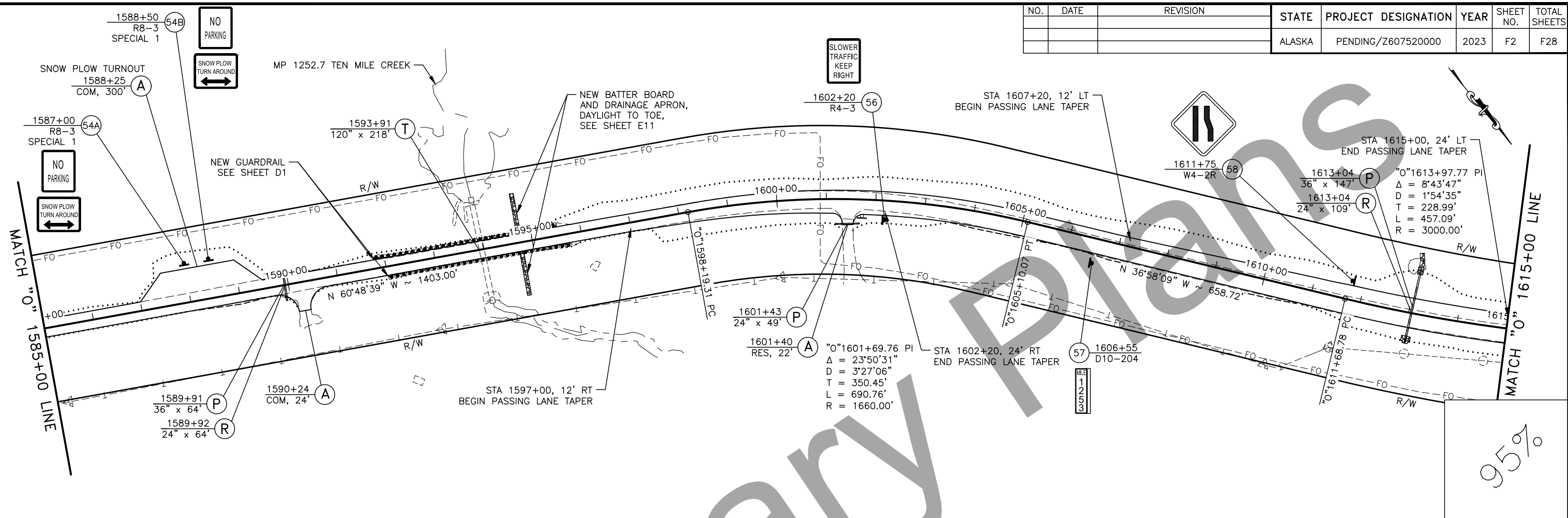
95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F1	F28

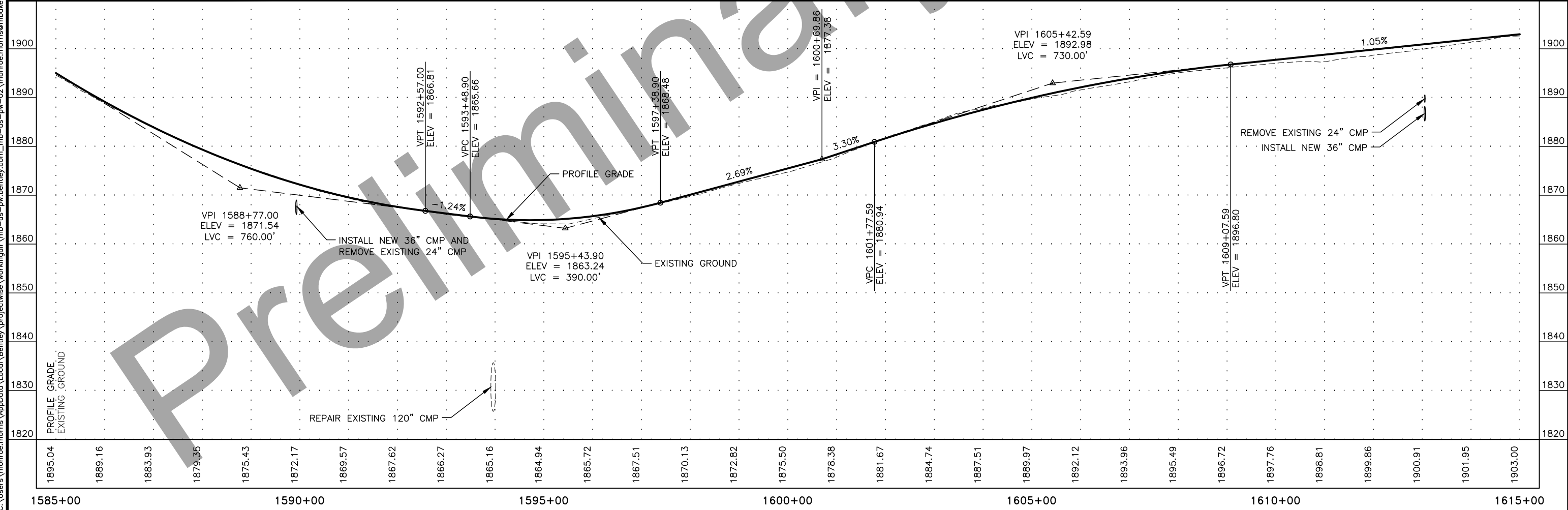
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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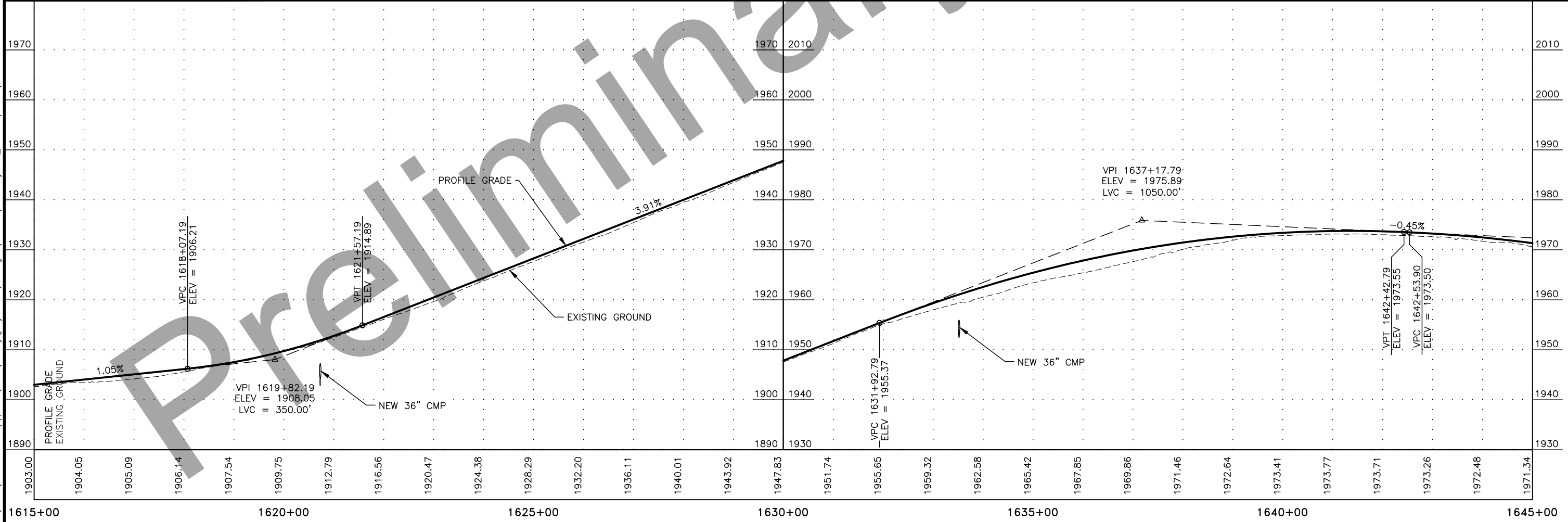
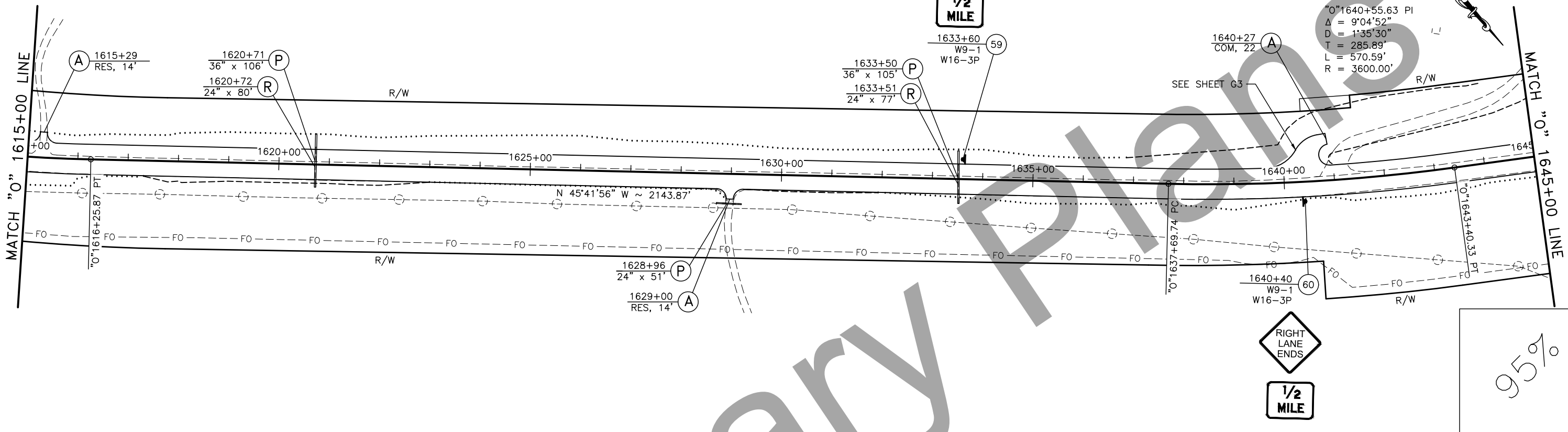
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F2	F28



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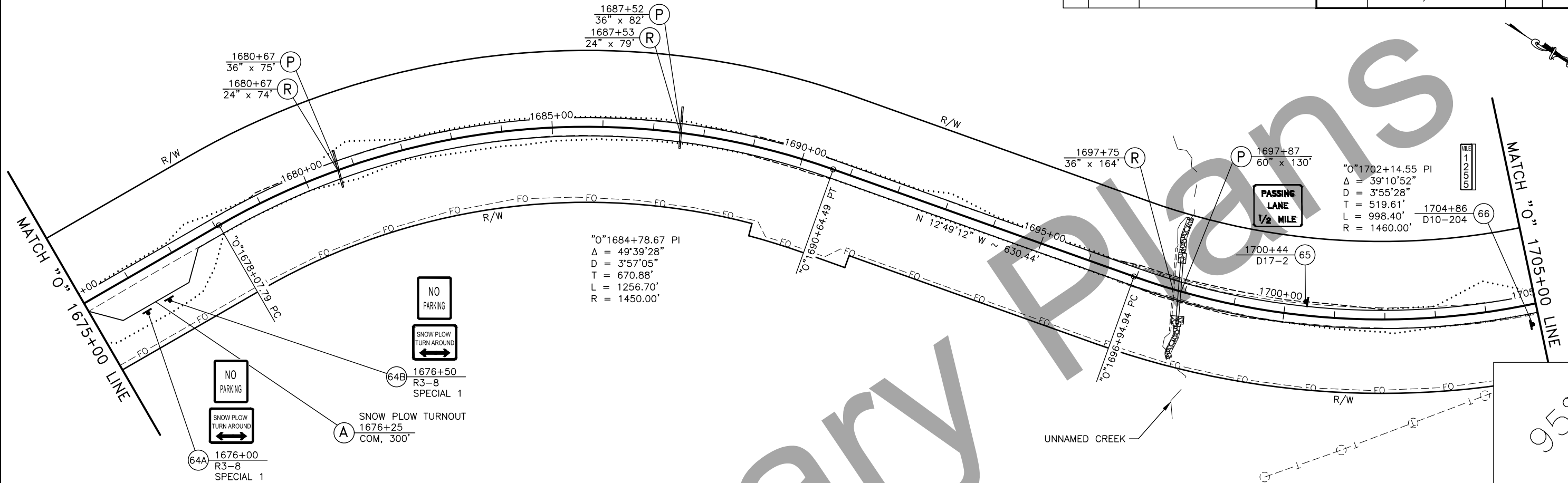


NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F3	F28



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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F5	F28

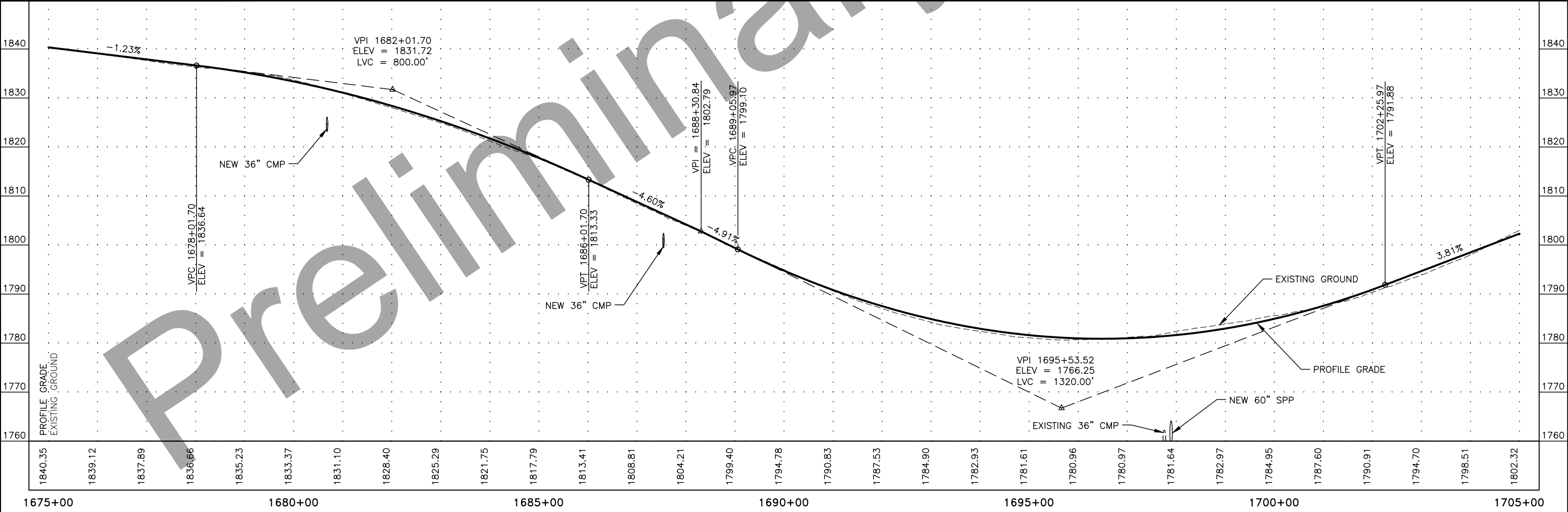


"O"1684+78.67 PI
 $\Delta = 49'39'28''$
 $D = 3'57'05''$
 $T = 670.88'$
 $L = 1256.70'$
 $R = 1450.00'$

"O"1702+14.55 PI
 $\Delta = 39'10'52''$
 $D = 3'55'28''$
 $T = 519.61'$
 $L = 998.40'$
 $R = 1460.00'$

NO PARKING
 SNOW PLOW TURN AROUND
 1676+50
 R3-8
 SPECIAL 1
 SNOW PLOW TURNOUT
 1676+25
 COM, 300'
 1676+00
 R3-8
 SPECIAL 1

95%



VPI 1682+01.70
 ELEV = 1831.72
 LVC = 800.00'

VPC 1678+01.70
 ELEV = 1836.64

VPT 1686+01.70
 ELEV = 1813.33

VPI = 1688+30.84
 ELEV = 1802.79

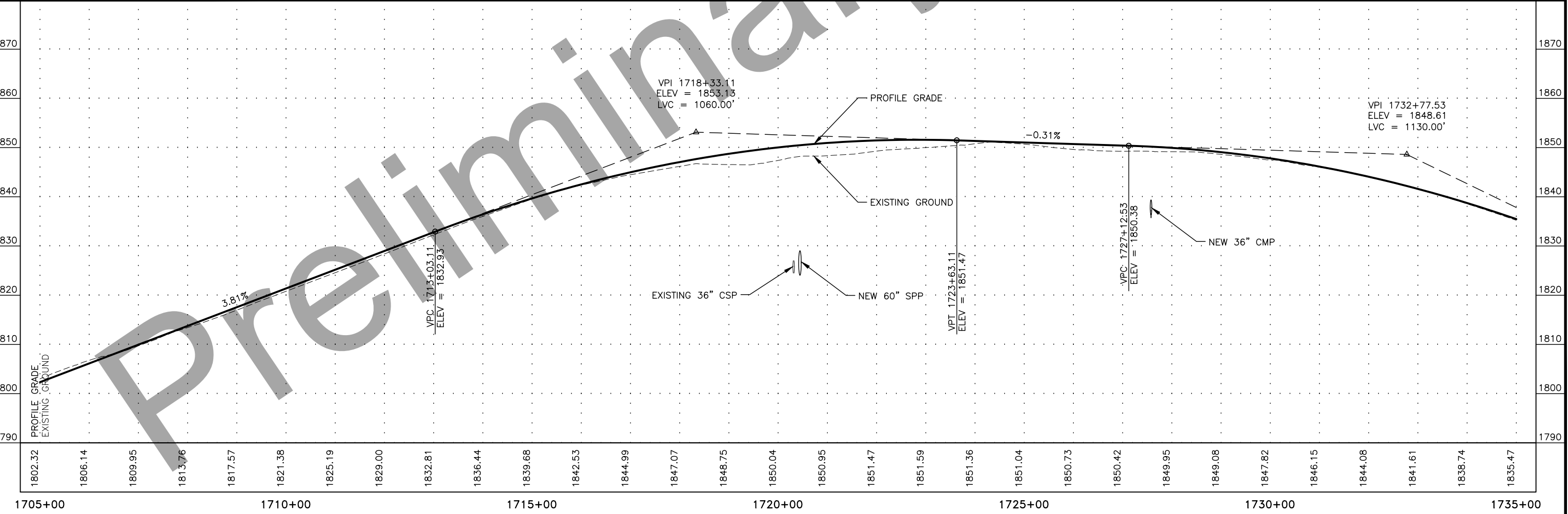
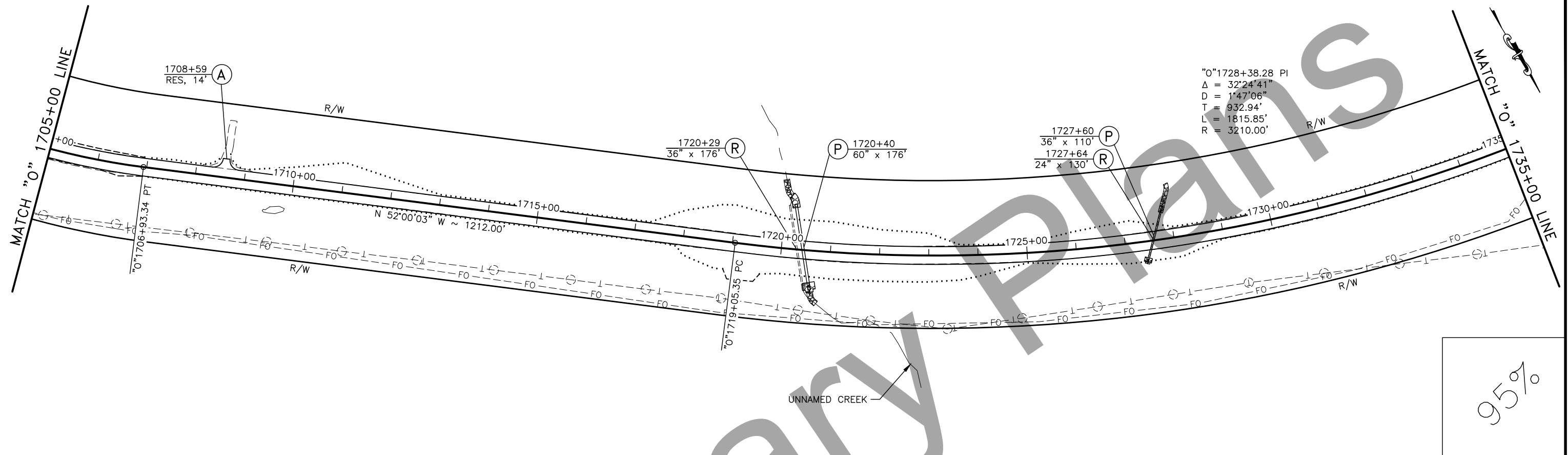
VPC 1689+05.97
 ELEV = 1799.10

VPT 1702+25.97
 ELEV = 1791.88

VPI 1695+53.52
 ELEV = 1766.25
 LVC = 1320.00'

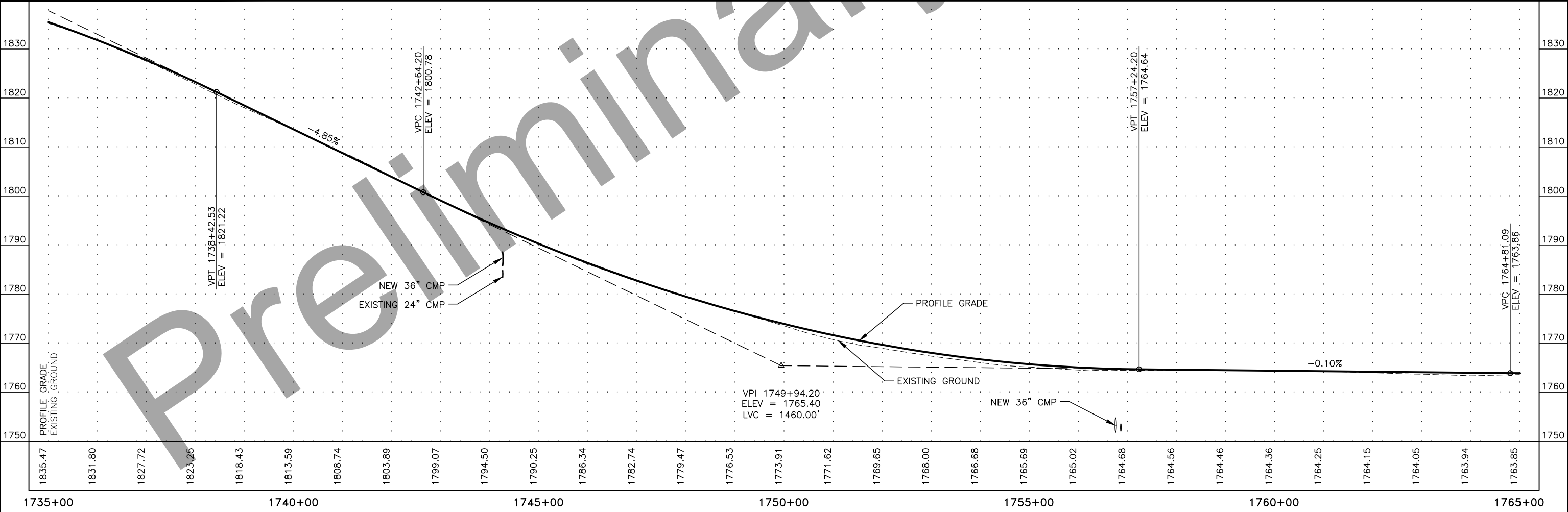
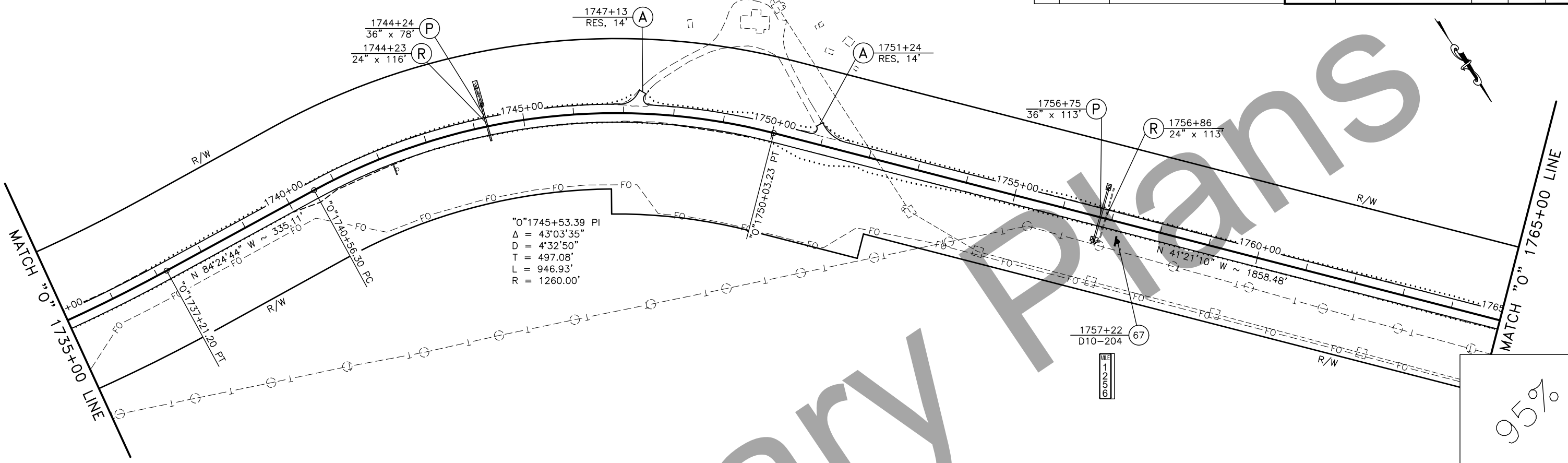
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F6	F28



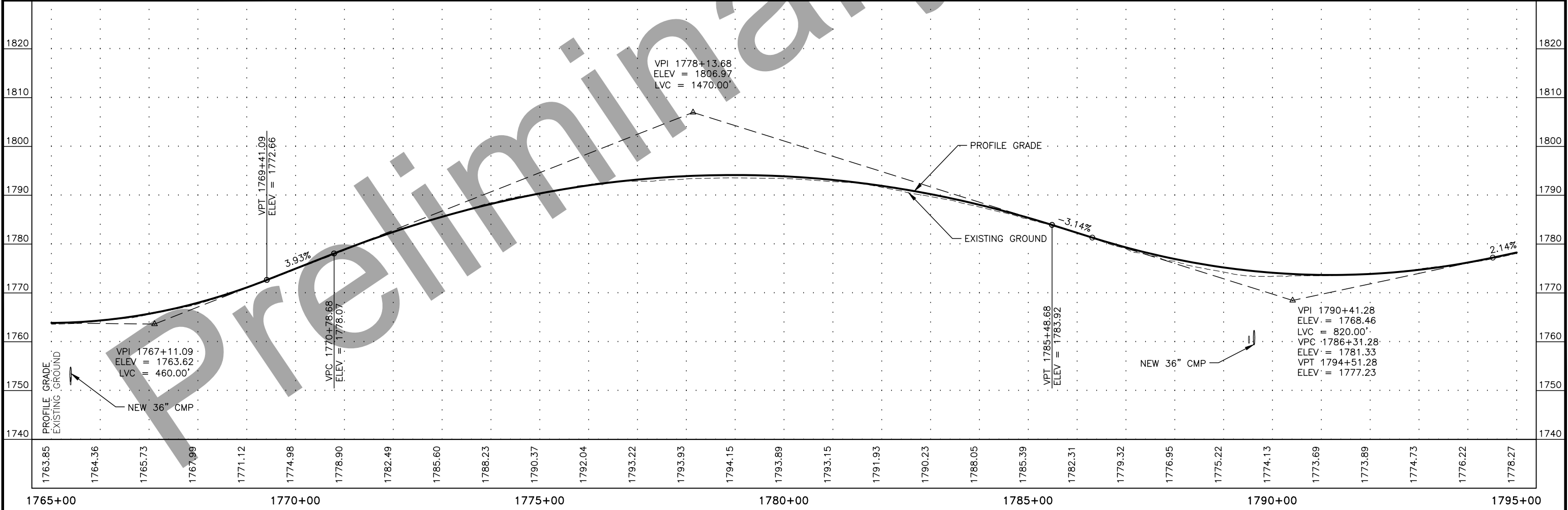
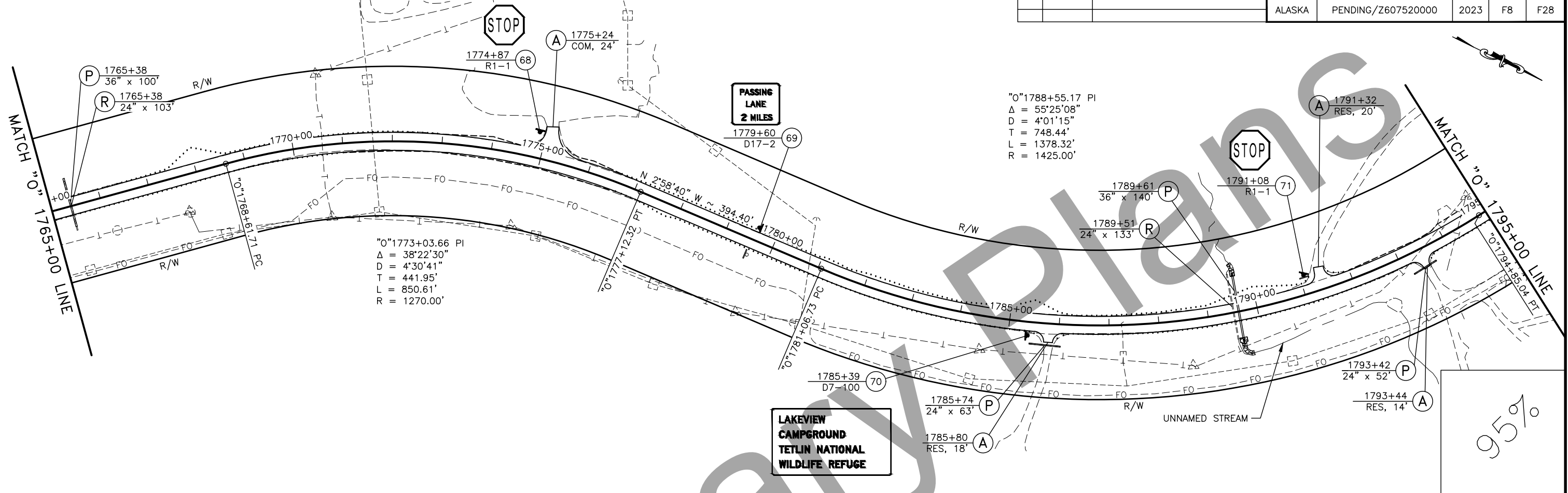
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F7	F28



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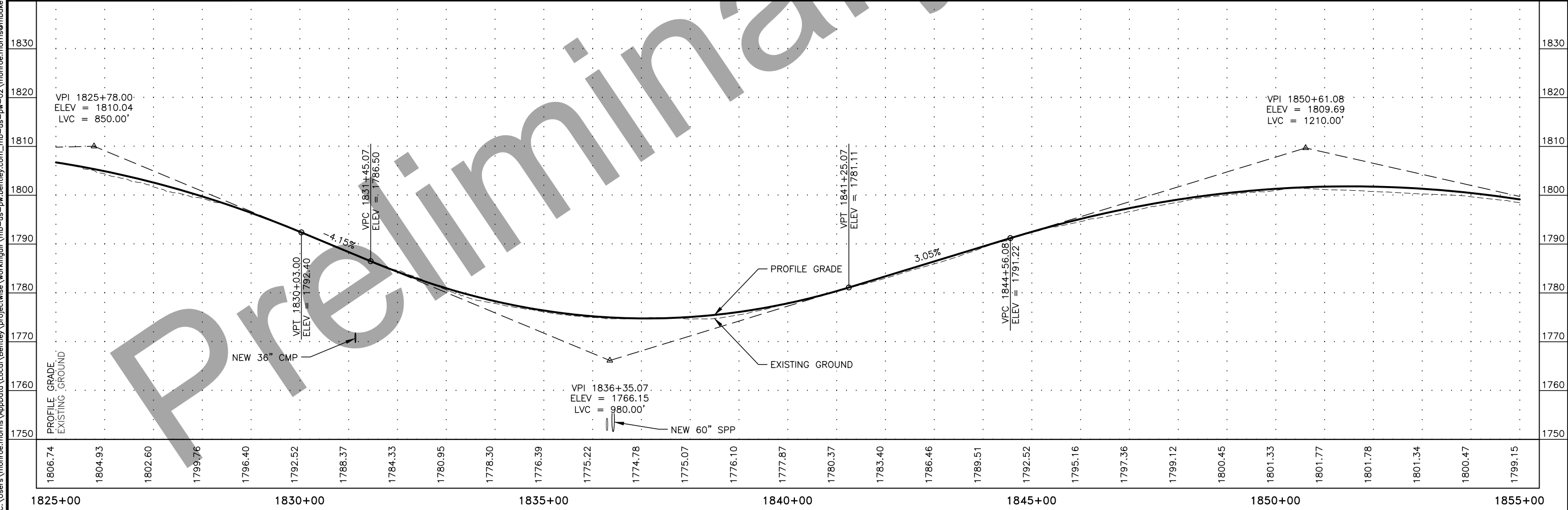
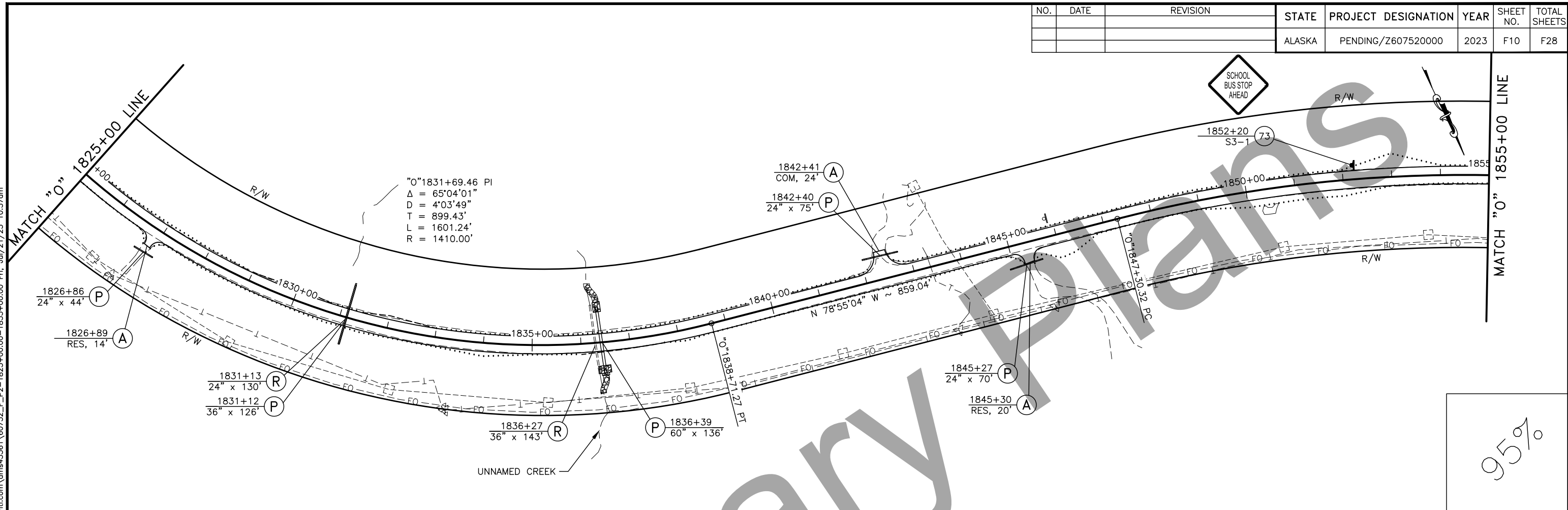
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F8	F28



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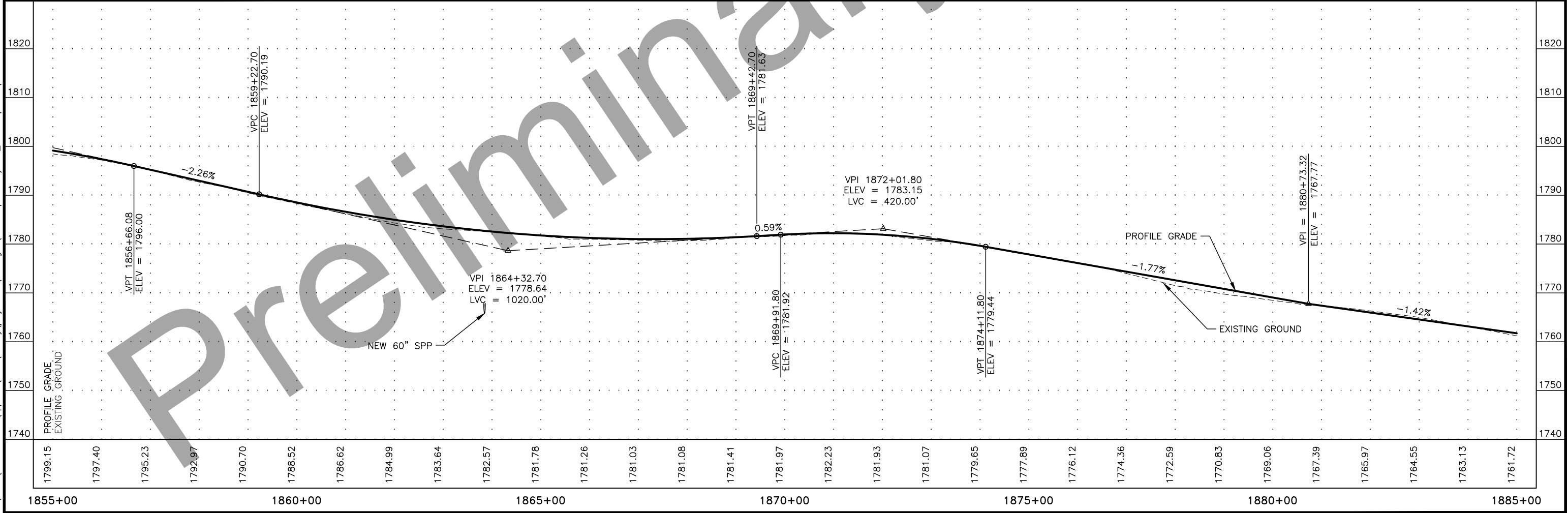
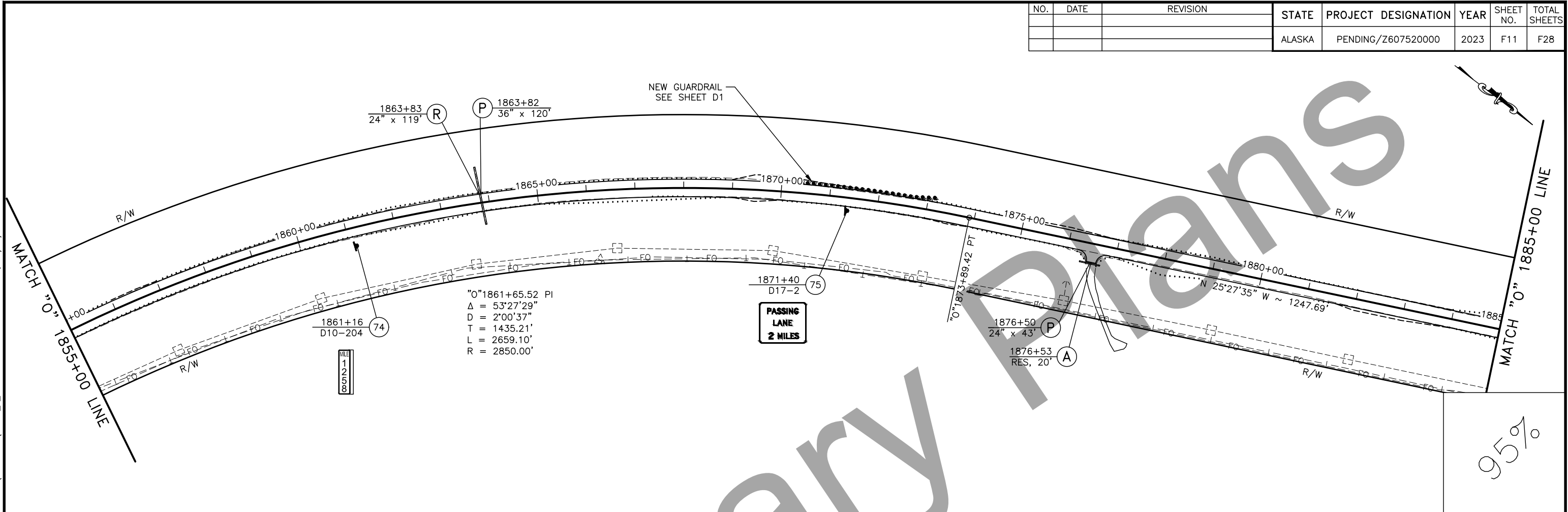
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F10	F28

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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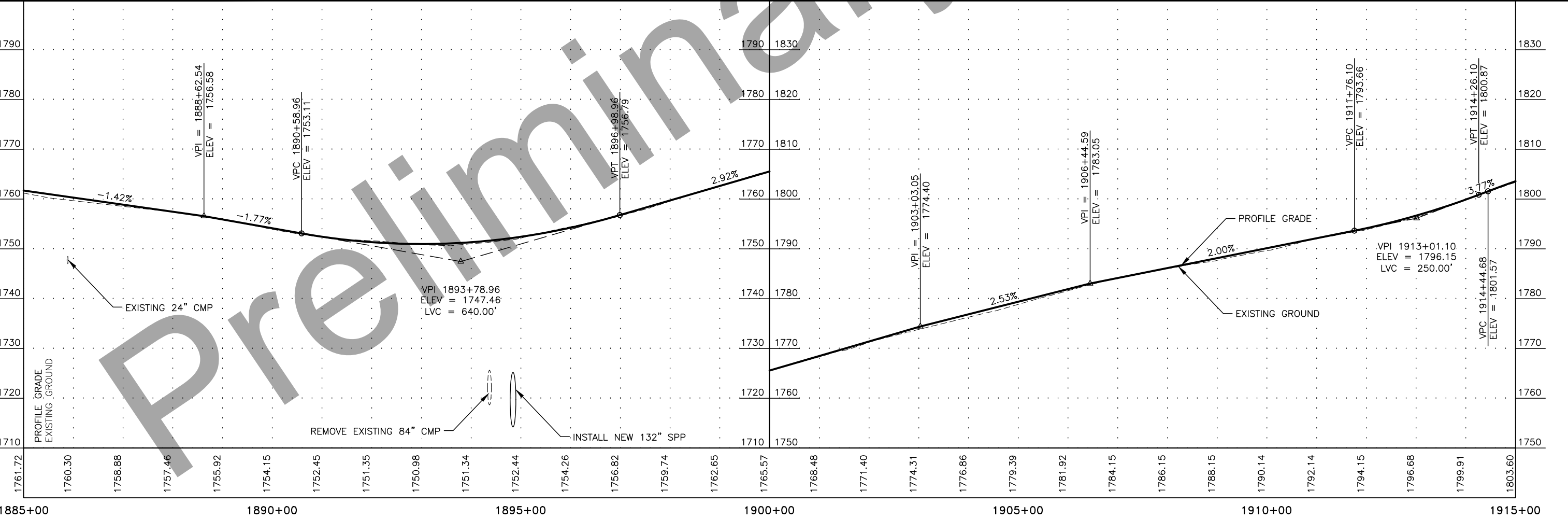
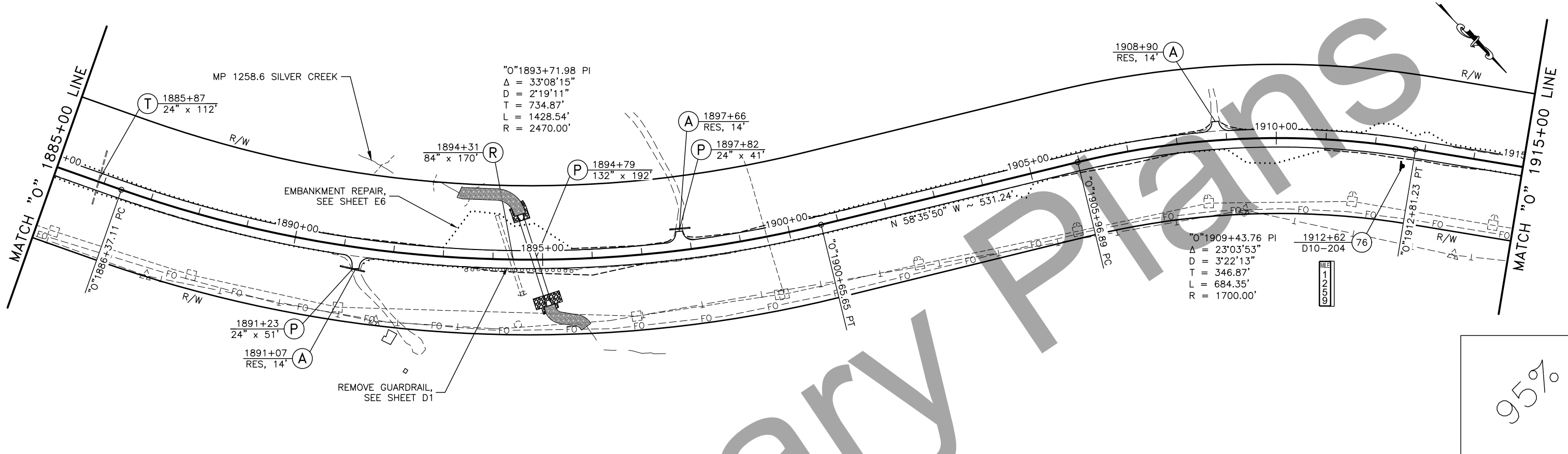
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F11	F28



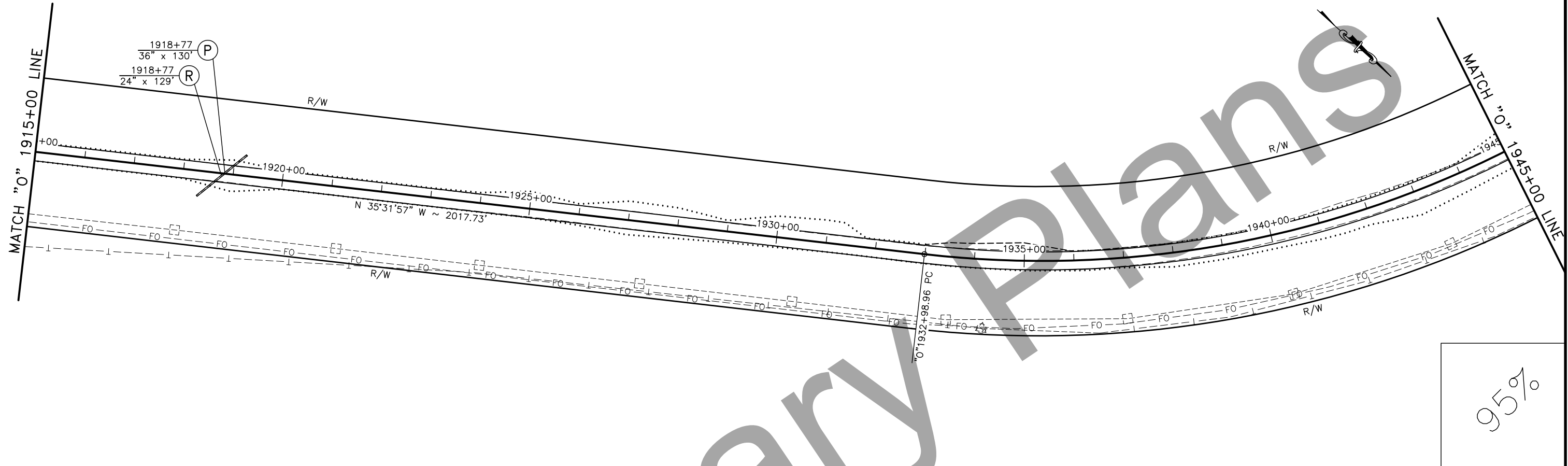
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F12	F28

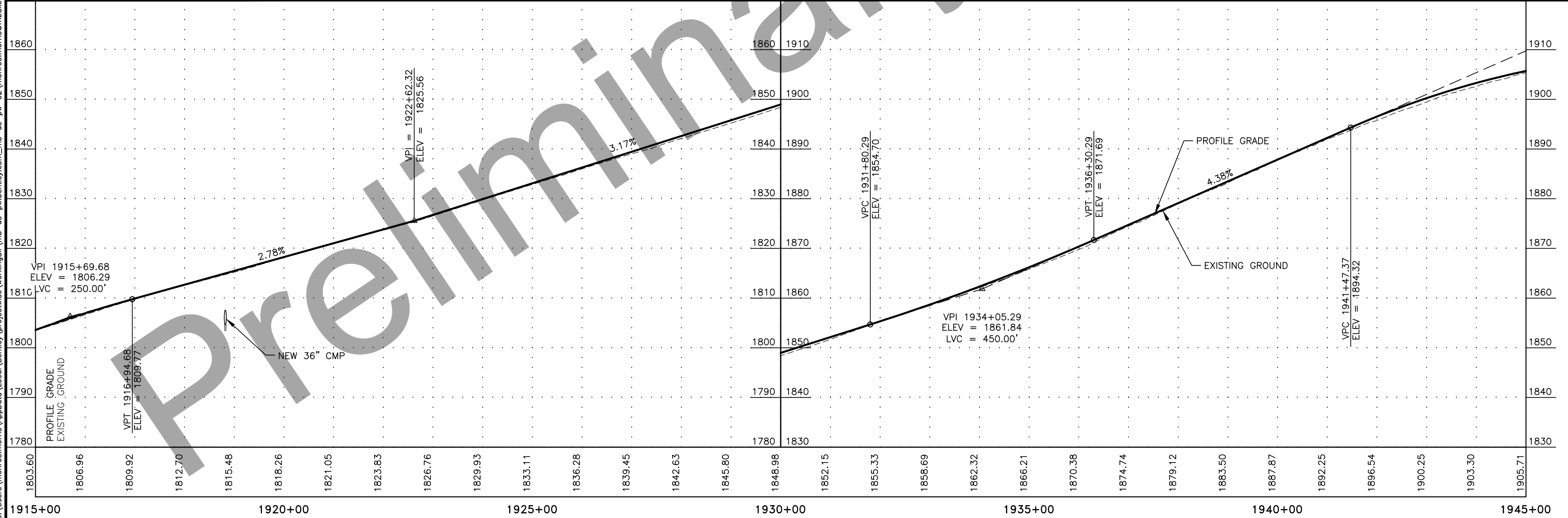


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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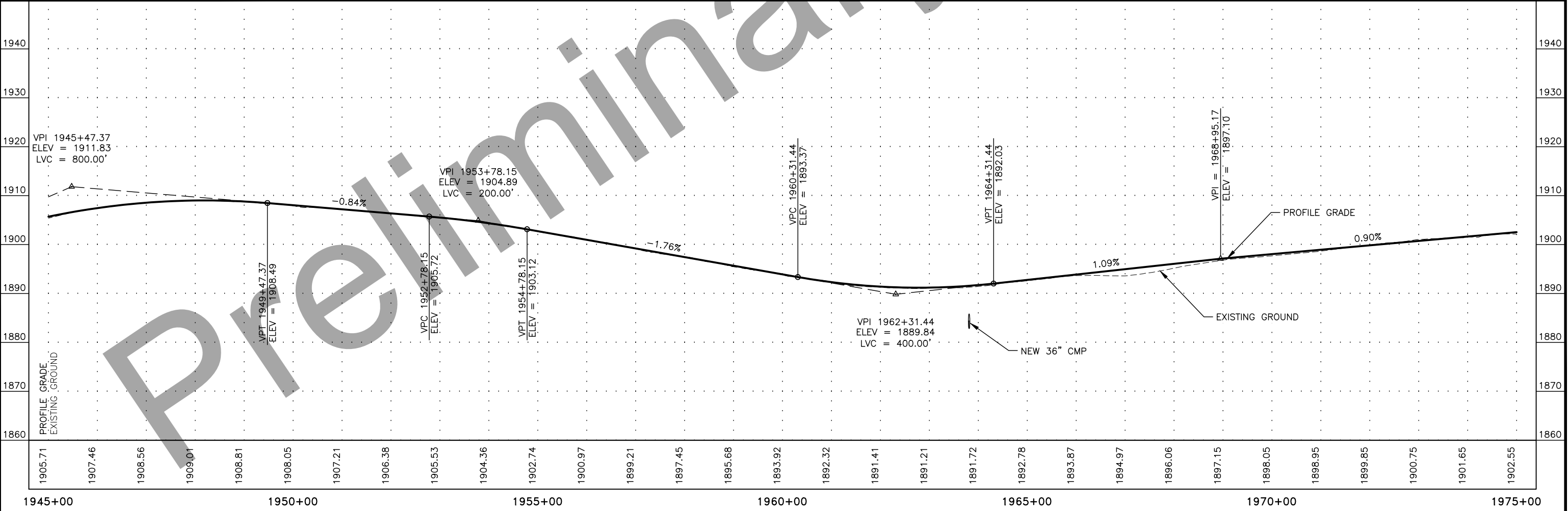
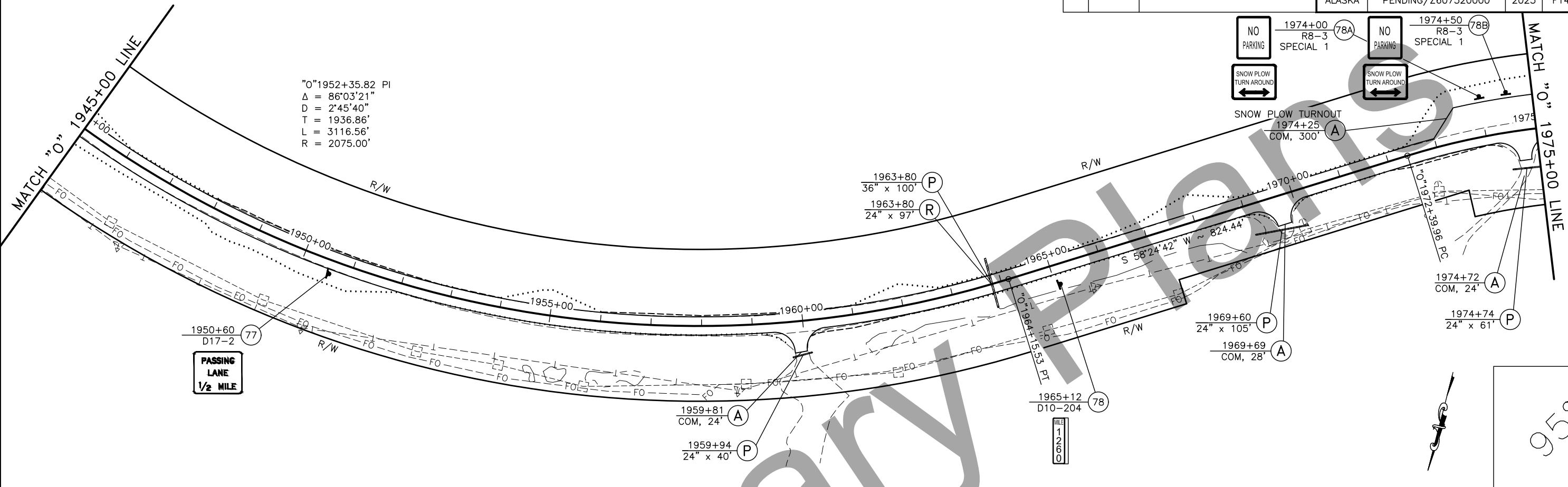
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F13	F28



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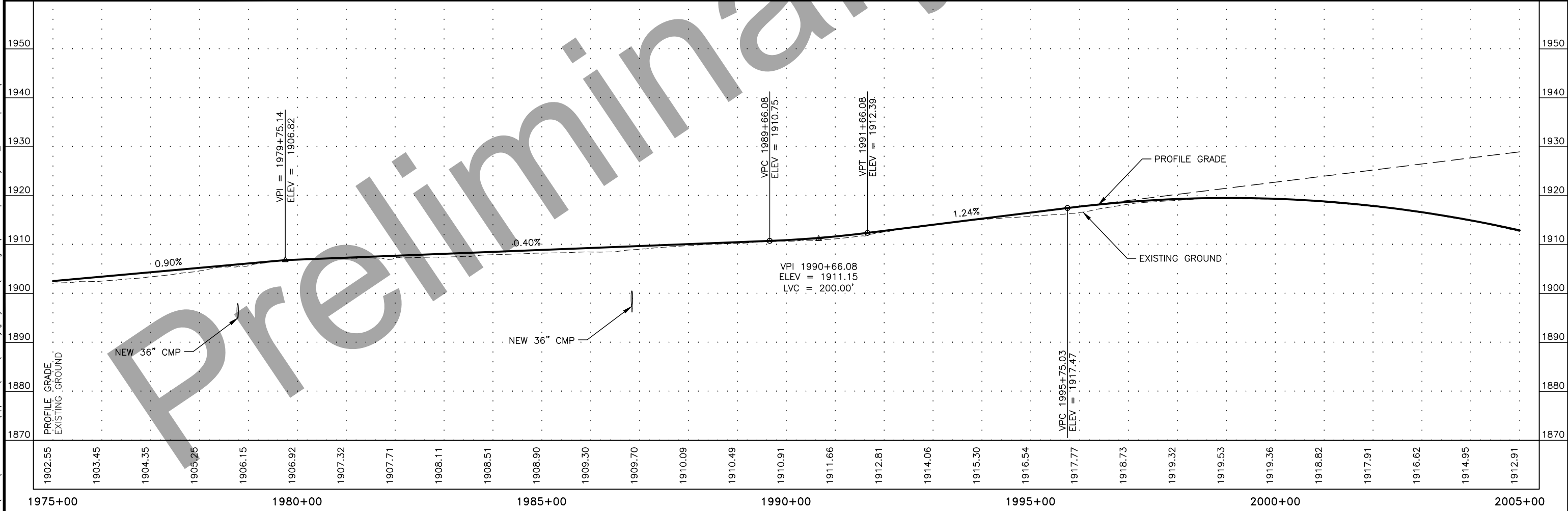
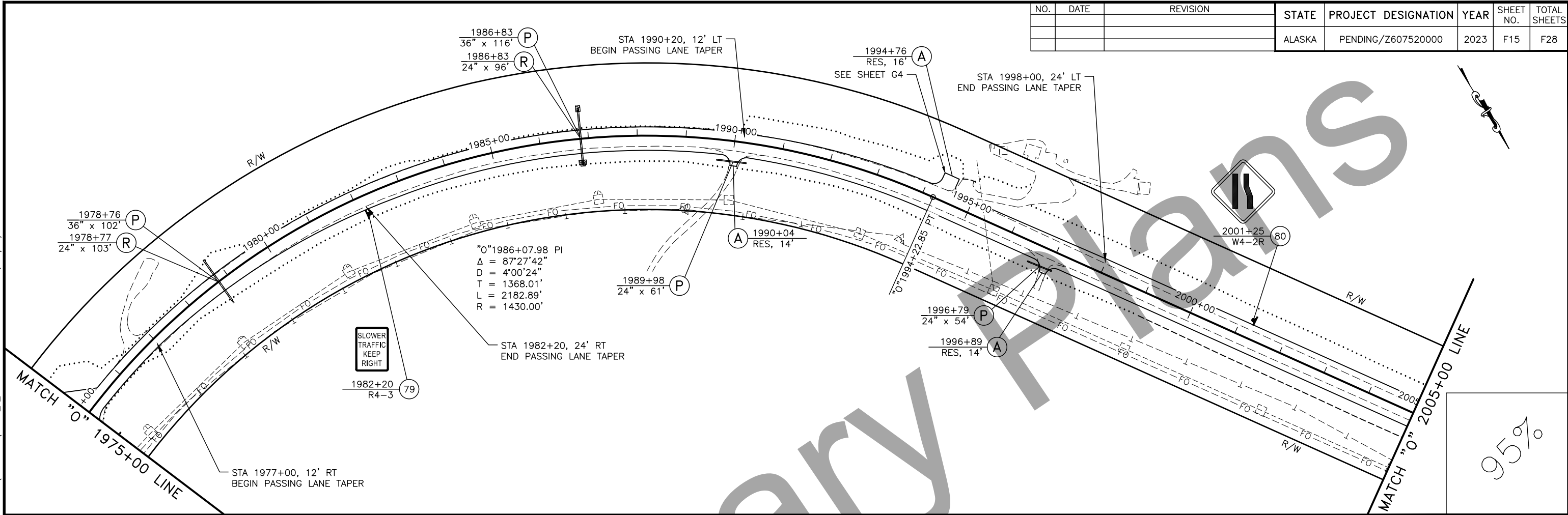


NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F14	F28



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
			ALASKA	PENDING/Z607520000	2023	F15	F28

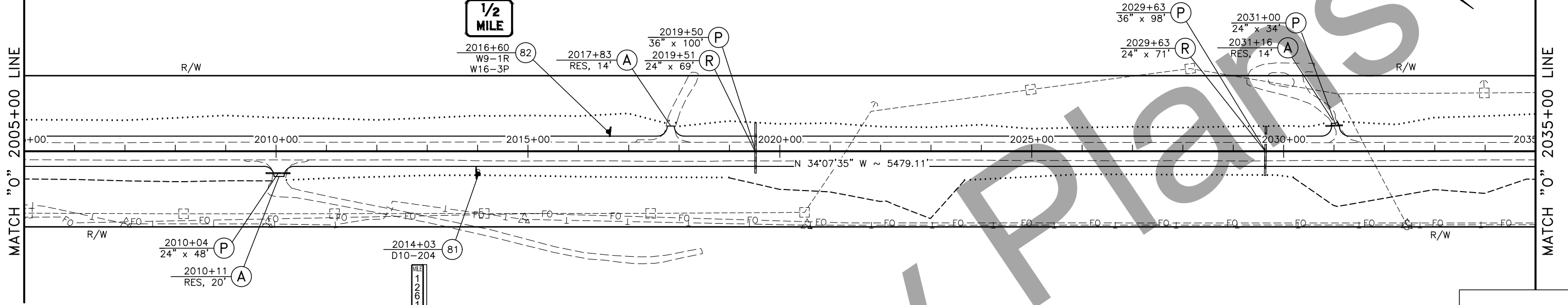


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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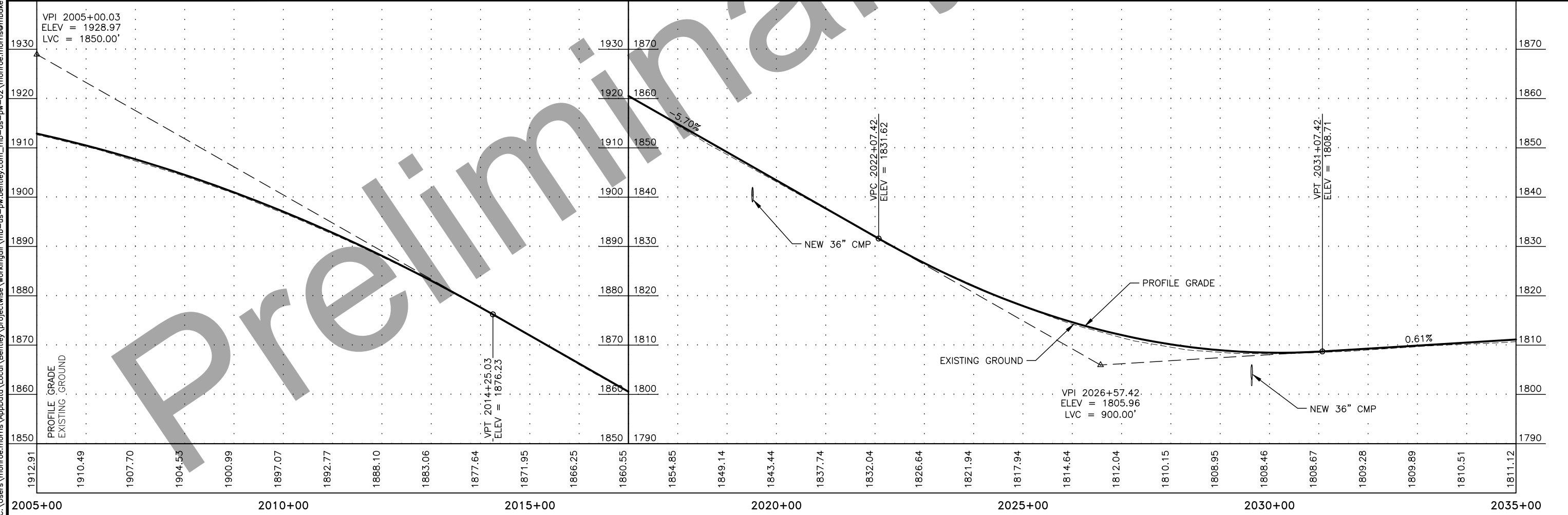
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			ALASKA	PENDING/Z607520000	2023	F16	F28



1/2 MILE

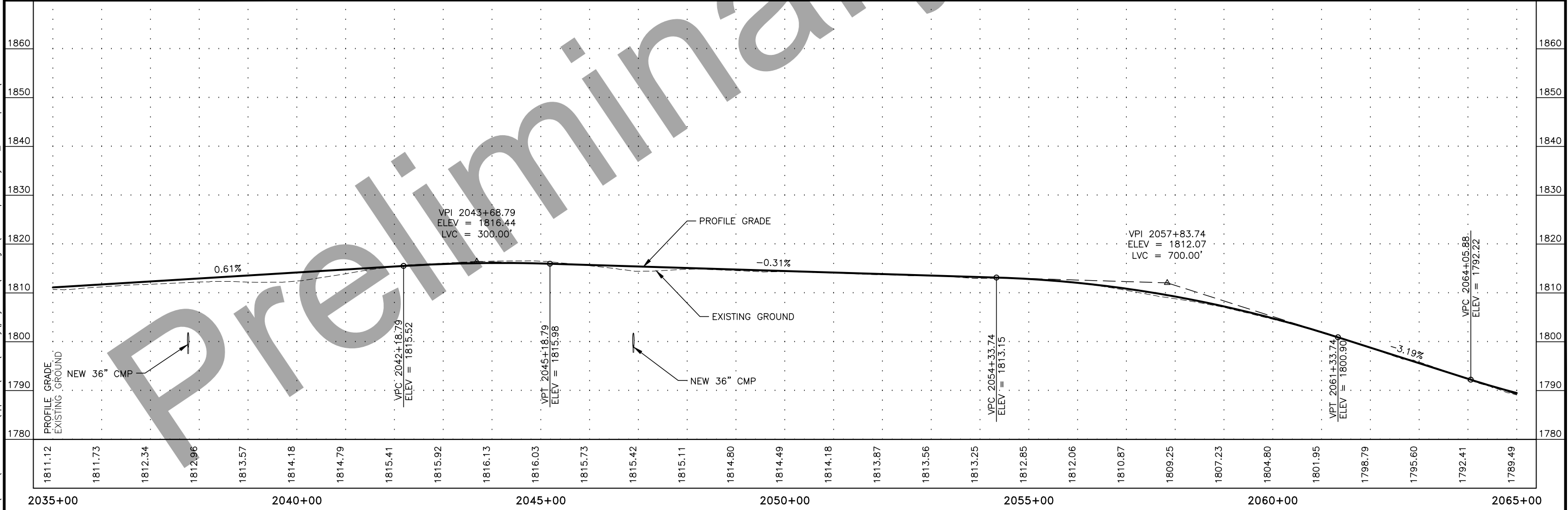
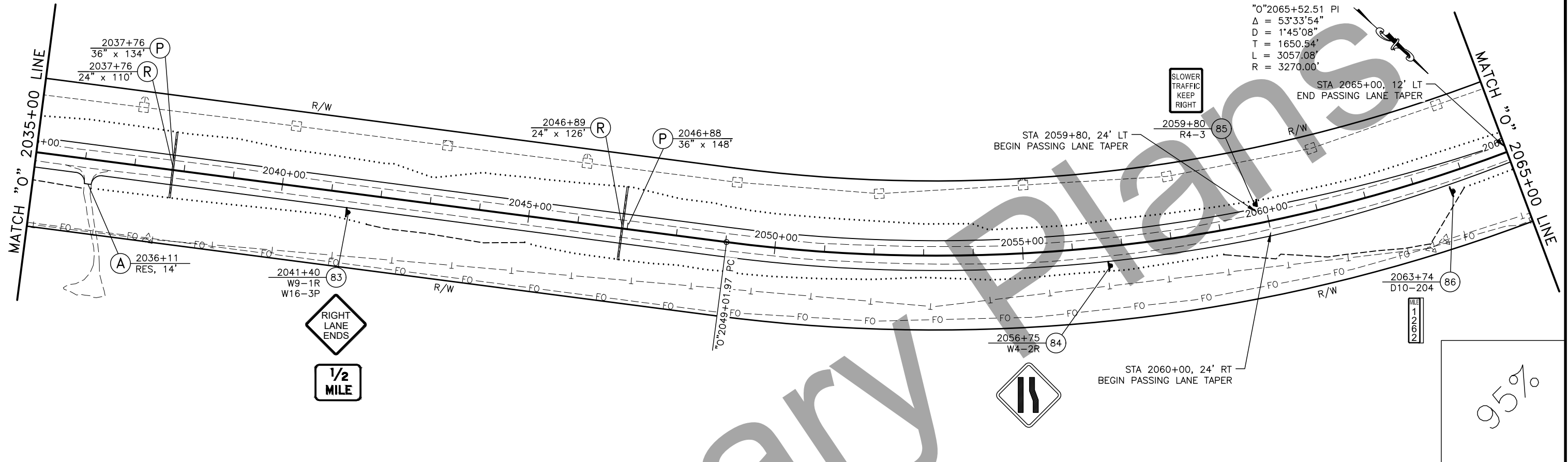


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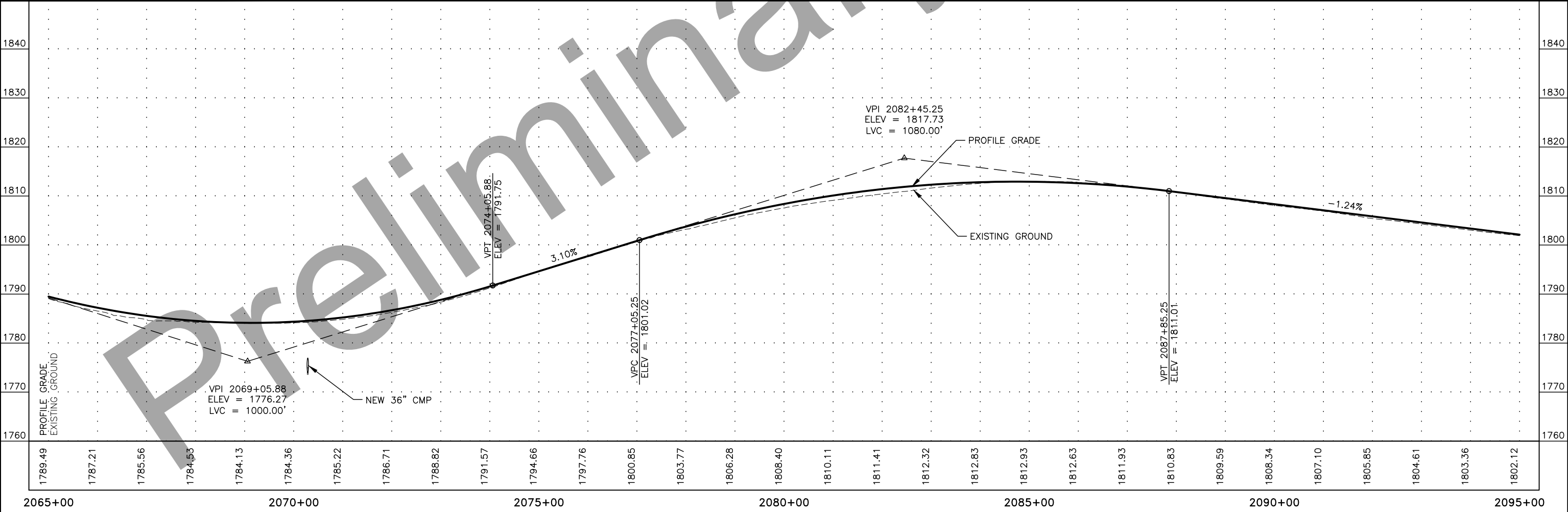
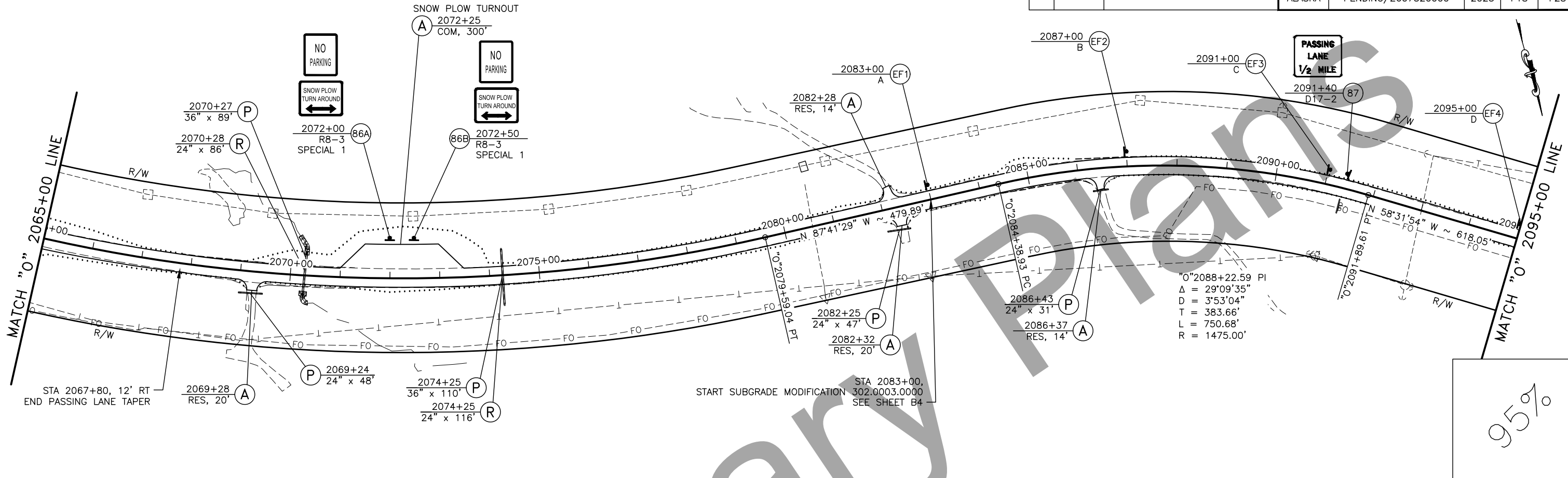
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F17	F28



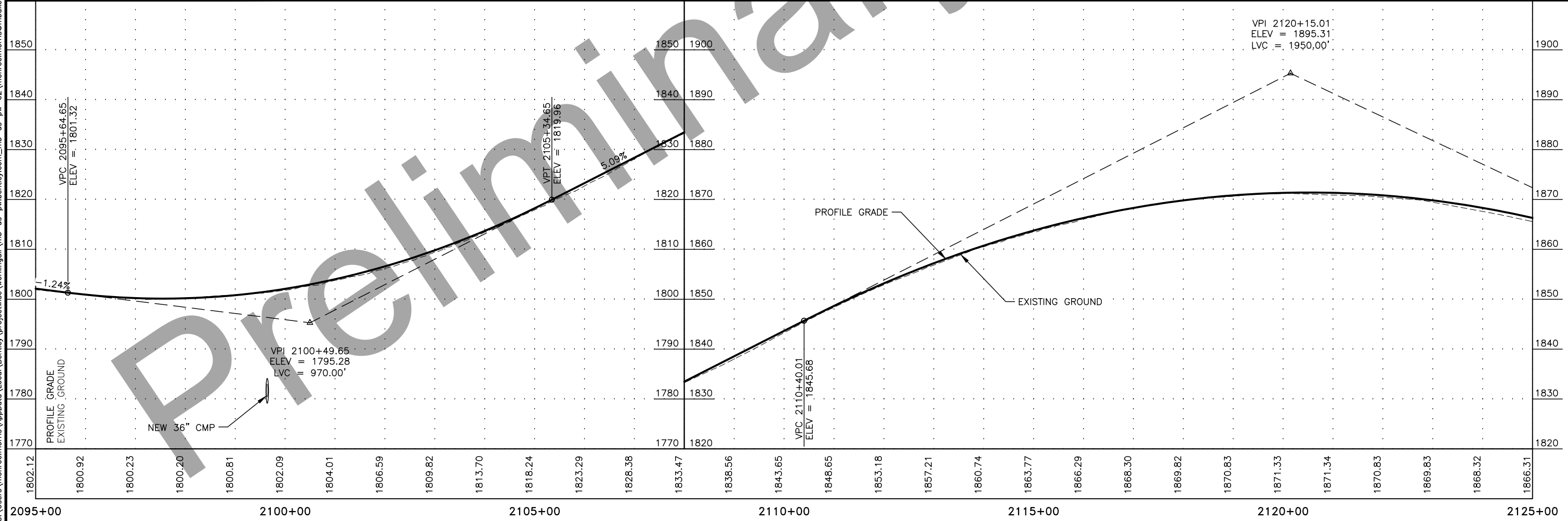
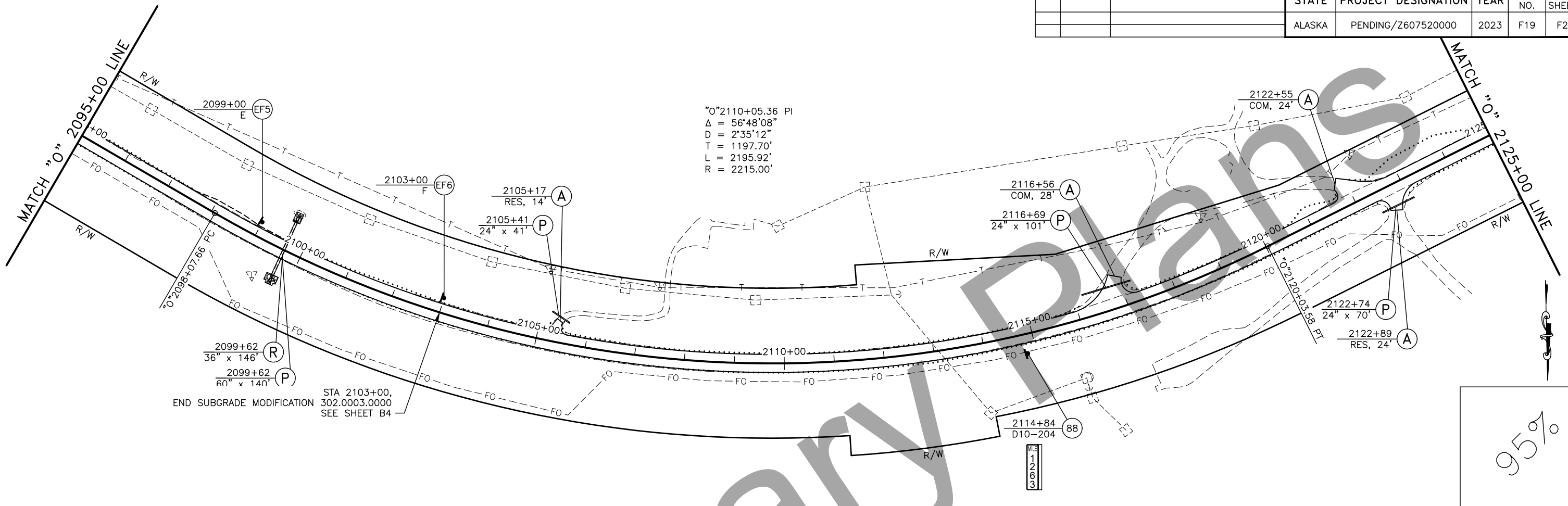
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F18	F28



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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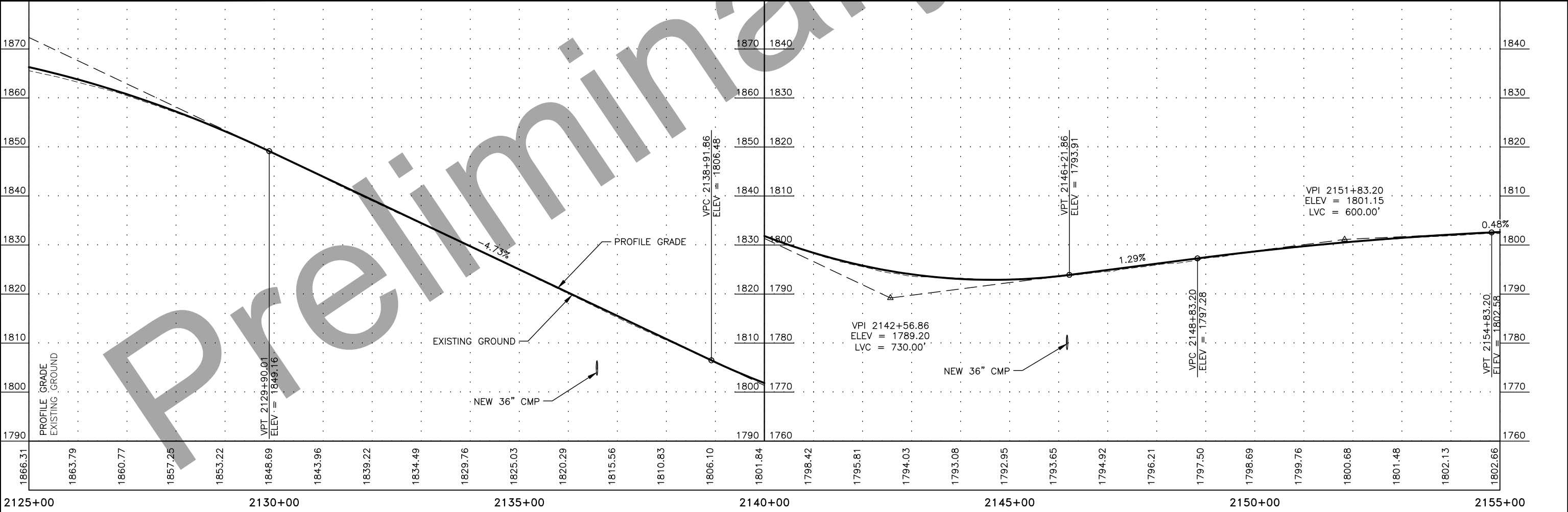
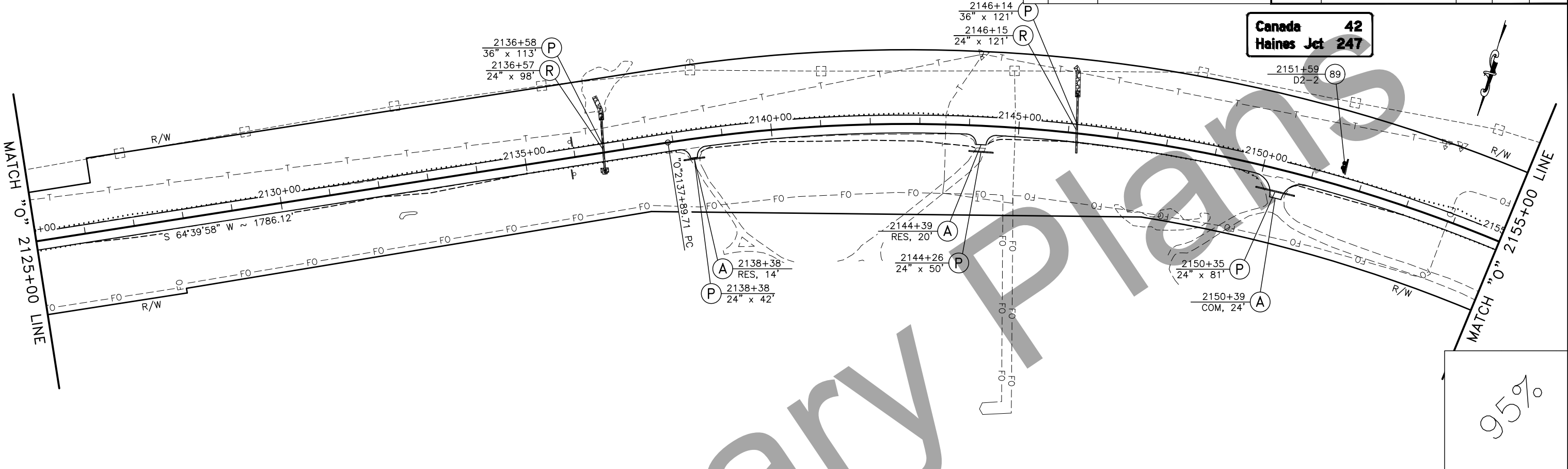
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F19	F28



PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
 C:\Users\monroe.morris\AppData\Local\Bentley\projectwise\workingdir\mb-us-us-pw-bentley.com_mb-us-us-pw-02\monroe.morris\mbakerintl.com\43561\60752_F_P2-2095+00.00-2125+00.00 Fri, Jul/21/23 11:00am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F20	F28

Canada 42
Haines Jct 247

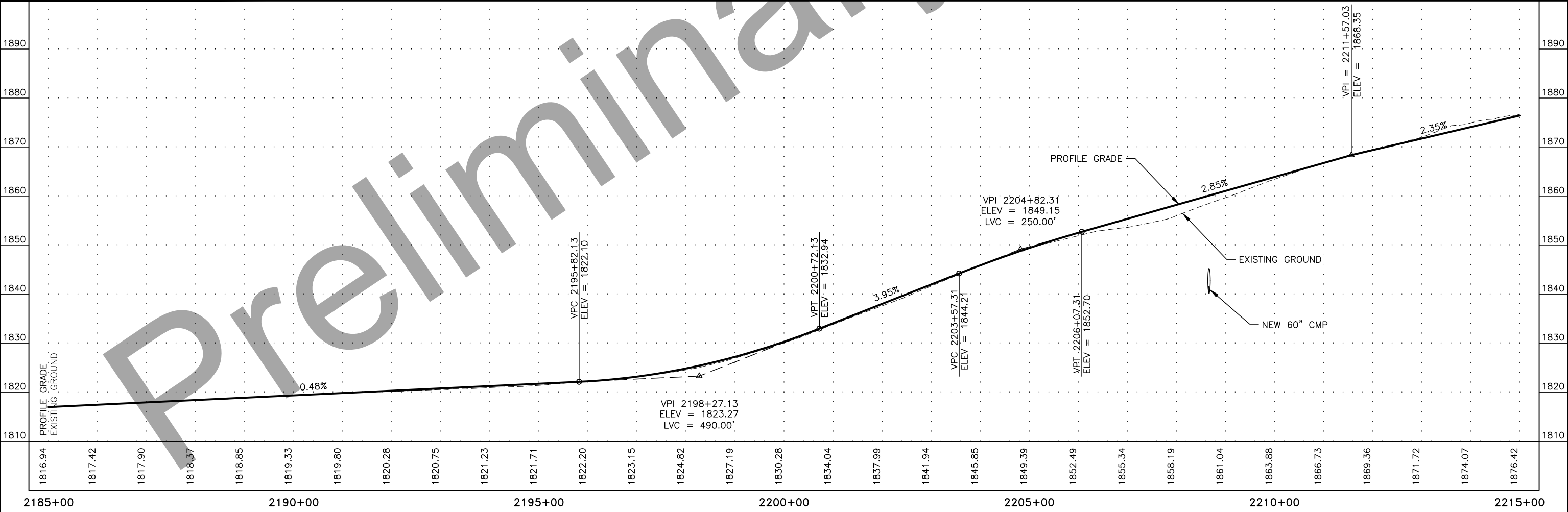
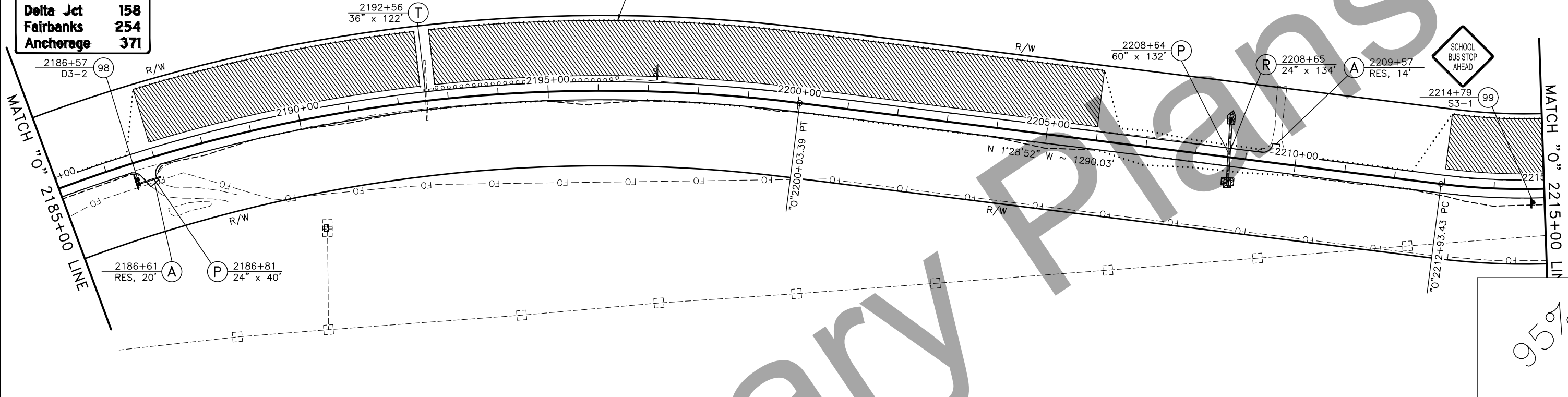


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F22	F28

Tok Jct	50
Delta Jct	158
Fairbanks	254
Anchorage	371

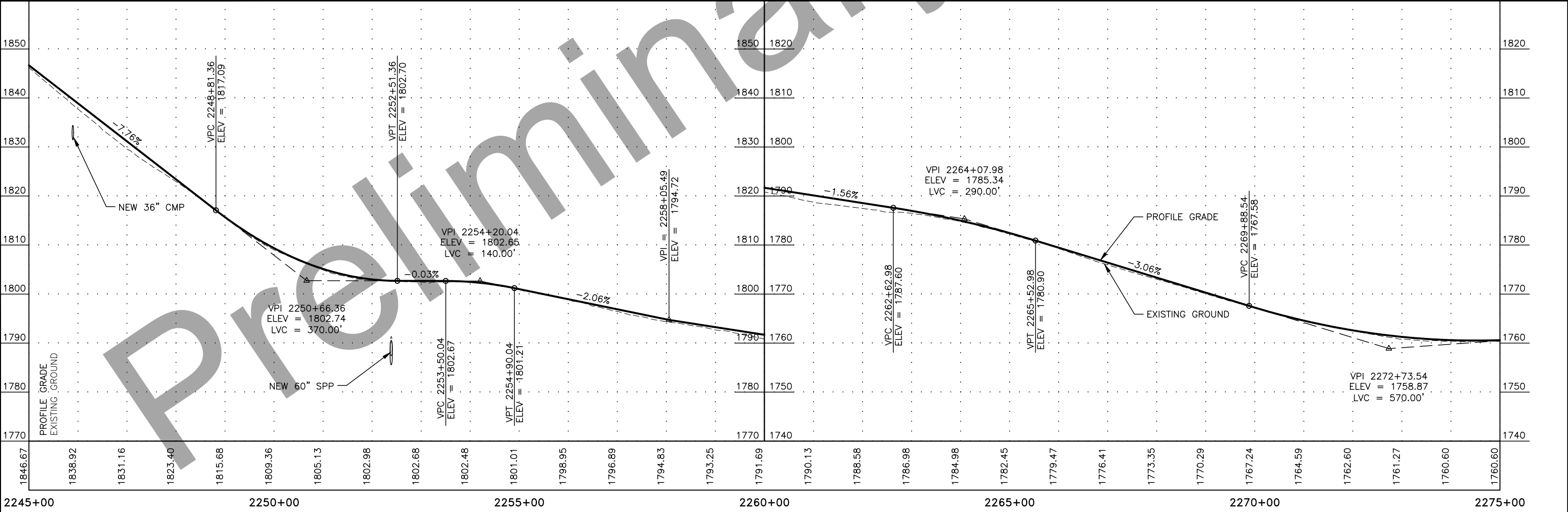
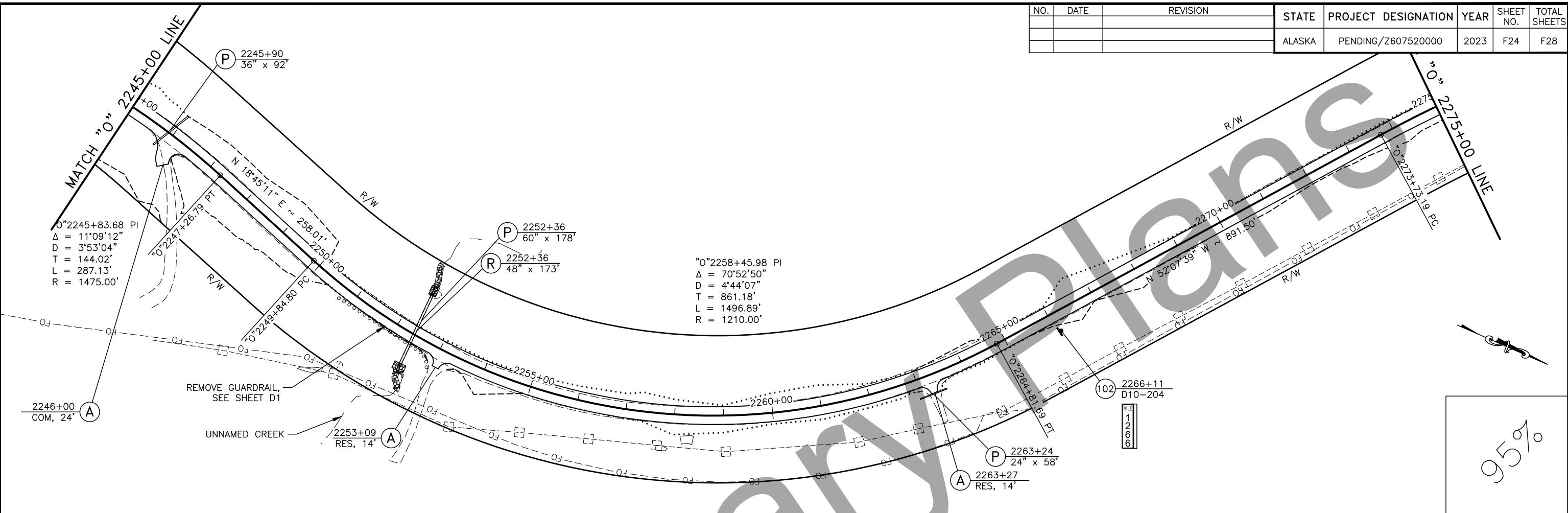
EXCESS EXCAVATION DISPOSAL LOCATION,
SEE SHEET E11



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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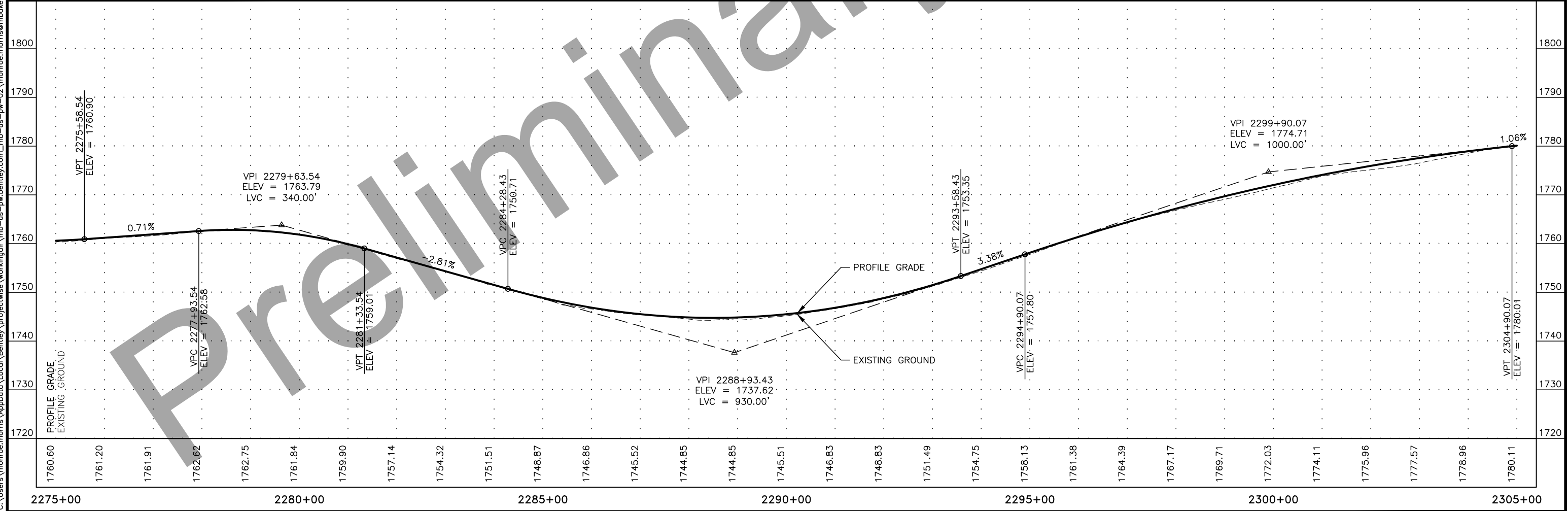
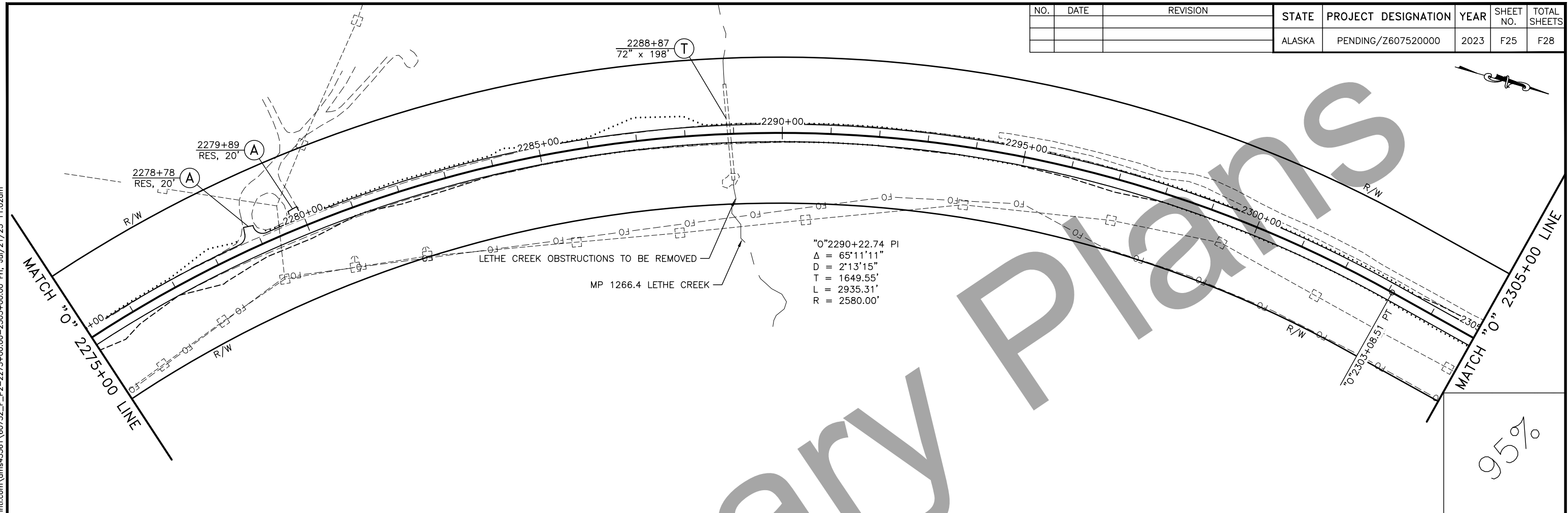
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F24	F28

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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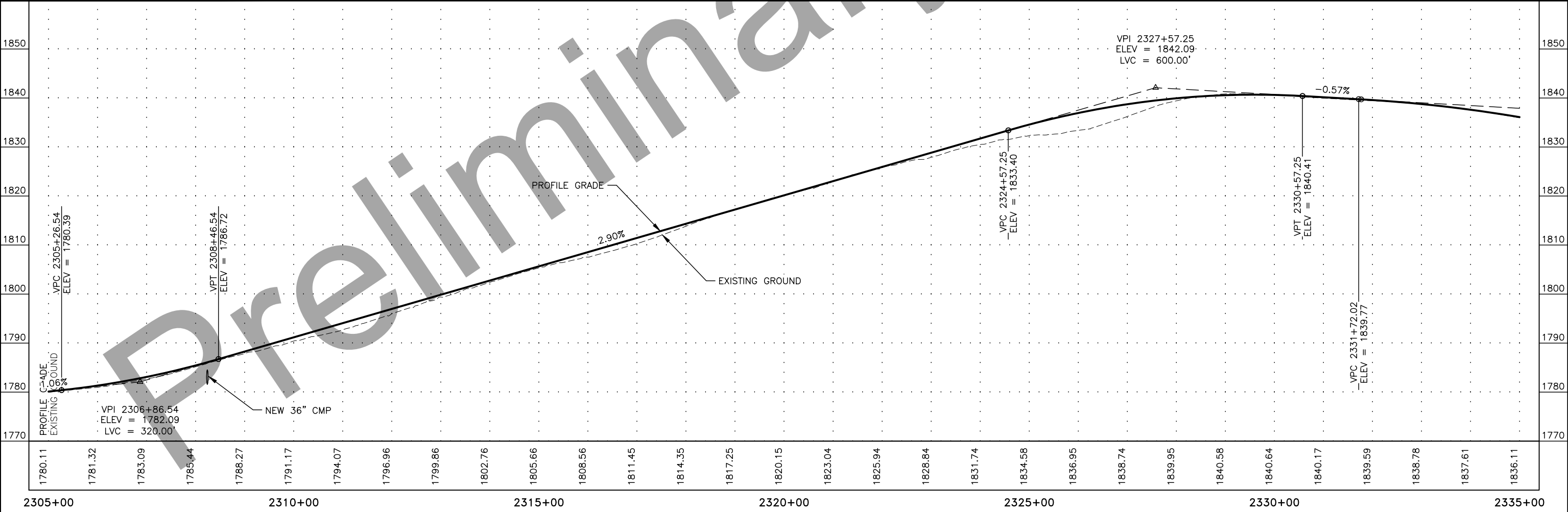
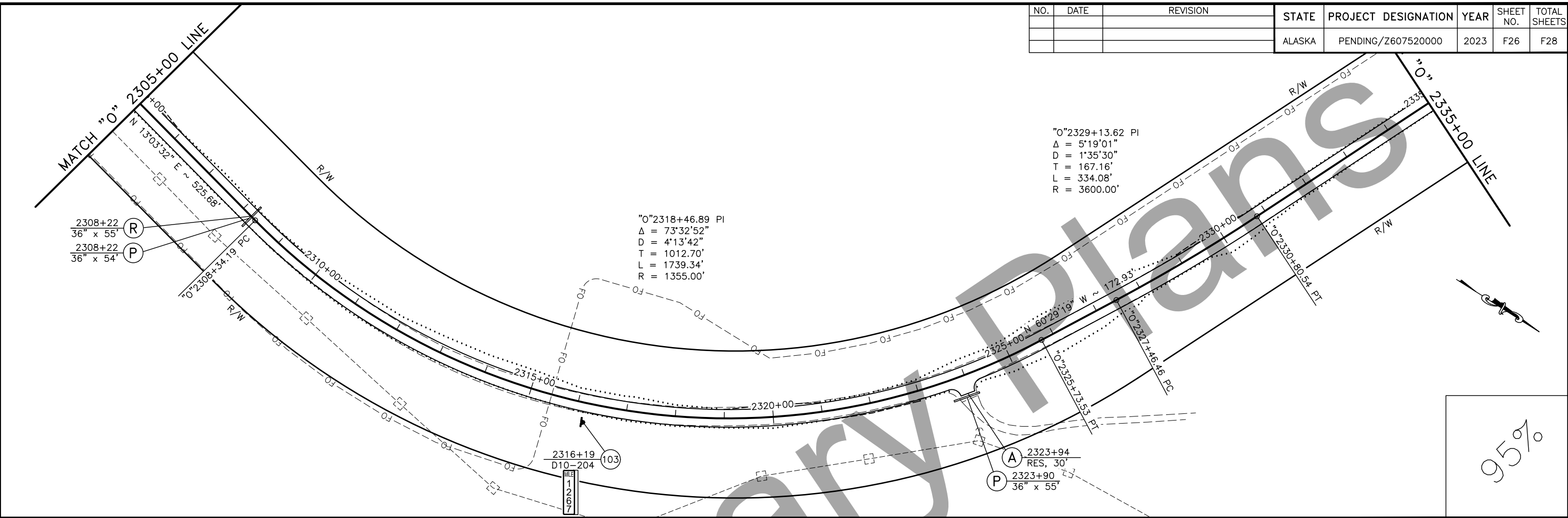
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F25	F28



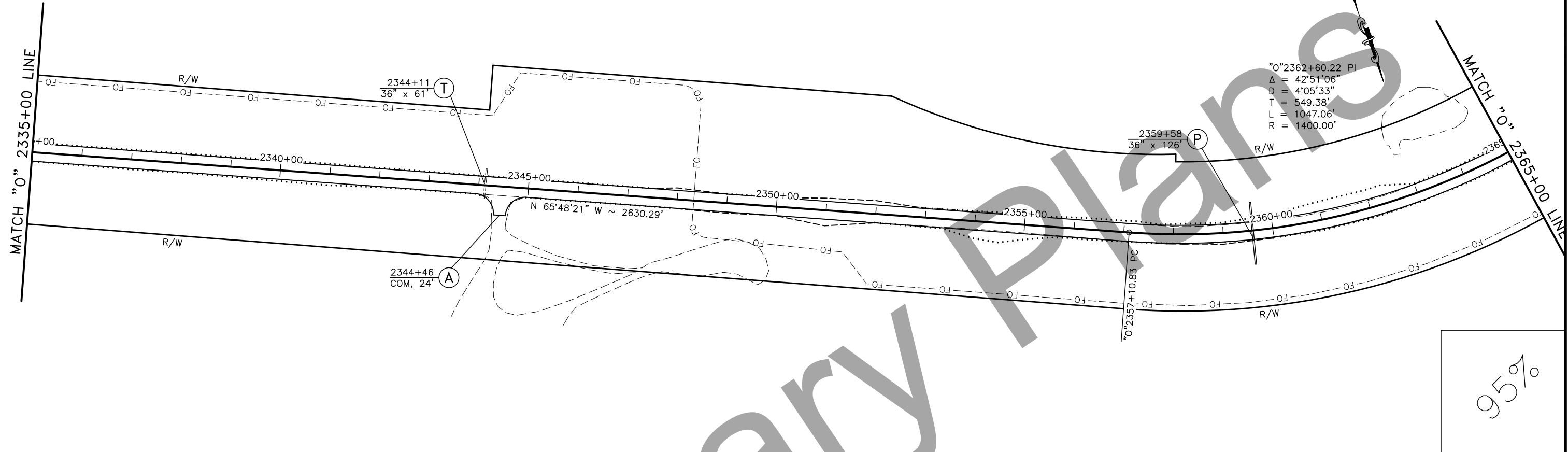
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F26	F28

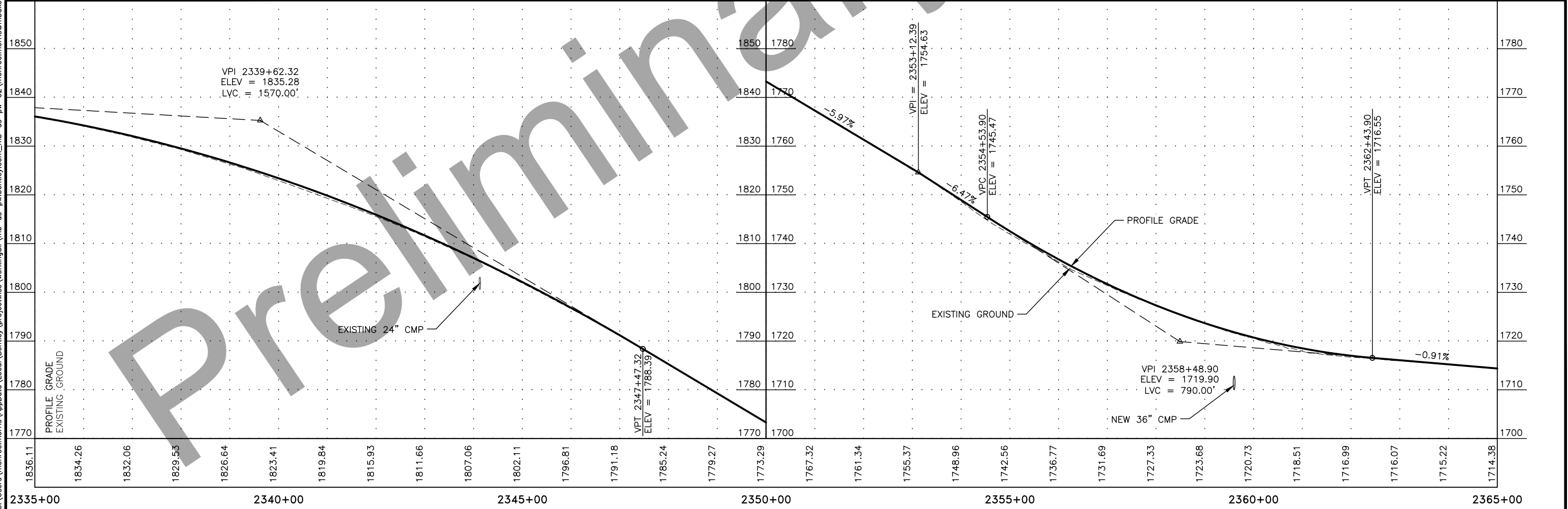
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	F27	F28



9.5%



PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, A/E/C103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	G1	G5

639.0001.0000 – APPROACH SUMMARY

STATION	RT/LT	WIDTH (FT)	TYPE	RADIUS (FT)		PAVING LENGTH (FT)	SKEW ANGLE (DEGREES)	REMARKS
				AHD STA	BK STA			
1564+26	LT	30	COMMERCIAL	20	40	55	60	MP1252 ENTRANCE
1572+85	LT	30	COMMERCIAL	40	17	94	120	MP1252 ENTRANCE
1574+30	RT	14	RESIDENTIAL		20	30	71	
1588+25	LT	300	COMMERCIAL	-	-	50	-	SNOW PLOW TURNOUT
1590+24	RT	24	COMMERCIAL		40	41	90	
1601+40	RT	22	RESIDENTIAL		20	21	87	
1615+29	LT	14	RESIDENTIAL		20	20	90	
1629+00	RT	14	RESIDENTIAL		20	20	90	
1640+27	LT	22	COMMERCIAL	21	70	95	90	SEE SHEET G3
1676+25	LT	300	COMMERCIAL	-	-	50	-	SNOW PLOW TURNOUT
1708+59	LT	14	RESIDENTIAL		20	20	90	
1747+13	LT	14	RESIDENTIAL	12	40	29	60	
1751+24	LT	14	RESIDENTIAL	70	10	30	133	
1775+24	LT	24	COMMERCIAL	60	40	52	103	COMMERCIAL DOT
1785+80	RT	18	RESIDENTIAL		20	20	90	
1791+32	LT	20	RESIDENTIAL		20	27	81	LAKEVIEW CAMPGROUND LOOP
1793+44	RT	14	RESIDENTIAL		20	21	87	
1826+89	RT	14	RESIDENTIAL		20	22	96	
1842+41	LT	24	COMMERCIAL		40	40	90	
1845+30	RT	20	RESIDENTIAL		20	24	83	
1876+53	RT	20	RESIDENTIAL		20	20	90	
1891+07	RT	14	RESIDENTIAL		20	25	80	
1897+66	LT	14	RESIDENTIAL		20	20	90	
1908+90	LT	14	RESIDENTIAL		20	20	90	
1959+81	RT	24	COMMERCIAL		40	48	86	MATERIAL SITE ENTRANCE
1969+69	RT	28	COMMERCIAL		40	40	90	
1974+25	LT	300	COMMERCIAL	-	-	50	-	SNOW PLOW TURNOUT
1974+72	RT	24	COMMERCIAL		40	42	90	
1990+04	RT	14	RESIDENTIAL		20	21	88	
1994+76	LT	16	RESIDENTIAL	15	20	32	-	SEE SHEET G4
1996+90	RT	14	RESIDENTIAL		20	20	90	
2010+06	RT	20	RESIDENTIAL		20	20	90	
2017+83	LT	14	RESIDENTIAL		20	20	90	
2031+16	LT	14	RESIDENTIAL		20	27	105	
2036+11	RT	14	RESIDENTIAL		20	20	90	
2069+28	RT	20	RESIDENTIAL		20	20	90	ACCESS ROAD TO MATERIAL SITE
2072+25	LT	300	COMMERCIAL	-	-	50	-	SNOW PLOW TURNOUT
2082+28	LT	14	RESIDENTIAL		20	27	103	
2082+32	RT	20	RESIDENTIAL		20	20	90	
2086+37	RT	14	RESIDENTIAL		20	25	81	
2105+17	LT	14	RESIDENTIAL	15	30	29	62	
2116+56	LT	28	COMMERCIAL	25	100	52	61	
2122+10	LT	24	COMMERCIAL	100	15	59	146	
2122+89	RT	24	RESIDENTIAL	50	20	36	114	
2138+38	RT	14	RESIDENTIAL		20	20	90	
2144+39	RT	20	RESIDENTIAL		20	20	90	
2150+39	RT	24	COMMERCIAL		40	41	74	NORTHWAY PIT ACCESS ROAD
2166+00	LT	26	STREET		75	74	86	NORTHWAY ROAD
2171+03	LT	24	COMMERCIAL		40	40	106	
2171+21	RT	20	COMMERCIAL	40	30	36	95	NORTHWAY PIT ACCESS ROAD
2175+67	RT	30	RESIDENTIAL		20	20	90	
2184+46	RT	20	RESIDENTIAL		20	20	90	
2186+61	RT	20	RESIDENTIAL		20	37	64	
2209+57	LT	14	RESIDENTIAL		20	20	90	
2223+26	RT	14	RESIDENTIAL		20	20	90	
2246+00	RT	24	COMMERCIAL	20	40	47	90	MATERIAL SITE, SEE SHEET G5
2253+09	RT	14	RESIDENTIAL		20	20	90	
2263+27	RT	14	RESIDENTIAL		20	20	90	
2278+78	LT	20	RESIDENTIAL		20	28	77	
2279+89	LT	20	RESIDENTIAL		20	24	97	
2323+94	RT	30	RESIDENTIAL		20	20	90	
2344+46	RT	24	COMMERCIAL		40	40	90	MATERIAL SITE

TYPE	LENGTH
COMMERCIAL	30'
RESIDENTIAL	10'

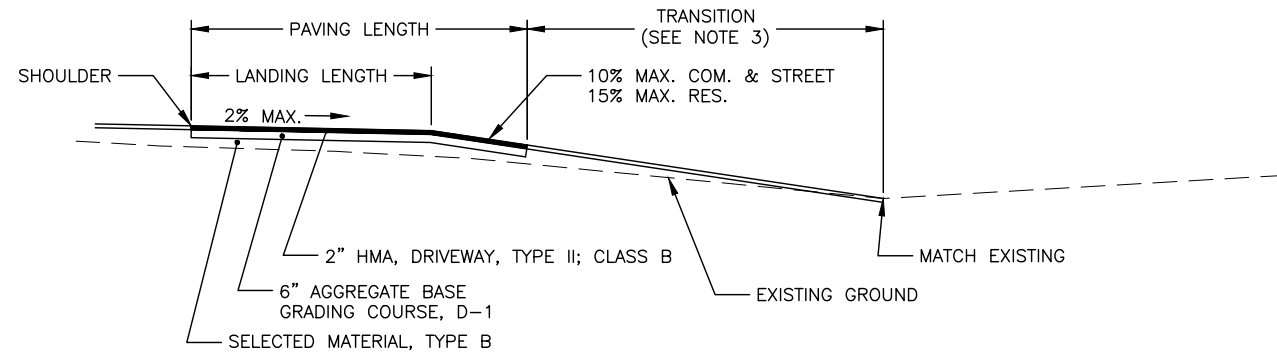
DRIVEWAY NOTES

- CONSTRUCT DRIVEWAY APPROACHES IN THE LOCATION AND TO THE DIMENSIONS SHOWN IN THE APPROACH SUMMARY TABLE AND DETAILS.
- APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.

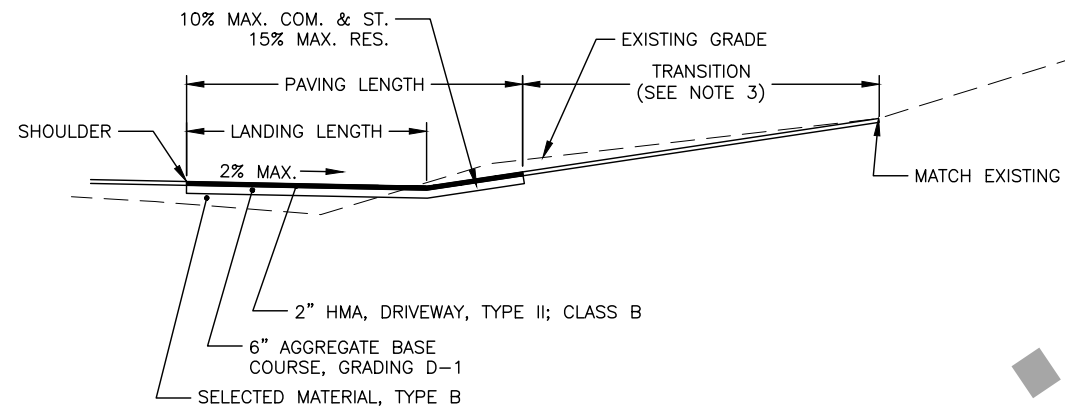
APPROACH SUMMARY

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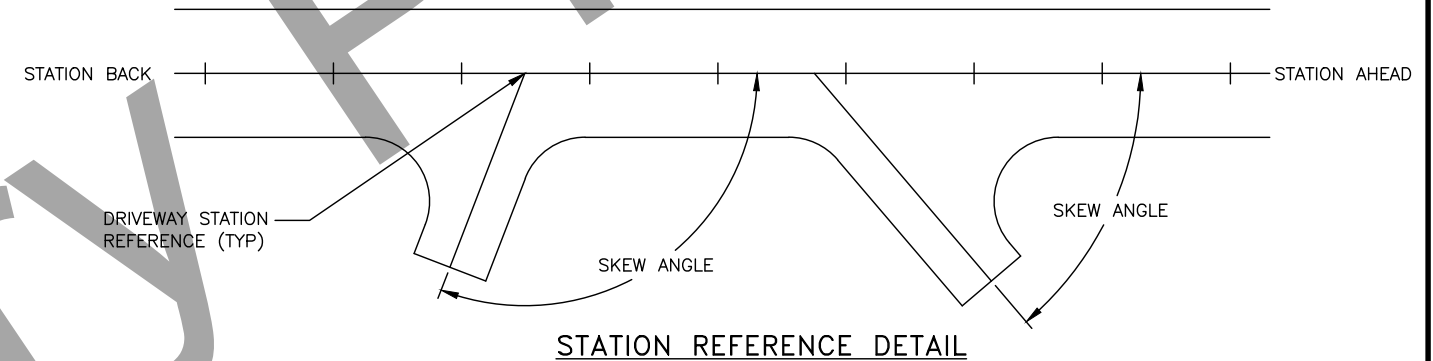
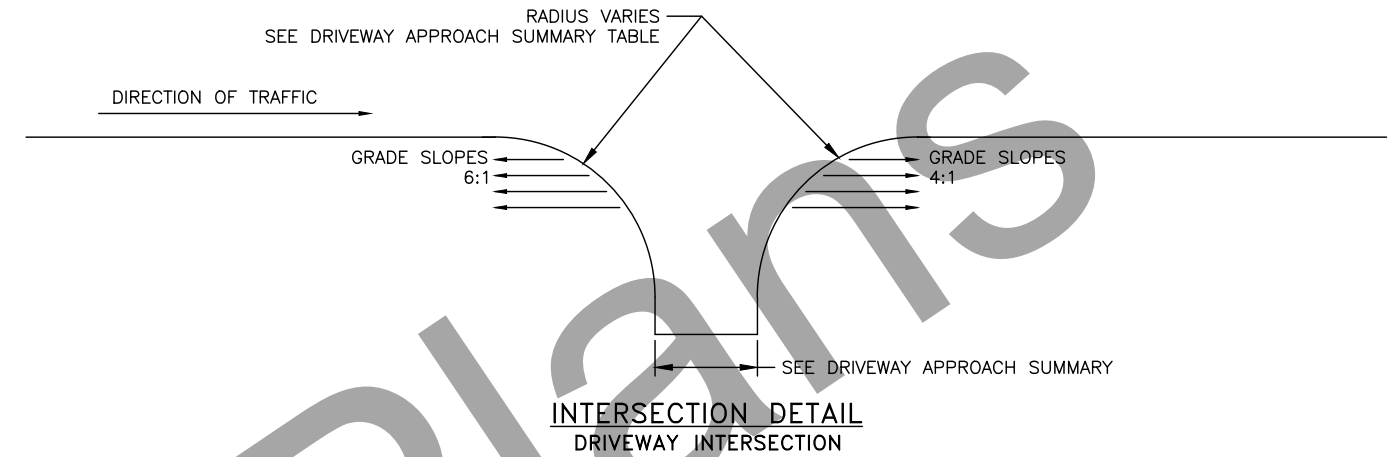
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	G2	G5



DRIVEWAY ELEVATION - FILL CONDITION

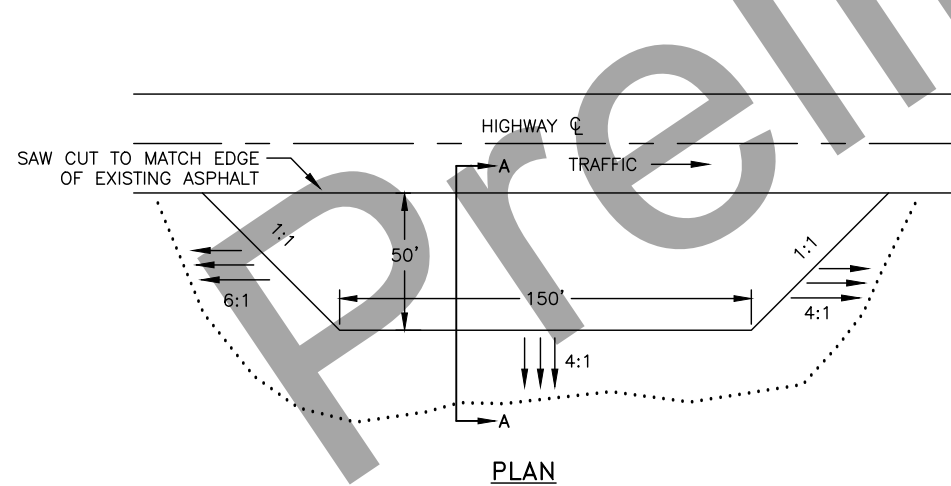


DRIVEWAY ELEVATION - CUT CONDITION

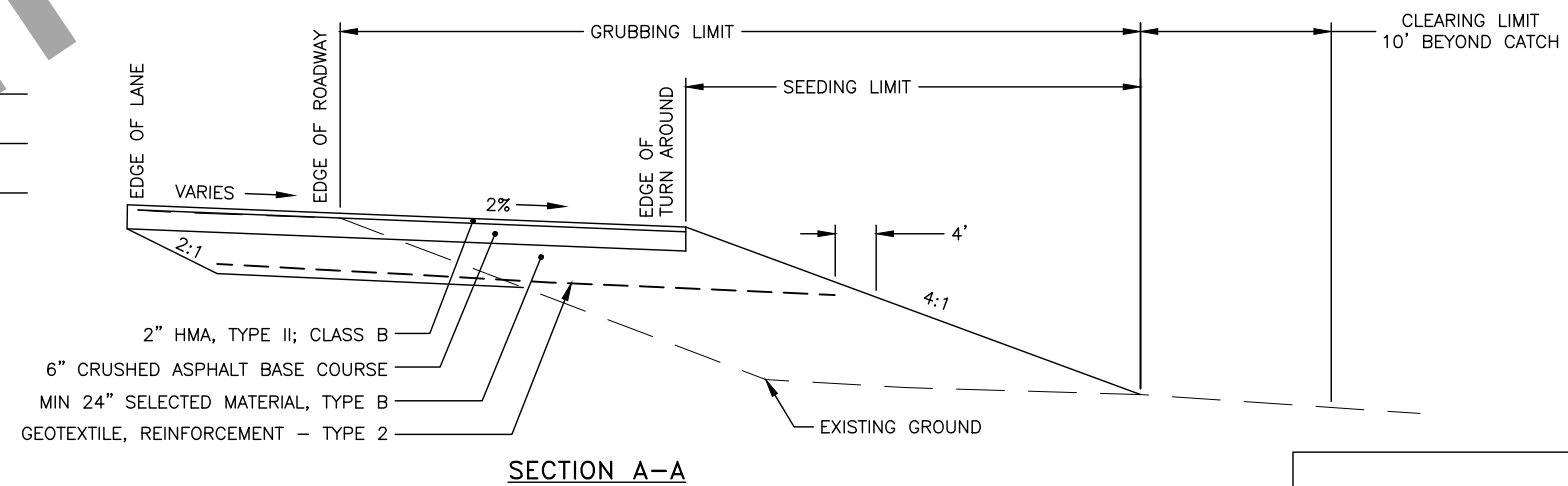


DRIVEWAY NOTES

1. CONSTRUCT DRIVEWAY APPROACHES IN THE LOCATIONS AND DIMENSIONS SHOWN IN THE APPROACH SUMMARY TABLE AND DETAILS.
 2. APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
 3. RE-GRADING DRIVEWAY SLOPES IS SUBSIDIARY TO PAY ITEM 639.0001.0000.
 4. ASPHALT REQUIRED FOR APPROACHES WILL BE PAID UNDER PAY ITEM 401.0012.002B HMA, DRIVEWAY, TYPE II; CLASS B.
 5. PAVED TRANSITIONS - PAVE THE TRANSITIONS IDENTIFIED IN THE APPROACH SUMMARY TABLE. MATCH THE PAVEMENT SECTION OF THE APPROACH. SAW CUT THE EXISTING ASPHALT AT THE MATCH POINT AND APPLY TACK COAT TO THE FACE OF SAWCUT. IF EXISTING TRANSITION IS PAVED, IT MAY BE REMOVED BY EXCAVATION OR OTHER MEANS. REMOVAL OF THE EXISTING PAVEMENT IS SUBSIDIARY TO PAY ITEM 639.0001.0000 DRIVEWAYS.
- UNPAVED TRANSITIONS - RECONSTRUCT THE UNPAVED AREA USING AGGREGATE SURFACE COURSE, GRADING E-1.



SNOW PLOW TURNOUT DETAILS
NTS

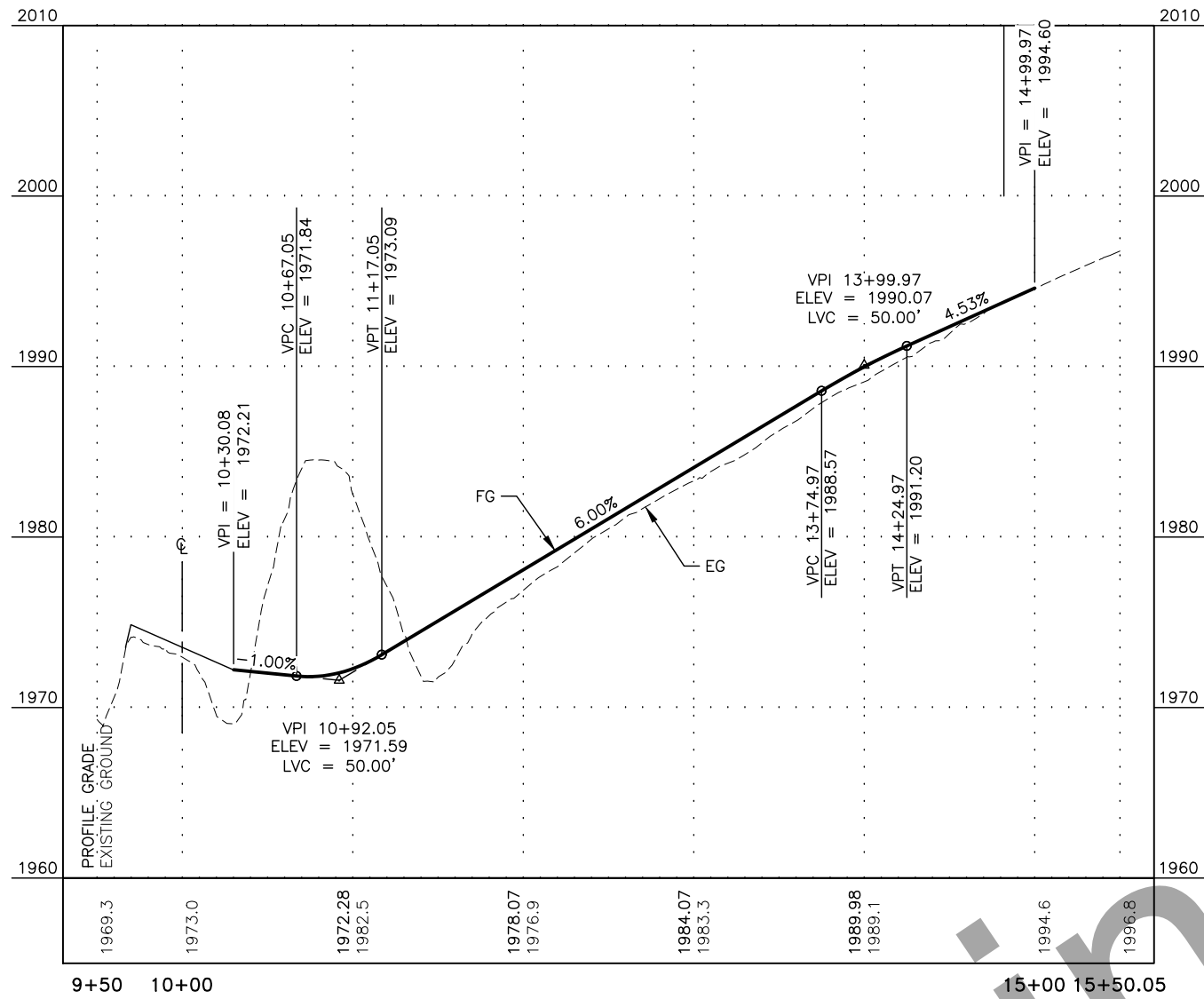


SECTION A-A

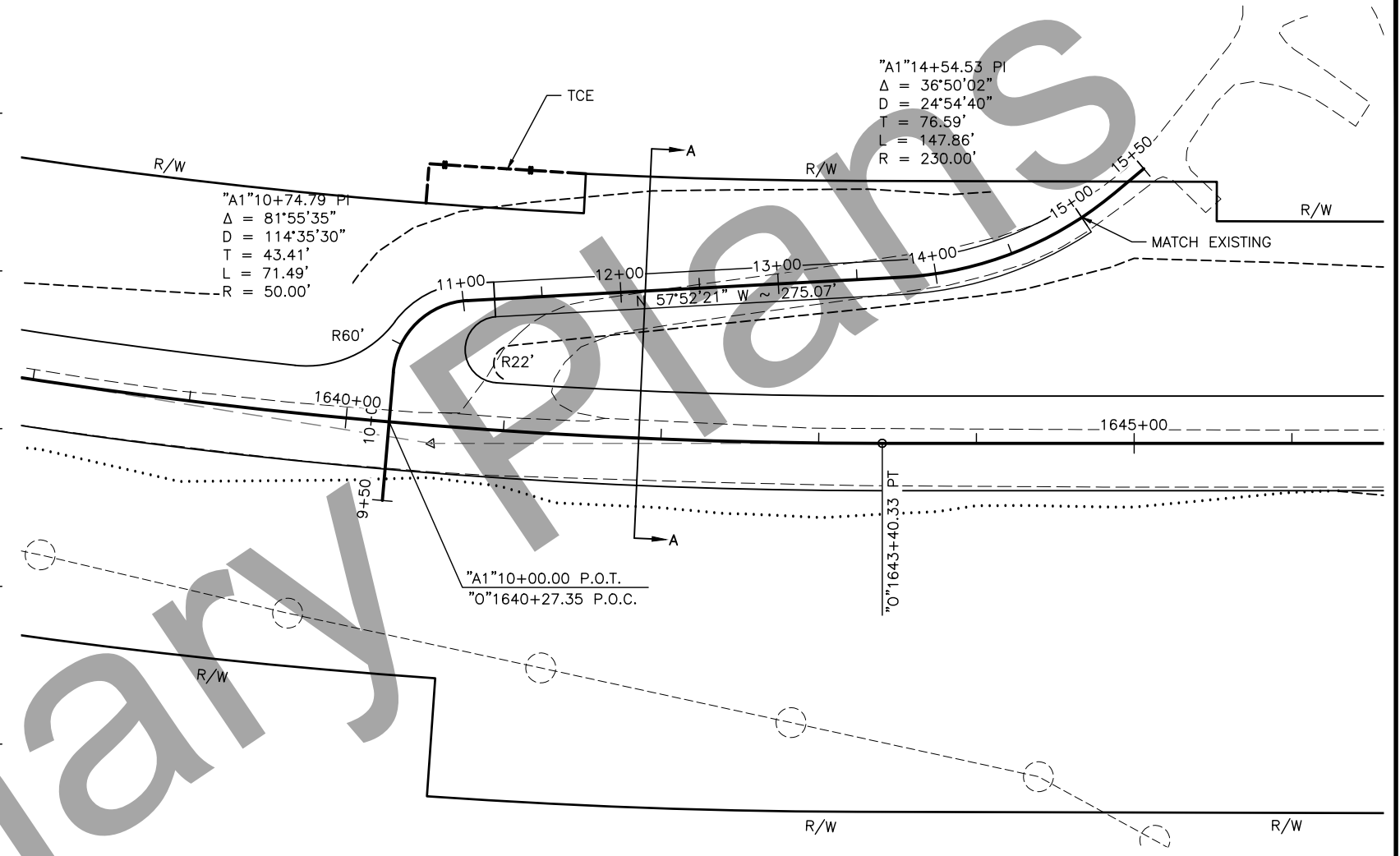
APPROACH DETAILS

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	G3	G5



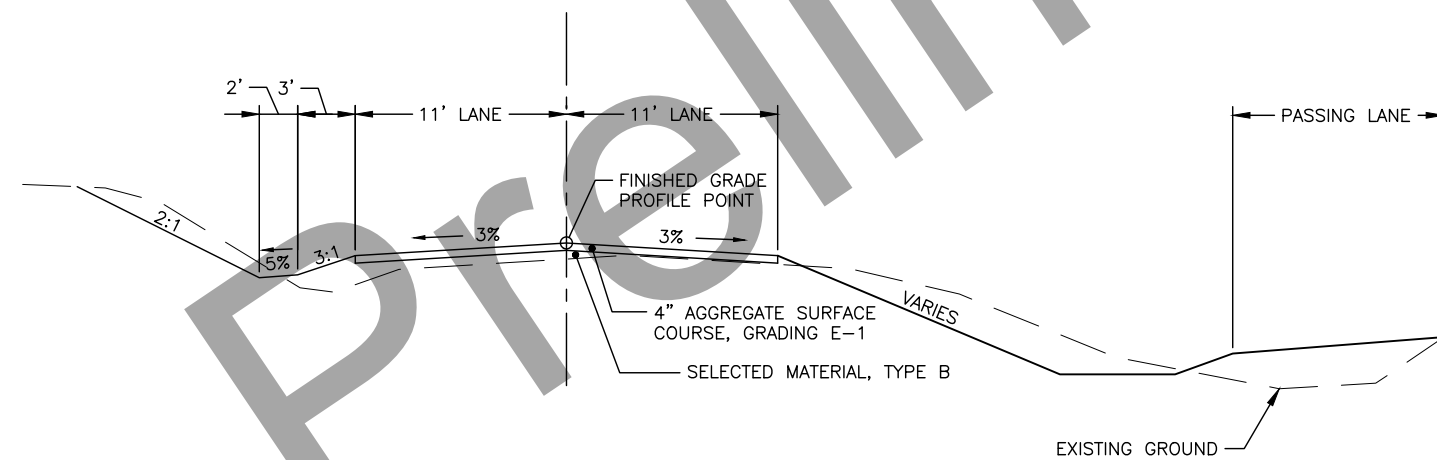
PROFILE: "A1"



PLAN: "A1"

NOTES:

1. APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
2. RE-GRADING DRIVEWAY SLOPES IS SUBSIDIARY TO PAY ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.
3. ASPHALT REQUIRED FOR APPROACHES WILL BE PAID UNDER PAY ITEM 401.0012.002B HMA, DRIVEWAY, TYPE II; CLASS B.

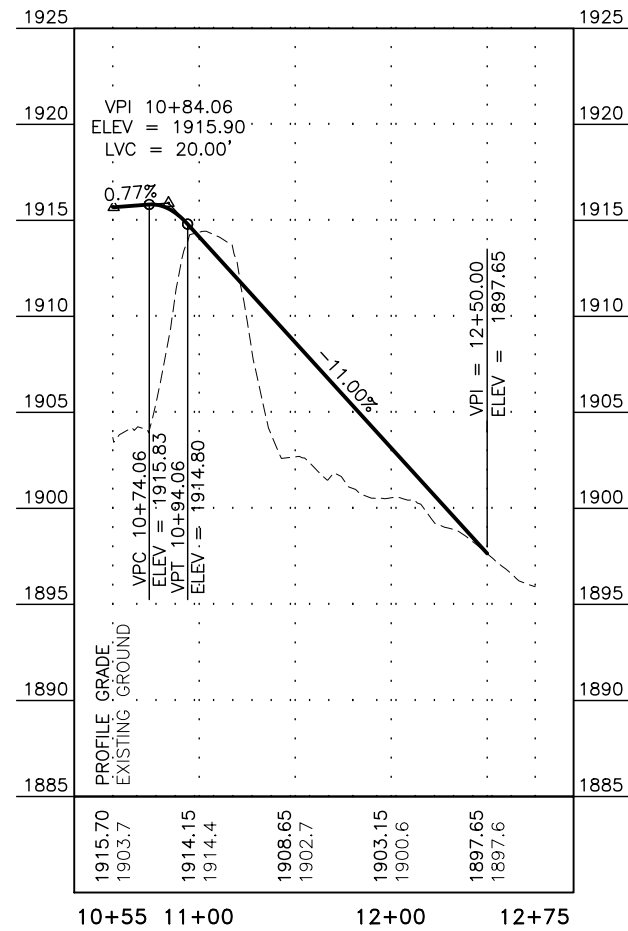


SECTION A-A

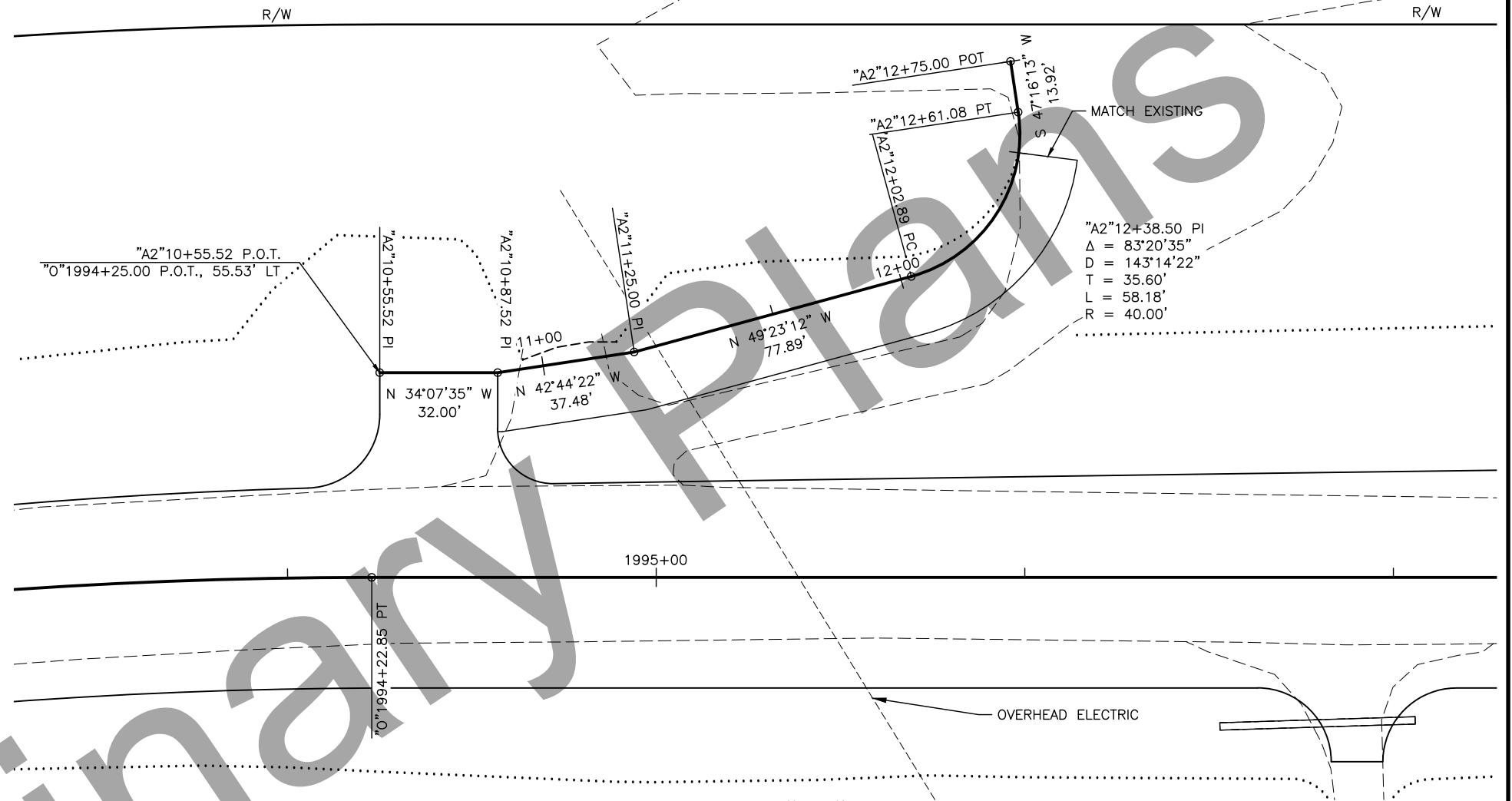
APPROACH 1640
DETAILS

95%

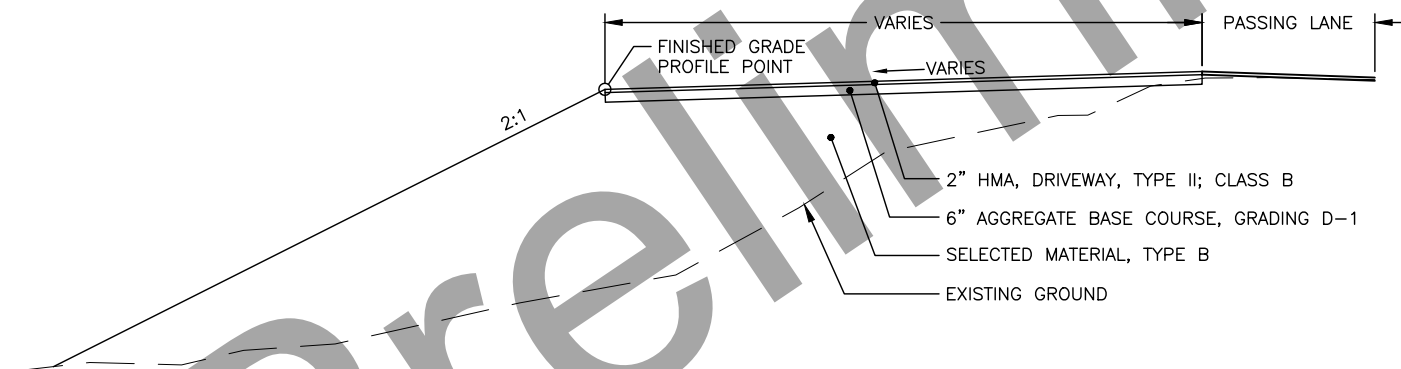
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	G4	G5



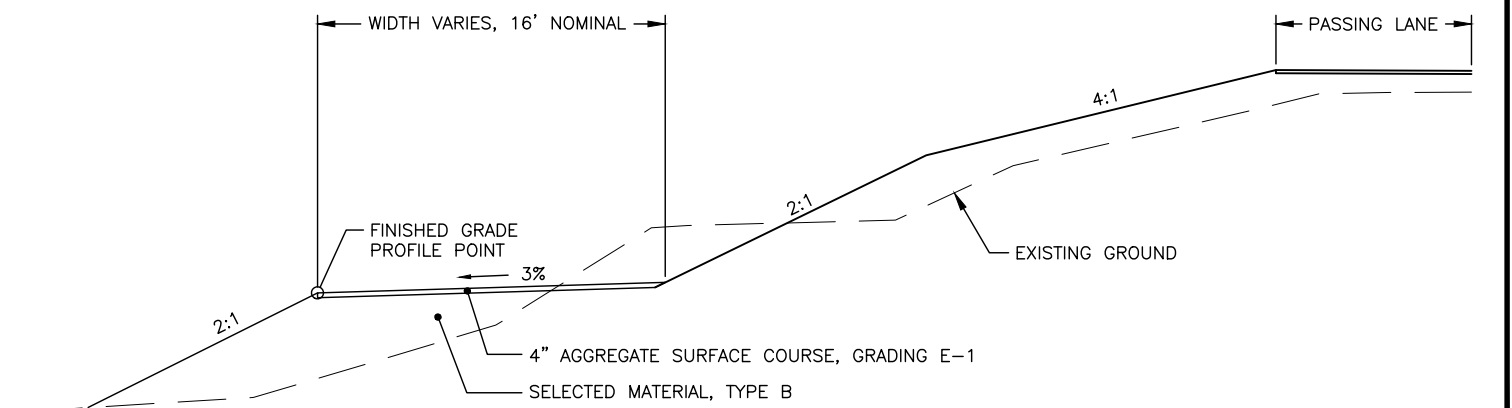
PROFILE: "A2"



PLAN: "A2"



TYPICAL SECTION 1
"A2" STA 10+55 TO 10+87



TYPICAL SECTION 2
"A2" STA 10+87 TO 12+50

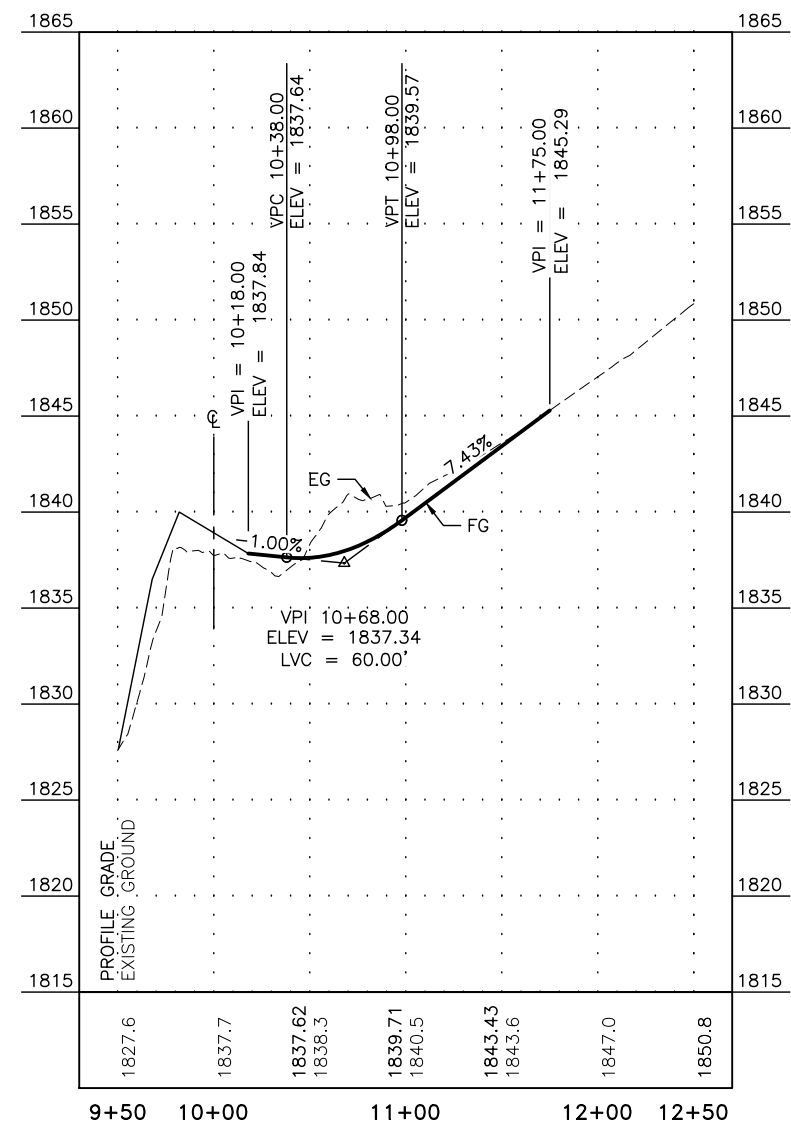
NOTES:

- APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
- RE-GRADING DRIVEWAY SLOPES IS SUBSIDIARY TO PAY ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.
- ASPHALT REQUIRED FOR APPROACHES WILL BE PAID UNDER PAY ITEM 401.0012.002B HMA, DRIVEWAY, TYPE II; CLASS B.

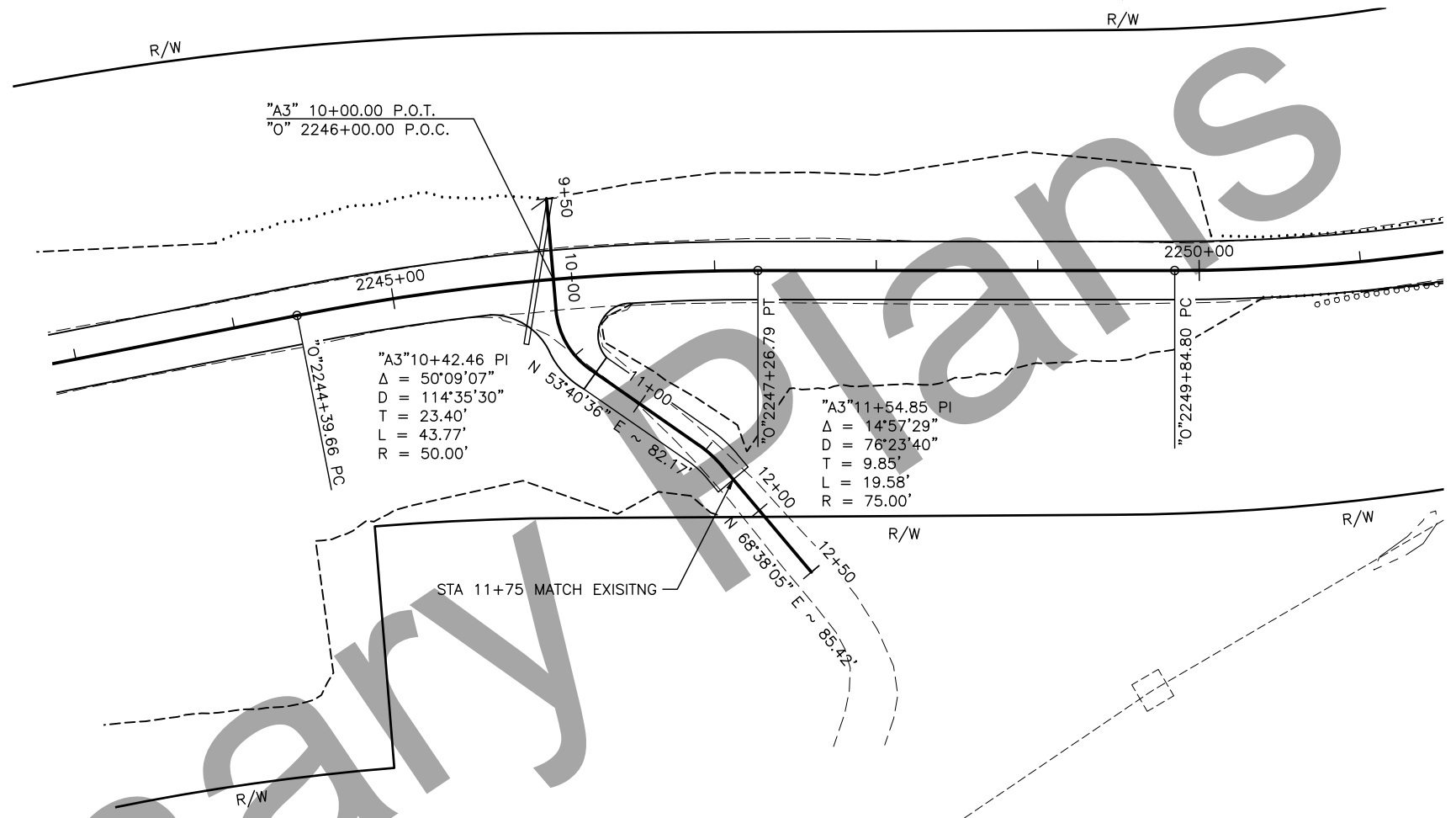
APPROACH 1994
DETAILS

95%

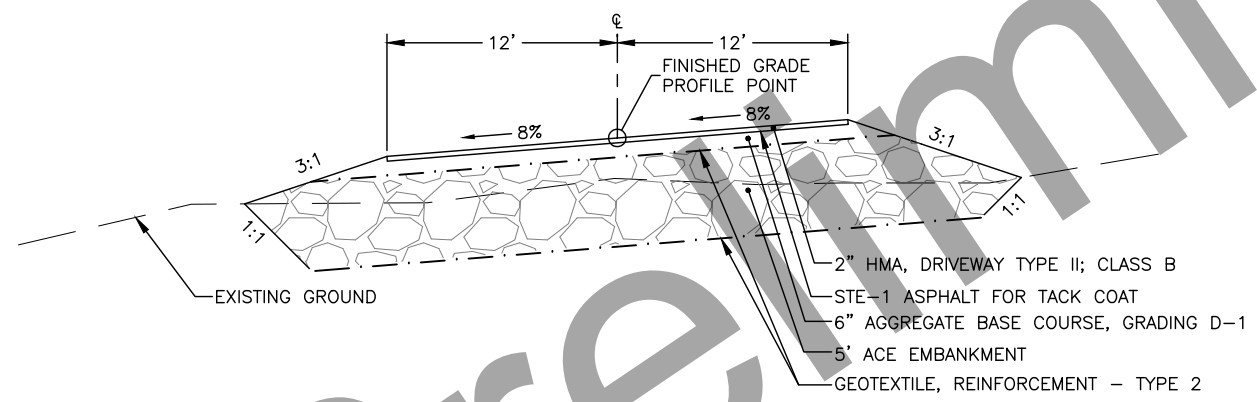
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	G5	G5



PROFILE: "A3"

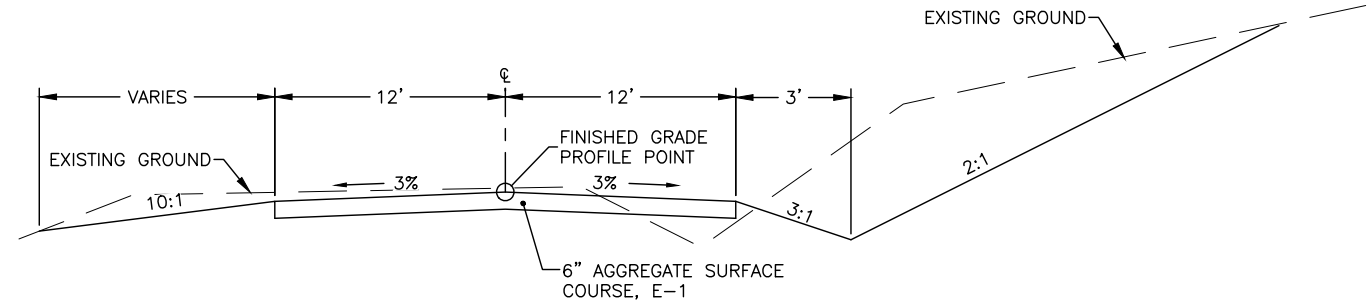


PLAN: "A3"



TYPICAL SECTION 1

"A3" STA 10+21 TO 10+51



TYPICAL SECTION 2

"A3" STA 10+51 TO 11+95

NOTES:

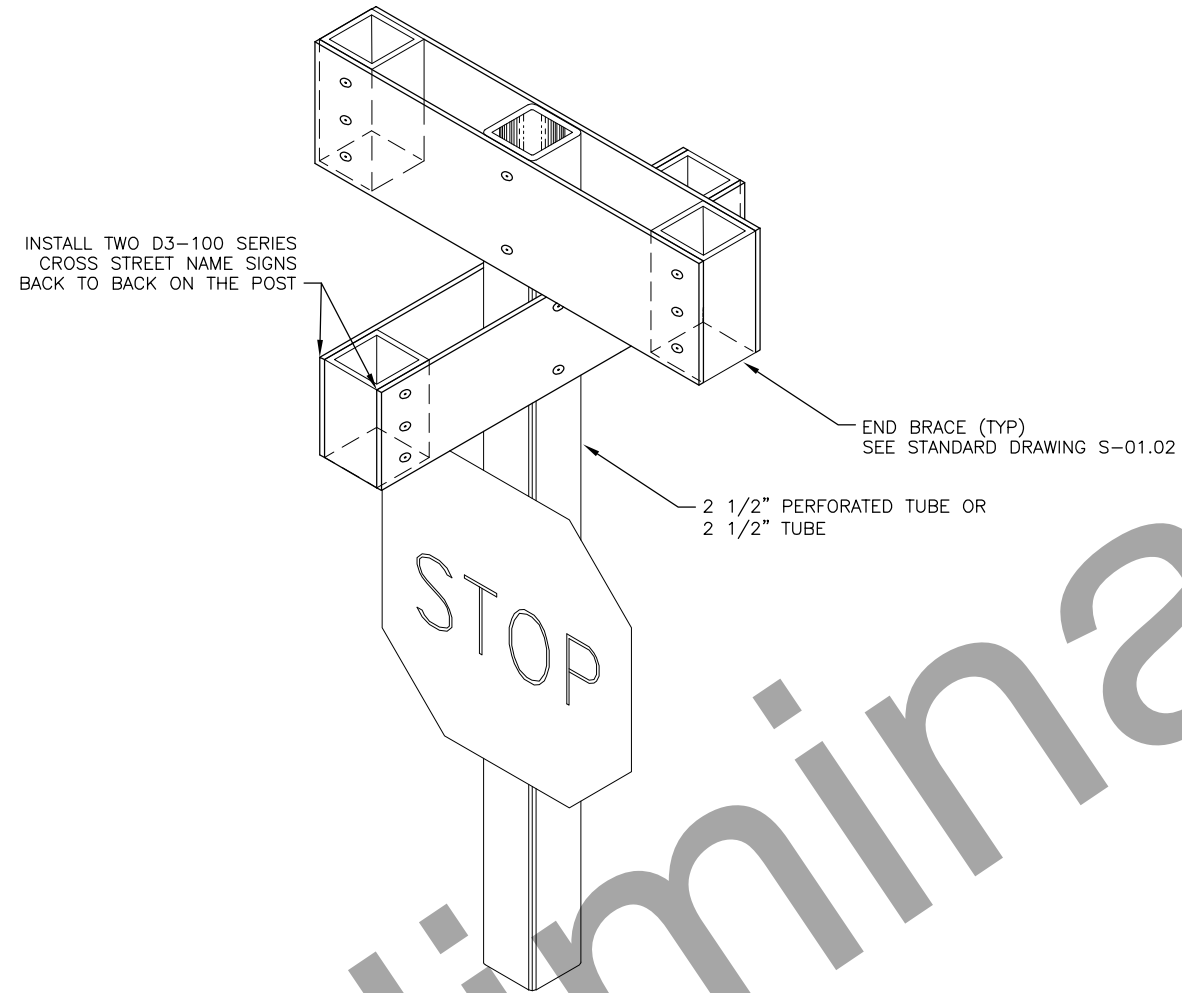
1. APPROACH TRANSITIONS, DIMENSIONS, AND LOCATIONS MAY BE FIELD ADJUSTED BY THE ENGINEER.
2. RE-GRADING DRIVEWAY SLOPES IS SUBSIDIARY TO PAY ITEM 203.0003.0000 UNCLASSIFIED EXCAVATION.
3. ASPHALT REQUIRED FOR APPROACHES WILL BE PAID UNDER PAY ITEM 401.0012.002B HMA, DRIVEWAY, TYPE II; CLASS B.

APPROACH 2246
DETAILS

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
C:\Users\monroe.morris\AppData\Local\Bentley\projectwise\workingdir\mb-us-pw-bentley.com_mb-us-pw-02\monroe.morris\mbakerintl.com\dms43561\60752_g_P2-APPROACH_2246_DETAILS_Fri_Jul/21/23_11:08am

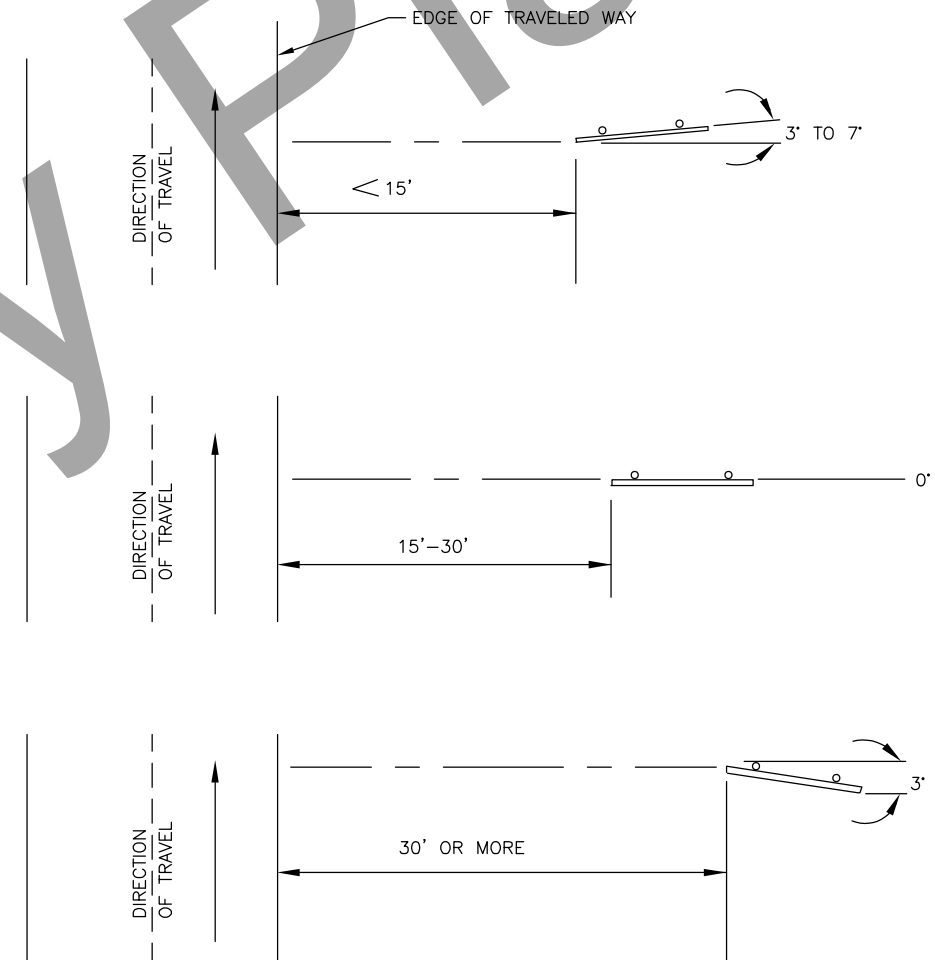
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H1	H8



STREET NAME SIGN MOUNTING DETAIL

STREET NAME SIGN NOTE:

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

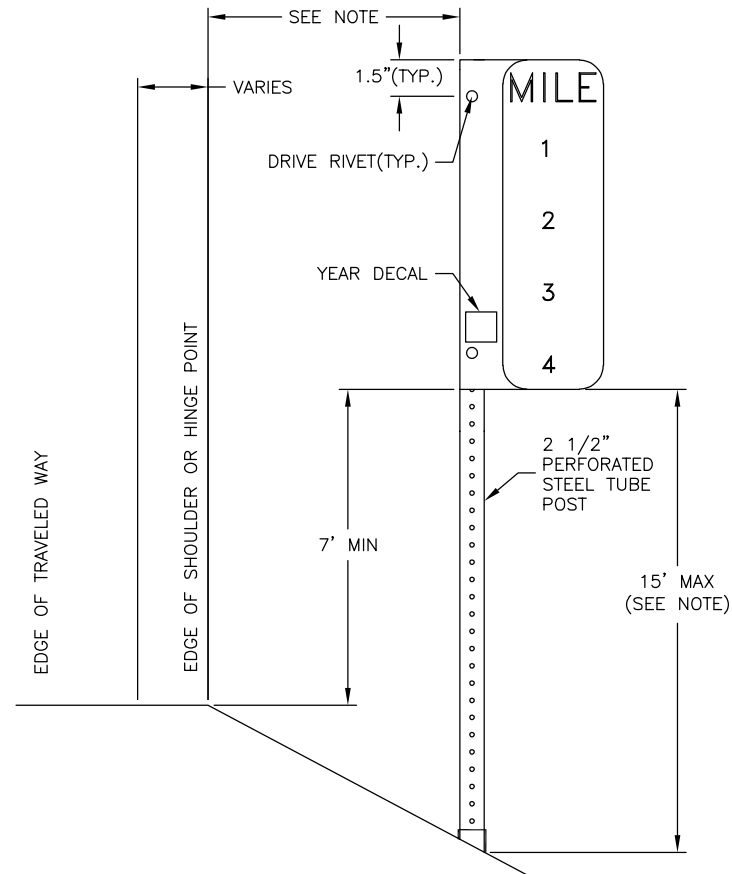


SIGN INSTALLATION ANGLES

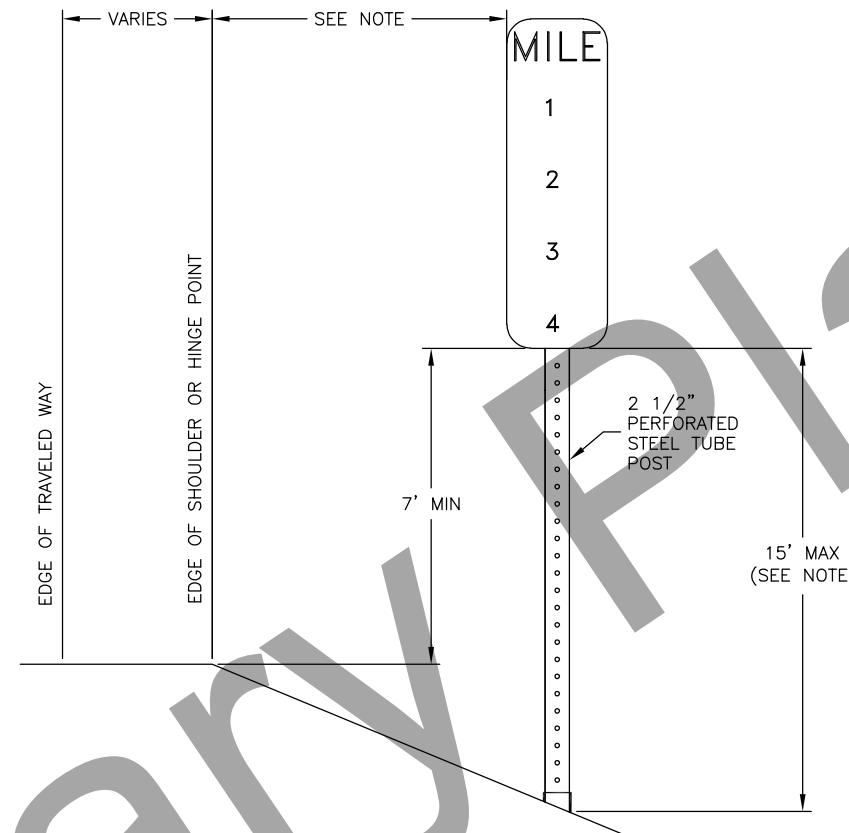
SIGN DETAILS

95%

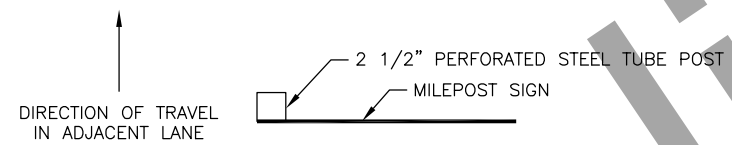
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H2	H8



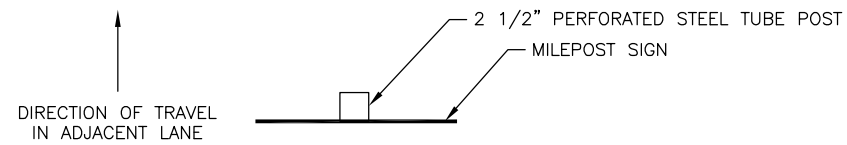
MILEPOST DETAIL
ALL ROADS EXCEPT DIVIDED ROADWAYS
(D10-201, D10-202, D10-203, D10-204)



MILEPOST DETAIL
DIVIDED ROADWAYS
(D10-101, D10-102, D10-103, D10-204)



MILEPOST MOUNTING DETAIL



MILEPOST MOUNTING DETAIL

NOTE:

INSTALL MILEPOST SIGNS (D10 SERIES) 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 ON STANDARD PLAN S-05.

MILEPOST AND POST SIDE MOUNTED SIGN DETAILS

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H3	H8

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE	BRACING/FRAMING		AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST			REMARKS
		H X V (INCHES)	BRACED			FRAMED	TYPE	SIZE (INCHES)				NO.			
49	1491+55		X	D17-2	PASSING LANE 2 MILES		X								COORDINATE PLACEMENT OF SIGN 49 WITH PHASE 1
53	1554+61		X	D10-204	MILE 1252	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
54	1570+60		X	D17-2	PASSING LANE 1/2 MILE	42 X 42	X		12.25		S	PST	2.5	1	
54A	1588+00	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		NE	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS
				R8-3	R8-3	24 X 30		5.00							
54B	1588+50	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		NE	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS
				R8-3	NO PARKING	24 X 30		5.00							
56	1602+20		X	R4-3	SLOWER TRAFFIC KEEP RIGHT	24 X 30			5.00		SE	PST	2.5	1	
57	1606+55		X	D10-204	MILE 1253	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
58	1611+75	X		W4-2R	LANE ENDS	36 X 36	X		9.00		N	PST	2.5	1	
59	1633+60	X		W9-1	RIGHT LANE ENDS	36 X 36	X		9.00		NW	PST	2.5	1	
				W16-3P	1/2 MILE	30 X 24	X	5.00							
60	1640+40	X		W9-1	RIGHT LANE ENDS	36 X 36	X		1.50		SE	PST	2.5	1	
				W16-3P	1/2 MILE	30 X 24	X	5.00							
61	1654+44		X	D2-2	NORTHWAY JCT 10 TOK JCT 60	112 X 36		X	28.00		SE	TS	3 X 3	2	SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS
62	1655+75		X	W4-2R	LANE ENDS	36 X 36	X		9.00		SE	PST	2.5	1	
63	1660+50		X	D10-204	MILE 1254	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
64	1668+80	X		R4-3	SLOWER TRAFFIC KEEP RIGHT	24 X 30			5.00		NW	PST	2.5	1	
64A	1676+00	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		SW	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS
				R8-3	R8-3	24 X 30		5.00							
64B	1676+50	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		SW	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS
				R8-3	R8-3	24 X 30		5.00							
66	1704+86		X	D10-204	MILE 1255	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
67	1757+22		X	D10-204	MILE 1256	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
68	1774+87	X		R1-1	STOP	36 X 36	X		9.00		W	PST	2.5	1	
69	1779+60	X		D17-2	PASSING LANE 2 MILES	42 X 42	X		12.25		N	PST	2.5	1	
70	1785+39		X	D7-100	LAKEVIEW CAMPGROUND TETLIN NATIONAL WILDLIFE REFUGE			X			S	TS	3 X 3	2	RE-INSTALL EXISTING SIGN, SEE NOTE 20
71	1791+08	X		R1-1	STOP	36 X 36	X		9.00		W	PST	2.5	1	
72	1811+49		X	D10-204	MILE 1257	14 X 45			4.38		S	PST	2.5	1	MESSAGE ON BOTH SIDES
SUBTOTAL =									185.25						

NOTES:

- REMOVE AND SALVAGE ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT GRADING LIMITS, EXCEPT THOSE DESIGNATED FOR REINSTALLATION OR OTHERWISE NOTED. DELIVER ALL SALVAGED SIGNS TO THE TOK MAINTENANCE OFFICE, CONTACT SAM JENNINGS AT (907) 883-5129. FOR SIGN POSTS AND FOUNDATIONS LOCATED OUTSIDE THE GRADING LIMITS, REUSE EXISTING POSTS AND FOUNDATIONS IF DETERMINED TO BE REUSEABLE BY THE ENGINEER.
- 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.
- MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
- DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
- INSTALL PST SIGN POSTS WITH SLEEVE TYPE SOIL EMBEDMENT. EMBED PST IN SLEEVE 12"-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.
- 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.
- 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.
- ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" UNDER SECTION 730-2.07 OF THE SSHC.
- INSTALL OM-3 OBJECT MARKETS, USING A SLEEVE TYPE SOIL EMBEDMENT FOUNDATION, LOCATED MIDWAY BETWEEN THE FIRST AND SECOND GUARDRAIL POSTS NEAREST TO THE BRIDGE. MOUNT THE SIGN PANEL SO THE BOTTOM IS 2 INCHES ABOVE THE TOP OF GUARDRAIL WITH THE NEAR EDGE LINING UP WITH THE BACK OF THE RAIL.
- 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.
- 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.
- D3-100 SERIES SIGNS REQUIRE TWO SEPARATE SINGLE SIDED PANELS. END-BRACE PANELS PER SMALL STREET NAME SIGN BRACING DETAILS IN STANDARD PLAN S-01.02
- MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
- ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGE DURING THE RELOCATION EFFORT.
- 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.
- 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.
- 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.
- 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.
- INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
- INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
- 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.
- 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.
- 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.

POST TYPE LEGEND:

- PST = PERFORATED STEEL TUBE
 TS = TUBE STEEL (SQUARE STRUCTURAL STEEL TUBING)

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H4	H8

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE	BRACING/FRAMING		AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST			REMARKS		
		H X V (INCHES)	BRACED			FRAMED	TYPE	SIZE (INCHES)				NO.					
73	1852+20	X		S3-1	SCHOOL BUS STOP AHEAD	36 X 36	X		9.00		NW	PST	2.5	1			
74	1861+16		X	D10-204	MILE 1258	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES		
75	1871+40		X	D17-2	PASSING LANE 2 MILES	42 X 42	X		12.25		SE	PST	2.5	1			
76	1912+62		X	D10-204	MILE 1259	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES		
77	1950+60		X	D17-2	PASSING LANE 1/2 MILE	42 X 42	X		12.25		SE	PST	2.5	1			
78	1965+12		X	D10-204	MILE 1260	14 X 45			4.38		NE	PST	2.5	1	MESSAGE ON BOTH SIDES		
78A	1974+00	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		NW	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS		
				R8-3	R8-3	24 X 30			5.00								
78B	1974+50	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		NW	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS		
				R8-3	R8-3	24 X 30			5.00								
79	1982+20		X	R4-3	SLOWER TRAFFIC KEEP RIGHT	24 X 30			5.00		E	PST	2.5	1			
80	2001+25	X		W4-2R	LANE ENDS	36 X 36	X		9.00		NW	PST	2.5	1			
81	2014+03		X	D10-204	MILE 1261	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES		
82	2016+60	X		W9-1R	RIGHT LANE ENDS	36 X 36	X		9.00		NW	PST	2.5	1			
				W16-3P	1/2 MILE	30 X 24	X		5.00								
83	2041+40		X	W9-1R	RIGHT LANE ENDS	36 X 36	X		9.00		SE	PST	2.5	1			
				W16-3P	1/2 MILE	30 X 24	X		5.00								
84	2056+75		X	W4-2R	LANE ENDS	36 X 36	X		9.00		SE	PST	2.5	1			
85	2059+80	X		R4-3	SLOWER TRAFFIC KEEP RIGHT	24 X 30			5.00		NW	PST	2.5	1			
86	2063+74		X	D10-204	MILE 1262	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES		
86A	2072+00	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		N	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS		
				R8-3	R8-3	24 X 30			5.00								
86B	2072+50	X		SPECIAL 1	SNOW PLOW TURN AROUND	30 X 24	X		5.00		N	PST	2.5	1	SEE SHEET H4 FOR SIGN DETAILS		
				R8-3	R8-3	24 X 30			5.00								
87	2091+40	X		D17-2	PASSING LANE 1/2 MILE	42 X 42	X		4.38		NW	PST	2.5	1			
88	2114+84		X	D10-204	MILE 1263	14 X 45			4.38		E	PST	2.5	1	MESSAGE ON BOTH SIDES		
89	2151+59	X		D2-2	CANADA 42 HAINES JCT 247	102 X 36		X	25.50		W	TS	3 X 3	2	SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS		
90	2155+69		X	D1-200L	AIRPORT 7 NORTHWAY 9	102 X 36		X	25.50		E	TS	3 X 3	2	SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS		
91	2160+57	X		R2-1	SPEED 55	24 X 30			5.00		NW	PST	2.5	1			
SUBTOTAL =									216.13								



BORDER
R=1.5"
TH=0.63"
IN=0.38"

Panel Style: Special 1.ssi
M.U.T.C.D.: 2009 Edition

SPECIAL SIGN 1 DETAIL

PLANS DEVELOPED BY: LOUNSBURY & ASSOCIATES INC., AEC0391, 3230 C STREET SUITE 201, ANCHORAGE, ALASKA 99503, (907) 272-5451
D:\pwise\file\60752_H_P2-H4_SIGN_SUMMARY 2 Wed Jul 19/23 02:28pm

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H5	H8

SIGNING SUMMARY

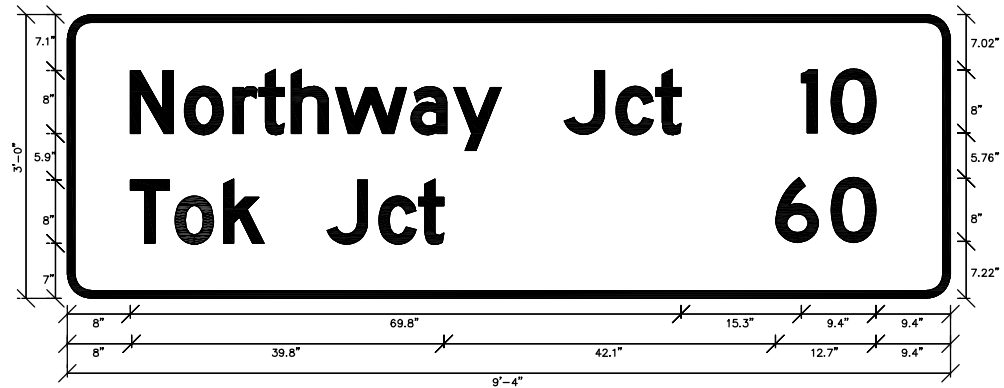
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE	BRACING/FRAMING		AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST			REMARKS
		H X V	BRACED			FRAMED	TYPE	SIZE (INCHES)				NO.			
92	2163+59	X		M1-5 M3-2	ALASKA HWY 2 EAST	36 X 36 36 X 18	X X		9.00 4.50		NW	PST	2.5	1	
93	2164+58		X	D10-204 D9-107L	MILE 1264 POST OFFICE	14 X 45 36 X 24		X	4.38 6.00		E	PST	2.5	1	MESSAGE ON BOTH SIDES
94	2165+53	X		R1-1 D3-100 D3-100	STOP ALASKA HWY NORTHWAY RD	30 X 30 30 X 8 48 X 12	X X X		6.25 3.33 8.00		SW SW NW	PST	2.5	1	MOUNT TWO SIGNS BACK TO BACK, SEE SHEET H6 FOR SIGN DETAILS MOUNT TWO SIGNS BACK TO BACK, 6C/4.5C LETTERING, SEE SHEET H6 FOR SIGN DETAILS
95	2166+11		X	D1-2 OM1-1 OM1-1	CANADA (RT) TOK JCT (LT) OBJECT MARKER OBJECT MARKER	84 X 42 18 X 18 18 X 18		X	24.50 2.25 2.25		S	TS	3 X 3	2	1 OBJECT MARKER PER POST, SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS
96	2170+50	X		D17-2	PASSING LANE 2 MILES	42 X 42	X		12.25		NW	PST	2.5	1	
97	2173+13	X		D1-200R	AIRPORT 7 NORTHWAY 9	102 X 36		X	25.50		NW	TS	3 X 3	2	SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS
98	2186+57		X	D3-2	TOK JCT 50 DELTA JCT 158 FAIRBANKS 254 ANCHORAGE 371	108 X 57		X	42.75		SE	TS	3 X 3	2	SEE NOTE 20, SEE SHEET H6 FOR SIGN DETAILS
99	2214+79		X	S3-1	SCHOOL BUS STOP AHEAD	36 X 36	X		9.00		S	PST	2.5	1	
100	2216+44		X	D10-204	MILE 1265	14 X 45			4.38		S	PST	2.5	1	MESSAGE ON BOTH SIDES
101	2233+74	X		S3-1	SCHOOL BUS STOP AHEAD	36 X 36	X		9.00		N	PST	2.5	1	
102	2266+11		X	D10-204	MILE 1266	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
103	2316+19		X	D10-204	MILE 1267	14 X 45			4.38		SE	PST	2.5	1	MESSAGE ON BOTH SIDES
104	2366+28		X	D10-204	MILE 1268	14 X 45			4.38		E	PST	2.5	1	MESSAGE ON BOTH SIDES
105	2368+20		X	I-3	BEAVER CREEK	36 X 18	X		4.50		NE	PST	2.5	1	
105A	2369+40		X	OM-3R	OBJECT MARKER TYPE 3	12 X 36			3.00		E	PST	2.5	1	
105B	2369+40	X		OM-3L	OBJECT MARKER TYPE 3	12 X 36			3.00		E	PST	2.5	1	
105C	2370+30		X	OM-3L	OBJECT MARKER TYPE 3	12 X 36			3.00		W	PST	2.5	1	
105D	2370+30	X		OM-3R	OBJECT MARKER TYPE 3	12 X 36			3.00		W	PST	2.5	1	
106	2371+55	X		I-3	BEAVER CREEK	36 X 18	X		4.50		SW	PST	2.5	1	SEE SHEET H6 FOR SIGN DETAILS
									SUBTOTAL =	207.46					
									PROJECT TOTAL =	608.83					

Plans

PLANS DEVELOPED BY: LOUNSBURY & ASSOCIATES INC., AEC0391, 3230 C STREET SUITE 201, ANCHORAGE, ALASKA 99503, (907) 272-5451
D:\pwise\file\60752_H_P2-H5_SIGN_SUMMARY_3_Wed_Jul/19/23_02:28pm

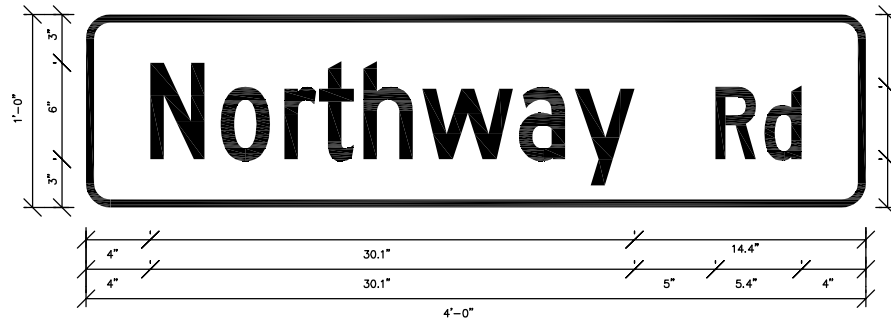
95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H6	H8



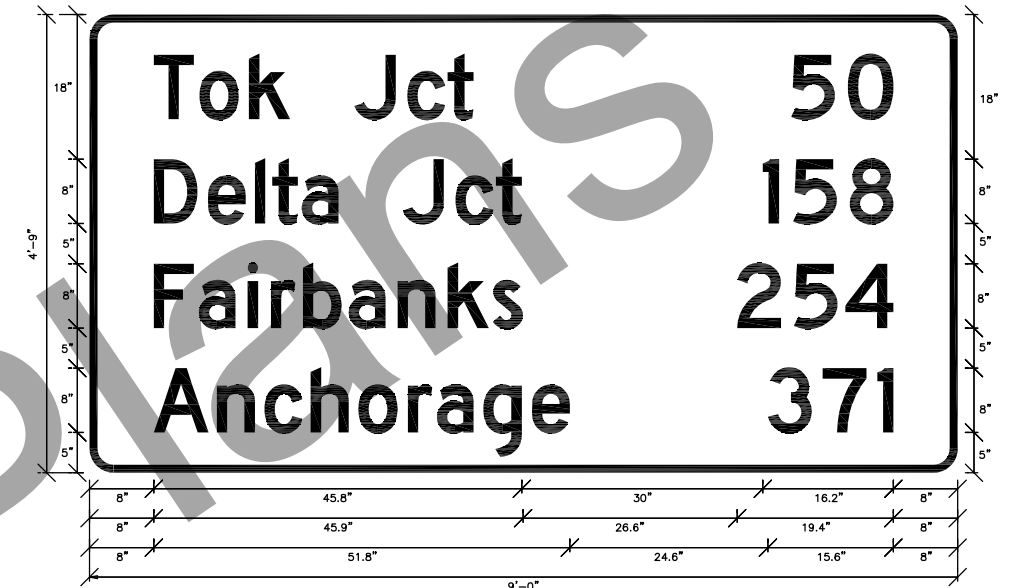
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LOCATION NO. 61



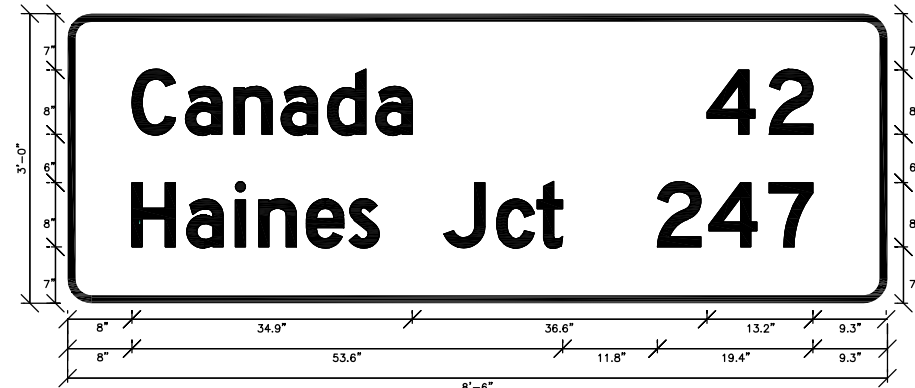
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LOCATION NO. 94



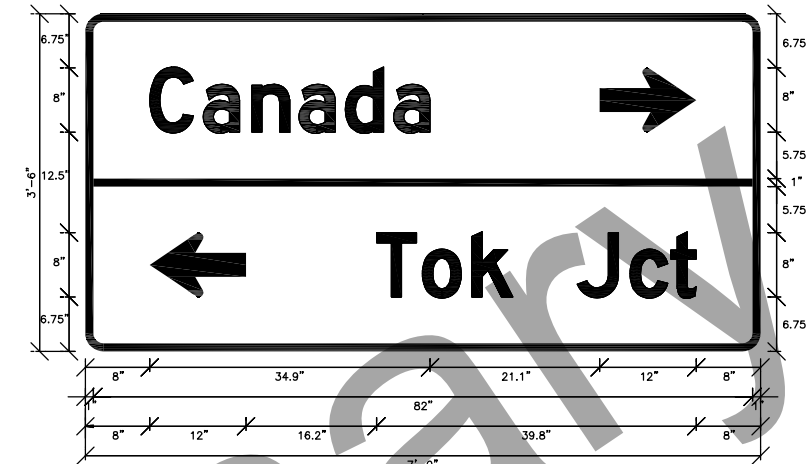
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LOCATION NO. 98



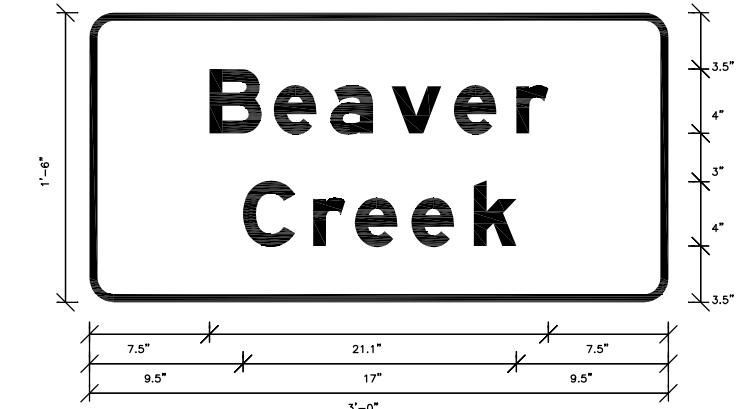
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LOCATION NO. 89



BORDER RADIUS=2.25" WIDTH=1.0" SIGN D1-2 MIXED CASE 12 BORDER AND LEGEND: WHITE BACKGROUND: GREEN

LOCATION NO. 95



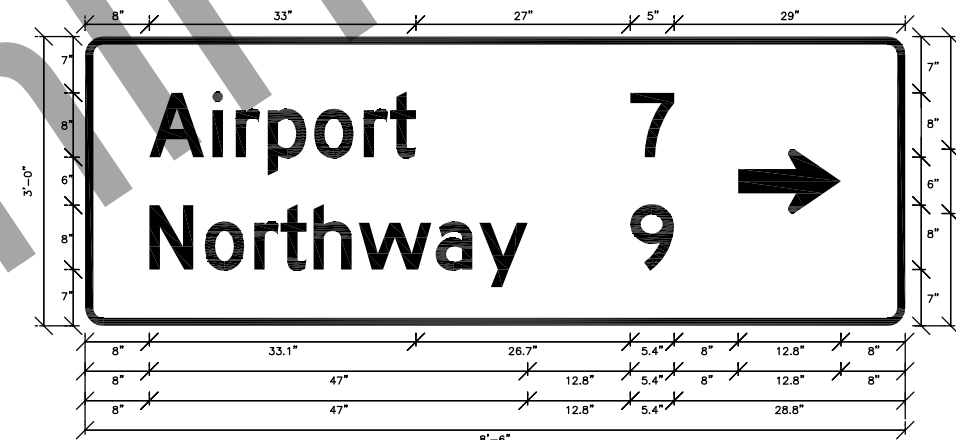
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LOCATION NO. 106



BORDER RADIUS=2.25" WIDTH=1.0" SIGN D1-200 MIXED CASE 12 BORDER AND LEGEND: WHITE BACKGROUND: GREEN

LOCATION NO. 90



BORDER RADIUS=2.25" WIDTH=1.0" SIGN D1-200 MIXED CASE 12 BORDER AND LEGEND: WHITE BACKGROUND: GREEN

LOCATION NO. 97



BORDER RADIUS=1.5" WIDTH=0.5" SIGN D3-100 MIXED CASE 8 BORDER AND LEGEND: WHITE BACKGROUND: GREEN

LOCATION NO. 94

SIGN DETAILS

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H7	H8

SIGN SALVAGE SUMMARY							
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	NO.	REMARKS
		LT.	RT.				
53	1554+61		X	D10-204	MILE 1252	1	
55	1601+70		X	R1-1	STOP	1	
57	1606+55		X	D10-204	MILE 1253	1	
61	1654+45		X	D1-2A	NORTHWAY	1	
63	1660+50		X	D10-204	MILE 1254	1	
66	1704+86		X	D10-204	MILE 1255	1	
67	1757+22		X	D10-204	MILE 1256	1	
68	1774+87		X	R1-1	STOP	1	
70	1785+39		X	D7-2	LAKEVIEW CAMPGROUND	1	
71	1791+08	X		R1-1	STOP	1	
72	1811+49		X	D10-204	MILE 1257	1	
73	1852+20	X		S3-1	SCHOOL BUS STOP AHEAD	1	
74	1861+16		X	D10-204	MILE 1258	1	
76	1912+62		X	D10-204	MILE 1259	1	
78	1965+12		X	D10-204	MILE 1260	1	
81	2014+03		X	D10-204	MILE 1261	1	
86	2063+74		X	D10-204	MILE 1262	1	
88	2114+84		X	D10-204	MILE 1263	1	
89	2151+59	X		D2-2	CANADA 42 HAINES JCT 247	1	

SIGN SALVAGE SUMMARY							
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	NO.	REMARKS
		LT.	RT.				
90	2155+69		X	D1-2A-1	AIRPORT 7	1	
92	2163+59	X		M1-5	ALASKA HWY	1	
				M3-2	EAST	1	
93	2164+58		X	D10-204	MILE 1264	1	
				D9-107L	POST OFFICE	1	
94	5165+53	X		R1-1	STOP	1	
				D3-100	ALASKA HWY	2	
				D3-100	NORTHWAY RD	2	
95	2166+11		X	D1-2	CANADA TOK JCT	1	
				OM1-1	OBJECT MARKER	1	
				OM1-1	OBJECT MARKER	1	
97	2173+13	X		D1-2A-1	AIRPORT 7	1	
98	2186+57		X	D2-3	TOK JCT 50 DELTA JCT 158	1	
99	2214+79		X	S3-1	SCHOOL BUS STOP AHEAD	1	
100	2216+44		X	D10-204	MILE 1265	1	
101	2233+74	X		S3-1	SCHOOL BUS STOP AHEAD	1	
102	2266+11		X	D10-204	MILE 1266	1	
103	2316+19		X	D10-204	MILE 1267	1	
104	2366+28		X	D10-204	MILE 1268	1	
105	2368+20		X	I-3	BEAVER CREEK	1	
PROJECT TOTAL =						41	

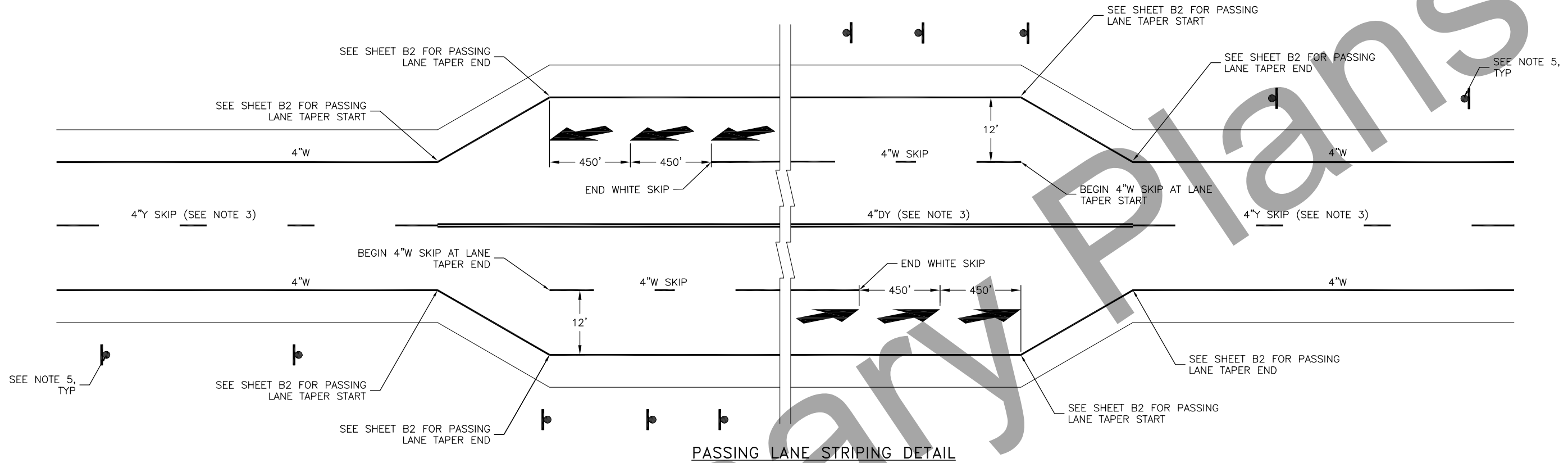
PLANS DEVELOPED BY: LOUNSBURY & ASSOCIATES INC., AEC391, 3230 C STREET SUITE 201, ANCHORAGE, ALASKA 99503, (907) 272-5451
 D:\pwise\file\60752_H_P2-H7_SIGN_SALVAGE_SUMMARY Wed, Jul/19/23 02:29pm

Preliminary Plans

SIGN SALVAGE SUMMARY

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	H8	H8

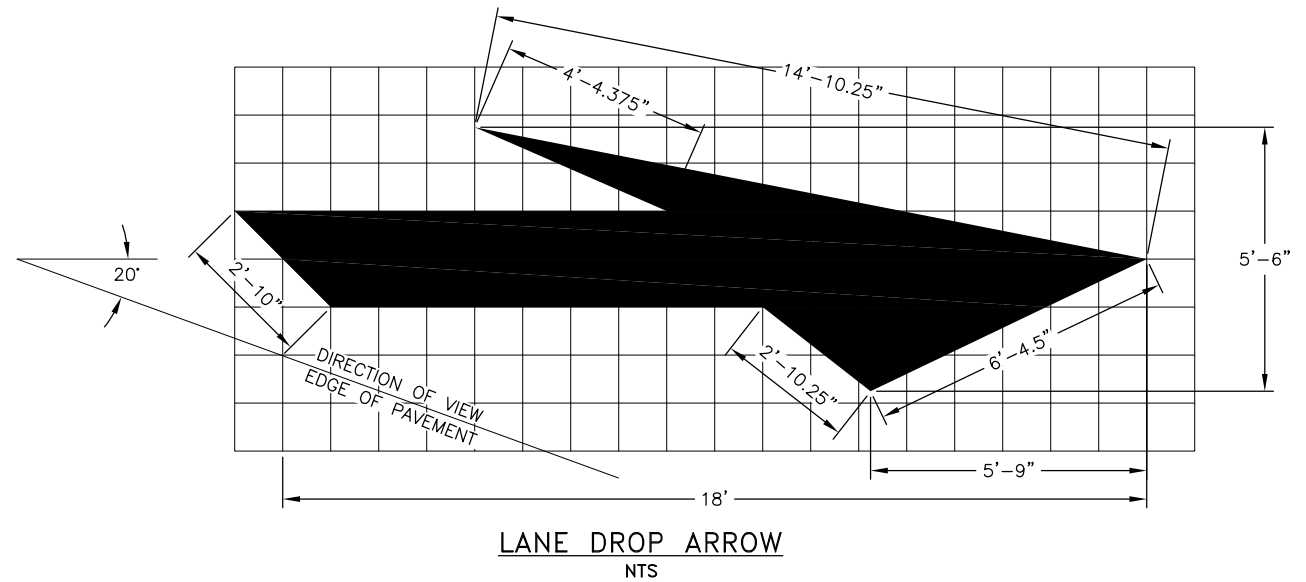


STRIPING NOTES

1. DIMENSIONS ARE TO CENTER OF STRIPE.
2. PLACE PAVEMENT MARKINGS IN ACCORDANCE WITH STANDARD PLAN I-30.10 AND SECTION 670.
3. FOR PASSING LANES ON ONLY ONE SIDE, PASS/NO PASS ZONES IN THE DIRECTION OPPOSING THE PASSING LANE WILL BE DETERMINED ACCORDING TO SECTION 670. USE CENTERLINE STRIPING TO ALLOW PASSING IN PASS ZONES.
4. THE PAINTED TRAFFIC MARKING SUMMARY IS FOR INFORMATION ONLY AND WILL NOT BE USED FOR MEASUREMENT OR PAYMENT PURPOSES.
5. SEE F SHEETS AND SIGN SUMMARY FOR PASSING LANE SIGNING LAYOUT.
6. LENGTH OF 4" DOUBLE YELLOW IS BASED ON A CONTINUOUS 4" DOUBLE YELLOW STRIPE THROUGH THE LENGTH OF THE PROJECT. NO ADJUSTMENT WILL BE MADE TO THE 670.0001.0000 PAY ITEM FOR DIFFERENCES IN QUANTITY OF YELLOW STRIPE INSTALLED ACCORDING TO 670-3.05, PRELIMINARY SPOTTING.

670.0001.0000 PAINTED TRAFFIC MARKINGS SUMMARY

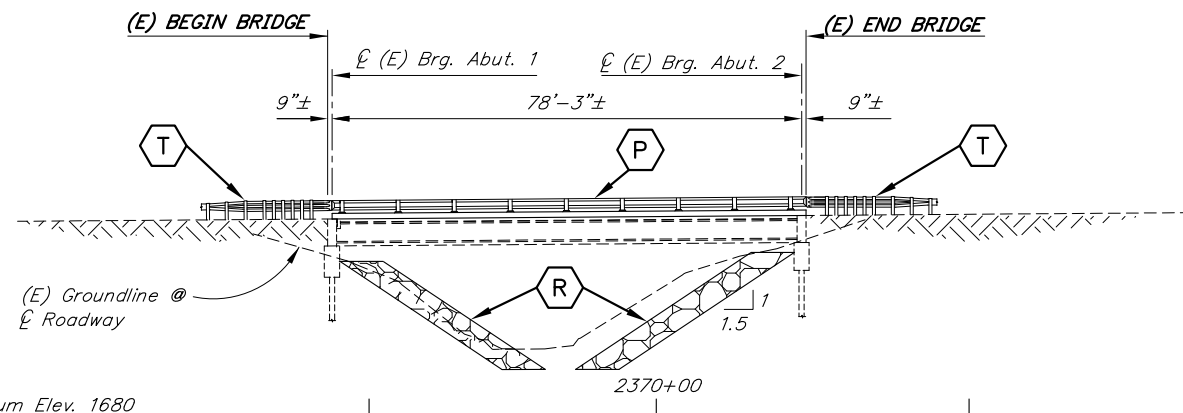
DESCRIPTION	QUANTITY	REMARKS
4"W	163900 LF	
4"W SKIP	24100 LF	
4"Y	1600 LF	
4"Y SKIP	46700 LF	
4"DY	82100 LF	
SYMBOLS	12 EACH	



PASSING LANE STRIPING DETAILS

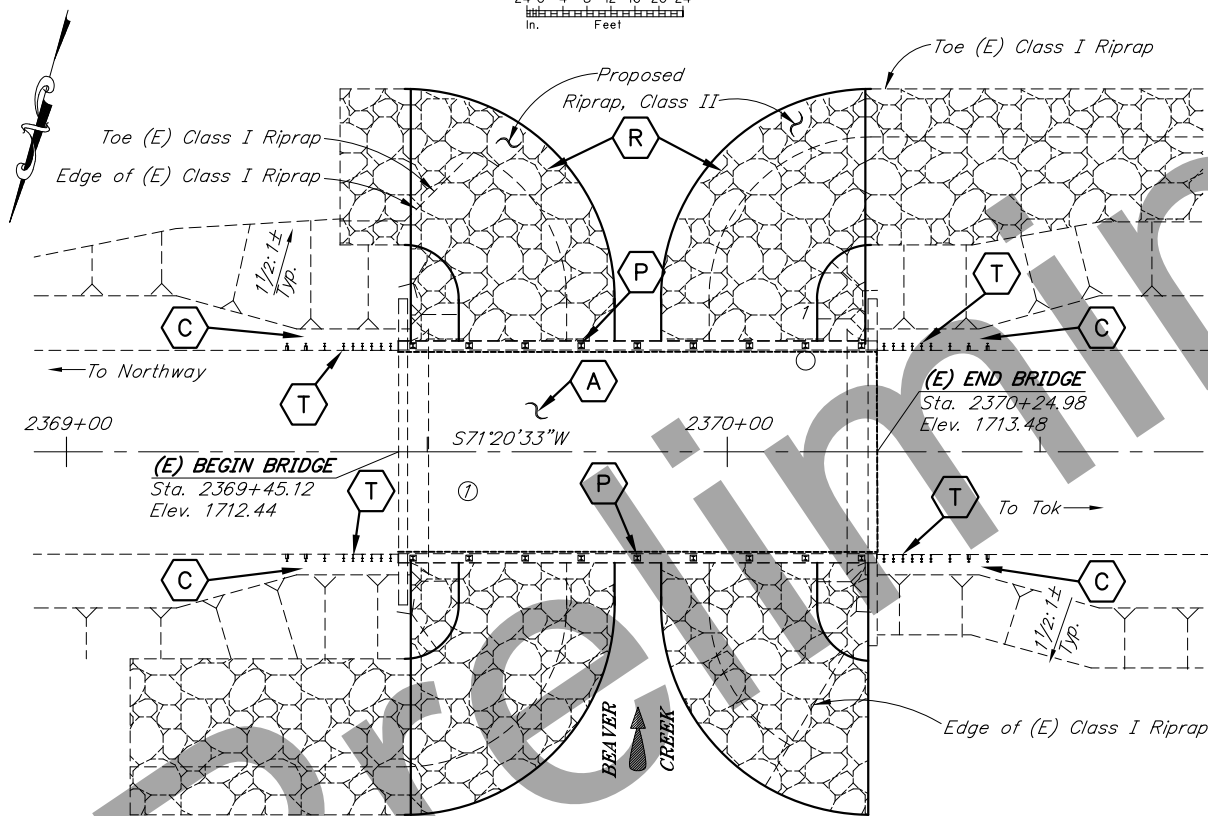
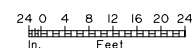
95%

PLANS DEVELOPED BY: LOUNSBURY & ASSOCIATES INC., AEC0391, 3230 C STREET SUITE 201, ANCHORAGE, ALASKA 99503, (907) 272-5451
D:\pwise\files\60752_H_P2-H8_PASSING_LANE_STRIPING_DETAILS_Wed_Jul1923_02:30pm

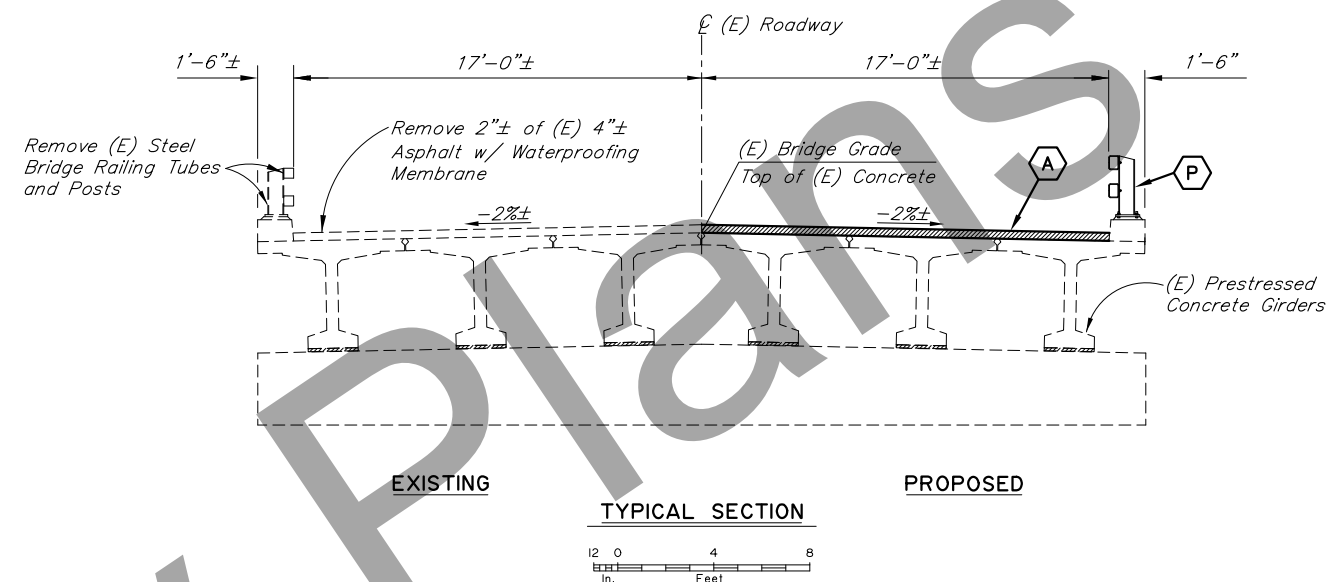
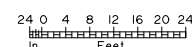


Datum Elev. 1680

ELEVATION



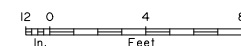
PLAN



EXISTING

TYPICAL SECTION

PROPOSED



BRIDGE DRAWING INDEX	
TITLE	DWG. NO.
GENERAL LAYOUT	1
GENERAL NOTES	2
RIPRAP LAYOUT	3
RAILING LAYOUT AND ASPHALT	4
STEEL BRIDGE RAILING	5
STEEL BRIDGE RAILING 2	6

LEGEND	
(A)	2" Asphalt Overlay and (E) 2" Asphalt with Waterproofing Membrane
(C)	Clear and Grub Bridge Ends, Transition Rail, and Approach Rail
(P)	Install Steel Bridge Railing Tubes and Posts
(R)	Install Riprap
(T)	Replace Transition Rail

NOTES:

- (E) = Existing
- = Existing
- = Proposed
- ① Approximate location of Bridge Number Plate.
- 2. Verify controlling field dimensions before ordering or fabricating any material.

REHABILITATION

R:\cad\504\rehab-GENERAL LAYOUT Fri, Nov/01/19 2:31pm

DESIGNED BY: David McAdoe	CHECKED: Sara Manning	LAYOUT BY: David McAdoe	CHECKED BY: Sara Manning
DRAWN BY: Javier De Leon	CHECKED: David McAdoe	SPECIFICATIONS BY: David McAdoe	P S & E COMPARED: Sara Manning
QUANTITIES BY: David McAdoe	CHECKED: Sara Manning	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

BEAVER CREEK BRIDGE
ALASKA HIGHWAY
GENERAL LAYOUT



BRIDGE NO. 504
DWG. NO. 1

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z607520000	2024	N2	N6

GENERAL NOTES

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

LIVE LOAD:..... HL-93

DEAD LOAD:..... Includes 25 psf for all wearing surfaces

STRUCTURAL STEEL:..... ASTM A709, Grade 36T3, Fy = 36,000 psi
Galvanize structural steel in accordance with AASHTO M111 unless shown otherwise.

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.

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBSTRUCTURE	SUPERSTRUCTURE	TOTAL QUANTITY
201.0009.0000	Clearing and Grubbing	LS	LS	---	All Req'd	All Req'd
507.2000.0000	Steel Bridge Railing Replacement, Tubes and Posts	LF	LF	---	160	160
606.0016.0000	Transition Rail	EA	EA	---	4	4
611.0001.0001	Riprap, Class I	CY	CY	20	20	20
611.0001.0002	Riprap, Class II	CY	CY	80	80	80

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

ABBREVIATIONS:

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

R:\cad\504\504 rehab--GENERAL NOTES Fri, Apr/28/23 2:31pm

DESIGNED BY: David McAdoo	CHECKED: Sara Manning
DRAWN BY: Javier De Leon	CHECKED: David McAdoo
QUANTITIES BY: David McAdoo	CHECKED: Sara Manning

REHABILITATION

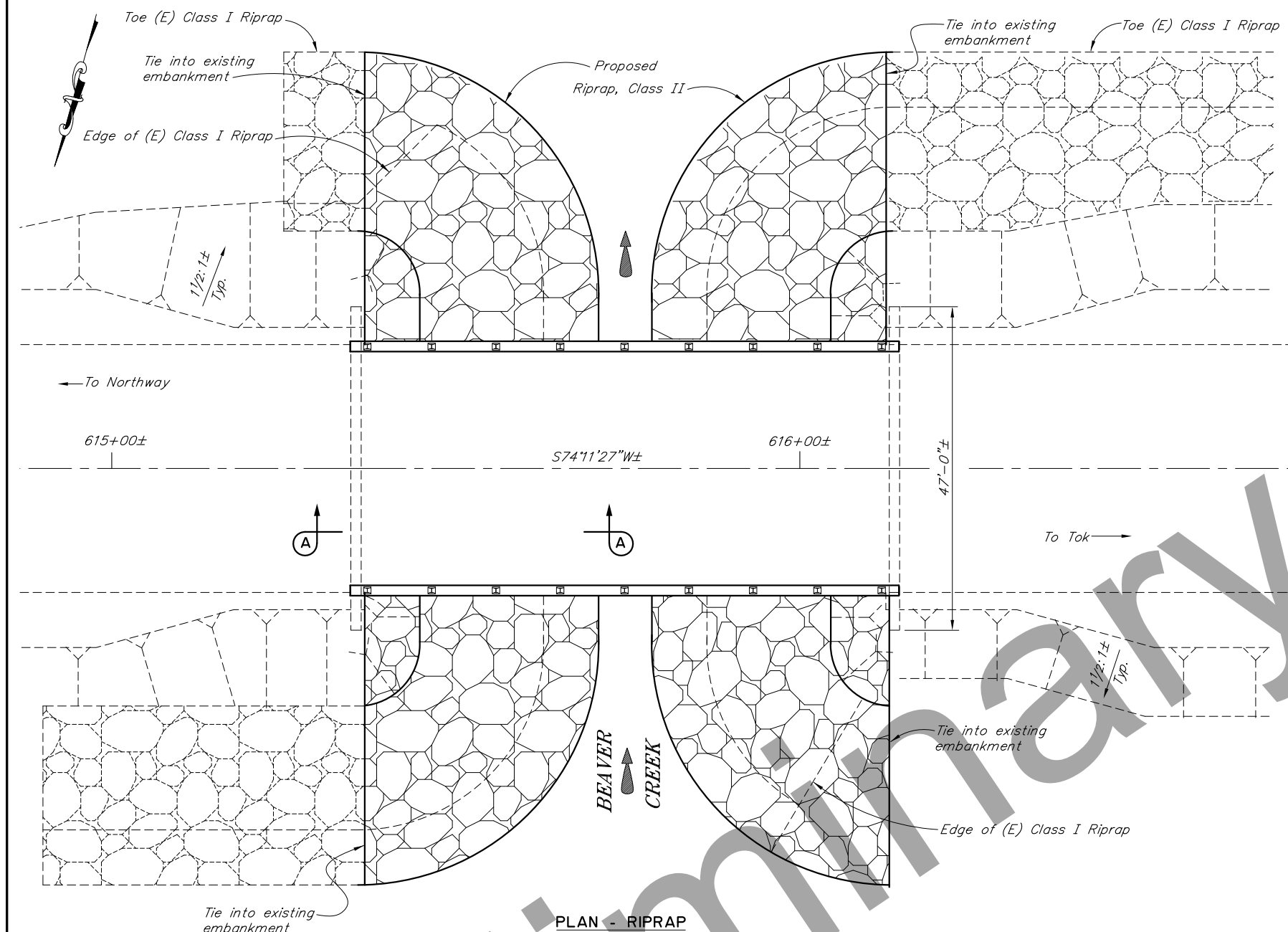
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

BEAVER CREEK BRIDGE
ALASKA HIGHWAY
GENERAL NOTES

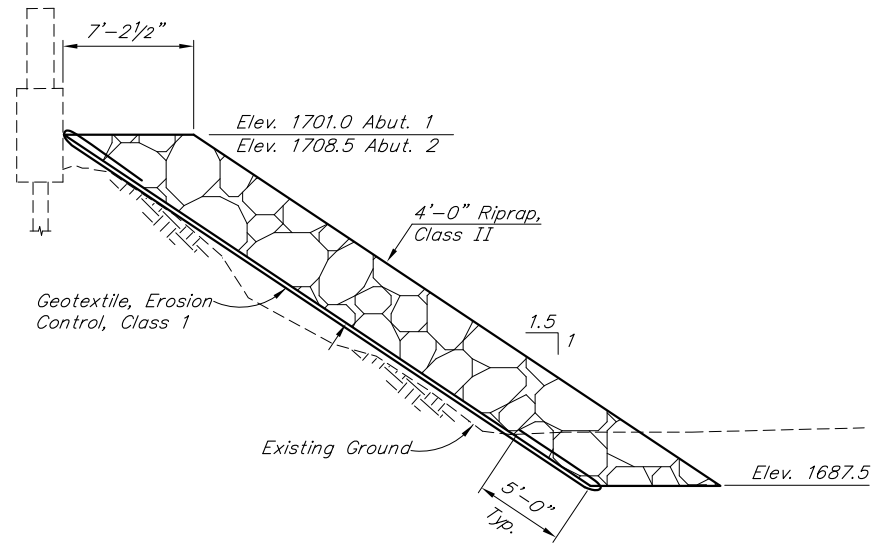


BRIDGE NO. 504
DWG. NO. 2

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z607520000	2024	N3	N6

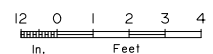


PLAN - RIPRAP



SECTION A-A

RIPRAP DETAIL



RIPRAP NOTES

1. All slope work and material is subsidiary to the riprap pay item.
2. Use Selected Material, Type B or better, to rebuild slopes as necessary.
3. Wrap geotextile around one rock layer thickness.
4. Salvage and reuse existing riprap, if in conflict with new construction. Existing riprap may also be used to rebuild slopes.
5. Fill under wingwalls prior to placing riprap.
6. Use native stream bed material and backfill to match existing stream bed.
7. Backfill on edges of riprap to match existing ground.

NOTES:

- (E) = Existing
- = Existing
- = Proposed

1. Verify controlling field dimensions before ordering or fabricating any material.

R:\cad\504\504_rehab-RIPRAP_LAYOUT Fri, Apr/28/23 2:31pm

DESIGNED BY:	David McAdoo	CHECKED:	Sara Manning
DRAWN BY:	Javier De Leon	CHECKED:	David McAdoo
QUANTITIES BY:	David McAdoo	CHECKED:	Sara Manning

REHABILITATION

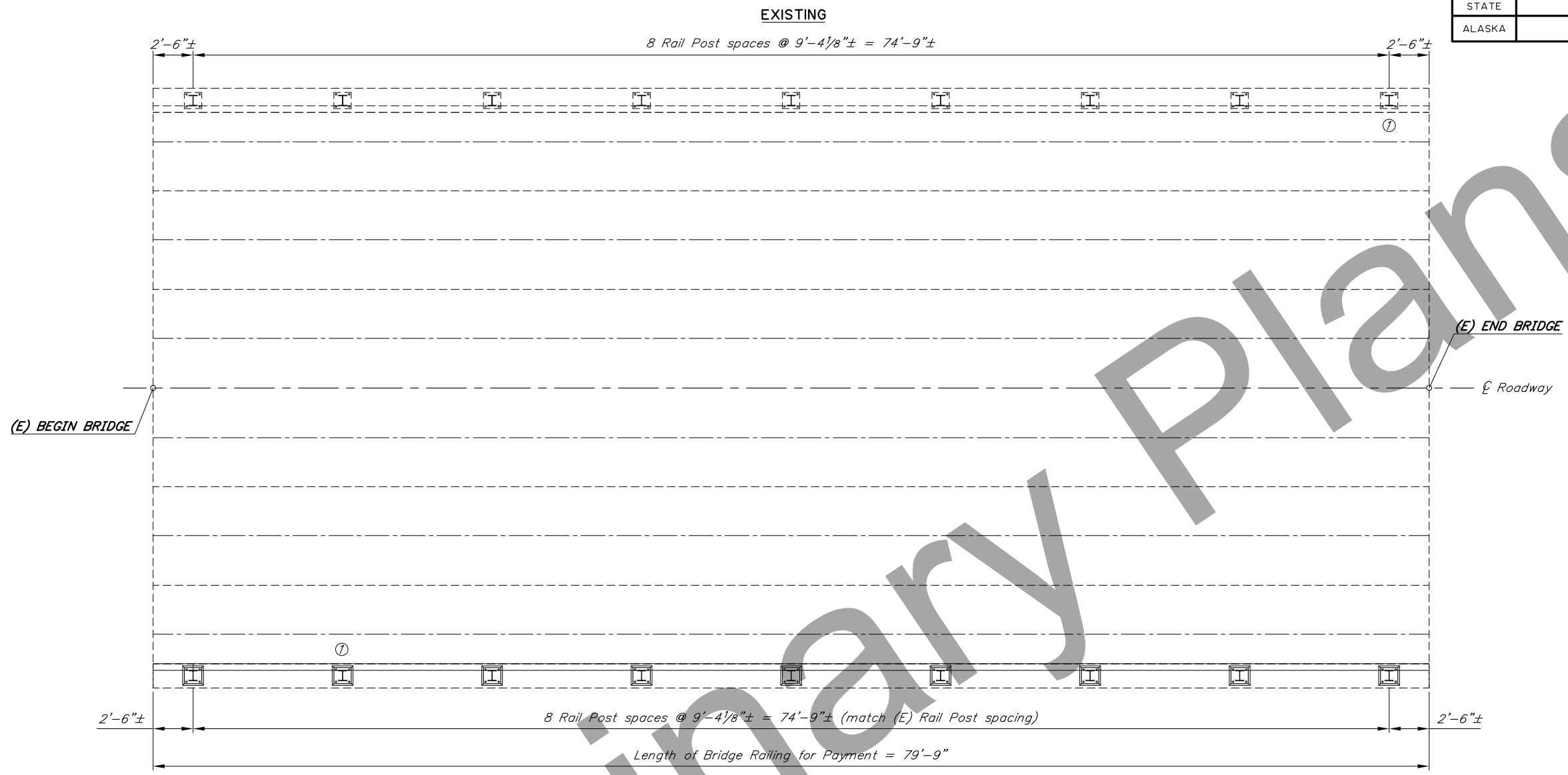
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

BEAVER CREEK BRIDGE
ALASKA HIGHWAY
RIPRAP LAYOUT

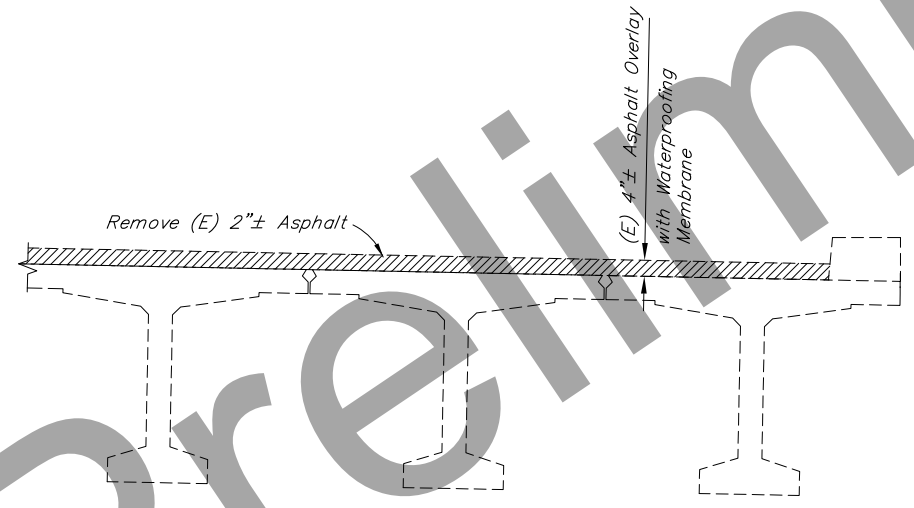


BRIDGE NO. 504
DWG. NO. 3

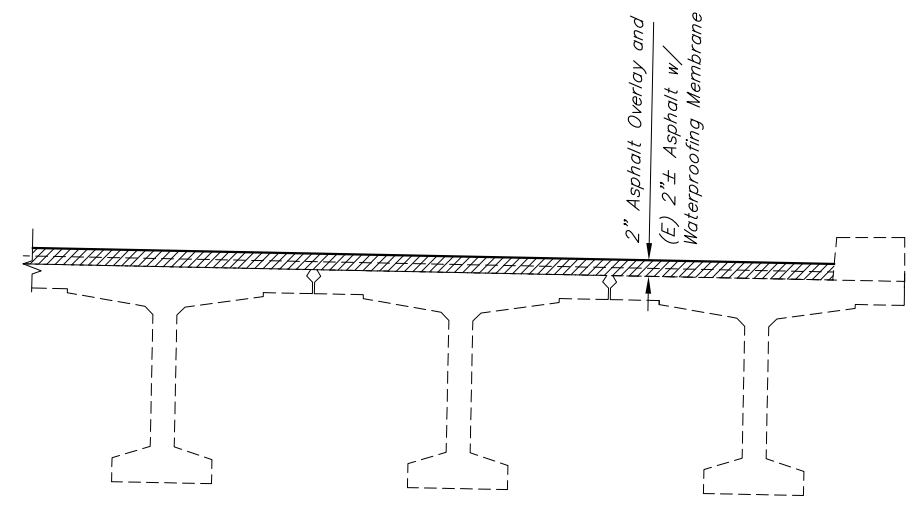
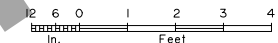
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z607520000	2024	N4	N6



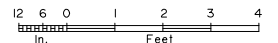
PROPOSED
BRIDGE RAILING LAYOUT



EXISTING ASPHALT OVERLAY



PROPOSED ASPHALT OVERLAY



NOTES:

- (E) = Existing
- = Existing
- = Proposed
- ① Approximate location of Bridge Number Plate.
- 2. Verify controlling field dimensions before ordering or fabricating any material.

R:\cod\504\504_rehab-RAIL LAYOUT Fri, Apr/28/23 2:31pm

DESIGNED BY: David McAdoo	CHECKED: Sara Manning
DRAWN BY: Javier De Leon	CHECKED: David McAdoo
QUANTITIES BY: David McAdoo	CHECKED: Sara Manning

REHABILITATION

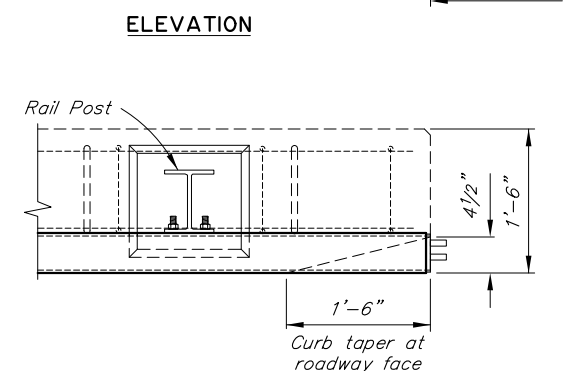
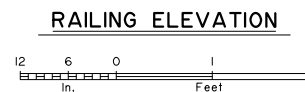
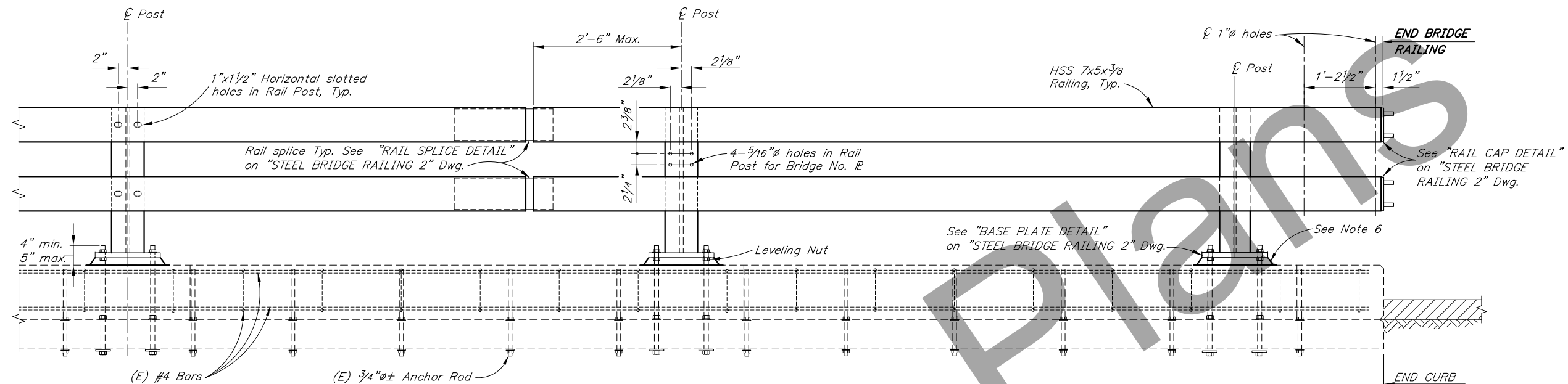
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
BRIDGE SECTION
3132 Channel Drive
Juneau, Alaska 99801
907-465-2975

BEAVER CREEK BRIDGE
ALASKA HIGHWAY
RAILING LAYOUT AND ASPHALT



BRIDGE NO. 504
DWG. NO. 4

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	Z607520000	2024	N5	N6



NOTES:

- (E) = Existing
- = Existing
- = Proposed

1. Remove (E) bridge number plates. Install bridge number plates onto new steel bridge railing posts. Locate bridge number plates on right hand side of approaching traffic near each end as shown on "RAILING LAYOUT AND ASPHALT" Dwg. (2 total). Use studs and nuts that conform to UNS C65100 or UNS C65500. Braze 1/4" threaded rod to back of plate with nut - 4 required. Use tamper proof nuts.
2. Provide railing expansion joints at 50'-0" maximum intervals. Railing shall be continuous over 2 posts minimum. Railing expansion joints are required in rail panels that span bridge expansion joints.
3. See "RAILING LAYOUT AND ASPHALT" Dwg. for rail post spacing.
4. Install bridge rail posts plumb.
5. Verify controlling field dimensions before ordering or fabricating any material.
6. Install grout in a single placement.

DESIGNED BY: David McAdoo	CHECKED: Sara Manning
DRAWN BY: Javier De Leon	CHECKED: David McA
QUANTITIES BY: David McAdoo	CHECKED: Sara Mann

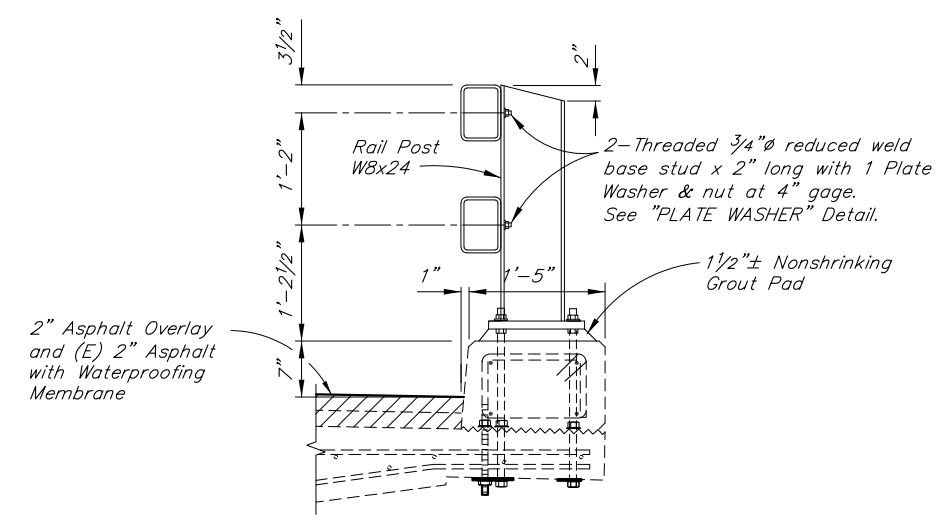
REHABILITATION

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

BEAVER CREEK BRIDGE
ALASKA HIGHWAY
STEEL BRIDGE RAILING



BRIDGE NO. 504
DWG. NO. 5



PROPOSED TYPICAL SECTION

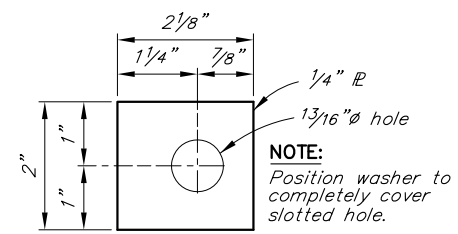
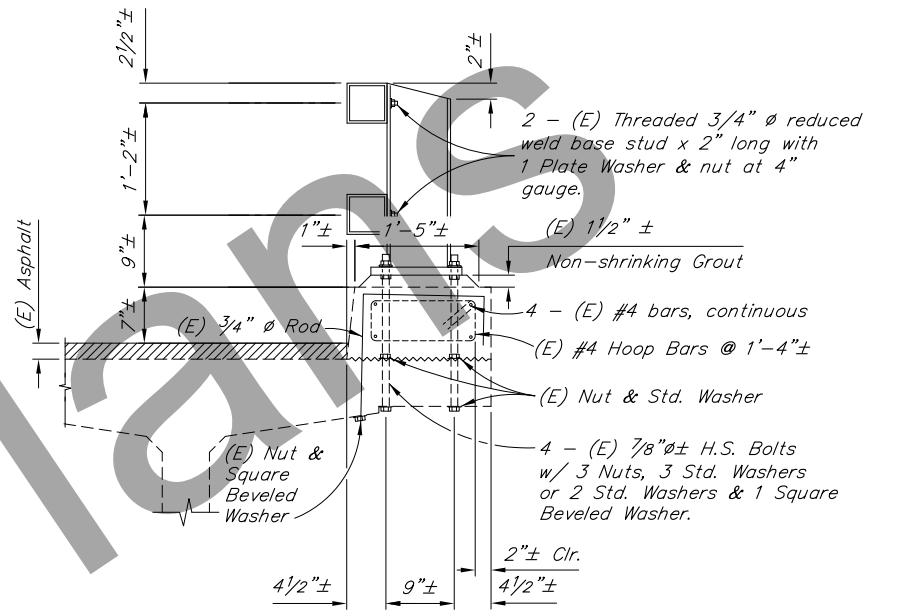
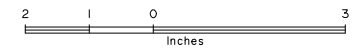
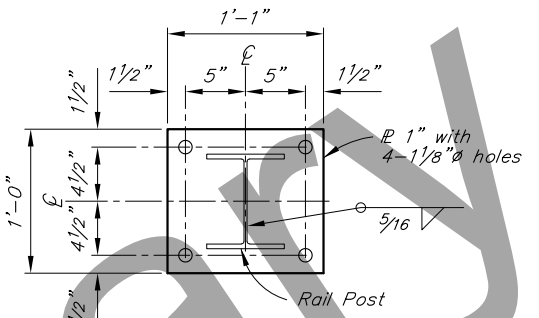


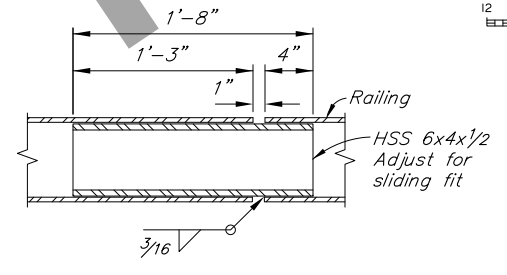
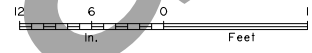
PLATE WASHER



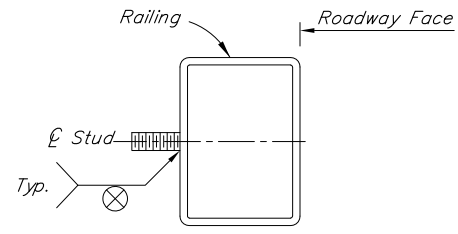
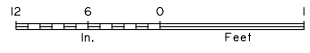
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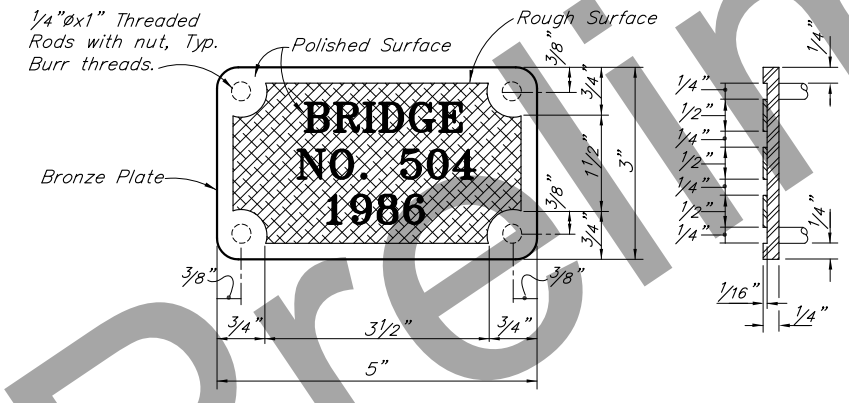
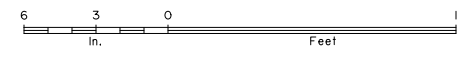
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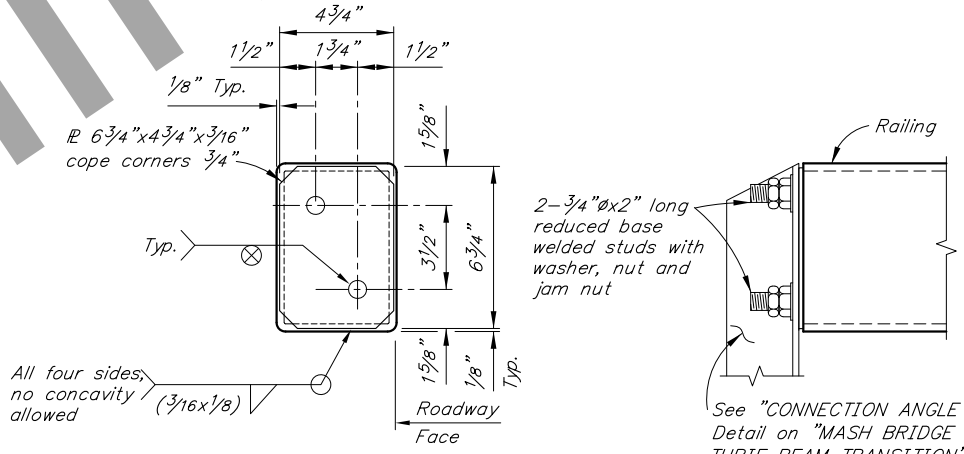
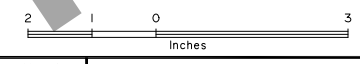
RAIL SPLICE DETAIL



RAILING STUD DETAIL



BRONZE BRIDGE NO. PLATE



RAIL CAP DETAIL



NOTES

- (E) = Existing
 - - - = Existing
 - = Proposed
1. Remove (E) bridge number plates. Install bridge number plates onto new steel bridge railing posts. Locate bridge number plates on right hand side of approaching traffic near each end as shown on "RAILING LAYOUT AND ASPHALT" Dwg. (2 total). Use studs and nuts that conform to UNS C65100 or UNS C65500. Braze 1/4 inch diameter threaded rod to back of plate with nut - 4 required. Use tamper proof nuts.
 2. Provide railing expansion joints at 50'-0" maximum intervals. Railing shall be continuous over 2 posts minimum. Railing expansion joints are required in rail panels that span bridge expansion joints.
 3. Install bridge rail posts plumb.
 4. Verify controlling field dimensions before ordering or fabricating any material.
 5. Install grout in a single placement.
 6. Conform to Std. Plan G-32.03 for "MASH BRIDGE RAIL THRIE BEAM TRANSITION" Dwg. for details not shown.

R:\cad\504\504 rehab-STEEL BRIDGE RAILING 2.Fri, Apr/28/23 2:31pm

DESIGNED BY:	David McAdoo	CHECKED:	Sara Manning
DRAWN BY:	Javier De Leon	CHECKED:	David McAdoo
QUANTITIES BY:	David McAdoo	CHECKED:	Sara Manning

REHABILITATION

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

BEAVER CREEK BRIDGE
 ALASKA HIGHWAY
 STEEL BRIDGE RAILING 2

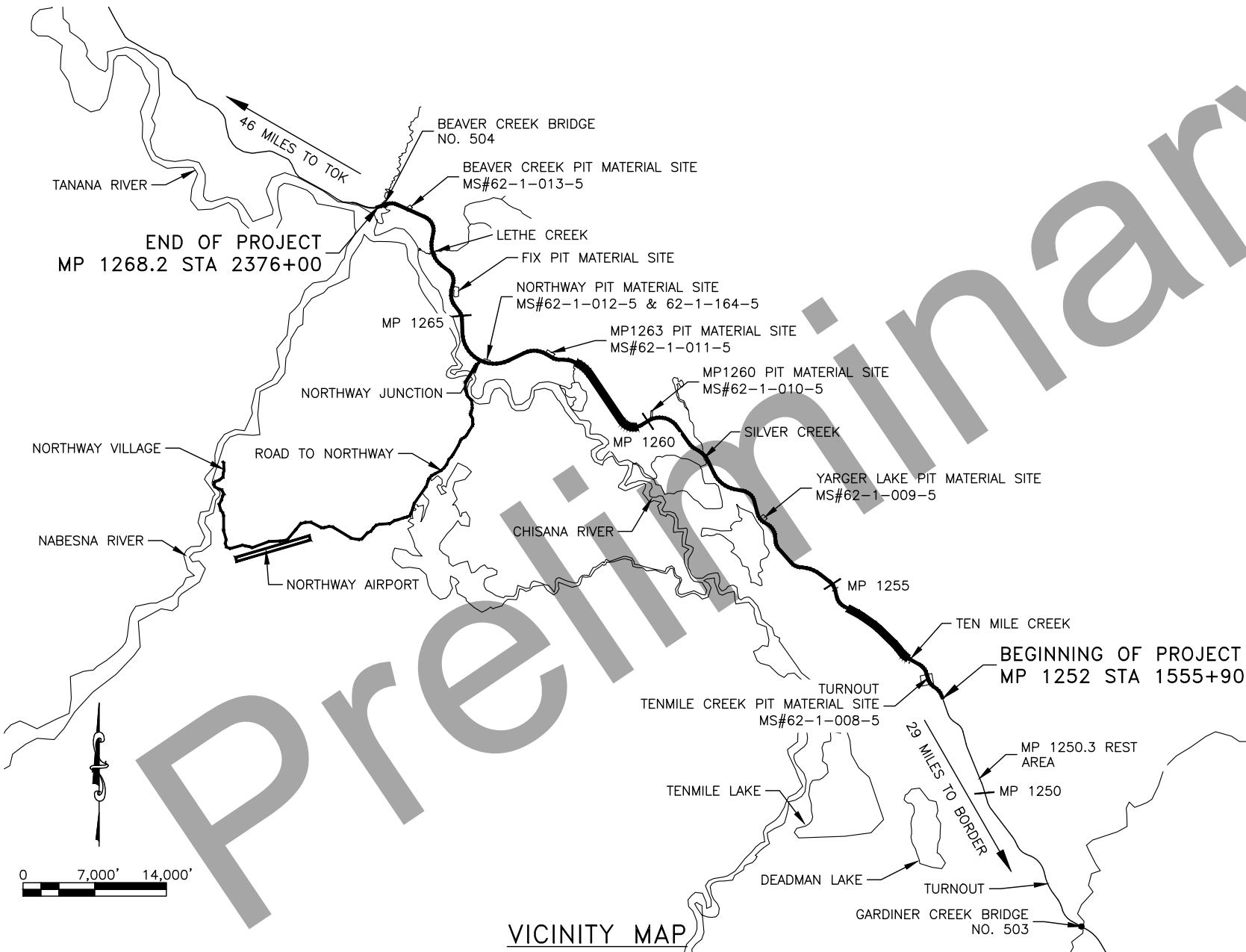


BRIDGE NO. 504
 DWG. NO. 6

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	Q1	Q15

ESCP GENERAL NOTES:

- 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 CONTRACTOR'S ACTUAL SCHEDULE AND CONSTRUCTION METHODS, AS REQUIRED TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
- CONSTRUCTION ENTRANCE/EXIT MUST BE ESTABLISHED TO MINIMIZE OFF-SITE IMPACTS.
- INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25 FOOT VEGETATIVE BUFFER IS NOT RETAINED.
- 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.
- ALL IN-WATER WORK MUST BE ISOLATED FROM WATERS OF THE U.S. USING APPROPRIATE BMPs. ISOLATION METHODS MAY INCLUDE:
 - SILT CURTAINS
 - COFFERDAMS
 - DIVERSIONS
 - OTHER METHODS APPROVED BY THE ENGINEER
- INLET / OUTLET PROTECTION REQUIRED FOR ALL CULVERTS, CROSSING CULVERT PROTECTION IS SHOWN ON THE ESCP SHEETS,
- AREAS OF DISTURBANCE, TEMPORARY AND PERMANENT STABILIZATION, WILL BE MARKED AS WORK PROCEEDS AND ADDED TO THE LEGEND.
- REFER TO APPENDIX A OF THE CONTRACT FOR ENVIRONMENTAL PERMIT INFORMATION.
- REFER TO APPENDIX C OF THE CONTRACT FOR THE ESCP TEMPLATE.
- TEMPORARY BMP'S REQUIRED BY THIS ESCP WILL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

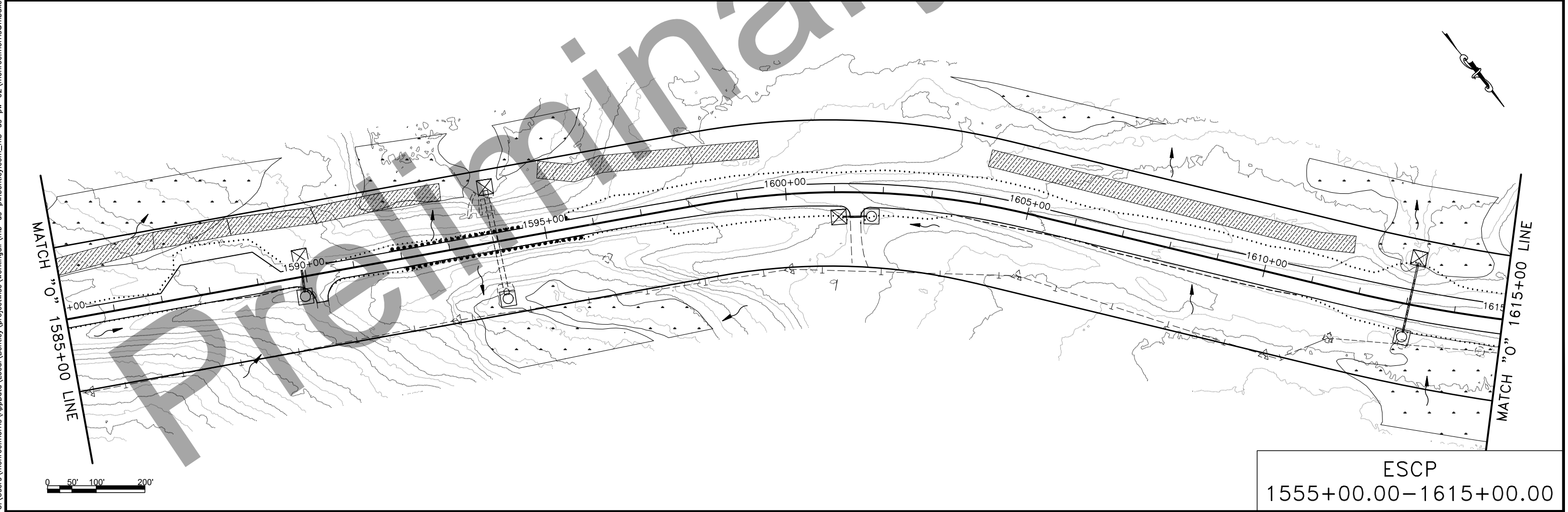
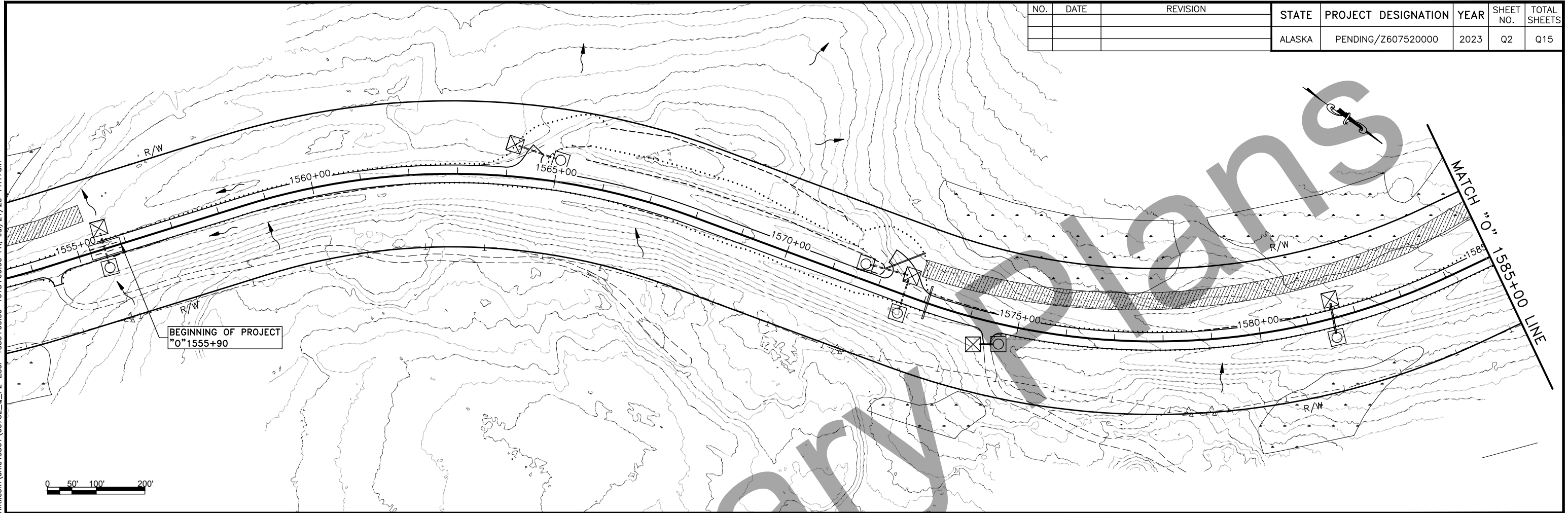


LEGEND

- PERIMETER CONTROL — P — P — P — P — P —
- CULVERT INLET/OUTLET PROTECTION □ ⊠
- VEGETATION BUFFER [diagonal hatching]
- REVEGETATIVE EFFORT [cross-hatching]
- 10' CONTOURS ————
- 5' CONTOURS - - - - -
- TEMPORARY CONSTRUCTION EASEMENT (TCE) [rectangle with dashed lines]
- EXISTING SURFACE FLOW DIRECTION [arrow]
- CONSTRUCTION ENTRANCE/EXIT [dashed line with arrows]
- WETLANDS [stippled area]

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AECC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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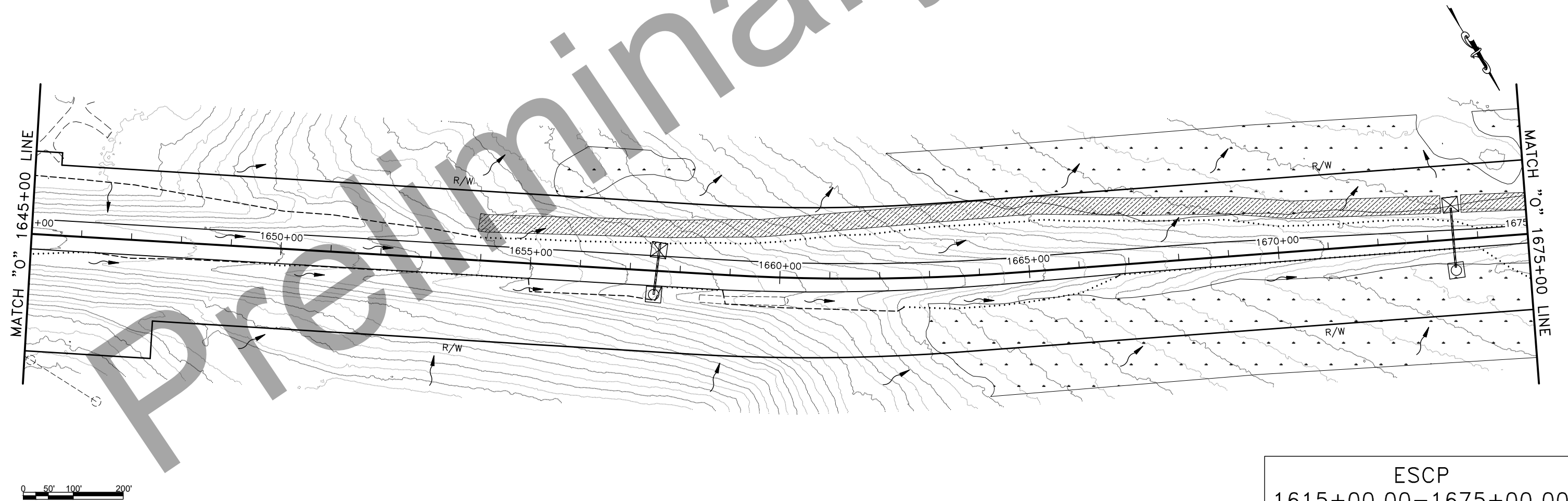
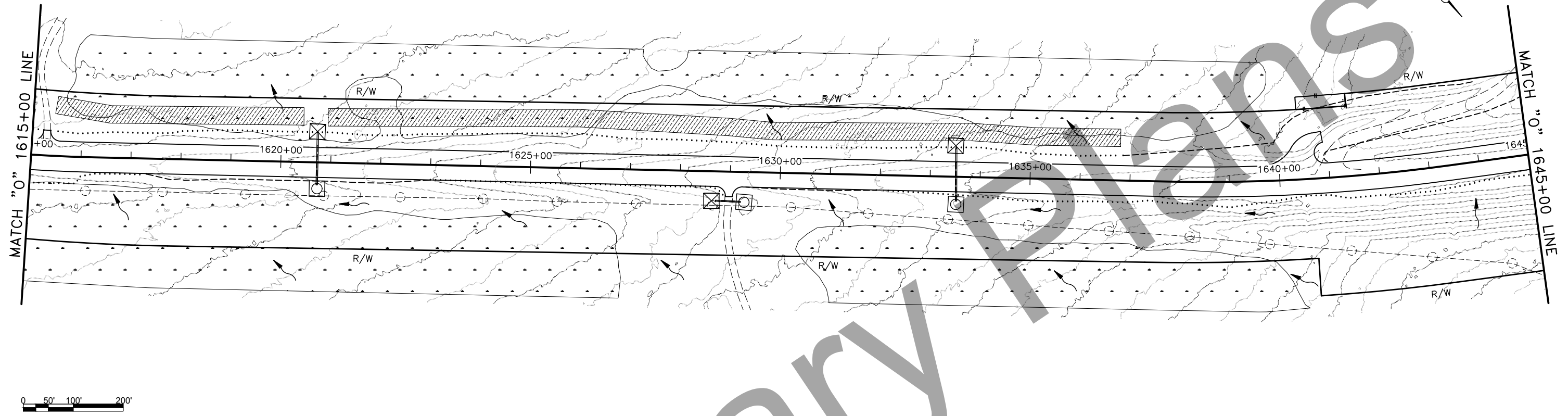
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	Q2	Q15



ESCP
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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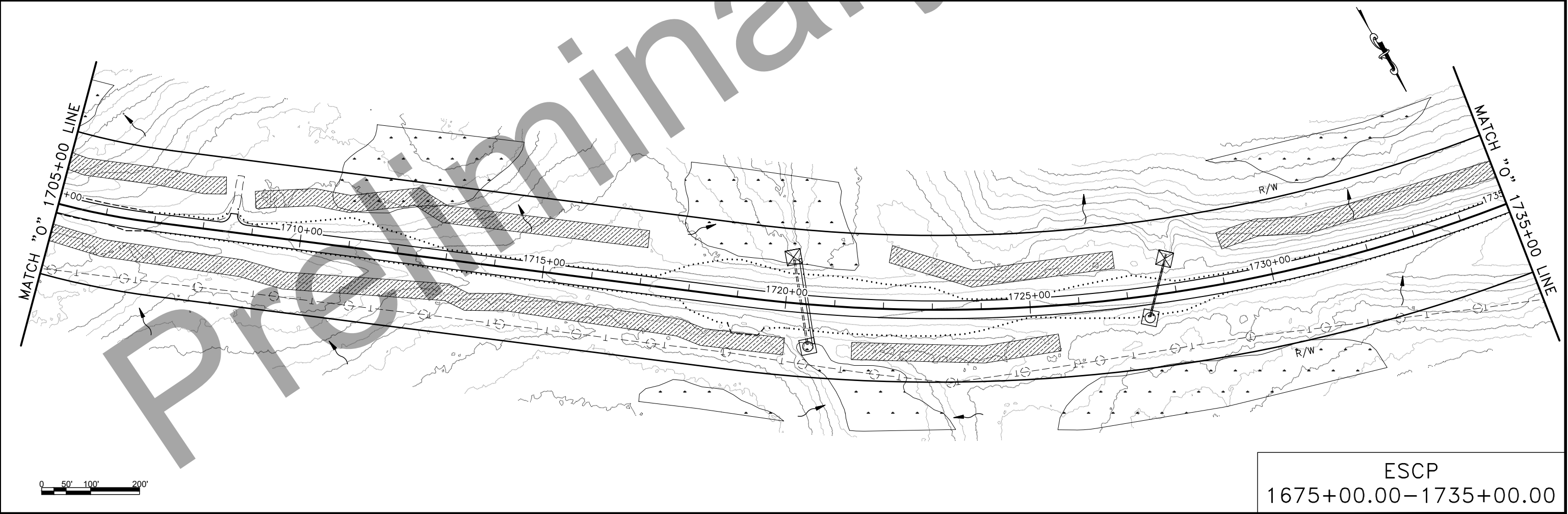
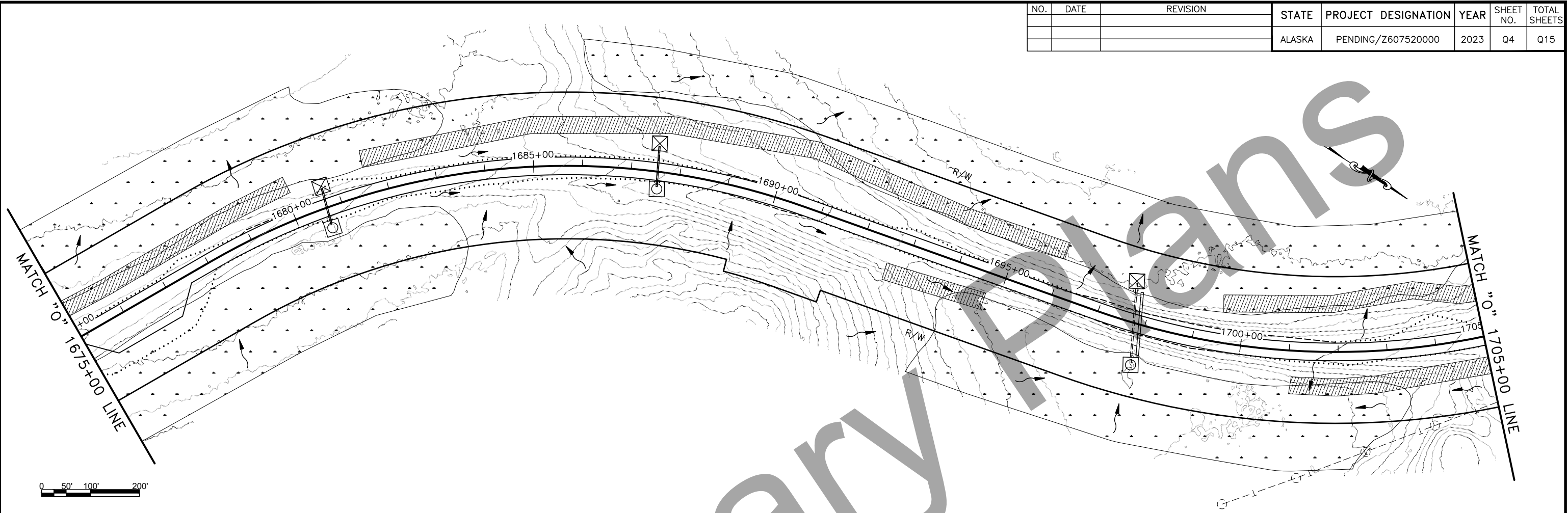
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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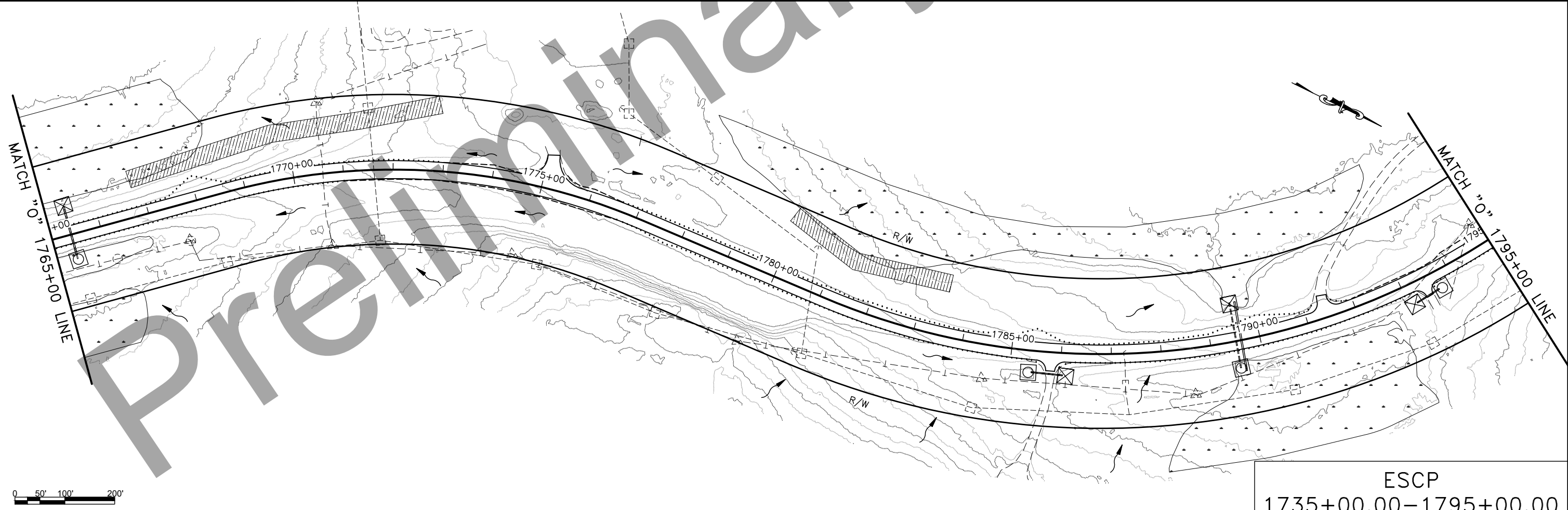
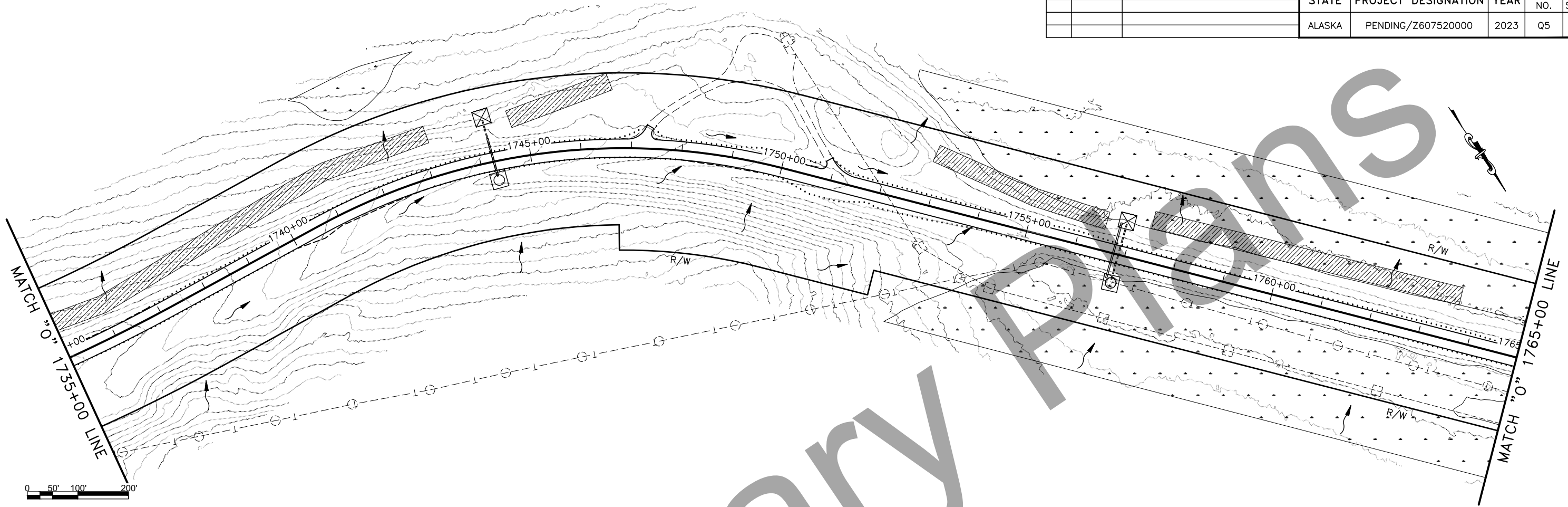
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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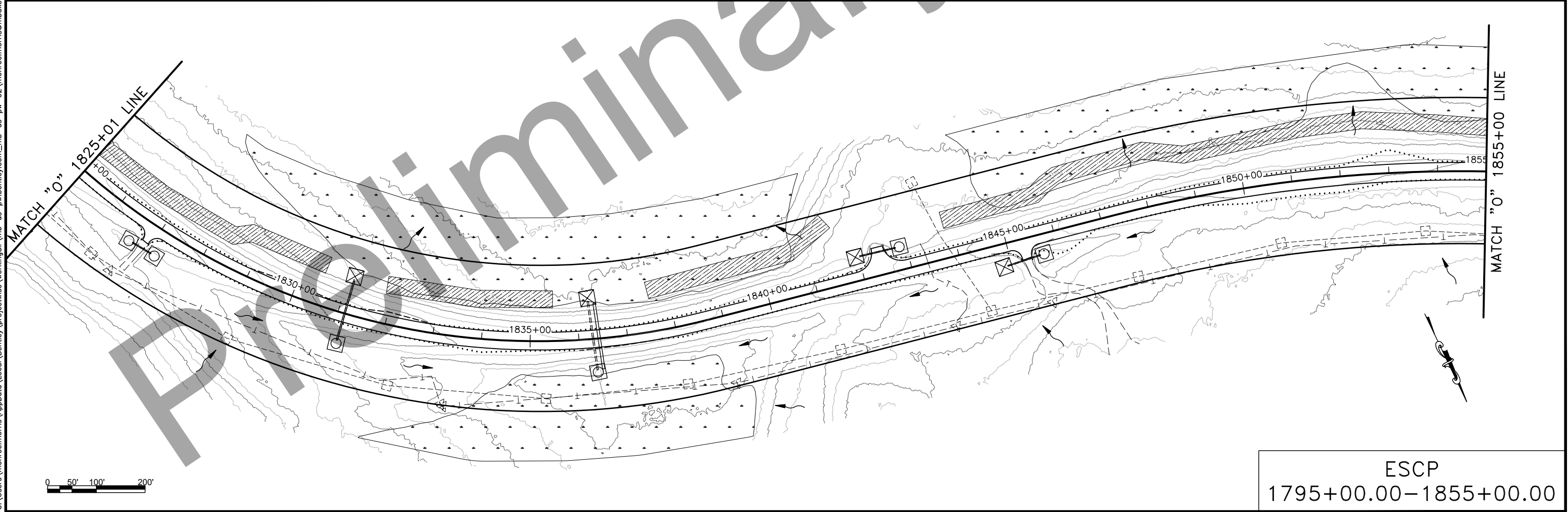
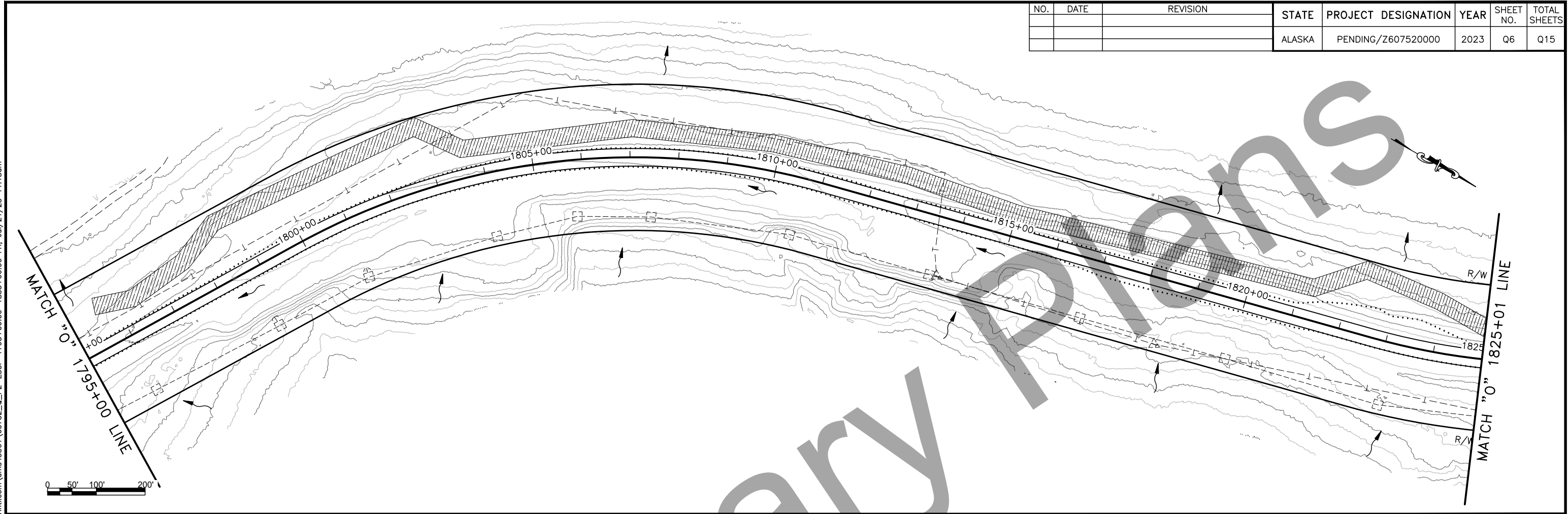
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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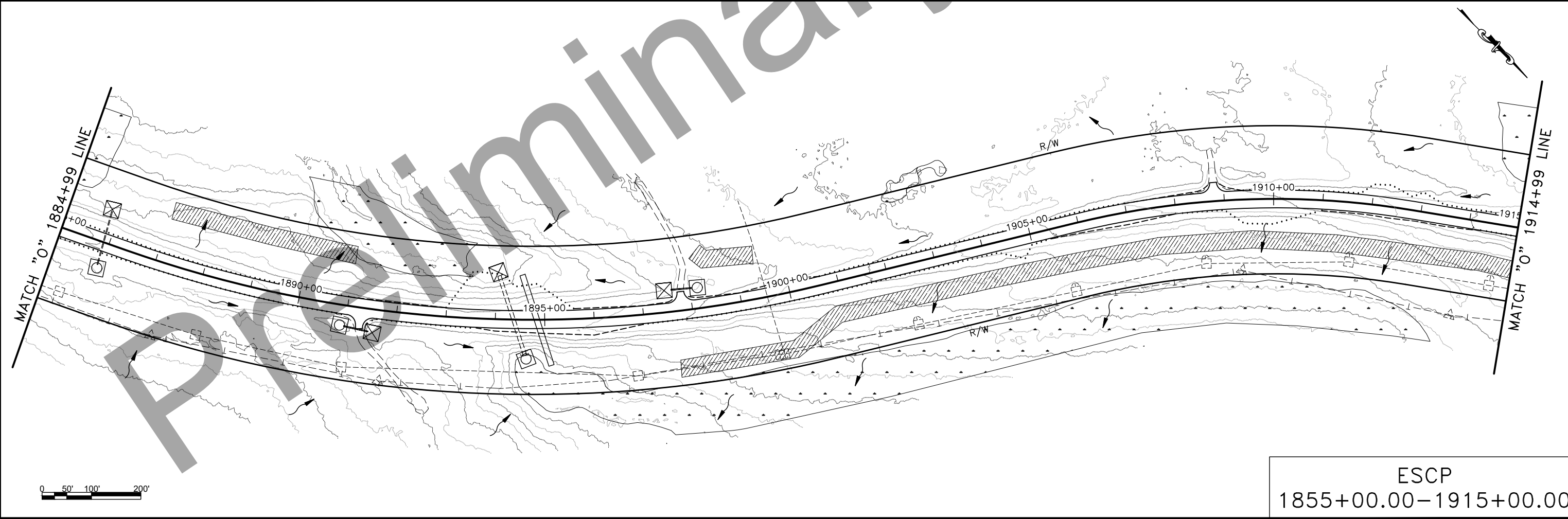
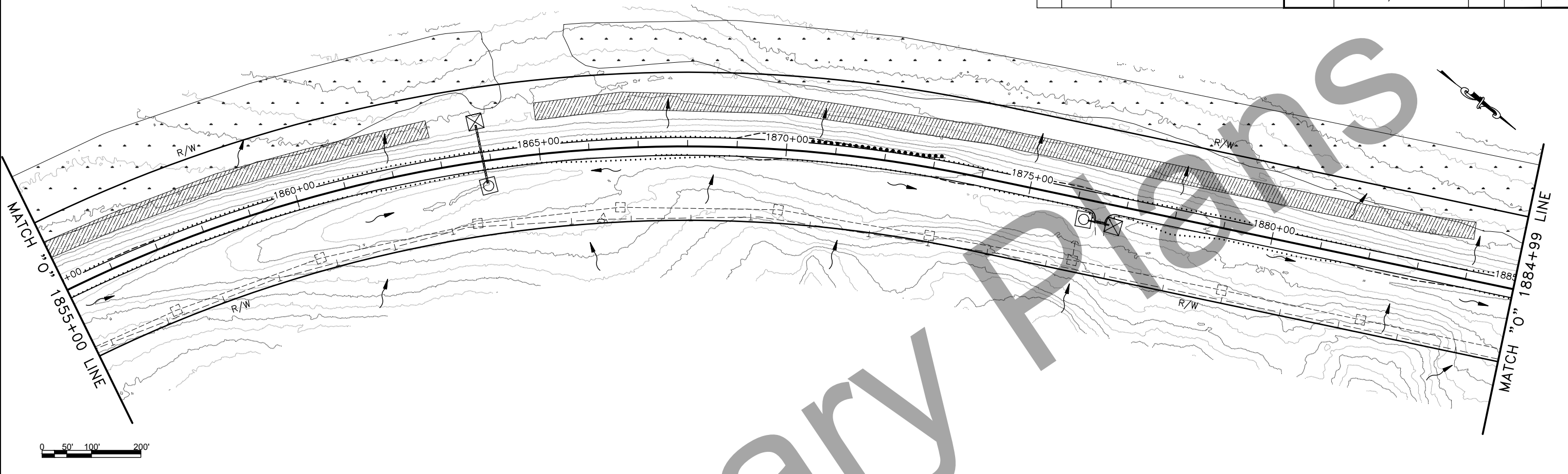
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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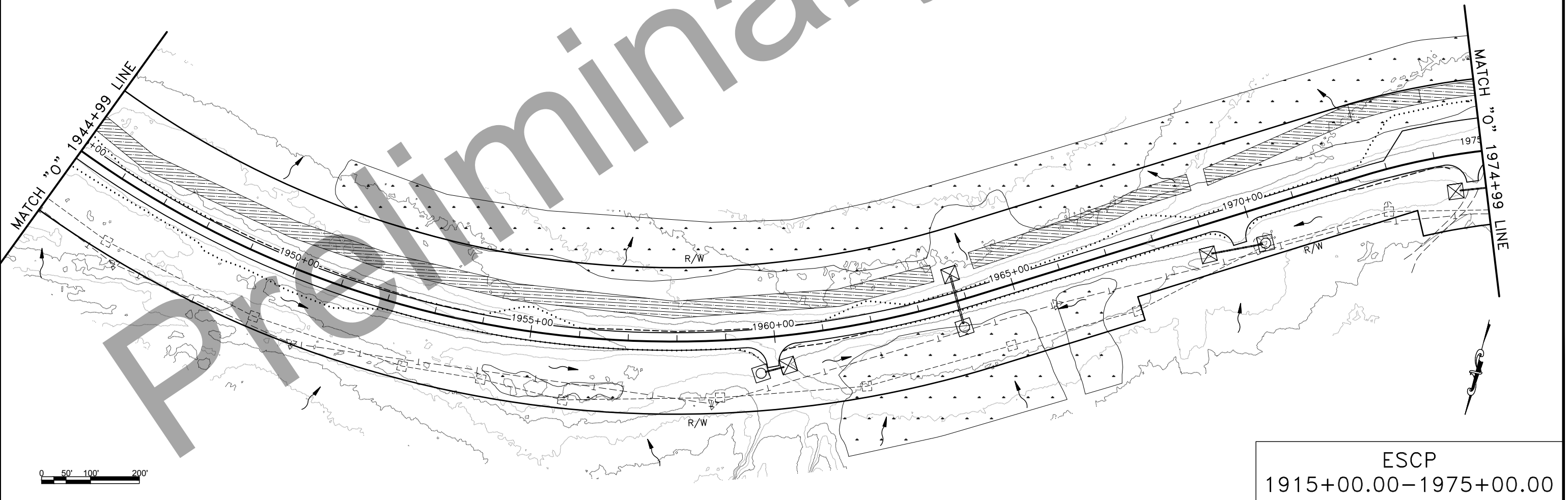
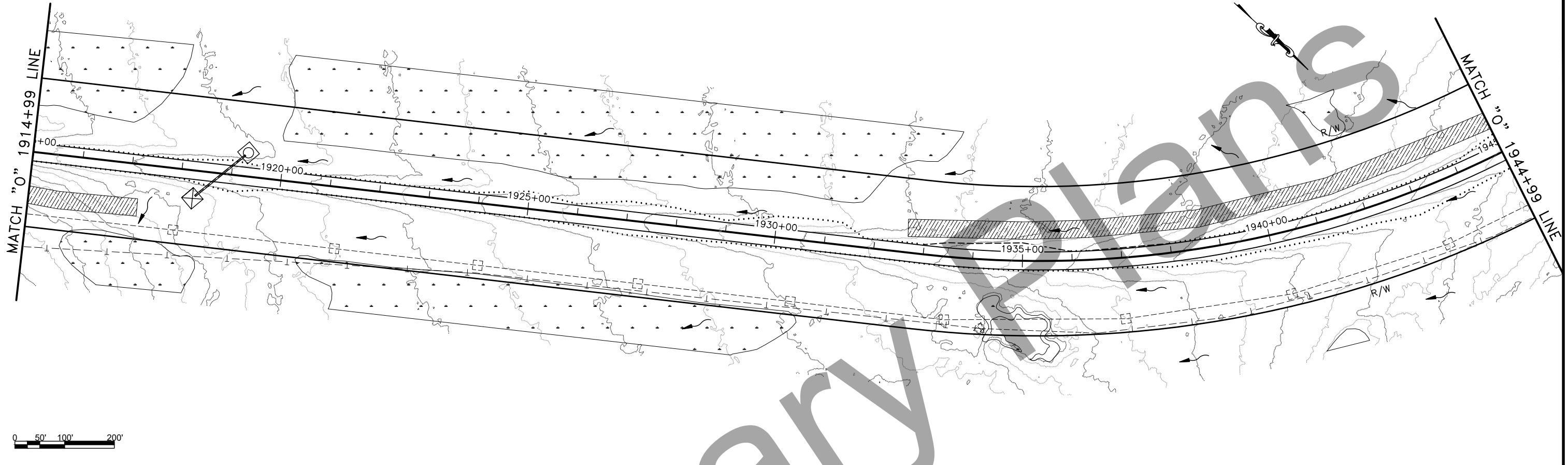
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ESCP
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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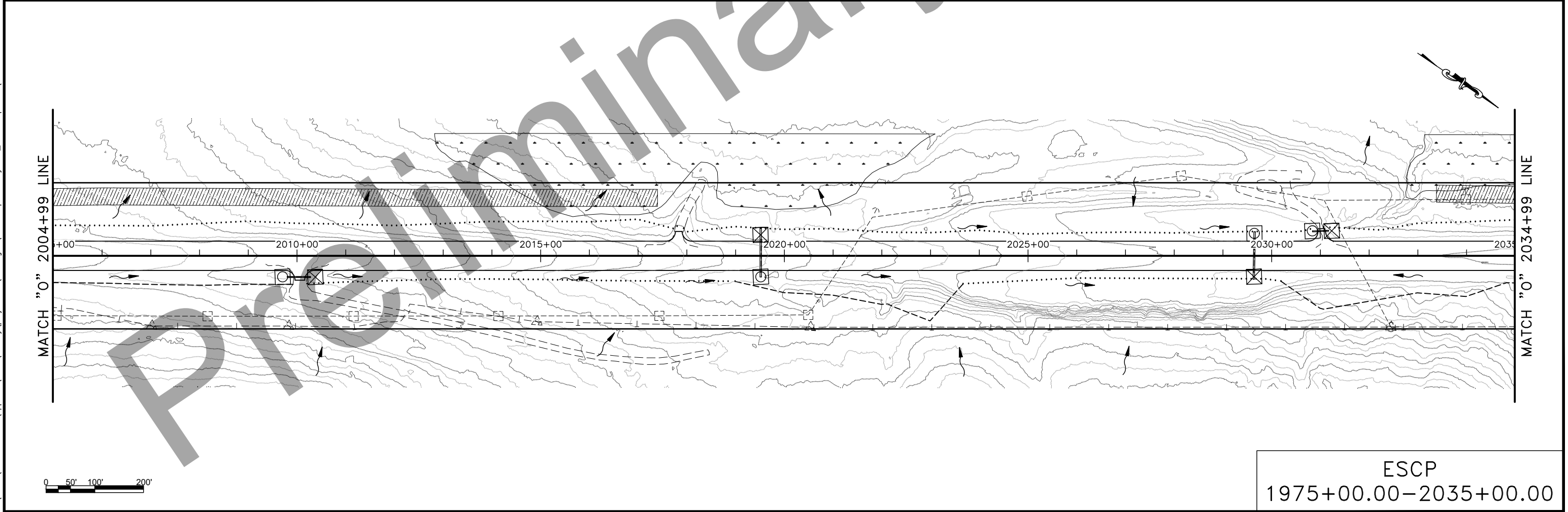
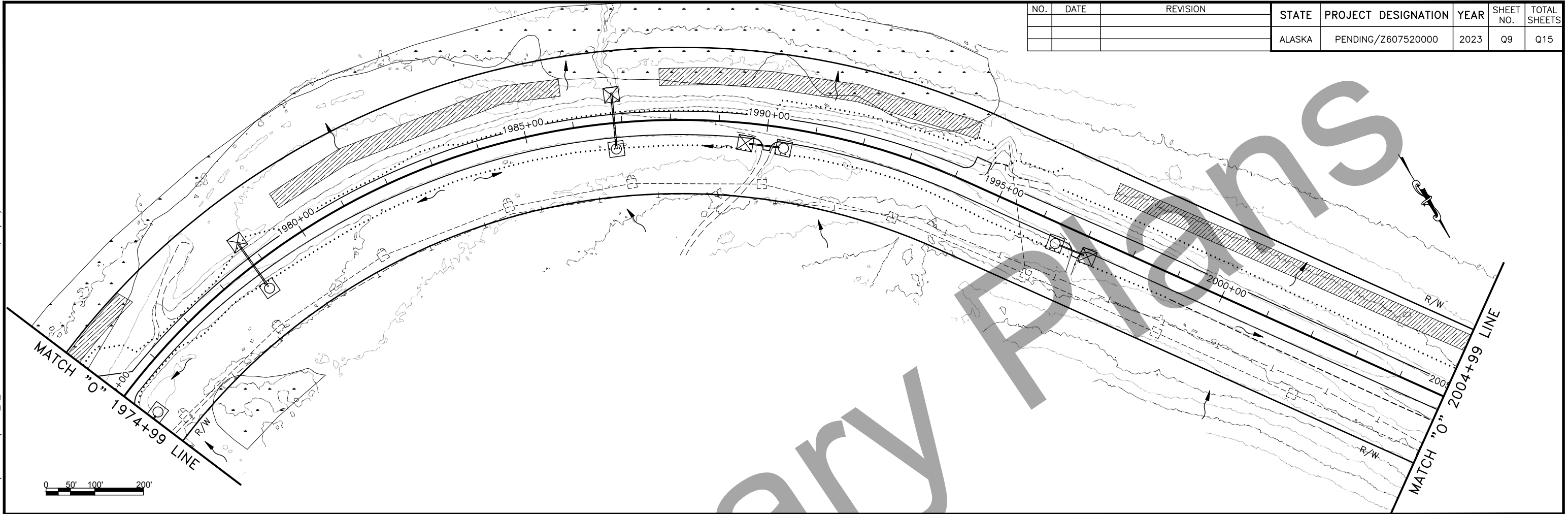
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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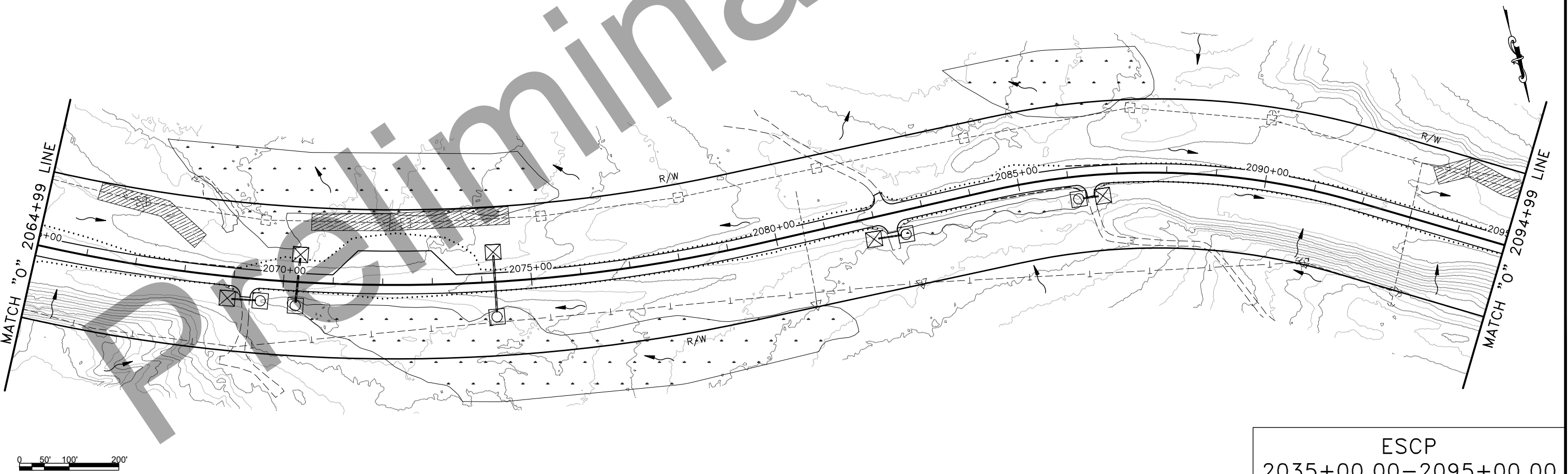
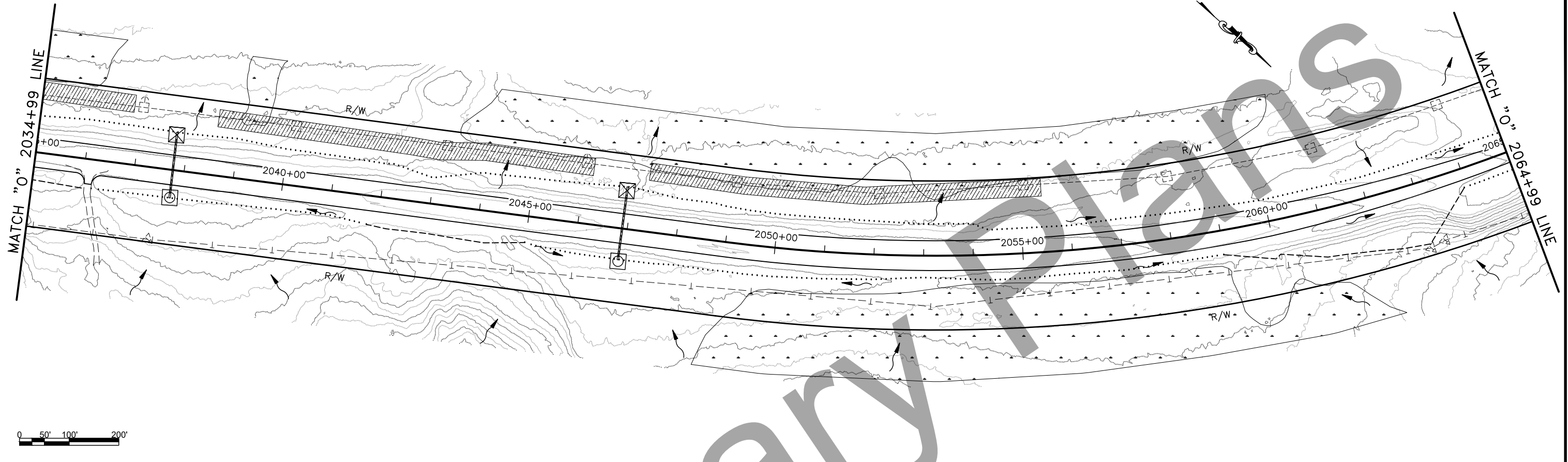
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ESCP
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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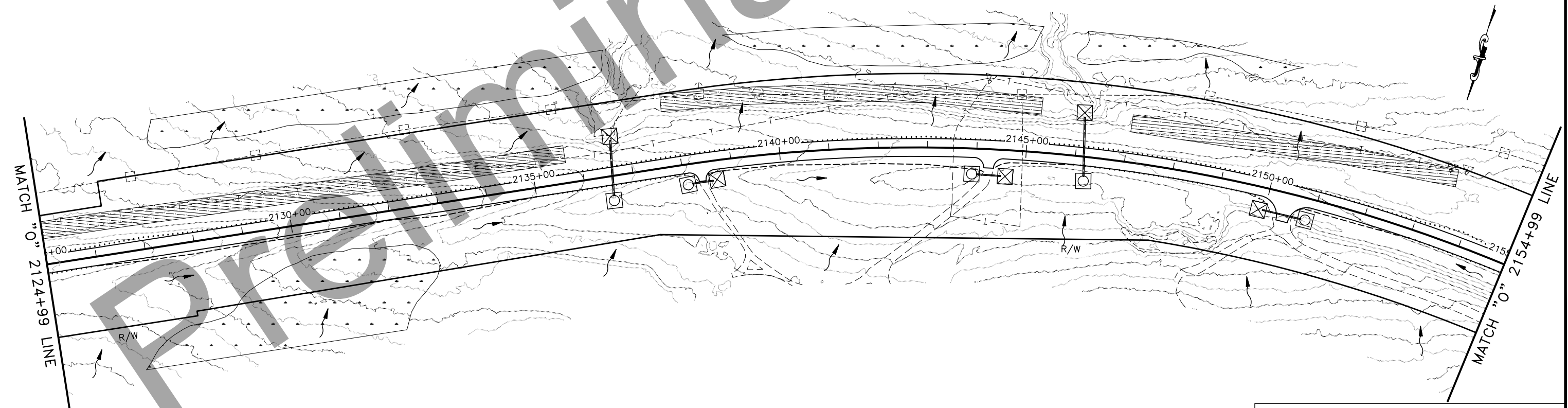
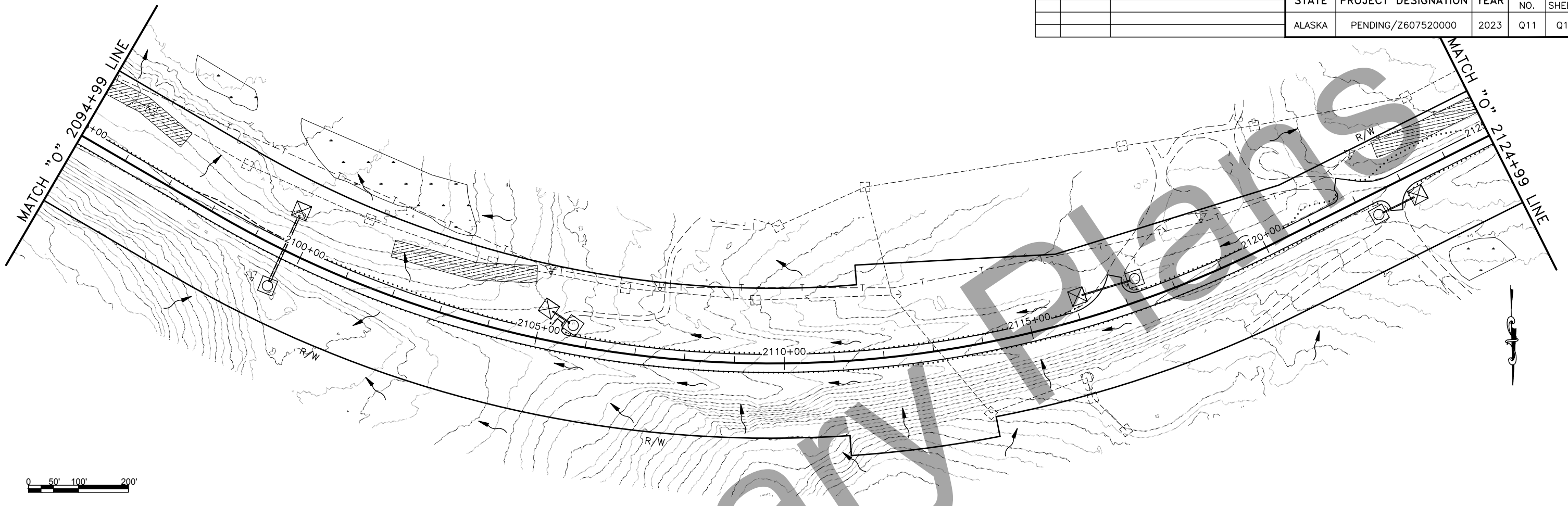
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			ALASKA	PENDING/Z607520000	2023	Q10	Q15



ESCP
2035+00.00-2095+00.00

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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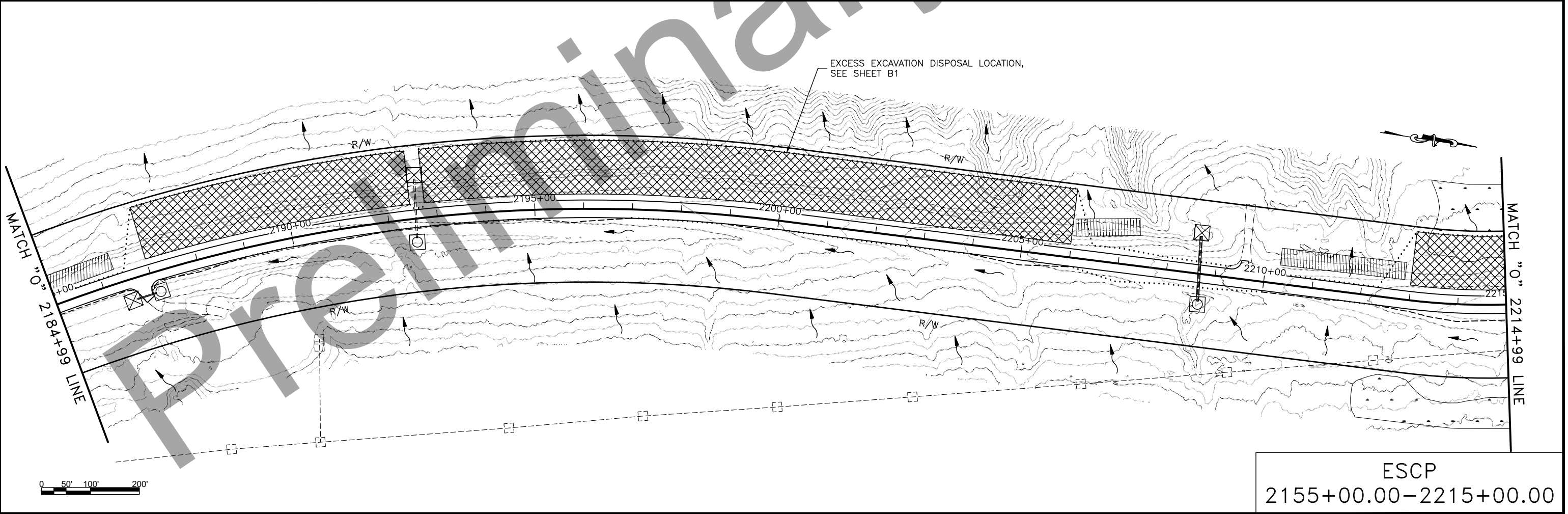
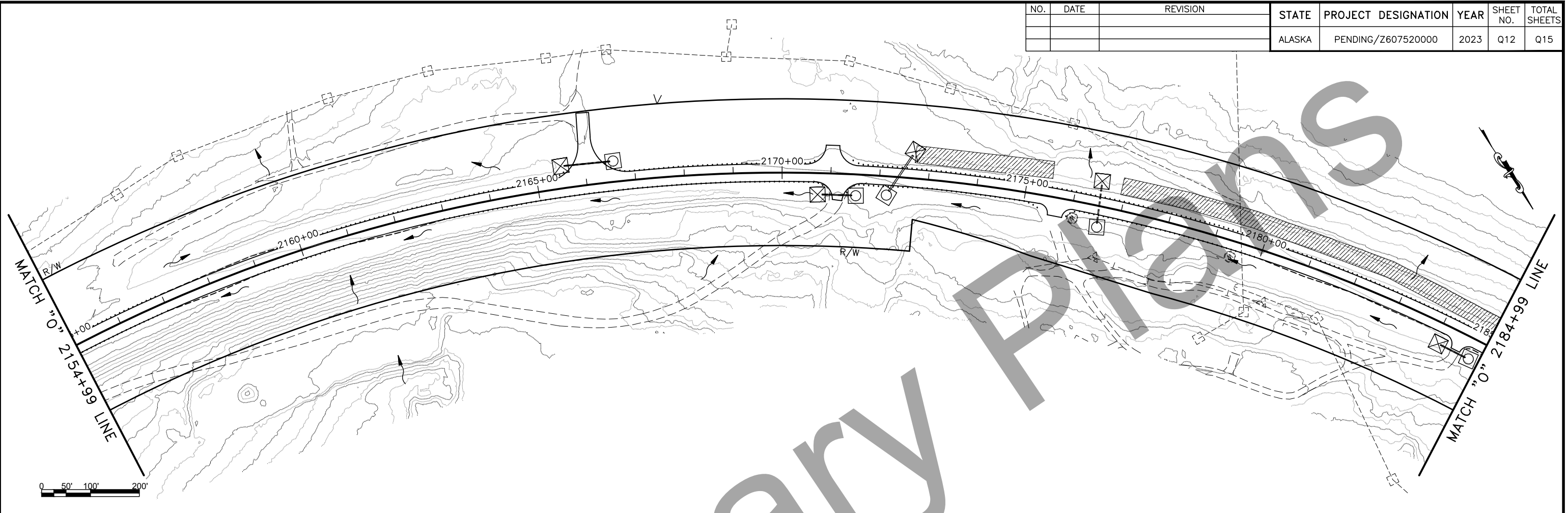
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			ALASKA	PENDING/Z607520000	2023	Q11	Q15



ESCP
2095+00.00-2155+00.00

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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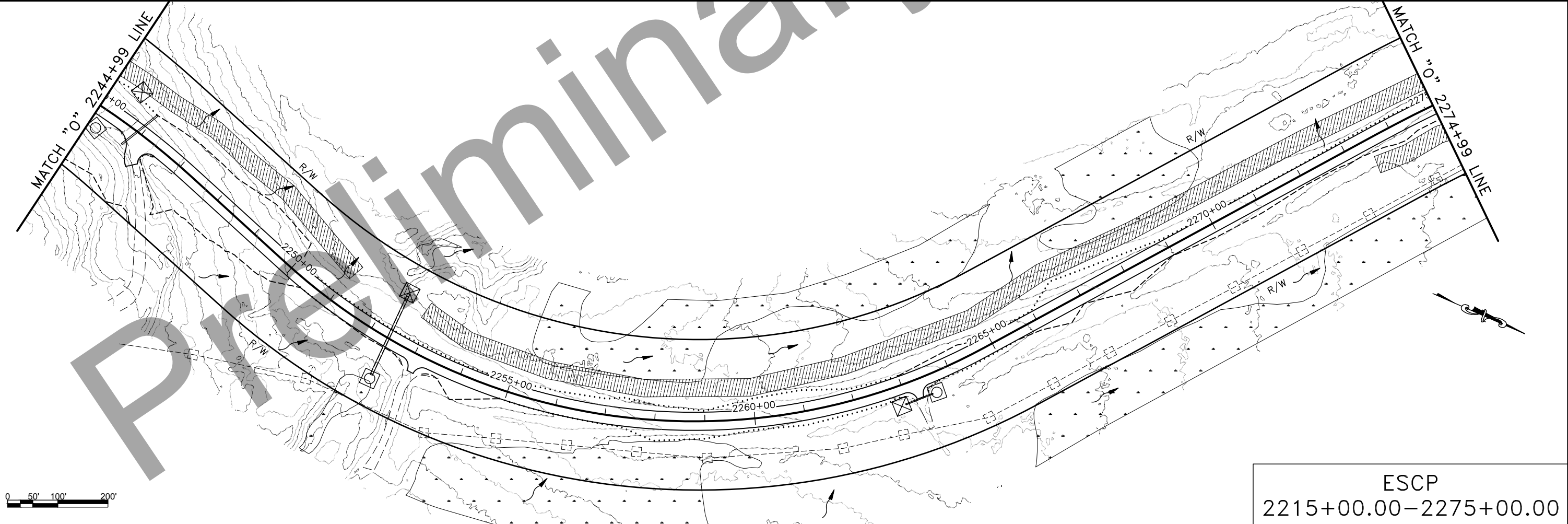
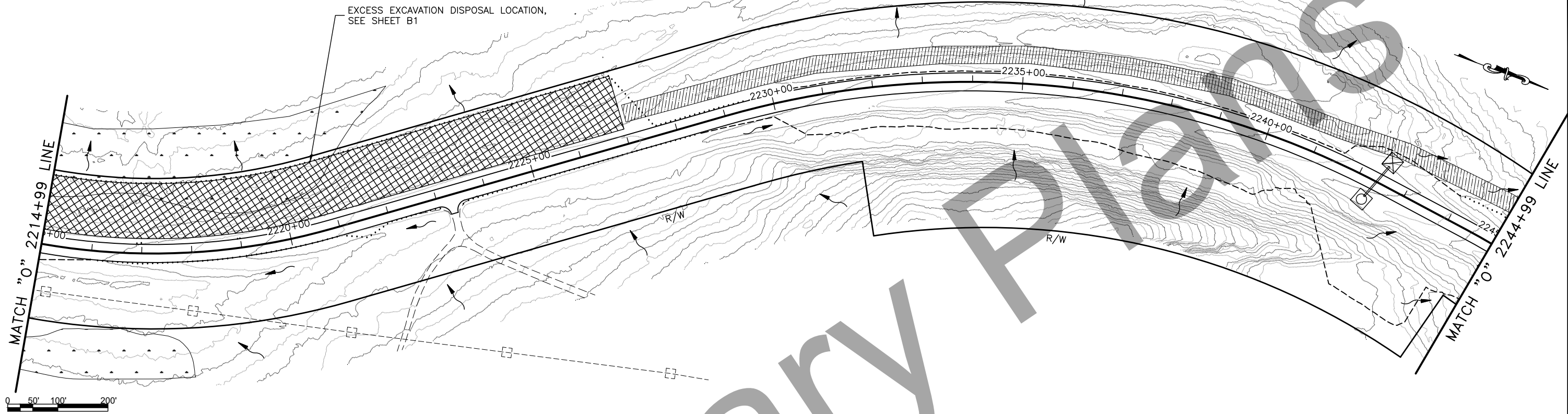
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			ALASKA	PENDING/Z607520000	2023	Q12	Q15



ESCP
2155+00.00-2215+00.00

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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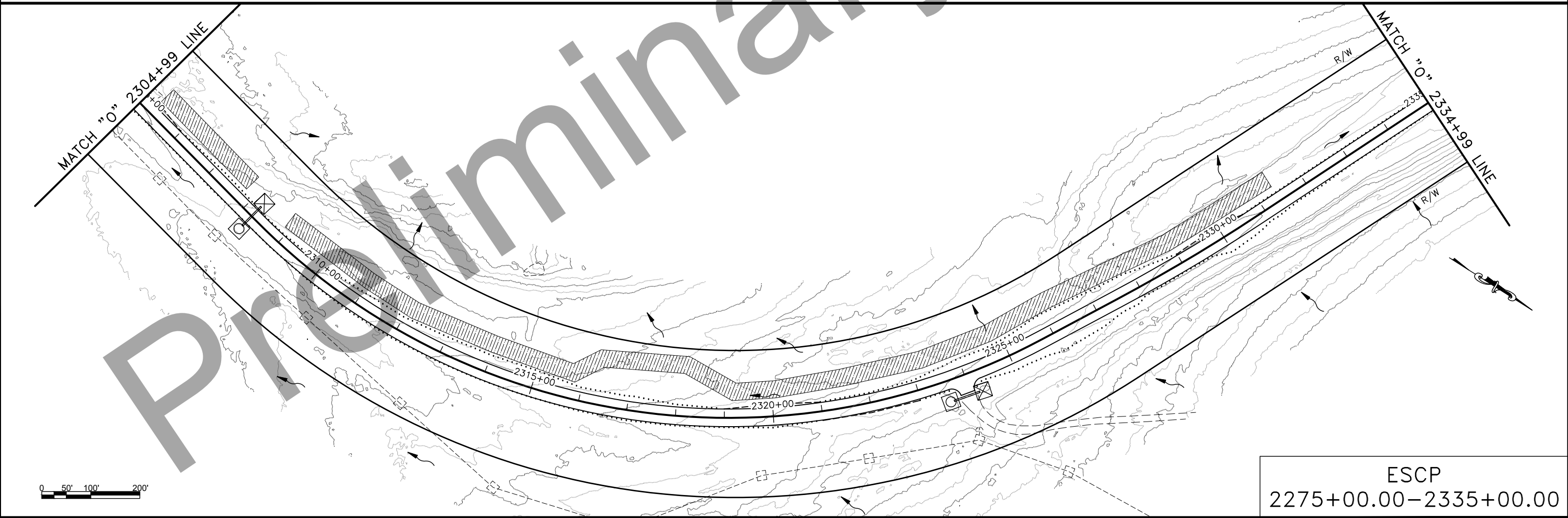
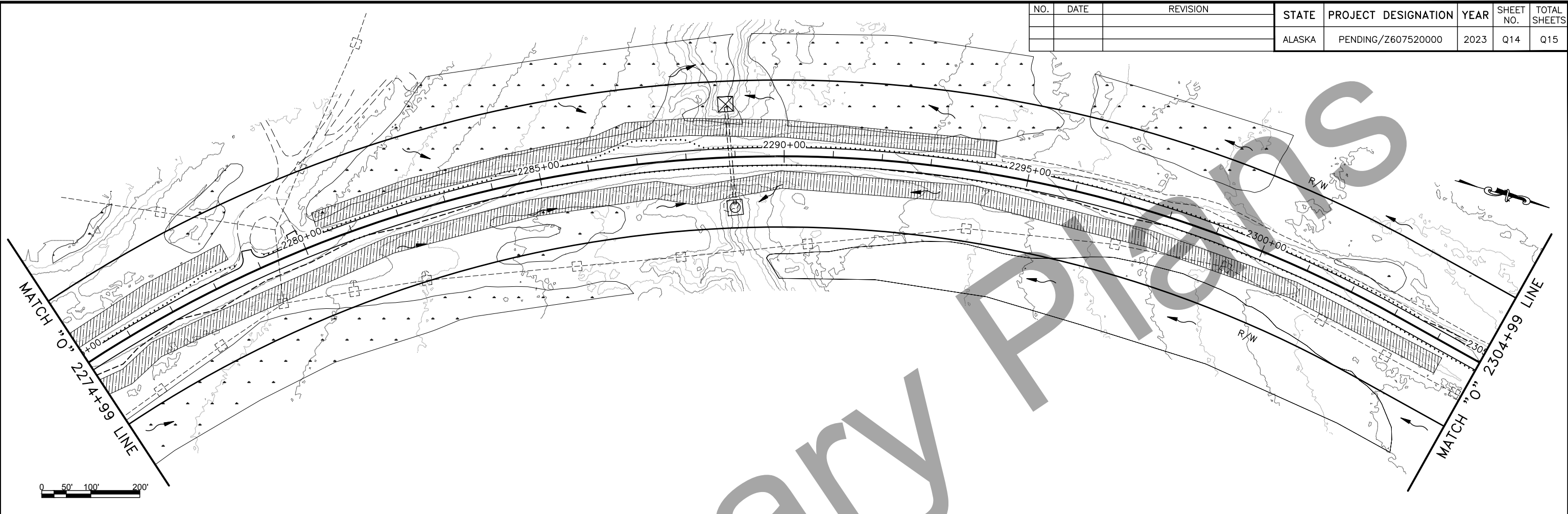
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			ALASKA	PENDING/Z607520000	2023	Q13	Q15



ESCP
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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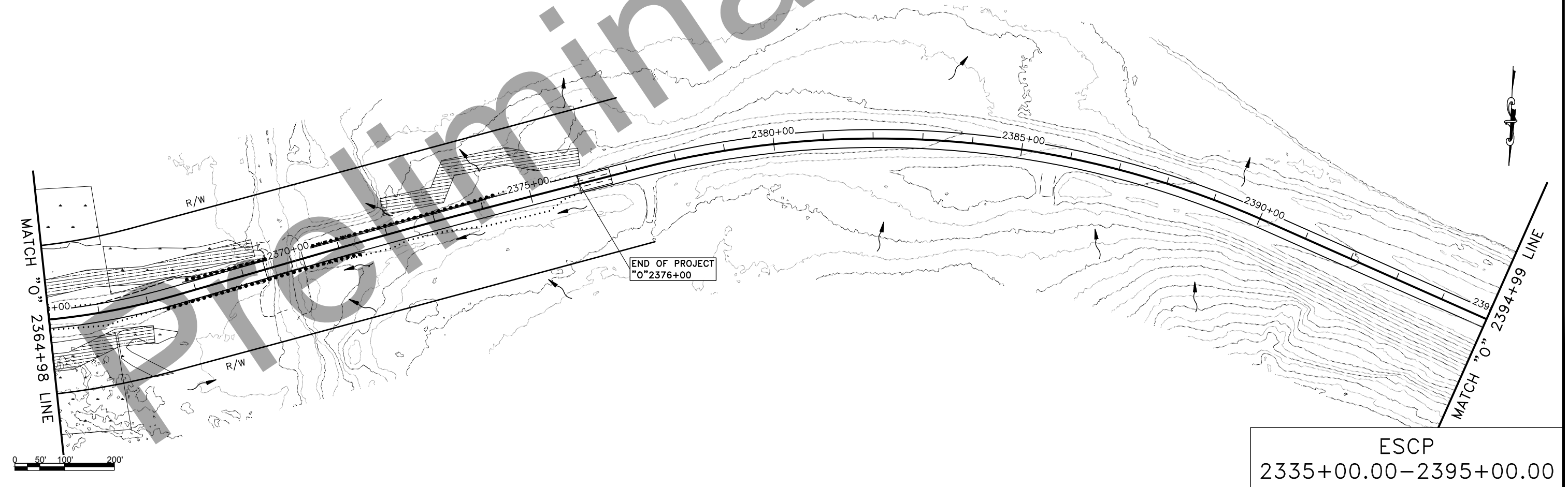
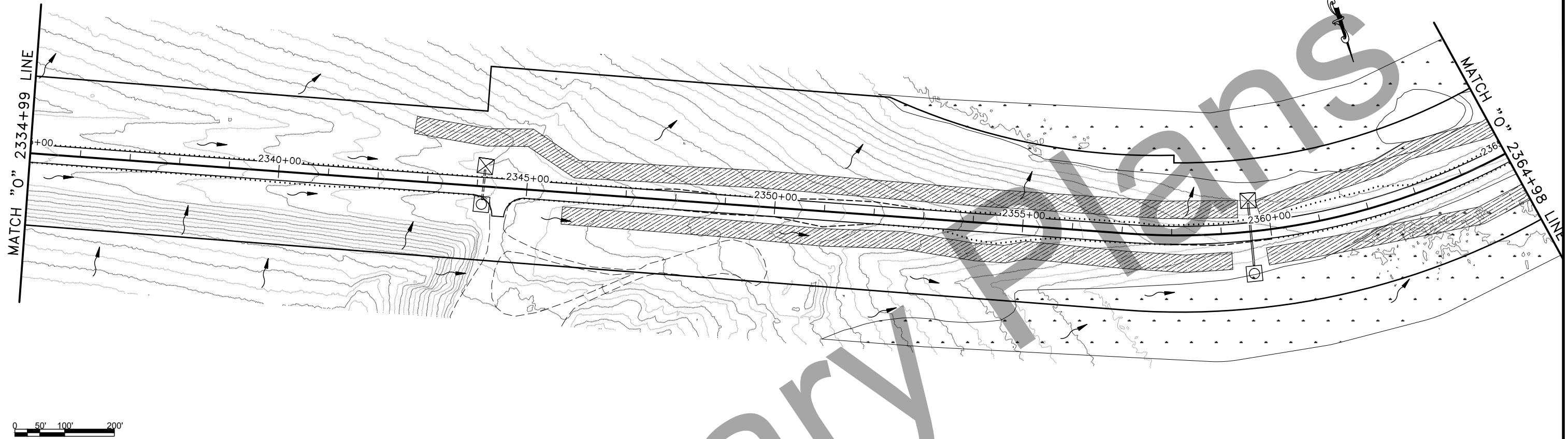
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ESCP
2275+00.00-2335+00.00

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	Q15	Q15



ESCP
2335+00.00-2395+00.00

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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T1	T10

643.2001.0000 – TEMPORARY DIVERSIONS SUMMARY

CULVERT LOC. NO.	"0" STATION	TYPICAL DIVERSION	ENGINEERED DIVERSION	PLAN SHEET
CU09	1613+06	X		T2 – TYPICALS
CU14	1673+51	X		T2 – TYPICALS
CUD17A	1697+90		X	T3 – D1 PLAN
CUD18A	1720+43		X	T4 – D2 PLAN
CU19	1727+61	X		T2 – TYPICALS
CU20	1744+26	X		T2 – TYPICALS
CU21	1756+76	X		T2 – TYPICALS
CU22	1765+39	X		T2 – TYPICALS
CUD24A	1789+63	X		T2 – TYPICALS
CU27	1831+11	X		T2 – TYPICALS
CUD28A	1836+42		X	T5 – D3 PLAN
CUD31A	1863+84		X	T6 – D4 PLAN
CUD35A	1894+84		X	T7 – D5 PLAN
CU37	1918+78	X		T2 – TYPICALS
CU39	1963+81	X		T2 – TYPICALS
CU42	1978+78	X		T2 – TYPICALS
CU43	1986+84	X		T2 – TYPICALS
CU50	2037+76	X		T2 – TYPICALS
CUD51	2046+90		X	T8 – D6 PLAN
CU53	2070+29	X		T2 – TYPICALS
CUD57A	2099+64		X	T9 – D7 PLAN
CU61	2136+60	X		T2 – TYPICALS
CU64	2146+16	X		T2 – TYPICALS
CUD73	2208+66		X	T10 – D8 PLAN
CU82	2359+58	X		T2 – TYPICALS
TOTAL		17	8	

TEMPORARY DIVERSION NOTES:

1. TYPICAL TEMPORARY DIVERSIONS SPECIFIED IN THE TABLE INCLUDE CULVERTS WITH EMBANKMENT HEIGHT BETWEEN 10' AND 18'. ENGINEERED DIVERSIONS PROVIDE SITE SPECIFIC LAYOUT WHERE CULVERT EMBANKMENT HEIGHTS EXCEED 18'. SATISFY THE MINIMUM REQUIREMENTS SPECIFIED ON SHEET T2 AND SITE SPECIFIC LAYOUT SHEETS AS APPLICABLE.
2. ONE LANE DIVERSIONS WILL REQUIRE 24 HOUR TRAFFIC CONTROL UNTIL THE ROAD EMBANKMENT IS REPLACED BACK TO EXISTING CONDITIONS WITH AN APPROVED DRIVING SURFACE. SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING THIS WORK FOR EACH DIVERSION LOCATION.
3. TEMPORARY DIVERSION QUANTITIES LISTED WILL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO ITEM 643.2001.0000 TEMPORARY DIVERSIONS.
4. ESTIMATED QUANTITIES DOES NOT ACCOUNT FOR TRENCH EXCAVATION AND DOUBLE HANDLING.
5. QUANTITIES LISTED IN THE TEMPORARY DIVERSIONS LUMP SUM QUANTITIES TABLE ACCOUNT FOR ALL THE TEMPORARY DIVERSIONS THAT ARE SUBSIDIARY TO ITEM 643.2001.0000. INDIVIDUAL SUBTOTALS FOR THE ENGINEERED DIVERSIONS QUANTITIES ARE INCLUDED WITH SHEETS T3 THROUGH T10.

643.2001.000 – TEMPORARY DIVERSIONS TABLE OF LUMP SUM QUANTITIES

DESCRIPTION	UNIT	QUANTITY	REMARKS
TOTAL VOLUME OF CUT FOR ENGINEERED DIVERSIONS	CUBIC YARDS	10,000	
TOTAL VOLUME OF FILL FOR ENGINEERED DIVERSIONS	CUBIC YARDS	3,750	
TOTAL VOLUME OF E-1 FOR ENGINEERED DIVERSIONS	CUBIC YARDS	850	
TEMPORARY CULVERTS FOR ENGINEERED DIVERSIONS	EACH	3	
TOTAL VOLUME OF CUT FOR TYPICAL DIVERSIONS	CUBIC YARDS	7,100	
TOTAL VOLUME OF FILL FOR TYPICAL DIVERSIONS	CUBIC YARDS	3,600	
TOTAL VOLUME OF E-1 FOR TYPICAL DIVERSIONS	CUBIC YARDS	1,150	

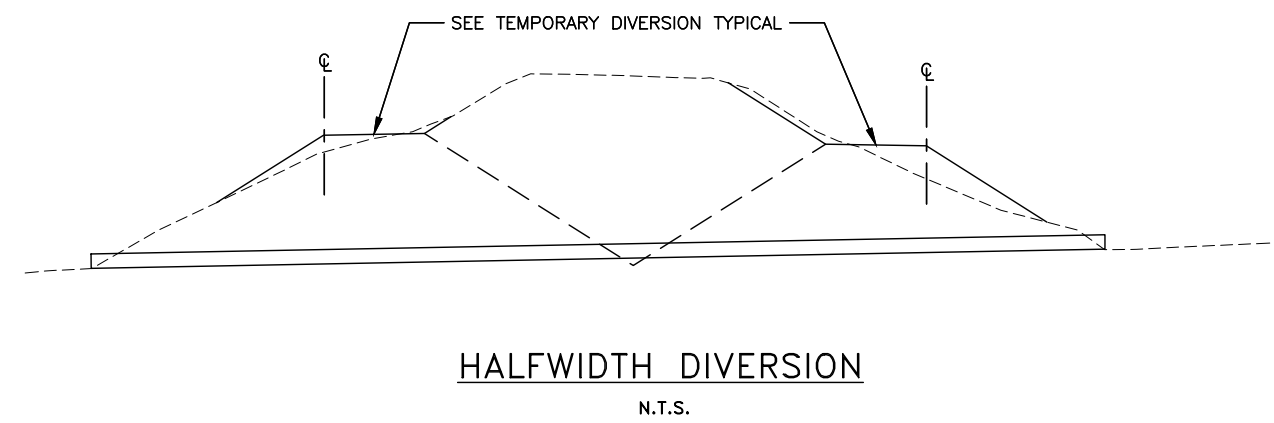
TEMPORARY CULVERT SUMMARY

ENGINEERED DIVERSION	SIZE	LENGTH
D1	36"	40'
D2	36"	40'
D4	24'	50

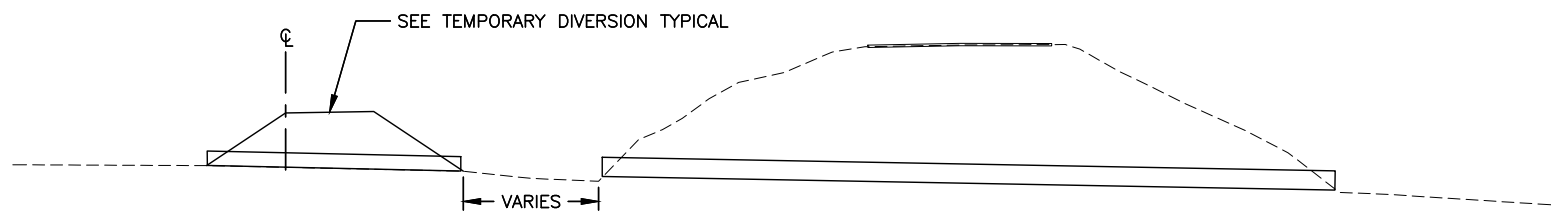
TEMPORARY DIVERSIONS
SUMMARY

95%

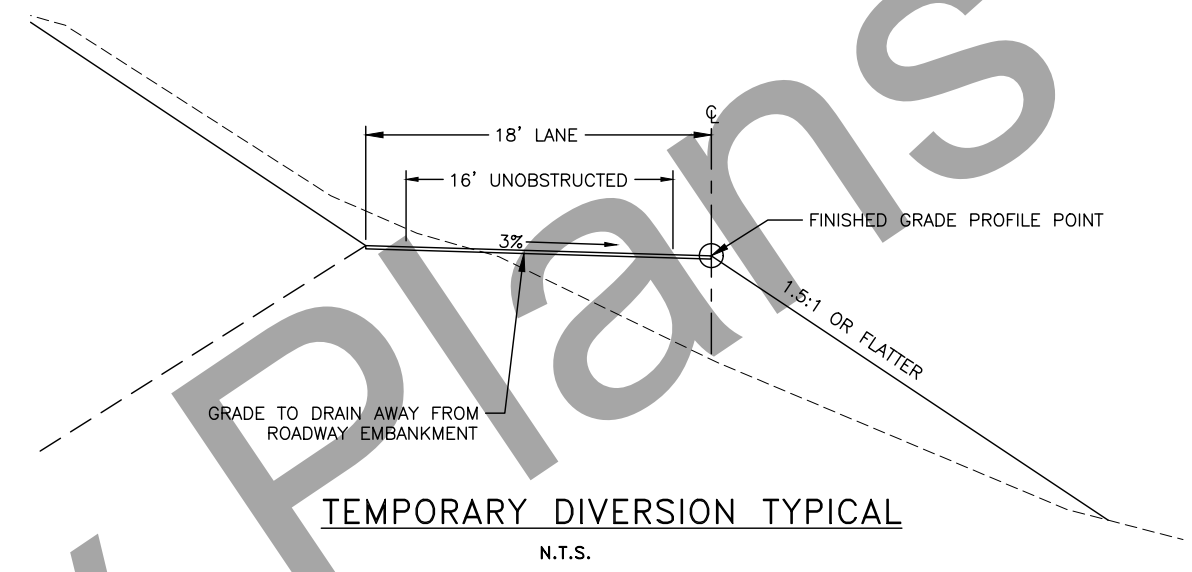
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T2	T10



HALFWIDTH DIVERSION
N.T.S.



OFF-ALIGNMENT DIVERSION
N.T.S.

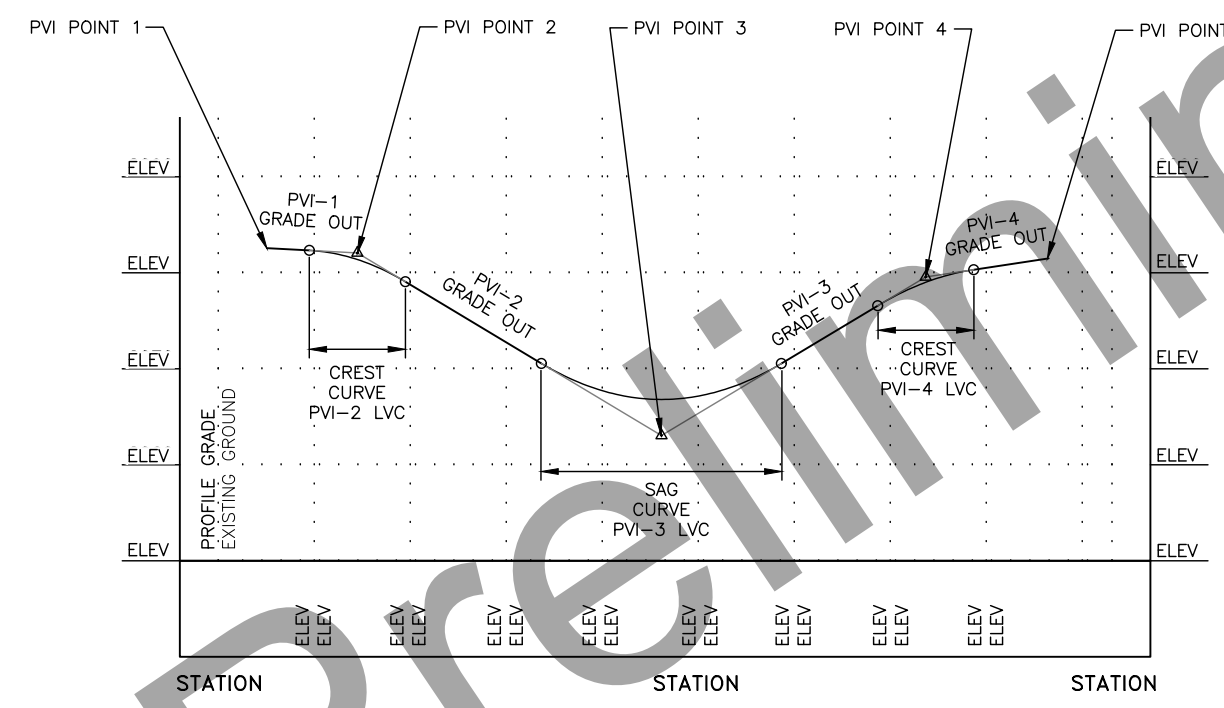


TEMPORARY DIVERSION TYPICAL
N.T.S.

643.2001.000 - TYPICAL DIVERSIONS MINIMUM REQUIREMENTS		
DESCRIPTION	UNIT	CRITERIA
DESIGN SPEED	MPH	15
WIDTH	FEET	18'
THICKNESS OF SURFACING	INCHES	2"
PROFILE GRADE	%	8%
HORIZONTAL CURVATURE RADIUS	FEET	115'
VERTICAL CURVE (MEET EITHER REQUIREMENT BELOW)		
LENGTH (CREST/SAG)	FEET	50'/300'
K VALUE (CREST/SAG)	RATE OF CURVATURE	3/7

NOTES:

1. THE CENTERLINE AND PROFILE POINT FOR ENGINEERED DIVERSIONS ARE ABOUT THE OUTSIDE EDGE WITH RESPECT TO THE MAINLINE.
2. TEMPORARY DIVERSIONS SHALL NOT BE STEEPER THAN AN 8% GRADE.
3. TEMPORARY DIVERSIONS MINIMUM LANE WIDTH IS 18', MINIMUM UNOBSTRUCTED WIDTH OF 16'.
4. SEE STANDARD PLAN C-06.00 FOR TREATMENTS FOR HAZARDS WITHIN CONSTRUCTION CLEAR ZONE.



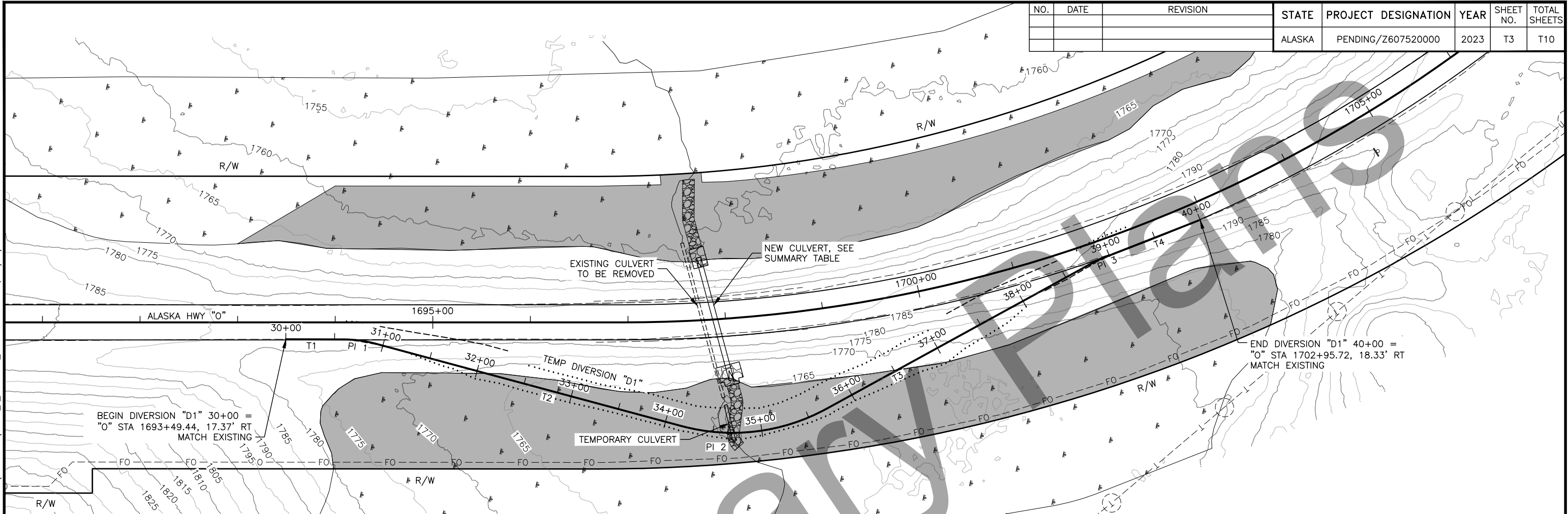
TEMPORARY DIVERSION PROFILE
N.T.S.

TEMPORARY DIVERSION
TYPICAL AND DETAILS

95%

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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T3	T10



"D1" DIVERSION - PLAN VIEW

LEGEND:

- WETLANDS
- PERMITTED WETLAND IMPACTS
- RIP RAP
- DITCH LINING

"D1" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	30+00.000	-	-	-	-	-	130,616.4278'	1,442,989.9007'
T1	-	N 12° 39' 32.3479" W	59.7'	-	-	-	-	-
PI 1	30+76.08	-	32.5'	14° 54' 43.5979"	16.4'	125.0'	130,690.6579'	1,442,973.2280'
T2	-	N 02° 15' 11.2500" E	325.1'	-	-	-	-	-
PI 2	34+97.86	-	153.0'	43° 50' 01.3231"	80.5'	200.0'	131,112.2963'	1,442,989.8173'
T3	-	N 41° 34' 50.0731" W	309.3'	-	-	-	-	-
PI 3	38+87.73	-	16.0'	07° 21' 12.1732"	8.0'	125.0'	131,409.8548'	1,442,725.8128'
T4	-	N 34° 13' 37.8999" W	104.3'	-	-	-	-	-
END	40+00.00	-	-	-	-	-	131,502.7033'	1,442,662.6486'

"D1" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	30+50.000	1782.056	-1.47%	0
2	30+85.345	1781.538	-8.00%	30
3	34+30.023	1753.957	8.00%	525
4	38+87.978	1790.575	4.01%	30
5	39+50.000	1793.061	EG	0

"D1" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	250	
DIVERSION FILL	CUBIC YARD	2,500	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	110	
TEMPORARY CULVERT	EACH	1	36" X 40'

NOTES

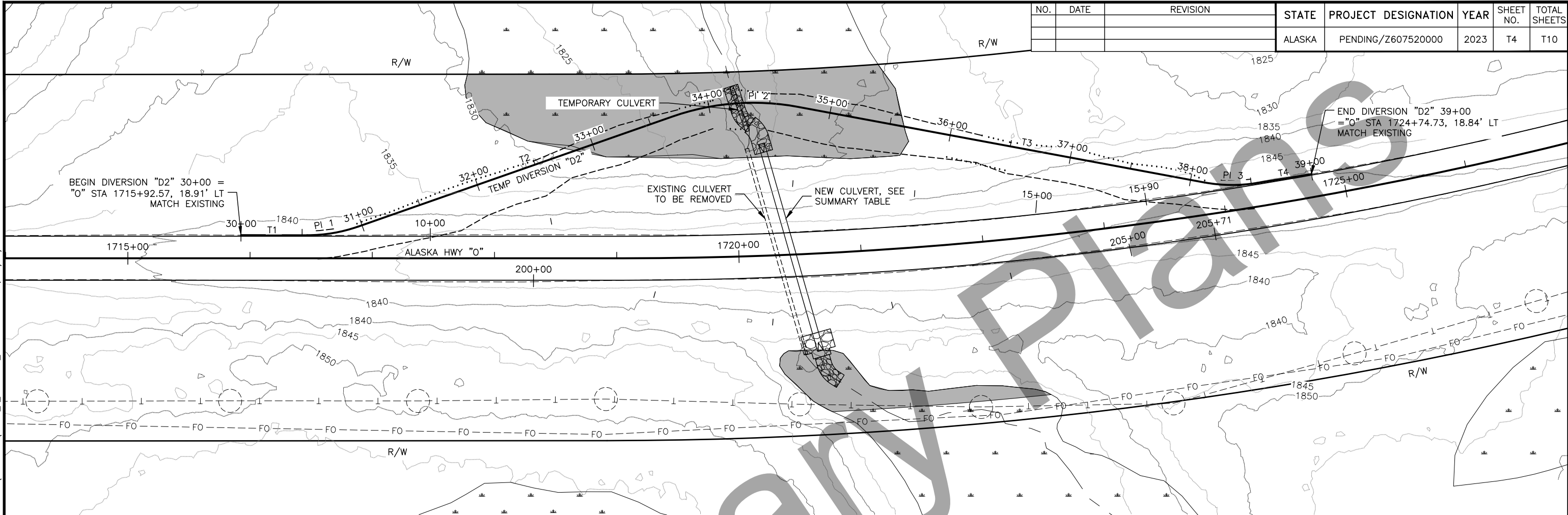
- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

TEMPORARY ENGINEERED
DIVERSION "D1"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 98503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T4	T10



"D2" DIVERSION - PLAN VIEW

LEGEND:

- WETLANDS
- PERMITTED WETLAND IMPACTS
- RIP RAP
- DITCH LINING

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

"D2" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	30+00.00	-	-	-	-	-	132,314.7201'	1,441,651.2912'
T1	-	N 51° 52' 35.8777" W	54.1'	-	-	-	-	-
PI 1	30+75.51	-	42.4'	19° 26' 13.9651"	21.4'	125.0'	132,361.3366'	1,441,591.8889'
T2	-	N 71° 18' 49.8428" W	272.7'	-	-	-	-	-
PI 2	34+22.56	-	104.2'	29° 51' 11.7059"	53.3'	200.0'	132,472.6568'	1,441,262.7457'
T3	-	N 41° 27' 38.1370" W	338.1'	-	-	-	-	-
PI 3	38+33.41	-	43.3'	19° 51' 33.6034"	21.9'	125.0'	132,782.3707'	1,440,989.1134'
T4	-	N 61° 19' 11.7404" W	45.1'	-	-	-	-	-
END	39+00.00	-	-	-	-	-	132,814.5369'	1,440,930.3121'

"D2" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	30+50.000	1842.836	2.46%	0
2	30+89.676	1843.814	-8.00%	50
3	34+15.554	1817.743	8.00%	200
4	38+16.132	1849.79	0.66%	50
5	38+49.986	1850.012	EG	0

"D2" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

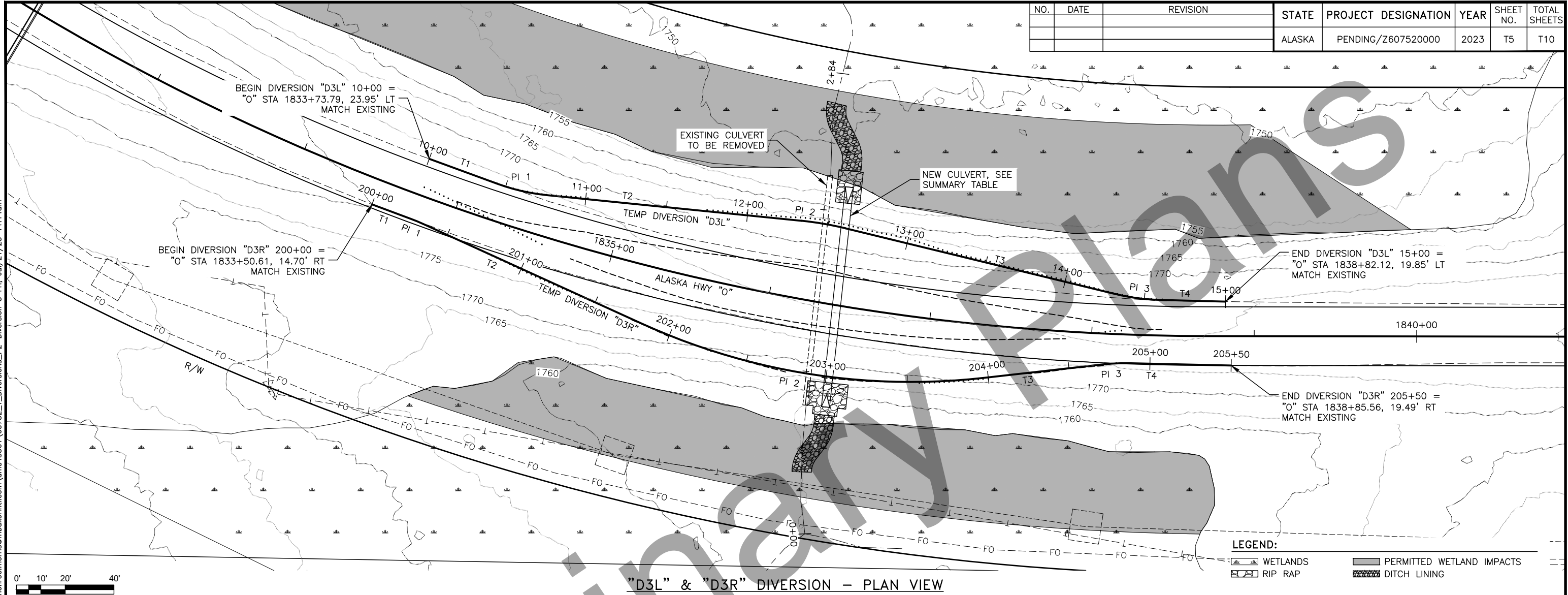
DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	350	
DIVERSION FILL	CUBIC YARD	1,250	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	90	
TEMPORARY CULVERT	EACH	1	36" X 40'

TEMPORARY ENGINEERED
DIVERSION "D2"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T5	T10



PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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"D3L" & "D3R" DIVERSION - PLAN VIEW

"D3L" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	10+00.00	-	-	-	-	-	140,466.1626'	1,434,359.9230'
T1	-	N 58° 52' 11.5951" W	44.4'	-	-	-	-	-
PI 1	10+60.19	-	31.4'	14° 22' 40.2326"	15.8'	125.0'	140,497.2778'	1,434,308.4039'
T2	-	N 73° 14' 51.8277" W	157.6'	-	-	-	-	-
PI 2	12+47.27	-	27.6'	07° 54' 44.0831"	13.8'	200.0'	140,551.2481'	1,434,129.1059'
T3	-	N 65° 20' 07.7446" W	171.3'	-	-	-	-	-
PI 3	14+45.72	-	26.7'	12° 12' 57.2108"	13.4'	125.0'	140,634.0820'	1,433,948.7180'
T4	-	N 77° 33' 04.9554" W	41.0'	-	-	-	-	-
END	15+00.00	-	-	-	-	-	140,645.8049'	1,433,895.6138'

"D3R" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	200+00.00	-	-	-	-	-	140,486.9545'	1,434,399.8572'
T1	-	N 58° 35' 50.7669" W	25.1'	-	-	-	-	-
PI 1	200+29.52	-	8.9'	04° 04' 53.0990"	4.5'	125.0'	140,502.3355'	1,434,374.6617'
T2	-	N 54° 30' 57.6679" W	147.4'	-	-	-	-	-
PI 2	202+92.01	-	216.0'	30° 56' 05.9974"	110.7'	400.0'	140,654.7075'	1,434,160.9176'
T3	-	N 85° 27' 03.6653" W	73.5'	-	-	-	-	-
PI 3	204+79.22	-	16.9'	07° 45' 21.7384"	8.5'	125.0'	140,669.9837'	1,433,968.9142'
T4	-	N 77° 41' 41.9269" W	62.3'	-	-	-	-	-
END	205+50.00	-	-	-	-	-	140,685.0738'	1,433,899.7340'

"D3L" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1776.594	-1.66%	0
2	10+76.334	1775.741	-8.00%	50
3	12+43.204	1762.391	6.00%	250
4	14+25.992	1773.358	1.57%	50
5	14+74.988	1774.126	EG	0

"D3R" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	200+25.000	1779.346	-2.80%	0
2	201+30.523	1776.391	-7.00%	50
3	202+92.479	1765.055	6.00%	130
4	204+59.740	1775.09	1.22%	50
5	205+24.998	1775.884	EG	0

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

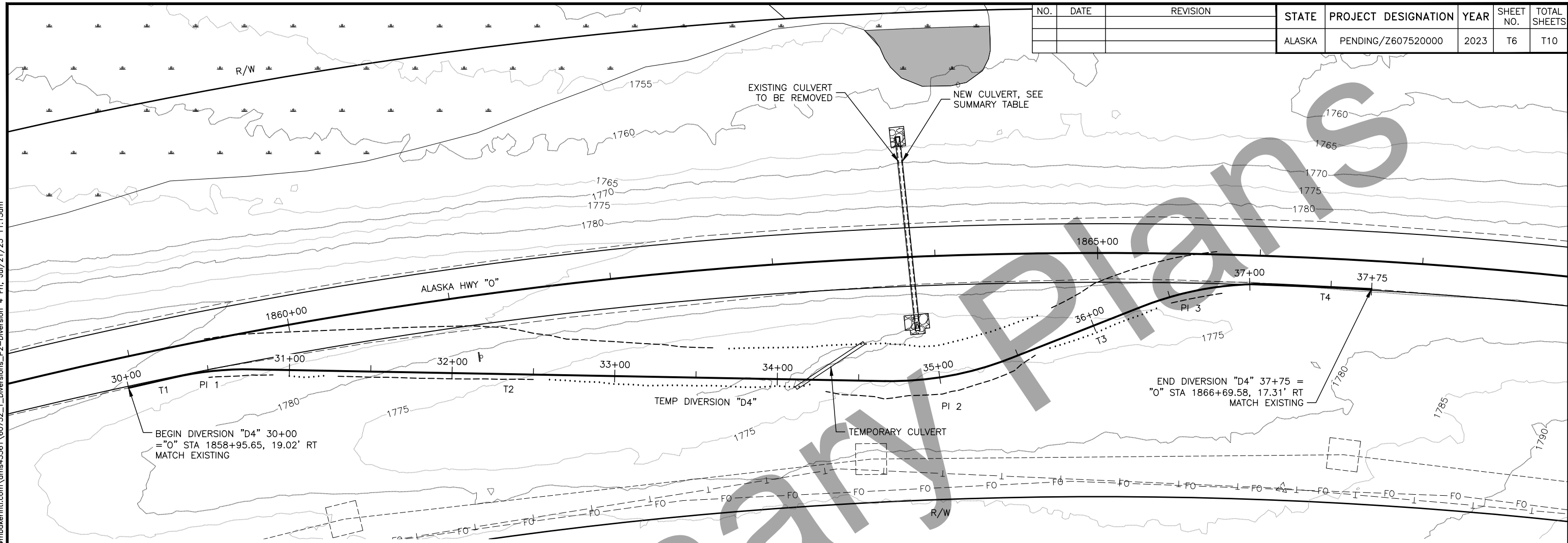
"D3L" & "D3R" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	1,250	
DIVERSION FILL	CUBIC YARD	0	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	100	

TEMPORARY ENGINEERED
DIVERSION "D3"

95%

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T6	T10



"D4" ENGINEERED DIVERSION - PLAN VIEW

LEGEND:
 WETLANDS
 PERMITTED WETLAND IMPACTS
 RIP RAP

"D4" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	30+00.00	-	-	-	-	-	141,293.6843'	1,432,011.4768'
T1	-	N 56° 14' 54.7247" W	28.2'	-	-	-	-	-
PI 1	30+52.78	-	48.9'	14° 00' 53.1609"	24.6'	200.0'	141,323.0102'	1,431,967.5900'
T2	-	N 42° 14' 01.5638" W	389.0'	-	-	-	-	-
PI 2	35+05.97	-	78.6'	22° 31' 49.8418"	39.8'	200.0'	141,658.7367'	1,431,662.8110'
T3	-	N 64° 45' 51.4056" W	87.1'	-	-	-	-	-
PI 3	36+74.89	-	84.7'	24° 15' 42.0263"	43.0'	200.0'	141,731.1946'	1,431,509.0791'
T4	-	N 40° 30' 09.3792" W	59.1'	-	-	-	-	-
END	37+75.00	-	-	-	-	-	141,808.2866'	1,431,443.2198'

"D4" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1786.613	-2.07%	0
2	10+59.500	1785.898	-7.00%	20
3	12+86.668	1769.996	5.00%	150
4	15+21.007	1781.713	-0.07%	20
5	15+75.000	1781.676	EG	0

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

"D4" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

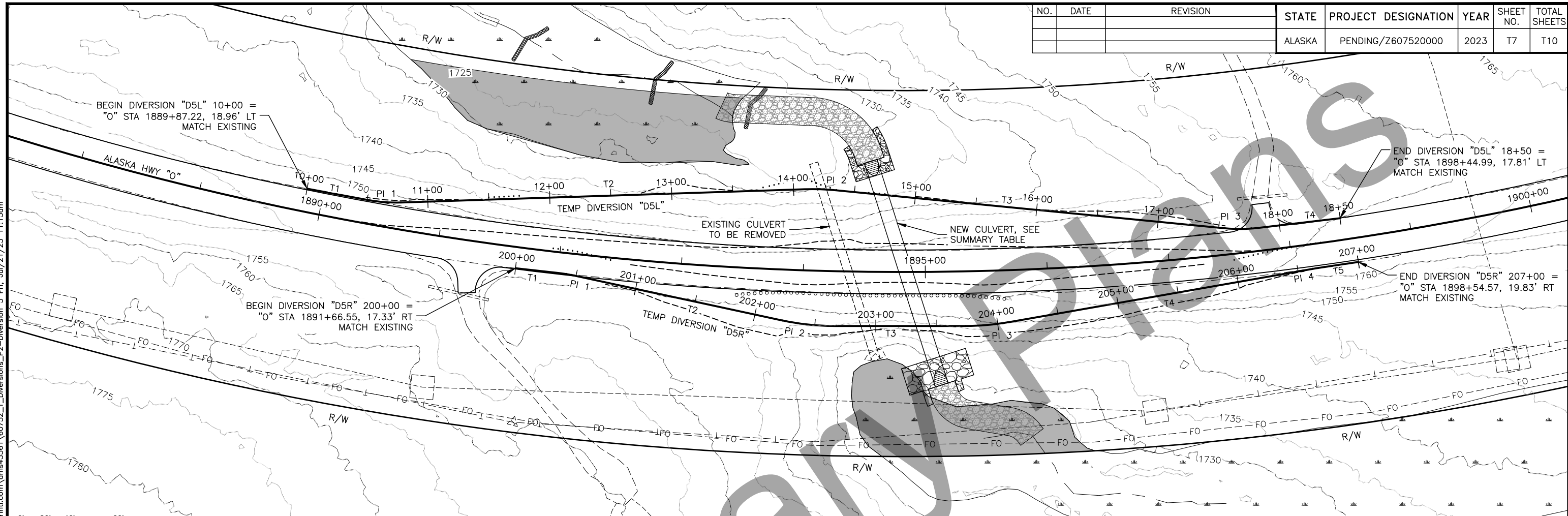
DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	450	
DIVERSION FILL	CUBIC YARD	550	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	60	
TEMPORARY CULVERT	EACH	1	24" X 50'

TEMPORARY ENGINEERED DIVERSION "D4"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T7	T10



"D5L" & "D5R" DIVERSION - PLAN VIEW

LEGEND:

	WETLANDS		PERMITTED WETLAND IMPACTS
	RIP RAP		FISH PASSAGE MATERIAL
	BEAVER DAM		

"D5L" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	10+00.00	-	-	-	-	-	143,820.8874'	1,430,318.2138'
T1	-	N 34° 35' 19.6452" W	51.0'	-	-	-	-	-
PI 1	10+64.54	-	27.0'	12° 21' 12.1107"	13.5'	125.0'	143,874.0229'	1,430,281.5734'
T2	-	N 46° 56' 31.7558" W	331.0'	-	-	-	-	-
PI 2	14+21.99	-	26.1'	07° 27' 52.1679"	13.0'	200.0'	144,118.1342'	1,430,020.3254'
T3	-	N 39° 28' 39.5879" W	320.1'	-	-	-	-	-
PI 3	17+68.62	-	26.9'	12° 20' 13.0733"	13.5'	125.0'	144,385.7207'	1,429,799.9192'
T4	-	N 51° 48' 52.6612" W	68.0'	-	-	-	-	-
END	18+50.00	-	-	-	-	-	144,436.0937'	1,429,735.8730'

"D5R" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	200+00.00	-	-	-	-	-	143,987.6832'	1,430,243.2736'
T1	-	N 38° 40' 07.9852" W	35.8'	-	-	-	-	-
PI 1	200+42.11	-	12.6'	5° 46' 27.734"	6.3'	125.0'	144,020.5593'	1,430,216.9642'
T2	-	N 32° 53' 40.2513" W	174.8'	-	-	-	-	-
PI 2	202+44.52	-	42.5'	12° 10' 12.4270"	21.3'	200.0'	144,190.5315'	1,430,107.0273'
T3	-	N 45° 03' 52.6783" W	108.1'	-	-	-	-	-
PI 3	203+91.15	-	34.7'	09° 56' 55.4345"	17.4'	200.0'	144,294.2095'	1,430,003.1152'
T4	-	N 55° 00' 48.1128" W	253.6'	-	-	-	-	-
PI 4	206+63.63	-	3.0'	01° 23' 11.0711"	1.5'	125.0'	144,450.4926'	1,429,779.8089'
T5	-	N 53° 37' 37.0417" W	34.9'	-	-	-	-	-
END	207+00.00	-	-	-	-	-	144,472.0652'	1,429,750.5197'

"D5L" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1752.738	-1.78%	0
2	10+67.463	1751.984	-8.00%	50
3	13+81.737	1726.842	8.00%	160
4	17+74.859	1758.292	2.26%	50
5	18+25.000	1759.427	EG	0

"D5R" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	200+25.000	1752.118	-0.41%	0
2	200+66.945	1751.948	-6.00%	50
3	203+07.936	1737.488	7.00%	150
4	206+29.823	1760.02	3.00%	50
5	206+75.002	1761.377	EG	0

- NOTES**
- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
 - EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

"D5L" & "D5R" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

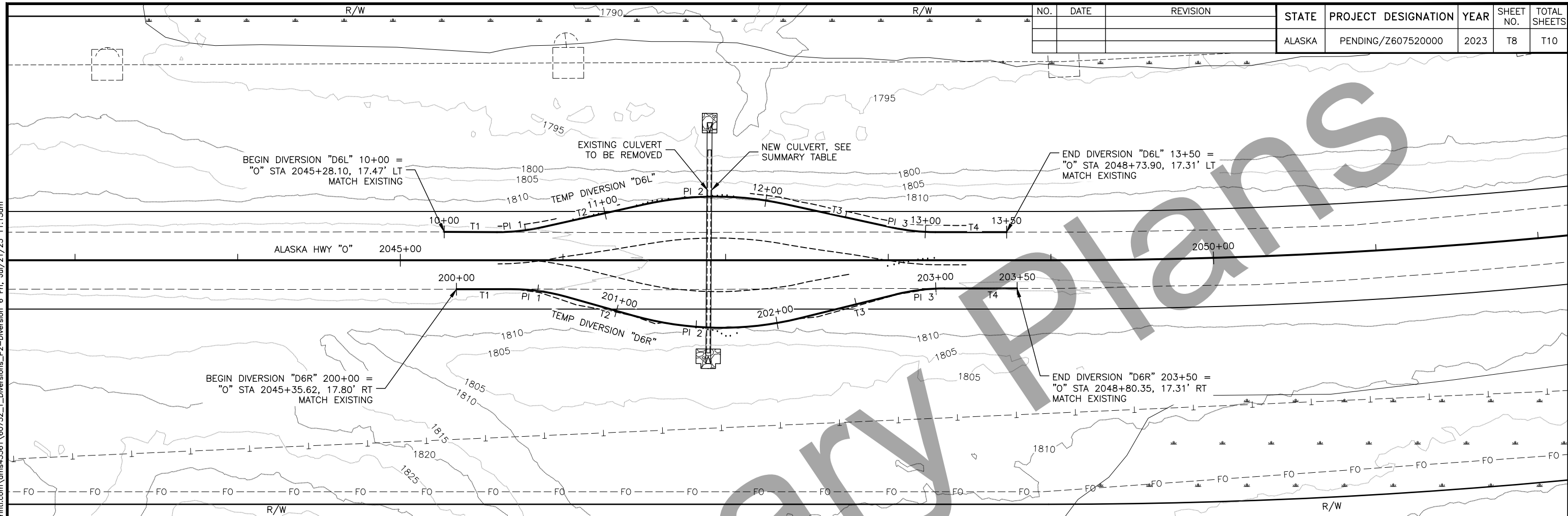
DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	5,500	
DIVERSION FILL	CUBIC YARD	75	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	140	

TEMPORARY ENGINEERED DIVERSION "D5"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T8	T10



"D6L" & "D6R" DIVERSION - PLAN VIEW

LEGEND:
 WETLANDS
 RIP RAP

"D6L" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	10+00.00	-	-	-	-	-	151,717.1841'	1,419,150.3362'
T1	-	N 33° 52' 13.2660" W	32.5'	-	-	-	-	-
PI 1	10+46.52	-	28.0'	12° 50' 44.0444"	14.1'	125.0'	151,755.8125'	1,419,124.4080'
T2	-	N 46° 42' 57.3104" W	64.4'	-	-	-	-	-
PI 2	11+68.94	-	86.8'	24° 52' 11.6890"	44.1'	200.0'	151,839.8240'	1,419,035.2076'
T3	-	N 21° 50' 45.6215" W	67.7'	-	-	-	-	-
PI 3	12+92.80	-	26.7'	12° 15' 38.8832"	13.4'	125.0'	151,956.0793'	1,418,988.6005'
T4	-	N 34° 06' 24.5047" W	43.9'	-	-	-	-	-
END	13+50.00	-	-	-	-	-	152,003.5252'	1,418,956.4689'

"D6R" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	200+00.00	-	-	-	-	-	151,743.1983'	1,419,175.3138'
T1	-	N 34° 14' 25.4207" W	33.4'	-	-	-	-	-
PI 1	200+50.86	-	34.6'	15° 51' 52.8332"	17.4'	125.0'	151,785.2416'	1,419,146.6978'
T2	-	N 18° 22' 32.5876" W	42.6'	-	-	-	-	-
PI 2	201+63.48	-	103.4'	29° 36' 38.4058"	52.9'	200.0'	151,892.3303'	1,419,111.1246'
T3	-	N 47° 59' 10.9934" W	61.3'	-	-	-	-	-
PI 3	202+90.44	-	30.1'	13° 49' 07.4313"	15.1'	125.0'	151,978.8901'	1,419,015.0361'
T4	-	N 34° 10' 03.5621" W	44.6'	-	-	-	-	-
END	203+50.00	-	-	-	-	-	152,028.2905'	1,418,981.5044'

"D6L" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1815.376	-0.89%	0
2	10+53.698	1815.121	-6.00%	30
3	11+68.448	1808.236	5.00%	120
4	12+85.878	1814.108	-0.18%	30
5	13+25.000	1814.038	EG	0

"D6R" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	200+25.000	1815.443	-1.22%	0
2	200+42.392	1815.231	-4.00%	20
3	201+69.270	1810.156	4.00%	80
4	202+84.406	1814.762	0.44%	20
5	203+25.000	1814.941	EG	0

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

"D6L" & "D6R" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

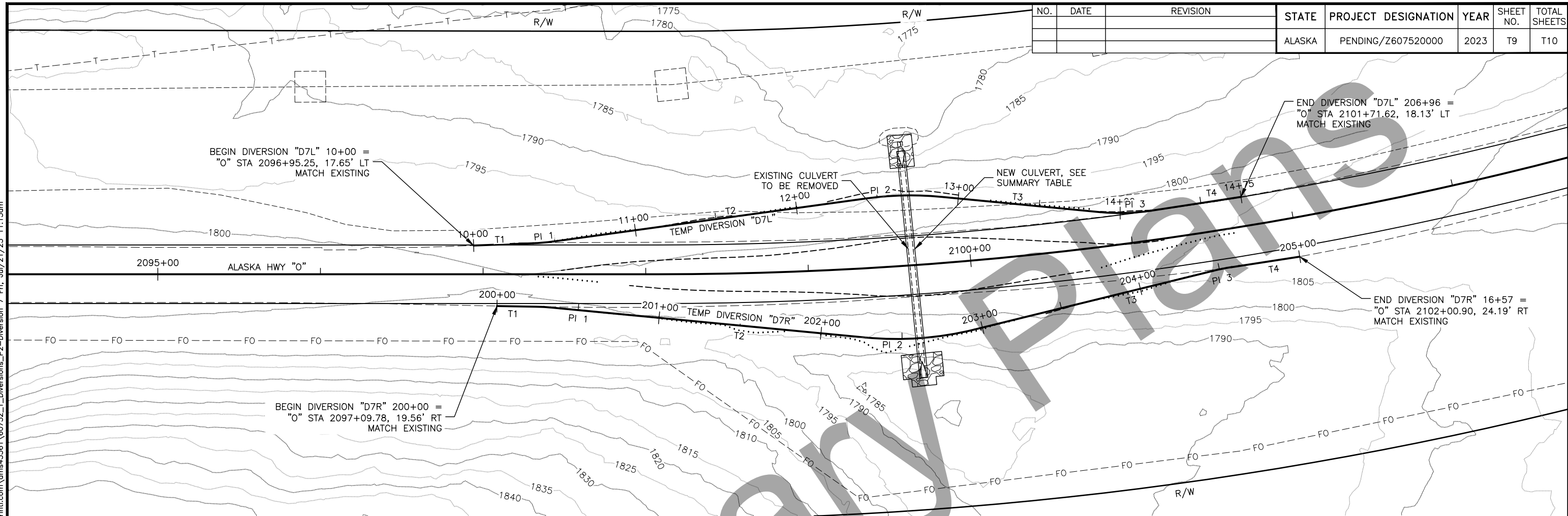
DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	500	
DIVERSION FILL	CUBIC YARD	25	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	60	

TEMPORARY ENGINEERED
DIVERSION "D6"

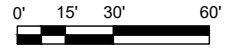
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PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T9	T10



"D7L" & "D7R" DIVERSION - PLAN VIEW



LEGEND:
 RIP RAP

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	10+00.00	-	-	-	-	-	153,953.5763'	1,414,749.6101'
T1	-	N 60° 41' 59.8568" W	36.6'	-	-	-	-	-
PI 1	10+42.77	-	12.4'	05° 39' 54.9192"	6.2'	125.0'	153,974.5059'	1,414,712.3141'
T2	-	N 66° 21' 54.7760" W	194.4'	-	-	-	-	-
PI 2	12+66.70	-	46.5'	13° 19' 41.4645"	23.4'	200.0'	154,064.2841'	1,414,507.1594'
T3	-	N 53° 02' 13.3115" W	98.1'	-	-	-	-	-
PI 3	14+03.52	-	31.0'	14° 13' 30.0278"	15.6'	125.0'	154,146.6851'	1,414,397.6625'
T4	-	N 67° 15' 43.3393" W	56.0'	-	-	-	-	-
END	14+75.00	-	-	-	-	-	154,174.3759'	1,414,331.5885'

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	200+00.00	-	-	-	-	-	153,992.8057'	1,414,756.7941'
T1	-	N 57° 35' 00.0332" W	24.0'	-	-	-	-	-
PI 1	200+28.90	-	9.8'	04° 29' 59.9558"	4.9'	125.0'	154,008.2966'	1,414,732.4001'
T2	-	N 53° 05' 00.0774" W	193.8'	-	-	-	-	-
PI 2	202+61.57	-	67.2'	19° 15' 48.6958"	33.9'	200.0'	154,148.0532'	1,414,546.3743'
T3	-	N 72° 20' 48.7732" W	151.5'	-	-	-	-	-
PI 3	204+51.89	-	11.0'	05° 02' 43.0082"	5.5'	125.0'	154,205.9626'	1,414,364.4062'
T4	-	N 67° 18' 05.7650" W	42.6'	-	-	-	-	-
END	205+00.00	-	-	-	-	-	154,224.5314'	1,414,320.0125'

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1799.355	-0.35%	0
2	10+92.819	1799.115	-6.00%	50
3	12+19.274	1791.528	6.00%	120
4	14+05.756	1802.717	1.94%	50
5	14+49.723	1803.568	EG	0

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	200+25.000	1799.8	0.05%	0
2	201+23.736	1799.852	-5.00%	50
3	202+42.472	1793.915	7.00%	130
4	203+97.358	1804.757	2.47%	50
5	204+74.930	1806.67	EG	0

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

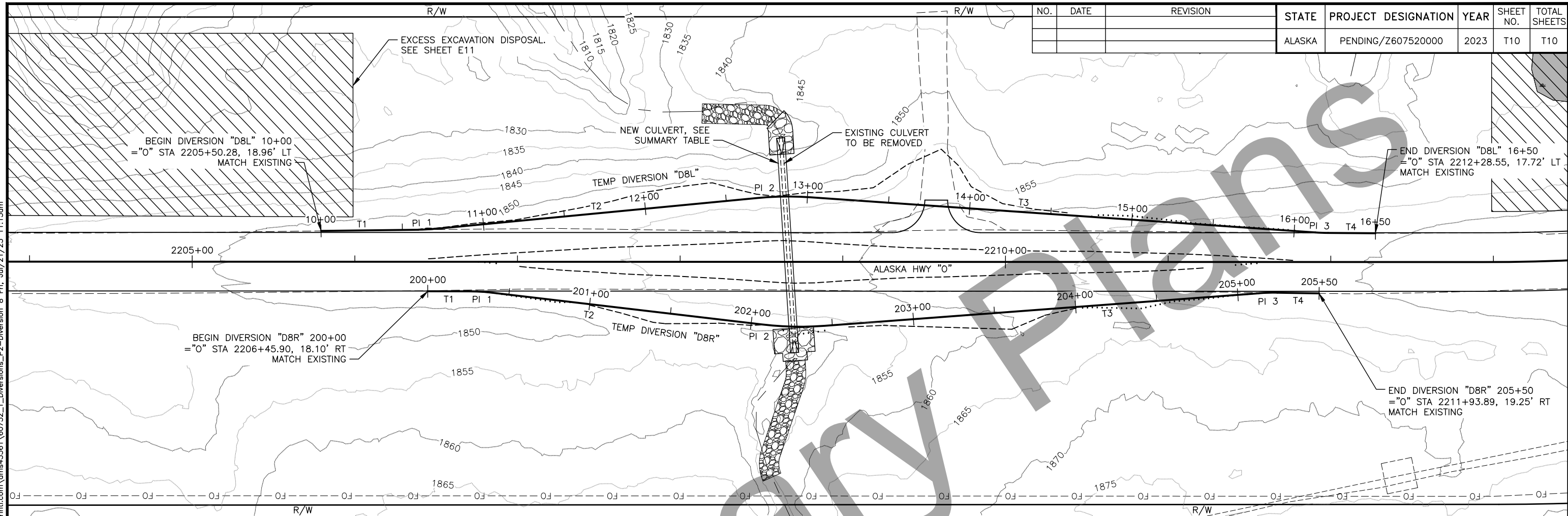
DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	1,250	
DIVERSION FILL	CUBIC YARD	75	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	90	

TEMPORARY ENGINEERED
 DIVERSION "D7"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	PENDING/Z607520000	2023	T10	T10



"D8L" & "D8R" DIVERSION - PLAN VIEW

LEGEND:

- WETLANDS
- PERMITTED WETLAND IMPACTS
- RIP RAP
- DITCH LINING

"D8L" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	10+00.00	-	-	-	-	-	156,696.9296'	1,406,445.7779'
T1	-	N 02° 10' 21.1469" W	59.8'	-	-	-	-	-
PI 1	10+65.09	-	10.5'	04° 48' 15.6837"	5.2'	125.0'	156,761.9712'	1,406,443.3105'
T2	-	N 06° 58' 36.8306" W	198.6'	-	-	-	-	-
PI 2	12+85.52	-	33.0'	09° 27' 45.9947"	16.6'	200.0'	156,980.7801'	1,406,416.5336'
T3	-	N 02° 29' 09.1641" E	311.0'	-	-	-	-	-
PI 3	16+16.96	-	7.9'	03° 36' 53.4230"	3.9'	125.0'	157,311.9772'	1,406,430.9122'
T4	-	N 01° 07' 44.2589" W	29.1'	-	-	-	-	-
END	16+50.00	-	-	-	-	-	157,345.0120'	1,406,430.2612'

"D8L" DIVERSION ALIGNMENT LAYOUT TABLE - HORIZONTAL CONTROL

DESCRIPTION	STA	BEARING	LENGTH	DELTA	TAN	RAD	NORTHING	EASTING
BEGIN	200+00.00	-	-	-	-	-	156,763.4832'	1,406,481.1274'
T1	-	N 01° 23' 48.3830" W	25.3'	-	-	-	-	-
PI 1	200+32.50	-	14.4'	06° 36' 58.4206"	7.2'	125.0'	156,795.9783'	1,406,480.3350'
T2	-	N 05° 13' 10.0376" E	167.0'	-	-	-	-	-
PI 2	202+25.97	-	38.4'	10° 59' 52.1605"	19.3'	200.0'	156,988.6537'	1,406,497.9358'
T3	-	N 05° 46' 42.1229" W	267.9'	-	-	-	-	-
PI 3	205+18.64	-	11.3'	05° 09' 41.9381"	5.6'	125.0'	157,279.9607'	1,406,468.4571'
T4	-	N 00° 37' 00.1848" W	25.7'	-	-	-	-	-
END	205+50.00	-	-	-	-	-	157,311.3232'	1,406,468.1195'

"D8L" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	10+25.000	1851.549	2.40%	0
2	10+71.944	1852.676	-1.00%	50
3	13+06.310	1850.332	7.00%	170
4	15+45.244	1867.058	2.31%	140
5	16+25.000	1868.903	EG	0

"D8R" DIVERSION PROFILE LAYOUT TABLE

PVI	STATION	ELEVATION	GRADE OUT (%)	LVC
1	200+25.000	1852.818	1.00%	0
2	200+62.895	1853.197	-2.00%	50
3	202+22.007	1850.015	7.00%	150
4	204+60.896	1866.737	2.50%	100
5	205+25.000	1868.342	EG	0

NOTES

- SEE TEMPORARY DIVERSION PROFILE AND TEMPORARY DIVERSION TYPICAL ON SHEET T2.
- EXISTING GROUND CONTOURS ARE DISPLAYED AT 5' MINOR AND 10' MAJOR INTERVALS.

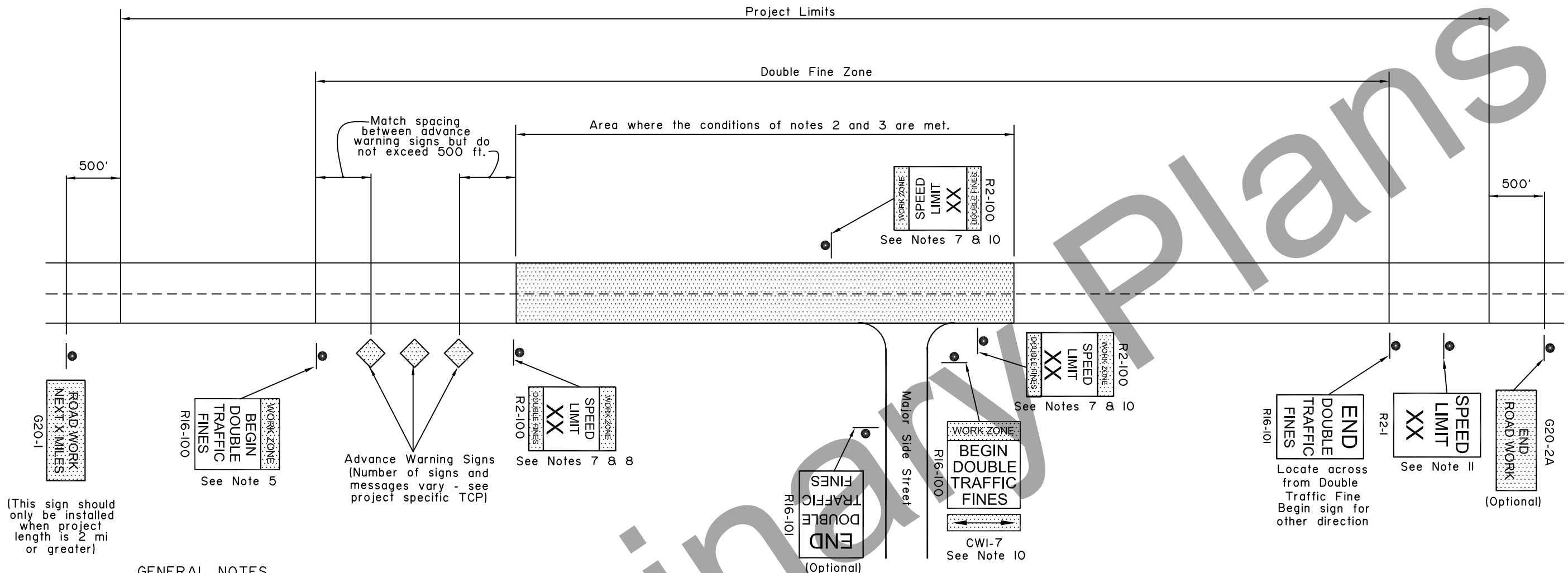
"D8L" & "D8R" 643 TEMPORARY DIVERSION TABLE OF QUANTITIES

DESCRIPTION	UNIT	QUANTITY	REMARKS
DIVERSION CUT	CUBIC YARD	2,250	
DIVERSION FILL	CUBIC YARD	25	
DIVERSION SURFACING COURSE OF COMPACTED E-1	CUBIC YARD	125	

TEMPORARY ENGINEERED DIVERSION "D8"

95%

PLANS DEVELOPED BY: MICHAEL BAKER INTERNATIONAL, AEC103, 3900 C STREET SUITE 900, ANCHORAGE, AK 99503 (907) 273-1600
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(This sign should only be installed when project length is 2 mi or greater)

GENERAL NOTES

1. Signs are shown for one direction only (with one exception). Signs for the other direction mirror those shown.
2. Double fine signs shall be used only where one or more of the following conditions exist:
 - a. Active work areas (where road workers and/or machines are presently working on or adjacent to a road)
 - b. Detours on new temporary roads built for that purpose (this does not include detours on existing streets)
 - c. Sections of paved roads where pavement has been removed.
 - d. Roads being paved where unmatched asphalt lifts result in a vertical lip between lanes.
3. Double fine signs shall be confined to the areas where the above conditions exist, with the following exceptions:
 - a. If the project is 2 miles or shorter in length, the entire project may be posted for double fines when the above conditions exist on any part of the project.
 - b. When the above conditions exist at multiple locations separated by less than 2 miles, the locations and the intervening segments may be posted as a single double fine zone.
4. Double fine signs shall be removed or covered when work activity ceases for more than two days and conditions b, c, or d of note 2 are not met.
5. The R16-100 "BEGIN" sign may be used in place of the first advance warning sign. However, when this is done, the appropriate advance warning sign must be reinstalled when the double fine sign is taken down or covered.
6. When a double fine zone is longer than 2 miles, work zone speed limit signs shall be posted at spacings not greater than 2 miles within the double fine zone.
7. "Work zone speed limit signs", as used here, refer either to 1) R2-100 signs or 2) standard R2-1 regulatory speed limit signs with CW20-102 "DOUBLE FINES" plates mounted below.
8. The limit shown on work zone speed limit signs shall be either the existing limit before construction or, if a work zone speed limit order has been approved in accordance with ADOT&PF Procedure 05.05.020 PDR, a reduced limit.
9. All existing regulatory speed limit signs within double fine zones shall either be replaced with R2-100 signs or supplemented with CW20-102 plates.
10. Signs shall be installed at major intersections within the double fine zone to warn entering drivers of double fines. This may be done with a R16-100 sign with a CWI-7 arrow panel on the side street or with two work zone speed limit signs on the main street on either side of the intersection. Use of R16-100 signs on side streets eliminates the need for "Road Work Ahead" signs on those streets. If the speed limit has been reduced, the two work zone speed limit signs are mandatory.
 - ii. At the end of each double fine zone, install an R2-1 sign showing the speed limit for the road beyond the double fine zone.

**State of Alaska DOT&PF
ALASKA STANDARD PLAN**

**LOCATION OF
DOUBLE TRAFFIC
FINE SIGNS**

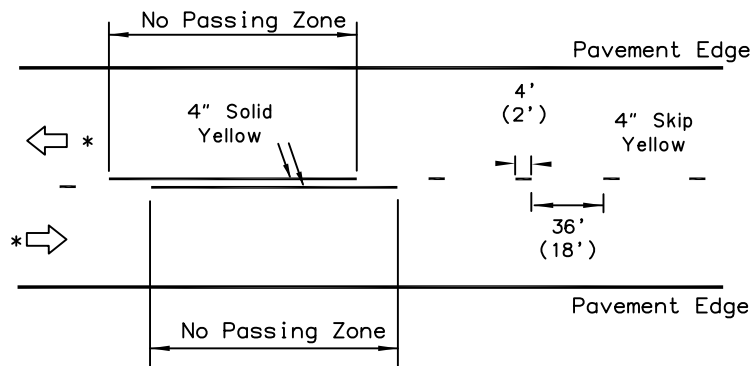
Adopted as an Alaska Standard Plan by: *Kenneth J. Fisher*
Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

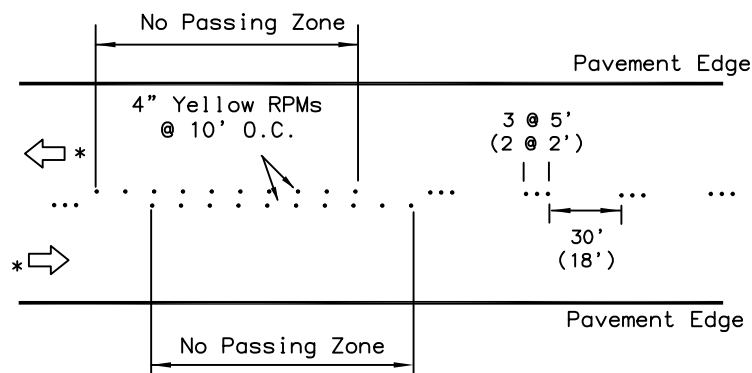
Last Code and Stds. Review By: Date: _____

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

C-04.12



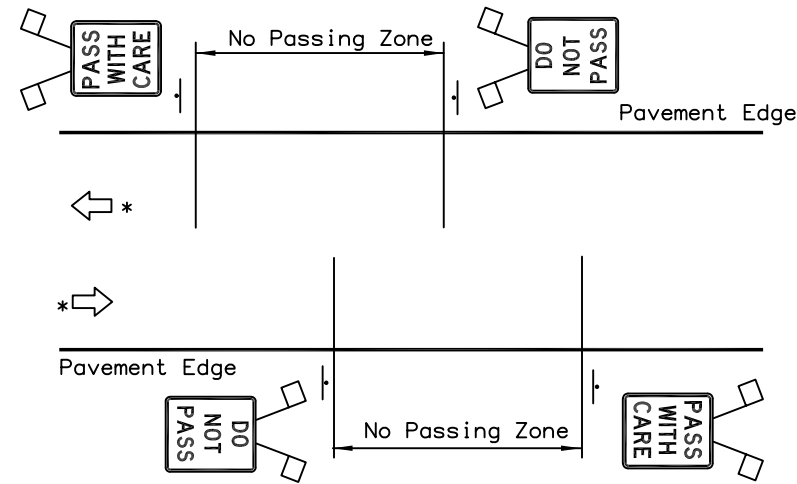
Striping



Temporary Raised Pavement Markers

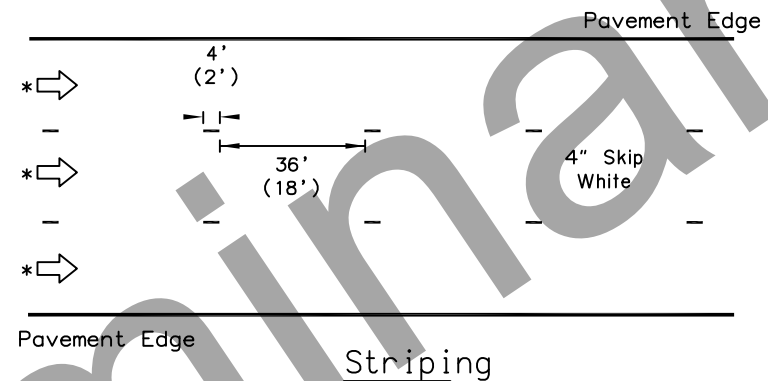
DETAIL A

Two-lane road: No Passing Zones indicated with pavement markings.

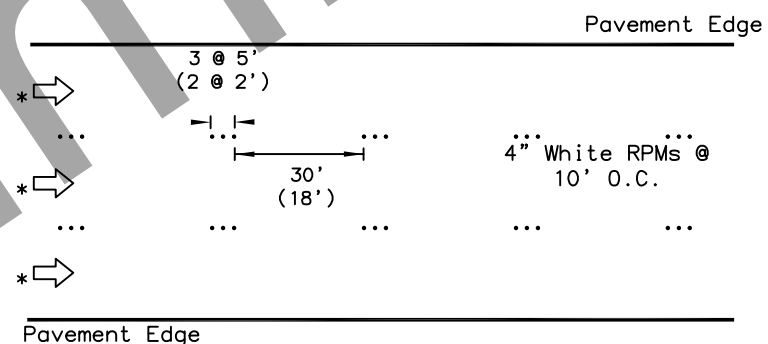


DETAIL C

Two-lane road: No Passing Zones indicated by signs only (see Note 2c). No centerline delineation.



Striping



Temporary Raised Pavement Markers

DETAIL D

Multilane one-way road: Lane dividing lines

* Direction of Travel

GENERAL NOTES:

1. Final pavement markings conforming to Part 3 of the Alaska Traffic Manual should be installed before paved roads are open to public travel. If that is not practical, install interim pavement markings as shown on this drawing. Maintain interim pavement markings until final pavement markings are installed.
2. No interim pavement markings are required:
 - a. on projects that will not have permanent markings when finished.
 - b. in work zones that are open to public travel for no more than one work shift during daytime or for no more than one hour at night.
 - c. where DO NOT PASS and PASS WITH CARE signs are installed on two lane roads as shown in Detail C, no pavement markings are required:
 - 1) for 3 days if seasonal ADT is above 2000, or
 - 2) for 1 month if seasonal ADT is below 2000.
3. Interim pavement markings should not be in place longer than 14 calendar days before being replaced with permanent markings conforming to Part 3 of the Alaska Traffic Manual unless the Engineer provides written approval.
4. Where R4-1 DO NOT PASS signs are used, install at the beginning of no passing zones and at no more than 1500' spacings within no passing zones.
5. Install high level warning devices on all DO NOT PASS and PASS WITH CARE signs.
6. Offset temporary markings 8"-12" from the future location of permanent markings if applied on the same lift of pavement.
7. Dimensions in parenthesis apply to curves with a radius of 1000 feet or less or where posted speed limit is 30 mph or less.

State of Alaska DOT&PF
ALASKA STANDARD PLAN
**INTERIM
PAVEMENT MARKINGS**

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

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

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

C-05.20

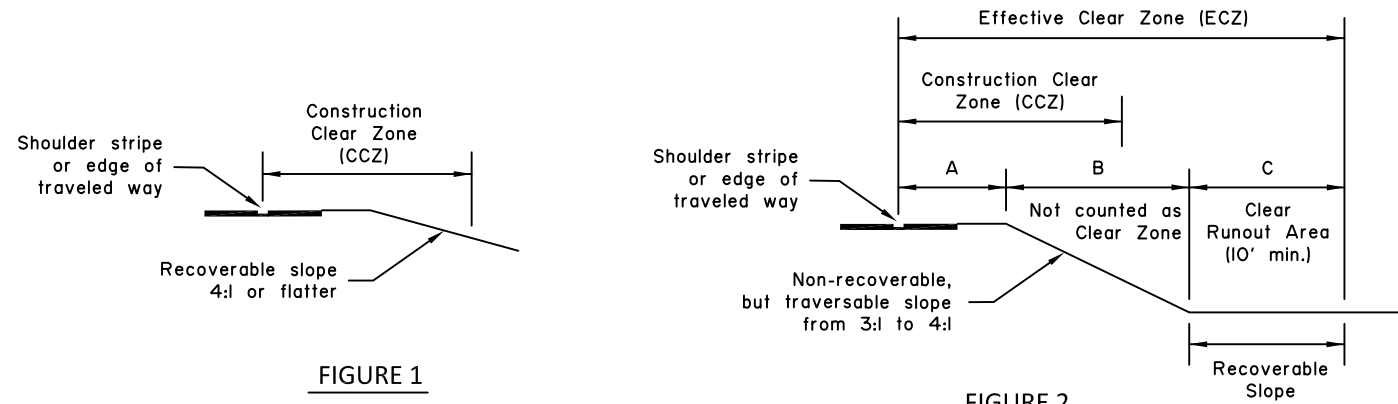


FIGURE 1

FIGURE 2

GENERAL NOTES:

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

INSTRUCTIONS FOR USING TABLES 1 THROUGH 5:

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

TABLE 1: Use to determine whether the hazard is within the CCZ

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

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

TABLE 4: Use to determine barrier flare rates.

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

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

TABLE 1 NOTES:

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

TABLE 2 NOTES:

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

Table 2 - Treatment for Hazards Within Construction Clear Zone

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

**State of Alaska DOT&PF
ALASKA STANDARD PLAN
ROADSIDE SAFETY TREATMENT
FOR WORK ZONES**

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

Adoption Date: 09/15/2022

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

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

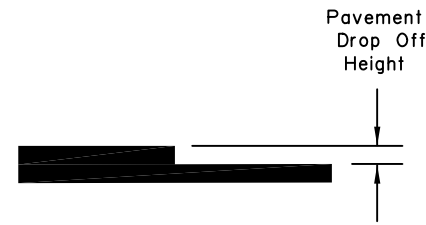


FIGURE 3
Pavement Drop-off Detail

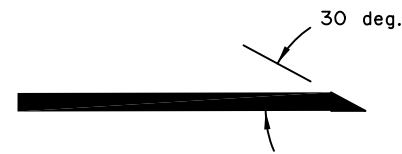


FIGURE 4
Safety Edge Detail

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

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

TABLE 3 NOTES:

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

BARRIER TERMINATION AND TABLE 4 NOTES:

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

Table 3b - Sign Numbers

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

* ATM = Alaska Traffic Manual

Table 4 - Barrier Flare Rates

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**ROADSIDE SAFETY TREATMENT
FOR WORK ZONES**

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

Adoption Date: 09/15/2022

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

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

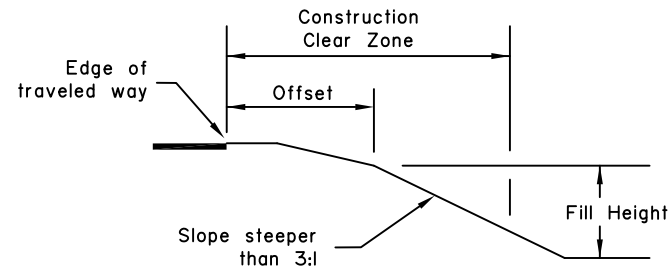


FIGURE 5

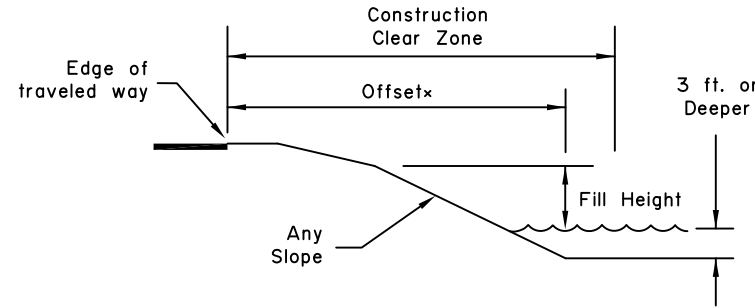


FIGURE 6

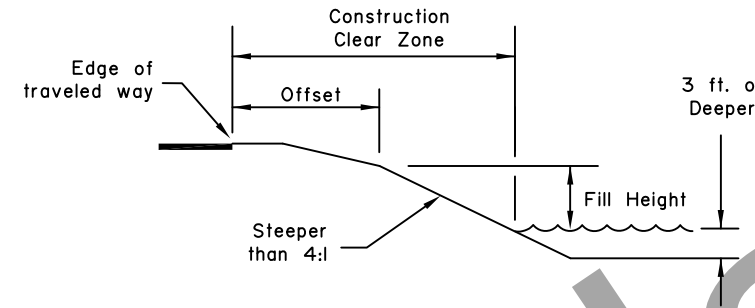


FIGURE 7

TABLE 5 NOTES:

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

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

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

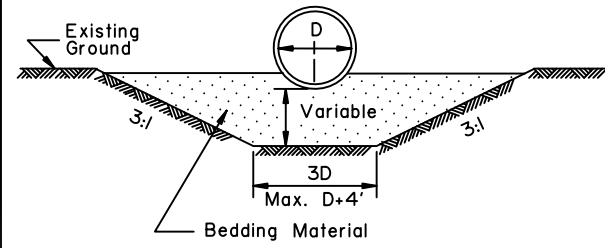
State of Alaska DOT&PF
ALASKA STANDARD PLAN

**ROADSIDE SAFETY TREATMENT
FOR WORK ZONES**

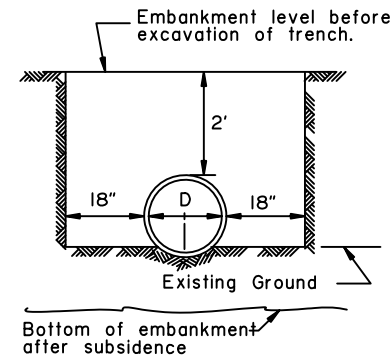
Adopted as an Alaska Standard Plan by: *Carolyn H. Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

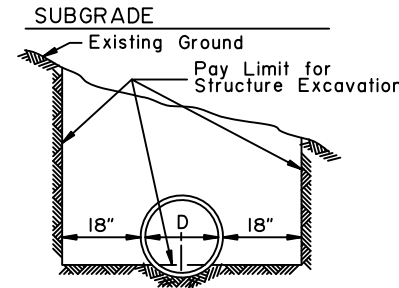
Last Code and Stds. Review
By: LRG Date: 09/15/2022
Next Code and Standards Review date: 09/15/2032



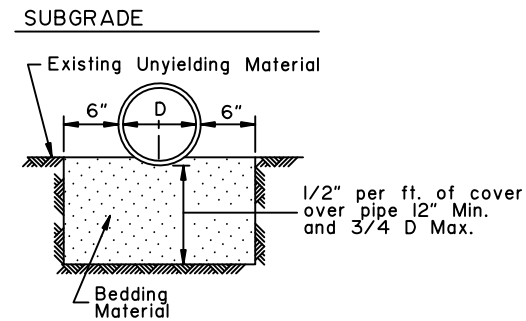
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



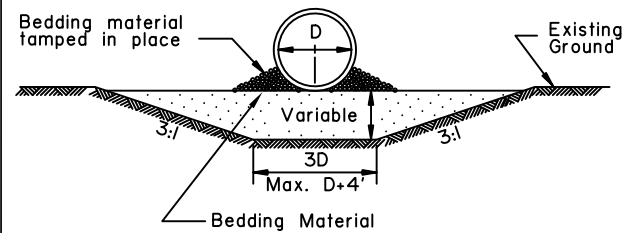
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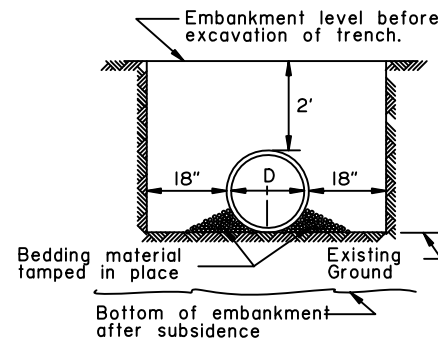
TYPE "C"



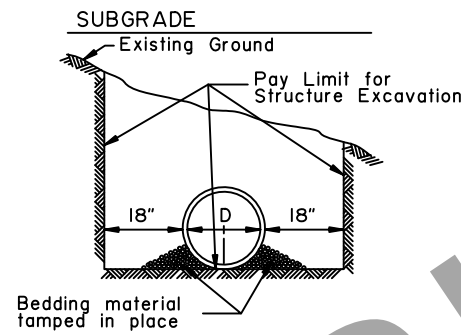
TYPE "D"
ROCK OR UNYIELDING MATERIAL



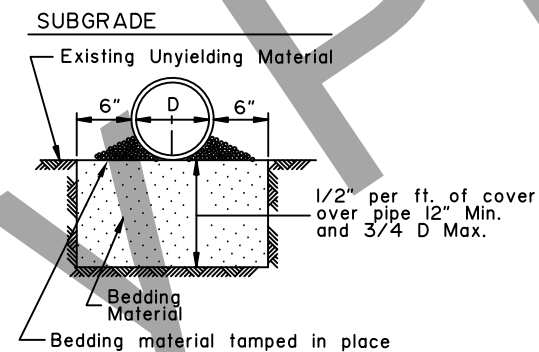
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FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



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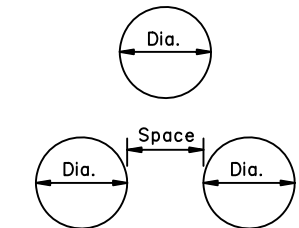


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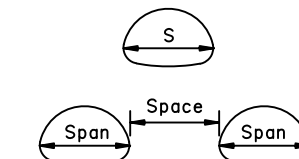
'ALTERNATE' TYPE "D"
ROCK OR UNYIELDING MATERIAL

D = Nominal Pipe Diameter



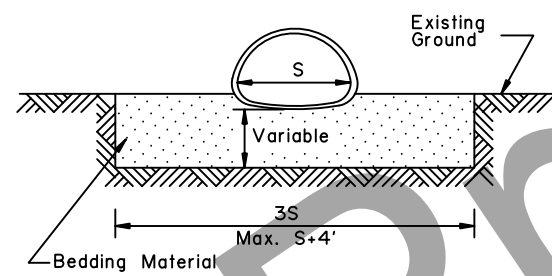
MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Dia. of pipe or 3', whichever is less.

S = Nominal Pipe Arch Span

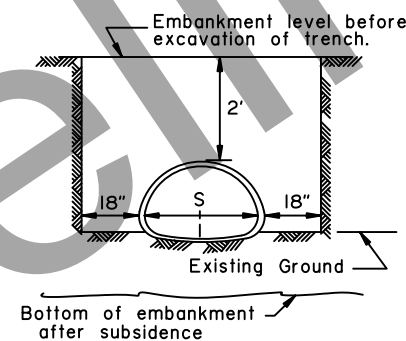


MULTIPLE INSTALLATIONS	
Dia.	Minimum Space Between Pipes
0" - 42"	24"
48" & Over	1/2 Span of pipe arch or 3', whichever is less.

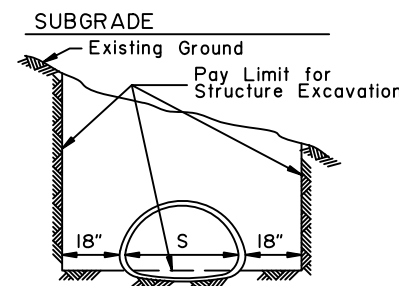
CULVERT PIPE



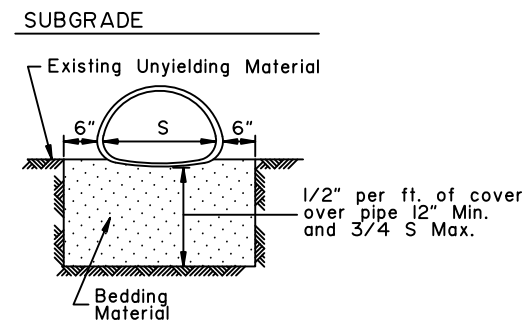
TYPE "A"
FOUNDATION STABILIZATION
To be used in unstable areas as directed by the Engineer.



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*
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

GENERAL NOTES:

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 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.
- See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 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.
- 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".

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

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

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.

————— CORRUGATED CIRCULAR ALUMINUM PIPE —————

————— CORRUGATED ALUMINUM PIPE-ARCH —————

Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	2 Tons/Sf Corner Bearing Pressure	
				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

Span (Ft.-In.)	Rise (Ft.-In.)	Corner Radius (In)	Min. Thickness (In)	2 Tons/Sf Corner Bearing Pressure	
				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

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

SHEET
2 of 4

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)
60	12	46	67	87	100	100+	100+
66	12	42	60	79	91	100+	100+
72	12	38	55	73	83	100+	100+
78	12	35	51	67	77	93	100+
84	12	32	47	62	71	86	100+
90	12	30	44	58	67	80	95
96	12	28	41	54	62	75	89
102	18	27	39	51	59	71	84
108	18	25	37	48	55	67	79
114	18	24	35	45	52	63	75
120	18	22	33	43	50	60	71
126	18	21	31	41	47	57	68
132	18	20	30	39	45	54	64
138	18	19	28	37	43	52	62
144	18	18	27	36	41	50	59

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

GENERAL NOTES

- All material and workmanship shall be in accordance with the State of Alaska, Standard Specifications for Highway Construction.
- The contractor shall select only pipes that meet specific height of cover criteria shown on the plans or in the special provisions.
- No more than one type of pipe may be used on any single installation or installation grouping.
- 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.
- See Standard Plan D-01 "Culvert Pipe & Arch Installation Details" for foundation and structural backfill details.
- 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.
- 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 STEEL PIPE —————

————— 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

GENERAL NOTES

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

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.

Preliminary Plans

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PIPE AND ARCH TABLES

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Chief Engineer

Adoption Date: 7/17/2020

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

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".

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

* $\frac{3}{4}$ x $\frac{3}{4}$ x $7\frac{1}{2}$ 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
53	41	24			13
60	46	24			13
66	51	24			13

* $\frac{3}{4}$ x $\frac{3}{4}$ x $7\frac{1}{2}$ in. Corrugations

———— ALUMINUM SPIRAL RIB PIPE ————
 ———— 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

* $\frac{3}{4}$ x $\frac{3}{4}$ x $7\frac{1}{2}$ in. Corrugations.

Minimum & Maximum Cover for Steel Spiral Rib Pipe-Arch*					
2 Tons/Sf Corner Bearing Pressure					
Gage		16	14	12	10
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

* $\frac{3}{4}$ x $\frac{3}{4}$ x $7\frac{1}{2}$ in. Corrugations

State of Alaska DOT&PF
ALASKA STANDARD PLAN

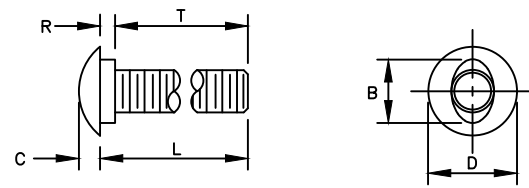
PIPE AND ARCH TABLES

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

Adoption Date: 7/17/2020

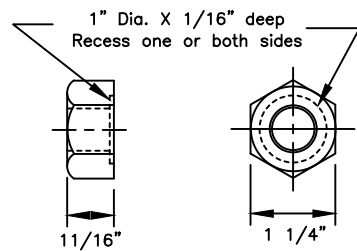
Last Code and Stds. Review
 By: KLH Date: 7/8/2020

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

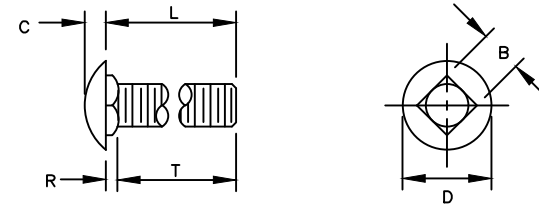


B	C	D	L (Length)	R	T (Thread Length)
15/16"	5/16"	1 5/16" or 1 7/16"	As Required	7/32"	As Required

5/8" BUTTONHEAD BOLT
(FBB01-05)

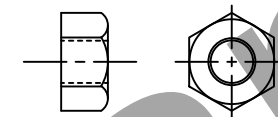


5/8" Dia. RECESSED HEX NUT
(FBB01-05)



B	C	D	L (Length)	R	T (Thread Length)
5/8"	5/16"	1 5/16"	As Required	3/16"	As Required

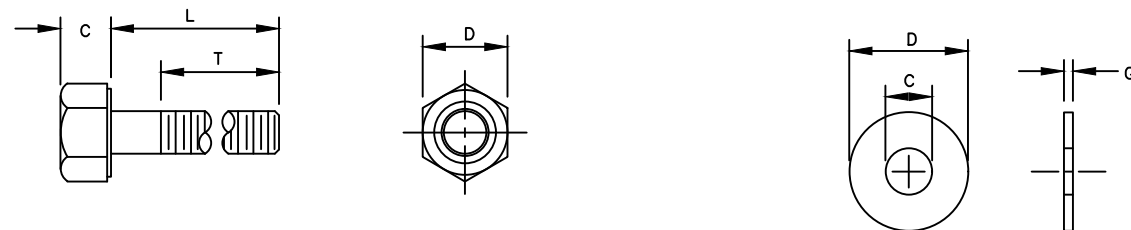
5/8" Dia. CARRIAGE BOLT
(FBC10-20)



STANDARD HEX NUT

GENERAL NOTES:

- All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.

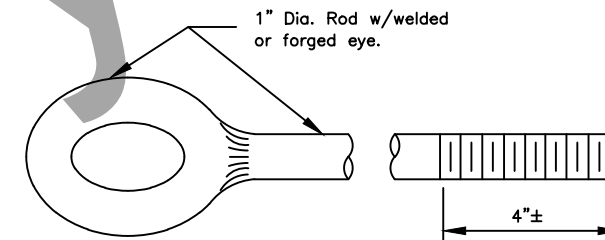


Bolt Size	C	D	L (Length)	T (Thread Length)
5/16"	—	—	1 1/2"	7/8"
5/16"	—	—	1"	1"
3/8"	—	—	7 1/2"	1 1/2"
1/2"	—	—	1 1/2"	1 1/2"
1/2"	—	—	1 1/4"	1 1/4"
5/8" H.S.	5/16"	7/8"	8"	1 1/2"
5/8"-11	—	—	1 1/2"	1 1/2"
3/4"	—	—	1 1/2"	1 1/2"
3/4"	—	—	As Required	2"
3/4" H.S.	15/32"	1 1/4"	2"	1 1/2"

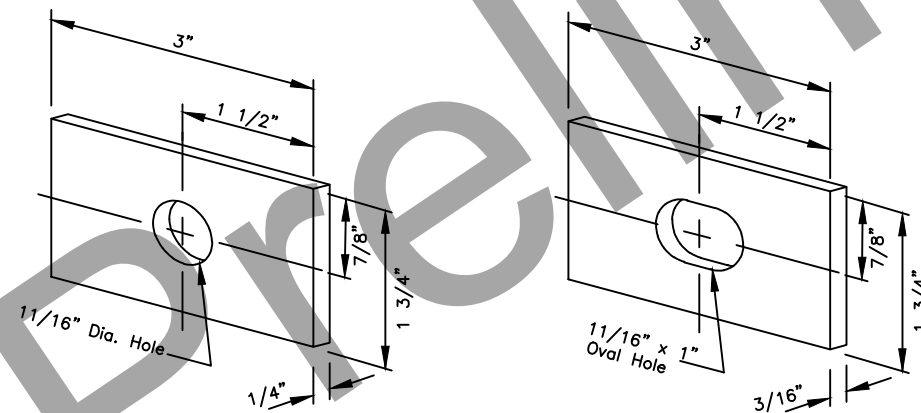
STANDARD HEX BOLTS

For Bolt #	C	D	G
3/8"	7/16"	1"	5/64"
1/2"	17/32"	1 1/16"	3/32"
1/2" H.S.	17/32"	1 1/16"	3/32"
5/8"	11/16"	1 3/4"	9/64"
3/4"	13/16"	1 15/32"	9/64"
3/4" H.S.	13/16"	2"	5/32"
1"	1 1/16"	2"	9/64"

STANDARD STEEL WASHERS

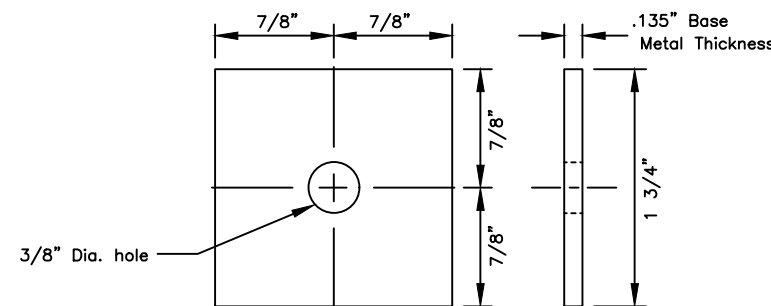


EYE BOLT



FLAT PLATE WASHER

RECTANGULAR POST BOLT WASHER
(FWR03)



SQUARE STEEL WASHER
(FWR01)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL
HARDWARE
(NUTS, BOLTS & WASHERS)

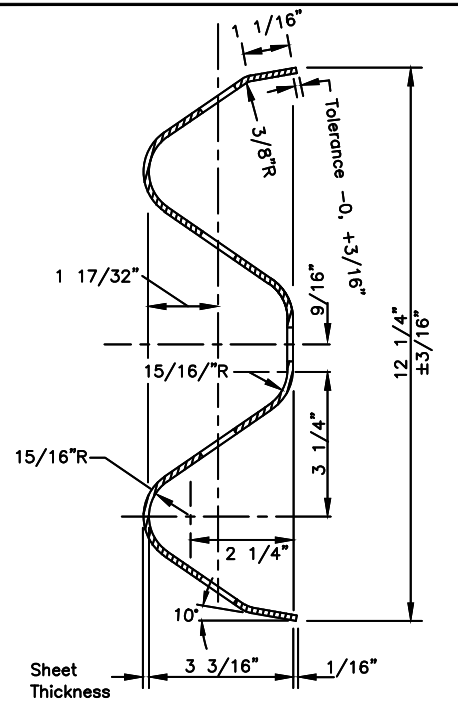
Adopted as an Alaska
Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

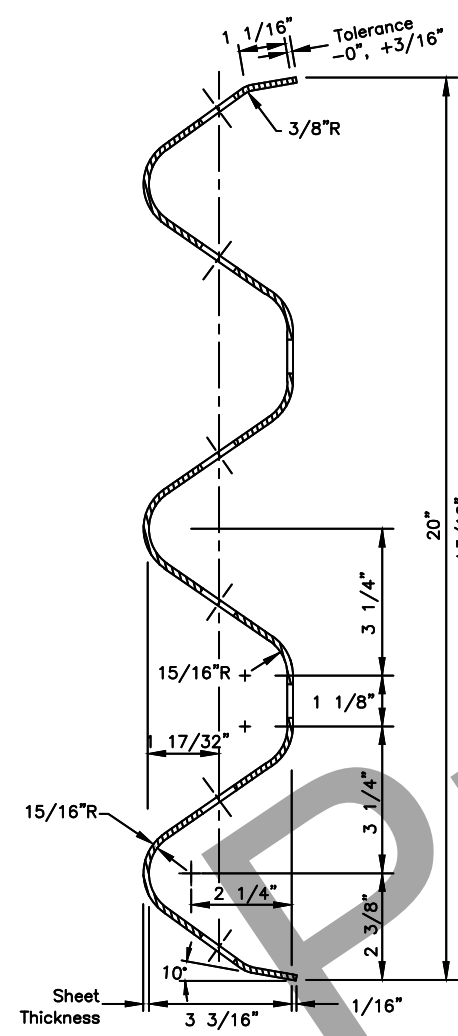
Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

GENERAL NOTES:

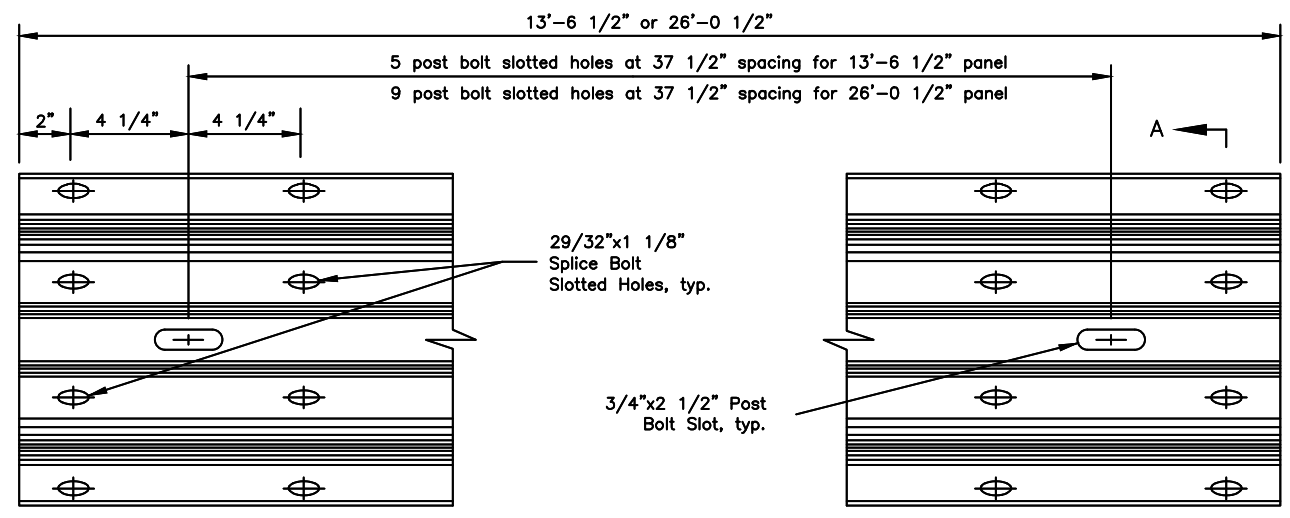
1. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.
2. Install back-up plates between blockouts and w-beam or thrie-beam rail at intermediate (non-splice) posts when steel blockouts are used but not with wood, rubber, plastic, or other approved blockouts.



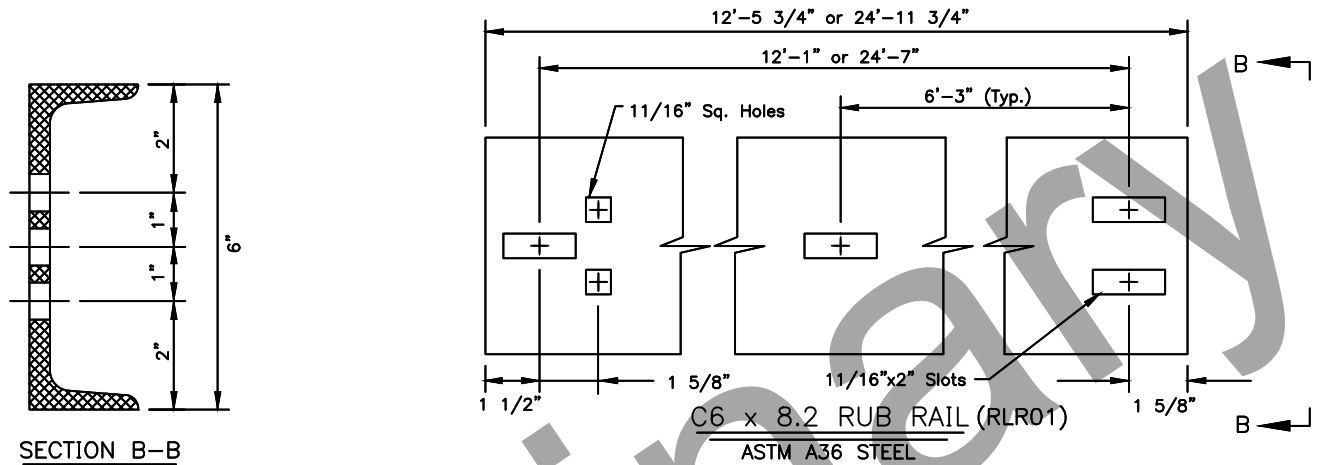
SECTION A-A
(cross section same as RWM02a-b)



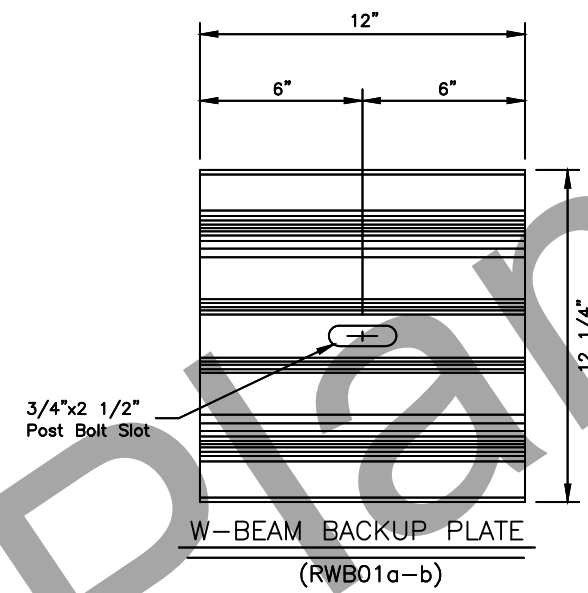
SECTION C-C
(RTM01a-02b)



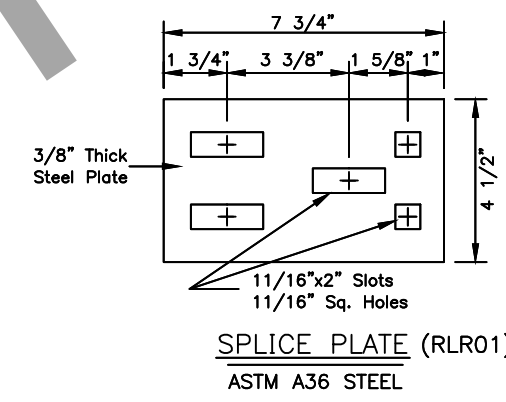
STANDARD W-BEAM PANEL (RWM04a-b)



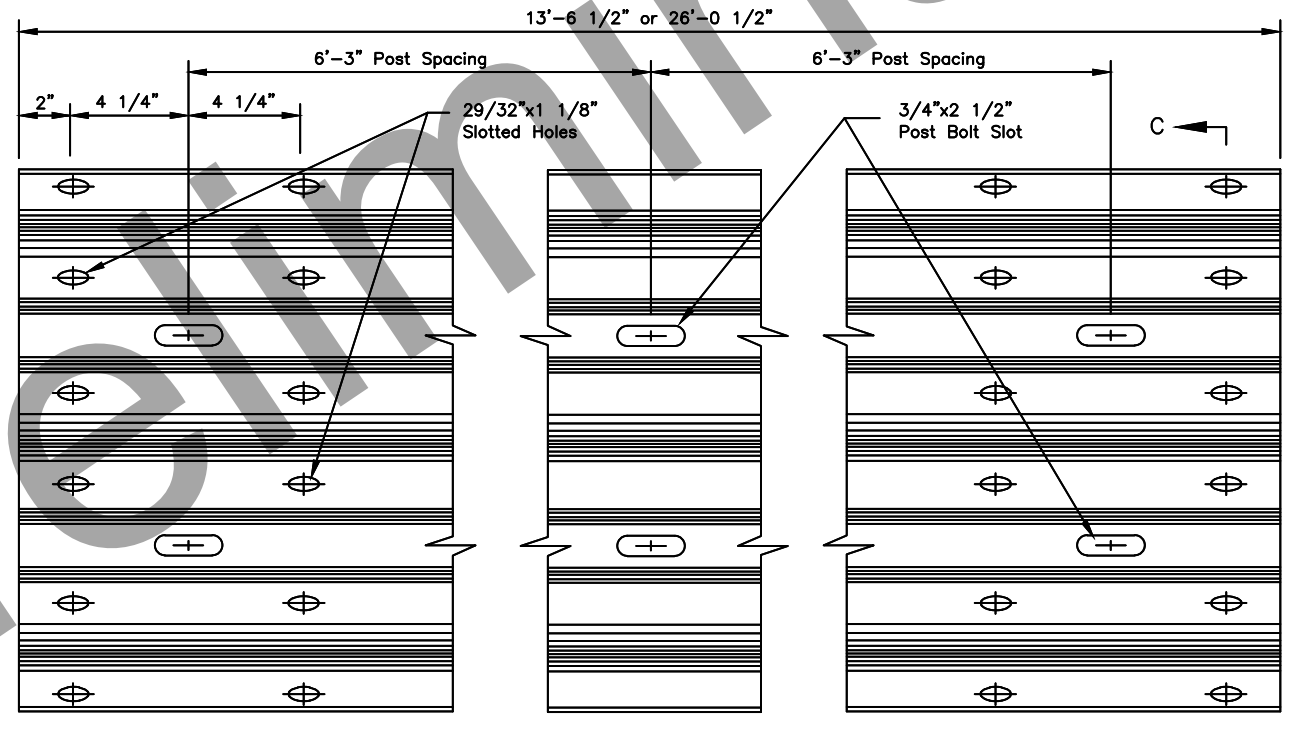
C6 x 8.2 RUB RAIL (RLR01)
ASTM A36 STEEL



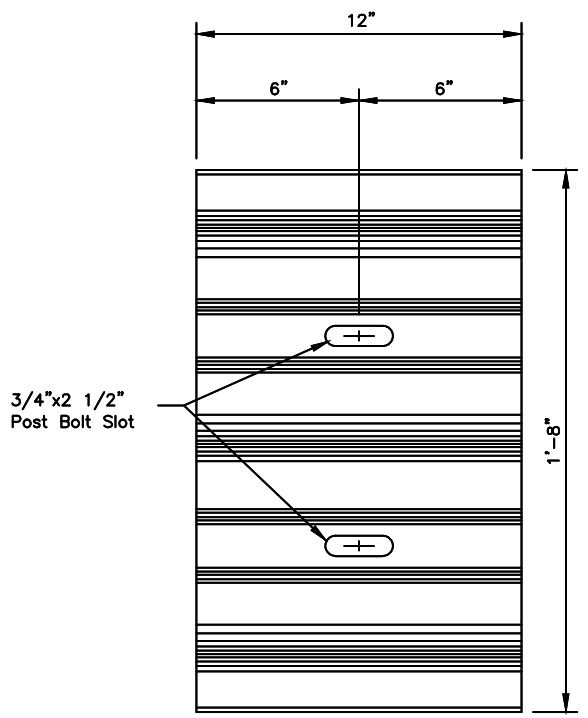
W-BEAM BACKUP PLATE (RWB01a-b)



SPlice PLATE (RLR01)
ASTM A36 STEEL



STANDARD THRIE BEAM PANEL (RTM01a-02b)



THRIE BEAM BACKUP PLATE (RTB01a-02b)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**STANDARD GUARDRAIL
HARDWARE
(RAILS AND SPLICES)**

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

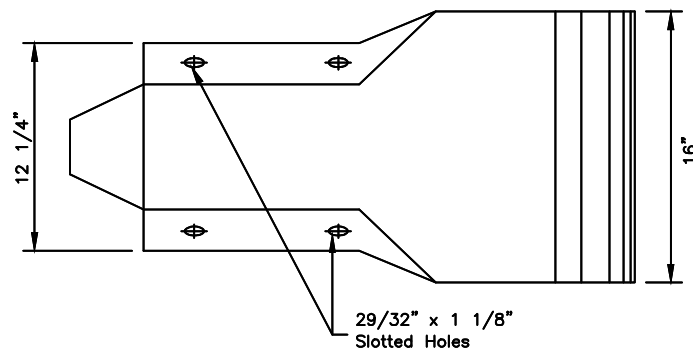
Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

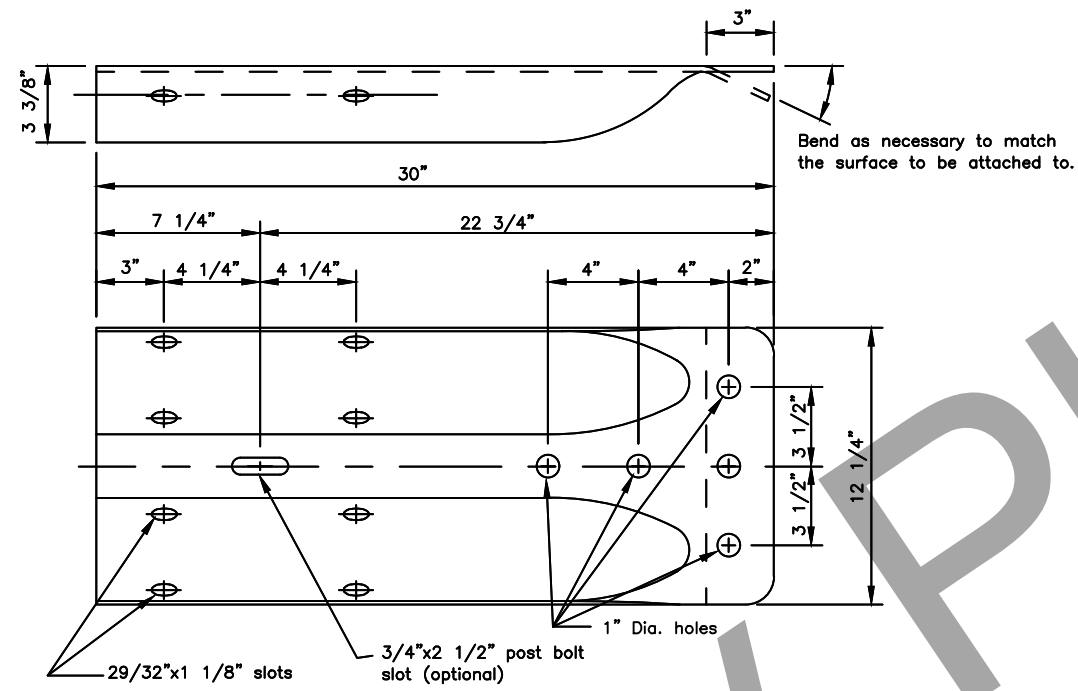
G-00.05

GENERAL NOTES:

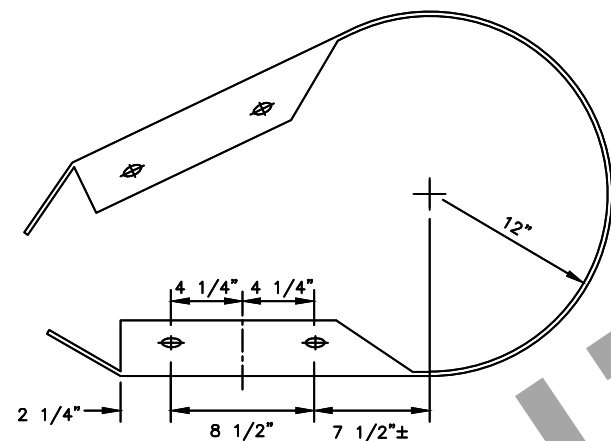
1. W-Beam and Thrie Beam Terminal Connectors shall conform to AASHTO M 180, Class B, Type II.
2. W-Beam end sections shall conform to AASHTO M 180, Class A, Type II.
3. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.



PROFILE



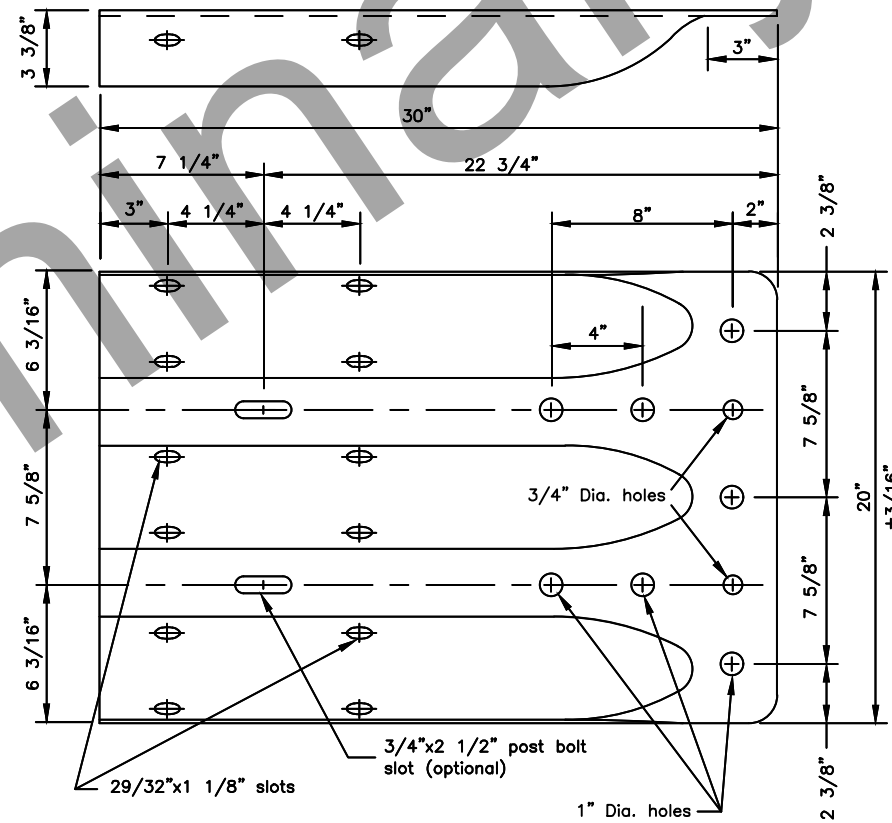
STANDARD W-BEAM TERMINAL CONNECTOR
(RWE02)



W-BEAM PLAN VIEW

*Radius to be specified on the plans

STANDARD W-BEAM END SECTION
(RWE06)



STANDARD THRIE BEAM TERMINAL CONNECTOR
(RTE01b)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL
HARDWARE
(TERMINAL CONNECTORS)

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

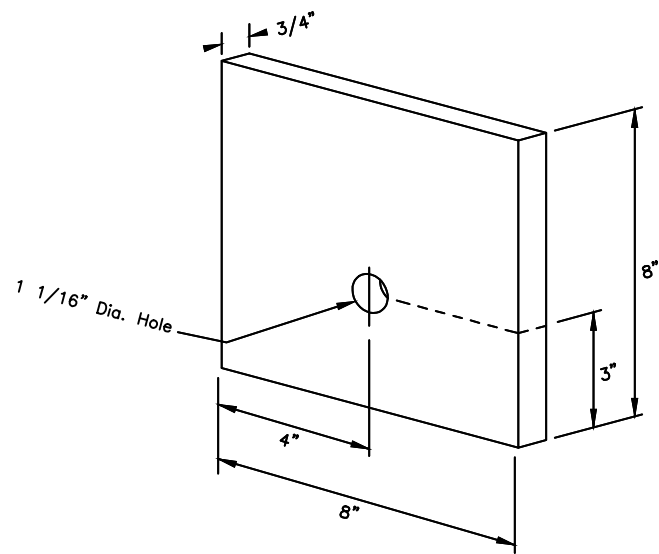
Adoption Date: 7/17/2020

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

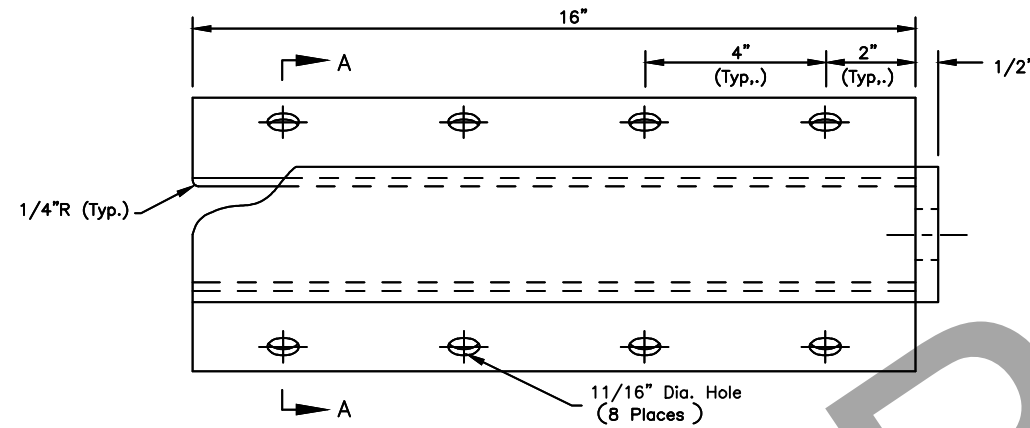
Next Code and Standards Review Date: 7/8/2030

GENERAL NOTES:

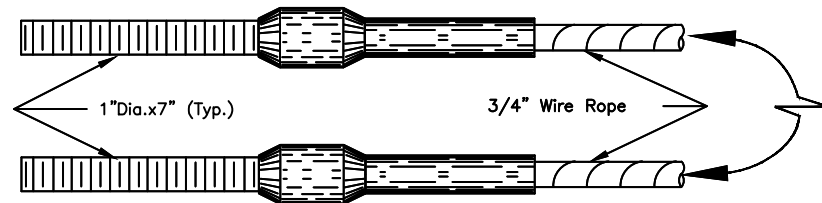
1. Cable Anchor Plate may be formed in single unit or welded fabrication.
2. Anchor Cable Assembly must conform to AASHTO M 30 with Type II Wire Rope.
3. Provide Sleeve for Wood Posts meeting the requirements of ASTM A53 and made of 2-inch galvanized standard pipe. Sleeve shall be a tight, pressed fit in post.
4. Attach radius ID plates to all shop-bent guardrail sections. Bolt the ID plates to the back side of the guardrail panel with the lower splice bolt nearest the P.C. of the radius.
5. Show the Rail bend radius, in feet, as "XX" on the radius ID plate. Digits shall be etched or stamped and have a min. height of 1 1/2" and a max. width of 3/4". Galvanize the plate after the digits are marked.
6. All covered hardware shall comply with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators given when possible in parentheses.



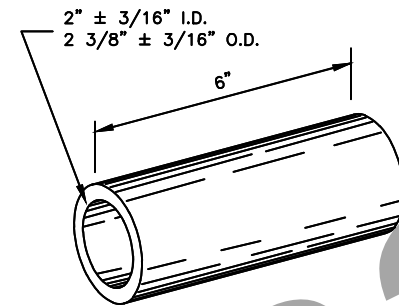
BEARING PLATE for CRT TERMINAL ANCHOR
(FPB01)



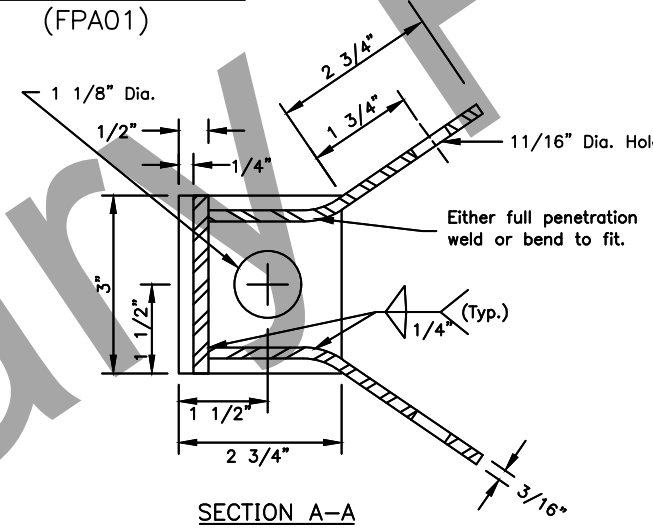
CABLE ANCHOR PLATE
(FPA01)



SWAGED FITTING DETAIL
(FCA01-02)

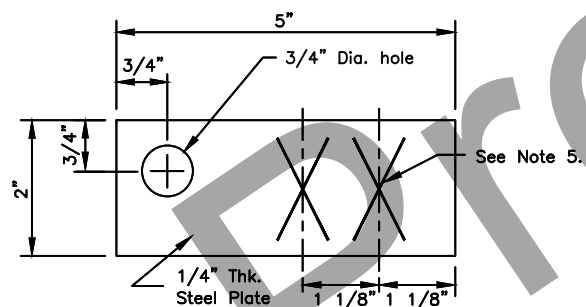


SLEEVE DETAIL
(FMM02)

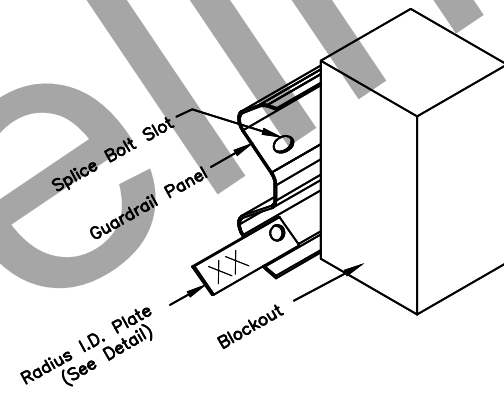


SECTION A-A

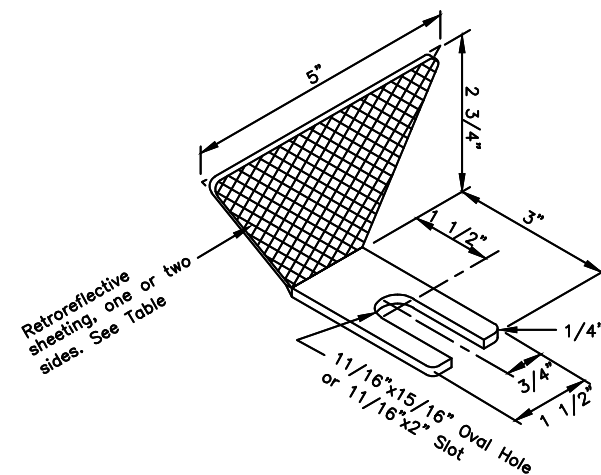
CONTROLLED RELEASE TERMINAL HARDWARE DETAILS



RADIUS I.D. PLATE



RADIUS I.D. PLATE MOUNTING DETAIL



GUARDRAIL REFLECTOR

Guardrail Reflector Table

Type	Color	ReflectORIZED
A	White	Front & Rear
B	White	Front
C	Yellow	Front
D	Yellow	Front & Rear

State of Alaska DOT&PF
ALASKA STANDARD PLAN

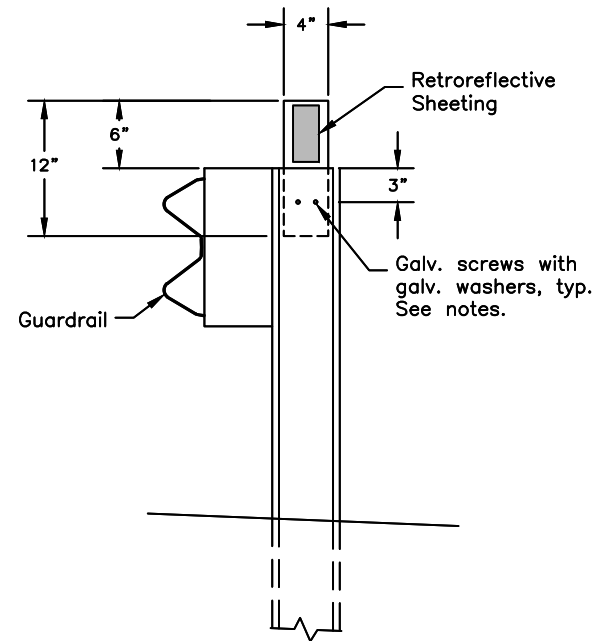
STANDARD GUARDRAIL
HARDWARE
(MISCELLANEOUS)

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



GUARDRAIL FLEXIBLE DELINEATOR DETAIL

(Steel post shown – similar for wood post)

CONSTRUCTION NOTES

1. Install guardrail flexible delineators where shown on the plans.
2. Install guardrail flexible delineators at 50 foot spacing, unless otherwise noted on the plans. Install not less than 2 delineators per guardrail run.
3. Use 3" x 5" white/yellow/red retroreflective sheeting as required per Standard Plan T-05. Install retroreflective sheeting on both sides of delineator on two-way roads.
4. Attach 4" x 12" flexible delineators to the top of new guardrail posts, on the trailing side of the posts relative to the adjacent lane's direction of travel.
5. Use 2 each 1/4" dia. x 1-1/2" long galvanized lag screws for attaching to wood posts and 2 each 1/4" dia. x 3/4" long galvanized self-drilling fasteners for steel posts. Install a galvanized washer between the fastener head and the flexible delineator.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL
HARDWARE
(FLEXIBLE DELINEATORS)

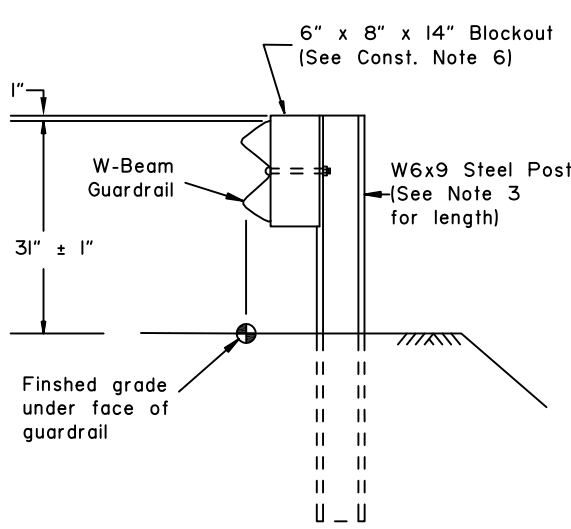
Adopted as an Alaska
Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

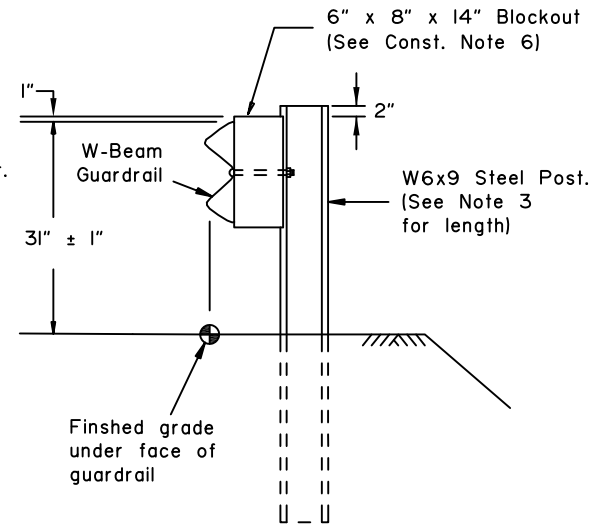
Last Code and Stds. Review
By: KLK Date: 7/8/2020

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

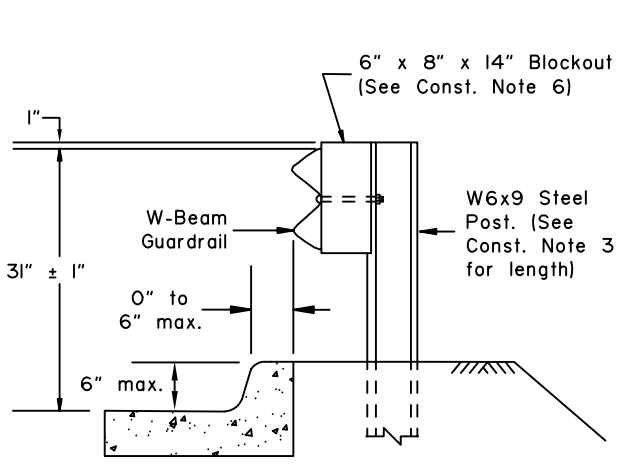
G-00.05



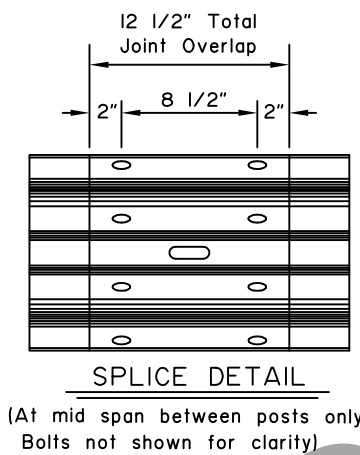
TYPE I POST INSTALLATION



TYPE II POST INSTALLATION
(Facilitates raising rail for future overlays.)

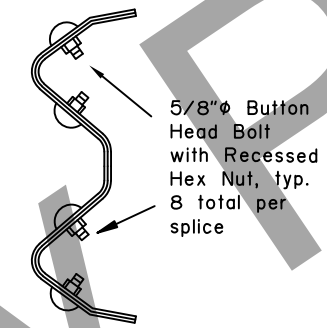


TYPE III POST INSTALLATION

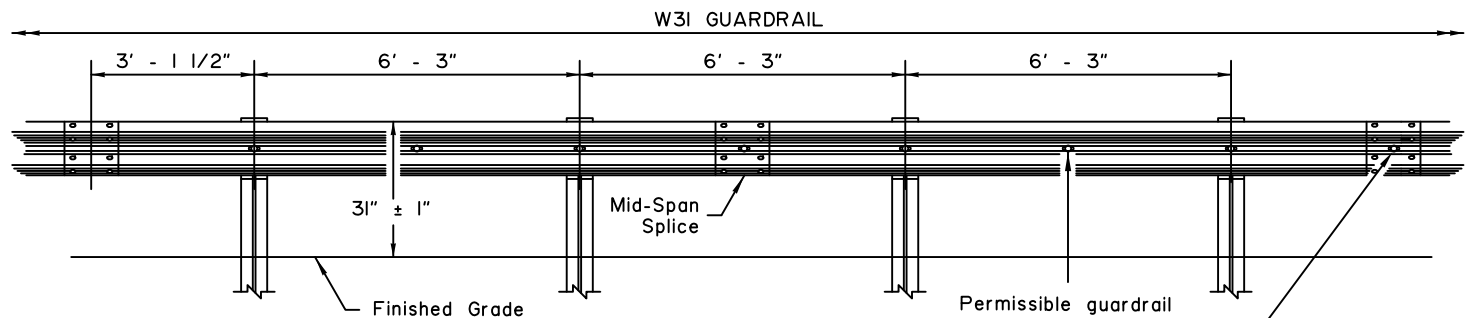


SPLICE DETAIL

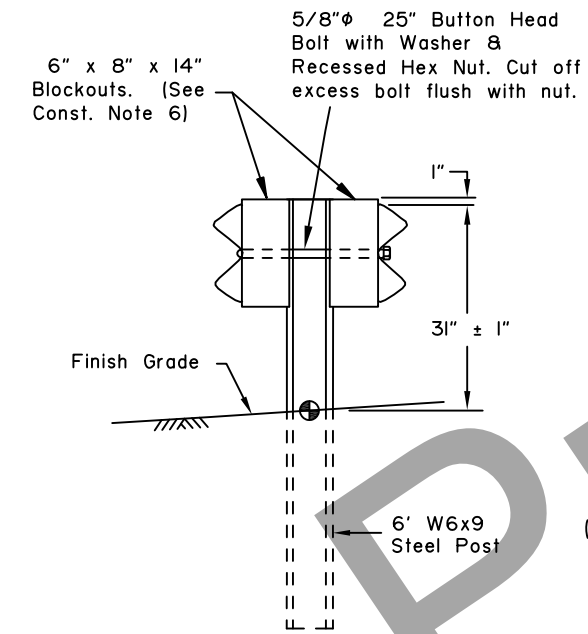
(At mid span between posts only. Bolts not shown for clarity)



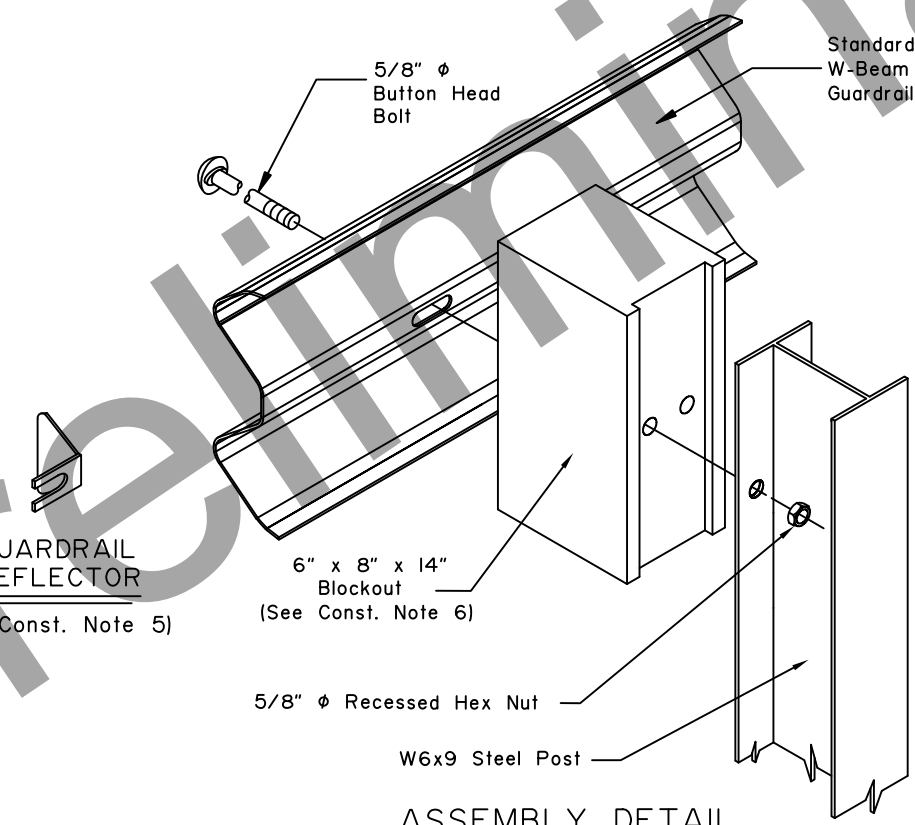
SPLICE CROSS-SECTION



TYPICAL ELEVATION

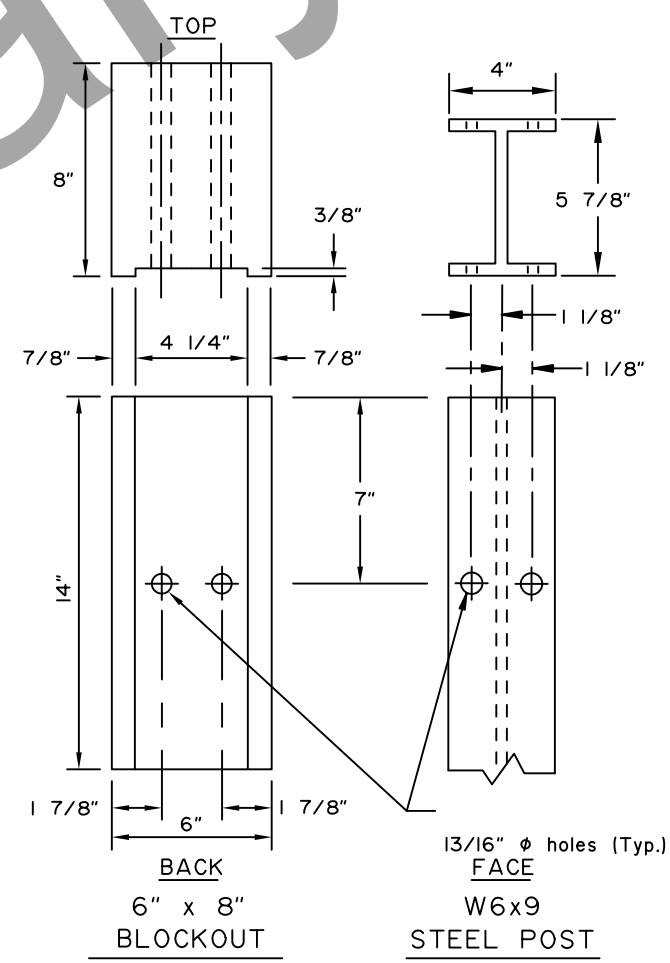


TYPE IV DOUBLE SIDED INSTALLATION



ASSEMBLY DETAIL

(Type I post shown)



BACK

6" x 8" BLOCKOUT

FACE

W6x9 STEEL POST

CONSTRUCTION NOTES:

1. Provide hardware compliant with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware.
2. See Standard Plan G-00 for hardware details not shown on this drawing.
3. See Standard Plan G-10 for post lengths corresponding to different combinations of slope and behind-post embankment width.
4. Typical post spacing is 6'-3" center to center.
5. Attach guardrail reflector to guardrail using a 5/8" button head bolt with 5/8" recessed head hex nut and steel washer at location shown in the Typical Elevation. Install reflectors every 25' on tangents and every 12.5' on curves starting 100' before the P.C. and ending 100' after the P.T.
6. Use wood or synthetic blockouts designed, tested, and passed per MASH for use with steel posts. Either bolt hole on the blockout may be used for attachment.
7. Use a 25 linear foot transition to match differing height of existing or new rail elements and end treatments - see Standard Plan G-II.
8. W6x8.5 steel post may be substituted for W6x9 steel post.
9. Install flexible delineators on guardrail posts when called for in the contract. See Standard Plan G-00 for guardrail flexible delineator details.

DESIGN NOTES:

1. No fixed objects allowed within 36" of the back side of guardrail post.
2. This barrier is acceptable under MASH Tests 3-10 and 3-11.

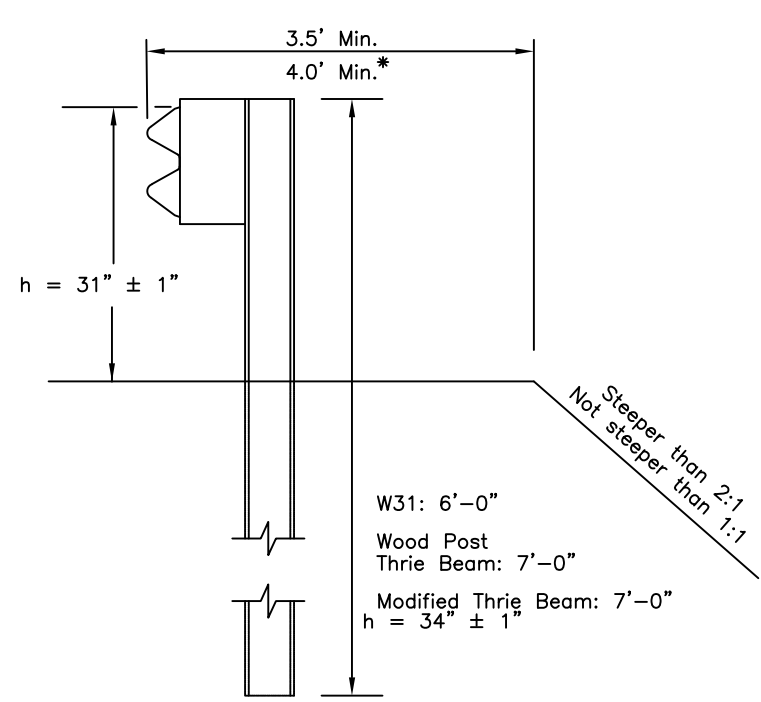
State of Alaska DOT&PF
ALASKA STANDARD PLAN
**STEEL POST W31
GUARDRAIL**

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

Adoption Date: 05/15/2019

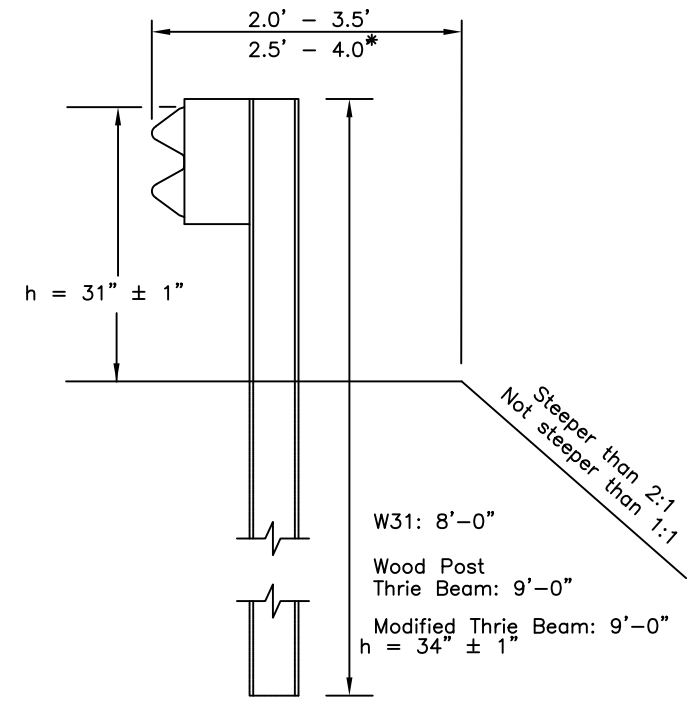
Last Code and Stds. Review
By: LRG Date: 5/15/2019

Next Code and Standards Review date: 5/15/2029



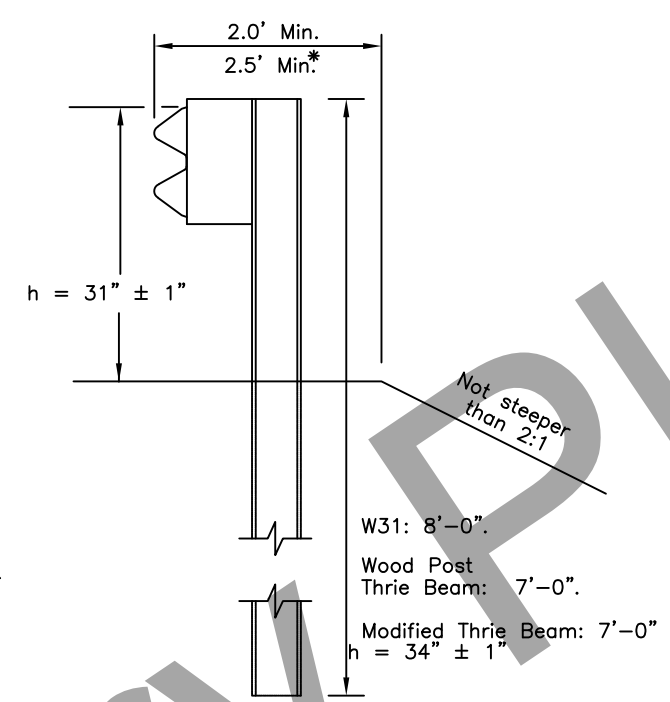
CASE 1

* with Modified Thrie Beam



CASE 2

* with Modified Thrie Beam



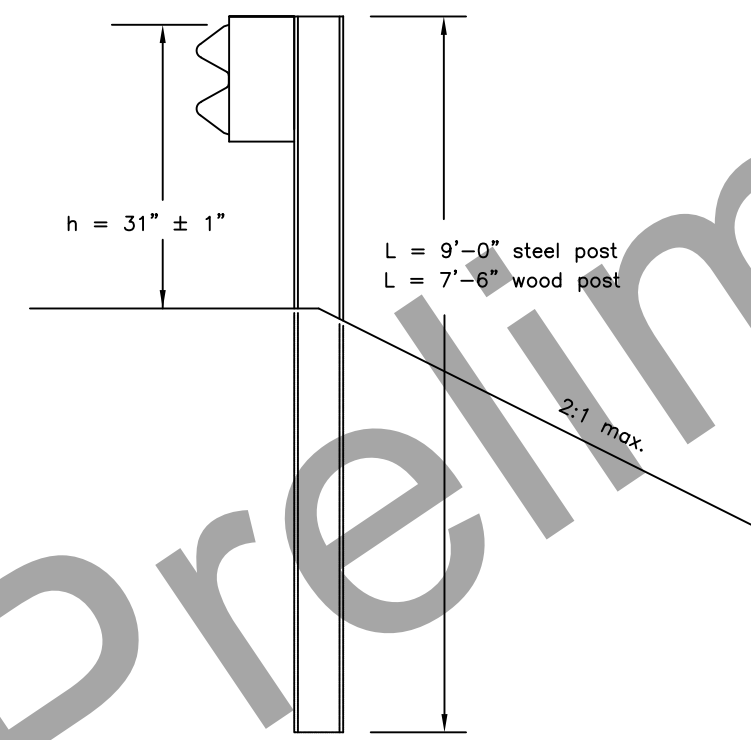
CASE 3

CONSTRUCTION NOTES:

1. This drawings is to be used for post length determination only. See Plans for slopes and behind-post embankment widths.
2. To determine post length, identify the case that matches site conditions and read the length corresponding to the pertinent guardrail type.
3. These dimensions apply to both curbed and uncurbed section.
4. Case 1, 2 and 3 are shown with steel posts. Wood posts may be substituted when allowed by specifications. Wood Post Thrie Beam installations must use wood posts only.
5. Case 4 and 5 apply to W31 guardrail only.

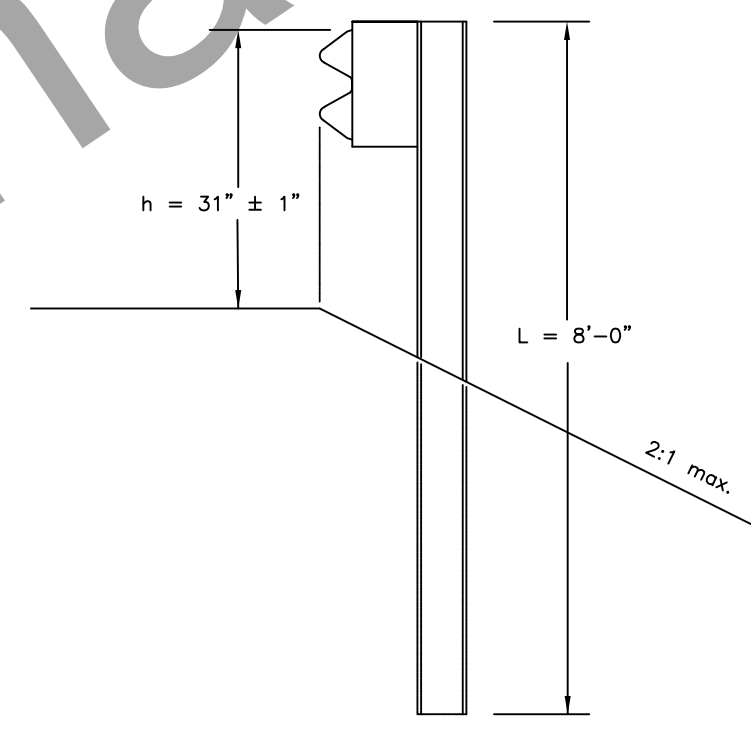
DESIGN NOTES:

1. No fixed objects allowed within 48" of the back of post for Cases 1, 2, 3, 4, and 5.



CASE 4

(See Note 5)



CASE 5

(See Note 5)

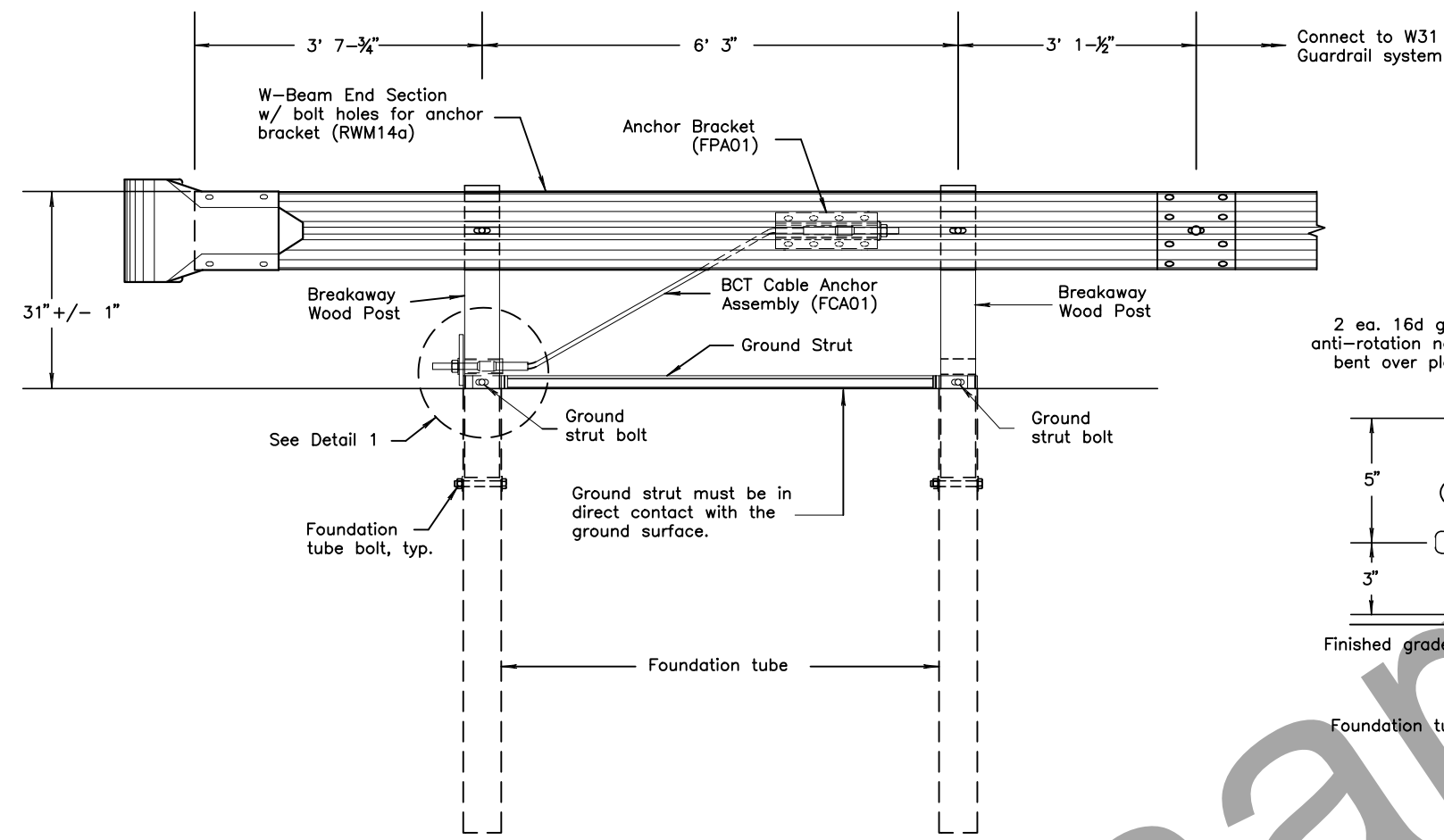
State of Alaska DOT&PF
ALASKA STANDARD PLAN

**GUARDRAIL POST
INSTALLATION**

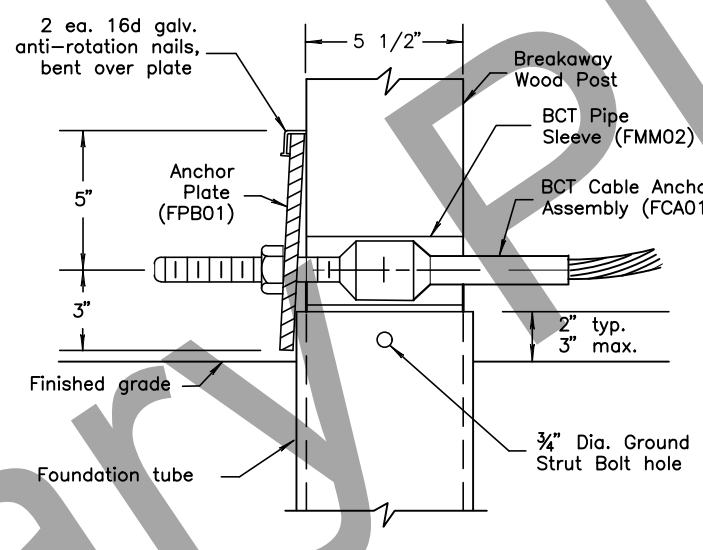
Adopted as an Alaska Standard Plan by: *Carolyn H Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

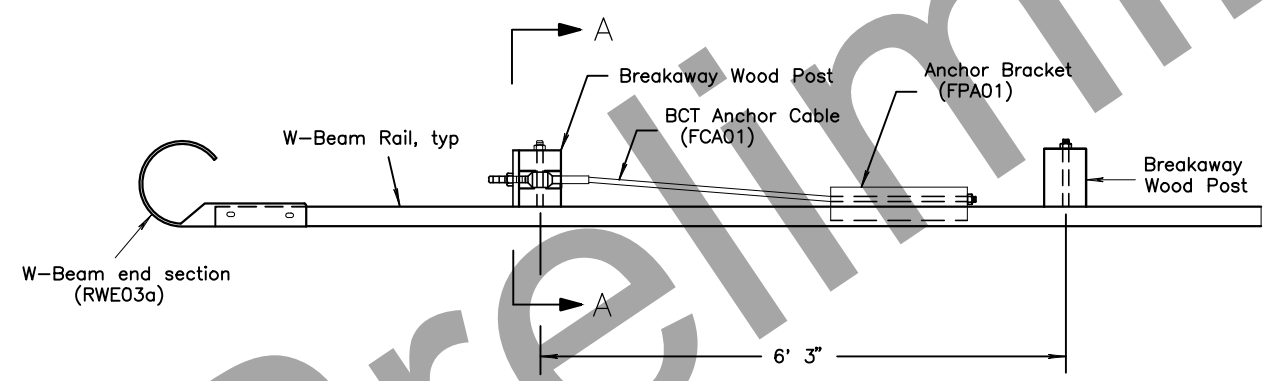
Last Code and Stds. Review
By: LRG Date: 09/15/2022
Next Code and Standards Review date: 09/15/2032



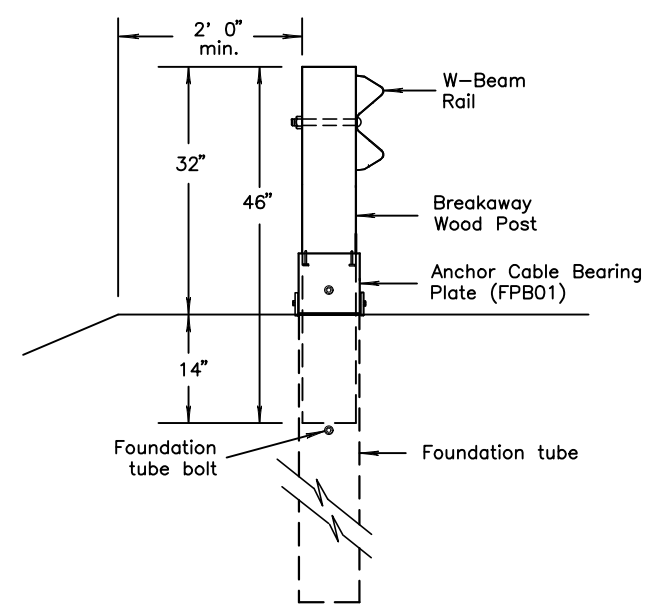
ELEVATION



DETAIL 1
(Ground strut not shown for clarity)



PLAN VIEW



SECTION A-A

CONSTRUCTION NOTES

1. All covered hardware must comply with Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators are given in parenthesis, when possible.
2. End section bolts and nuts have the same material requirements as splice bolts.
3. Foundation tube bolts are are 7/8" diameter ASTM A307 hex head. Foundation tube bolts require an ASTM A563 A nut and two ASTM F844 7/8" diameter flat washers. Install one washer under bolt head and one under nut.
4. Anchor bracket and strut bolts are are 5/8" diameter ASTM A307 hex head. Foundation tube bolts require ASTM A563 A nut and two ASTM F844 7/8" diameter flat washers. Install one washer under bolt head and one under nut.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**W31 DOWNSTREAM
END ANCHOR**

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

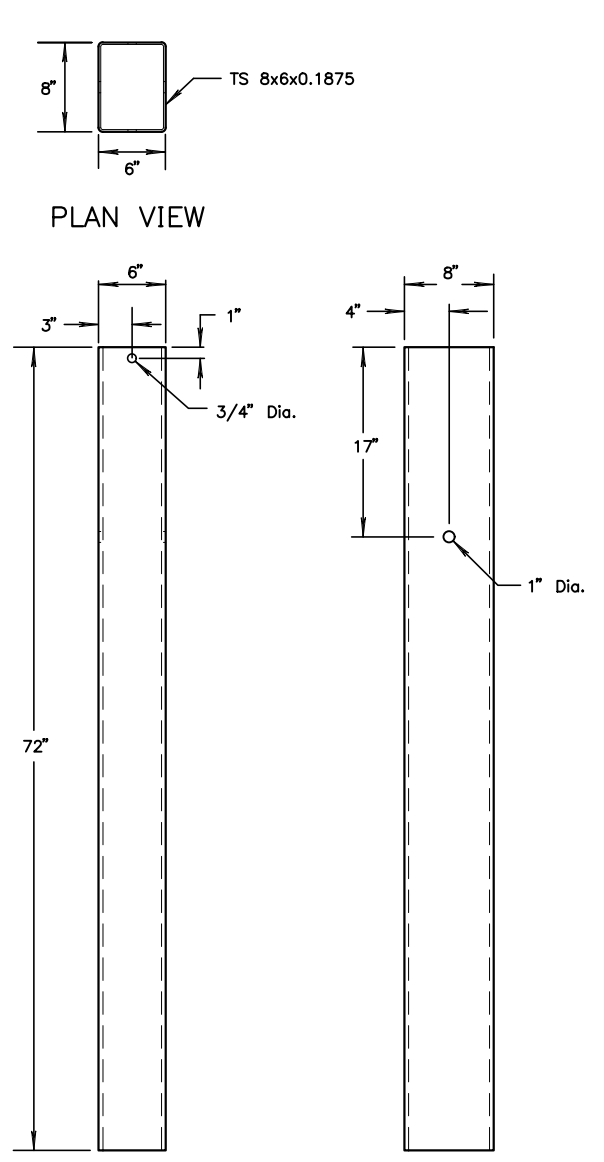
Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

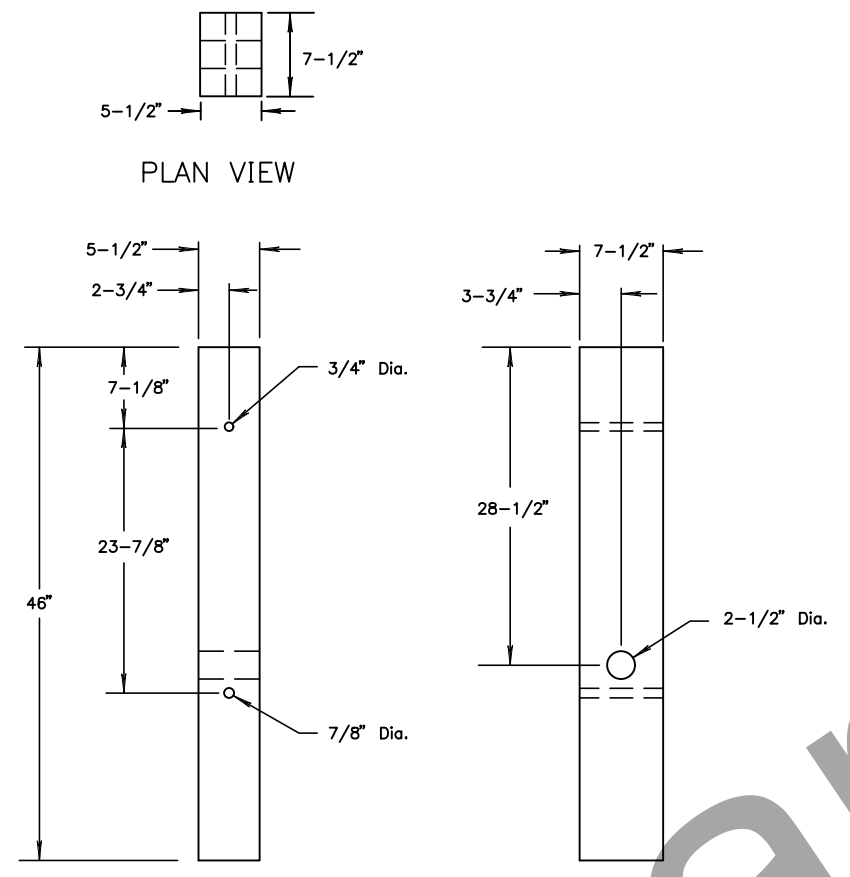
G-14.01

CONSTRUCTION NOTES

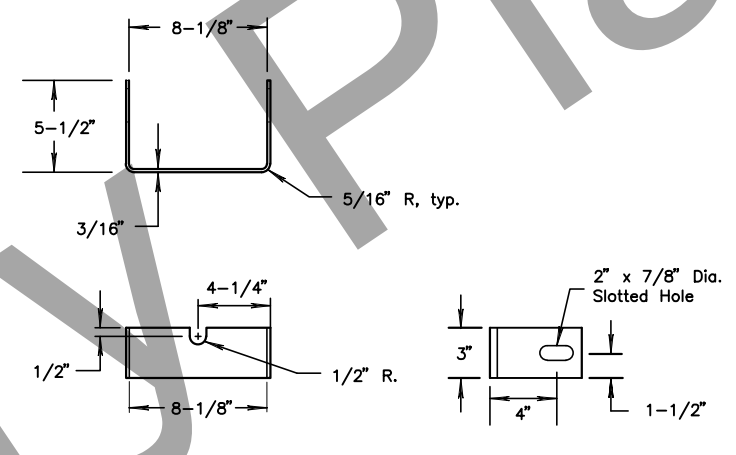
- All covered hardware must comply with Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware online publication. Designators are given in parenthesis, when possible.



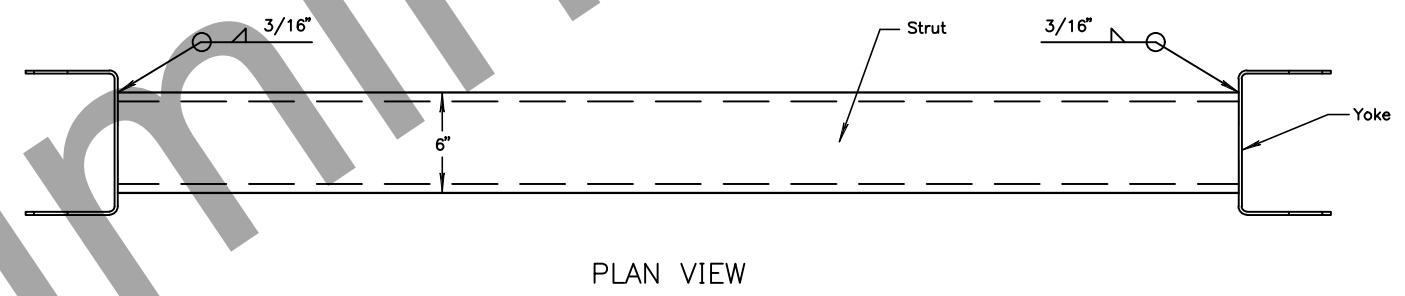
FRONT VIEW SIDE VIEW
FOUNDATION TUBE



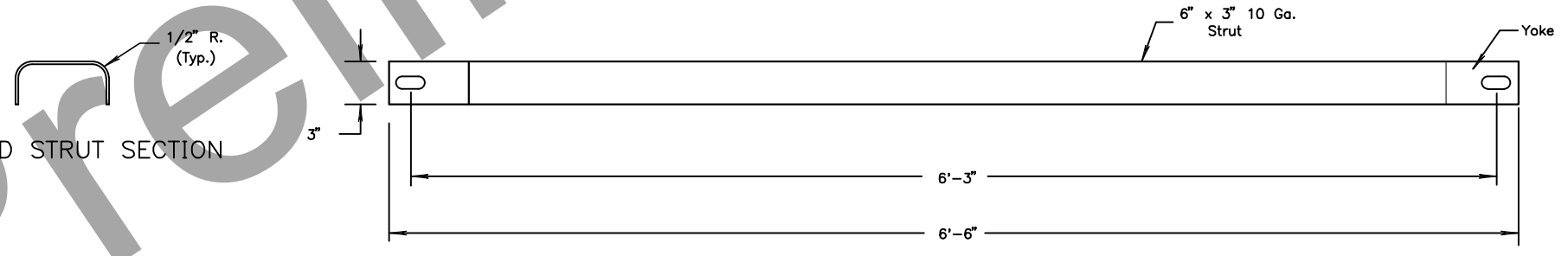
FRONT VIEW SIDE VIEW
BREAKAWAY WOOD POST



YOKE DETAIL



PLAN VIEW



FRONT VIEW
GROUND STRUT DETAIL

State of Alaska DOT&PF
ALASKA STANDARD PLAN

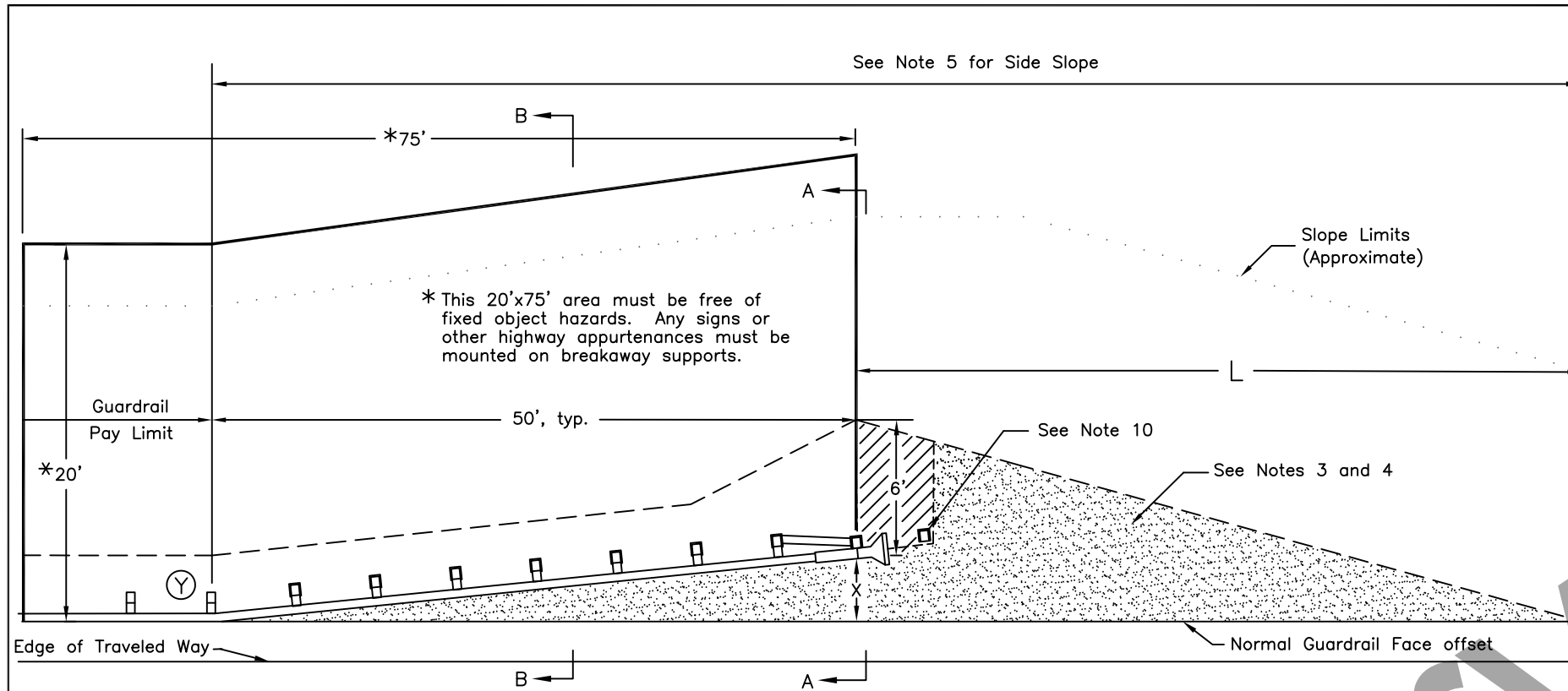
W31 DOWNSTREAM
END ANCHOR

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

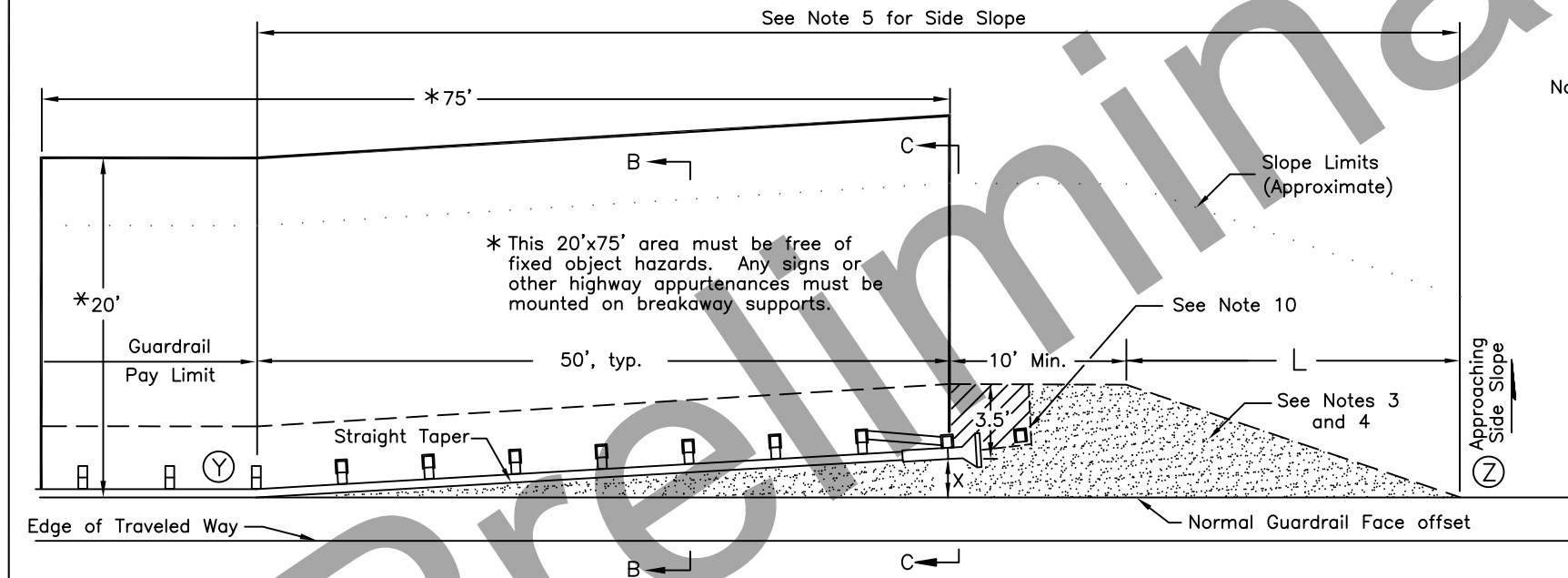
Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

G-14.01



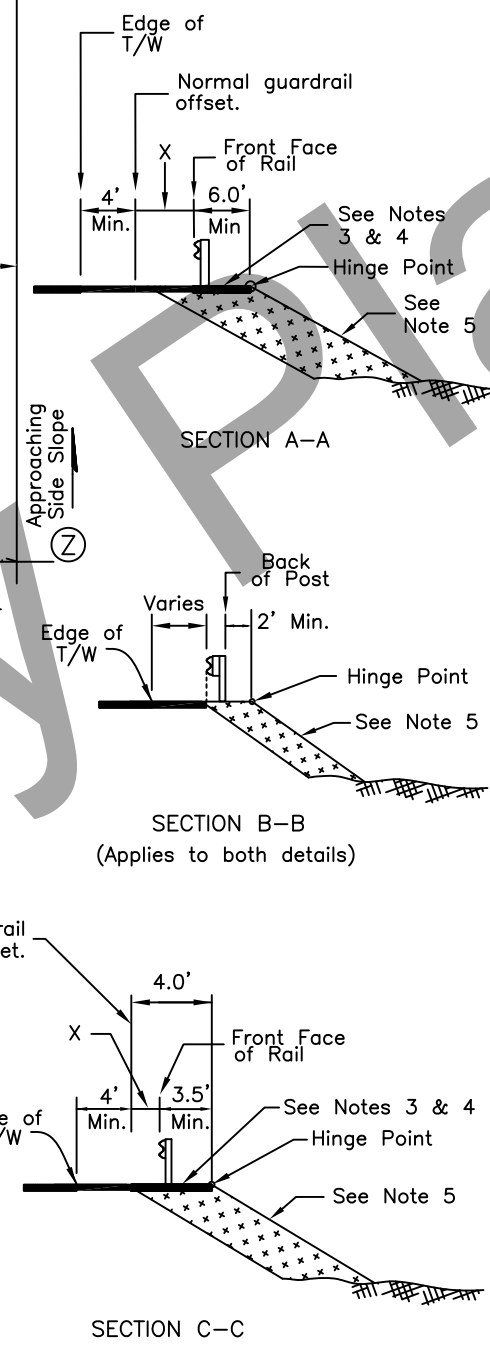
STANDARD GUARDRAIL TERMINAL WIDENING DETAIL



ALTERNATE GUARDRAIL TERMINAL WIDENING DETAIL

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

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 permissible.
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 (Y) to point (Z) 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*
Kenneth J. Fisher, P.E.
Chief Engineer

Adoption Date: 02/08/2019

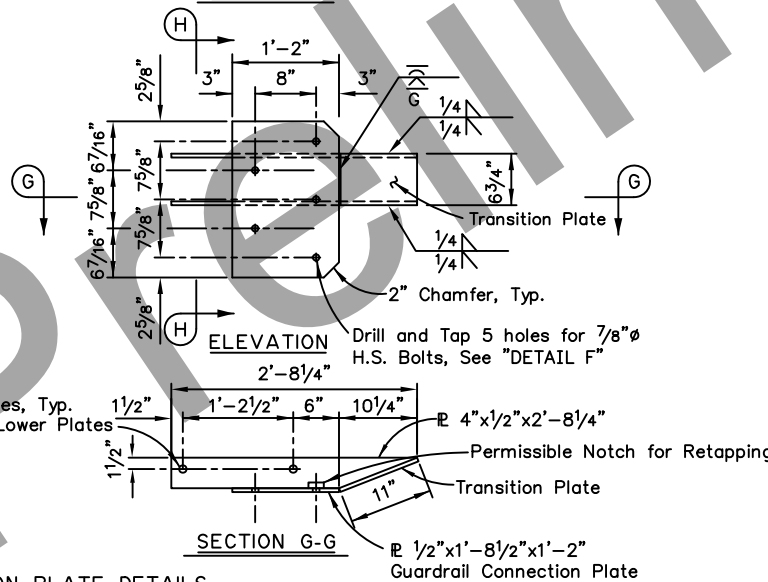
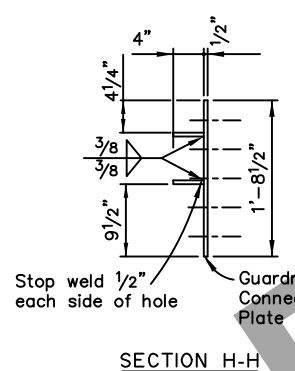
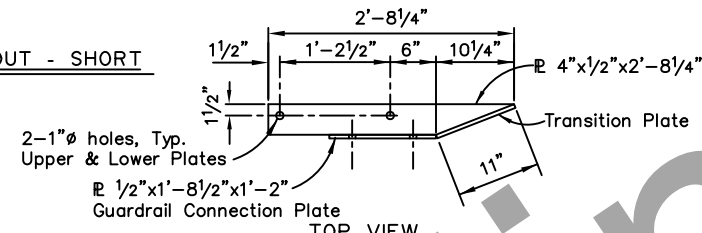
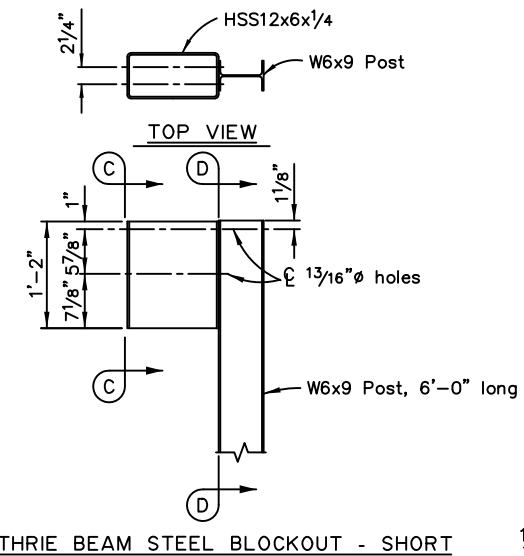
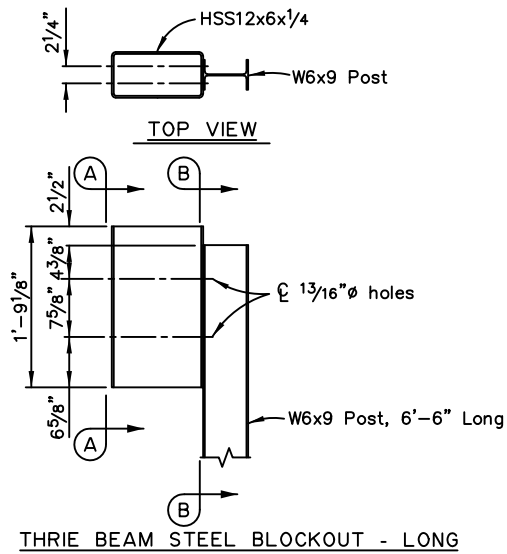
Last Code and Stds. Review By: _____ Date: _____

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

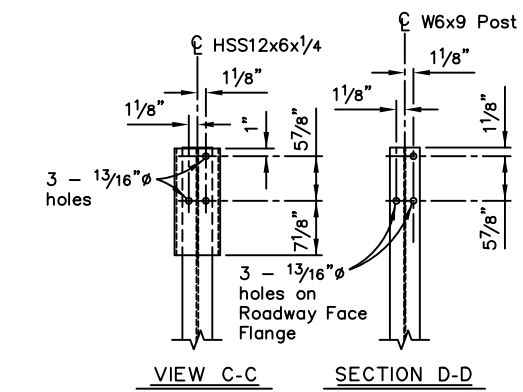
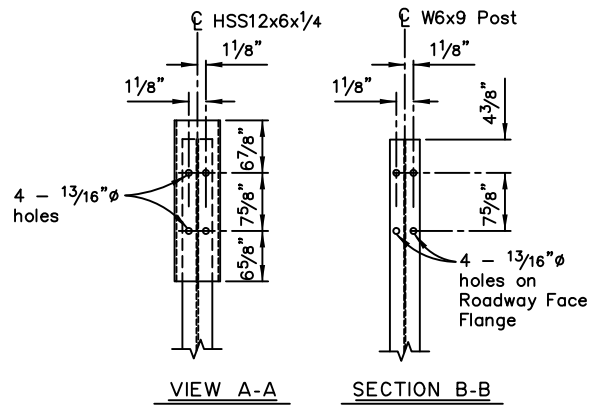
G-20.12

G-32.03

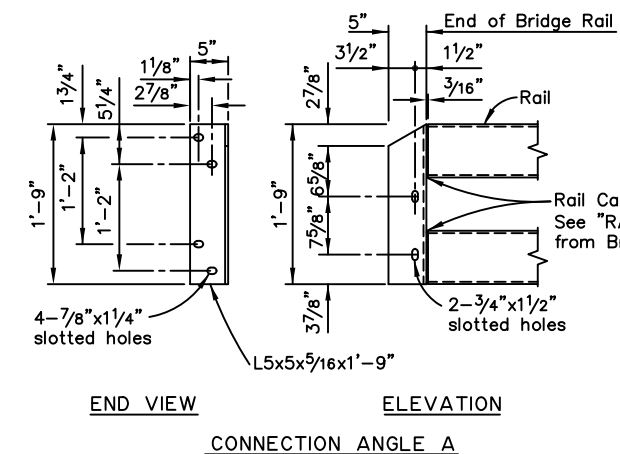
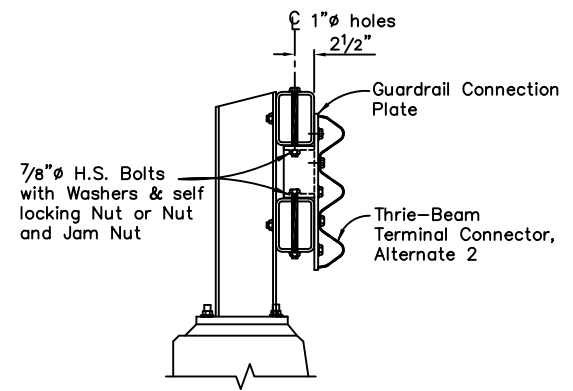
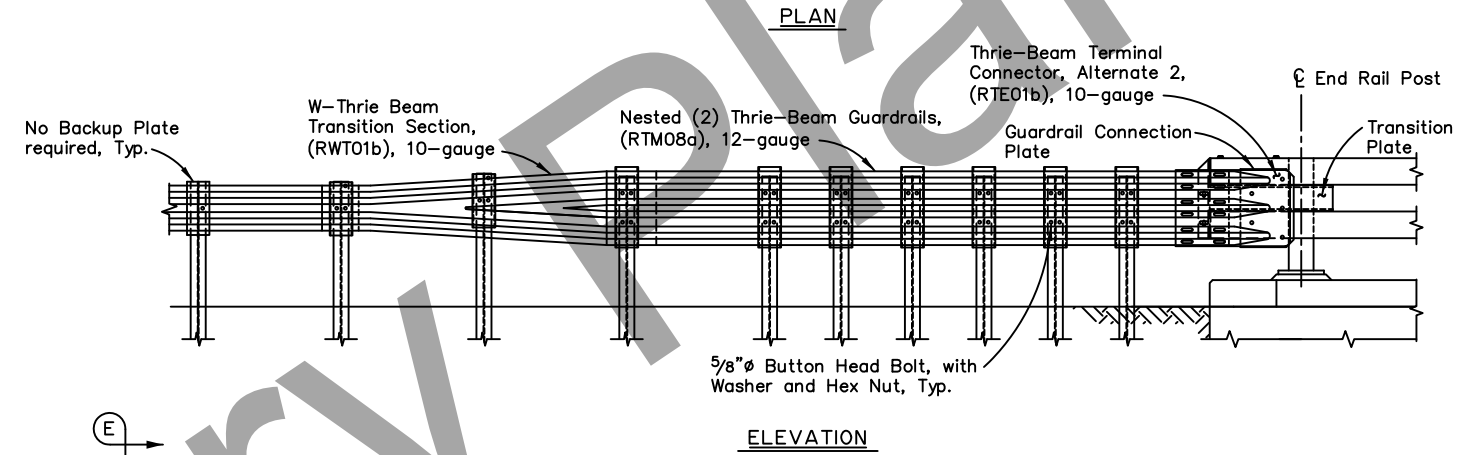
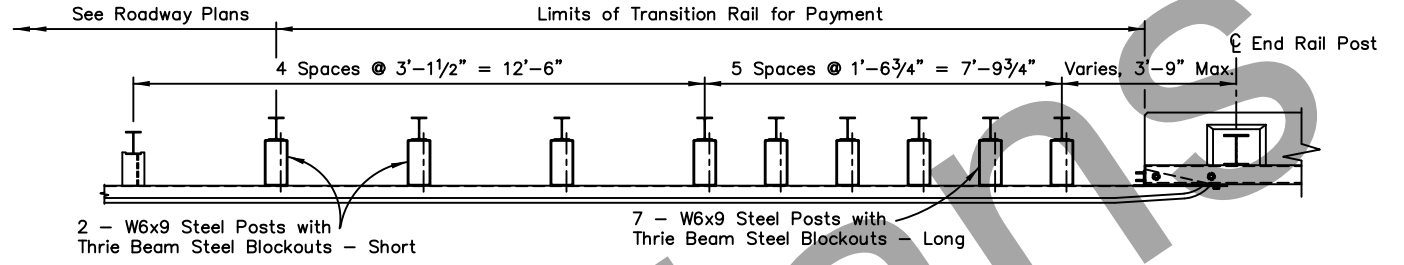
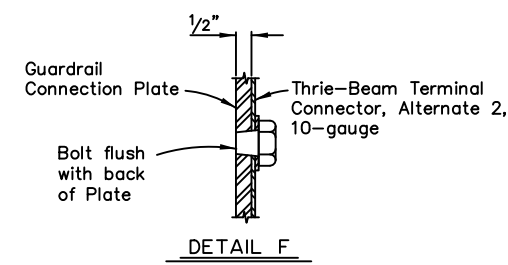
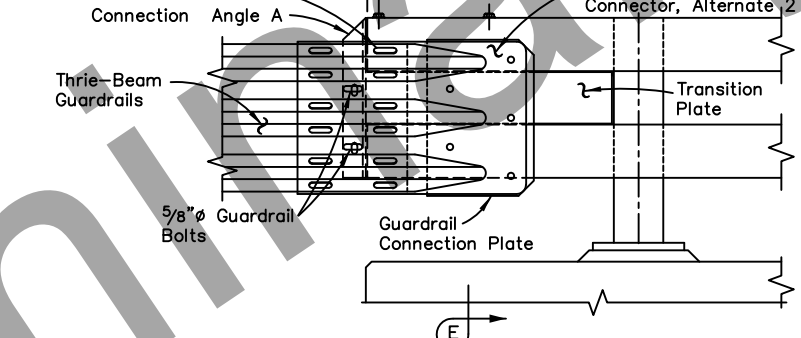
SHEET
| of |



GUARDRAIL CONNECTION PLATE DETAILS



12 holes for 12 - 2" Guardrail Bolts (FBB02) and 12 - Rectangular Guardrail Plate Washers (FWR03) opposite roadway face



- NOTES:**
1. Conform to G-00, G-05, and G-10 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."

State of Alaska DOT&PF
ALASKA STANDARD PLAN
**MASH BRIDGE RAIL
THRIE BEAM TRANSITION**

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

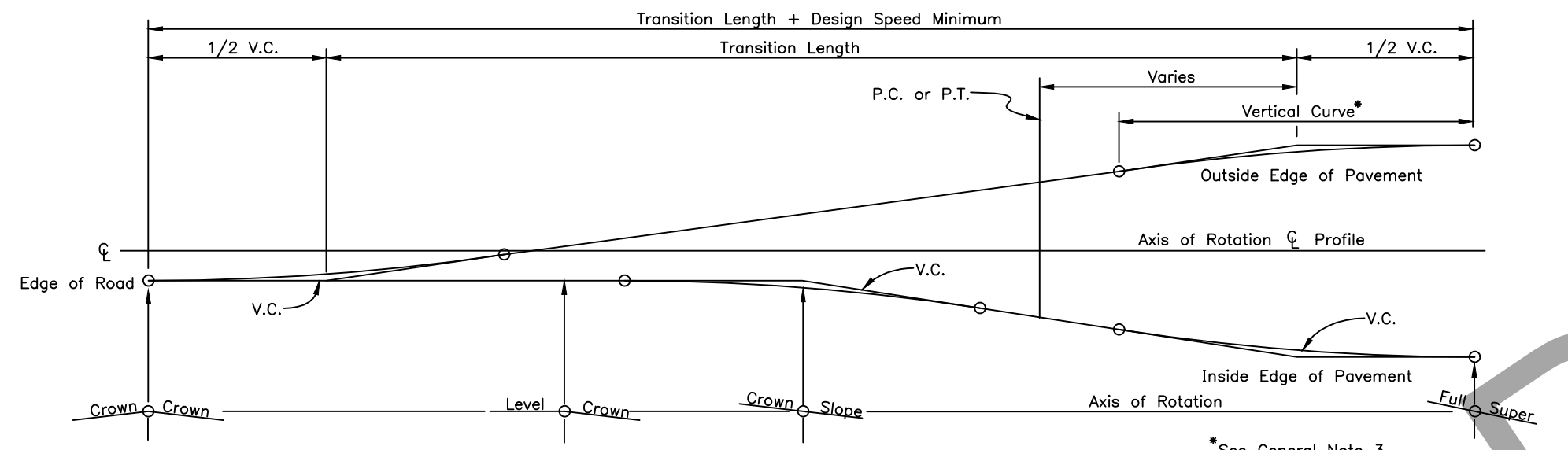
Adoption Date: 09/15/2022

Last Code and Stds. Review
By: SEM Date: 07/17/2020

Next Code and Standards Review Date: 07/17/2030

No Scale

G-32.03

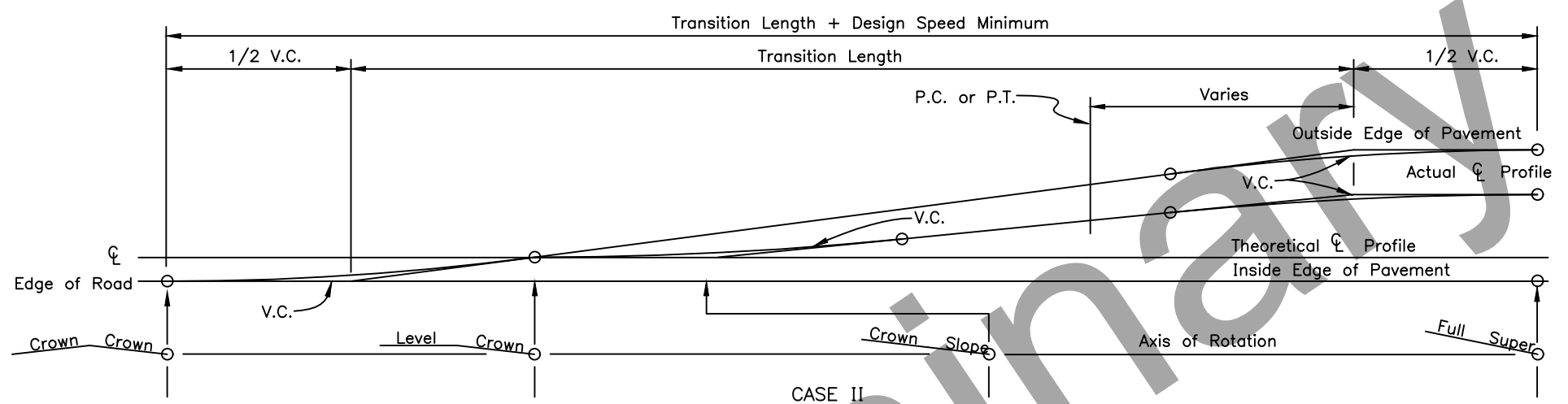


CASE I
PAVEMENT REVOLVED ABOUT CENTERLINE

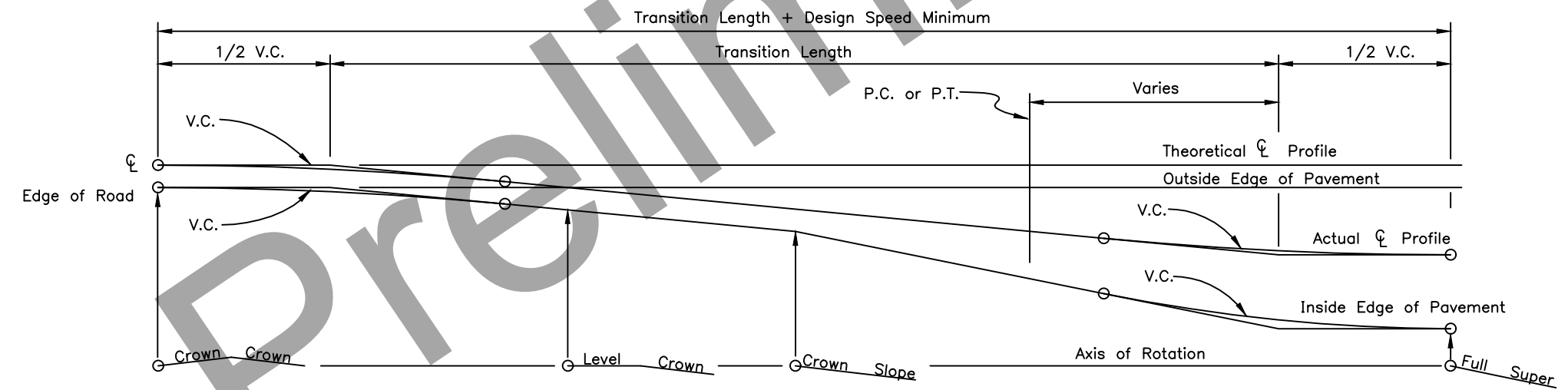
*See General Note 3

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.



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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

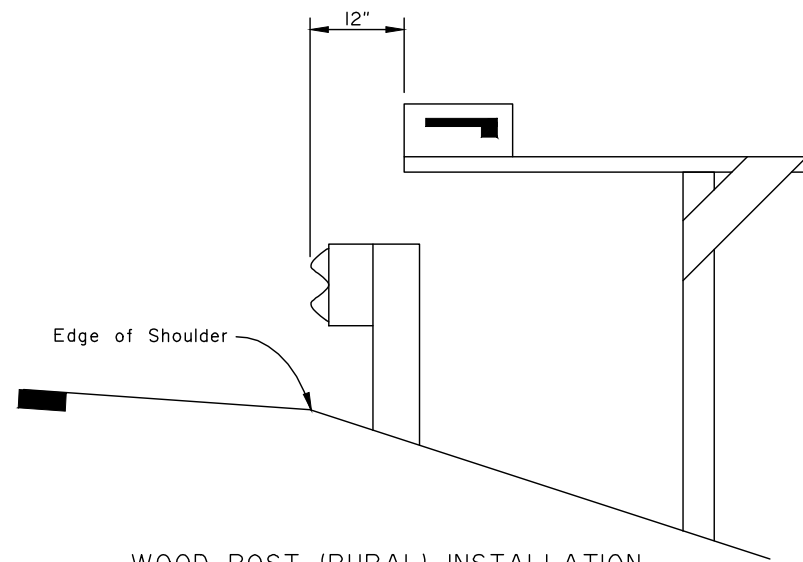
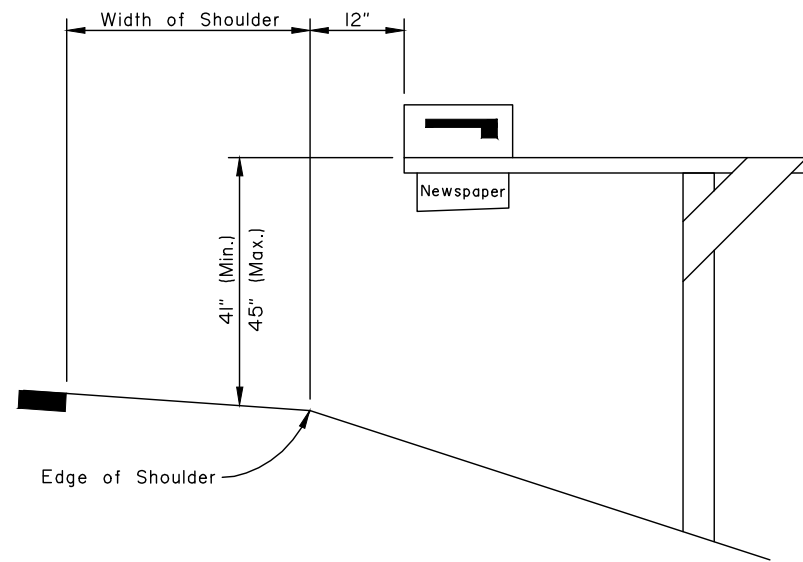
SUPERELEVATION
TRANSITION

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

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

I-81.00



WOOD POST (RURAL) INSTALLATION

Single or Double Box

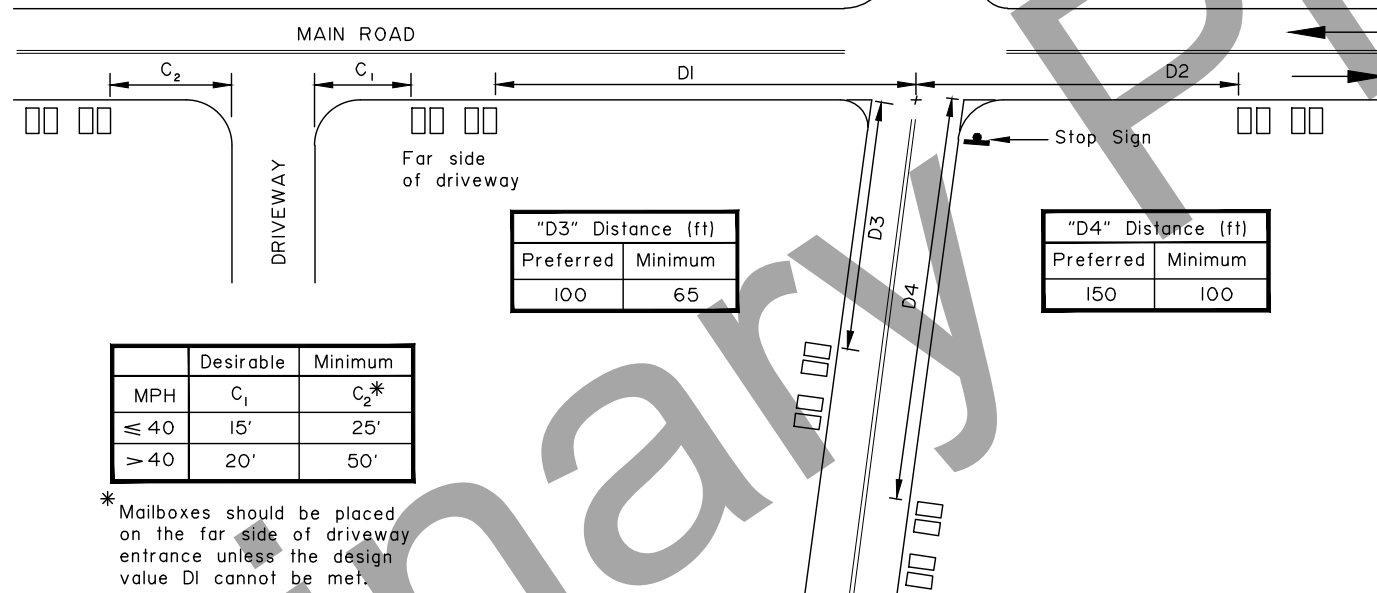
METAL POST (URBAN) INSTALLATION

Single or Double Box

Vc = Average Daily Traffic on Cross Road (vehicles per day)
 Vm = Average Daily Traffic on Main Road (vehicles per day)
 n = Number of Mailboxes at Mail Stop

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

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



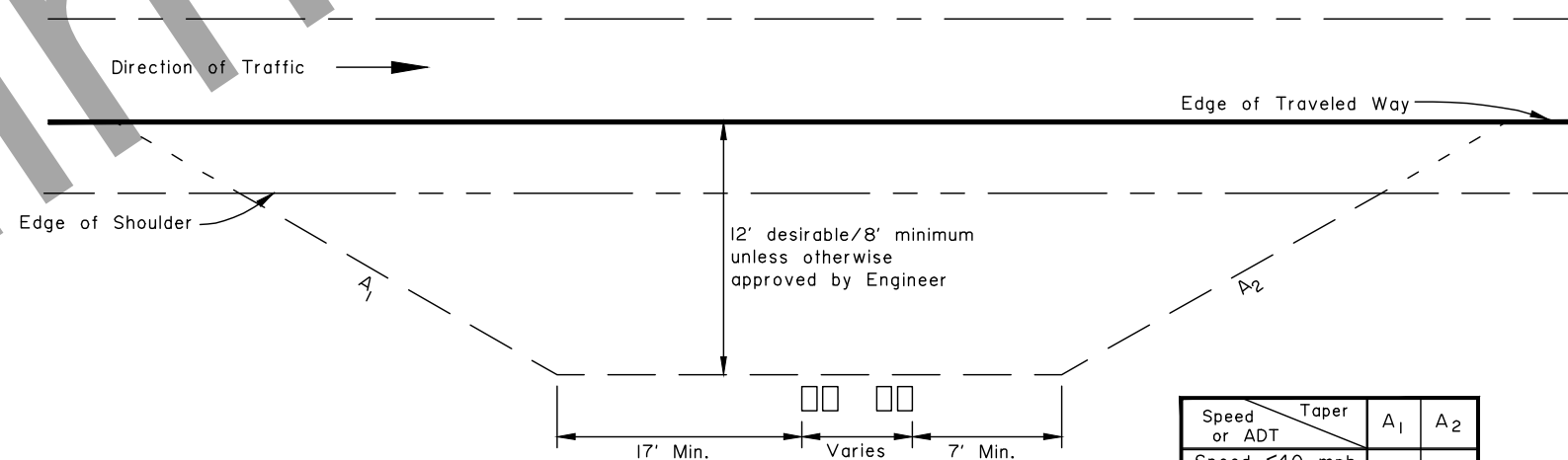
MAILBOX LOCATION AT INTERSECTIONS AND DRIVEWAYS

	Desirable	Minimum
MPH	C ₁	C ₂ *
≤ 40	15'	25'
> 40	20'	50'

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

GENERAL NOTES:

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



Speed or ADT	Taper	A ₁	A ₂
Speed ≤ 40 mph and ADT ≤ 400		4:1	2.5:1
Speed > 40 mph or ADT > 400		20:1	12:1

TURNOUTS FOR GROUPED BOXES

TURNOUT TAPERS

State of Alaska DOT&PF
 ALASKA STANDARD PLAN

MAILBOX LOCATION

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

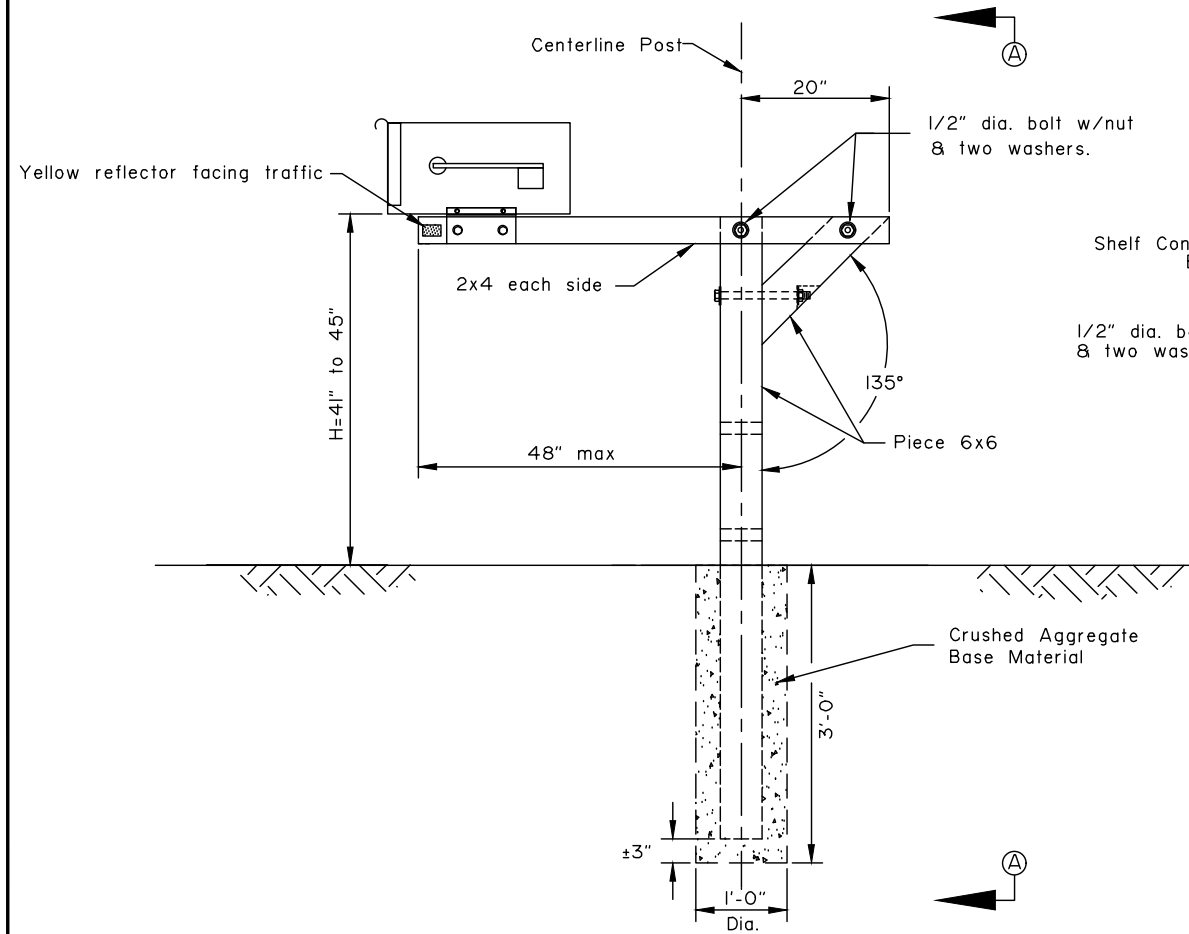
Adoption Date: 7/17/2020

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

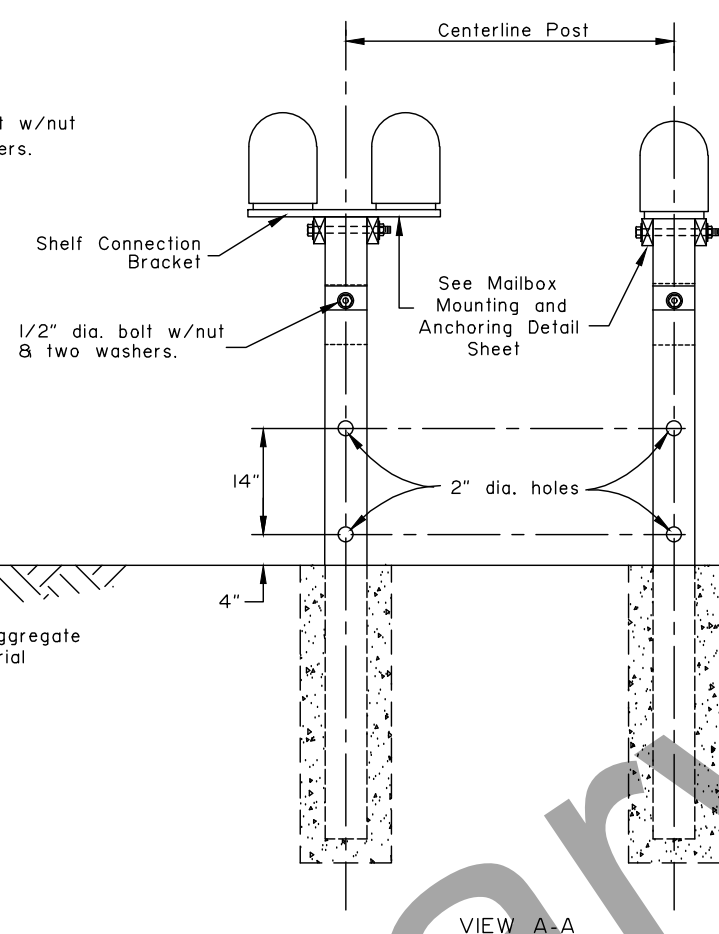
Next Code and Standards Review date: 7/8/2030

GENERAL NOTES:

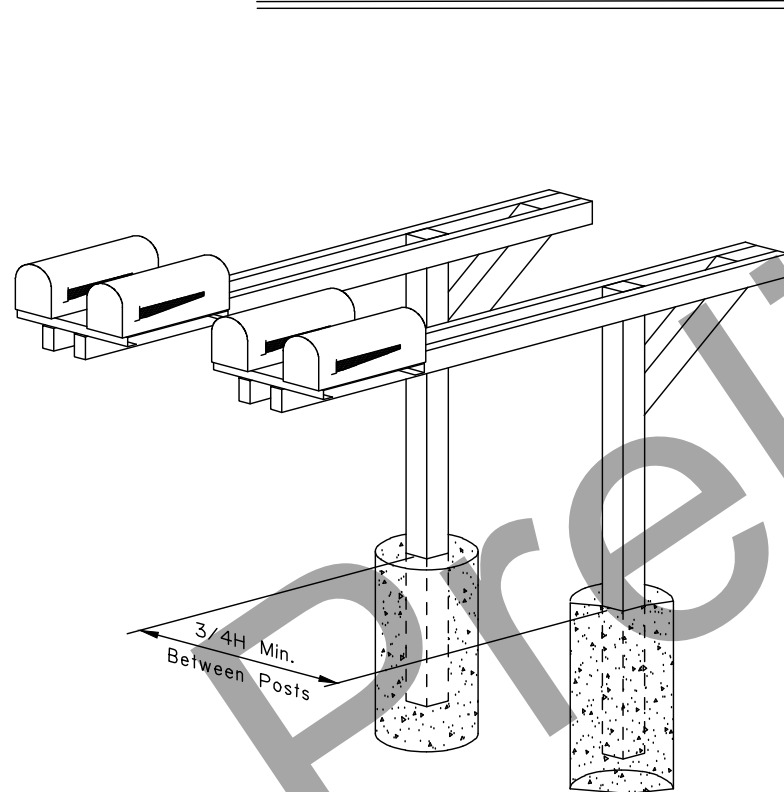
1. See Standard Plan M-20 for locating posts and boxes along roadway.
2. Posts shall be 6"x6" Treated Wood Post S4S or 2" (Max.) Standard Weight Steel Pipe.
3. Each support structure shall not accommodate more than two mailboxes unless the support structure conforms to the requirements of the U.S. Postal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



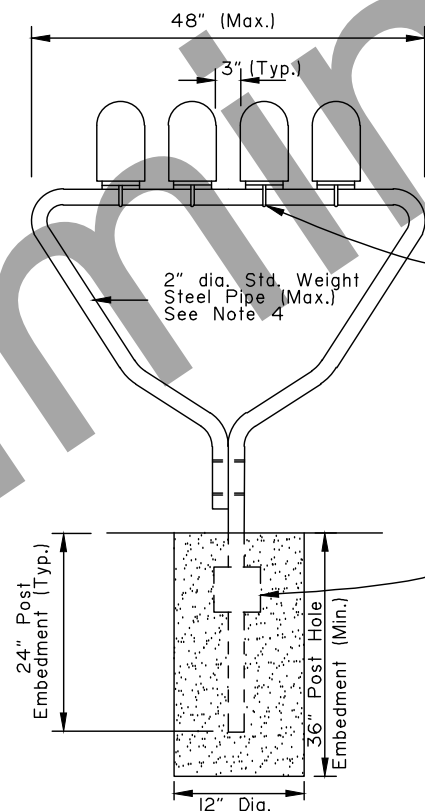
TYPICAL WOOD CANTILEVER INSTALLATION



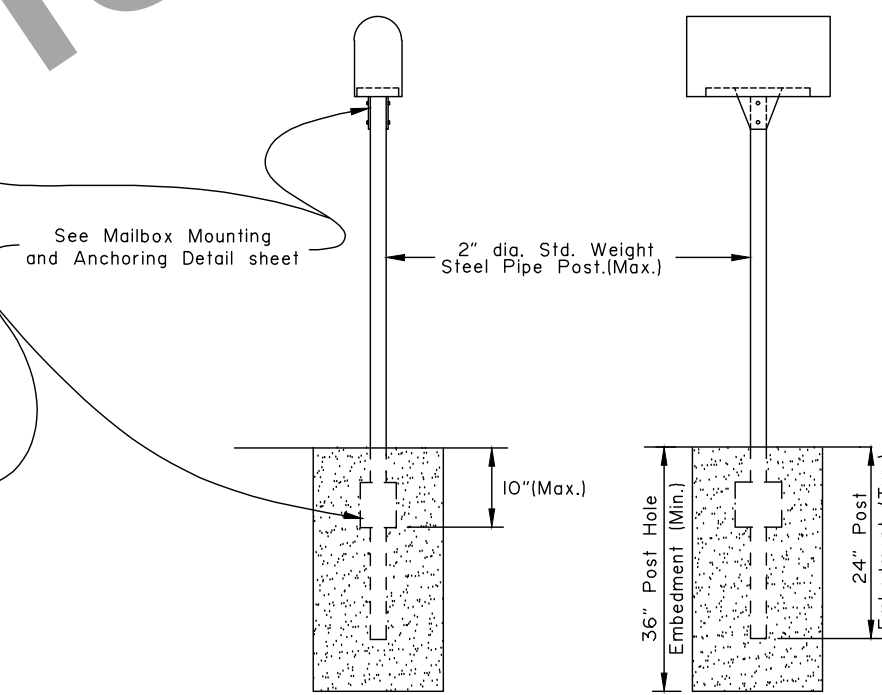
VIEW A-A



TYPICAL GANG BOX INSTALLATION



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



SINGLE BOX INSTALLATION

METAL POST SUPPORTS (URBAN ONLY)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

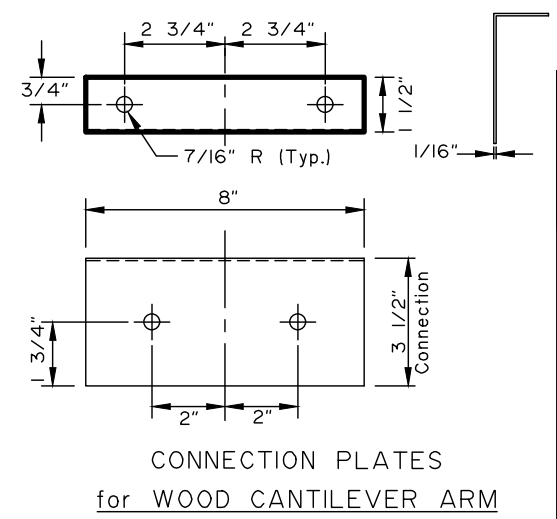
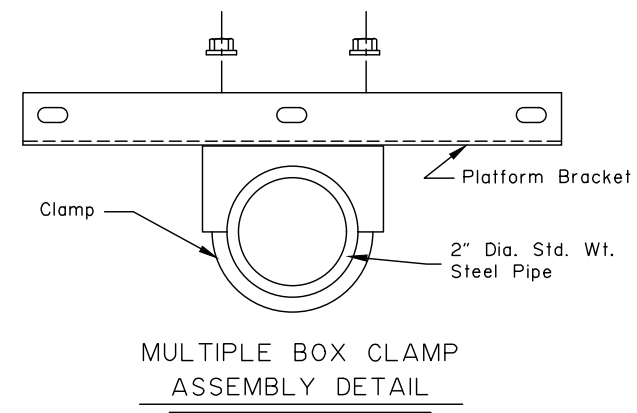
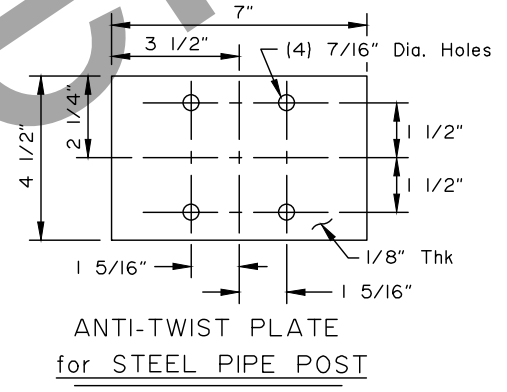
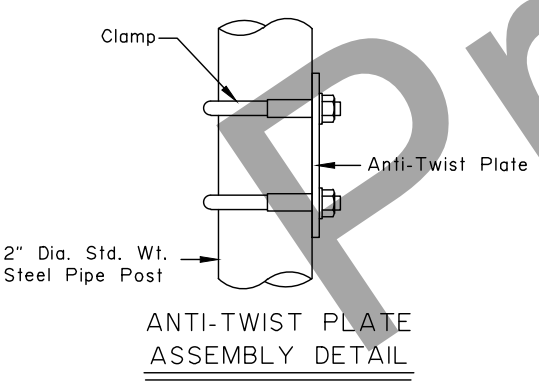
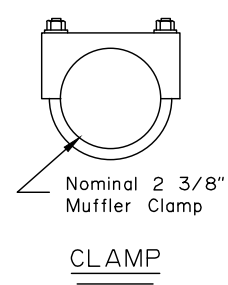
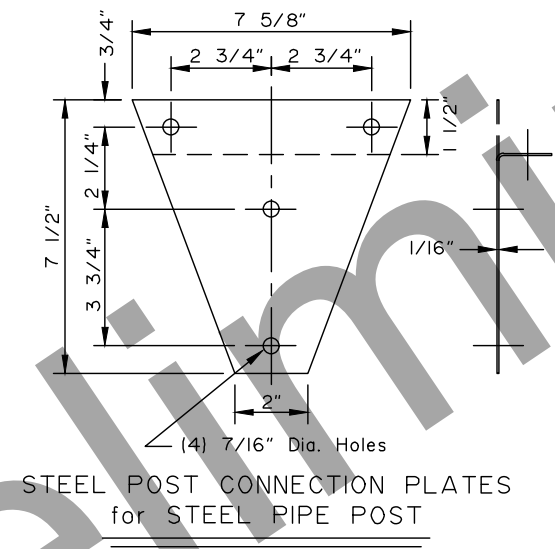
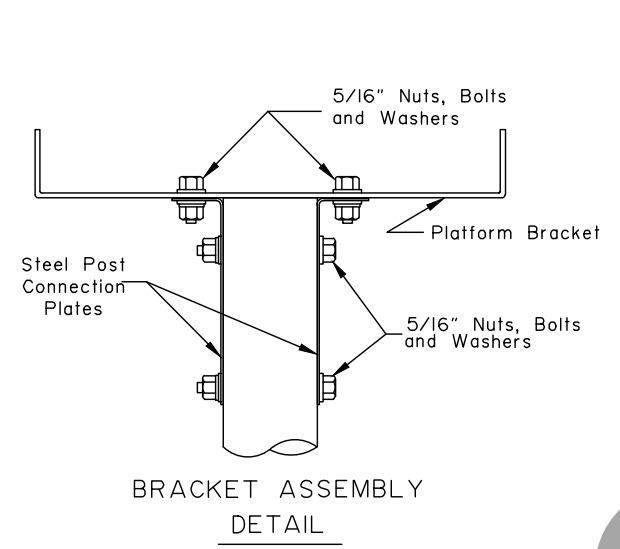
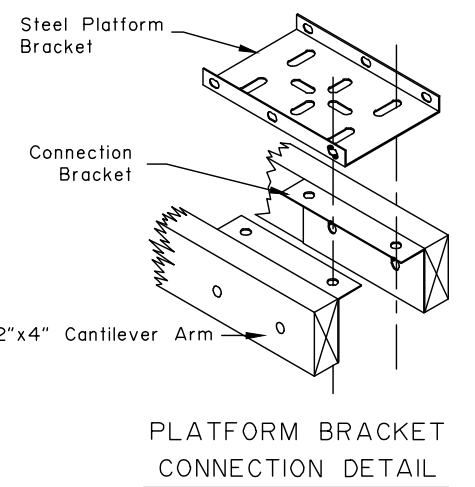
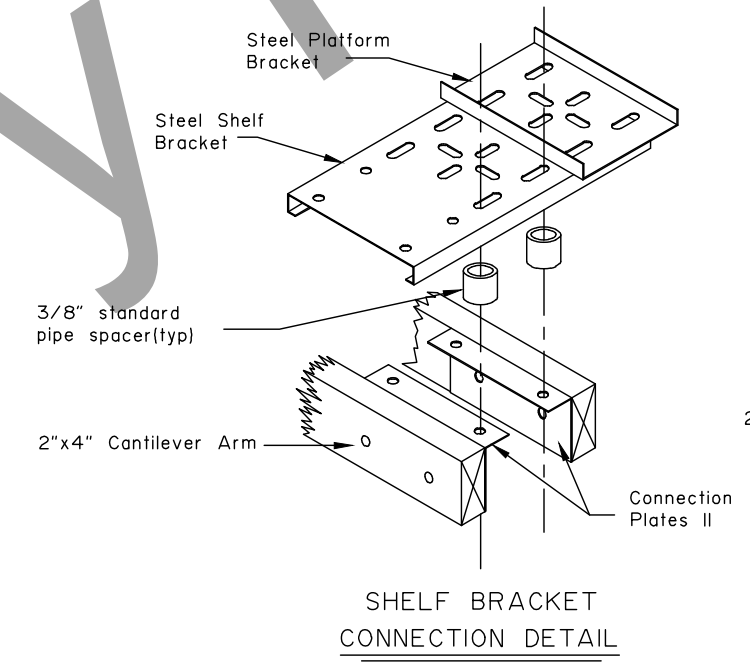
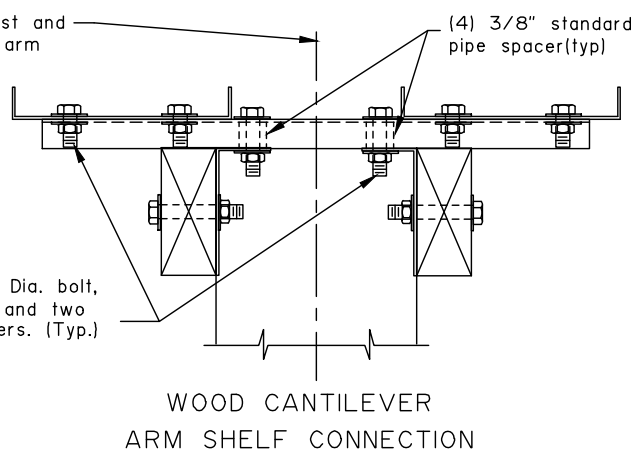
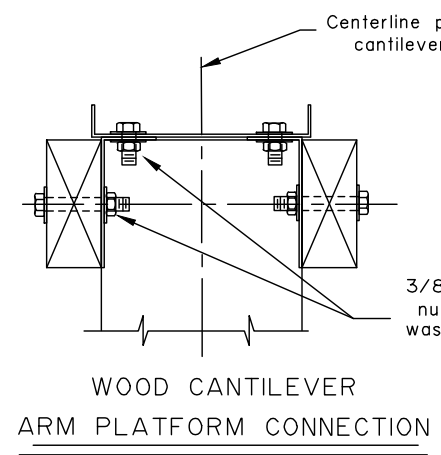
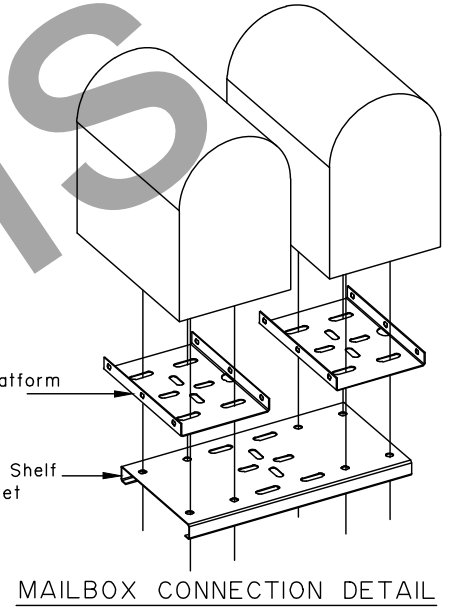
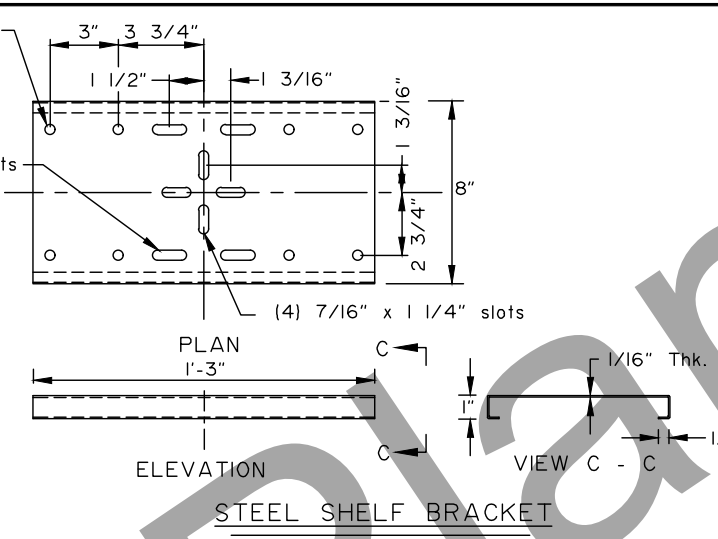
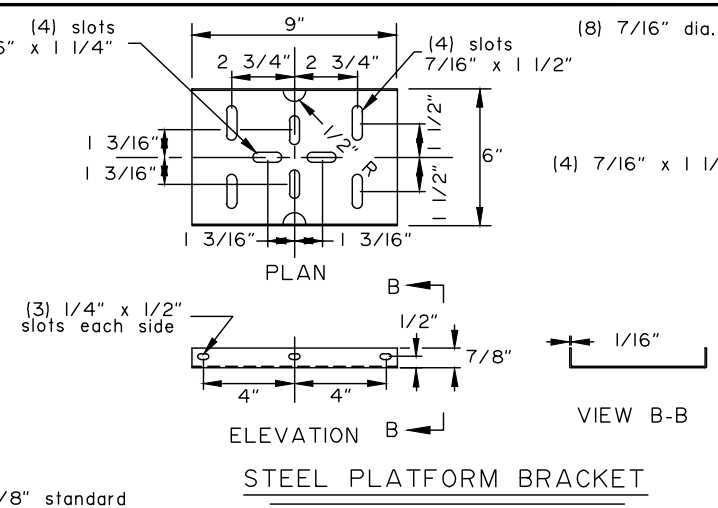
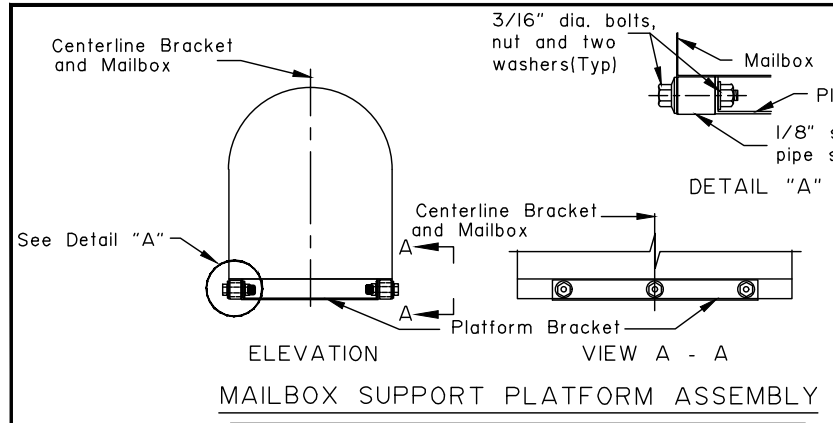
**MAILBOX
INSTALLATION**

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

Adoption Date: 7/17/2020

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

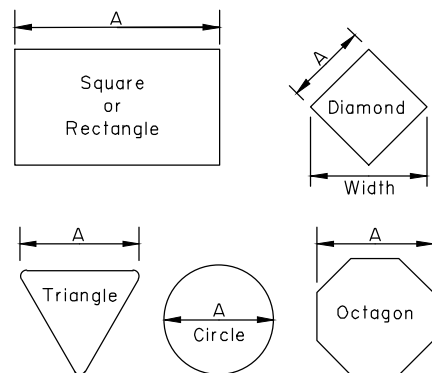
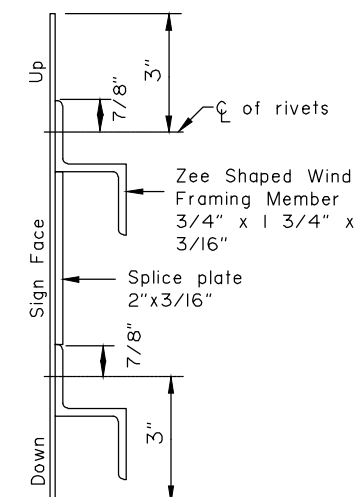
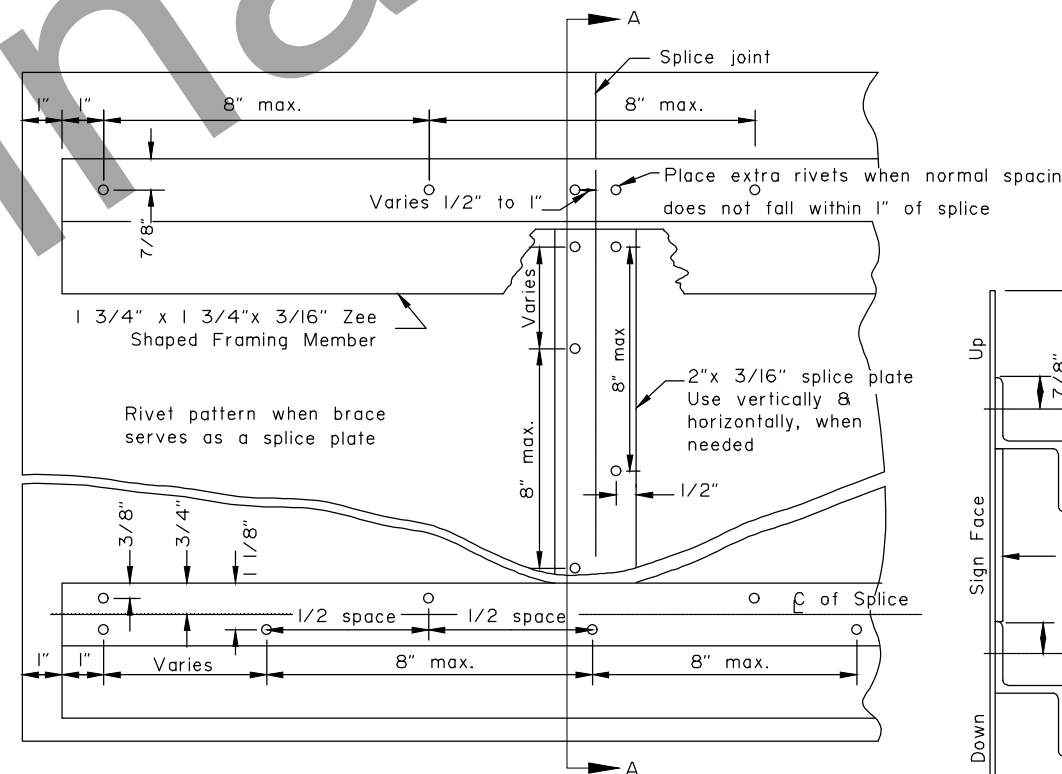
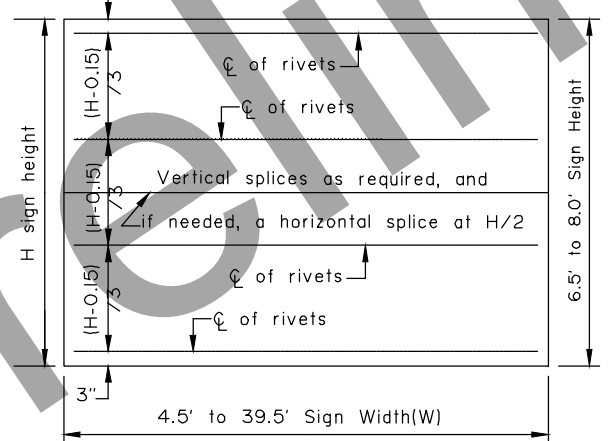
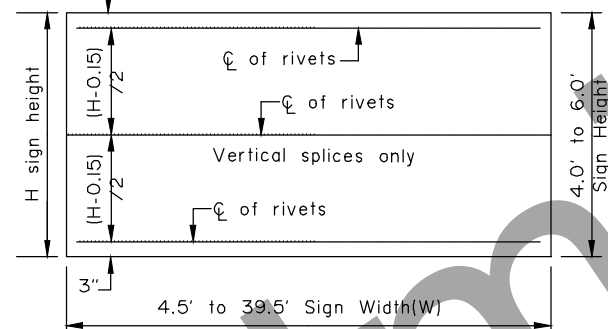
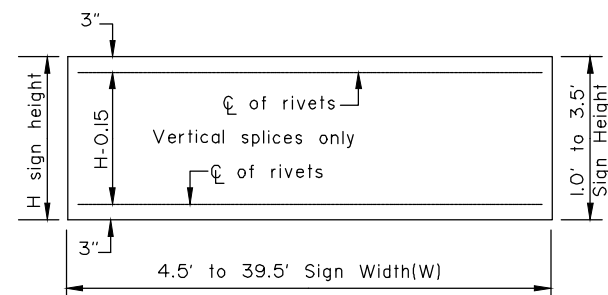
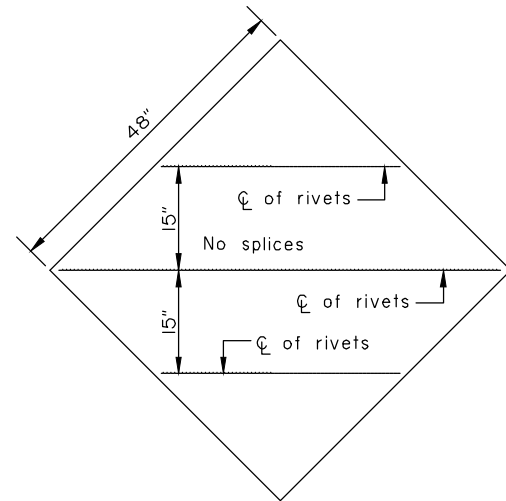
Next Code and Standards Review date: 7/8/2030



State of Alaska DOT&PF
 ALASKA STANDARD PLAN
**MAILBOX MOUNTING
 AND ANCHORING DETAILS**
 Adopted as an Alaska
 Standard Plan by: *Carolyn Morehouse*
 Carolyn Morehouse, P.E.
 Chief Engineer
 Adoption Date: 7/17/2020
 Last Code and Stds. Review
 By: KLH Date: 7/8/2020
 Next Code and Standards Review date: 7/8/2030

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.



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

WIND FRAMING LOCATIONS

RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE

SECTION A-A

Note: Drawing not to scale

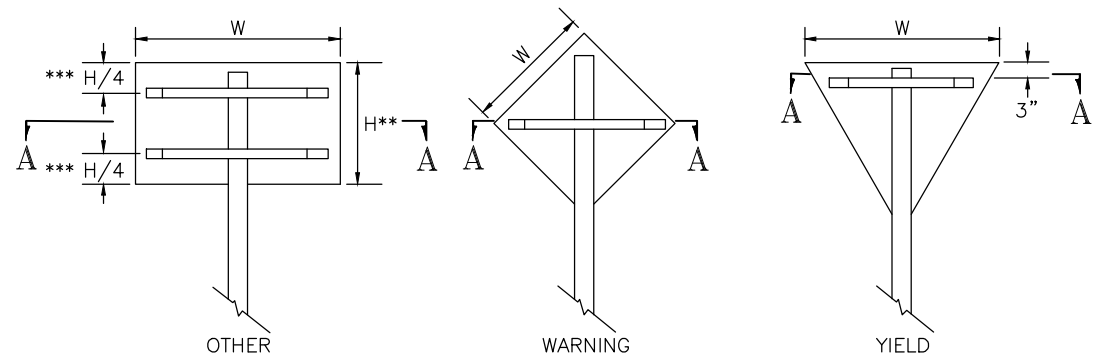
State of Alaska DOT&PF
ALASKA STANDARD PLAN
SIGN FRAMING

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

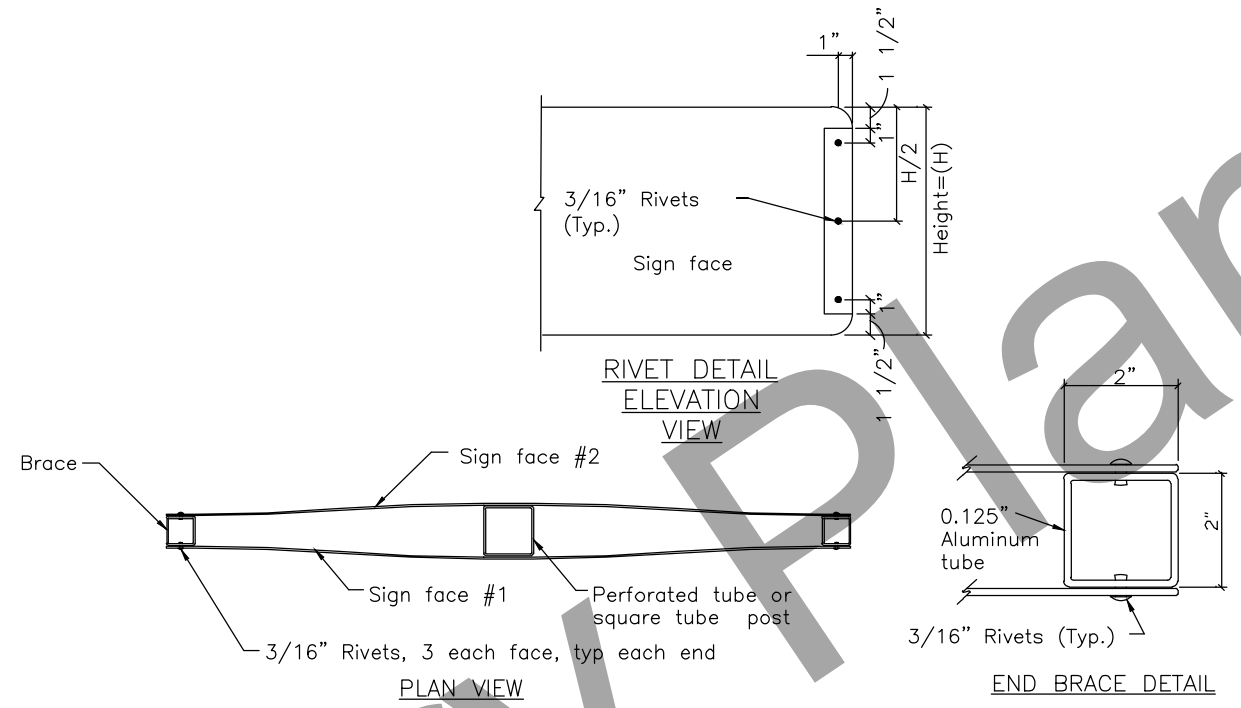
Next Code and Standards Review date: 7/8/2030



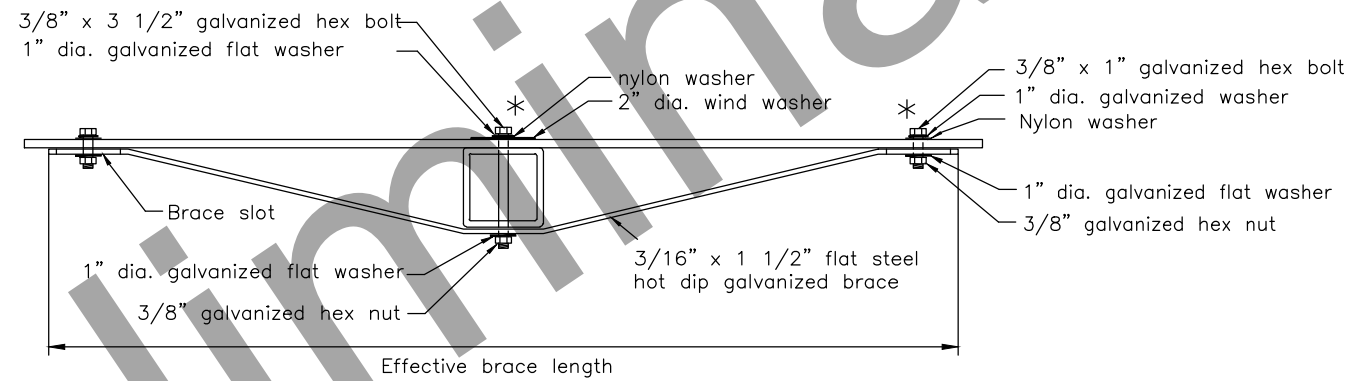
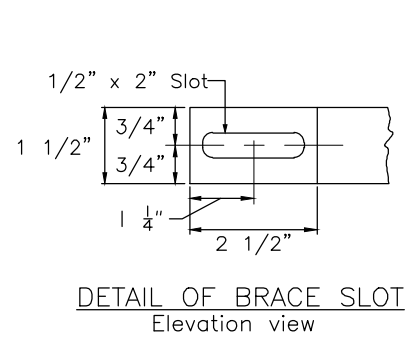
*** Use one brace when $H \leq 18"$
 Use two braces when $18" < H < 48"$
 Use three braces when $H \geq 48"$

** Position of brace may be varied to match
 Pre-drilled mounting holes in panel

SIGN BRACING PLACEMENT



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



TUBE POST SIGN BRACING SECTION A-A
Plan view

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

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

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

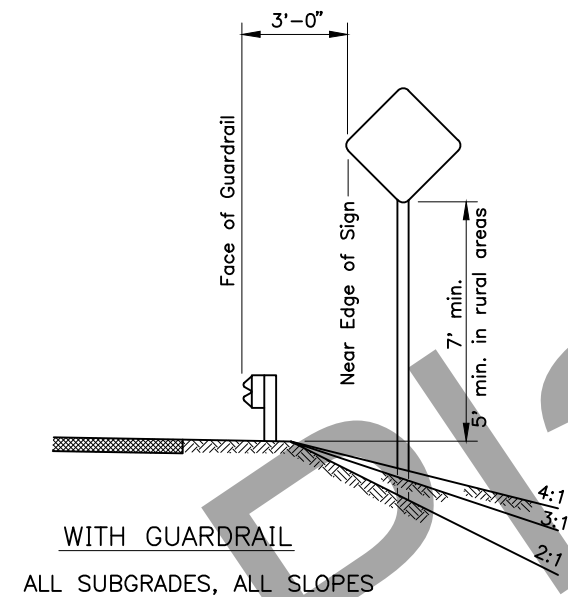
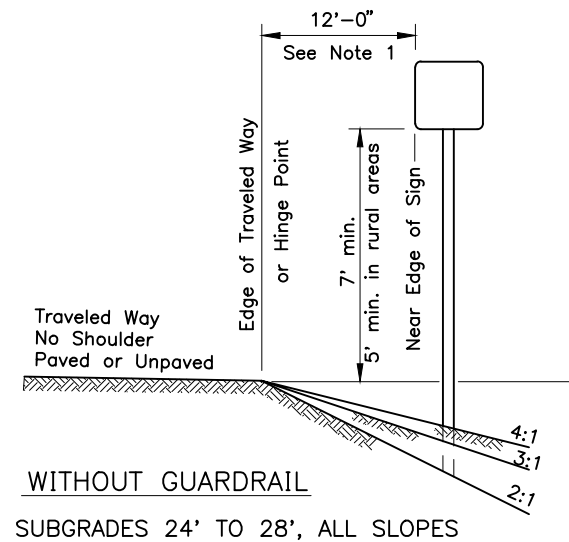
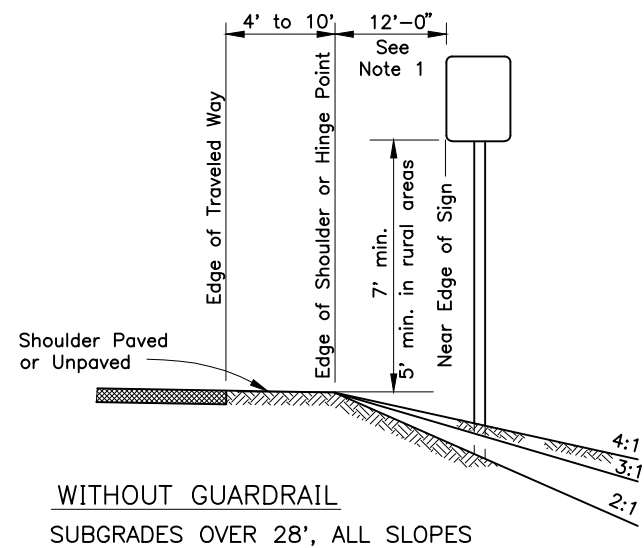
Last Code and Stds. Review
 By: WTH Date: 7/8/2020

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

S-01.02

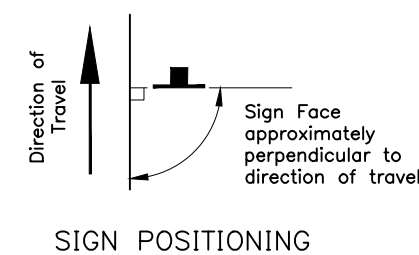
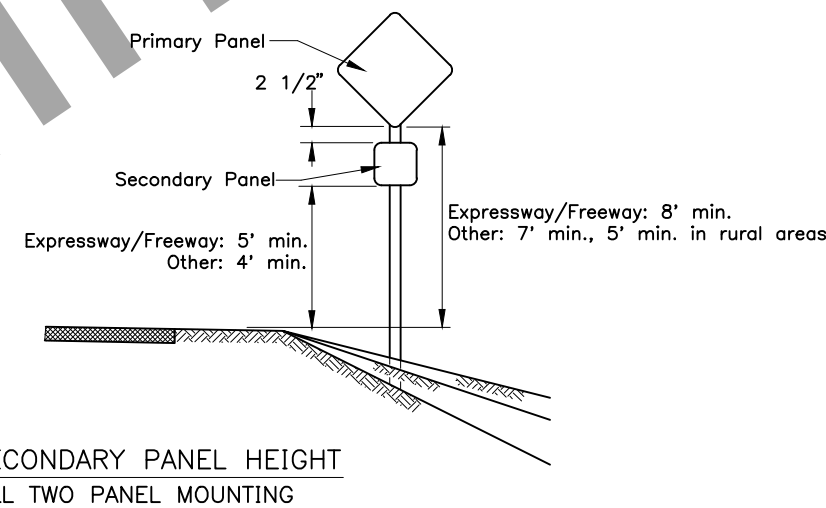
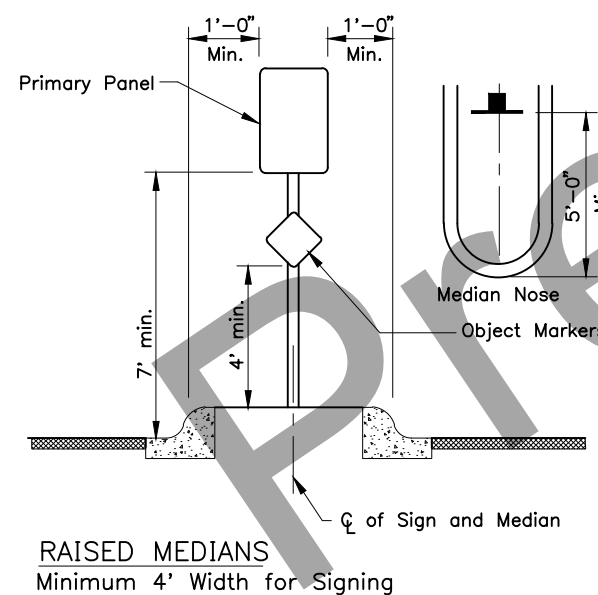
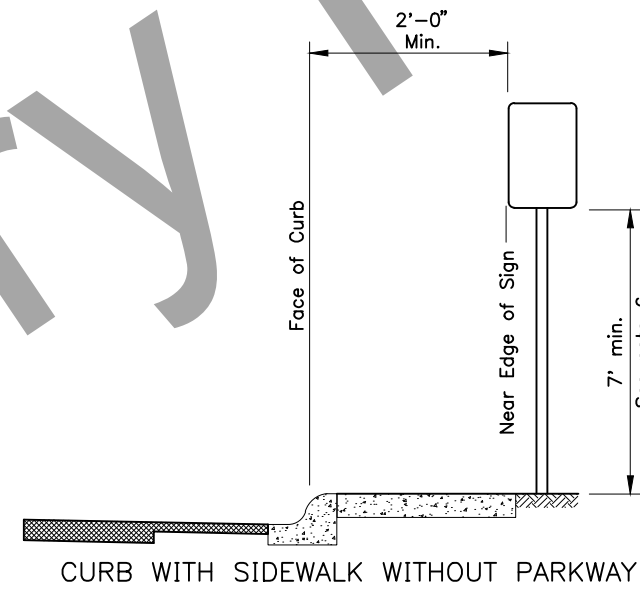
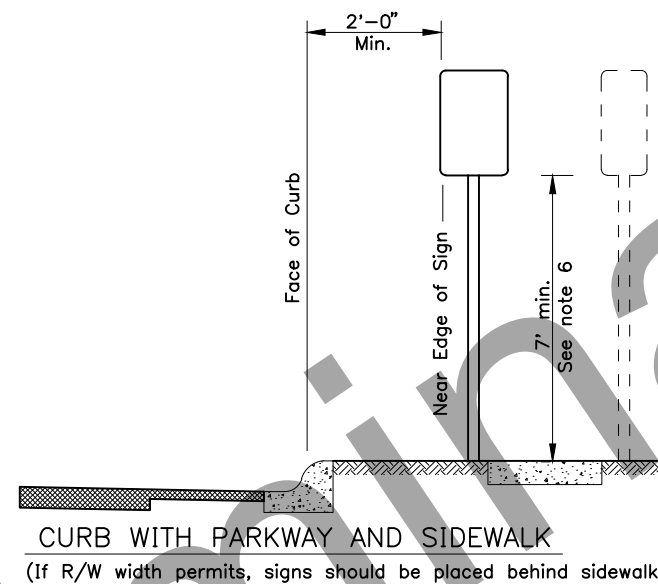
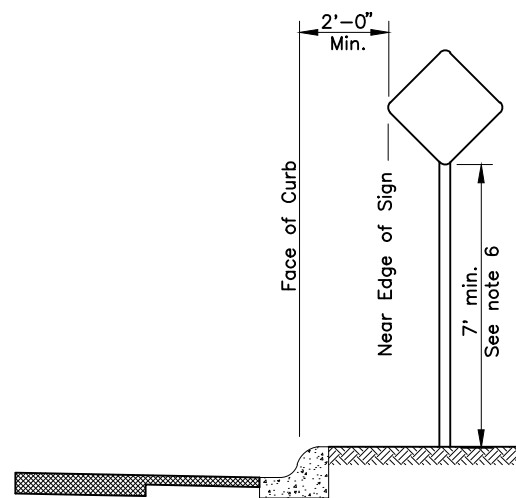
S-05.02

SHEET
1 of 1



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 signs extend over sidewalks.
7. For construction signs in rural areas, mounting height shall be 7' minimum.



State of Alaska DOT&PF
ALASKA STANDARD PLAN

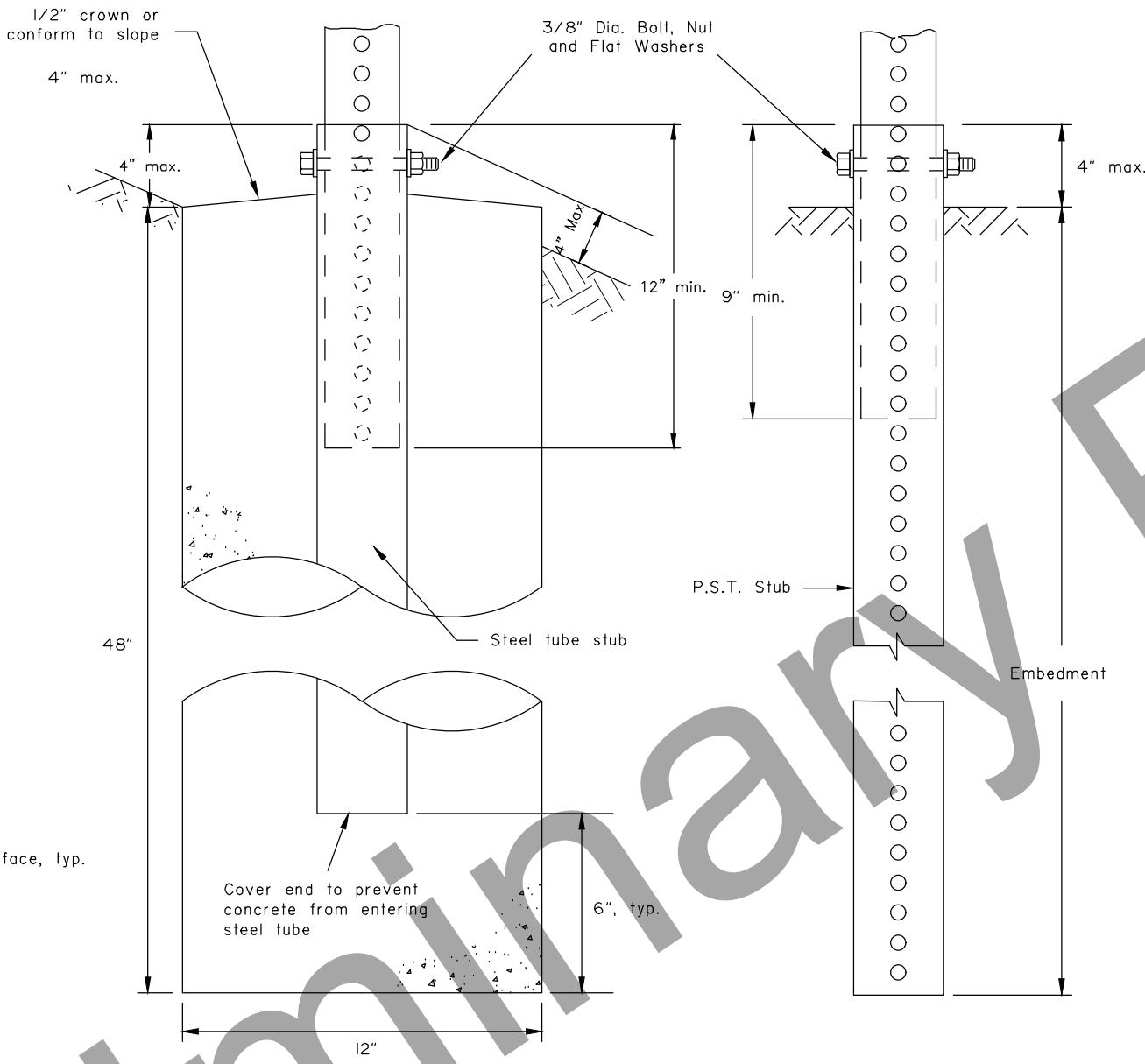
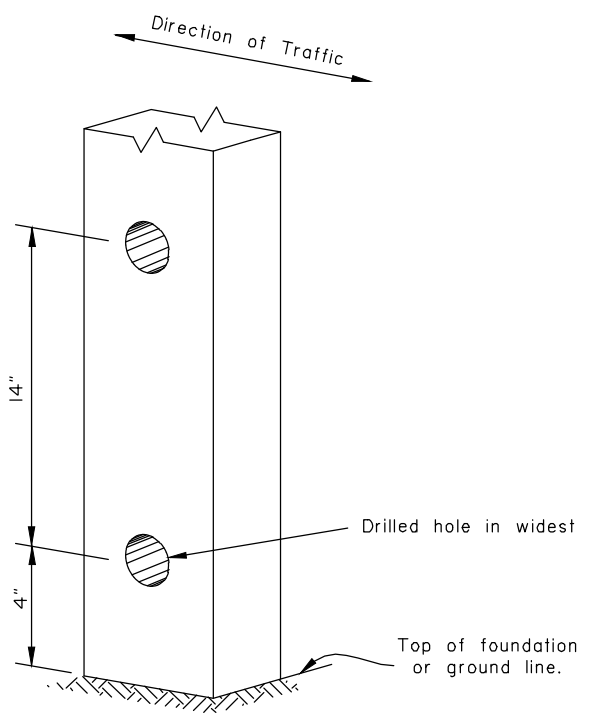
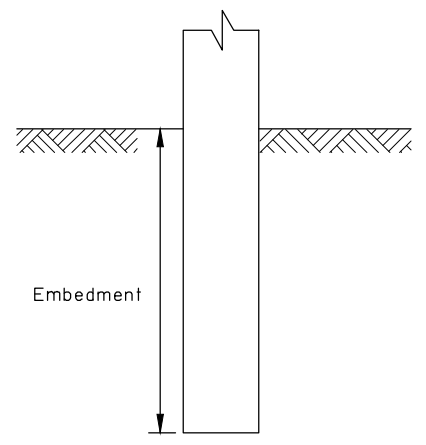
POST MOUNTED SIGN
OFFSET AND HEIGHT

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

Adoption Date: 7/17/2020

Last Code and Stds. Review
By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

S-05.02



- 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.

SLEEVE TYPE
CONCRETE FOUNDATION

SLEEVE TYPE*
SOIL EMBEDMENT

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*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

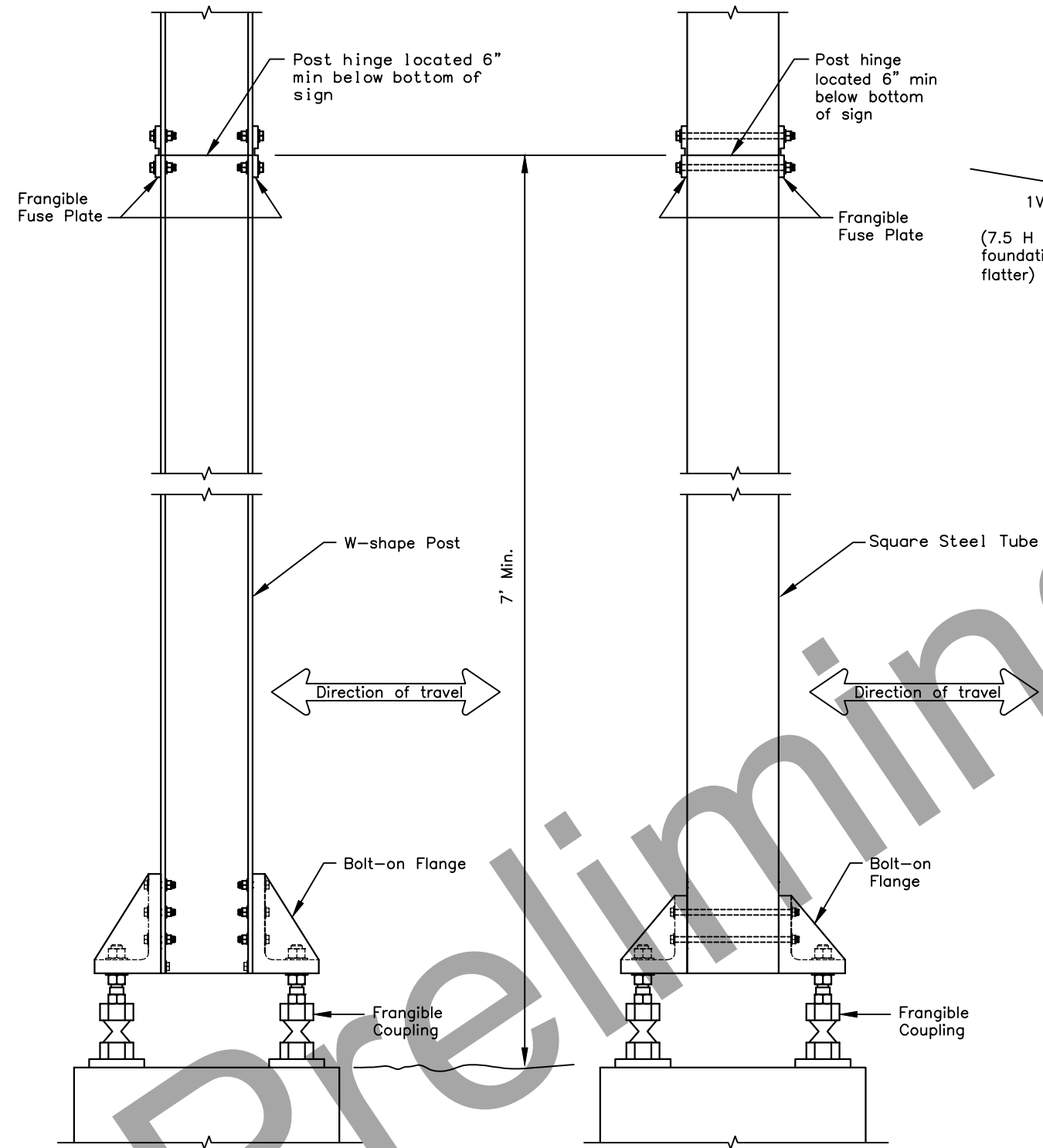
Last Code and Stds. Review
By: WTH Date: 7/8/2020
Next Code and Standards Review date: 7/8/2030

S-30.05

S-31.02

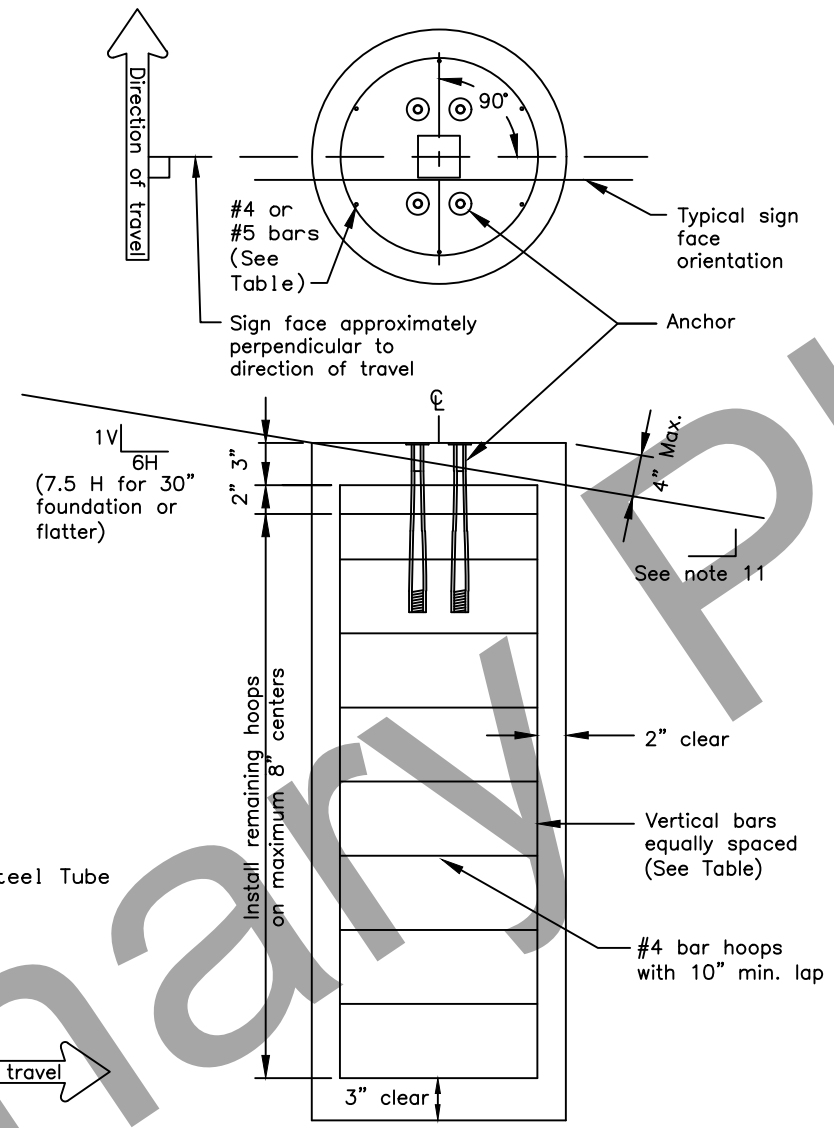
SHEET
1 of 1

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

- 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.
- Furnish frangible coupling systems with bolt-on flanges.
- Details on this sheet illustrate only the general components of a frangible coupling system, and are not intended to specify a particular product.
- 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.
- Install the components of the breakaway system, including hinges, in accordance with the written instructions of the system manufacturer.
- 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.
- 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.
- Install the concrete anchors using a rigid template. Locate the anchors on centers and within tolerances specified by the manufacturer.
- 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.
- 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.
- 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*
Carolyn Morehouse, P.E.
Chief Engineer

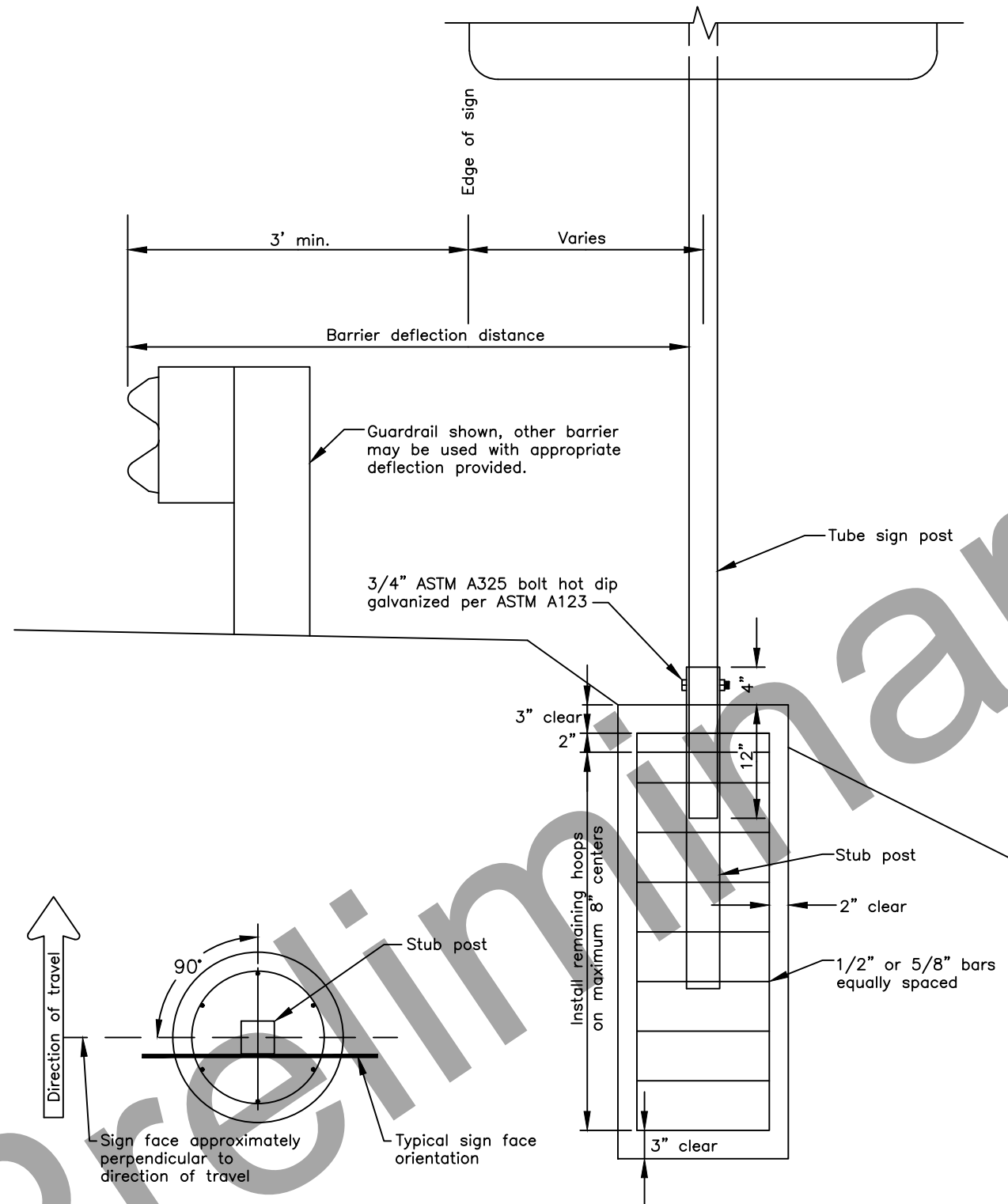
Adoption Date: 7/17/2020

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By: KLK, MJM Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

S-31.02

S-32.02

SHEET
1 of 1



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*
Carolyn Morehouse, P.E.
Chief Engineer
Adoption Date: 7/17/2020

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By: KLK Date: 7/8/2020
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S-32.02

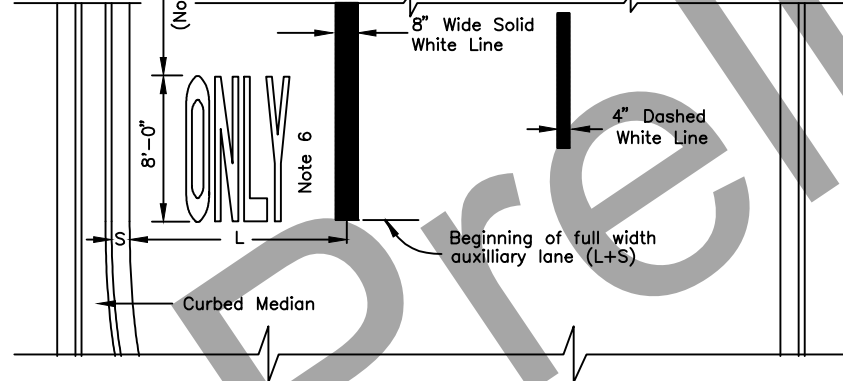
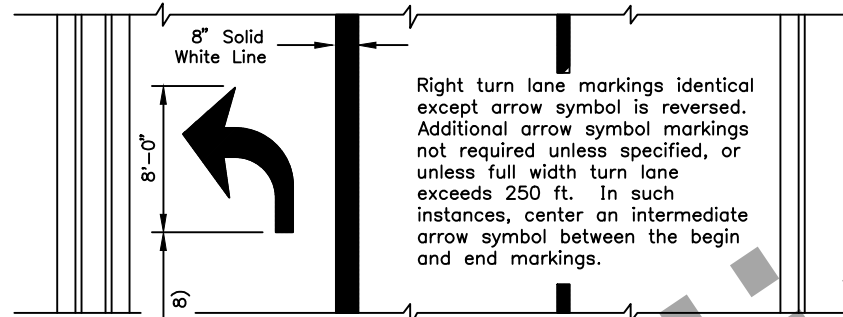
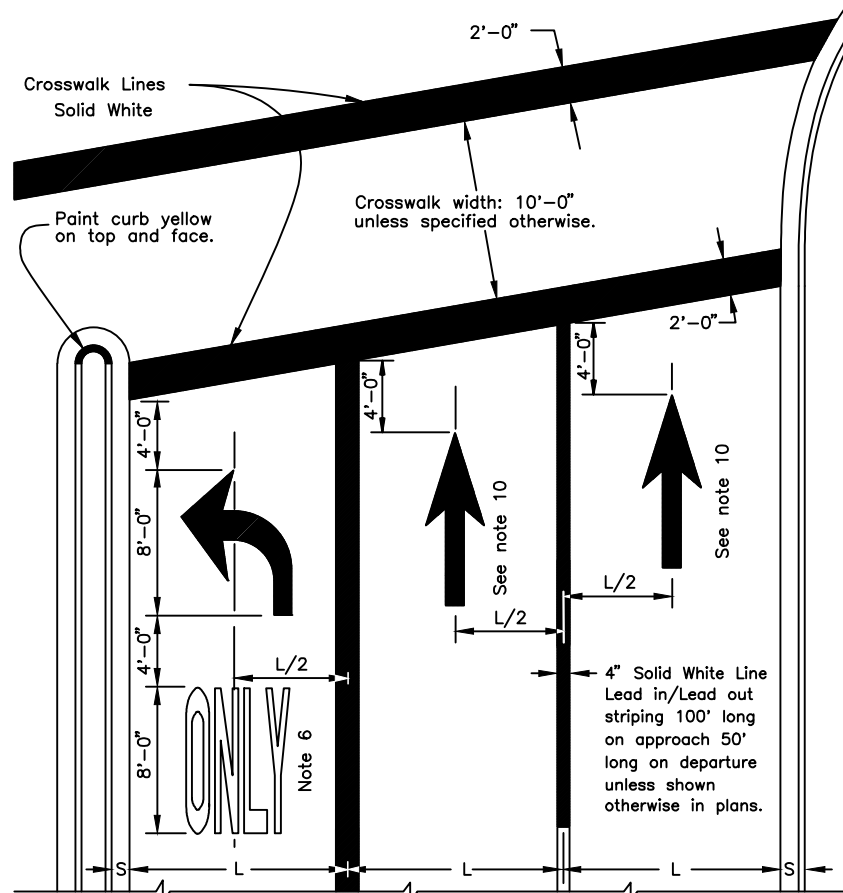
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SHEET
1 of 1

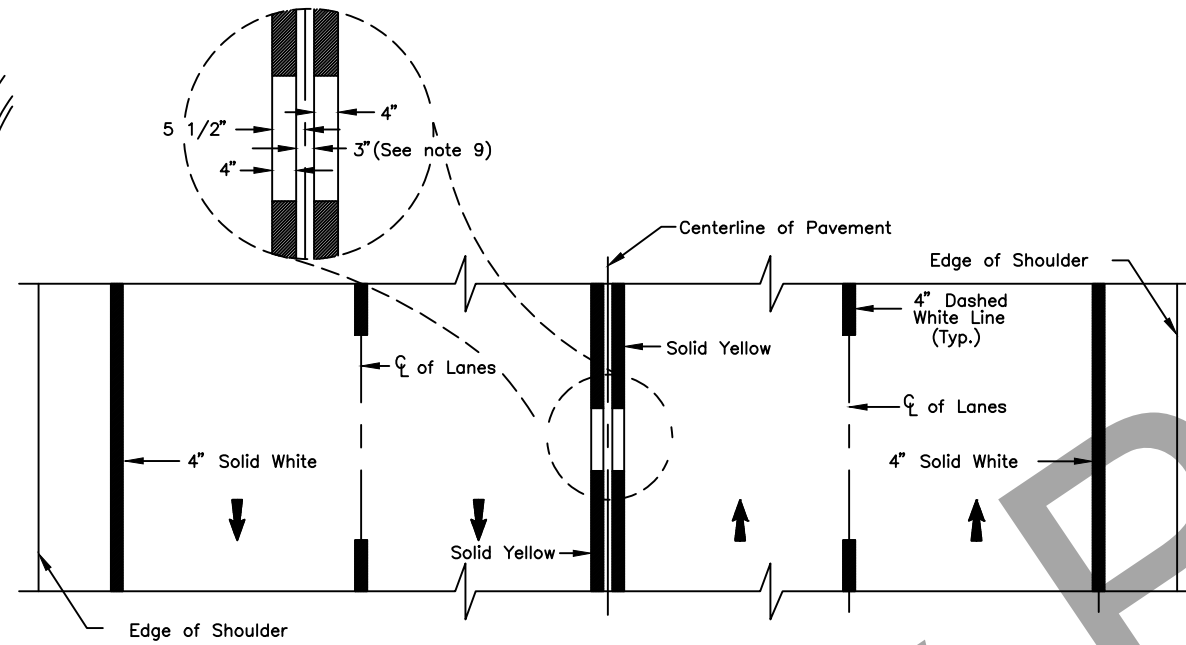
GENERAL NOTES:

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.

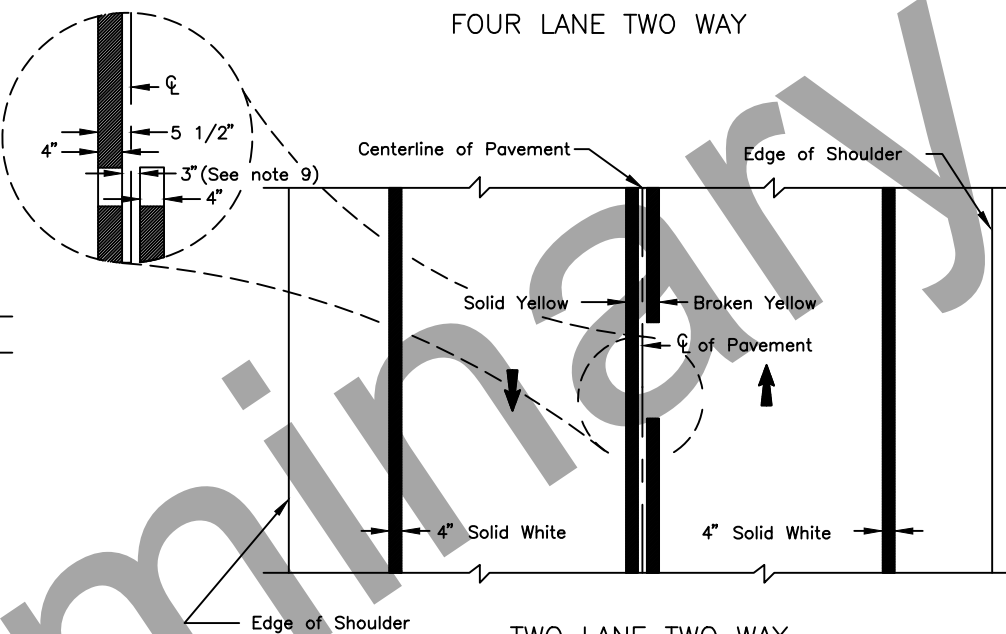
SPEED	D
25 or less	35'
30	45'
35	50'
40	60'
45	65'
50	75'
55 or more	80'



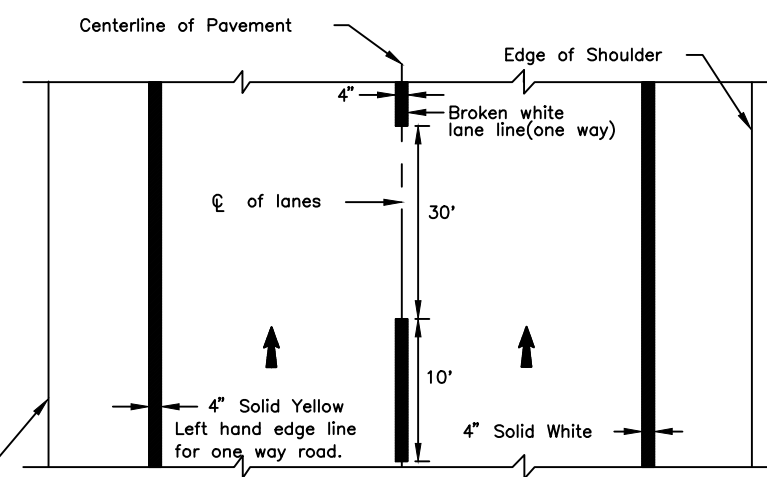
APPROACH TO INTERSECTION



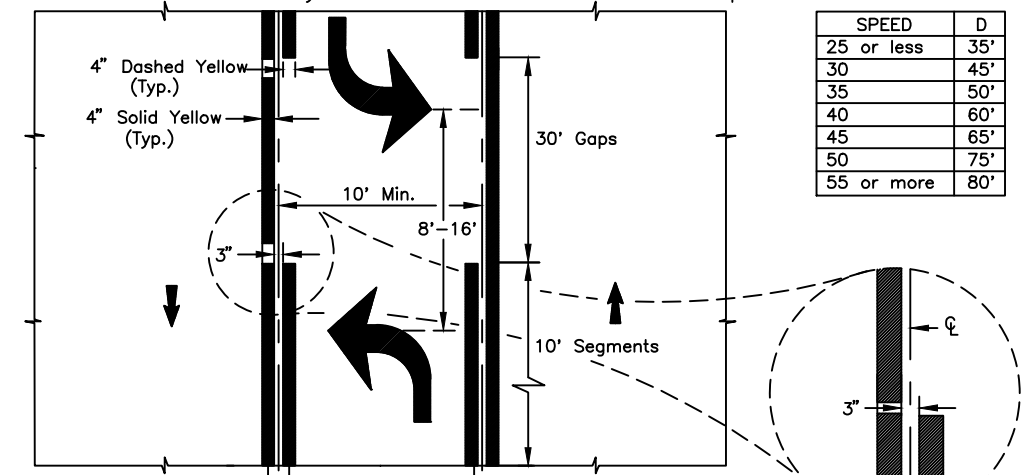
FOUR LANE TWO WAY



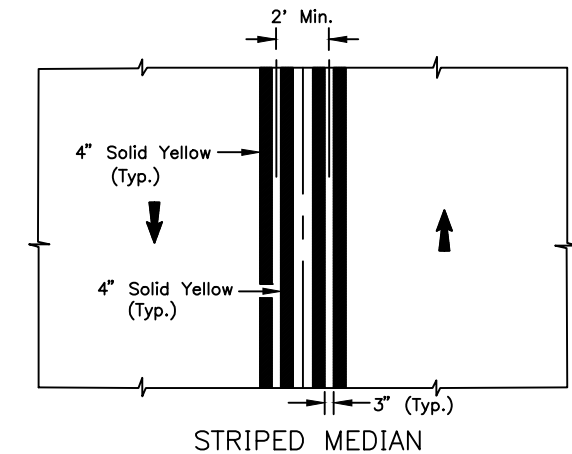
TWO LANE TWO WAY



TWO LANE ONE WAY



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



STRIPED MEDIAN

State of Alaska DOT&PF
ALASKA STANDARD PLAN

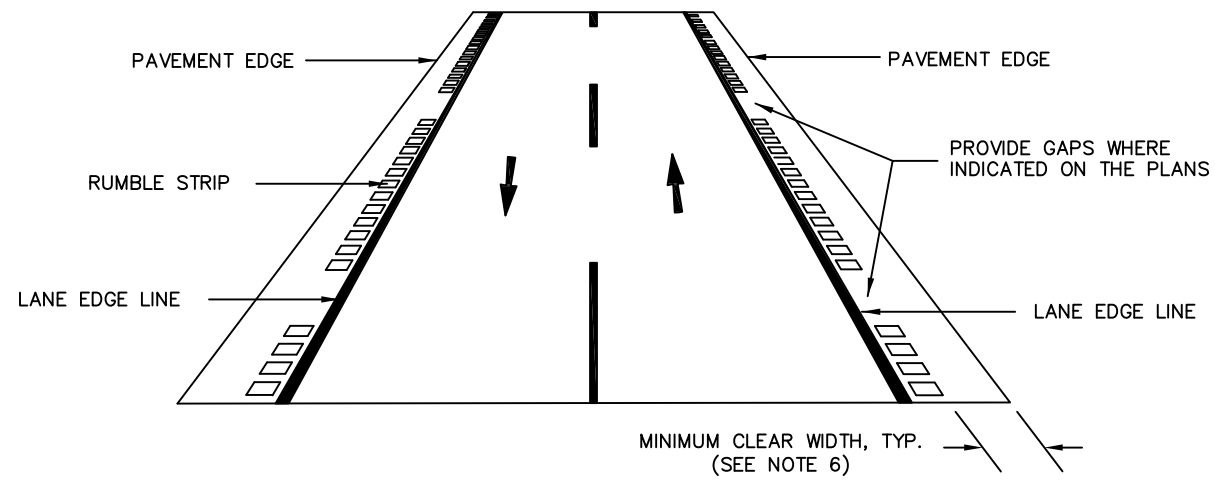
PAVEMENT MARKING APPLICATIONS

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

Adoption Date: 7/17/2020

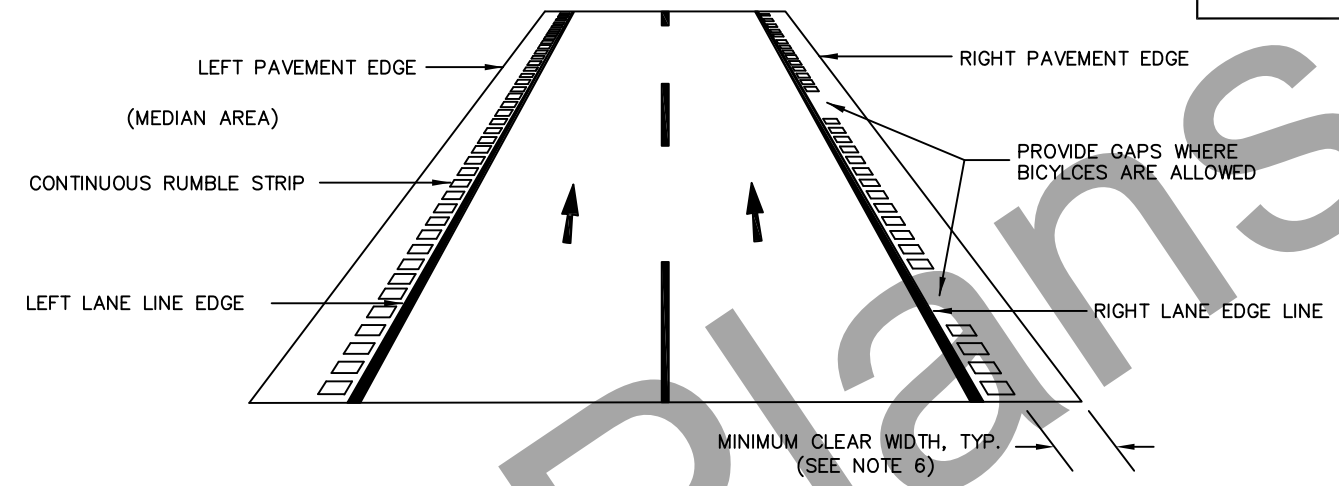
Last Code and Stds. Review By: KLK Date: 7/8/2020
Next Code and Standards Review Date: 7/8/2030

T-21.04



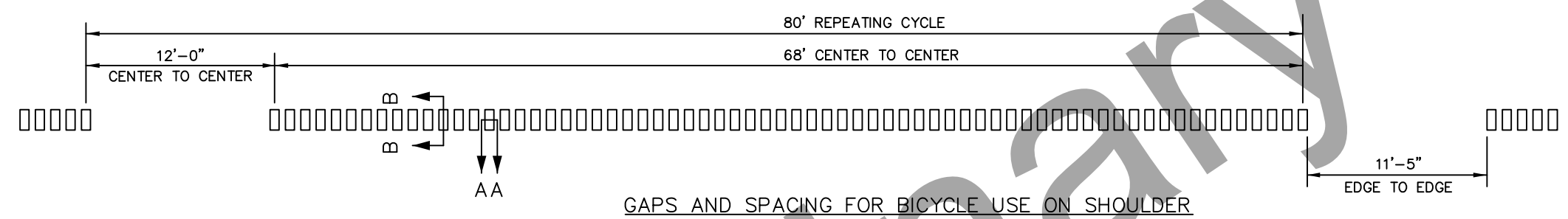
TYPICAL SHOULDER INSTALLATION – TWO-WAY
PERSPECTIVE VIEW

APPLIES TO TWO-WAY OPERATION
WHERE BICYCLES ARE ALLOWED

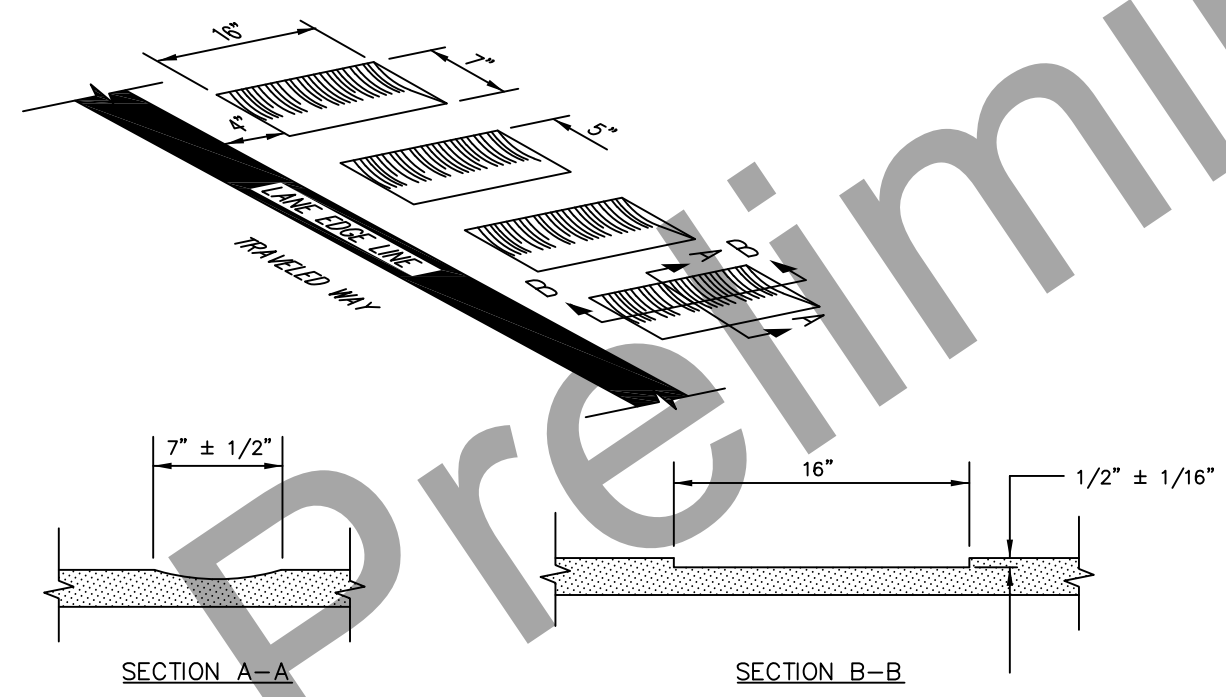


TYPICAL SHOULDER INSTALLATION – ONE-WAY DIVIDED
PERSPECTIVE VIEW

APPLIES TO ONE-WAY DIVIDED HIGHWAYS
WHERE BICYCLES ARE ALLOWED



GAPS AND SPACING FOR BICYCLE USE ON SHOULDER



TYPICAL SHOULDER INSTALLATION DETAIL

SHOULDER RUMBLE STRIP NOTES:

1. PERFORM ALL STAKING AS NECESSARY TO INSTALL RUMBLE STRIPS IN ACCORDANCE WITH THE PLANS, THESE DETAILS, AND THE FOLLOWING NOTES:
2. DO NOT INSTALL RUMBLE STRIPS IN THE FOLLOWING INSTANCES:
 - A. BRIDGE DECKS
 - B. BRIDGE APPROACH SLABS
 - C. PAVEMENT LESS THAN 2 INCHES THICK
 - D. PAVEMENT THAT HAS ALLIGATORING, FATIGUE, CRACKING, OR IN POOR CONDITION
 - E. PAVEMENT JOINTS
 - F. INTO LANE EDGE LINE STRIPING
3. USE CENTERLINE OR LANE LINE DIVIDING LINES, RATHER THAN LANE EDGE LINES, FOR RUMBLE STRIP ALIGNMENT CONTROL WHENEVER POSSIBLE.
4. WHERE BICYCLES ARE ALLOWED ON THE FACILITY, SHOULDER RUMBLE STRIP GAPS (68' RUMBLE STRIP, 12' GAP CENTER TO CENTER, 11'-5" GAP, EDGE TO EDGE) SHOULD BE CONTINUOUS.
5. ON DIVIDED HIGHWAYS, PROVIDE CONTINUOUS RUMBLE STRIP ON THE INSIDE (LEFT) SHOULDER.
6. MINIMUM REQUIRED CLEAR WIDTHS AFTER INSTALLATION ARE AS FOLLOWS:
 - A. AT LEAST 4' WHERE NO GUARDRAIL IS PRESENT (6.0' INITIAL SHOULDER WIDTH).
 - B. AT LEAST 5' (TO FACE OF GUARDRAIL) WHERE GUARDRAIL IS PRESENT (≥ 7.0' AT INITIAL SHOULDER WIDTH).
 - C. NO MINIMUM WHERE BICYCLES ARE PROHIBITED.

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN
**MILLED RUMBLE STRIPS
SHOULDER DETAILS**

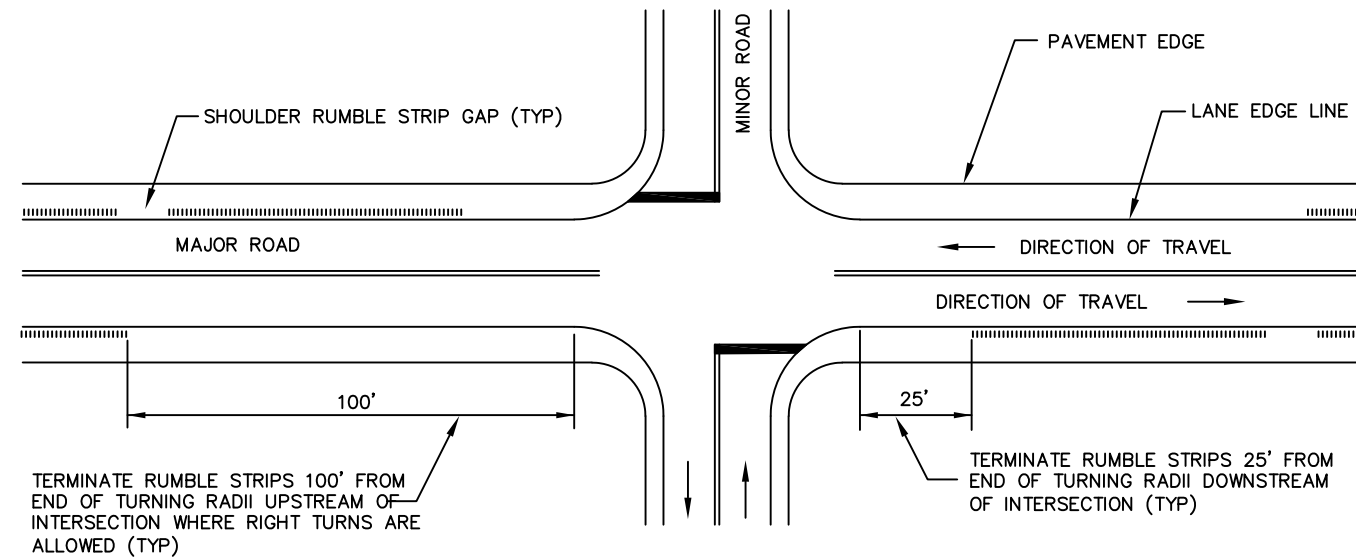
Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 07/17/2020

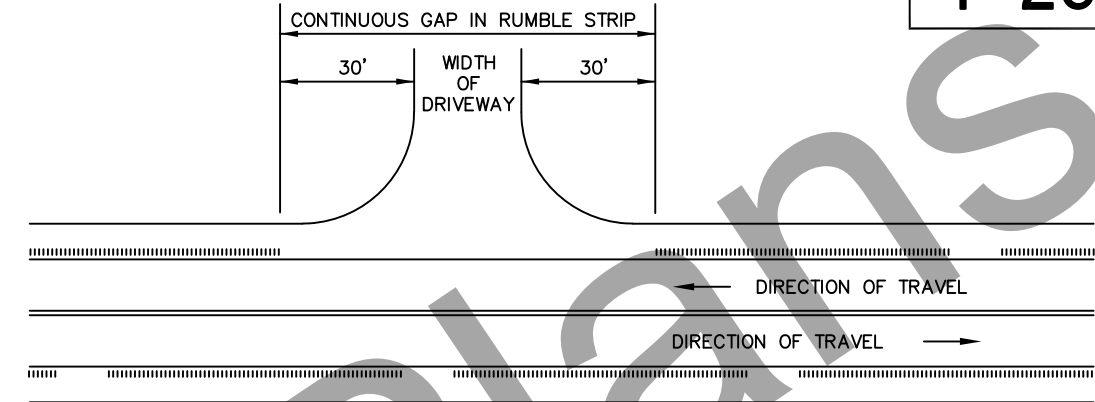
Last Code and Stds. Review
By: LRG Date: 07/17/2020
Next Code and Standards Review date: 07/17/2030

T-25.10

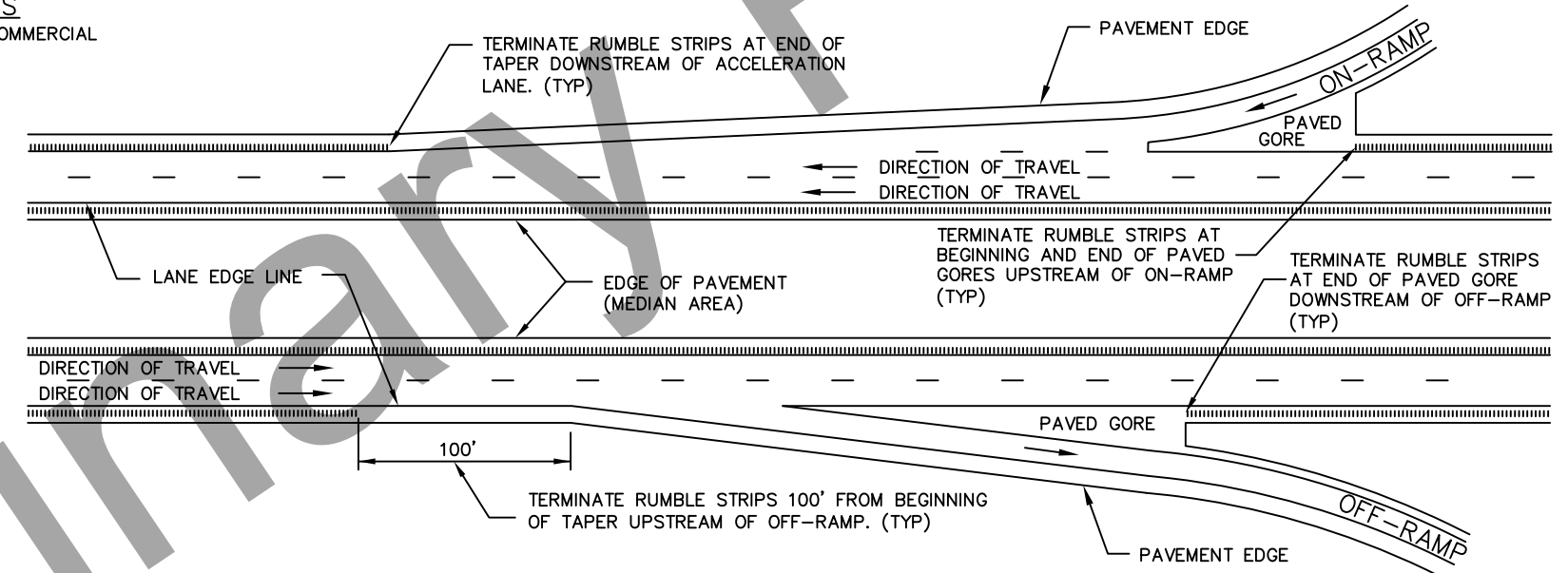
SHEET
2 of 5



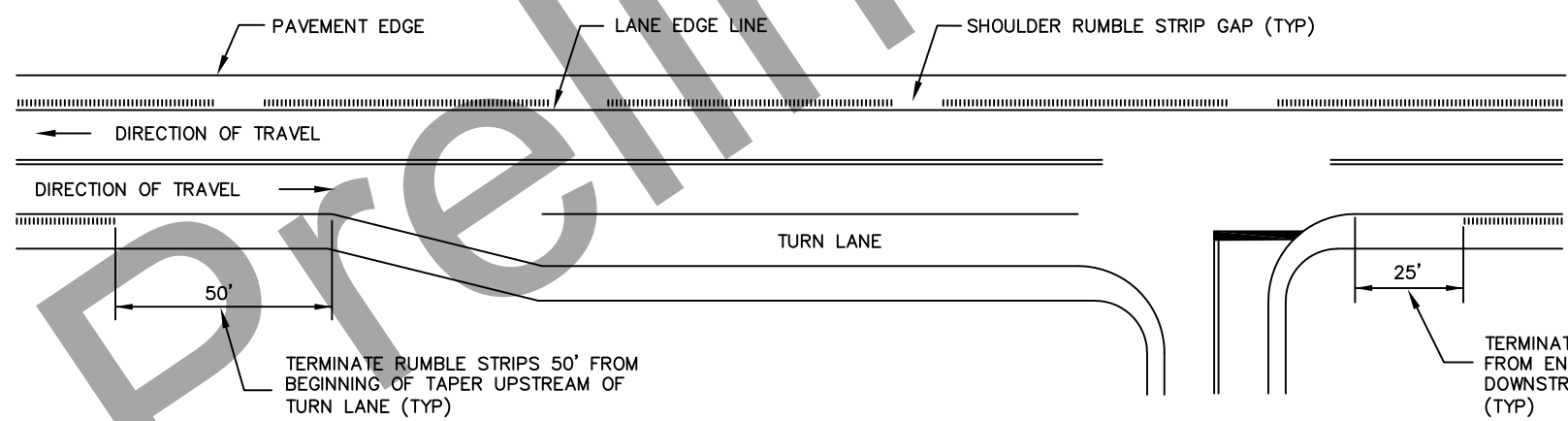
RUMBLE STRIP LAYOUT AT INTERSECTIONS
 APPLIES TO ALL SIDE ROAD INTERSECTIONS, PUBLIC TURNOUTS, COMMERCIAL ROAD APPROACHES, AND GANG MAILBOX TURNOUTS (WHERE BICYCLES ARE ALLOWED)



RUMBLE STRIP LAYOUT AT RESIDENTIAL DRIVEWAYS



RUMBLE STRIP LAYOUT AT FREEWAY ON- AND OFF-RAMPS
 THIS DRAWING APPLIES TO BOTH PARALLEL AND TAPERED LANES (WHERE BICYCLES ARE ALLOWED)



RUMBLE STRIP LAYOUT AT RIGHT TURN LANES
 (WHERE BICYCLES ALLOWED)

Note: Drawing not to scale

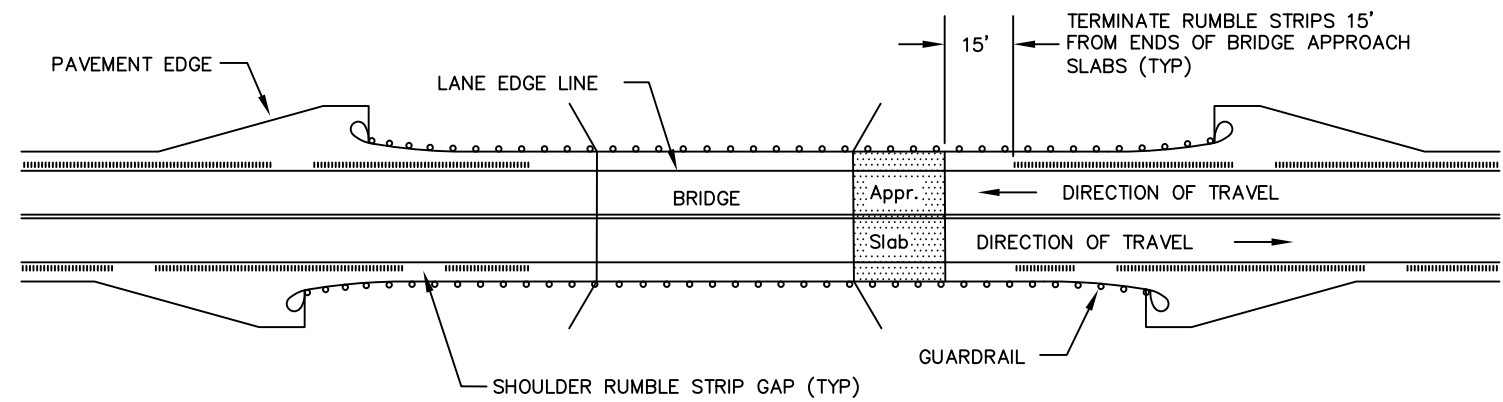
State of Alaska DOT&PF
 ALASKA STANDARD PLAN
**MILLED RUMBLE STRIPS
 SHOULDER DETAILS**

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*
 Carolyn Morehouse, P.E.
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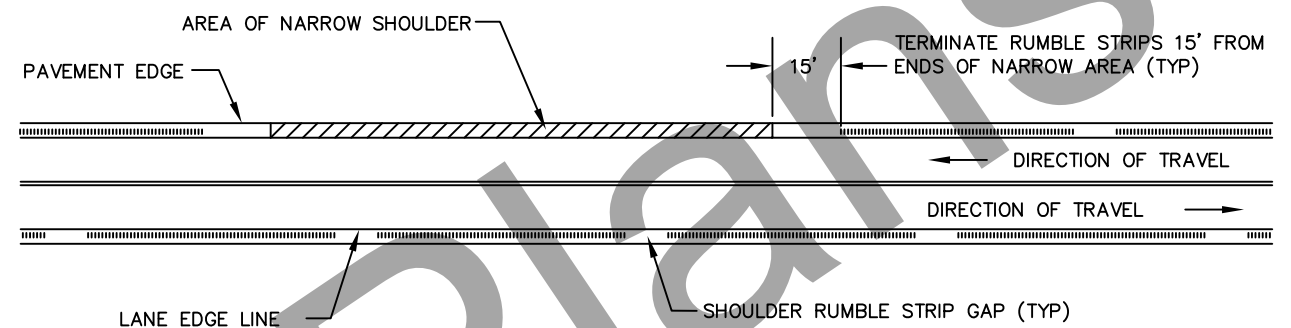
Adoption Date: 07/17/2020

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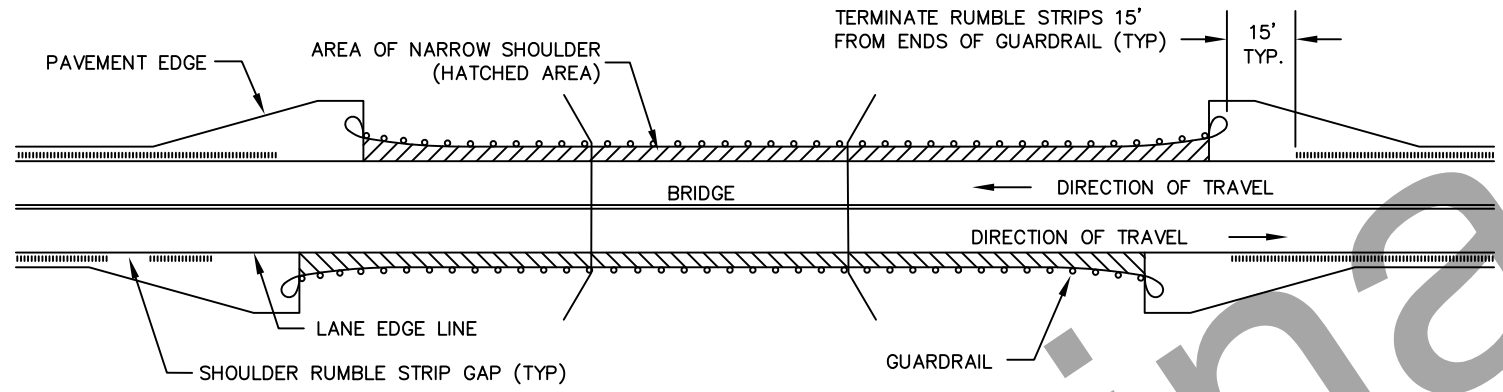
T-25.10 Sheet 2 of 5



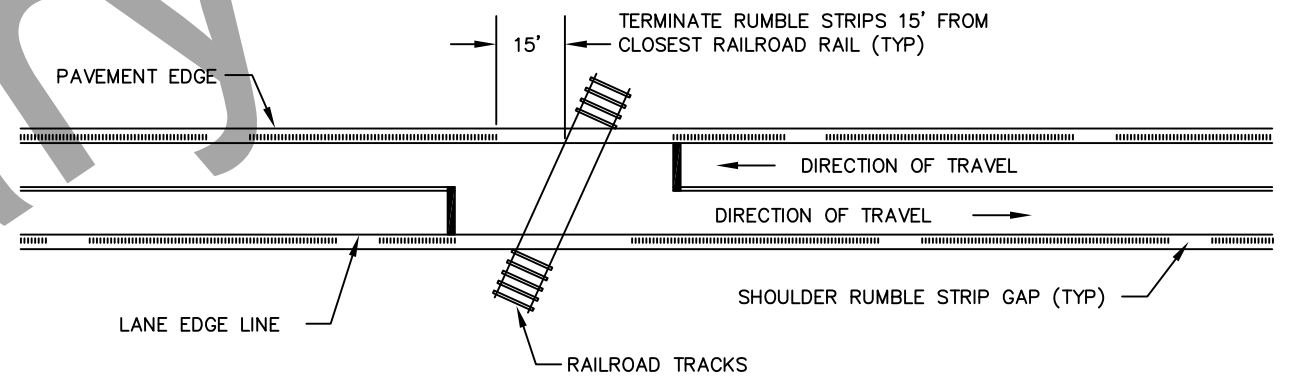
RUMBLE STRIP LAYOUT AT BRIDGES WITH ADEQUATE SHOULDER
(WHERE BICYCLES ARE ALLOWED)



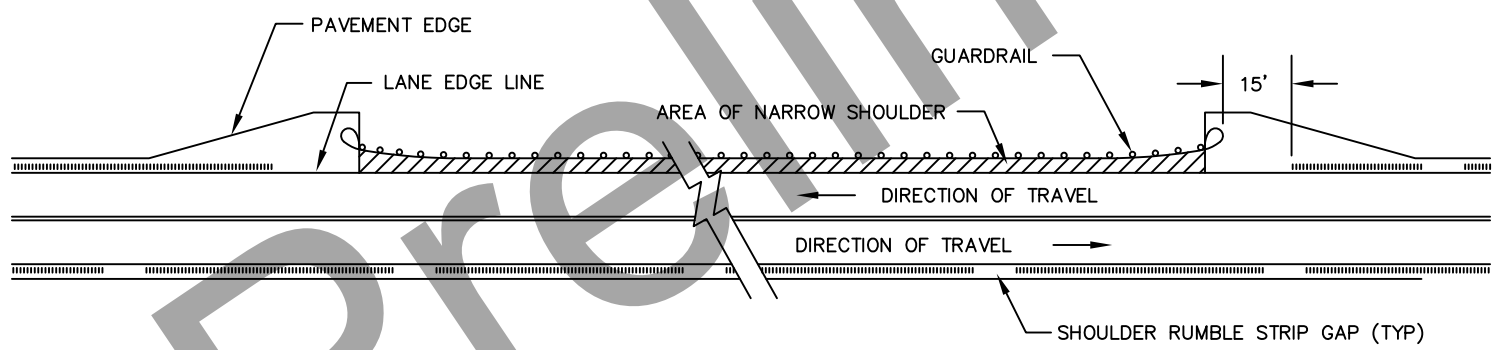
RUMBLE STRIP LAYOUT IN AREAS WITH NARROW SHOULDER
(WHERE BICYCLES ARE ALLOWED)
(SEE NARROW SHOULDER WIDTH NOTE THIS SHEET FOR DEFINITIONS AND TOLERANCES)



RUMBLE STRIP LAYOUT AT BRIDGES WITH NARROW SHOULDER
(WHERE BICYCLES ARE ALLOWED)
(SEE NARROW SHOULDER WIDTH NOTES THIS SHEET)



RUMBLE STRIP LAYOUT AT RAILROAD CROSSINGS
(WHERE BICYCLES ARE ALLOWED)



RUMBLE STRIP LAYOUT IN AREAS WITH GUARDRAIL AND NARROW SHOULDER
(WHERE BICYCLES ARE ALLOWED)
(SEE NARROW SHOULDER WIDTH NOTES THIS SHEET)

NARROW SHOULDER WIDTH NOTES:

A SIX INCH TOLERANCE IS ALLOWED (FOR DISTANCES OF 100 FT. OR LESS) FOR THE FOLLOWING MINIMUM REQUIRED CLEAR WIDTHS:

- a. AT LEAST 4' WHERE NO GUARDRAIL IS PRESENT.
- b. AT LEAST 5' (TO FACE OF GUARDRAIL) WHERE GUARDRAIL IS PRESENT.
- c. NO MINIMUM WHERE BICYCLES ARE PROHIBITED.

Note: Drawing not to scale

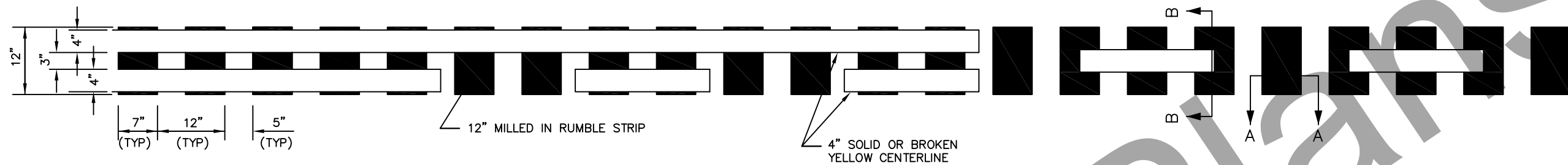
State of Alaska DOT&PF
ALASKA STANDARD PLAN
MILLED RUMBLE STRIPS SHOULDER DETAILS

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

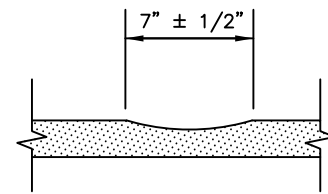
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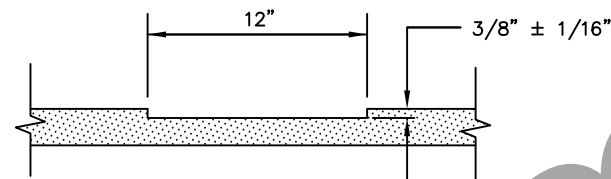
Next Code and Standards Review date: 07/17/2030



CENTERLINE RUMBLE STRIP PLAN VIEW



SECTION A-A



SECTION B-B

CENTERLINE RUMBLE STRIP NOTES:

1. PERFORM ALL STAKING AS NECESSARY TO INSTALL RUMBLE STRIPS IN ACCORDANCE WITH THE PLANS, THESE DETAILS, AND THE FOLLOWING NOTES.
2. DO NOT INSTALL RUMBLE STRIPS IN THE FOLLOWING INSTANCES:
 - A. BRIDGE DECKS
 - B. BRIDGE APPROACH SLABS
 - C. PAVEMENT LESS THAN 2 INCHES THICK
 - D. PAVEMENT THAT HAS ALLIGATORING, FATIGUE, CRACKING, OR IN POOR CONDITION
 - E. PAVEMENT JOINTS
 - F. INTO LANE EDGE LINE STRIPING
3. WHERE INSTALLED, CENTERLINE RUMBLE STRIPS SHALL BE CONTINUOUS REGARDLESS OF CENTERLINE STRIPING CONFIGURATION. BOTH PASSING AND NO-PASSING PORTIONS OF ROADWAY WITHIN THE LIMITS OF THE CENTERLINE RUMBLE STRIP INSTALLATION SHALL BE MILLED.
4. CENTERLINE RUMBLES MAY BE EXTENDED INTO PAINTED MEDIANS WHERE A DOUBLE YELLOW STRIPE SEPARATES OPPOSING TRAFFIC. WHERE CENTERLINES SPLIT TO CREATE A LEFT TURN LANE ALONG A RURAL HIGHWAY, THE RUMBLES SHOULD BE PLACED ALONG BOTH PORTIONS OF THE CENTERLINE.
5. DO NOT INSTALL CENTERLINE RUMBLE STRIPS IN A TWO-WAY LEFT TURN LANE.
6. DO NOT INSTALL CENTERLINE RUMBLES WHEN THE COMBINED LANE AND SHOULDER WIDTH IN EACH DIRECTION IS LESS THAN 14'.
7. BREAK CENTERLINE RUMBLES FOR ALL SIDE STREET AND COMMERCIAL ROAD INTERSECTIONS WHERE THERE ARE LEFT TURN LANES.
8. CENTERLINE STRIPING SHALL BE RE-ESTABLISHED FOLLOWING MILLING OPERATIONS IN ACCORDANCE WITH SECTION 670, "TRAFFIC MARKINGS". 60 MIL SURFACE APPLIED METHYL METHACRYLATE PAVEMENT MARKINGS SHALL BE INSTALLED ON ALL AREAS FOLLOWING CENTERLINE RUMBLE STRIP INSTALLATION WHERE CENTERLINE RUMBLE STRIPS ARE APPLIED.

Note: Drawing not to scale

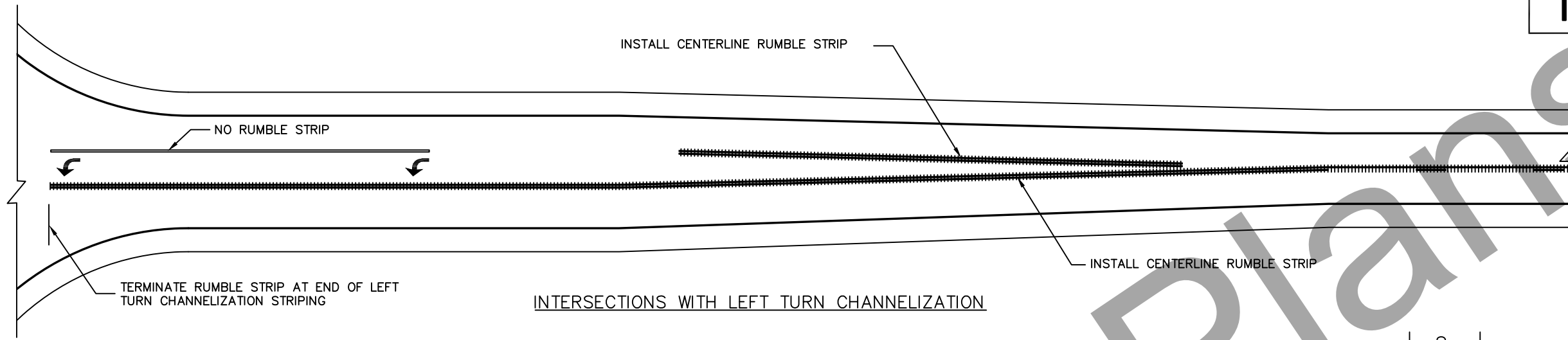
State of Alaska DOT&PF
ALASKA STANDARD PLAN
MILLED RUMBLE STRIPS
CENTERLINE DETAILS

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

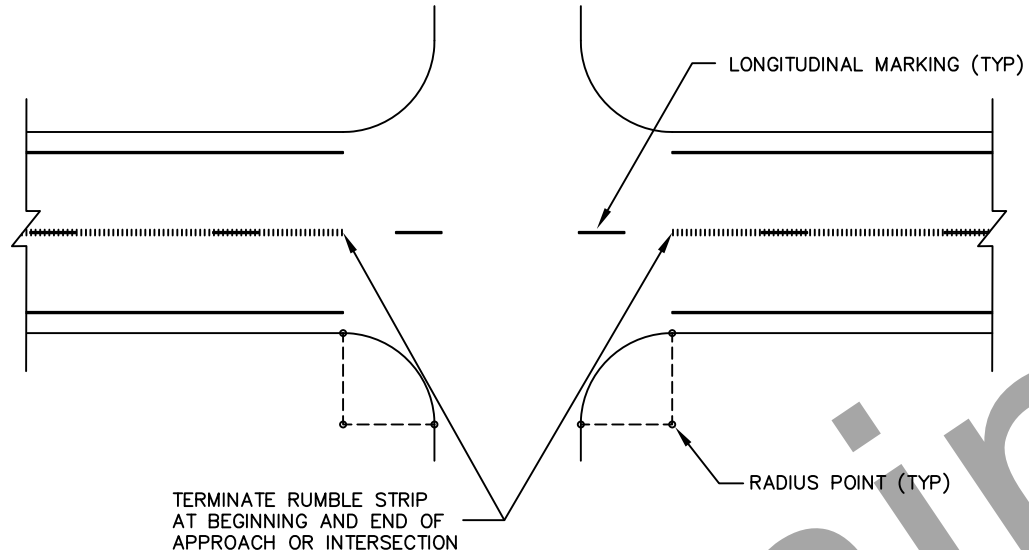
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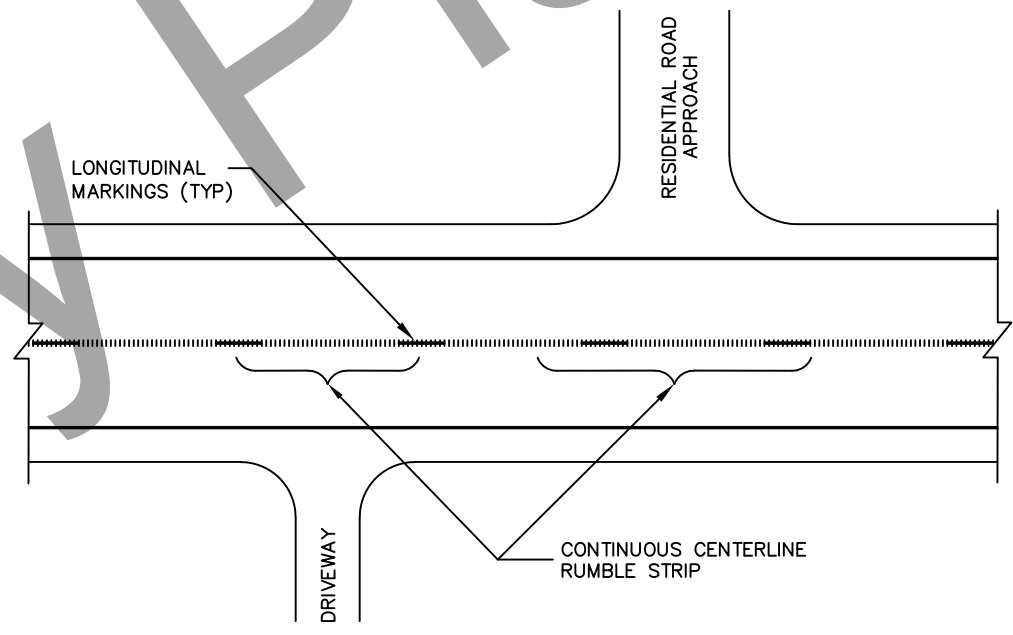
Next Code and Standards Review date: 07/17/2030



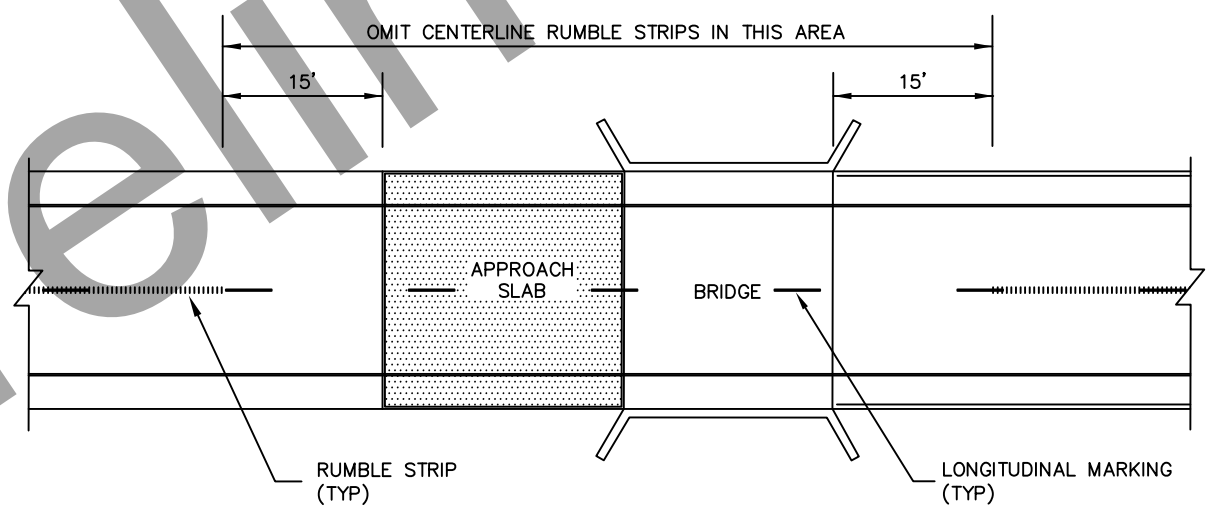
INTERSECTIONS WITH LEFT TURN CHANNELIZATION



HIGHER VOLUME INTERSECTIONS AND COMMERCIAL APPROACHES



NON-COMMERCIAL ROAD AND DRIVEWAY APPROACHES
(DO NOT BREAK FOR THESE ACCESS POINTS)



BRIDGE

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN
**MILLED RUMBLE STRIPS
CENTERLINE DETAILS**

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

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Next Code and Standards Review date: 07/17/2030

T-25.10 Sheet 5 of 5