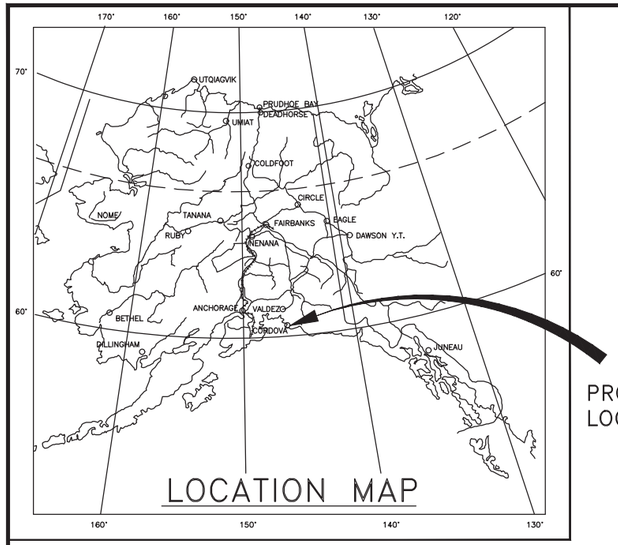
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	A1	80
CDS ROUTE: 211400	MILEPOINT: 0 TO 0.756			



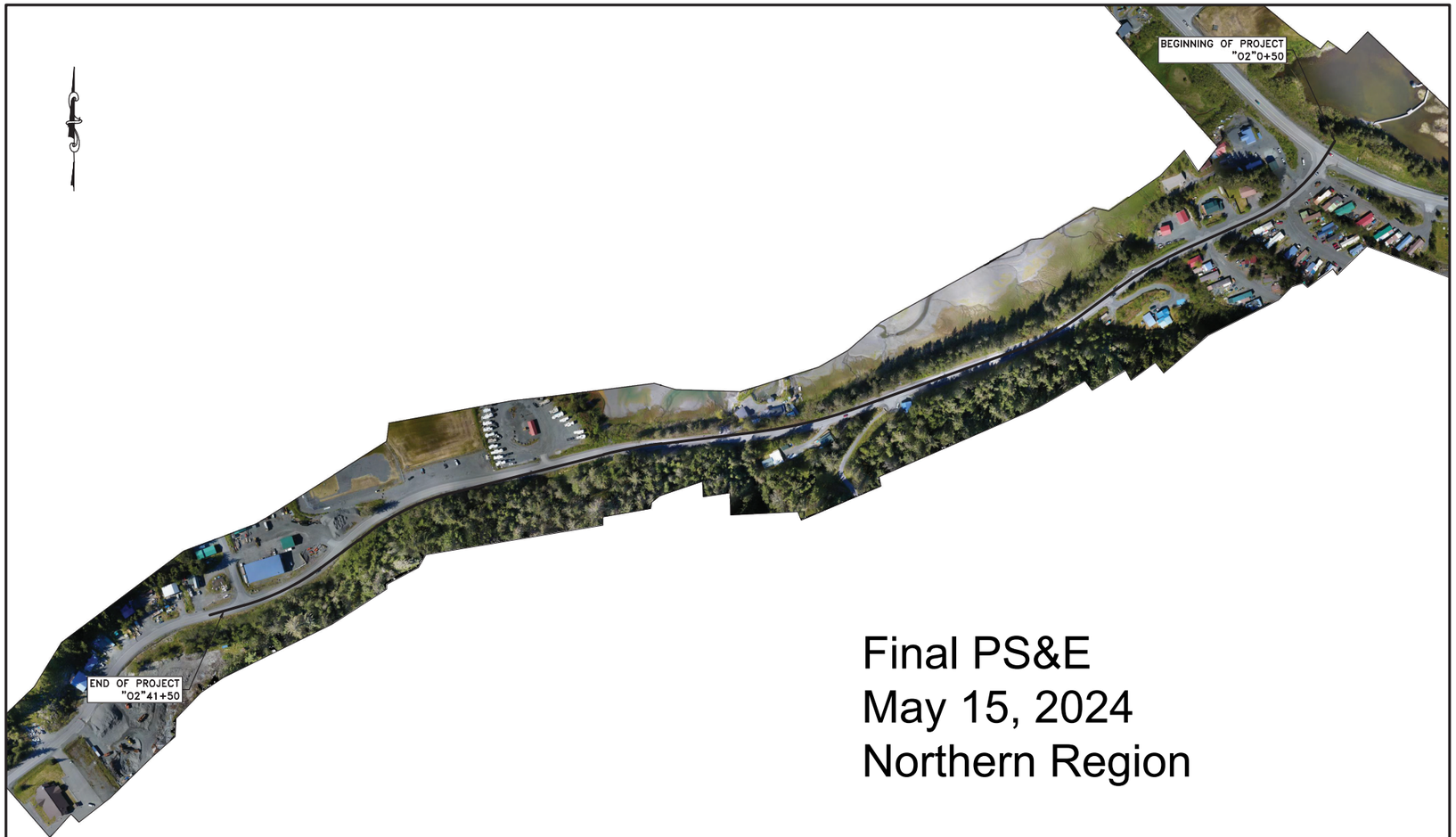
PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0837004/NFHWY00129

WHITSHED ROAD AND PEDESTRIAN IMPROVEMENTS



Final PS&E
May 15, 2024
Northern Region

INDEX OF SHEETS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
C–06.00
D–22.01, D–25.00, D–26.04, D–37.10
I–20.20, I–81.00
L–23.03
S–00.12, S–01.02, S–05.02, S–30.05, S–31.02
T–21.04
U–3.01

DESIGN DESIGNATIONS

ADT (2015)	1260
ADT (2045)	1700
DHV (13.7%)	235
PERCENT TRUCKS (T)	6%
DIRECTIONAL SPLIT (D)	55/45
DESIGN SPEED (V)	40 MPH
DESIGN ESALS (YEARS)	156,220 (15)

PROJECT SUMMARY

WIDTH OF PAVEMENT	24
LENGTH OF GRADING	4,100
LENGTH OF PAVING	4,100
LENGTH OF PROJECT	4,100

RUSSELL JOHNSON, P.E., PROJECT MANAGER
CHRISTIANE NEWTON, DESIGN ENGINEER

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY:
Albert Beck DATE 5/13/2024
Albert Beck, P.E.
Acting Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION:
DATE 5/15/2024
Joseph P. Kemp, P.E.
Regional Director, Northern Region

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	A2	A4

	RECOVERED	SET
BLM MONUMENT		
GLO MONUMENT		
USC&GS MONUMENT		
PRIMARY MONUMENT		
CENTERLINE MONUMENT IN CASING		
PRIMARY R.O.W. MONUMENT		
BEARING OBJECT		
MISCELLANEOUS MONUMENT		
LINE OF SIGHT MONUMENT		
CONCRETE R.O.W. MONUMENT		
BENCHMARK		BM
REBAR AND CAP		
REBAR		
IRON PIPE		
PK NAIL		
SPIKE		
HUB AND TACK		

CONSTRUCTION CENTERLINE 5+00

MISCELLANEOUS CENTERLINE 10+00

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

PROJECT RIGHT-OF-WAY LINE R/W

EXISTING RIGHT-OF-WAY LINE

EXISTING PROPERTY LINE

CONTROLLED ACCESS LINE C/A

UTILITY EASEMENT LINE PUE

TEMPORARY EASEMENT LINE (TCP OR TCE) TCP

ACCESS OR SECTION LINE EASEMENT ACCESS EASEMENT

PROPOSED CUT SLOPE LIMIT

PROPOSED FILL SLOPE LIMIT

SECTION LINE

1/4 SECTION LINE

1/16 SECTION LINE

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

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

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

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

LEGEND

STATE OF ALASKA 49TH — Russell M. Johnson C.E. 9963 — REGISTERED PROFESSIONAL ENGINEER

4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129 - A2-Legend-A2 Legend Tue, Apr/09/24 01:44pm

LIST OF ABBREVIATIONS

ABC	–	AGGREGATE BASE COURSE
AASHTO	–	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AC	–	ACRES
ACP	–	ASPHALT CONCRETE PAVEMENT
ACS	–	ALASKA COMMUNICATIONS SYSTEMS
ADA	–	AMERICANS WITH DISABILITIES ACT
ADEC	–	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ADT	–	ANNUAL AVERAGE DAILY TRAFFIC
AH	–	AHEAD
AP	–	ANGLE POINT
AST	–	ASPHALT SURFACE TREATMENT
ATB	–	ASPHALT TREATED BASE
ATM	–	ALASKA TRAFFFIC MANUAL
BK	–	BACK
BLDG	–	BUILDING
BMP	–	BEST MANAGEMENT PRACTICES
BOP	–	BEGINNING OF PROJECT
BSWK	–	BACK OF SIDEWALK
CABC	–	CRUSHED ASPHALT BASE COURSE
CB	–	CATCH BASIN
CE OR CEC	–	CORDOVA ELECTRIC COOPERATIVE
CF	–	CUBIC FEET
CFS	–	CUBIC FEET PER SECOND
CGP	–	CONSTRUCTION GENERAL PERMIT
CL OR ℄	–	CENTERLINE
CLR	–	CLEAR DISTANCE/ZONE
CMP	–	CORRUGATED METAL PIPE
CO	–	CLEAN OUT
COM	–	COMMERCIAL
CONC	–	CONCRETE
CONT	–	CONTINUOUS
CPP	–	CORRUGATED POLYETHYLENE PIPE
CR	–	CURB RAMP
CSP	–	CORRUGATED STEEL PIPE
CT OR CTC	–	CORDOVA TELEPHONE COOPERATIVE
CY, CU YD OR YD^3	–	CUBIC YARD
D	–	DEGREE OF CURVE
DEMO	–	DEMOLITION
DHV	–	DESIGN HOURLY VOLUME
DIA OR ø	–	DIAMETER
DIP	–	DUCTILE IRON PIPE
DOT	–	DEPARTMENT OF TRANSPORTATION
DOT&PF	–	DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
DSC	–	DESCRIPTION
DTL	–	DETAIL
DWG	–	DRAWING
DWY	–	DRIVEWAY
EA	–	EACH
EG	–	EXISTING GROUND
EL OR ELEV	–	ELEVATION
EOP	–	END OF PROJECT
EOTW	–	EDGE OF TRAVELED WAY
EP	–	EDGE PAVEMENT
ESAL	–	EQUIVALENT SINGLE AXLE LOAD
FG	–	FINISHED GROUND
FO	–	FIBER OPTIC
FT OR ’	–	FOOT, FEET
GCI	–	GENERAL COMMUNICATION INC
GCP	–	GENERAL CONSTRUCTION PERMIT
GP	–	GRADE POINT
HDPE	–	HIGH DENSITY POLYETHELENE
HMA	–	HOT MIX ASPHALT
HP	–	HIGH POINT
HWY	–	HIGHWAY
IE	–	INVERT ELEVATION
IN OR ”	–	INCH
L	–	LENGTH
LC	–	LOAD CENTER
LF	–	LINEAR FEET
LP	–	LOW POINT
LT	–	LEFT
MAX	–	MAXIMUM
MH	–	MANHOLE
MIN	–	MINIMUM
MP	–	MILEPOST
MTE	–	MATCH TO EXISTING
NFS	–	NON–FROST SUSCEPTIBLE
NO. OR #	–	NUMBER
NTS	–	NOT TO SCALE
N/A	–	NOT APPLICABLE
OFF	–	OFFSET
PC	–	POINT OF CURVATURE
PCC	–	POINT OF COMPOUND CURVATURE
PGP	–	PROFILE GRADE POINT
PI	–	POINT OF INTERSECTION
POC	–	POINT ON CURVE
PRC	–	POINT OF REVERSE CURVE
PST	–	PERFORATED STEEL TUBE
POT	–	POINT OF TANGENCY
PVMT	–	PAVEMENT
Q2	–	2 YEAR FLOOD
Q5	–	5 YEAR FLOOD
Q50	–	50 YEAR FLOOD
Q100	–	100 YEAR FLOOD
R	–	RADIUS
ROW OR R/W	–	RIGHT OF WAY
RP	–	RADIUS POINT
RT	–	RIGHT
RW OR RWALL	–	RETAINING WALL
S	–	SUPERELEVATION
SDWLK	–	SIDEWALK
SH OR SHLDR	–	SHOULDER
SS	–	SANITARY SEWER SERVICE
SIM	–	SIMILIAR
SPP	–	STRUCTURAL PIPE PLATE
SQ.IN. OR IN^2	–	SQUARE INCHES
SF OR FT^2	–	SQUARE FEET
SS	–	SANITARY SEWER SERVICE
ST	–	STREET
STA	–	STATION
STD	–	STANDARD
SWPPP	–	STORM WATER POLLUTION PREVENTION PLAN
SY OR YD^2	–	SQUARE YARD
SYM	–	SYMBOL
T	–	TANGENT LENGTH
TCE	–	TEMPORARY CONSTRUCTION EASEMENT
TCP	–	TEMPORARY CONSTRUCTION PERMIT
TRANS	–	TRANSITION
TYP	–	TYPICAL
VC	–	VERTICAL CURVE
VPC	–	VERTICAL POINT OF CURVATURE
VPI	–	VERTICAL POINT OF INTERSECTION
VPT	–	VERTICAL POINT OF TANGENCY
VOL	–	VOLUME
W/	–	WITH
W/O	–	WITHOUT

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	A3	A4

GENERAL PROJECT NOTES:

1. GRADES, ALIGNMENTS, APPROACH LOCATIONS, LENGTHS AND LOCATIONS OF STORM DRAINS AND UTILITIES SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
2. UTILITIES (OVERHEAD AND BURIED), TO THE EXTENT THEY ARE KNOWN, ARE SHOWN ON THE PLANS. BEFORE CONDUCTING ANY GROUND–DISTURBING ACTIVITIES THE CONTRACTOR SHALL VERIFY UTILITY LOCATIONS BY CONTACTING THE DIGLINE AT 1–800–478–3121 OR THE UTILITY COMPANY.
3. PROTECT UTILITIES FROM DAMAGE FOR THE DURATION OF THE WORK. WHEN PROPOSED CULVERT OR RIPRAP IMPROVEMENTS ARE OVER OR WITHIN 2’ HORIZONTALLY FROM UNDERGROUND UTILITIES, HAND EXCAVATE (POT HOLE) AND EXPOSE UNDERGROUND UTILITIES TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION.
4. WITHIN PROJECT LIMITS, PROTECT ALL EXISTING FEATURES DESIGNATED TO REMAIN FROM DAMAGE, UNLESS OTHERWISE NOTED. ANY REPAIRS WILL BE AT THE CONTRACTOR’S EXPENSE.
5. UNLESS OTHERWISE NOTED ON PLANS, PRESERVE AND PROTECT ALL FEATURES ON PRIVATE PROPERTY. WHERE FEATURES CANNOT BE PROTECTED, REMOVE AND REPLACE ITEMS. CONTRACTOR TO RETURN ALL PRIVATE PROPERTY TO MATCH CONDITION PRIOR TO CONSTRUCTION. PAYMENT IS SUBSIDIARY TO PAY ITEMS RELATED TO THE WORK BEING PERFORMED.
6. CLEARING LIMITS SHALL NOT EXCEED ROW, TCE, OR TCP LIMITS.
7. WARP SLOPES AS NEEDED TO ENSURE CATCH LIMITS REMAIN INSIDE THE ROW BOUNDARY.
8. SAW CUT ALL NEW TO EXISTING PAVEMENT JOINTS. ALL WORK AND RESOURCES REQUIRED TO SAW CUT PAVEMENT IS SUBSIDIARY TO 401.0001 PAY ITEM.

TEMPORARY CONSTRUCTION EASEMENT/PERMIT (TCE/TCP) REQUIREMENTS:

1. GENERAL: PRIOR TO FIELD WORK CONSTRUCTION ACTIVITIES AND IN COORDINATION WITH THE ENGINEER, THE CONTRACTOR MUST CONTACT ALL TCE AND TCP PROPERTY OWNERS TO COORDINATE AND MINIMIZE CONSTRUCTION IMPACTS INSIDE OF THEM.

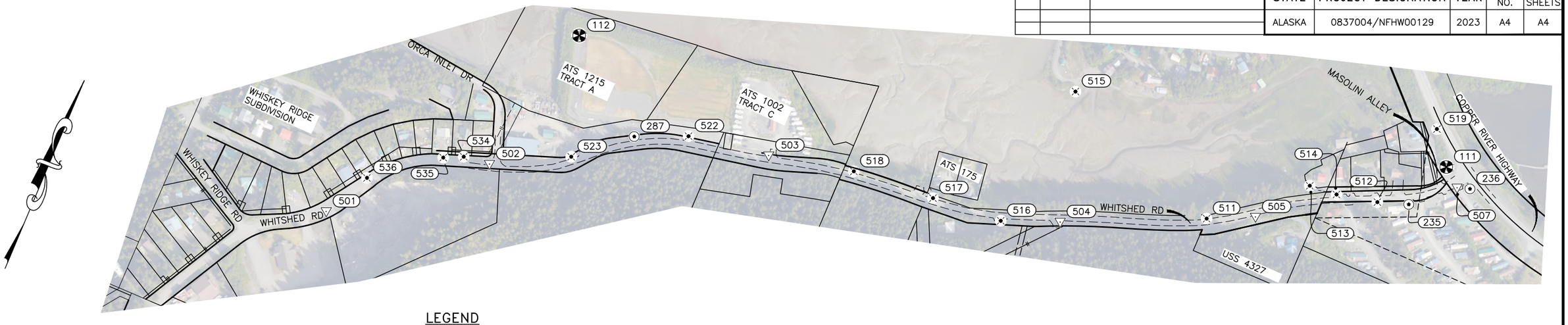
GENERAL NOTES

STATE OF ALASKA 49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451–2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\Generol Notes–A3 GENERAL NOTES Tue, Apr/09/24 01:44pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHW00129	2023	A4	A4



LEGEND

- PRIMARY MONUMENT SET
- REBAR AND CAP FOUND
- PK
- SPIKE

GRAPHIC SCALE

0 200 400 600 800 1000

SCALE 1"=200'

CONTROL MONUMENTS

POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
111	114719.27	209339.02	43.52	N60° 32' 21.5417"	W145° 45' 12.3973"	PRIM MON SET WHITE 0.0
112	113854.11	205928.74	36.66	N60° 32' 12.7603"	W145° 46' 20.4320"	PRIM MON SET WHITE 0.7
235	114522.51	209258.48	53.88	N60° 32' 19.5980"	W145° 45' 13.9772"	REBAR CAP FND WS-2 705 S
236	114675.37	209460.65	45.30	N60° 32' 21.1186"	W145° 45' 09.9593"	REBAR CAP FND CP10 LS 4725
287	113566.53	206289.40	36.33	N60° 32' 09.9563"	W145° 46' 13.1775"	REBAR CAP FND CP 17 LS4725
501	112809.64	205267.10	27.41	N60° 32' 02.4227"	W145° 46' 33.4904"	PK SET PHOTO PNT 4.75X4.65
502	113239.11	205797.03	34.04	N60° 32' 06.6936"	W145° 46' 22.9670"	PK SET PHOTO PNT
503	113705.48	206815.90	42.66	N60° 32' 11.3656"	W145° 46' 02.6757"	PK SET PHOTO PNT 5.00X5.00
504	113914.15	207996.89	49.88	N60° 32' 13.5113"	W145° 45' 39.1018"	PK SET PHOTO PNT
505	114236.91	208711.10	60.32	N60° 32' 16.7441"	W145° 45' 24.8754"	PK SET PHOTO PNT 5.30X5.35
507	114659.01	209411.00	45.31	N60° 32' 20.9537"	W145° 45' 10.9494"	PK SET PHOTO PNT 5.1x5.1FT
511	114155.11	208533.14	56.73	N60° 32' 15.9251"	W145° 45' 28.4201"	SPIKE SET
512	114482.16	209138.70	53.54	N60° 32' 19.1917"	W145° 45' 16.3655"	SPIKE SET
513	114437.17	208863.42	49.06	N60° 32' 18.7278"	W145° 45' 21.8613"	SPIKE SET
514	114446.46	208975.63	55.73	N60° 32' 18.8277"	W145° 45' 19.6197"	SPIKE SET
515	114420.52	207850.47	12.27	N60° 32' 18.4867"	W145° 45' 42.1072"	SPIKE SET
516	113826.28	207775.42	46.63	N60° 32' 12.6291"	W145° 45' 43.5152"	SPIKE SET
517	113804.41	207489.55	40.26	N60° 32' 12.3917"	W145° 45' 49.2259"	SPIKE SET
518	113780.11	207155.25	41.96	N60° 32' 12.1268"	W145° 45' 55.9041"	SPIKE SET
519	114844.94	209245.20	43.63	N60° 32' 22.7722"	W145° 45' 14.2922"	SPIKE SET
522	113652.57	206489.38	40.45	N60° 32' 10.8192"	W145° 46' 09.1939"	SPIKE SET
523	113393.63	206087.83	34.74	N60° 32' 08.2380"	W145° 46' 17.1791"	SPIKE SET
534	113226.19	205690.46	31.52	N60° 32' 06.5581"	W145° 46' 25.0952"	SPIKE SET
535	113191.06	205615.98	29.16	N60° 32' 06.2063"	W145° 46' 26.5781"	SPIKE SET
536	112997.14	205365.56	27.25	N60° 32' 04.2769"	W145° 46' 31.5524"	SPIKE SET

GENERAL NOTES

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

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

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

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

CORDOVA LDP DEFINITION:
LINEAR UNIT: U.S. SURVEY FOOT (SFT)
DATUM: NAD83(2011)
PROJECTION: LAMBERT CONFORMAL CONIC, (SINGLE PARALLEL)
STANDARD PARALLEL AND GRID ORIGIN: 60°30'00"N
CENTRAL MERIDIAN (GRID ORIGIN): 145°15'00"W
FALSE NORTHING: 100,000 SFT
FALSE EASTING: 300,000 SFT
STANDARD PARALLEL SCALE: 1.000004 (EXACT)

THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF "WHITSHED 0.7", POINT #112.

BASIS OF BEARING IS CORDOVA LDP.

THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF 36.66 FT AT "WHITSHED 0.7", POINT #112.

SURVEY FIELD WORK DONE BY DOT DURING SUMMER 2017.

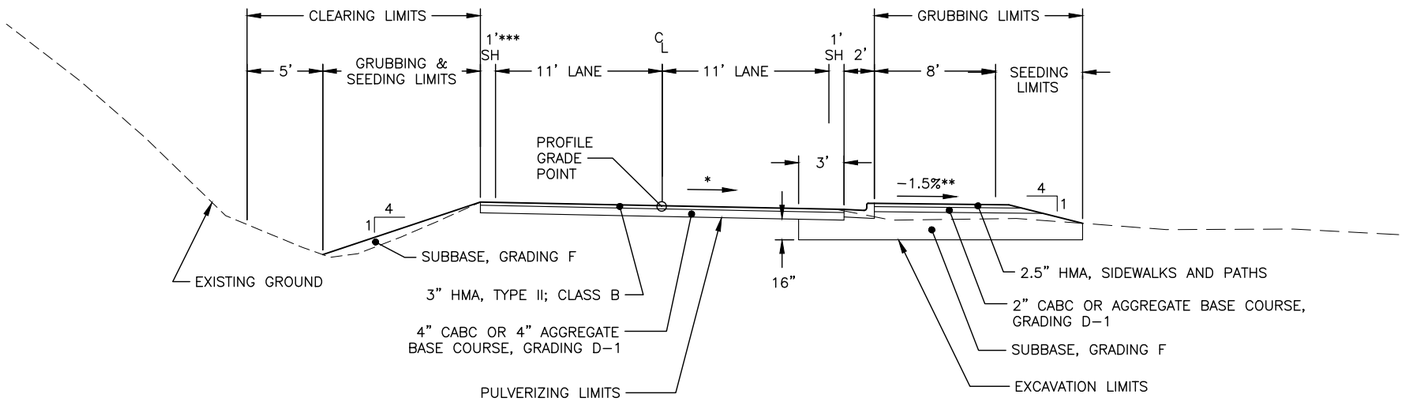
STATE OF ALASKA 49TH
TROY M. HICKS
Feb 06 , 2024
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEY CONTROL

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\NFHWY00129_Control_100322-A4 Control Tue, Feb/06/24 01:04pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	B1	B3



* SEE SHEET NOTE 3

** SIDEWALK CROSS-SLOPE +1.5% STA 01+18 TO 07+90

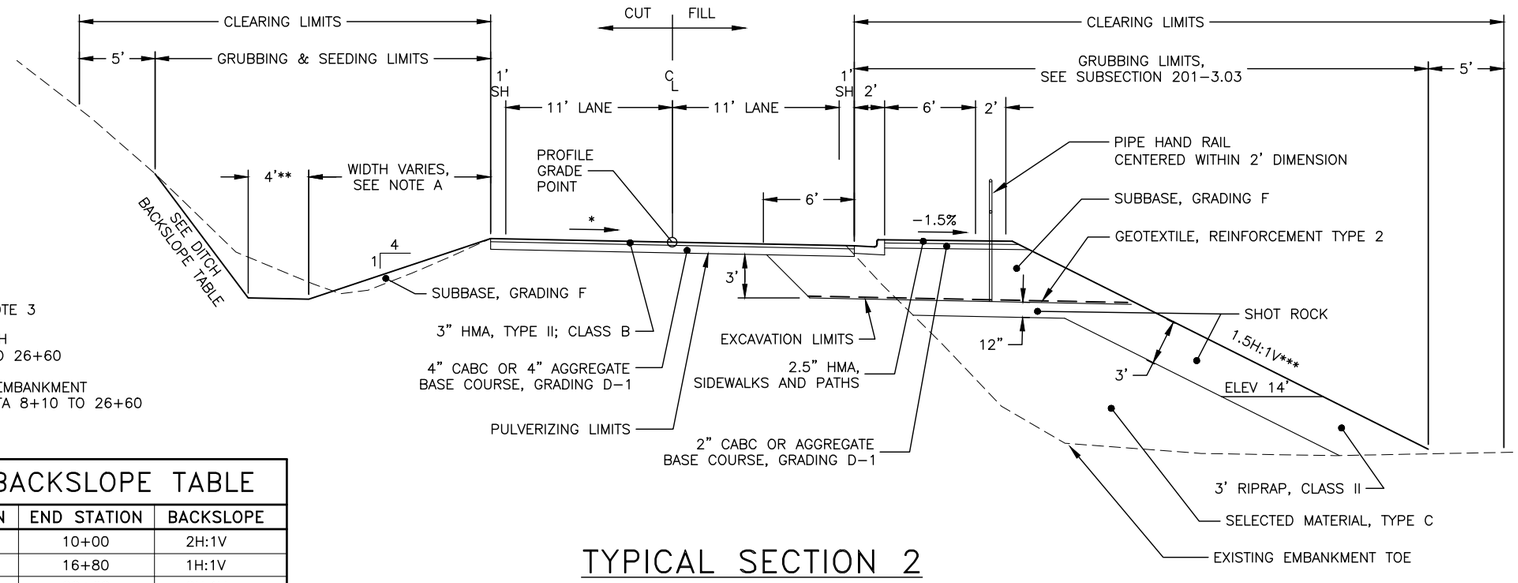
*** CONSTRUCT GUTTER FROM STA 01+15 TO 05+85. SEE CURB & GUTTER TABLE ON SHEET D2

TYPICAL SECTION 1

STA 01+18 TO 06+35
STA 40+40 TO 41+50

SHEET NOTES:

1. SEED ALL DISTURBED AREAS OR AS DIRECTED BY THE ENGINEER
2. REMOVE & INSTALL CULVERTS AFTER PULVERIZING THE EXISTING PAVEMENT AND BEFORE PAVING
3. CONSTRUCT ROAD CROSS SLOPES AND SUPERELEVATIONS AS SHOWN ON ROAD SURFACE SLOPE TABLE ON SHEET D1 AND PLAN SHEETS F1-F8
4. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D-1 UNTIL AFTER ALL THE USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED
5. SIDEWALK CROSS SLOPE IS +1.5% BETWEEN STA 01+18 TO 07+90



* SEE SHEET NOTE 3

** 10' WIDE DITCH STA 22+00 TO 26+60

*** 2H:1V RIGHT EMBANKMENT FORESLOPE STA 8+10 TO 26+60

DITCH BACKSLOPE TABLE		
BEGIN STATION	END STATION	BACKSLOPE
6+35	10+00	2H:1V
10+00	16+80	1H:1V
16+80	20+60	2H:1V
20+60	40+40	0.5H:1V

TYPICAL SECTION 2

STA 06+35 TO 26+60

TYPICAL SECTION 2 NOTES:

A. LEFT EMBANKMENT FORESLOPE WIDTHS AND DITCH ELEVATIONS ARE CONTROLLED BY THE SPECIAL DITCH PROFILES SHOWN ON THE F SERIES SHEETS. IF NO SPECIAL DITCH PROFILE IS SHOWN, THE LEFT EMBANKMENT FORESLOPE WIDTH IS 12'.

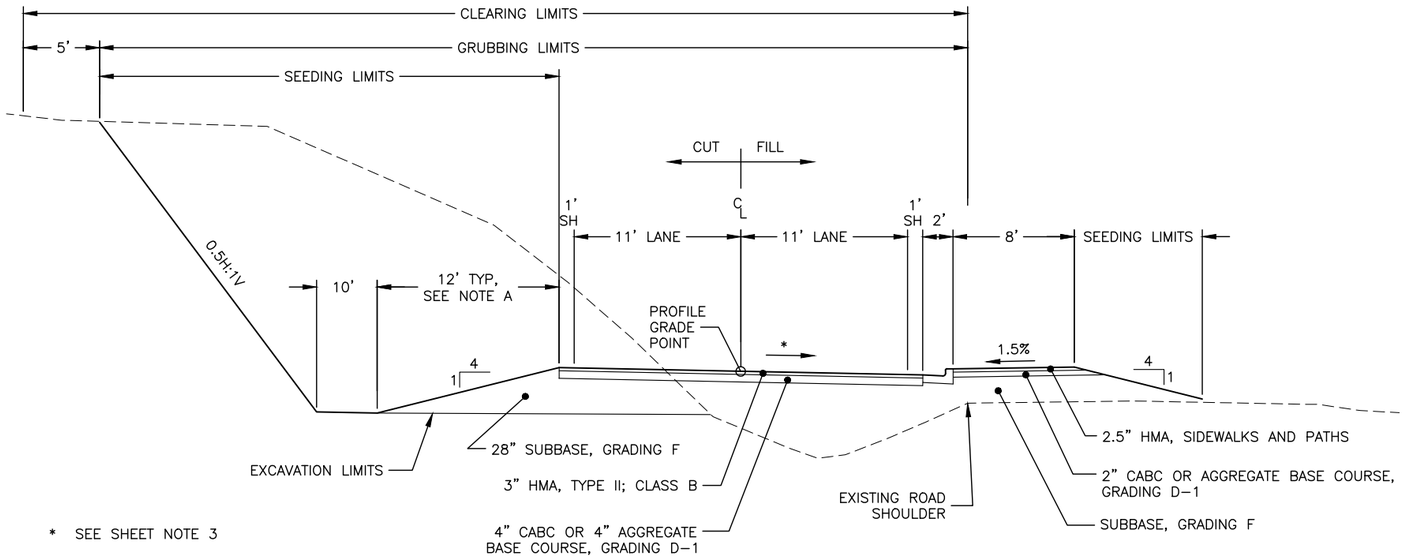
B. SEE SHEET NOTE 5.

TYPICAL SECTIONS

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	B2	B3



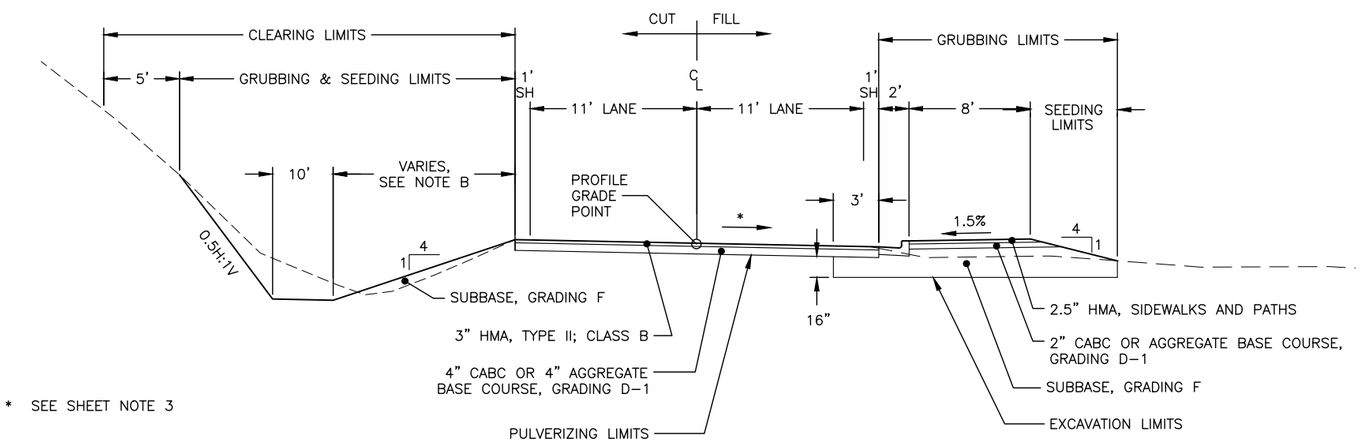
* SEE SHEET NOTE 3

TYPICAL SECTION 3 NOTES:

A. STA 35+48.29 TO 37+60 THE LEFT EMBANKMENT FORESLOPE WIDTH AND DITCH ELEVATION ARE CONTROLLED BY THE SPECIAL DITCH PROFILES SHOWN ON THE F SERIES SHEETS. IF NO SPECIAL DITCH PROFILE IS SHOWN, THE LEFT EMBANKMENT FORESLOPE WIDTH IS 12'.

TYPICAL SECTION 3

STA 26+60 TO STA 31+60
STA 34+80 TO STA 37+60



* SEE SHEET NOTE 3

TYPICAL SECTION 4 NOTES:

B. THE LEFT EMBANKMENT FORESLOPE WIDTHS AND DITCH ELEVATIONS ARE CONTROLLED BY THE SPECIAL DITCH PROFILES SHOWN ON THE F SERIES SHEETS.

TYPICAL SECTION 4

STA 37+60 TO 40+40

SHEET NOTES:

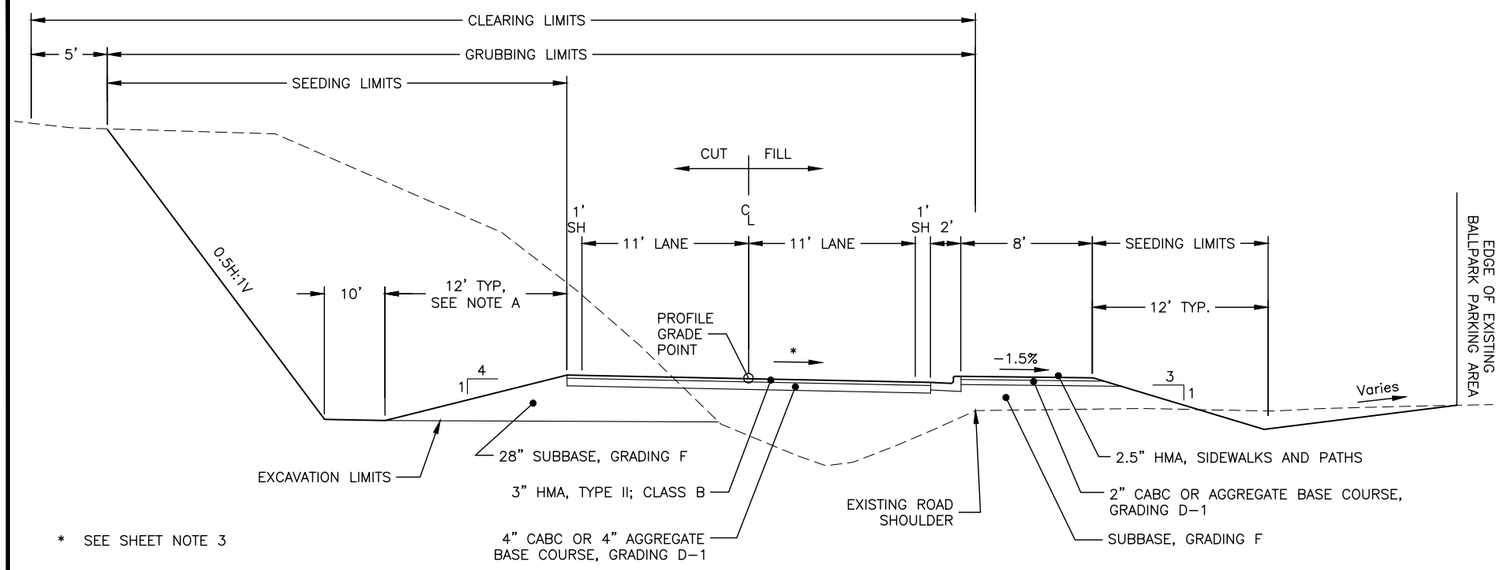
1. SEED ALL DISTURBED AREAS OR AS DIRECTED BY THE ENGINEER
2. REMOVE & INSTALL CULVERTS AFTER PULVERIZING THE EXISTING PAVEMENT AND BEFORE PAVING
3. CONSTRUCT ROAD CROSS SLOPES AND SUPERELEVATIONS AS SHOWN ON ROAD SURFACE SLOPE TABLE ON SHEET D1 AND PLAN SHEETS F1–F8
4. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D–1 UNTIL AFTER ALL THE USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED

TYPICAL SECTIONS

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	B3	B3



* SEE SHEET NOTE 3

TYPICAL SECTION 5

STA 31+60 TO 34+80

SHEET NOTES:

1. SEED ALL DISTURBED AREAS OR AS DIRECTED BY THE ENGINEER
2. REMOVE & INSTALL CULVERTS AFTER PULVERIZING THE EXISTING PAVEMENT AND BEFORE PAVING
3. CONSTRUCT ROAD CROSS SLOPES AND SUPERELEVATIONS AS SHOWN ON ROAD SURFACE SLOPE TABLE ON SHEET D1 AND PLAN SHEETS F1-F8
4. DO NOT PLACE AGGREGATE BASE COURSE, GRADING D-1 UNTIL AFTER ALL THE USABLE CRUSHED ASPHALT BASE COURSE HAS BEEN PLACED

TYPICAL SECTIONS

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_B1 typicals-B3 TYPICAL SECTIONS Tue, Apr/09/24 03:18pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	C1	C1

ESTIMATE OF QUANTITIES

ITEM NUMBER	PAY ITEM	PAY UNIT	PAY QUANTITY
201.0007.0000	CLEARING	LUMP SUM	ALL REQUIRED
201.0008.0000	GRUBBING	LUMP SUM	ALL REQUIRED
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS CORDOVA ROSE	LUMP SUM	ALL REQUIRED
202.0017.0000	REMOVAL OF CULVERT PIPE	EACH	10.00
203.0002.0000	ROCK EXCAVATION	CUBIC YARD	30,000.00
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	12,400.00
203.0010.0000	CONTROLLED BLASTING	LINEAR FOOT	19,800.00
204.0003.0000	STRUCTURE EXCAVATION	LUMP SUM	ALL REQUIRED
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	575.00
304.0001.000F	SUBBASE, GRADING F	TON	21,900.00
308.0004.0000	CRUSHED ASPHALT BASE COURSE	LUMP SUM	ALL REQUIRED
401.0001.002B	HMA, TYPE II; CLASS B	TON	2,100.00
401.0004.5228	ASPHALT BINDER, GRADE PG 52-28	TON	150.00
401.0008.002B	HMA PRICE ADJUSTMENT, TYPE II; CLASS B	CONTINGENT SUM	ALL REQUIRED
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	TON	121
401.0013.0000	JOB MIX DESIGN	EACH	1.00
401.2010.0000	HMA, SIDEWALKS AND PATHS	TON	505.00
530.2005.0000	SEGMENTED BLOCK RETAINING WALL, PRECAST	SQUARE FOOT	848.00
602.0001.0060	STRUCTURAL PLATE PIPE 60" DIAMETER, 10 GAUGE	LINEAR FOOT	480.00
603.0001.0018	CSP 18 INCH	LINEAR FOOT	102.00
603.0001.0024	CSP 24 INCH	LINEAR FOOT	438.00
603.0001.0036	CSP 36 INCH	LINEAR FOOT	282.00
603.0001.0048	CSP 48 INCH	LINEAR FOOT	84.00
604.0001.0000	STORM SEWER MANHOLE	EACH	2.00
604.0003.0000	RECONSTRUCT EXISTING MANHOLE	EACH	5.00
604.0004.0000	ADJUST EXISTING MANHOLE	EACH	2.00
604.0005.000A	INLET, TYPE A	EACH	9.00
608.0006.0000	CURB RAMP	EACH	1.00
609.0002.0001	CURB AND GUTTER, TYPE 1	LINEAR FOOT	4,564.00
611.0001.0002	RIPRAP, CLASS II	CUBIC YARD	1,460.00
613.0002.0000	CULVERT MARKER POST	EACH	25.00
615.0001.0000	STANDARD SIGN	SQUARE FOOT	105.00
618.0002.0000	SEEDING	POUND	157.00
625.0001.0000	PIPE HAND RAIL	LINEAR FOOT	1,980.00
626.2013.0000	ADJUST SANITARY SEWER CLEANOUT	EACH	1.00
627.0001.0004	DUCTILE IRON WATER CONDUIT, 4 INCH, CLASS 350	LINEAR FOOT	82.00
627.0001.0012	DUCTILE IRON WATER CONDUIT, 12 INCH, CLASS 350	LINEAR FOOT	12.00
627.0005.0000	FIRE HYDRANT INSTALLATION	EACH	1.00
627.0010.0000	ADJUSTMENT OF VALVE BOX	EACH	8.00
630.0003.0002	GEOTEXTILE, REINFORCEMENT – TYPE 2	SQUARE YARD	6,400.00
631.0002.0001	GEOTEXTILE, EROSION CONTROL, CLASS 1	SQUARE YARD	900.00
639.2000.0000	APPROACH	EACH	18.00
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
640.0004.0000	WORKER MEALS AND LODGING, OR PER DIEM	LUMP SUM	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL	LUMP SUM	ALL REQUIRED
641.0004.0000	TEMPORARY EROSION, SEDIMENT AND POLLUTION CONTROL ADDITIVES	CONTINGENT SUM	ALL REQUIRED
641.0006.0000	WITHHOLDING	CONTINGENT SUM	ALL REQUIRED
641.0007.0000	SWPPP MANAGER	LUMP SUM	ALL REQUIRED
641.0008.0000	SWPPPTrack	CONTINGENT SUM	ALL REQUIRED
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQUIRED
642.0013.0000	THREE PERSON SURVEY PARTY	CONTINGENT SUM	ALL REQUIRED
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQUIRED
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQUIRED
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED

ESTIMATE OF QUANTITIES

ITEM NUMBER	PAY ITEM	PAY UNIT	PAY QUANTITY
644.0001.0000	FIELD OFFICE	LUMP SUM	ALL REQUIRED
644.0002.0000	FIELD LABORATORY	LUMP SUM	ALL REQUIRED
644.0006.0000	VEHICLE	LUMP SUM	ALL REQUIRED
644.2002.0000	FIELD COMMUNICATIONS	CONTINGENT SUM	ALL REQUIRED
645.0001.0000	TRAINING PROGRAM, 2 TRAINEES / APPRENTICES	LABOR HOUR	1,000.00
646.0001.0000	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION	LUMP SUM	ALL REQUIRED
670.0001.0000	PAINTED TRAFFIC MARKINGS	LUMP SUM	ALL REQUIRED
680.2000.0000	TELECOMMUNICATIONS UTILITY RELOCATION CTC	LUMP SUM	ALL REQUIRED
680.2000.0000	TELECOMMUNICATIONS UTILITY RELOCATION GCI	LUMP SUM	ALL REQUIRED
687.2000.0000	POWER UTILITY RELOCATION CEC	LUMP SUM	ALL REQUIRED

ESTIMATE LUMP SUMS

ITEM NO.	DESCRIPTION	VALUE
201.0007.0000	CLEARING	7.78 ACRES
201.0008.0000	GRUBBING	4.54 ACRES
308.0004.0000	CRUSHED ASPHALT BASE COURSE	11,000 SY

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	2 TONS/CUBIC YARD
304.0001.000F	SUBBASE, GRADING F	2 TONS/CUBIC YARD
401.0001.002B	HMA, TYPE II, CLASS B	115 POUNDS/SQUARE YARD/INCH
401.0004.5228	ASPHALT BINDER, GRADE PG 52-28	0.055 OF TOTAL MIX
401.2010.0000	HMA, SIDEWALKS AND PATHS	115 POUNDS/SQUARE YARD/INCH
611.0001.0002	RIPRAP, CLASS II	1.6 TONS/CUBIC YARD

ESTIMATE OF QUANTITIES

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/7/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-C1 Estimate of Quantities Mon, May/06/24 04:23pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	D1	D2

ROAD SURFACE SLOPE/SUPERELEVATION SUMMARY

BEGIN TRANSISTION		TRANSITION LENGTH (FEET)	BEGIN FULL SUPERELEVATION	SUPERELEVATION RATE (%)	END FULL SUPERELEVATION (STATION)	TRANSITION LENGTH (STATION)	END TRANSITION		REMARKS
(STATION)	CROSS SLOPE (%)						(STATION)	CROSS SLOPE (%)	
1+70.00	2.5% CROWN					0	5+87.61	2.5% CROWN	NO SUPERELEVTION
5+87.61	2.5% CROWN	105	6+92.61	2.5%	9+20.18	68.97	9+89.15	0%	NO CROWN
9+89.15	0%	148.98	11+38.13	−5.4%	13+13.64	60	13+73.64	−2.5%	NO CROWN
13+73.64	−2.5%						24.31.41	−2.5%	NO CROWN
24+31.41	−2.5%	105	25+36.41	−2.5%	25+36.41	0	25+36.41	2.5%	NO CROWN
25+36.41	2.5%						32+35.02	2.5%	NO CROWN
32+35.02	2.5%	60	32.95.02	5.4%	35+68.43	124.41	36+92.84	0%	NO CROWN
36+92.84	0	124.4	38+17.24	−3.0%	40+40.00	100	41+40.00	2% CROWN	MATCH EXISTING GROUND 41+40.00

NOTE: SUPERELEVATION ROTATION SHALL BE PER STANDARD PLAN I−81.00, CASE I, PAVEMENT ROTATED ABOUT THE CENTERLINE.
POSITIVE CROSS SLOPE DRAINS TO THE LEFT
NEGATIVE CROSS SLOPE DRAINS TO THE RIGHT

SEGMENTED BLOCK RETAINING WALL, PRECAST SUMMARY 530.2005.0000

BEGIN	END	OFFSET	QUANTITY (SF)	REMARKS
"02" 37+38.44	"02" 40+08.22	RT	848	
		TOTAL:	848	

PAINTED TRAFFIC MARKINGS SUMMARY 670.0001.0000

DESCRIPTION	LENGTH (FT)	REMARKS
4" WHITE	8,064	
4" DOUBLE YELLOW	4,080	
24" WHITE	56	STOP BARS

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-D1 SUMMARY TABLES Tue, Apr/09/24 03:09pm

SUMMARY TABLES

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	D2	D2

CURB RAMP SUMMARY 608.0006.0000

STATION	OFFSET	CORNER	CURB RAMP	TYPE	REMARKS
"02" 40+10.00	RT	NE	X	C	ORCA DRIVE
		TOTAL	1		

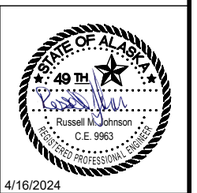
CURB CUT SUMMARY

STATION	OFFSET	CURB CUT WIDTH (FT)	LANDING LENGTH (FT)	CURB CUT	REMARKS
"02" 2+32.00	RT	79	4	X	MASOLINI ALLEY
"02" 4+11.00	RT	40	2	X	DRAGONFLY INN
"02" 5+02.00	RT	18	5	X	
"02" 5+95.00	RT	14	2	X	
"02" 6+26.00	RT	16	2	X	
"02" 29+58.00	RT	28	2	X	ODIAK CAMPER PARK
"02" 31+75.00	RT	28	2	X	BALLPARK
"02" 33+80.00	RT	28	2	X	BALLPARK
"02" 35+92.00	RT	28	2	X	CORDOVA SHOP #1
"02" 37+10.00	RT	36	2	X	CORDOVA SHOP #2
	TOTAL	315		10	

CURB AND GUTTER, TYPE 1 SUMMARY 609.0002.0001

BEGIN	END	OFFSET	QUANTITY (LF)	REMARKS
"02" 01+20.00	"02" 01+50.00	RT	60	STANDARD
"02" 01+50.00	"02" 03+12.00	RT	162	DEPRESSED
"02" 03+12.00	"02" 03+82.00	RT	70	STANDARD
"02" 03+82.00	"02" 04+40.00	RT	58	DEPRESSED
"02" 04+40.00	"02" 04+85.00	RT	45	STANDARD
"02" 04+85.00	"02" 05+19.00	RT	34	DEPRESSED
"02" 05+19.00	"02" 05+80.00	RT	61	STANDARD
"02" 05+80.00	"02" 06+42.00	RT	62	DEPRESSED
"02" 06+42.00	"02" 06+60.00	RT	18	STANDARD
"02" 06+60.00	"02" 09+80.00	RT	320	SPILL
"02" 09+80.00	"02" 25+20.00	RT	1,540	STANDARD
"02" 25+20.00	"02" 29+36.00	RT	416	SPILL
"02" 29+36.00	"02" 29+80.00	RT	44	DEPRESSED
"02" 29+80.00	"02" 31+53.00	RT	173	SPILL
"02" 31+53.00	"02" 31+97.00	RT	44	DEPRESSED
"02" 31+97.00	"02" 33+58.00	RT	161	SPILL
"02" 33+58.00	"02" 34+01.00	RT	43	DEPRESSED
"02" 34+01.00	"02" 35+70.00	RT	169	SPILL
"02" 35+70.00	"02" 36+14.00	RT	44	DEPRESSED
"02" 36+14.00	"02" 36+84.00	RT	70	SPILL
"02" 36+84.00	"02" 37+35.00	RT	51	DEPRESSED
"02" 37+35.00	"02" 40+47.11	RT	315	STANDARD
"02" 01+15.00	"02" 02+00.00	LT	212	STANDARD
"02" 02+00.00	"02" 02+50.00	LT	50	DEPRESSED
"02" 02+50.00	"02" 02+92.00	LT	42	STANDARD
"02" 02+92.00	"02" 03+47.00	LT	55	DEPRESSED
"02" 03+40.00	"02" 03+80.00	LT	40	STANDARD
"02" 03+80.00	"02" 05+85.00	LT	205	GUTTER ONLY
		TOTAL:	4,564	

CURB RAMP AND CUT SUMMARY

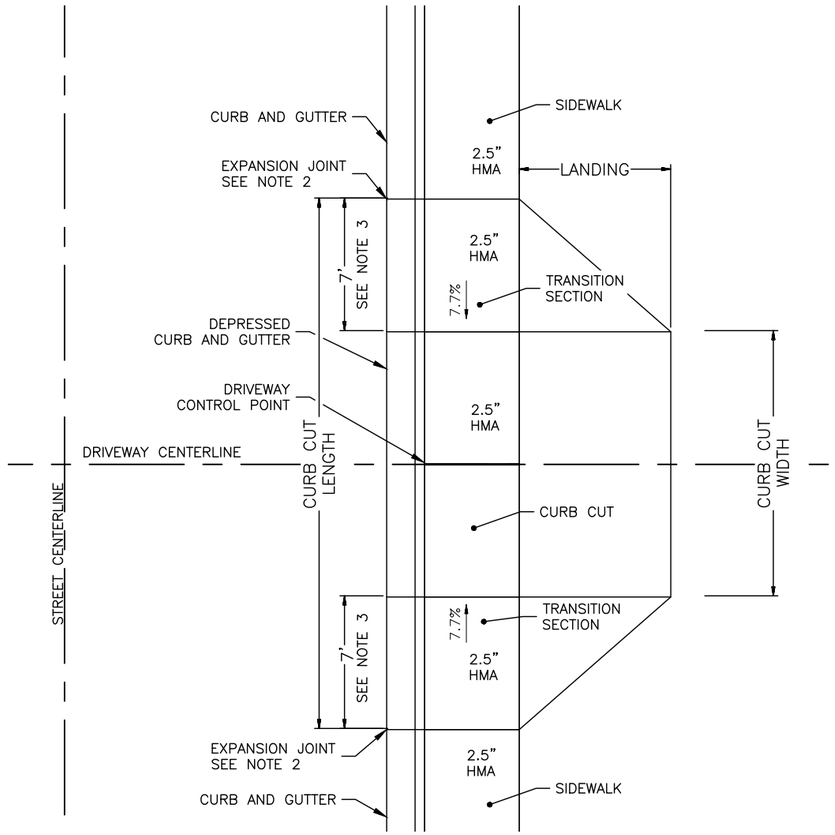


4/16/2024

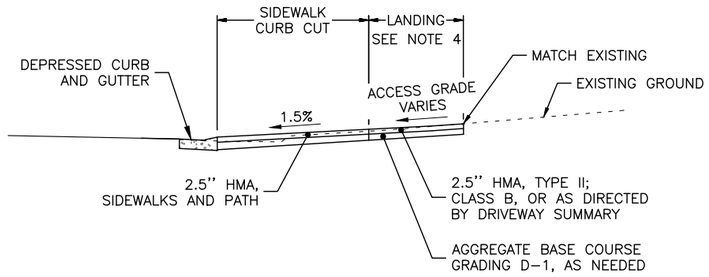
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-D2 CURB RAMP AND CUT SUMMARY Tue, Apr/09/24 03:09pm

NO.	DATE	REVISION

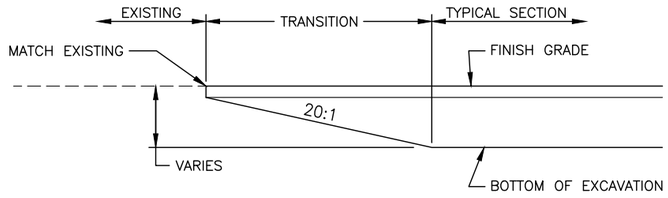
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	E1	E6



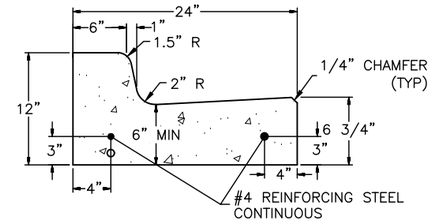
TYPICAL DRIVEWAY CURB CUT
NTS



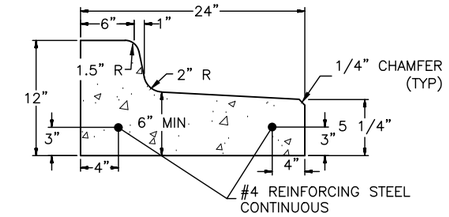
DRIVEWAY TYPICAL SECTION DETAIL
NTS



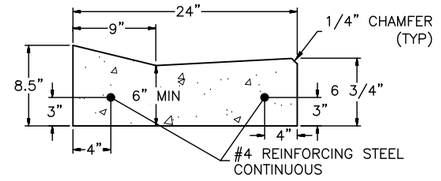
TYPICAL EXCAVATION TRANSISTION DETAIL
NTS



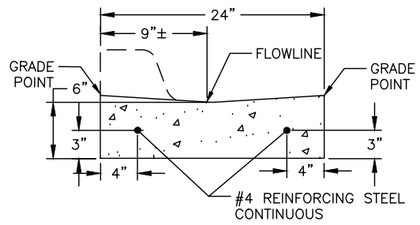
STANDARD CURB AND GUTTER
CATCH



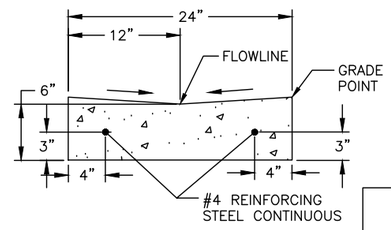
SPILL CURB AND GUTTER
SPILL



DEPRESSED CURB AND GUTTER
DEPRESSED



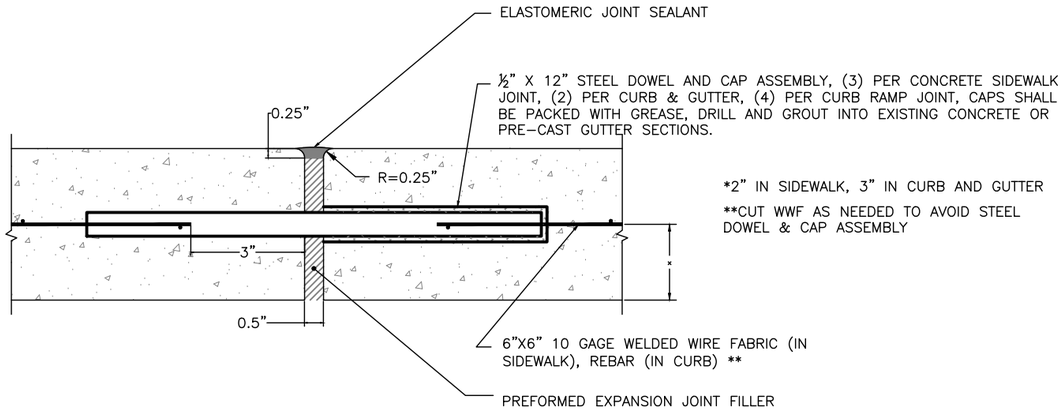
ADA CURB GUTTER DETAIL



VALLEY GUTTER

NOTES:

1. MATERIAL FOR CONSTRUCTION OF DRIVEWAY IS PAID FOR UNDER THE RESPECTIVE PAY ITEM.
2. CONSTRUCT EXPANSION JOINTS IN THE CURB & GUTTER SPACED EVERY 50' AND AT THE TOP OF ALL TRANSITIONS. CONSTRUCT CURB & GUTTER CONTRACTION JOINTS SPACED EVERY 10' BETWEEN EXPANSION JOINTS.
3. TRANSITION SECTION LENGTHS SHOWN IN PLANS ARE APPROXIMATE. CONSTRUCT TRANSITIONS AT A NOMINAL 7.7% GRADE OR FLATTER. IF APPROVED BY THE ENGINEER SLOPES MAY BE INCREASED TO A MAXIMUM OF 8.3% WHERE SITE CONDITIONS WARRANT.
4. SEE DRIVEWAY PROFILE SHEETS F12 THRU F16 FOR LANDING LENGTHS. LANDING LENGTHS ARE MEASURED FROM THE BACK OF SIDEWALK TO THE BACK OF LANDING.



EXPANSION JOINT DETAIL
NTS

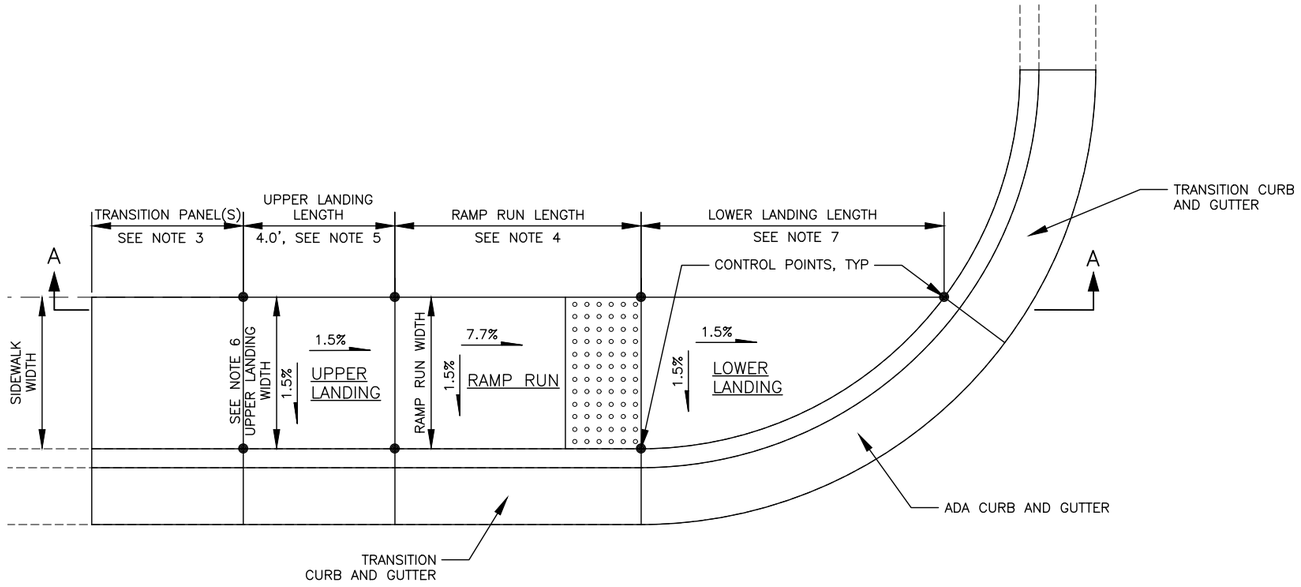
MISC. DETAILS

STATE OF ALASKA
49 TH
Russell M Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\Details_Curb and Ramp-E1 MISC. DETAILS Fri, Apr/05/24 01:58pm

NO.	DATE	REVISION

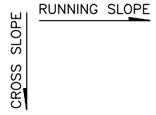
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	E2	E6



PLAN VIEW

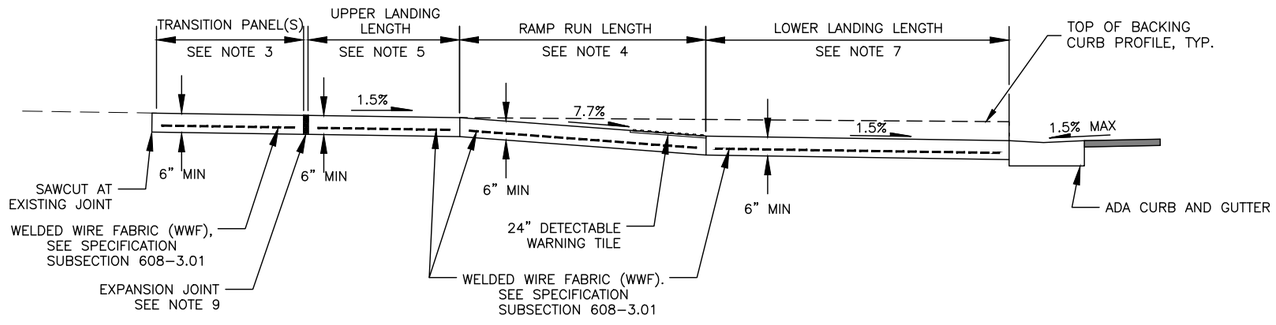
= DETECTABLE WARNING TILE SEE NOTE 8

SLOPE DIRECTION KEY:



SLOPES GUIDE

	PREFERRED	MINIMUM	MAXIMUM
UPPER LANDING RUNNING SLOPE	1.5%	1.0%	5.0%
UPPER LANDING CROSS SLOPE	1.5%	1.0%	2.0%
RAMP RUN RUNNING SLOPE	7.7%	N/A	8.3%
RAMP RUN CROSS SLOPE	1.5%	1.0%	2.0%
LOWER LANDING RUNNING SLOPE	1.5%	1.0%	2.0%
LOWER LANDING CROSS SLOPE	1.5%	1.0%	2.0%



PROFILE A-A

NOTES:

1. CONSTRUCT RAMP RUN AND BOTH UPPER AND LOWER LANDING OF 6" CONCRETE WITH COARSE BROOM FINISH IN THE DIRECTION OF THE CROSS SLOPE.
2. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT IF MAXIMUM OR MINIMUM GRADES CANNOT BE CONSTRUCTED. UNLESS PREVIOUSLY APPROVED BY THE ENGINEER, ANY FEATURE EXCEEDING MINIMUM OR MAXIMUM ALLOWABLE SLOPES WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
3. TRANSITION PANEL(S): ONLY USED WHEN CONNECTING INTO EXISTING SIDEWALK, REPLACE ADJACENT SIDEWALK PANEL(S) LABELED AS TRANSITION PANEL(S), AS REQUIRED FOR CROSS SLOPE TRANSITION FROM THE EXISTING SIDEWALK TO THE NEW UPPER LANDING TO ENSURE THE UPPER LANDING IS CONSTRUCTED WITH A COMPLIANT CROSS SLOPE.
4. RAMP RUN LENGTH: SURVEY PRIOR TO CONSTRUCTION TO VERIFY RAMP RUN LENGTH REQUIRED FOR COMPLIANT SLOPES. ADJUST THE RAMP RUN LENGTH AS NEEDED TO ENSURE COMPLIANT RAMP RUN RUNNING SLOPE. THIS SURVEY IS SUBSIDIARY TO 642 PAY ITEMS.
5. UPPER LANDING LENGTH: CONSTRUCT UPPER LANDING LENGTH TO 4.0 FEET. UPPER LANDING LENGTH MAY BE DECREASED TO 3.0 FEET IF APPROVED BY THE ENGINEER.
6. UPPER LANDING WIDTH: UPPER LANDING WIDTH SHALL MATCH OR EXCEED THE WIDTH OF THE RAMP RUN.
7. LOWER LANDING LENGTH: LENGTH OF LOWER LANDING DEPENDS ON RAMP RUN WIDTH AND CURB RADII.
8. DETECTABLE WARNING TILE: INSTALL 24" DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE RAMP RUN.
9. JOINTS: INSTALL CONTINUOUS FULL DEPTH 1/2" EXPANSION JOINT AT ALL LOCATIONS WHERE CONCRETE SIDEWALK, CURB RAMP, OR CURB AND GUTTER (ANY TYPE) MEET. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO SPECIFICATIONS 705-2.02 JOINT SEALANT. EXPANSION AND CONTRACTION JOINTS IN THE SIDEWALK AND CURB RAMP SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB AND GUTTER.
10. CONSTRUCT CONTRACTION JOINTS AT GRADE BREAKS BETWEEN THE UPPER LANDING, RAMP RUN AND LOWER LANDING.
11. INSTALL CONTINUOUS FULL DEPTH 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE THE CURB & GUTTER AND CURB RAMP MEET.
12. EXPANSION AND CONTRACTION JOINTS IN THE CURB RAMP SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB & GUTTER.

CURB RAMP DETAILS

4/16/2024

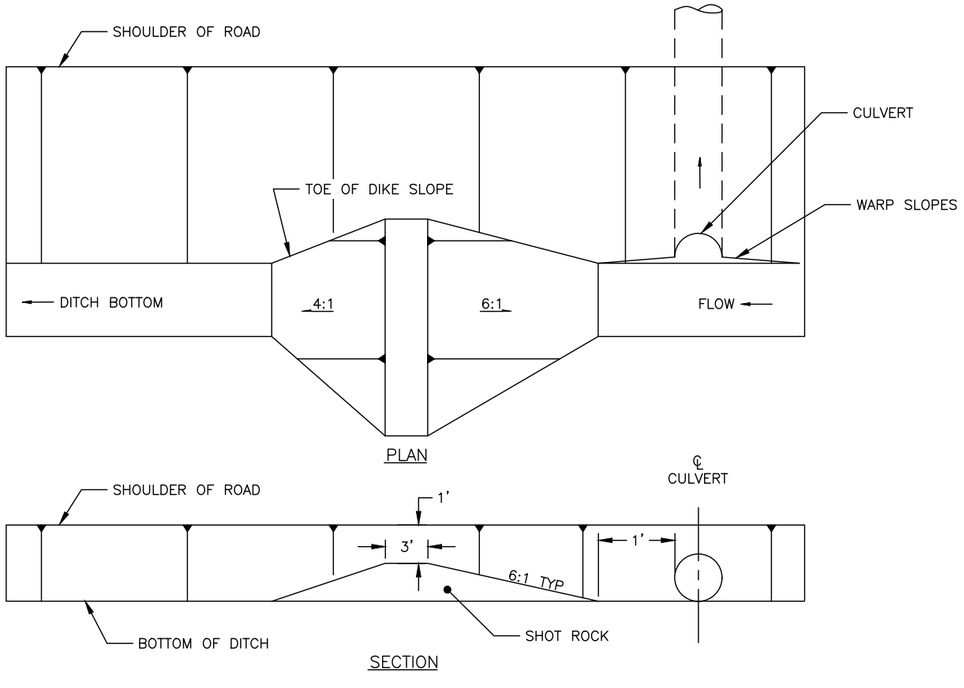
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\Details_Curb and Ramp-E2 CURB RAMP DETAILS Fri, Apr/05/24 01:59pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	E3	E6

CULVERT SUMMARY

STATION	SKEW	NEW CULVERT PIPE LENGTH (FEET)					RIPRAP CLASS II (CU. YD)	MARKER POST (EACH)	DITCH DIKE	REMARKS	AS-BUILT CENTERLINE LOCATION (SEE NOTE 1)		
		602.0001.0060 60" SPP 10 GAUGE	603.0001.0018 18" CSP 12 GAUGE	603.0001.0024 24" CSP 12 GAUGE	603.0001.0036 36" CSP 12 GAUGE	603.0001.0048 48" CSP 10 GAUGE					STATION	LATITUDE	LONGITUDE
07+12	62° RT AH	157					127	1					
14+12					69		66	2	LT				
16+62					75		62	2					
18+45					70		40	2					
19+65	90° LT			32			0	2		LT APPROACH			
20+26	90° LT			60			0	2		LT APPROACH			
23+29						84	43	2					
25+89					68		34	2	LT				
31+80	90° LT		53				0	2		RT APPROACH – BASEBALL FIELD			
34+51	90° LT		49				0	2		RT APPROACH – BASEBALL FIELD			
37+99	6° LT AH	323					33	1					
TOTAL		480	102	92	282	84	405	20	2				



DITCH DIKE DETAIL
NOT TO SCALE

DITCH DIKE NOTES:

1. SEE CULVERT SUMMARY FOR LOCATIONS.
2. DITCH DIKES SHALL NOT BE MEASURED SEPERATELY. ALL LABOR, EQUIPMENT AND MATERIALS NEEDED TO CONSTRUCT DITCH DIKE IS SUBSIDIARY TO 603 SERIES PAY ITEMS.

REMOVAL OF CULVERT PIPE 202.0017.0000

STATION	12" DI (FEET)	24" CSP (FEET)	36" CSP (FEET)	REMARKS
07+08			154	
11+38		51		
14+07		64		
17+44	41			WATER TREATMENT PLANT
17+66	42			WATER TREATMENT PLANT
18+43		59		
20+27		46		DRIVEWAY ACCESS
23+19			85	
25+89			48	
37+98			319	
TOTAL	83	220	606	

CULVERT NOTES:

1. THE CONTRACTOR SHALL ENTER AS-BUILT LOCATIONS FOR ALL "INSTALLED" OR "NEW" CULVERTS IN THE CULVERT SUMMARY TABLE. COORDINATES SHALL BE LOCATED AT THE INTERSECTION OF THE CULVERT AND ROAD CENTERLINE. USE WGS84 DATUM FORMATTED TO DEGREES, MINUTES, SECONDS TO A PRECISION OF 2 DECIMAL PLACES (DDD° MM' SS.SS"). THIS WORK IS SUBSIDIARY TO 642.0001.0000 PAY ITEM.
2. ALL CULVERTS AND STRUCTURAL PLATE PIPES SHALL BE GALVANIZED STEEL.
3. NO CULVERTS SHALL BE PLACED UNTIL THE BEDDING IT WILL LAY ON HAS BEEN APPROVED BY THE ENGINEER.

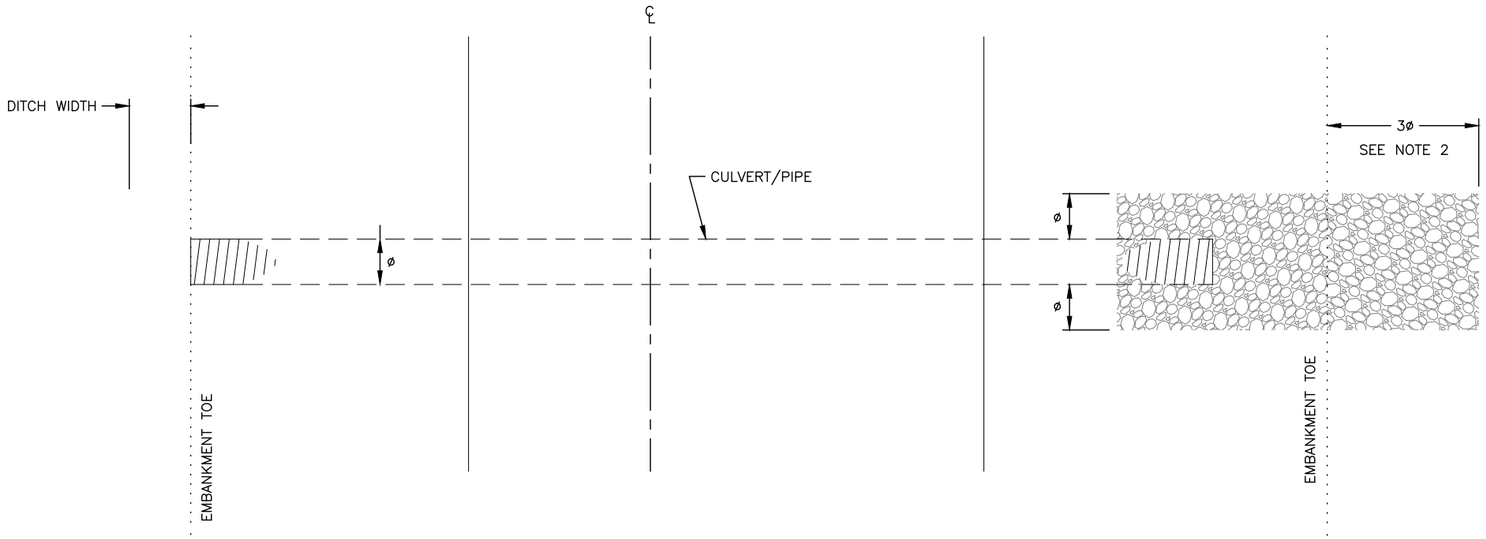
CULVERTS 1 OF 2

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

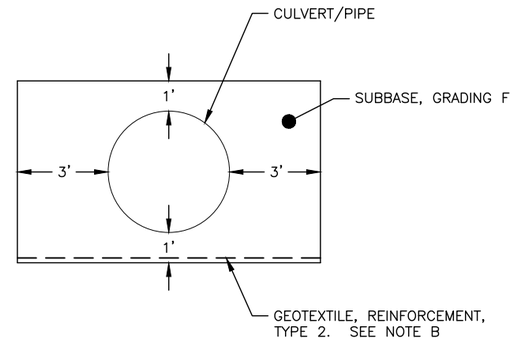
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-E3 CULVERT SUMMARY Fri, Apr/05/24 01:59pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	E4	E6



PLAN: CULVERT RIPRAP

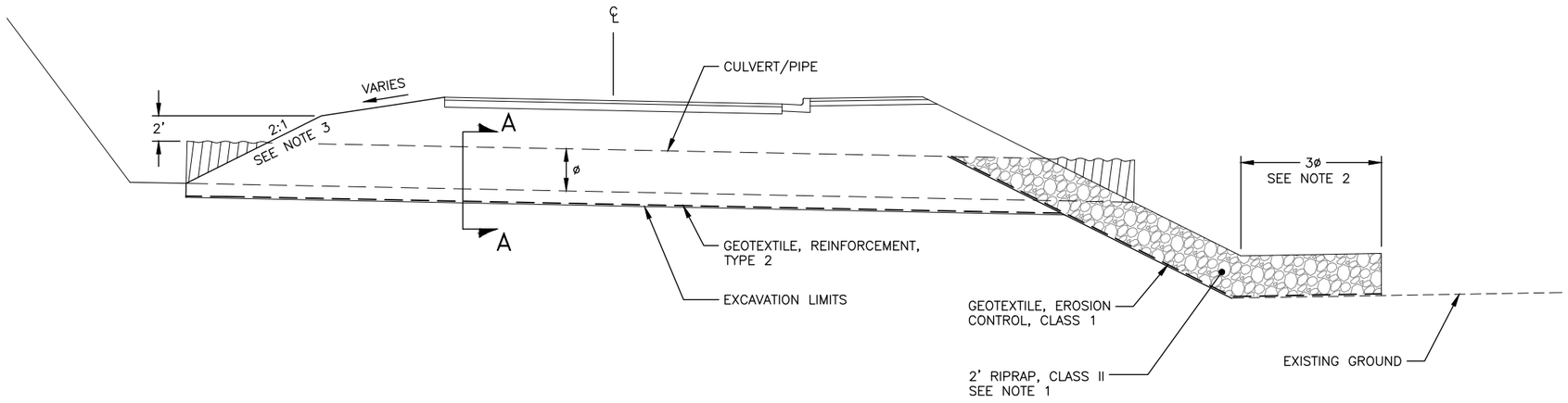


SECTION A–A

SECTION A–A NOTES:

A. CULVERT EXCAVATION LIMITS ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCE & PROCEDURES OF CONSTRUCTION, SAFETY & QUALITY CONTROL.

B. THE WIDTH OF GEOTEXTILE, REINFORCEMENT, TYPE 2 MAY BE REDUCED TO 8.5' ON 36" CSP. THE 8.5' WIDTH MUST BE MADE USING ONE 8.5' WIDE STRIP OF GEOTEXTILE.



SECTION: CULVERT RIPRAP

SHEET NOTES:

1. COUNTERSINK RIPRAP INTO THE ROADWAY EMBANKMENT SLOPE.
2. RIPRAP EXTENTS NOT TO EXCEED ROW BOUNDARIES.
3. BEGIN/END TRANSITION OF FORESLOPES 20 FEET ON EITHER SIDE OF THE CULVERT.

CULVERTS 2 OF 2

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129 culvert details_noRipRapatIntake-E4 CULVERT DETAILS Fri, Apr/05/24 01:59pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	E5	E6

STORM DRAIN, CATCH BASIN, AND PIPE SUMMARY

STRUCTURE	STORM DRAIN MANHOLE (EACH)	INLET TYPE A (EACH)	STATION	OFFSET	Top of Casing		PIPE IE INLET	PIPE IE OUTFALL	PIPE	24-INCH CSP 12 GA (FT)	MARKER POSTS (EACH)	REMARKS
					GRATE ELEV.	LID ELEV.						
CB1		X	01+65	16.69 RT	45.04		37.83	35.59	SD1	110.7	1	CROSSES COPPER RIVER HIGHWAY
CB2		X	12+40	12.71 RT	56.58		49.58	49.08	SD2	23.9		
CB3		X	15+39	12.70 RT	52.89		45.91	45.41	SD3	24.2		
CB4		X	18+20	12.70 RT	49.10		42.12	41.69	SD4	20.3		
CB5		X	21+00	12.70 RT	44.44		37.46	37.04	SD5	20.1		
CB6		X	24+30	12.70 RT	39.03		32.07	31.65	SD6	20.2		
CB7		X	38+40	12.70 RT	36.98		33.00	29.89	SD7	55.7	1	
CB8		X	40+00	12.71 RT	35.61		32.00	31.68	SD8	43.1	1	
CB9		X	01+71	12.69 LT	45.22		42.00	41.4	SD9	27.7		
MH1	X		06+40	23.19 LT		55.34	44.98	39.37	P-07+12		1	84" SD MANHOLE
MH2	X		38+14	49.69 LT		29.61	24.10	08.94	P-37+99		1	84" SD MANHOLE
TOTAL	2	9							TOTAL	346	5	

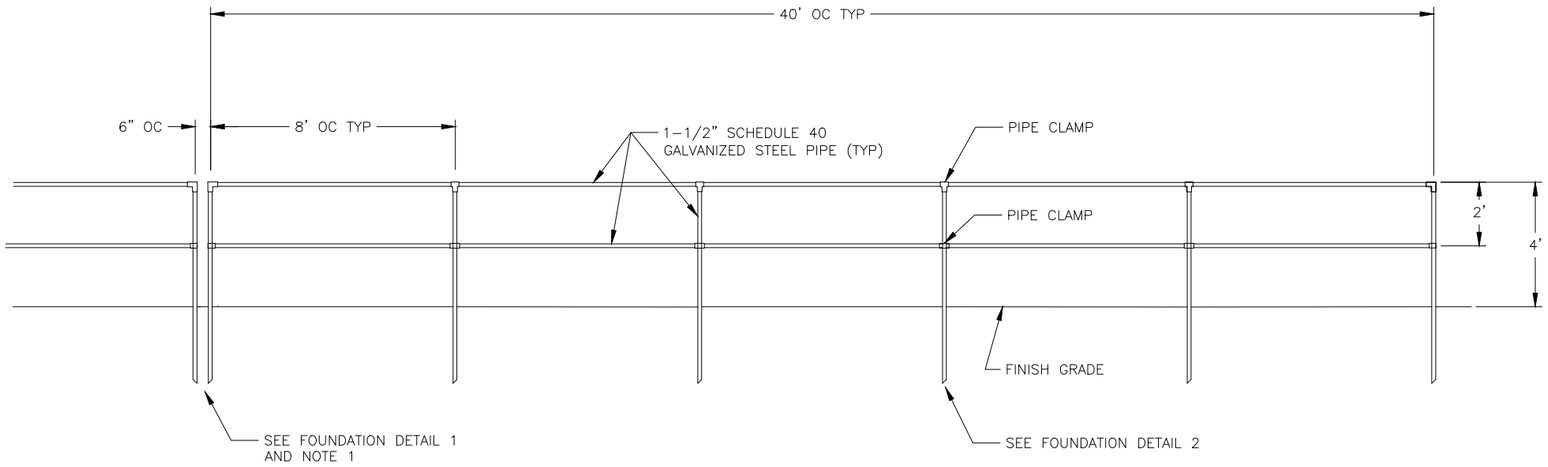
NOTE: USE HIGH CAPACITY CURB INLET BOX FRAME AND GRATE AT ALL CATCH BASINS. SEE STANDARD PLAN D-25.00.

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-E5 STORM DRAIN SUMMARY Fri, Apr/05/24 01:59pm

STORM DRAIN SUMMARY

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

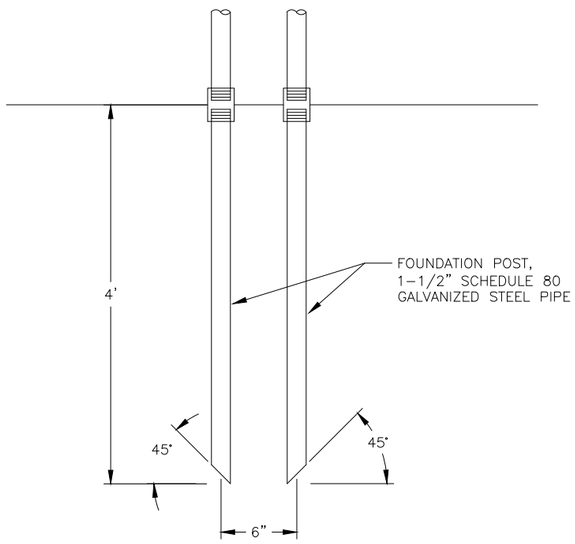
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0837004/NFHWY00129	2024	E6	E6



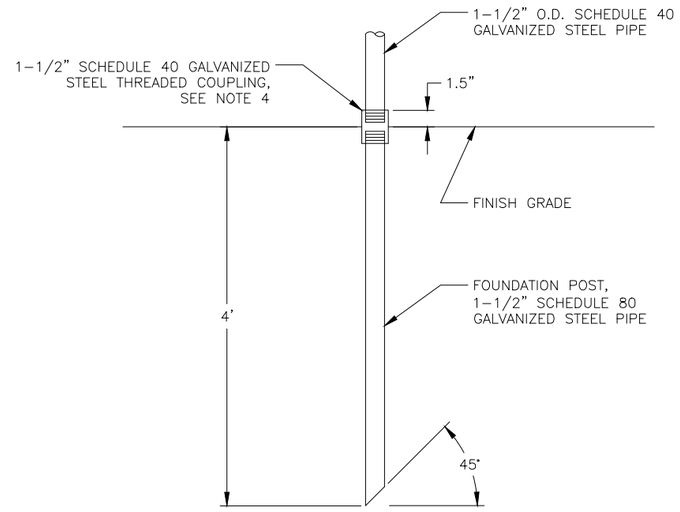
PIPE HAND RAIL DETAIL
N.T.S.

PIPE HAND RAIL NOTES:

1. FOUNDATION DETAIL 1 SHALL BE USED BETWEEN TWO ADJACENT SAFETY RAIL SECTIONS.
2. VERTICAL PIPE SHALL BE CONTINUOUS FROM THE BOTTOM OF THE DRIVEN PIPE TO THREADED COUPLING. AT EACH VERTICAL PIPE LOCATION, USE A CIRCULAR CORE SAW NO MORE THAN 1-INCH LARGER THAN THE OUTER DIAMETER OF THE PIPE COUPLING TO CUT AND REMOVE ASPHALT. AFTER COMPLETION OF VERTICAL PIPE INSTALLATION, FILL ANY REMAINING GAP BETWEEN THE ASPHALT AND THE PIPE COUPLING UNTIL FLUSH WITH SURROUNDING ASPHALT SURFACE AND SEAL WITH A SEALANT APPROVED BY THE ENGINEER. SEALANT SHALL BE BLACK, WATER-IMPERMEABLE (LATEX, BITUMINOUS, OR BUTYL RUBBER), AND RATED FOR SERVICE IN TEMPERATURES OF -10F TO 100F. FILL AND SEAL GAPS IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS OF APPROVED PRODUCT(S).
3. SAFETY RAIL SHALL BE CLAMP-TYPE CONSTRUCTION. SET SCREWS AND LIKE FASTENERS SHALL BE POSITIONED AWAY FROM PEDESTRIAN TRAFFIC.
4. TACK WELD COUPLING TO FOUNDATION POST AFTER DRIVING FOUNDATION POST. APPLY ANTI-SEIZE LUBRICANT ON COUPLING AND THREADS OF FENCE POST (PERMATEX 80071, ANTI-SEIZE TECHNOLOGY 3200 SERIES, MOLYKOTE 1000 OR APPROVED EQUAL). THIS WORK IS SUBSIDIARY TO THE PIPE HAND RAIL INSTALLATION.



FOUNDATION DETAIL 1
N.T.S.



FOUNDATION DETAIL 2
N.T.S.

PIPE HAND RAIL SUMMARY 625.0001.0000				
STATIONS		LENGTH (FT)	RT/LT	NOTES
BEGIN	END			
"02"6+50.00	"02"18+80.00	1,230	RT	
"02"19+10.00	"02"26+60.00	750	RT	
	TOTAL LENGTH:	1,980		

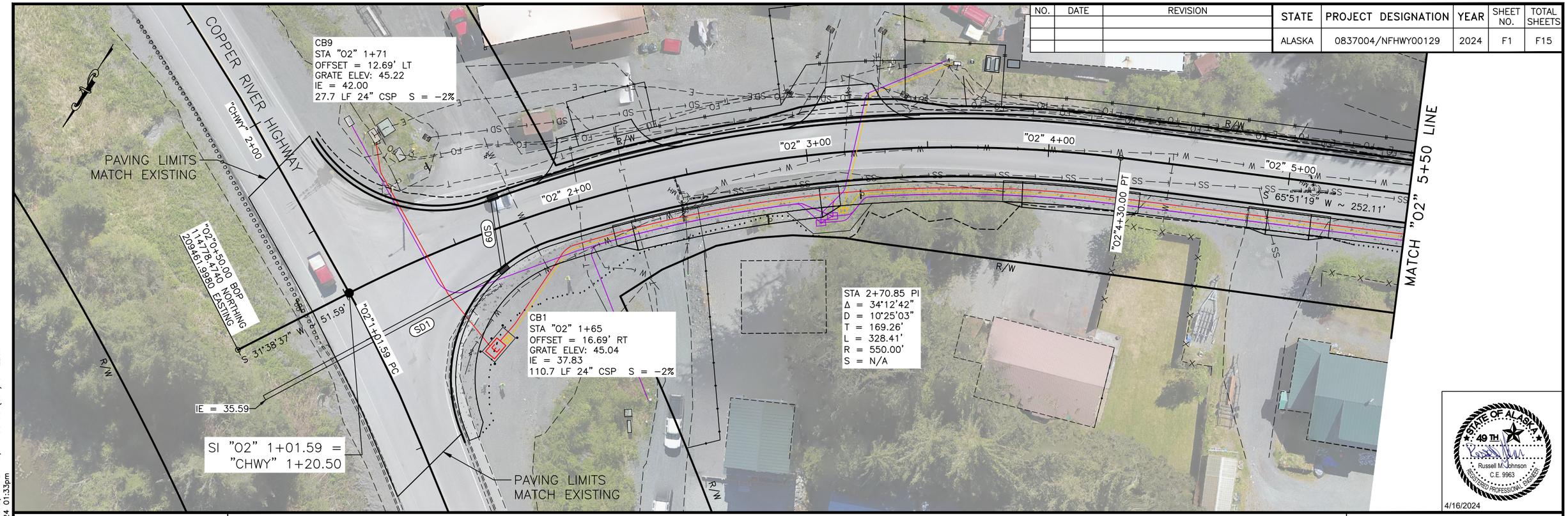
PIPE HAND RAIL DETAILS

STATE OF ALASKA 49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/17/2024

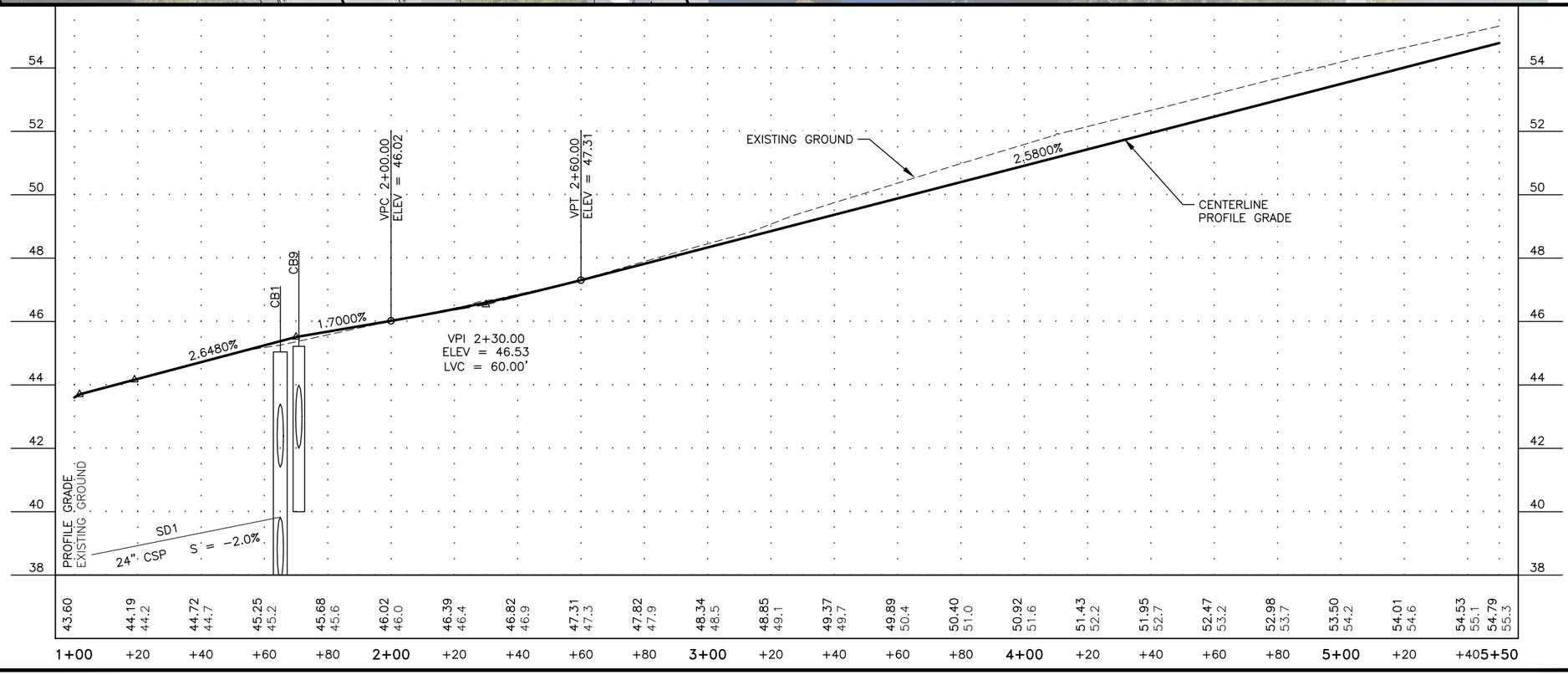
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Pipe Handrail WITH TABLE-E6 PIPE HAND RAIL Wed, Apr/17/24 08:57am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F1	F15



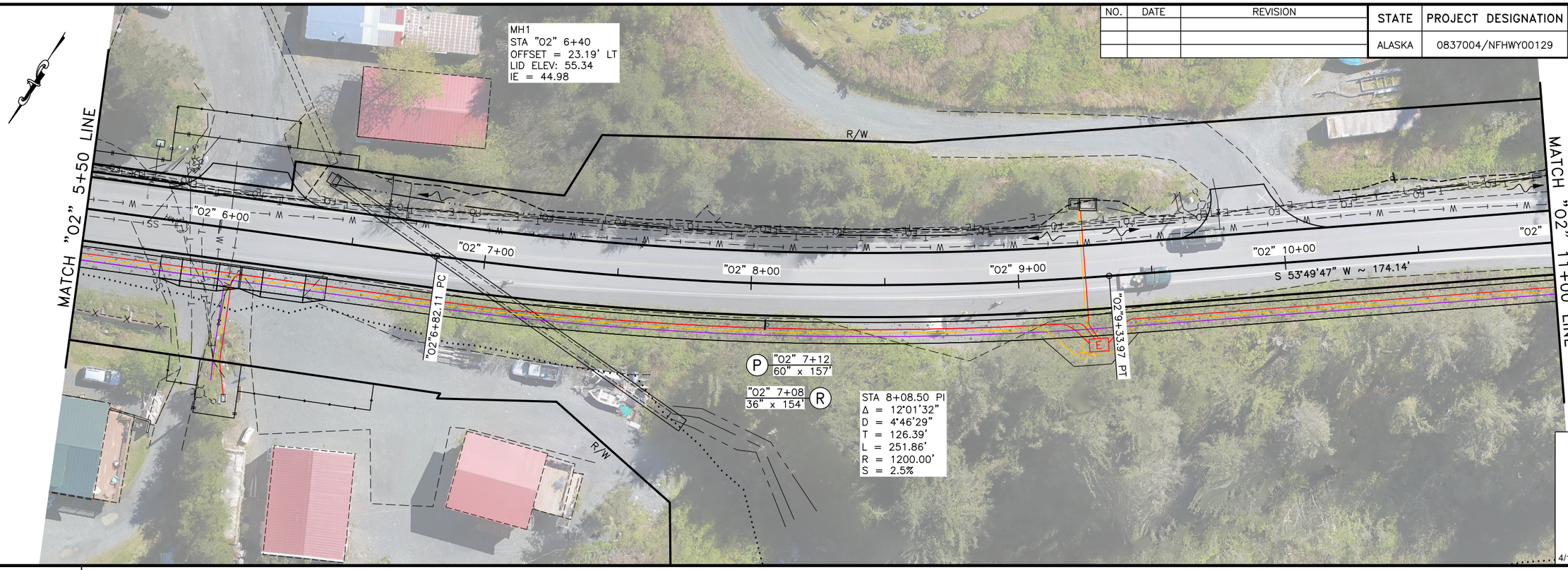
STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024



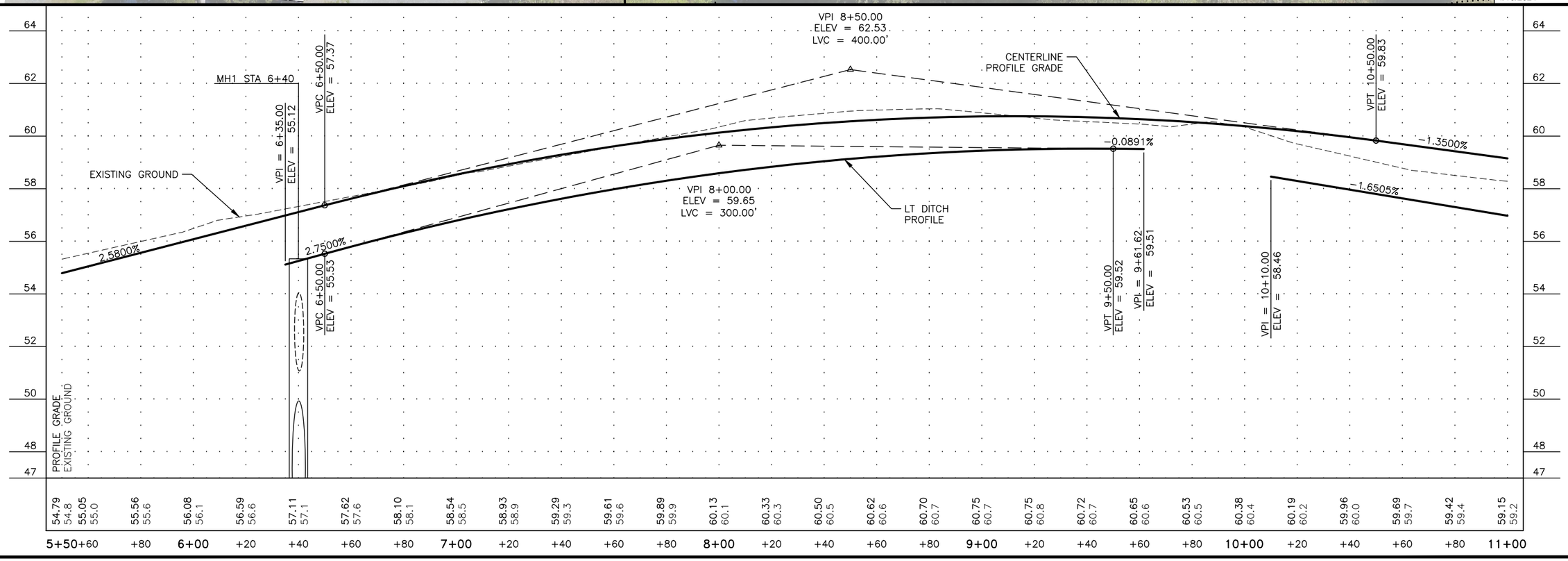
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F1 1+00.00-5+50.00 Mon, Apr/08/24 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F2	F15



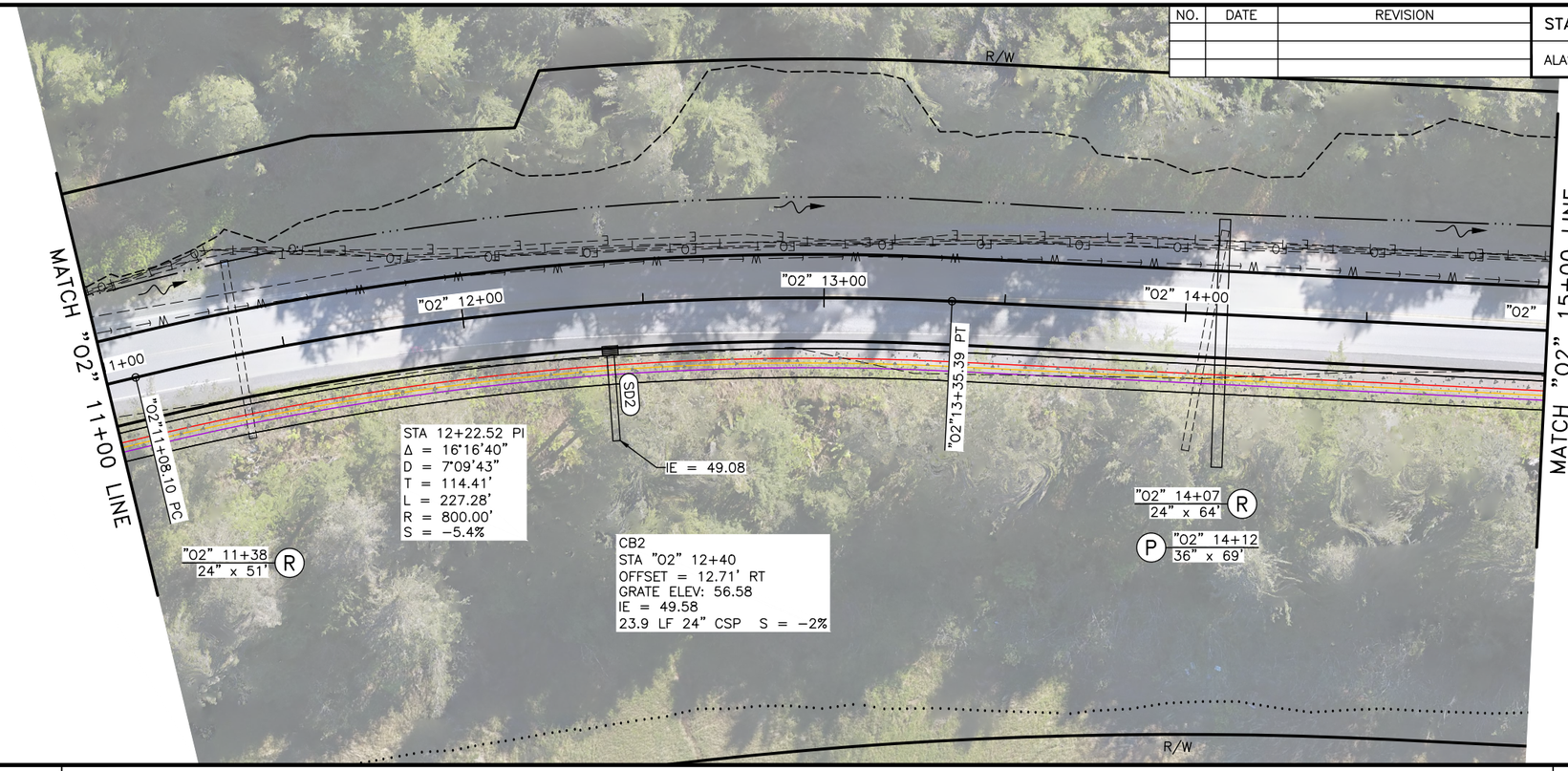
STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

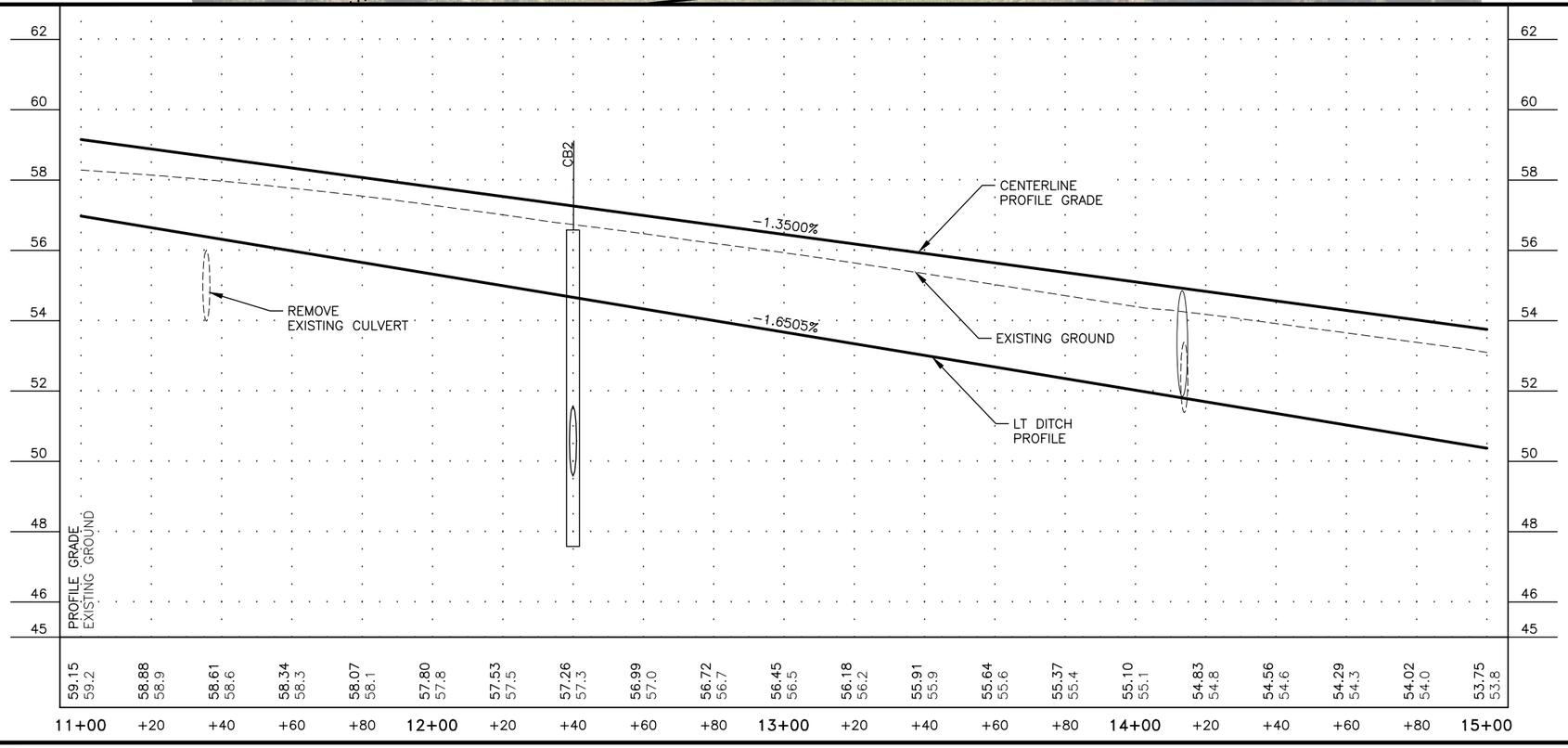


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F2 5+50.00-11+00.00 Mon, Apr/08/24 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F3	F15



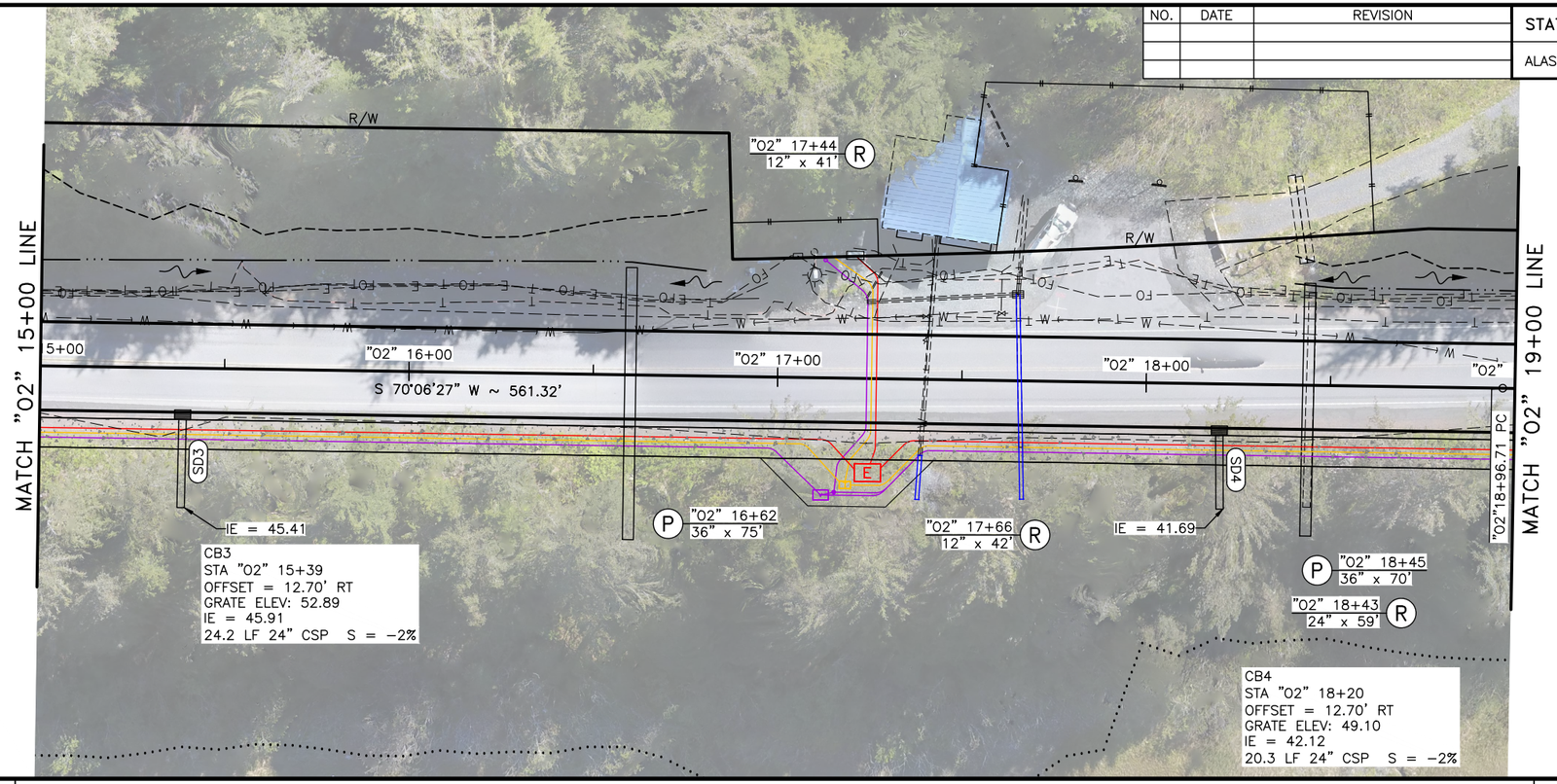


STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

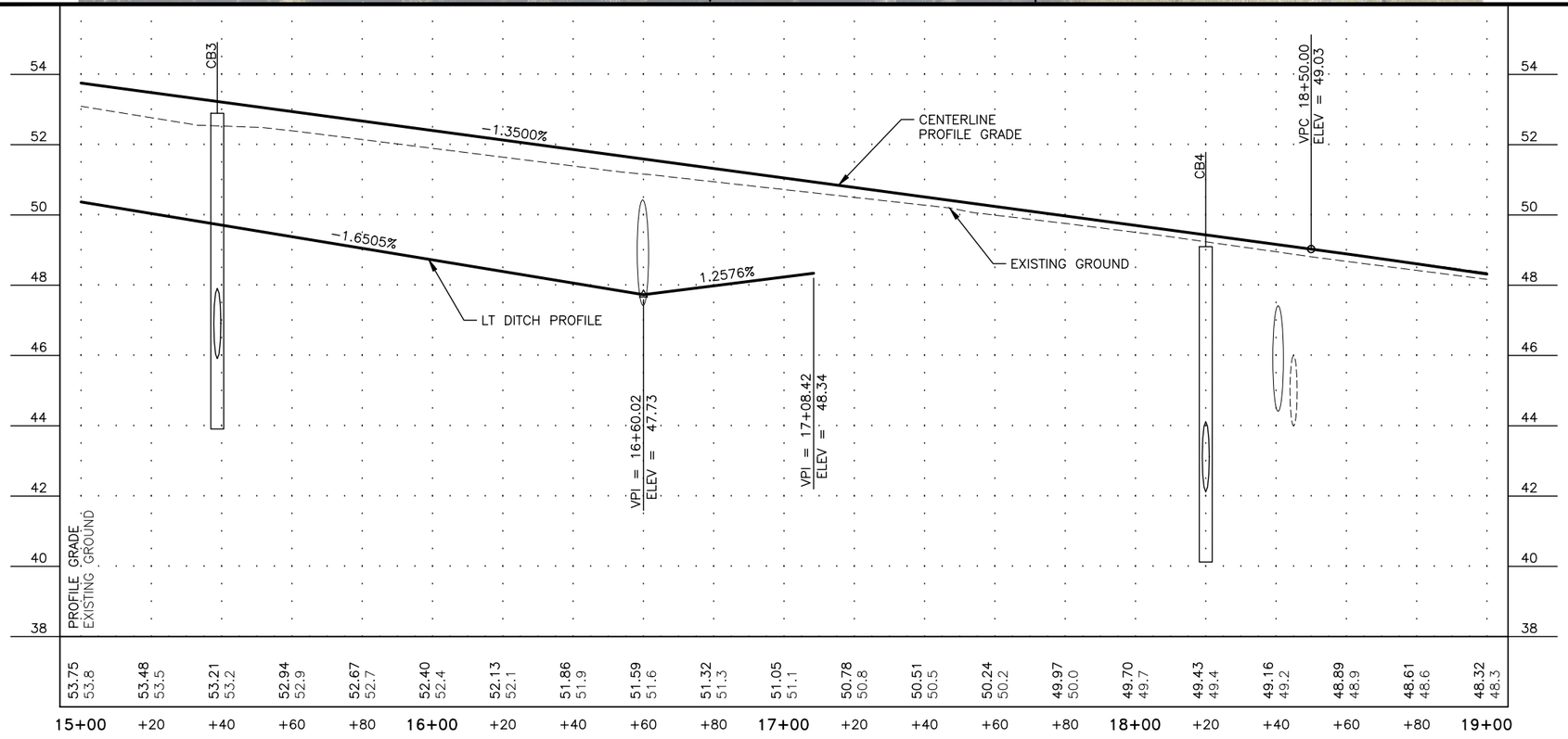
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F3 11+00.00-15+00.00 Mon, Apr/08/24 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F4	F15



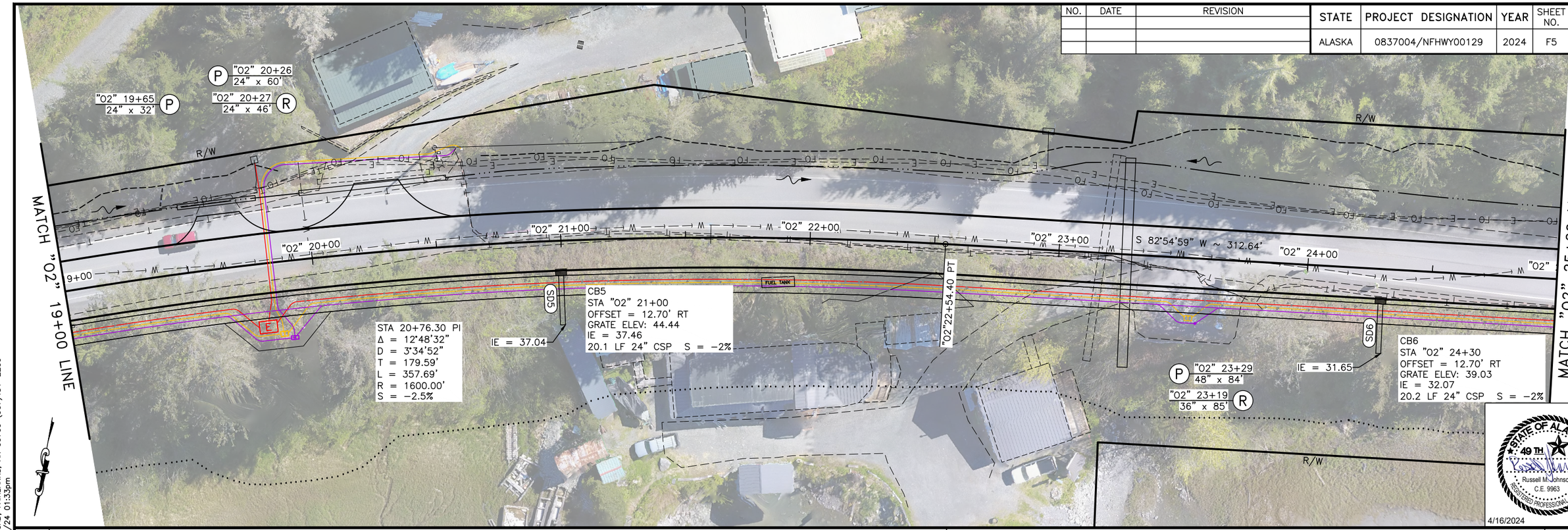
STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

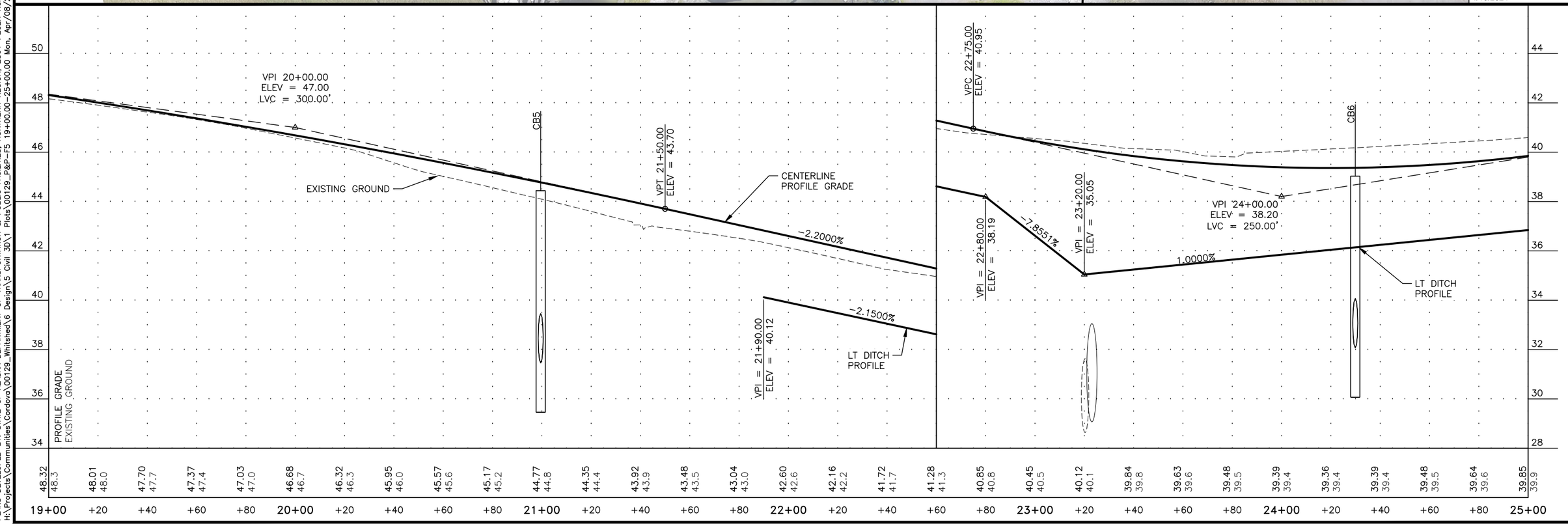


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F4 15+00.00-19+00.00 Mon, Apr/08/24 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F5	F15

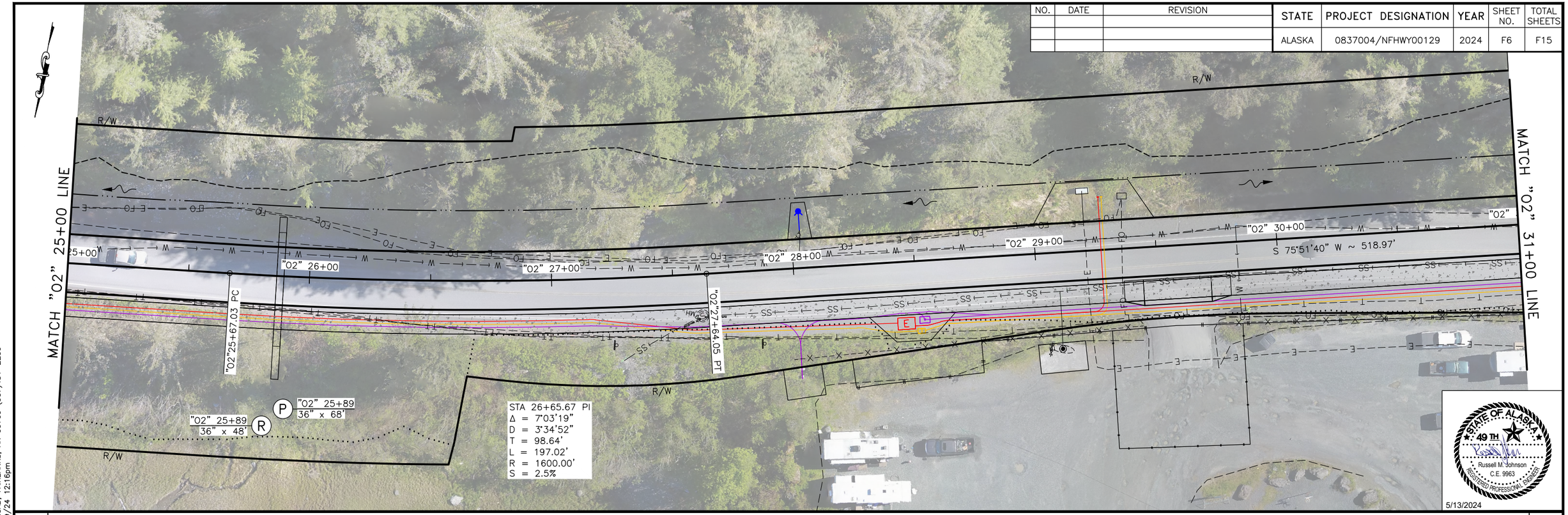


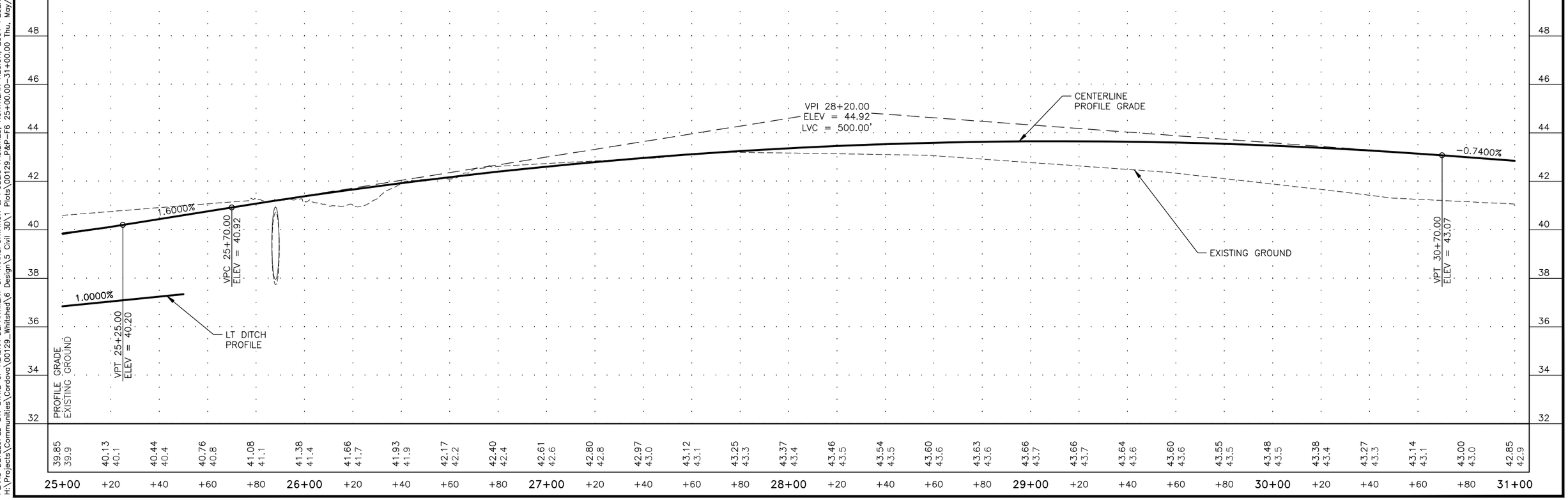


PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F5 19+00.00-25+00.00 Mon, Apr/08/24 01:33pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F6	F15





STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F6 25+00.00-31+00.00 Thu, May/09/24 12:16pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F7	F15

STA 34+40.14 PI
Δ = 22°13'22"
D = 7°09'43"
T = 157.12'
L = 310.29'
R = 800.00'
S = 5.4%

MATCH "02" 31+00 LINE

MATCH "02" 36+50 LINE

"02" 31+80
18" x 53'

"02" 32+83.02 PC

"02" 34+51
18" x 49'

"02"35+93.31 PT

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

CENTERLINE PROFILE GRADE

EXISTING GROUND

-0.7400%

-2.5500%

VPI = 35+48.29
ELEV = 36.19

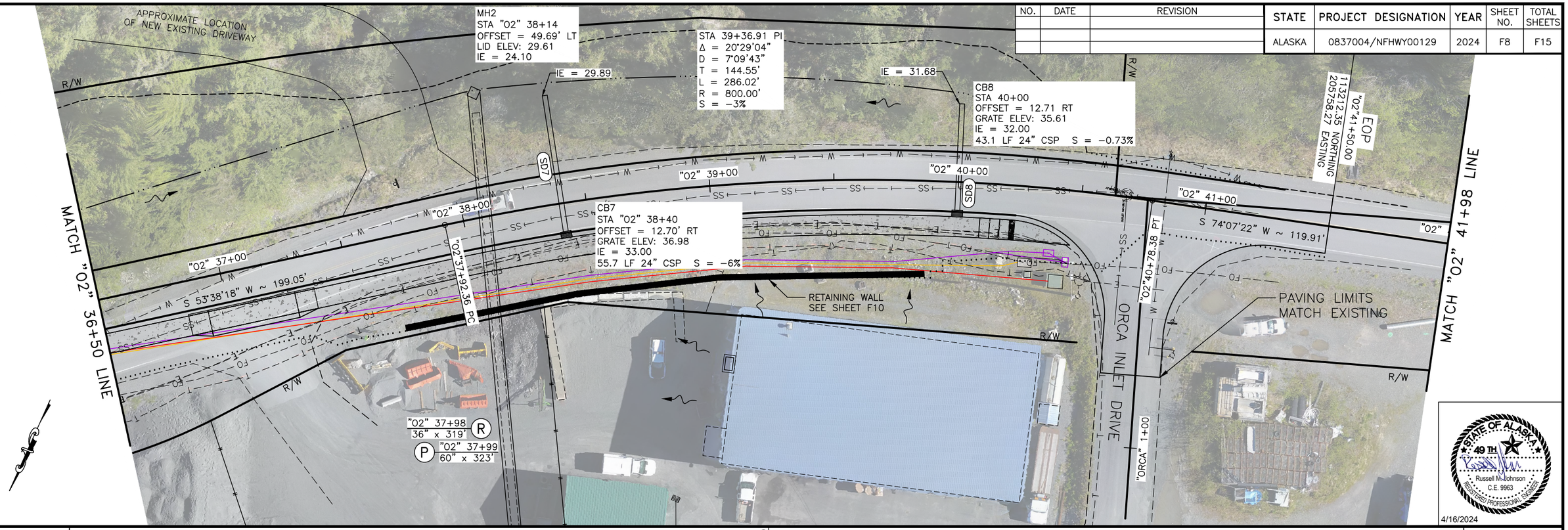
LT DITCH PROFILE

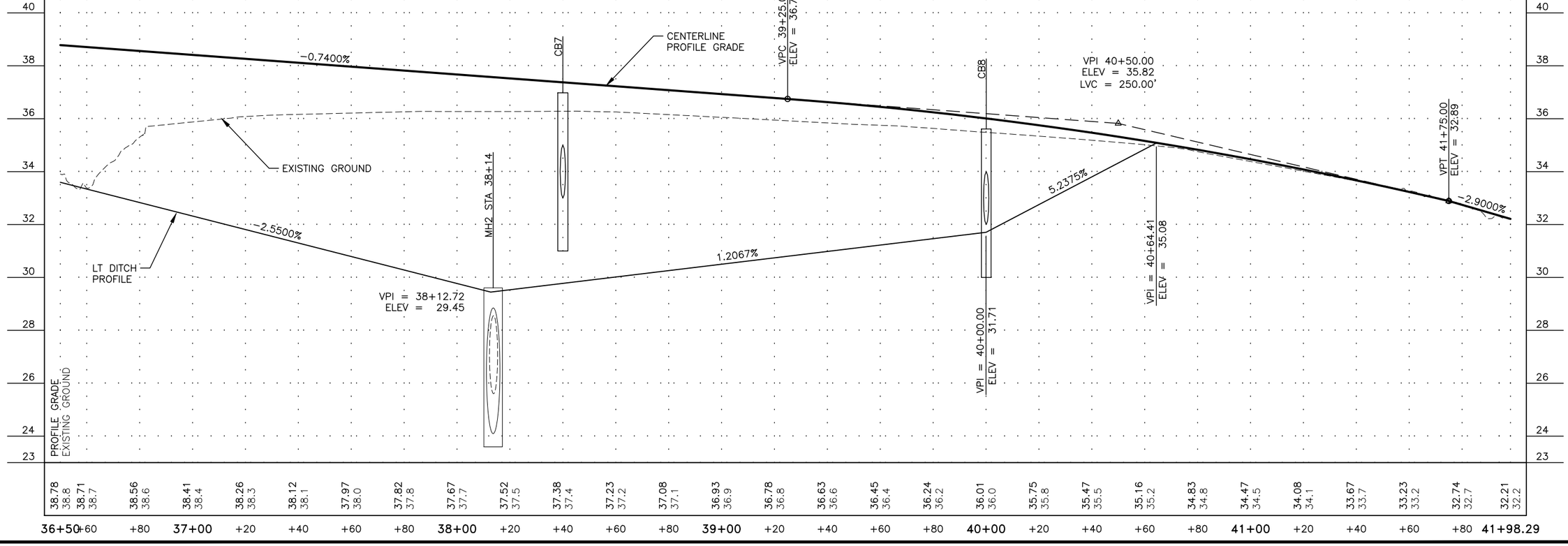
PROFILE GRADE
EXISTING GROUND

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F7 31+00.00-36+50.00 Mon, Apr/08/24 01:34pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F8	F15



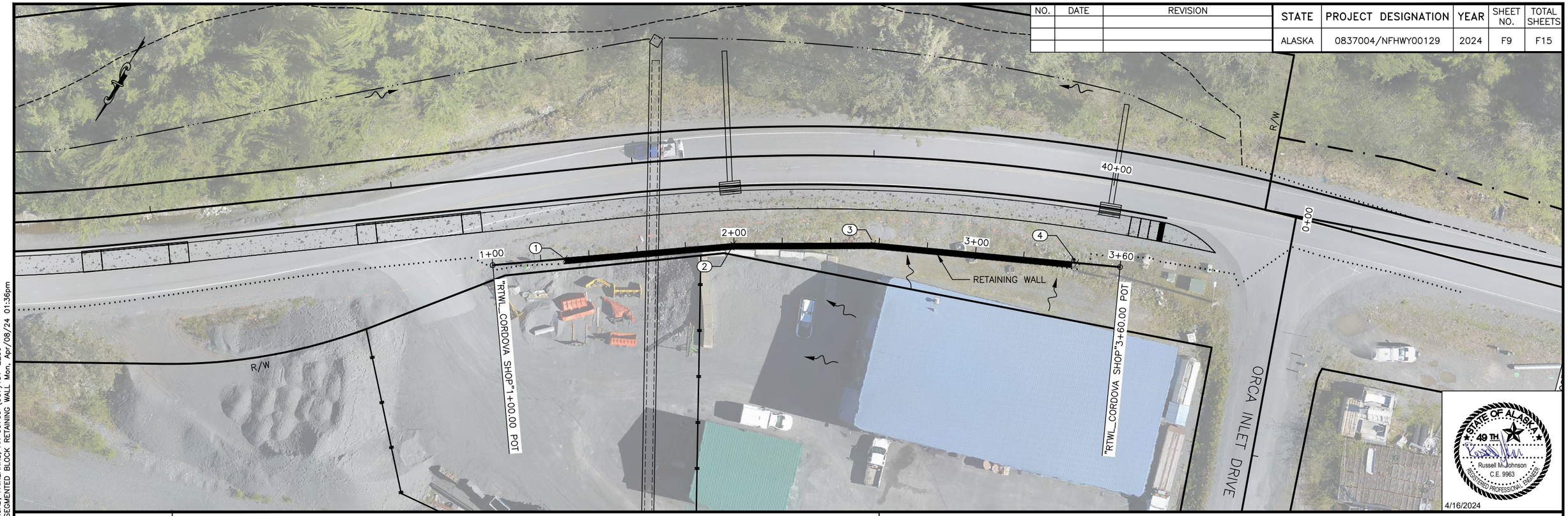


STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

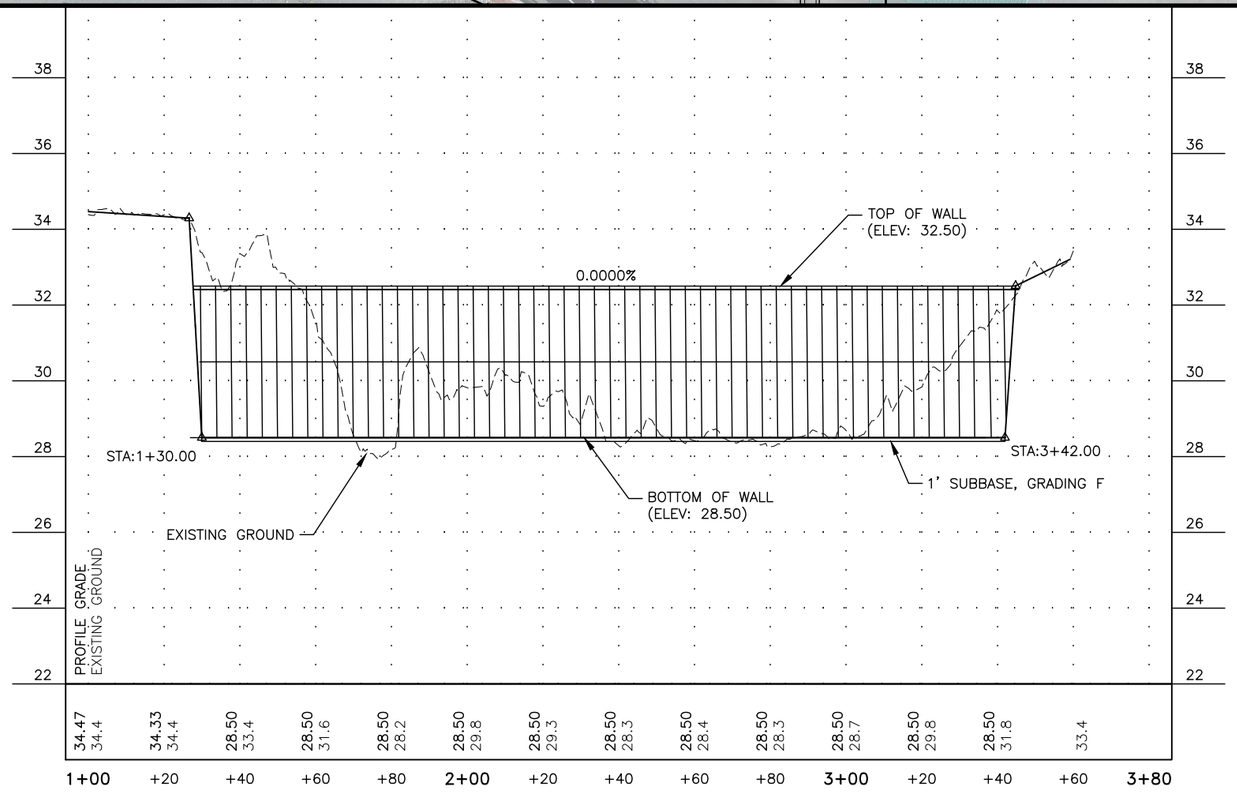
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P&P-F8 36+50.00-41+98.29 Mon, Apr/08/24 01:34pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F9	F15



STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024



RETAINING WALL POINT TABLE

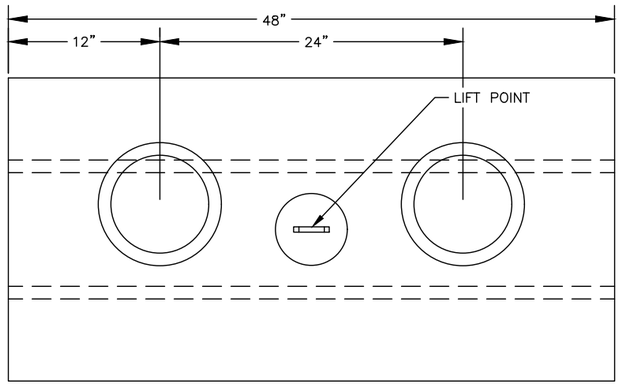
POINT	STATION "02"	OFFSET	EASTING	NORTHING
1	37+68.44	36.42'R	206,080.2713'	113,400.7050'
2	38+40.63	36.00'R	206,023.3323'	113,359.9930'
3	39+01.19	36.00'R	205,973.6298'	113,330.4396'
4	39+89.41	36.44'R	205,897.4058'	113,294.7198'

PLAN & PROFILE SEGMENTED BLOCK RETAINING WALL

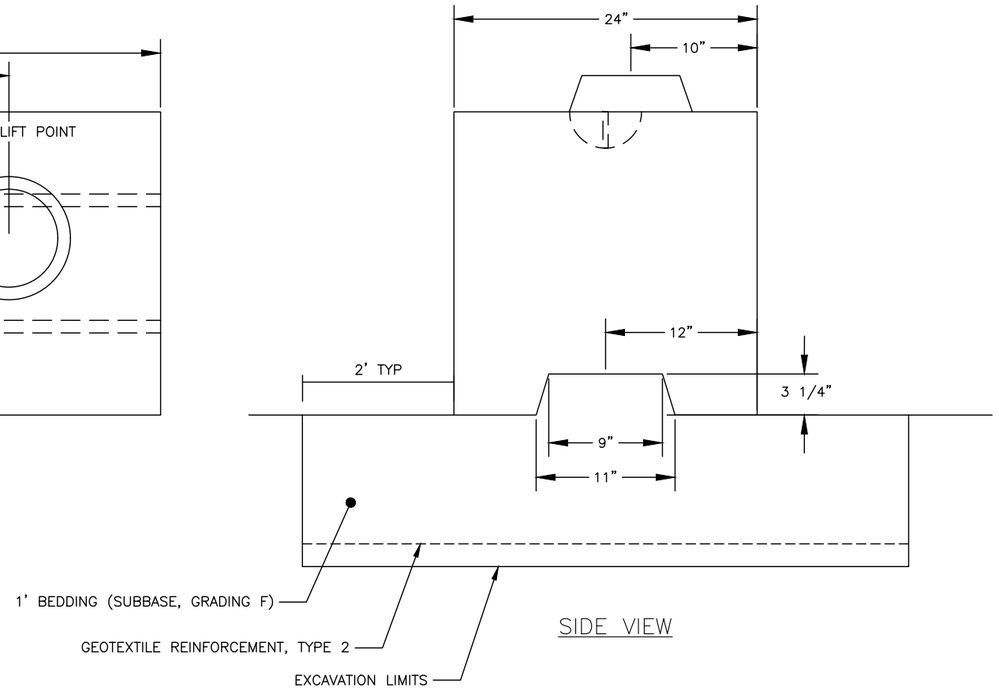
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Retaining_Walls-F10 PLAN & PROFILE SEGMENTED BLOCK RETAINING WALL Mon, Apr/08/24 01:36pm

NO.	DATE	REVISION

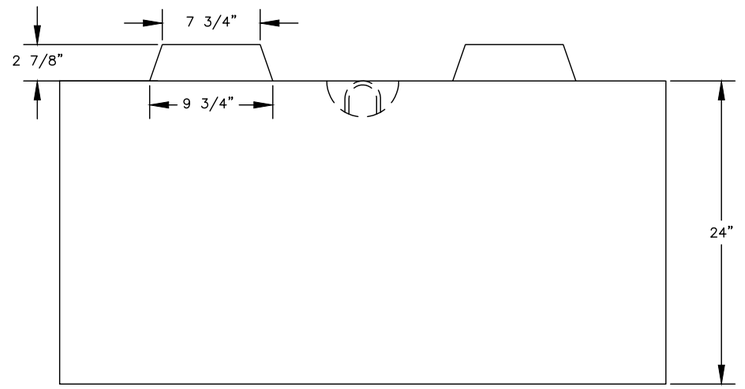
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F10	F15



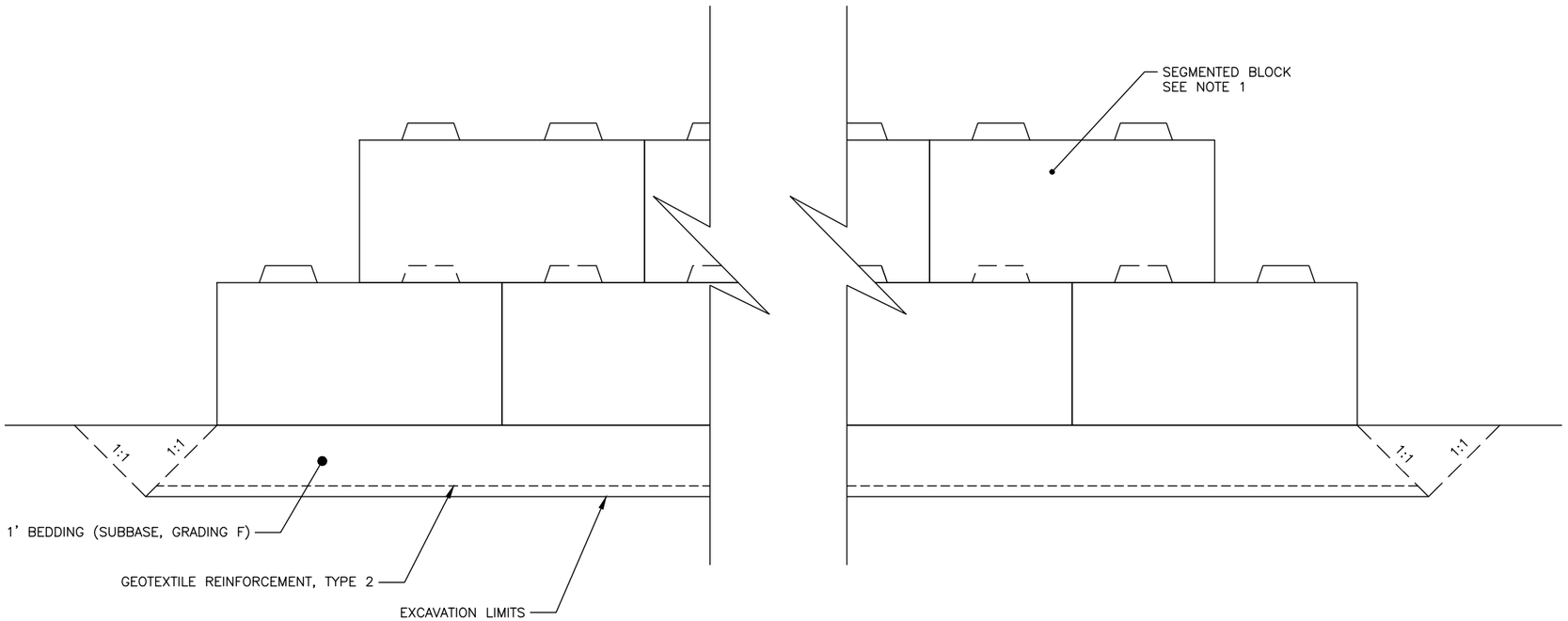
TOP VIEW



SIDE VIEW



FRONT VIEW



NOTES:

1. PLACE BLOCKS IN STAGGERED CONFIGURATION AS SHOWN
2. PLACE AND COMPACT BACKFILL BEHIND EACH INDIVIDUAL COURSE OF BLOCKS PRIOR TO PLACING THE NEXT COURSE OF BLOCKS.

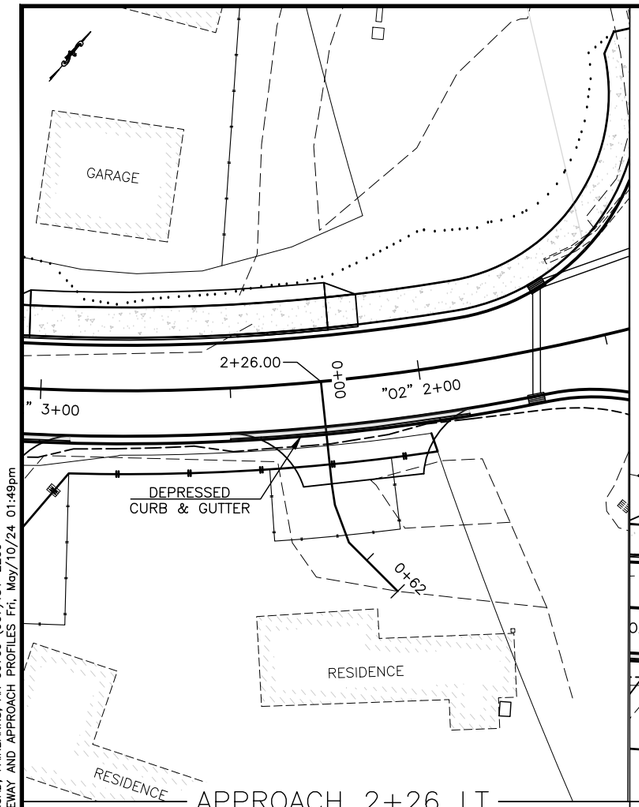
SEGMENTED BLOCK RETAINING WALL DETAILS

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

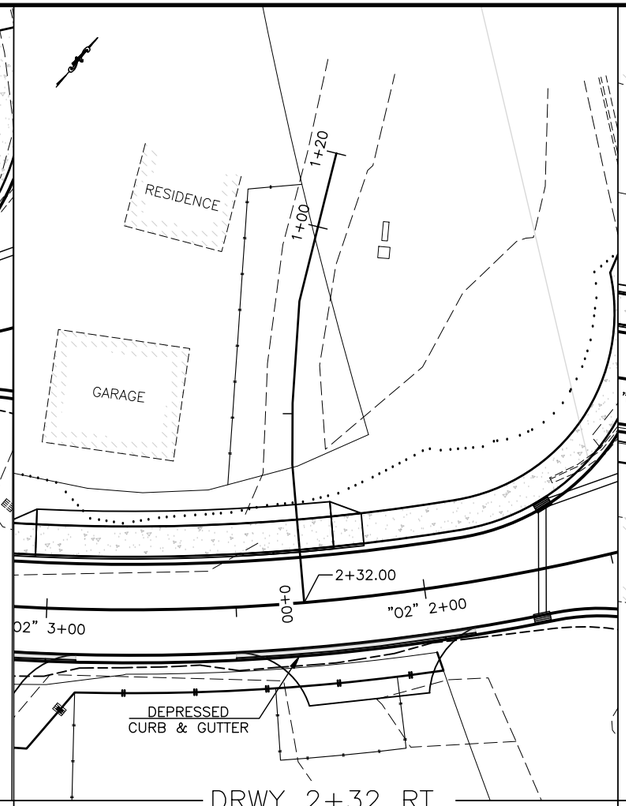
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Retaining_Walls-F11 SEGMENTED BLOCK RETAINING WALL DETAILS Mon, Apr/08/24 01:36pm

NO.	DATE	REVISION

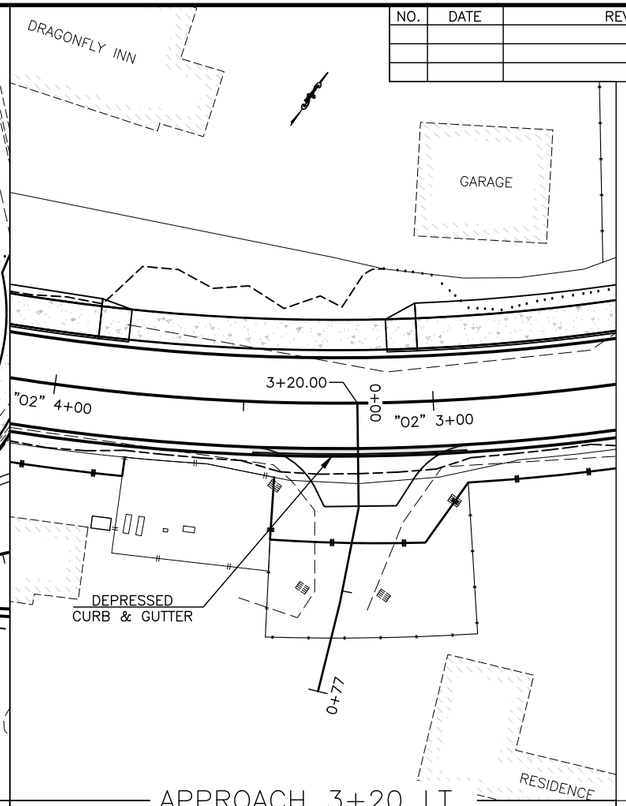
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F11	F15



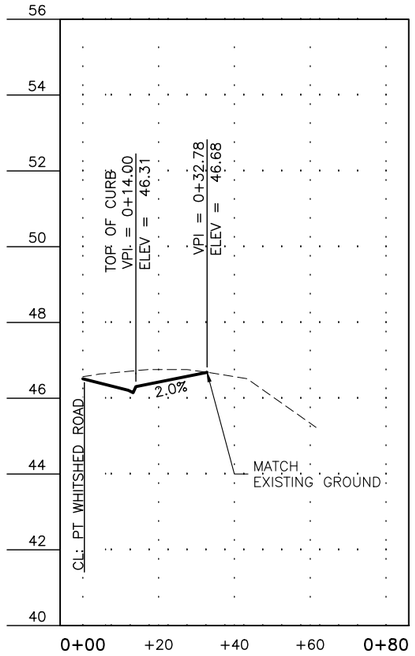
APPROACH 2+26 LT

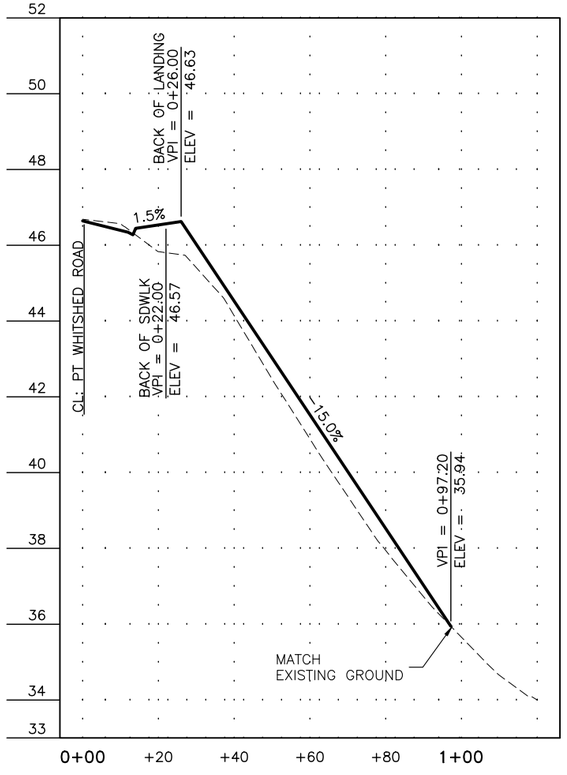


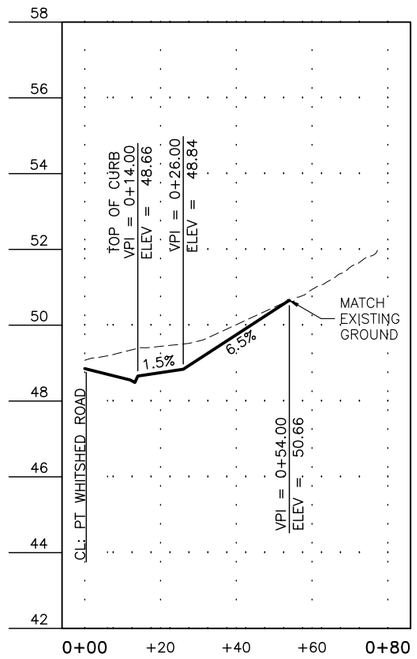
DRWY 2+32 RT



APPROACH 3+20 LT







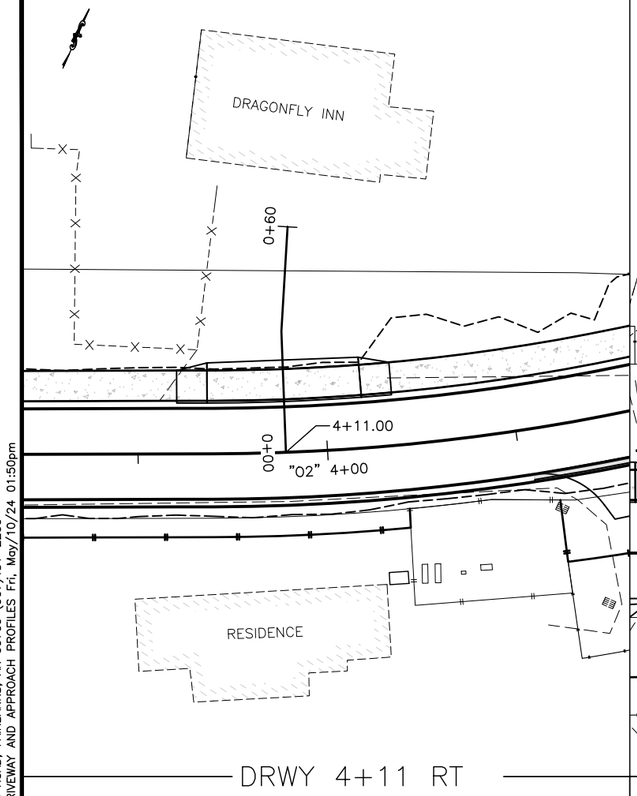
DRIVEWAY AND APPROACH PROFILES

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

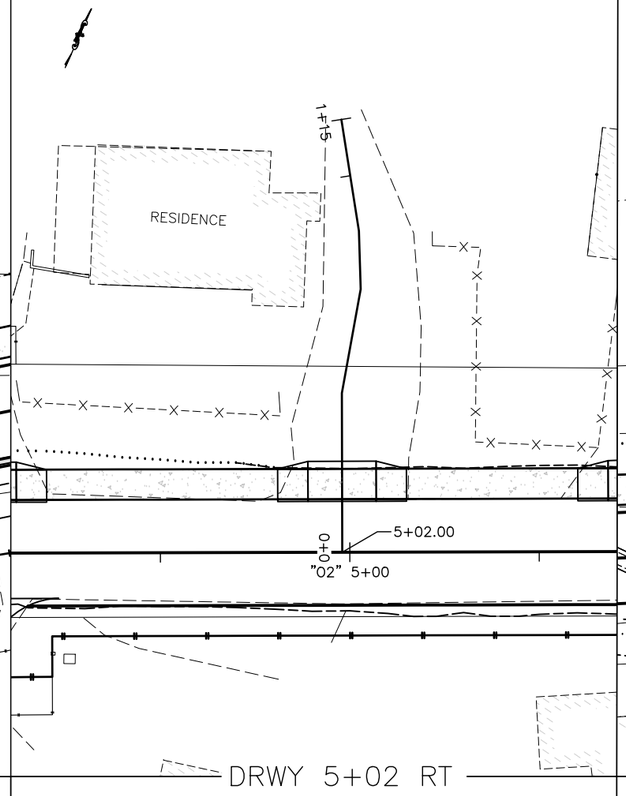
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F11 DRIVEWAY AND APPROACH PROFILES Fri, May/10/24 01:49pm

NO.	DATE	REVISION

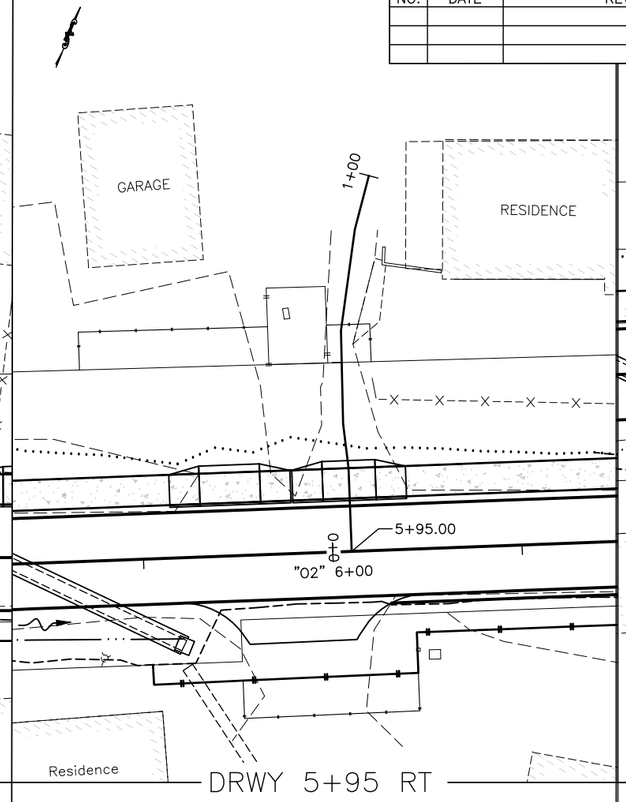
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F12	F15



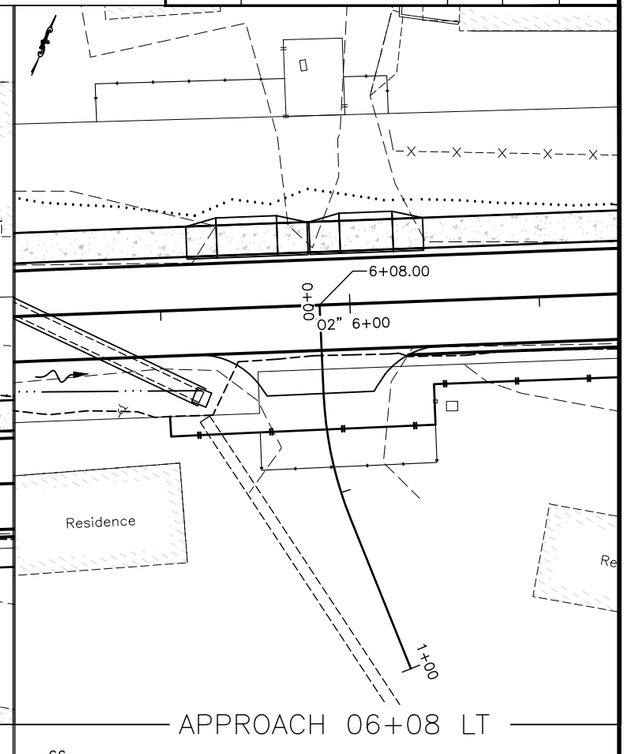
DRWY 4+11 RT



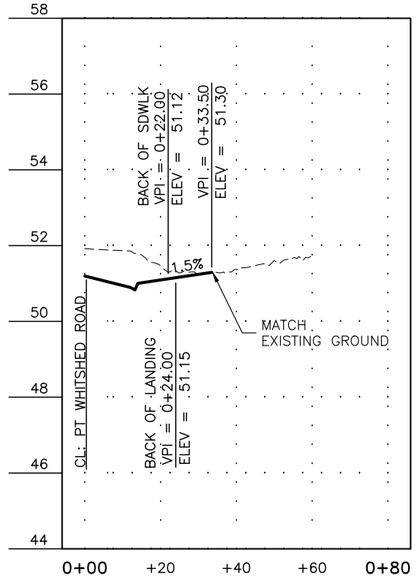
DRWY 5+02 RT

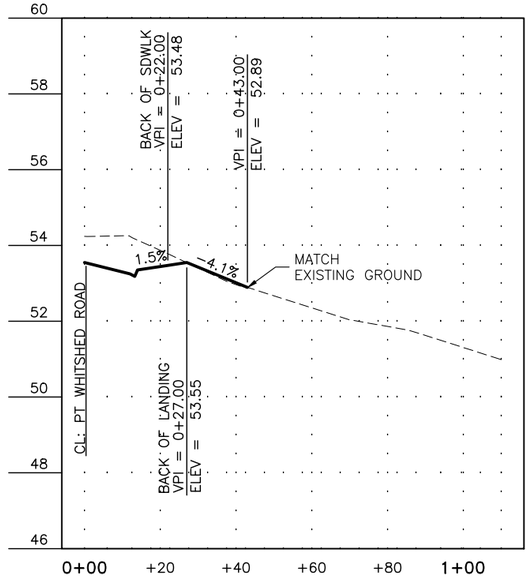


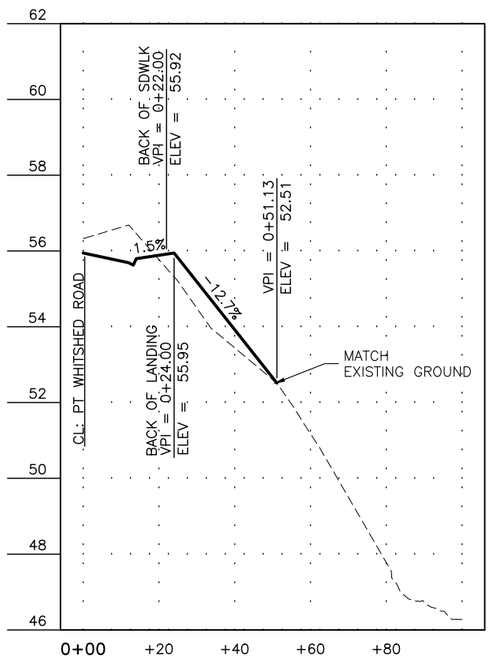
DRWY 5+95 RT

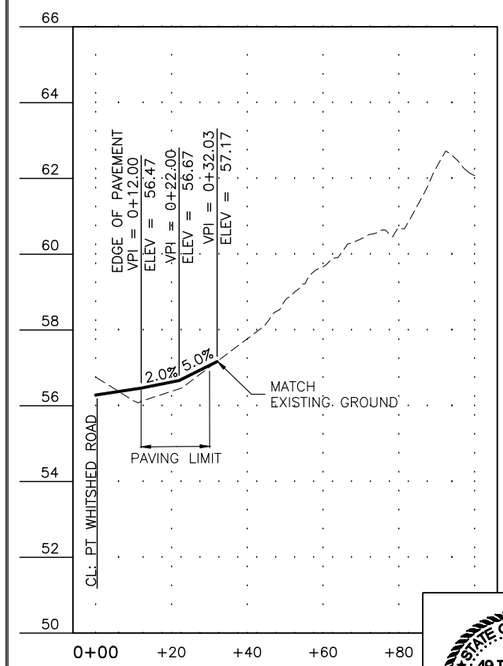


APPROACH 06+08 LT









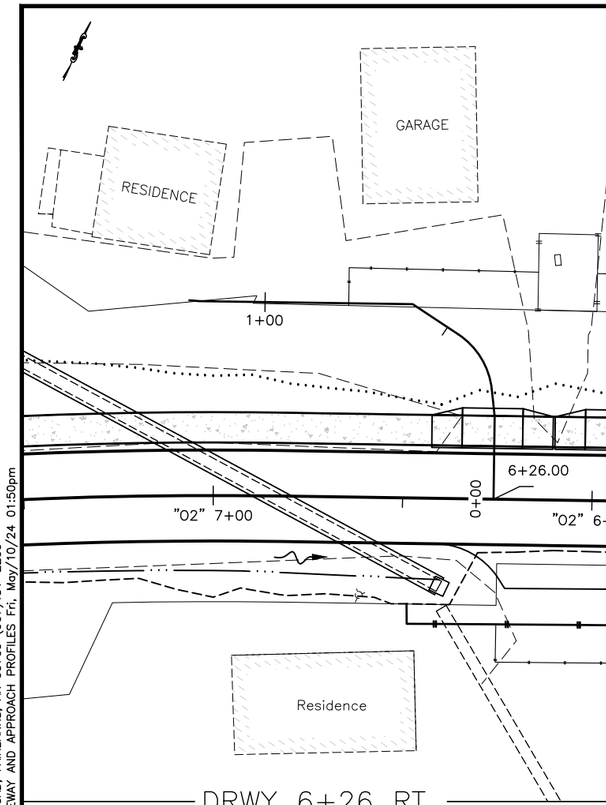
DRIVEWAY AND APPROACH PROFILES

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

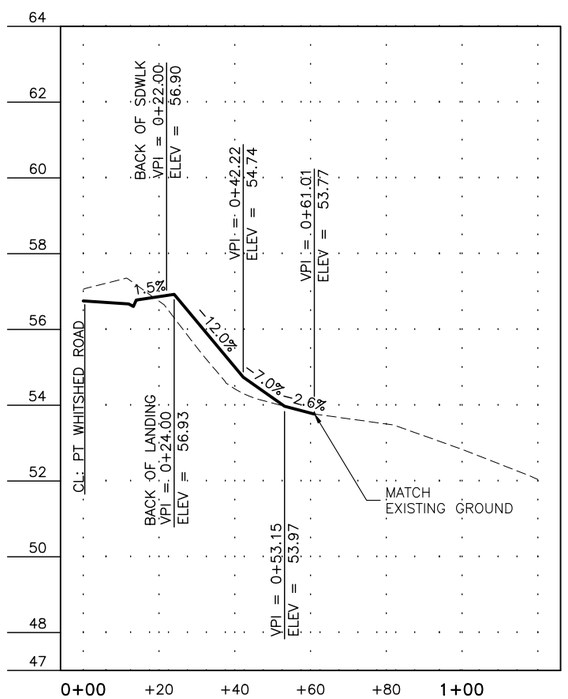
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F12 DRIVEWAY AND APPROACH PROFILES Fri, May/10/24 01:50pm

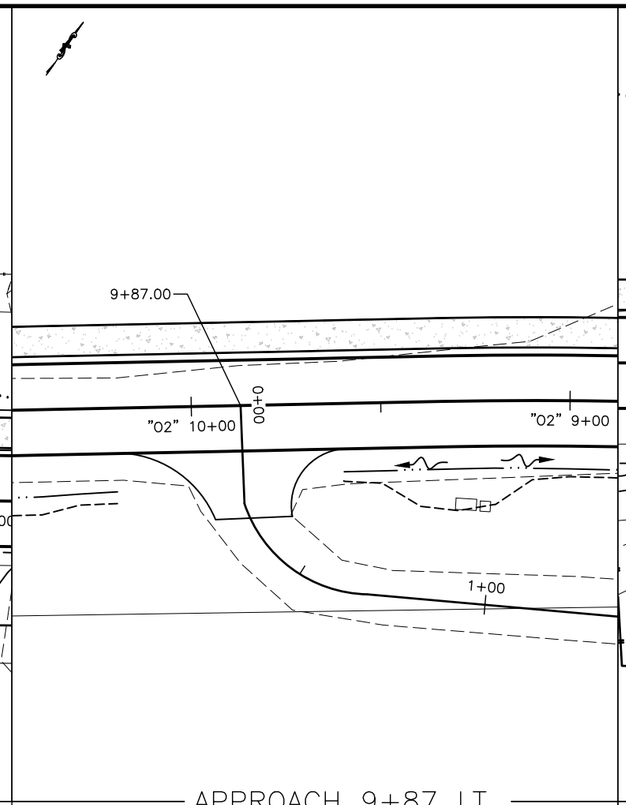
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F13	F15

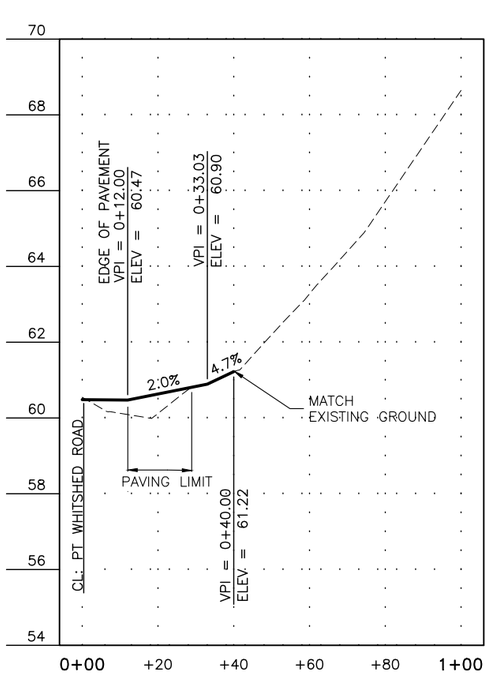


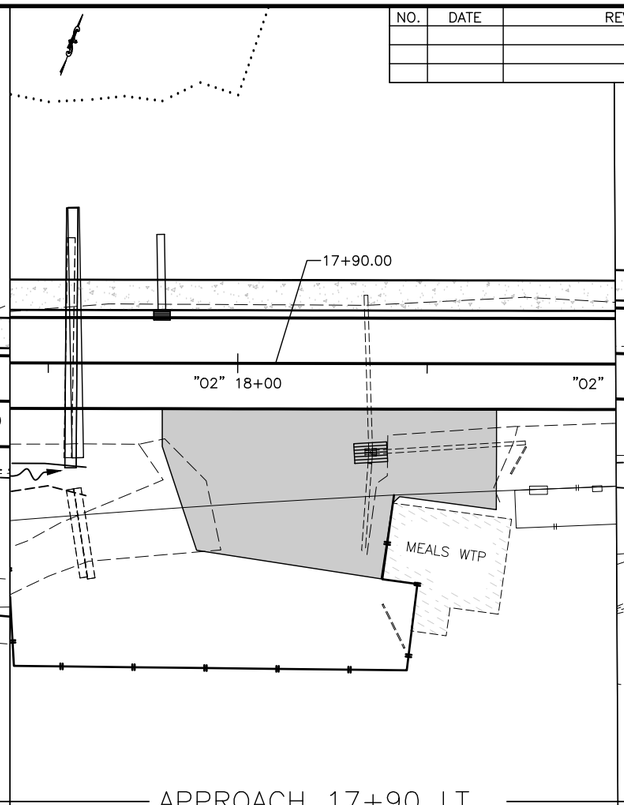
DRWY 6+26 RT





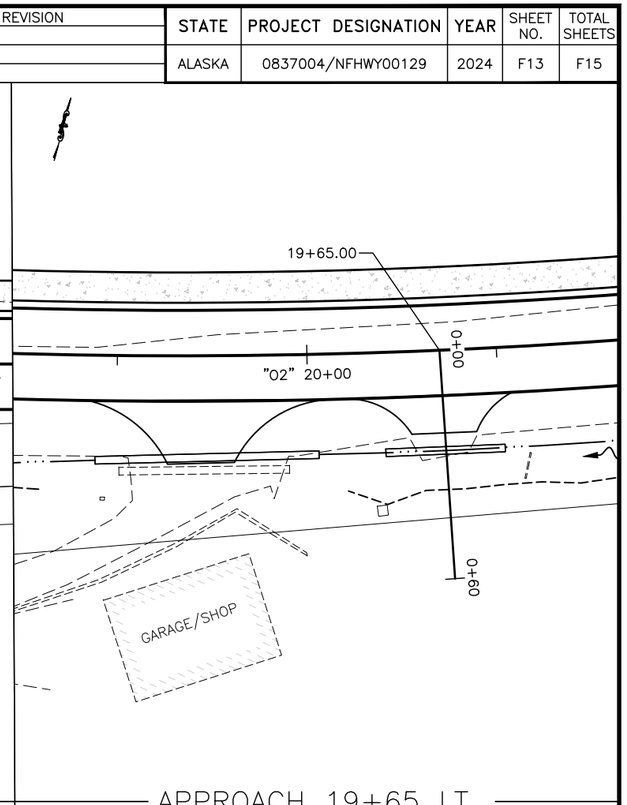
APPROACH 9+87 LT



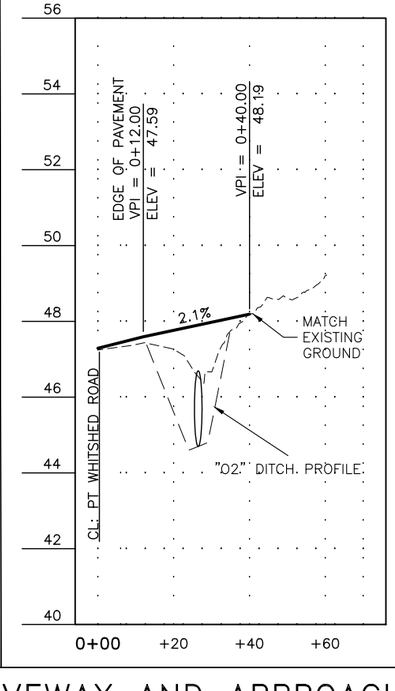


APPROACH 17+90 LT

SEE SHEET "G2" FOR GRADING PLAN DETAILS
(MEALS WATER TREATMENT PLANT)



APPROACH 19+65 LT



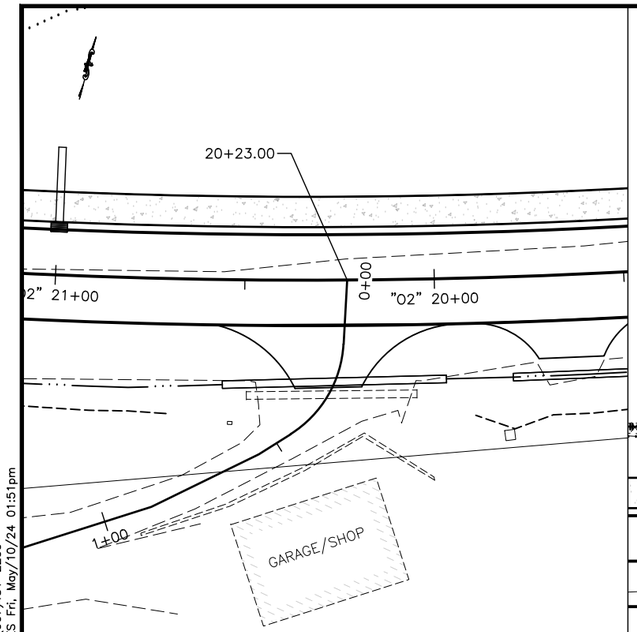
DRIVEWAY AND APPROACH PROFILES

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

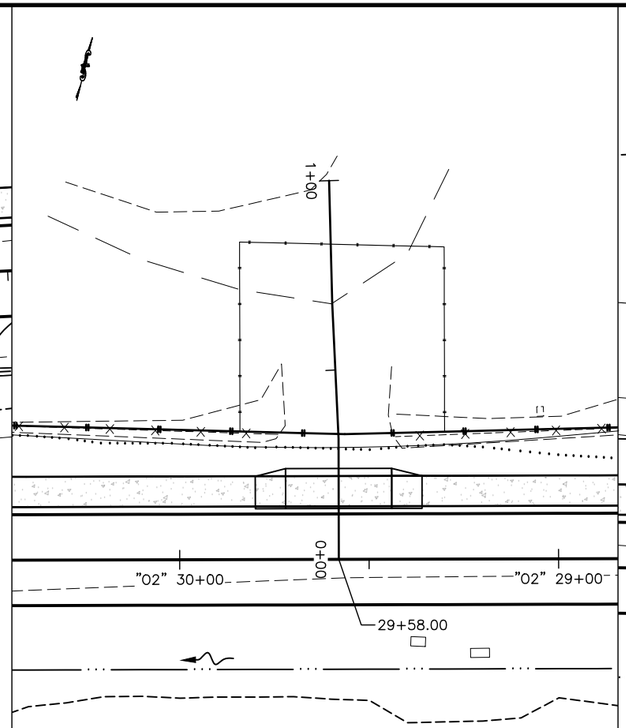
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F13 DRIVEWAY AND APPROACH PROFILES Fri, May/10/24 01:50pm

NO.	DATE	REVISION

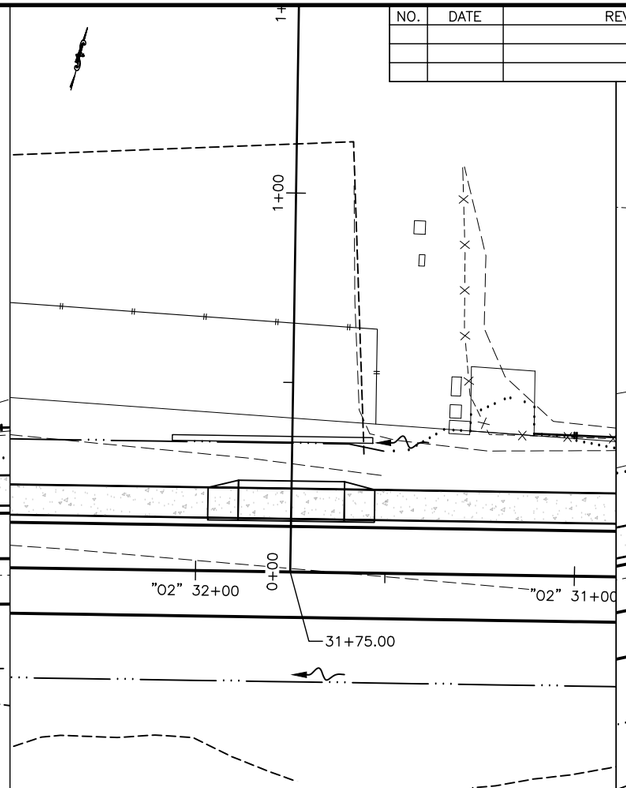
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F14	F15



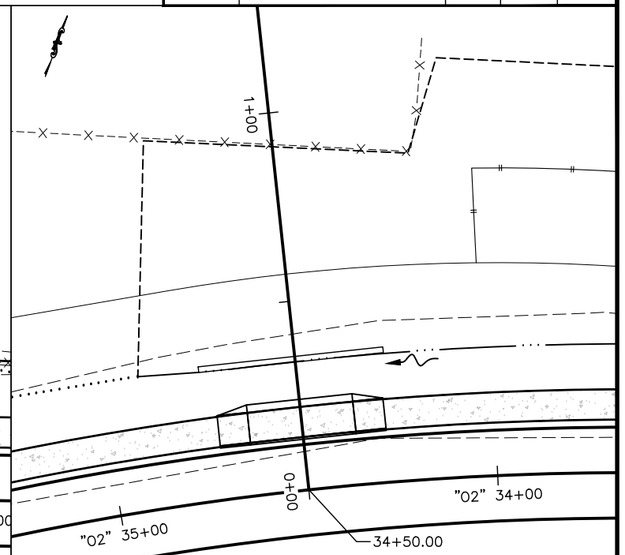
APPROACH 20+23 LT



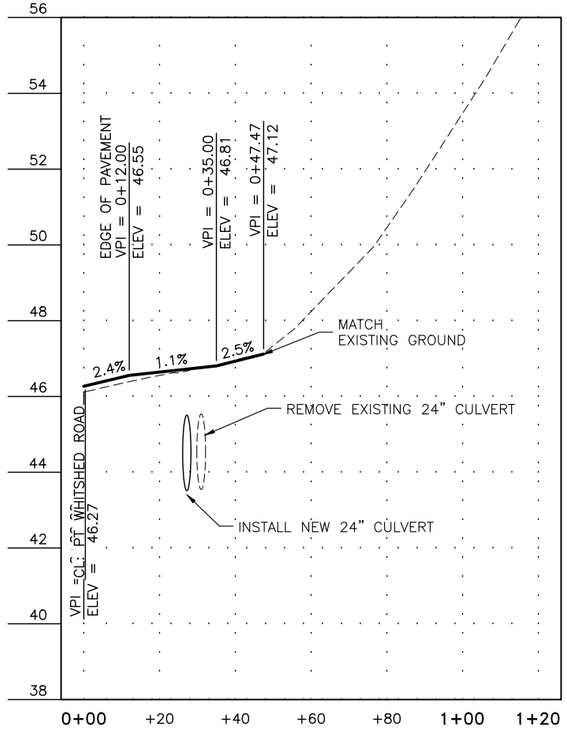
DRWY 29+58 RT

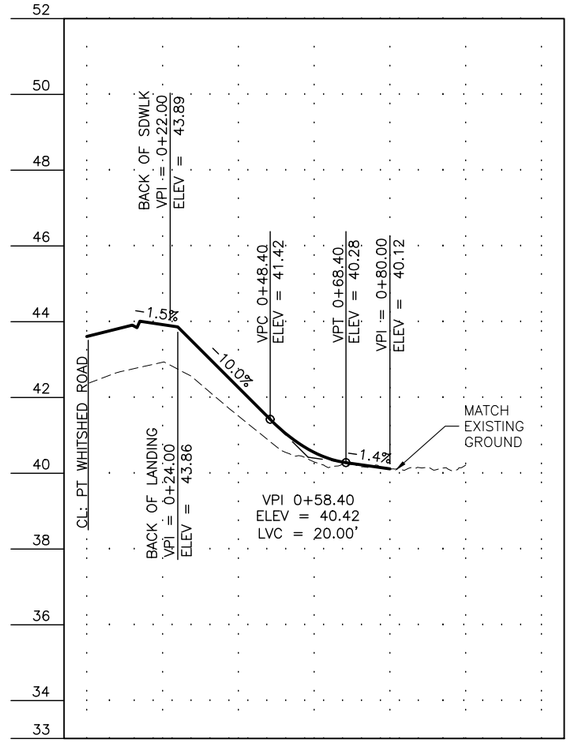


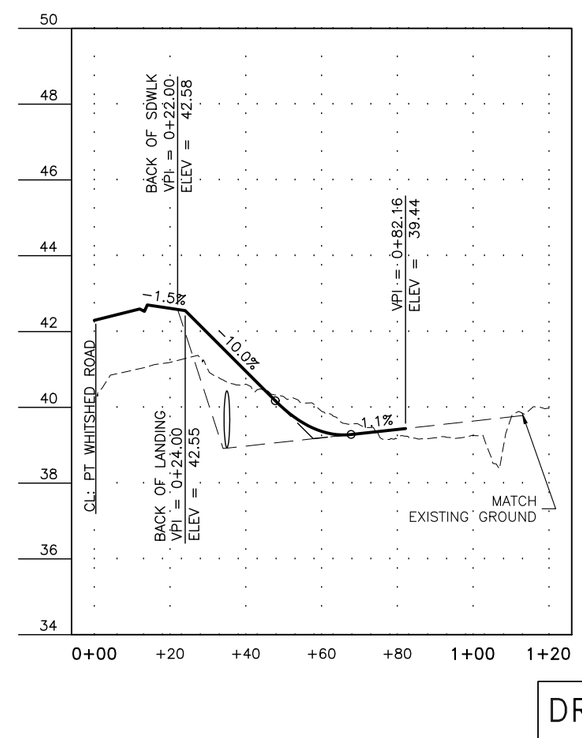
DRWY 31+75 RT

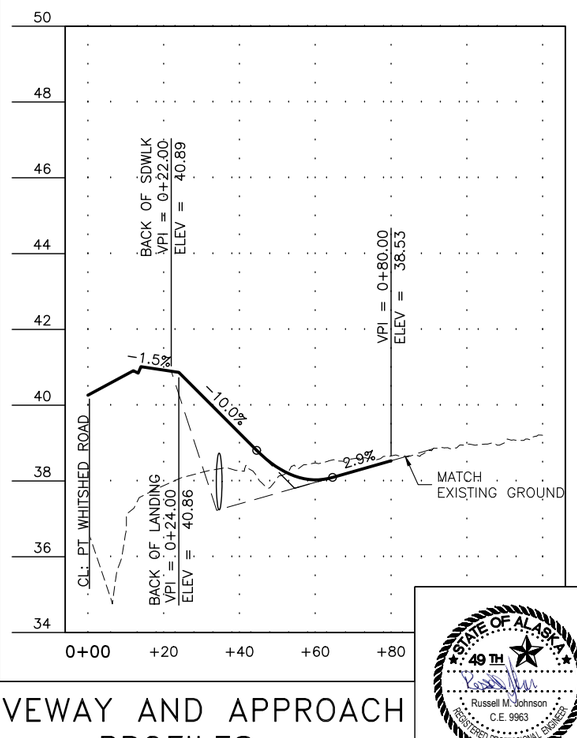


DRWY 34+50 RT









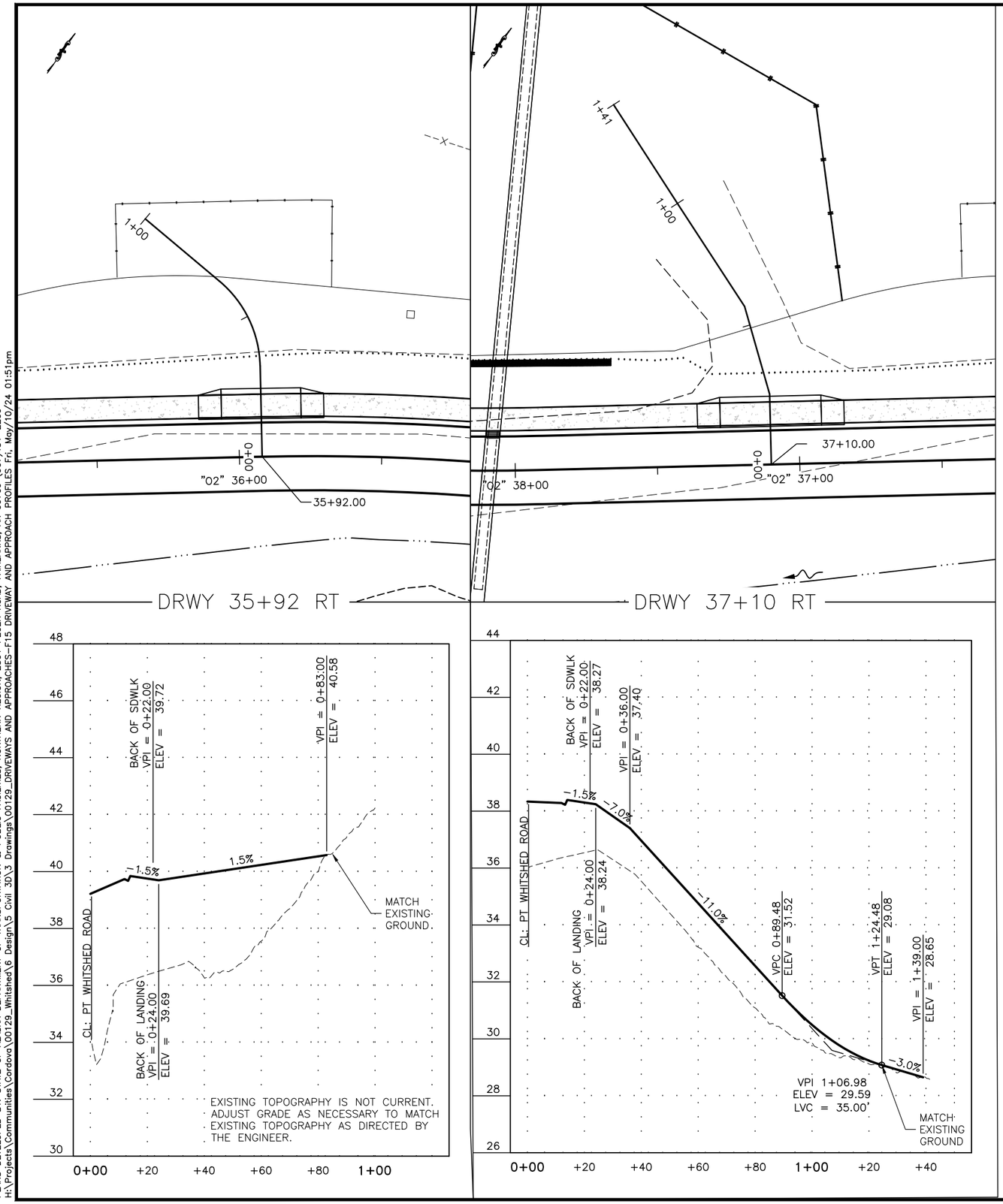
DRIVEWAY AND APPROACH PROFILES

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F14 DRIVEWAY AND APPROACH PROFILES Fri, May/10/24 01:51pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	F15	F15



DRIVEWAY AND APPROACH PROFILES

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

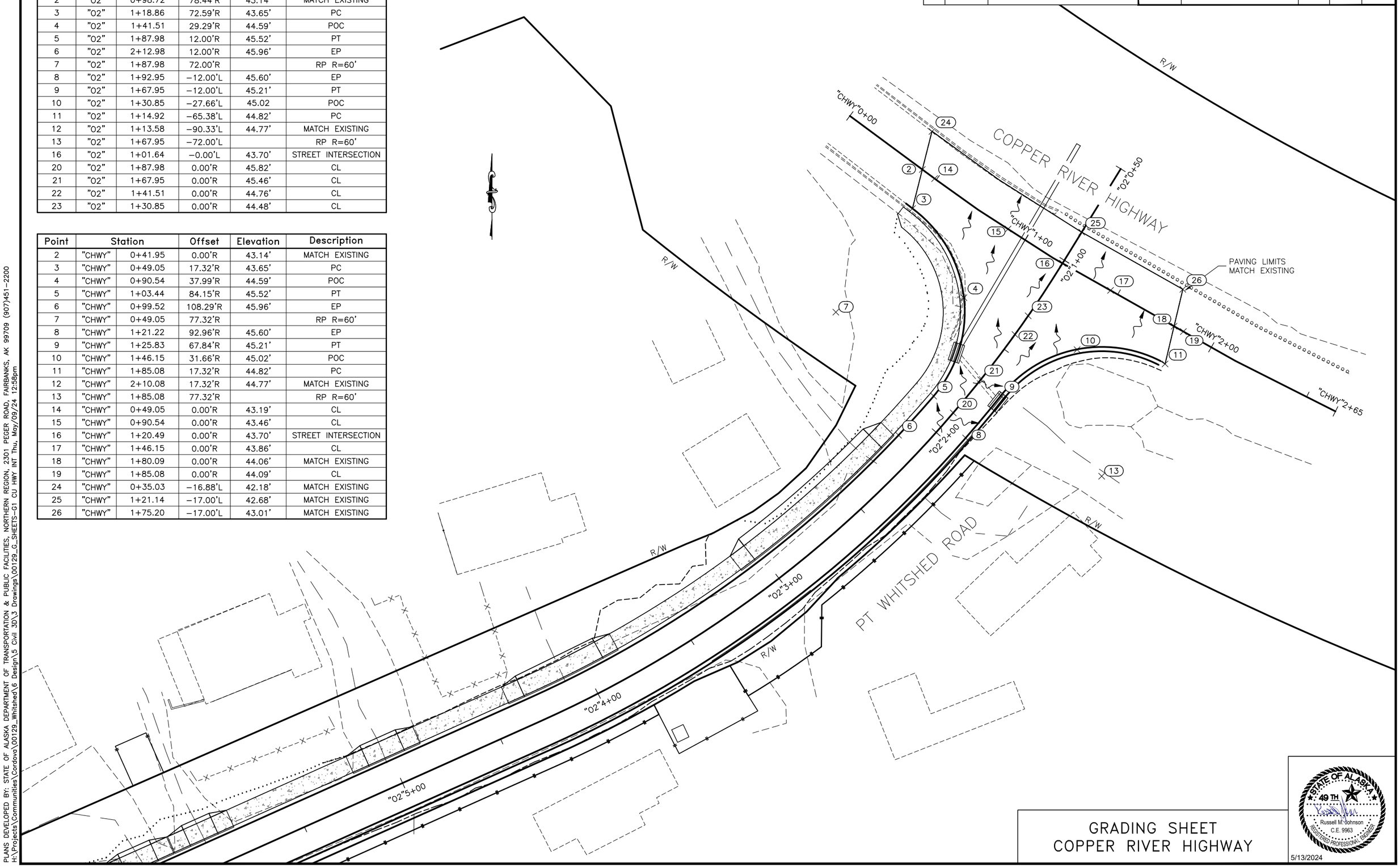
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_DRIVEWAYS AND APPROACHES-F15 DRIVEWAY AND APPROACH PROFILES Fri, May/10/24 01:51pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	G1	G4

Point	Station		Offset	Elevation	Description
2	"02"	0+98.72	78.44'R	43.14'	MATCH EXISTING
3	"02"	1+18.86	72.59'R	43.65'	PC
4	"02"	1+41.51	29.29'R	44.59'	POC
5	"02"	1+87.98	12.00'R	45.52'	PT
6	"02"	2+12.98	12.00'R	45.96'	EP
7	"02"	1+87.98	72.00'R		RP R=60'
8	"02"	1+92.95	−12.00'L	45.60'	EP
9	"02"	1+67.95	−12.00'L	45.21'	PT
10	"02"	1+30.85	−27.66'L	45.02	POC
11	"02"	1+14.92	−65.38'L	44.82'	PC
12	"02"	1+13.58	−90.33'L	44.77'	MATCH EXISTING
13	"02"	1+67.95	−72.00'L		RP R=60'
16	"02"	1+01.64	−0.00'L	43.70'	STREET INTERSECTION
20	"02"	1+87.98	0.00'R	45.82'	CL
21	"02"	1+67.95	0.00'R	45.46'	CL
22	"02"	1+41.51	0.00'R	44.76'	CL
23	"02"	1+30.85	0.00'R	44.48'	CL

Point	Station		Offset	Elevation	Description
2	"CHWY"	0+41.95	0.00'R	43.14'	MATCH EXISTING
3	"CHWY"	0+49.05	17.32'R	43.65'	PC
4	"CHWY"	0+90.54	37.99'R	44.59'	POC
5	"CHWY"	1+03.44	84.15'R	45.52'	PT
6	"CHWY"	0+99.52	108.29'R	45.96'	EP
7	"CHWY"	0+49.05	77.32'R		RP R=60'
8	"CHWY"	1+21.22	92.96'R	45.60'	EP
9	"CHWY"	1+25.83	67.84'R	45.21'	PT
10	"CHWY"	1+46.15	31.66'R	45.02'	POC
11	"CHWY"	1+85.08	17.32'R	44.82'	PC
12	"CHWY"	2+10.08	17.32'R	44.77'	MATCH EXISTING
13	"CHWY"	1+85.08	77.32'R		RP R=60'
14	"CHWY"	0+49.05	0.00'R	43.19'	CL
15	"CHWY"	0+90.54	0.00'R	43.46'	CL
16	"CHWY"	1+20.49	0.00'R	43.70'	STREET INTERSECTION
17	"CHWY"	1+46.15	0.00'R	43.86'	CL
18	"CHWY"	1+80.09	0.00'R	44.06'	MATCH EXISTING
19	"CHWY"	1+85.08	0.00'R	44.09'	CL
24	"CHWY"	0+35.03	−16.88'L	42.18'	MATCH EXISTING
25	"CHWY"	1+21.14	−17.00'L	42.68'	MATCH EXISTING
26	"CHWY"	1+75.20	−17.00'L	43.01'	MATCH EXISTING



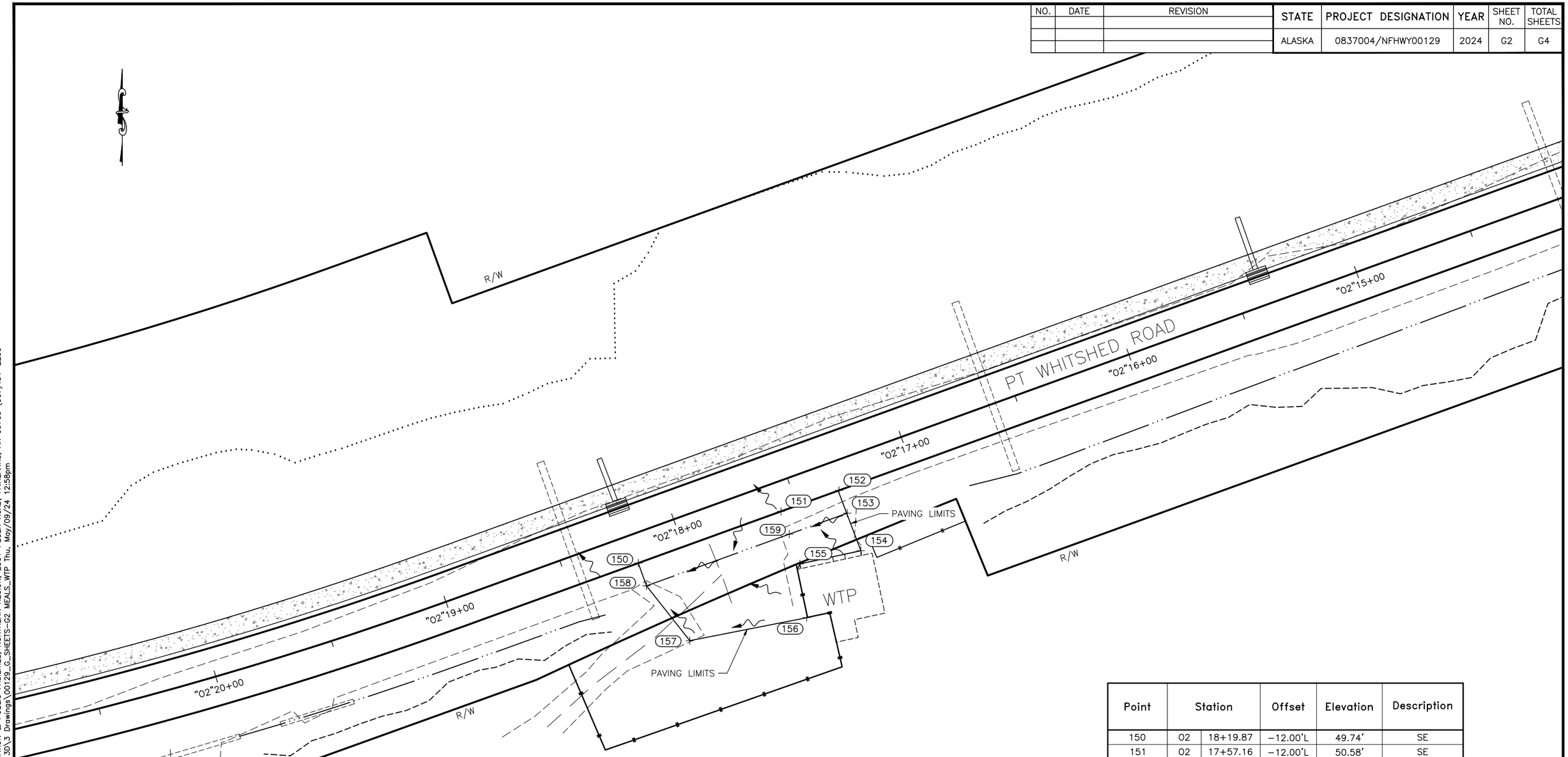
GRADING SHEET
COPPER RIVER HIGHWAY

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_G_SHEETS-G1 CU HWY INT Thu, May/09/24 12:58pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	G2	G4



Point	Station		Offset	Elevation	Description
150	02	18+19.87	−12.00'L	49.74'	SE
151	02	17+57.16	−12.00'L	50.58'	SE
152	02	17+31.67	−12.00'L	50.93'	EP
153	02	17+31.66	−22.00'L	50.73'	BL
154	02	17+31.68	−38.48'L	51.46'	EP
155	02	17+57.18	−35.04'L	51.20'	EP
156	02	17+62.06	−56.80'L	53.00'	EP
157	02	18+10.76	−49.36'L	50.26'	SE
158	02	18+19.87	−21.99'L	49.54'	BL
159	02	17+57.13	−22.01'L	50.38'	BP

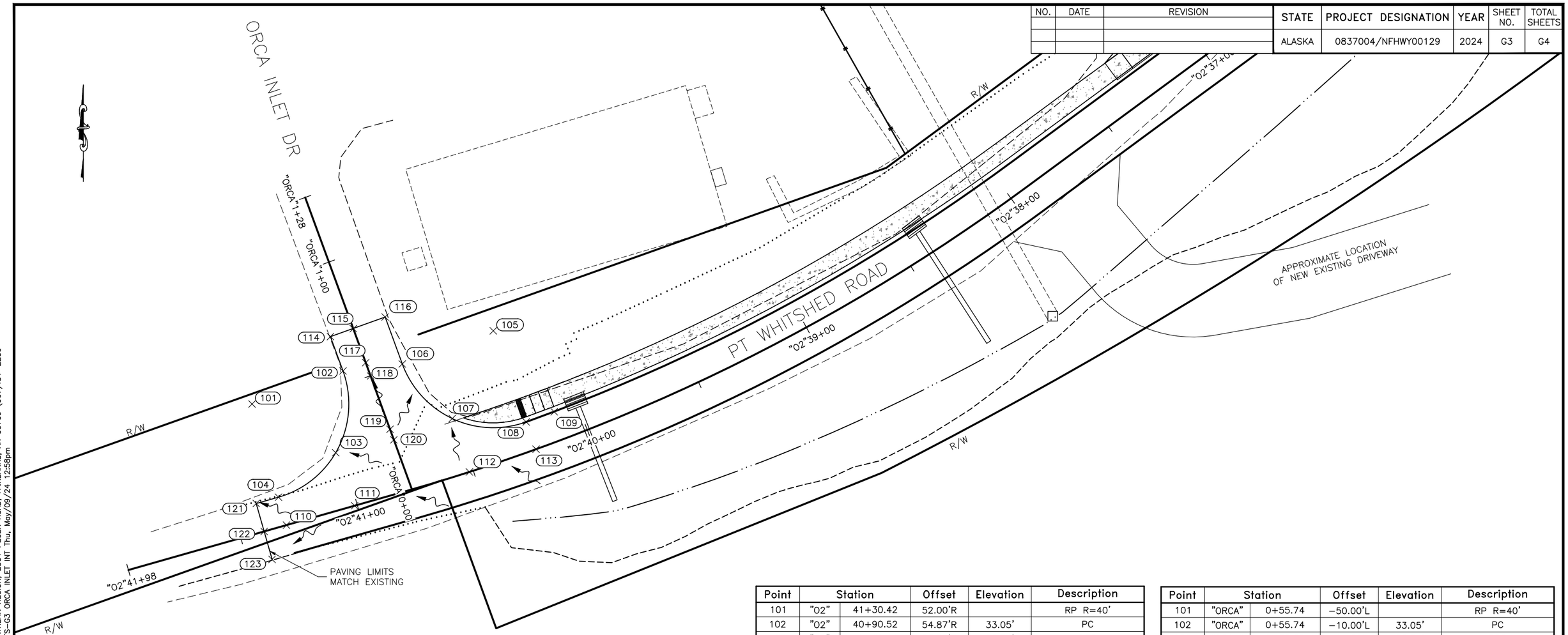
GRADING SHEET
WATER TREATMENT PLANT

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_G_SHEETS-G2 MEALS_WTP Thu, May/09/24 12:58pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	G3	G4



Point	Station		Offset	Elevation	Description
101	"02"	41+30.42	52.00'R		RP R=40'
102	"02"	40+90.52	54.87'R	33.05'	PC
103	"02"	41+02.66	23.20'R	33.34'	POC
104	"02"	41+30.42	12.00'R	33.54'	PT
105	"02"	40+22.61	52.00'R		RP R=40'
106	"02"	40+65.35	50.84'R	32.74'	PT
107	"02"	40+51.71	23.17'R	34.02'	POC
108	"02"	40+22.61	12.00'R	35.32'	PC
109	"02"	40+10.11	11.90'R	35.53'	EP
110	"02"	41+30.42	0.00'R	33.87'	CL
111	"02"	41+01.13	0.00'R	34.45'	CL
112	"02"	40+51.71	0.00'R	35.29'	CL
113	"02"	40+22.61	0.00'R	35.72'	CL
114	"02"	40+91.64	69.94'R	33.00'	MATCH EXISTING
115	"02"	40+81.65	70.51'R	33.34'	MATCH EXISTING
116	"02"	40+66.64	71.47'R	32.35'	MATCH EXISTING
117	"02"	40+80.55	55.59'R	33.39'	CL
118	"02"	40+80.13	49.77'R	33.55'	CL
119	"02"	40+78.44	26.39'R	34.18'	CL
120	"02"	40+78.10	21.76'R	34.30'	CL
121	"02"	41+40.00	12.00'R	33.43'	MATCH EXISTING
122	"02"	41+40.00	0.00'R	33.67'	MATCH EXISTING
123	"02"	41+40.00	−12.00'L	33.43'	MATCH EXISTING

Point	Station		Offset	Elevation	Description
101	"ORCA"	0+55.74	−50.00'L		RP R=40'
102	"ORCA"	0+55.74	−10.00'L	33.05'	PC
103	"ORCA"	0+25.02	−24.38'L	33.34'	POC
104	"ORCA"	0+15.84	−52.87'L	33.54'	PT
105	"ORCA"	0+50.06	54.00'R	TestPt	RP R=40'
106	"ORCA"	0+50.06	14.00'R	32.74'	PT
107	"ORCA"	0+21.81	25.68'R	34.02'	POC
108	"ORCA"	0+10.06	53.91'R	35.32'	PC
109	"ORCA"	0+10.04	66.22'R	35.53'	EP
110	"ORCA"	0+03.87	−53.74'L	33.87'	CL
111	"ORCA"	0+01.77	−24.53'L	34.45'	CL
114	"ORCA"	0+70.86	−10.00'L	33.00'	MATCH EXISTING
115	"ORCA"	0+70.69	0.00'R	33.34'	MATCH EXISTING
116	"ORCA"	0+70.69	14.00'R	32.35'	MATCH EXISTING
117	"ORCA"	0+55.74	0.00'R	33.39'	CL
118	"ORCA"	0+49.90	0.00'R	33.55'	CL
119	"ORCA"	0+26.45	0.00'R	34.18'	CL
120	"ORCA"	0+21.81	0.00'R	34.30'	CL
121	"ORCA"	0+16.53	−62.43'L	33.43'	MATCH EXISTING
122	"ORCA"	0+04.56	−63.30'L	33.67'	MATCH EXISTING

GRADING SHEET
ORCA INLET DRIVE

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
5/13/2024

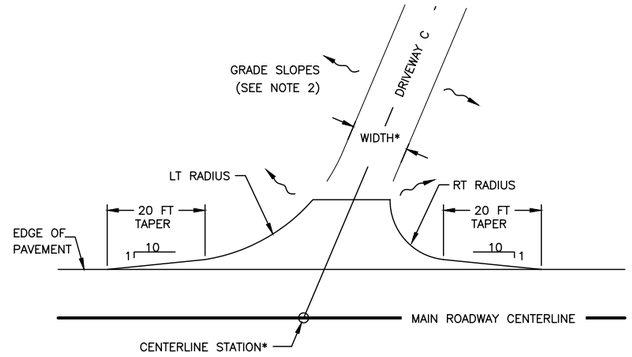
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_G_SHEETS-G3 ORCA INLET INT Thu, May/09/24 12:58pm

NO.	DATE	REVISION

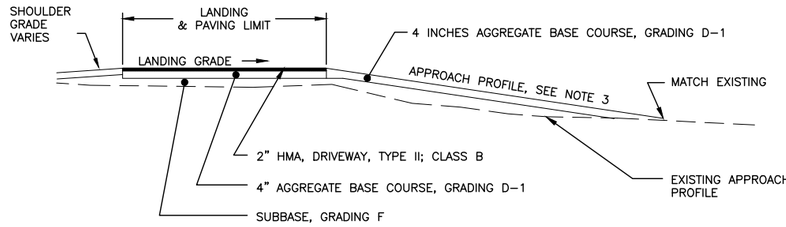
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	G4	G4

APPROACH SUMMARY 639.2000.0000

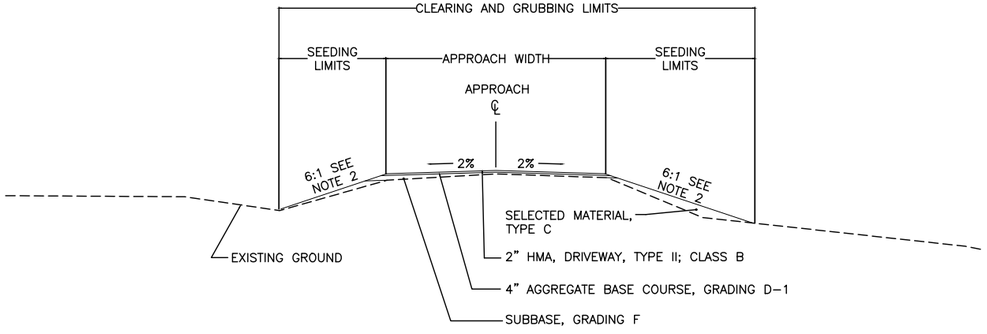
	CENTERLINE STATION	LT/RT	ANGLE (DEG)	WIDTH (FEET)	RADIUS LT (FEET)	RADIUS RT (FEET)	LANDING LENGTH (FEET)	TYPE	PAVED AREA (SY)	REMARKS
A1	02+26	LT	90°	15	20	20	15	RESIDENTIAL	69	TRAILER PARK ACCESS #1
A2	03+20	LT	90°	18	20	20	16	RESIDENTIAL	54	TRAILER PARK ACCESS #2
A3	06+08	LT	90°	29	20	20	12	RESIDENTIAL	50	TRAILER PARK ACCESS #3
A4	09+87	LT	90°	20	25	15	18	RESIDENTIAL	62	
A5	17+90	LT	90°	N/A	N/A	N/A	N/A	COMMERCIAL	335	MEALS WATER TREATMENT PLANT (SEE SHEET "G2")
A6	19+65	LT	90°	13	20	20	10	RESIDENTIAL	29	
A7	20+23	LT	90°	20	30	30	17	RESIDENTIAL	60	
A8	37+80	LT	90°	24	20	20	15	COMMERCIAL	60	
D1	2+32	RT	90°	79	0	0	4	RESIDENTIAL	39	
D2	4+11	RT	90°	40	0	0	2	COMERCIAL	12	
D3	5+02	RT	90°	18	0	0	5	RESIDENTIAL	15	
D4	5+95	RT	90°	14	0	0	2	RESIDENTIAL	6	
D5	6+26	RT	90°	16	0	0	2	RESIDENTIAL	6	
D6	29+58	RT	90°	28	0	0	2	COMERCIAL	9	RV PARK
D7	31+75	RT	90°	28	0	0	2	COMERCIAL	9	BALLPARK
D8	34+50	RT	90°	28	0	0	2	COMERCIAL	9	BALLPARK
D9	35+92	RT	90°	28	0	0	2	COMERCIAL	9	CORDOVA SHOP
D10	37+10	RT	90°	36	0	0	2	COMERCIAL	10	CORDOVA SHOP
								TOTAL AREA	843	



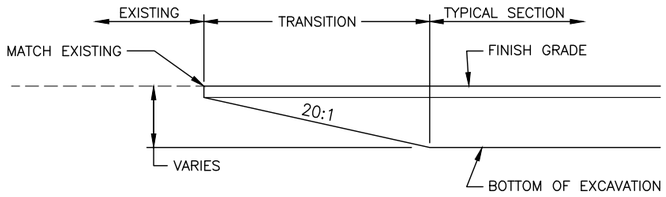
APPROACH PLAN VIEW



APPROACH PROFILE CROSS-SECTION TYPICAL



APPROACH TYPICAL SECTION



TYPICAL EXCAVATION TRANSITION DETAIL

N.T.S.

APPROACH DETAILS

APPROACH DETAIL NOTES:

1. REMOVAL OF EXISTING APPROACH EMBANKMENT WILL NOT BE MEASURED FOR PAYMENT. SEE SPECIFICATION SECTION 639
2. APPROACH FILL SLOPES SHALL BE 6H:1V BETWEEN THE ROAD SHOULDER AND LANDING. BEYOND THE LANDING, WARP APPROACH EMBANKMENT SLOPES FROM 6:1 (H:V) TO MATCH EXISTING OVER 50 FT OR AS APPROVED BY THE ENGINEER. GRADING OF SLOPES IS SUBSIDIARY TO EMBANKMENT CONSTRUCTION
3. GRADE APPROACH PROFILE TO CREATE A SMOOTH TRANSITION BETWEEN THE LANDING AND THE EXISTING APPROACH PROFILE
4. APPROACH RADIUS BEGINS AT THE END OF THE TAPER
5. GRADE SURROUNDING AREA TO DRAIN AS NEEDED TO ENSURE POSITIVE DRAINAGE AWAY FROM THE ROADWAY AND APPROACH EMBANKMENTS
6. DRIVEWAY AND APPROACH TERMS ARE USED INTERCHANGEABLY

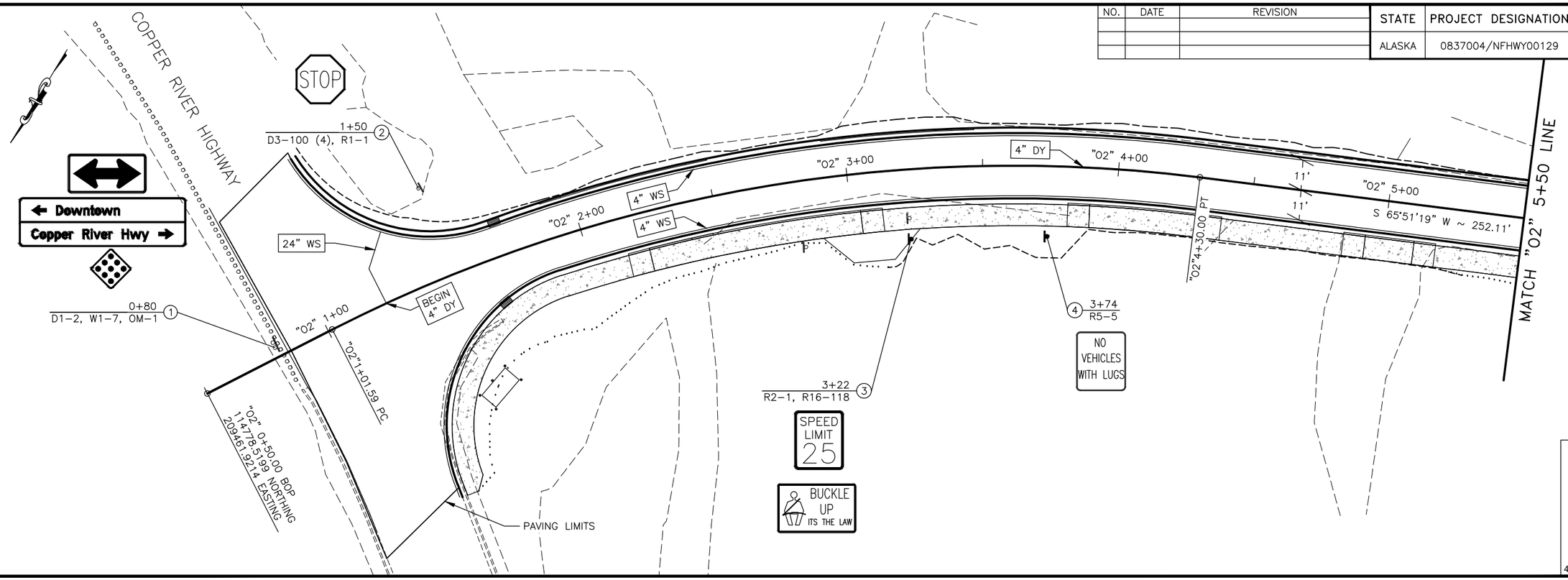
APPROACH SUMMARY & DETAILS

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables-G4 APPROACH SUMMARY & DETAILS Tue, Apr/09/24 03:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H1	H8

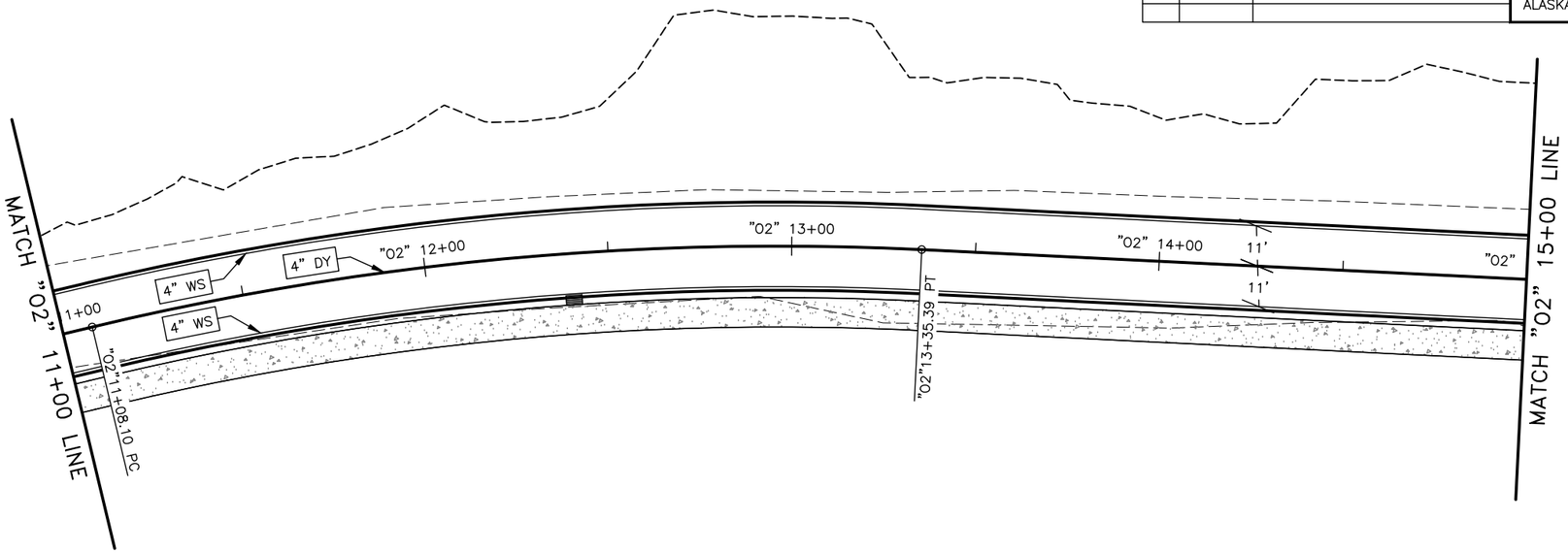


SIGNING & STRIPING

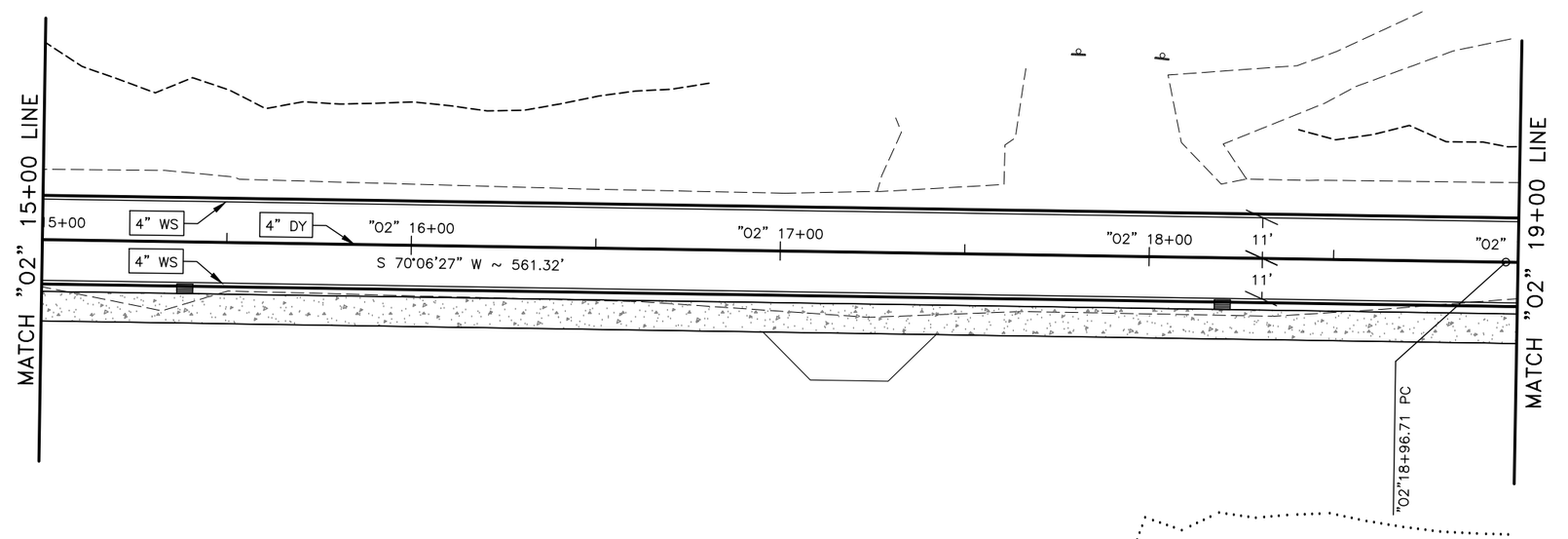
PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P-OVER-P-H1 POP-1+00.00-11+00.00 Wed, Apr/17/24 10:20am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H2	H8



STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

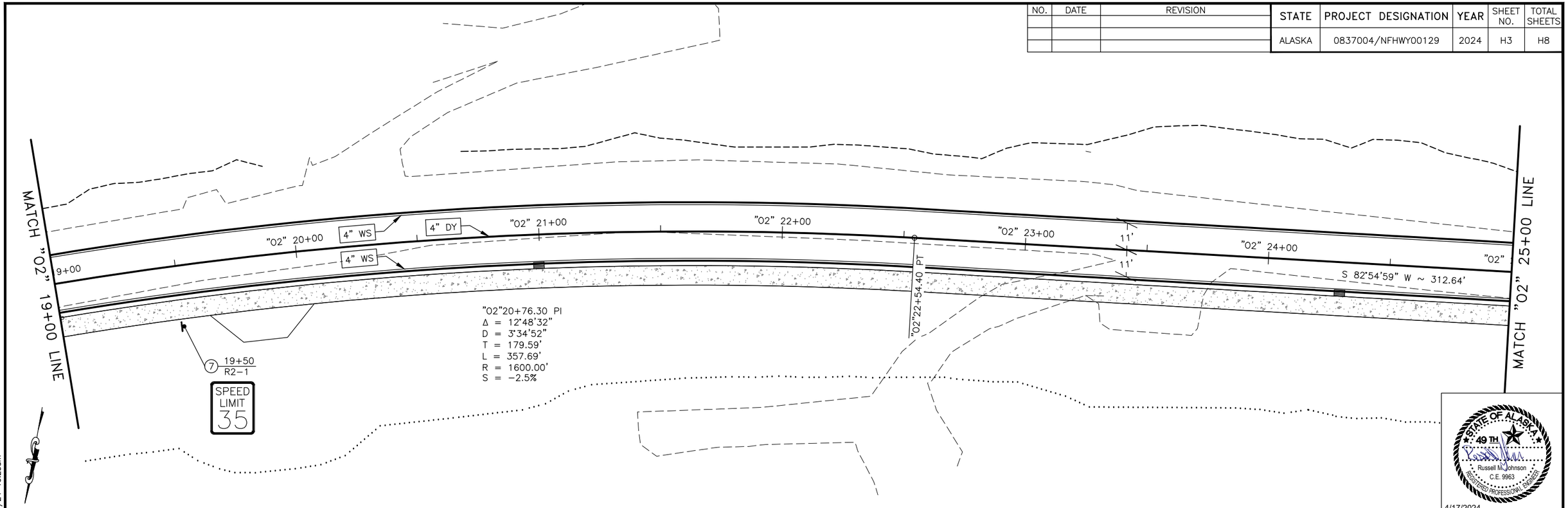


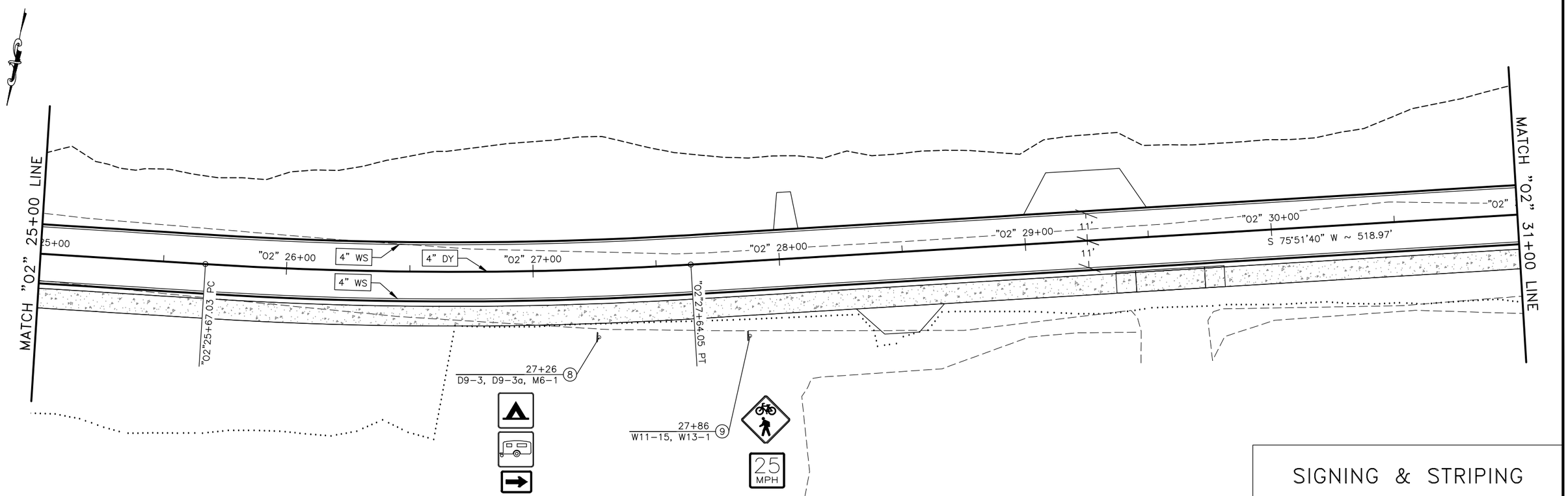
SIGNING & STRIPING

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P-OVER-P-11+00.00-19+00.00 Tue, Apr/09/24 10:58am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H3	H8





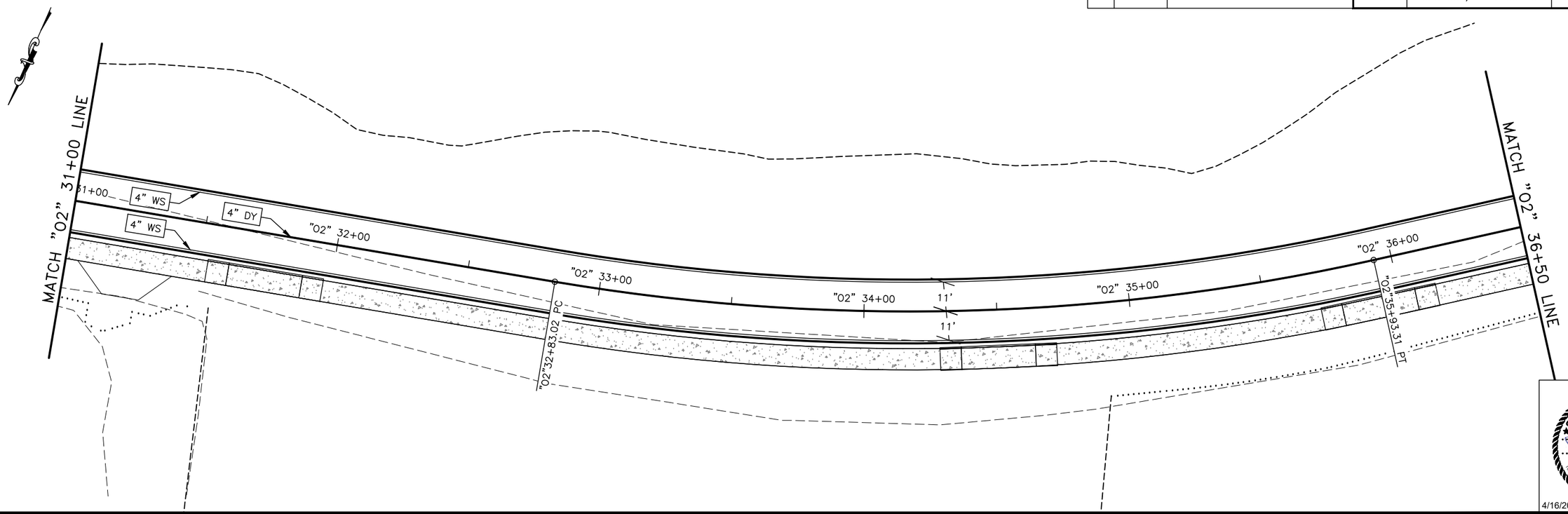
STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/17/2024

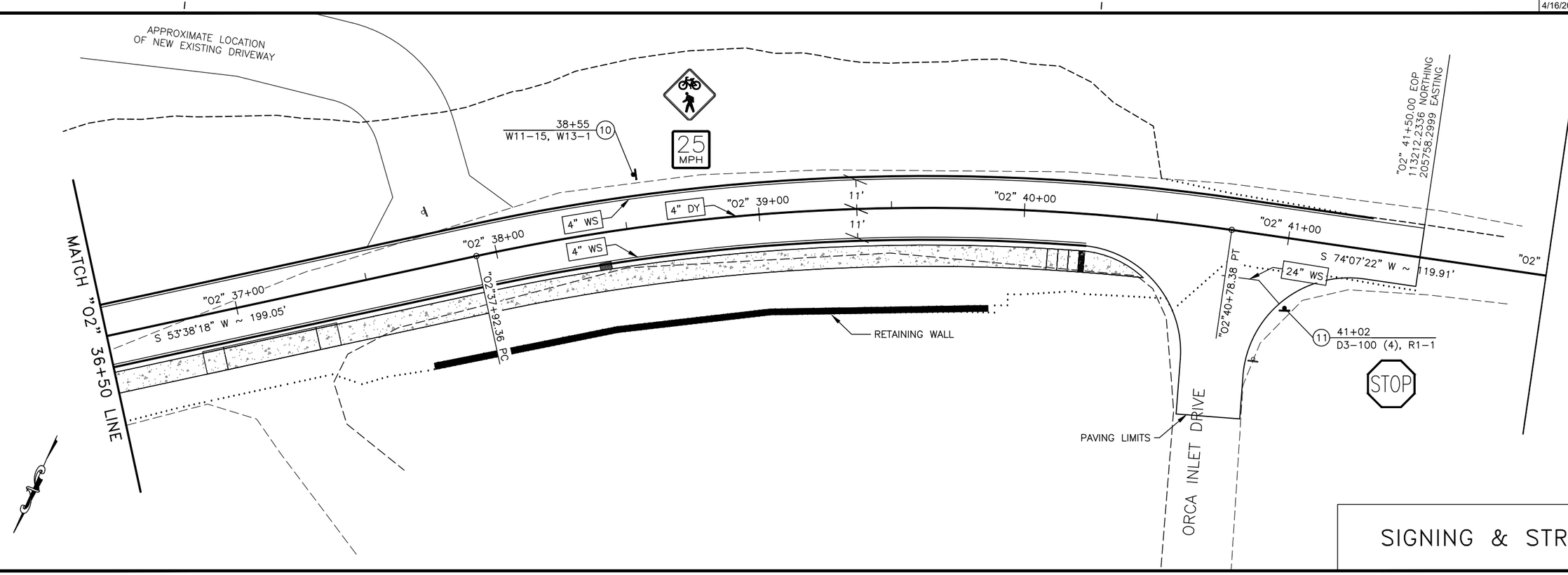
SIGNING & STRIPING

PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P-OVER-P-19+00.00-31+00.00 Wed, Apr/17/24 10:25am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H4	H8





STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

SIGNING & STRIPING

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_P-OVER-P-31+00.00-41+98.29 Tue, Apr/09/24 10:58am

NO.	DATE	REVISION

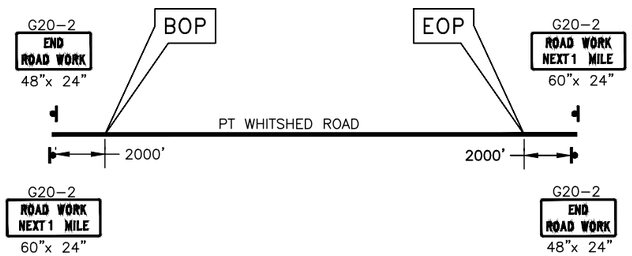
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H5	H8

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING BRACED	BRACING/ FRAMING FRAMED	AREA (SQ.FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	0+80.00	X		D1–2	DOWNTOWN/COPPER RIVER HWY	102 X 30		X	21.25	SW	TS	3	2	SEE NOTE 12
				W1–7	TWO DIRECTION LARGE ARROW	36 X 18	X		4.5	SW				
				OM–1	REFLECTIVE DIAMOND	18 X 18			2.25	SW				
2	01+50	X		R1–1	STOP	30 X 30	X		6.25	SW	PST	2.5	1	Copper River HWY/Whitshed Intersection
				D3–100	Copper River Hwy	42 X 8	X		2.33					
				D3–100	Pt Whitshed Rd	42 X 12	X		3.50					
3	03+22		X	R2–1	SPEED LIMIT 25	24 X 30			5	NE	PST	2.5	1	
				R16–118	BUCKLE UP IT'S THE LAW (Symbol)	48 X 30	X		10	NE				
4	03+74		X	R5–5	NO VEHICLES WITH LUGS	24 X 30			5	NE	PST	2.5	1	
5	08+06		X	R2–1	SPEED LIMIT 35	24 X 30			5	NE	PST	2.5	1	
6	10+42	X		R2–1	SPEED LIMIT 25	24 X 30			5	SW	PST	2.5	1	
7	19+50		X	R2–1	SPEED LIMIT 35	24 X 30			5	NE	PST	2.5	1	
8	27+26		X	D9–3	CAMPING	18 X 18			2.25	NE	PST	2.5	1	
				D9–3a	TRAILER CAMPING	18 X 18			2.25	NE				
				M6–1	Directional Arrow Auxiliary (symbol)	21 X 15			2.19	NE				
9	27+86		X	W11–15	BIKE AND PEDESTRIANS	24 X 24			4	NE	PST	2.5	1	
				W13–1	25 MPH	18 X 18			2.25	NE				
10	38+55	X		W11–15	BIKE AND PEDESTRIANS	24 X 24			4	SW	PST	2.5	1	
				W13–1	25 MPH	18 X 18			2.25	SW				
11	41+02		X	R1–1	STOP	30 X 30	X		6.25	NW	PST	2.5	1	
				D3–100	Orca Inlet Dr	36 X 8	X		2					
				D3–100	Pt Whitshed Rd	36 X 8	X		2					
								SUBTOTAL =	105					

SIGNING NOTES

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT THOSE DESIGNATED FOR REINSTALLATION, SALVAGE OR OTHERWISE NOTED. SALVAGE AND DELIVER ALL STOP SIGNS TO THE DEPARTMENT'S CORDOVA M&O YARD.
2. MOUNTING HEIGHTS ARE PER STANDARD PLAN S–05.02 UNLESS OTHERWISE NOTED.
3. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
4. INSTALL PST SIGN POSTS WITH SLEEVE TYPE SOIL EMBEDMENT 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.
5. INSTALL "TUBE POST SIGN BRACING" AS SHOWN ON STANDARD PLAN S–01.02 ON ALL SIGNS, EXCEPT D3–1 SERIES SIGNS, MOUNTED ON A SINGLE PST POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER. INSTEAD OF THE 5/8" GALVANIZED BOLTS AND NYLON LOCKING NUTS SHOWN ON STANDARD PLAN S–01.02, USE GALVANIZED 3/8" BOLTS, SPLIT LOCK WASHERS AND NUTS. STAINLESS STEEL FASTENER HARDWARE MAY BE USED INSTEAD OF GALVANIZED. 1/4" X 1 1/2" ALUMINUM ALLOY 6061–T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
6. 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.
7. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" SEE SPECIFICATION SECTION 615.
8. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
9. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
10. 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.
11. INSTALL WEATHER TIGHT CAPS ON ALL PIPE AND TUBE POSTS, EXCEPT PERFORATED STEEL TUBE.
12. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S–31.02.
13. SEE STANDARD PLAN S–00.12 FOR FRAMING DETAILS.



PERMANENT CONSTRUCTION SIGNS

NOTE: INSTALL ALL PERMANENT CONSTRUCTION SIGNS ON WOOD POSTS

POST TYPE LEGEND:

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

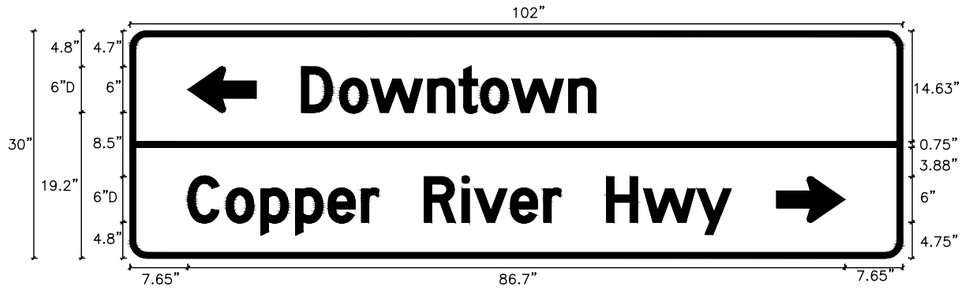
STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

SIGNING SUMMARY

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451–2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_Tables–H5 SIGNING SUMMARY Tue, Apr/09/24 10:59am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H6	H8



BORDER
R=2.25"
TH=0.75"

COLORS:
BACKGROUND: GREEN
LEGEND: WHITE

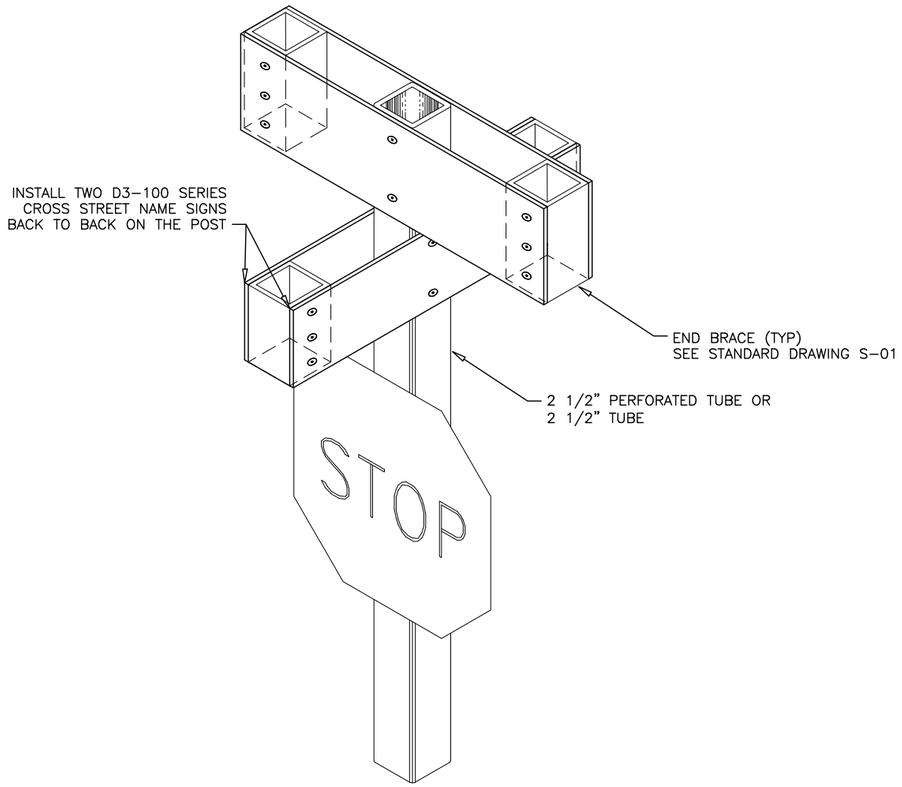
SIGN DETAILS

STATE OF ALASKA
49 TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

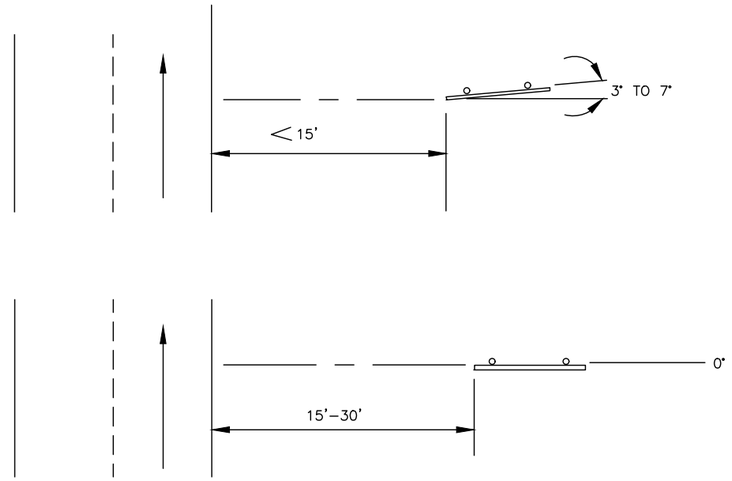
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_SIGN DETAILS-H6 SIGN DETAILS Tue, Apr/09/24 10:59am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H7	H8



STREET NAME SIGN MOUNTING DETAIL



SIGN INSTALLATION ANGLES

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.

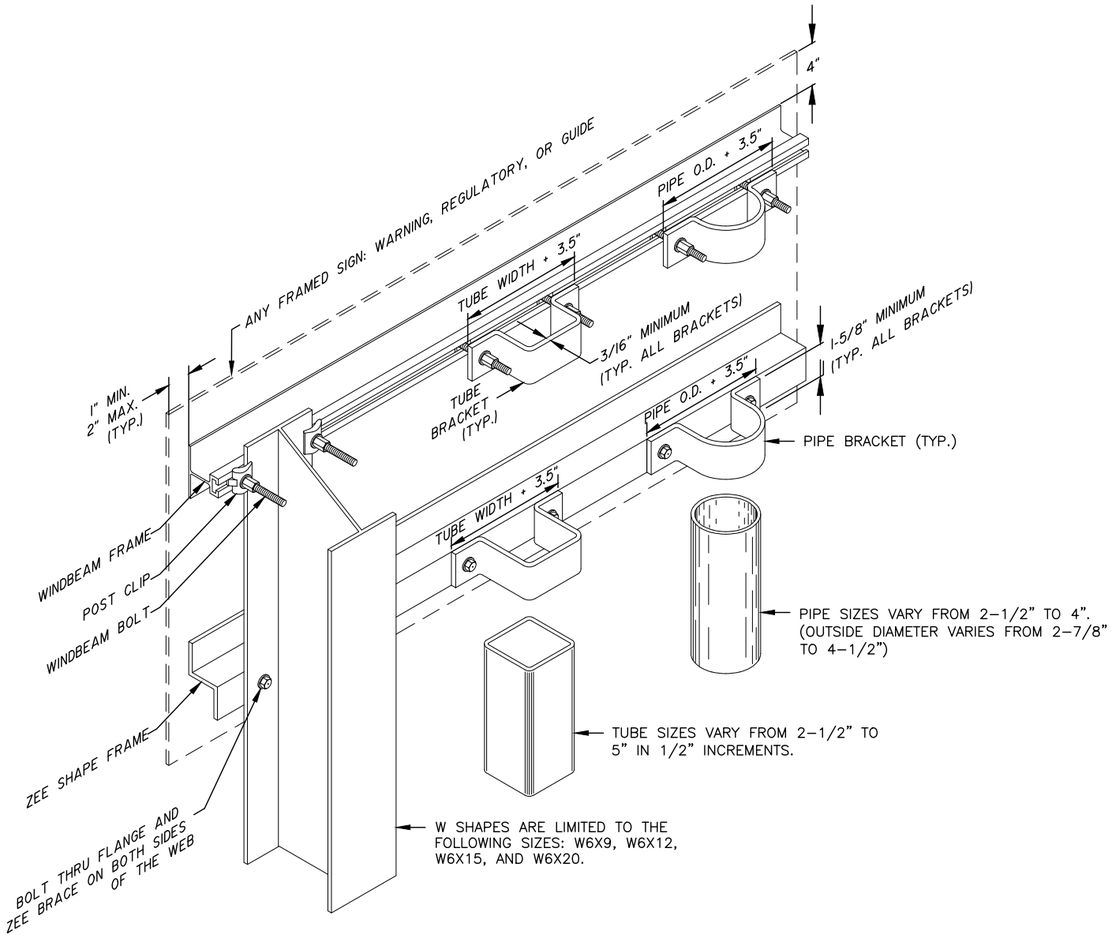
SIGN INSTALLATION DETAILS

STATE OF ALASKA 49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\00129_SIGN DETAILS-H7 SIGN INSTALLATION DETAILS Tue, Apr/09/24 10:59am

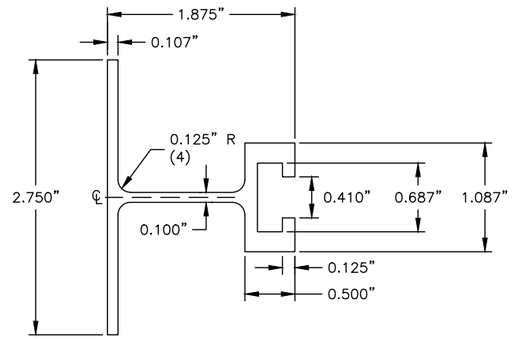
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	H8	H8



FRAMED SIGN ATTACHMENT BRACKETS

3/8" WINDBEAM BOLT



EXTRUDED ALUMINUM WINDBEAM

NOTES:

1. ATTACH FRAMED SIGNS TO POSTS WHEREVER THE FRAMES CROSS THE POSTS. AT EACH CROSSING, ATTACH THE SIGN USING TWO POST CLIPS ON W-SHAPE POSTS, A U-SHAPED BRACKET ON PIPES OR A BRACKET WITH SQUARE CORNERS ON TUBES.
2. THE TUBE BRACKETS USED ON EVEN INCH SIZE TUBES MAY ALSO BE USED ON TUBES 1/2" SMALLER IN SIZE.
3. THE BRACKET DETAILS SHOWN INDICATE GENERAL DESIGNS ONLY. DESIGNS MAY VARY BY MANUFACTURER.
4. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR ZEE SHAPE FRAMING, EXTRUDED WINDBEAM, AND RIVETS.
5. ATTACH SIGNS TO WINDBEAM WITH 3/16" RIVETS AT 4" STAGGERED SPACING.
6. EACH FRAMING MEMBER SHALL BE ONE CONTINUOUS PIECE.

TSM-407

STATE OF ALASKA
49TH
Russell M. Johnson
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
4/16/2024

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\3 Drawings\TSM407_SIGN ATTACHMENT BRACKETS-H8 TSM-407 Tue, Apr/09/24 10:59am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	K1	K5

GENERAL NOTES:

1. PRESERVE AND PROTECT IN PLACE EXISTING CONTROL CABINET, RADAR SENSOR AND POLE ASSEMBLY, LOAD CENTER, UTILITY CONNECTION TO THE LOAD CENTER, AND FEEDER CIRCUIT CONDUIT AND WIRING TO THE TRAFFIC CABINET.
2. REMOVE EXISTING PIEZOELECTRIC SENSORS AND JUNCTION BOX BETWEEN THE EXISTING CONTROL CABINET AND PIEZOELECTRIC SENSORS.
3. EQUIPMENT IN THE EXISTING TRAFFIC CABINET INCLUDING DATA EQUIPMENT CABLES ARE SCHEDULED TO REMAIN AS EXISTING.
4. CONTRACTOR SHALL VERIFY THERE IS ADEQUATE NUMBER OF TERMINAL PIN NUMBERS IN THE TERMINAL BLOCK, REPLACE OR ADD ADDITIONAL TERMINAL BLOCK AS REQUIRED. THIS WORK IS SUBSIDIARY TO SECTION 669.
5. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS AND COORDINATE FINAL SITE INSTALLATION WITH THE ENGINEER. THE ENGINEER SHALL APPROVE ALL MODIFICATIONS TO THE INSTALLATION.
6. INSTALLATION OF EQUIPMENT AND MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRIC CODE, ALASKA DOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, THE PROJECT SPECIAL PROVISIONS, AND THE PLANS.
7. PROVIDE AS-BUILT PLANS, REFER TO SUBSECTION 669-1.04.

LAYOUT NOTES:

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

AUTOMATIC VEHICLE CLASSIFICATION COUNTER ASSEMBLIES SCHEDULE

SITE NUMBER	STATION NUMBER	CABINET STATION	CABINET OFFSET	CONTROL CABINET	LOAD CENTER	NUMBER OF TYPE II JUNCTION BOXES	NUMBER OF LANES	NUMBER OF INDUCTIVE LOOPS	NUMBER OF 10-FOOT PIEZOELECTRIC SENSORS	AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS
1	13601114	"02" 16+95.97	31.89' LT	EXISTING	EXISTING INCLUDING FEEDER CIRCUIT TO CONTROL CABINET	2	2	4	4	NO

TRAFFIC CABINET EQUIPMENT SCHEDULE

FURNISH AND INSTALL

AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS	DATA LOGGER	TELEPHONE SERVICE	CELLULAR MODEM WITH EXTERNAL ANTENNA	REMOTELY CONTROLLABLE SERIAL SWITCH	LOAD CENTER WITH TRANSIENT VOLTAGE SURGE PROTECTION	RECEPTACLES AND PLUG STRIP RECEPTACLES	INTERIOR LED LIGHT	COOLING FAN	HEATER AND THERMOSTAT	INTERIOR POWER CIRCUITS	TERMINAL BLOCK	AVC COUNTER
NO	NO	NO	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	SEE GENERAL NOTE 4 ON SHEET K1	EXISTING

LABELS:

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

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

   FOUR LANE EXAMPLE

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

   PnDLc

   WHERE:

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

   n NUMBER SUFFIX FOR MULTIPLE LOOPS IN THE SAME LANE

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

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

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

SYMBOL LEGEND AND ABBREVIATIONS:

RMC: RIGID METAL CONDUIT, GALVANIZED

(TG) GROUND TEMPERATURE PROBE

(TA) AMBIENT AIR TEMPERATURE SENSOR

(TP) IN-PAVEMENT TEMPERATURE SENSOR

⟨#⟩ CONDUIT REFERENCE NUMBER

[#] NOTE REFERENCE NUMBER

PIEZOELECTRIC SENSOR

H2SLA INDUCTIVE LOOP SENSOR

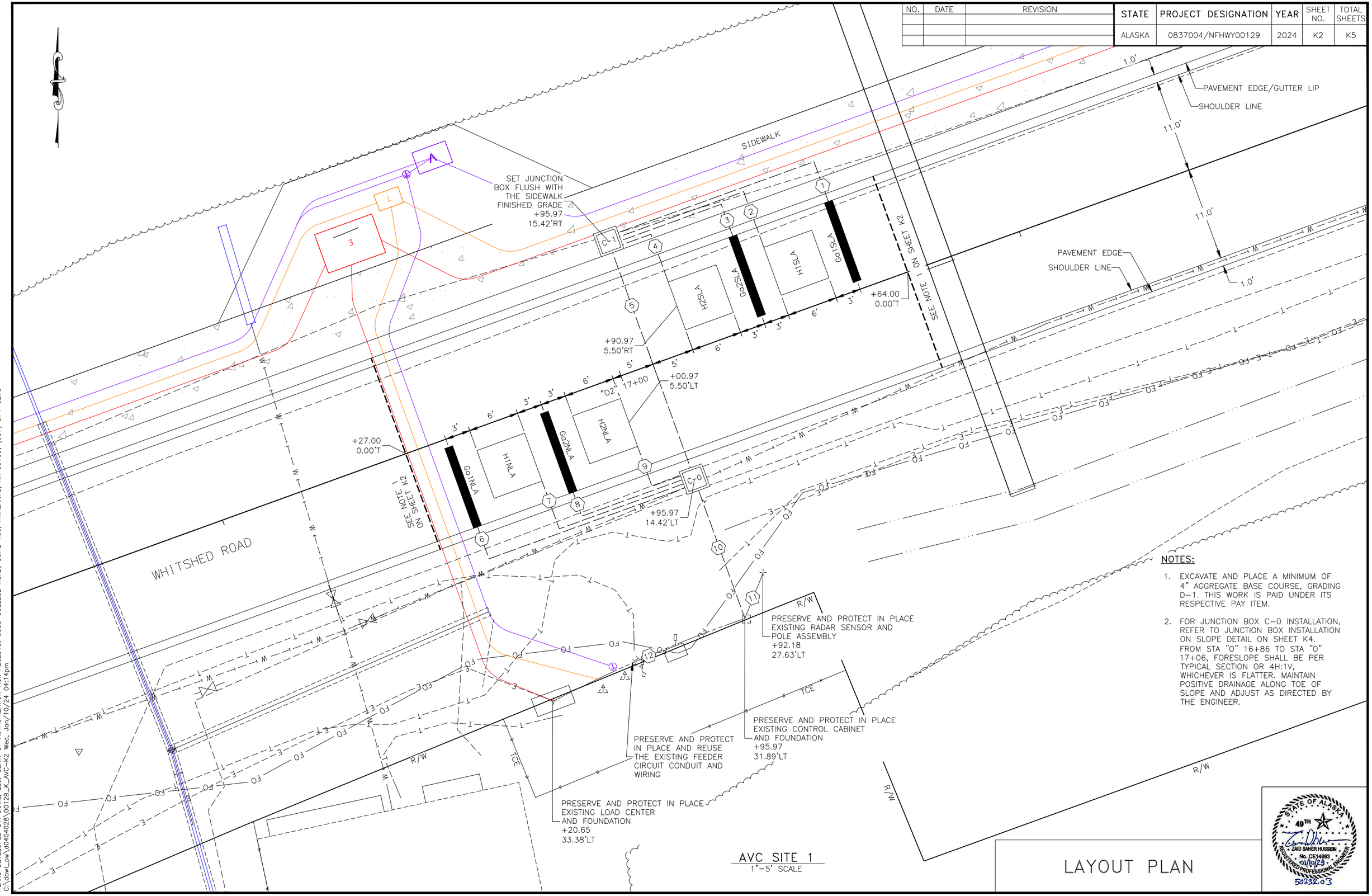
AUTOMATIC VEHICLE CLASSIFICATION COUNTER

STATE OF ALASKA 49TH ZAID SAHER HUSSEIN No. CE14883 01/10/24 REGISTERED PROFESSIONAL ENGINEER 50232.03

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_49540\00129_K_AVC-K1 Wed, Jan/10/24 02:31pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	K2	K5



AVC SITE 1
1"=5' SCALE

NOTES:

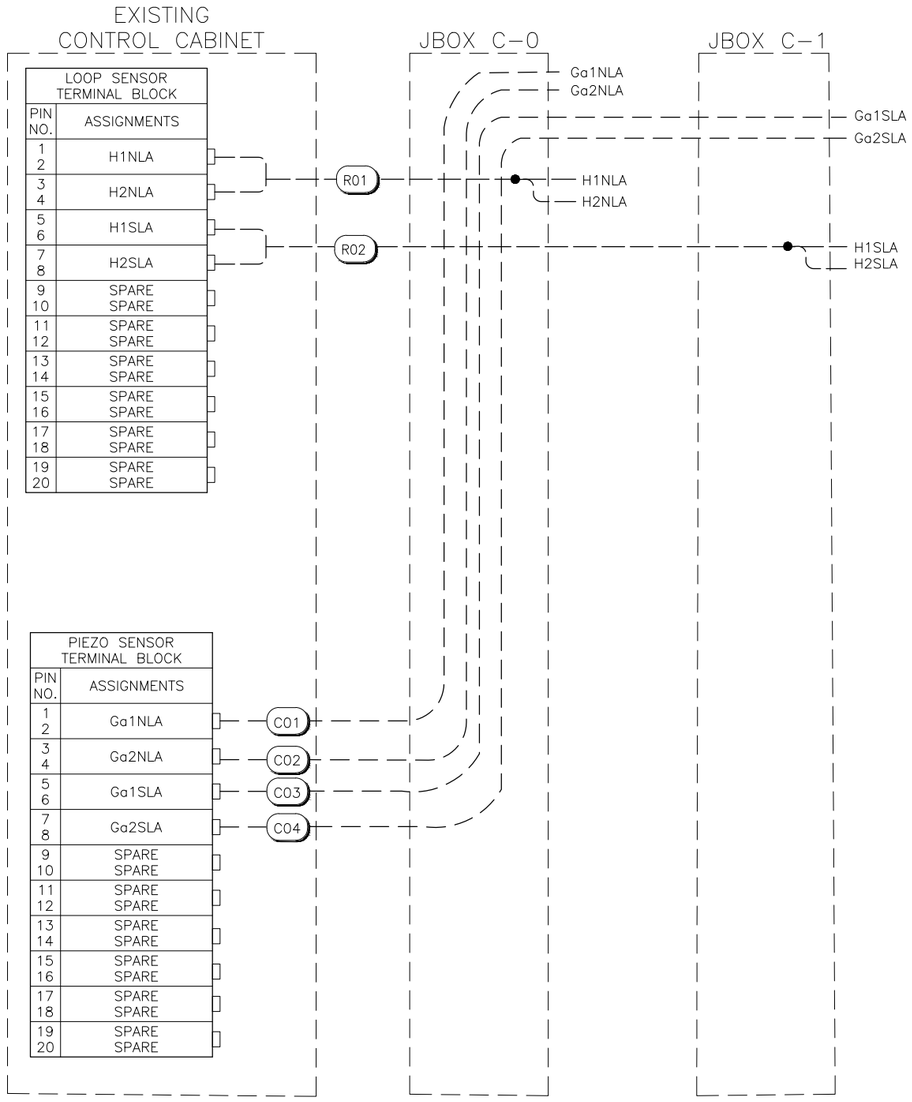
1. EXCAVATE AND PLACE A MINIMUM OF 4" AGGREGATE BASE COURSE, GRADING D-1. THIS WORK IS PAID UNDER ITS RESPECTIVE PAY ITEM.
2. FOR JUNCTION BOX C-0 INSTALLATION, REFER TO JUNCTION BOX INSTALLATION ON SLOPE DETAIL ON SHEET K4. FROM STA "O" 16+86 TO STA "O" 17+06, FORESLOPE SHALL BE PER TYPICAL SECTION OR 4H:1V, WHICHEVER IS FLATTER. MAINTAIN POSITIVE DRAINAGE ALONG TOE OF SLOPE AND ADJUST AS DIRECTED BY THE ENGINEER.

LAYOUT PLAN

STATE OF ALASKA
49TH
ZAID SAHER HUSSEIN
No. CE14883
REGISTERED PROFESSIONAL ENGINEER
10/24
50232.03

NO.	DATE	REVISION

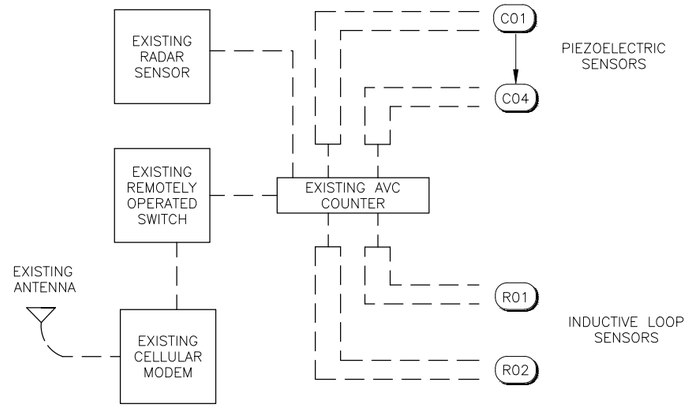
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	K3	K5



WIRING DIAGRAM
NTS

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT					CABLE		
#	QTY	SIZE (INCHES)	FROM	TO	QTY	TYPE	NUMBER
1	1	1	JBOX C-1	Ga1SLA	1	RG58 COAX	C03
2	1	1	JBOX C-1	H1SLA	1	1 PR#14	SPLICE TO R02 IN JUNCTION BOX C-1
3	1	1	JBOX C-1	Ga2SLA	1	RG58 COAX	C04
4	1	1	JBOX C-1	H2SLA	1	1 PR#14	SPLICE TO R02 IN JUNCTION BOX C-1
5	1	2	JBOX C-1	JBOX C-0	2	RG58 COAX	C03, C04
					1	7 PR#18	R02
	1	2			SPARE	SPARE	
6	1	1	JBOX C-0	Ga1NLA	1	RG58 COAX	C01
7	1	1	JBOX C-0	H1NLA	1	1 PR#14	SPLICE TO R01 IN JUNCTION BOX C-0
8	1	1	JBOX C-0	Ga2NLA	1	RG58 COAX	C02
9	1	1	JBOX C-0	H2NLA	1	1 PR#14	SPLICE TO R01 IN JUNCTION BOX C-0
10	1	2	JBOX C-0	CONTROL CABINET (EXISTING)	4	RG58 COAX	C01-C04
					2	7 PR#18	R01, R02
	1	2			SPARE	SPARE	
11	1 (EXISTING)	2 (EXISTING)	RADAR SENSOR	CONTROL CABINET (EXISTING)	1 (EXISTING)	RS-232 OR RS-485 (EXISTING)	
12	1 (EXISTING)	2 (EXISTING)	LOAD CENTER (EXISTING)	CONTROL CABINET (EXISTING)	2 (EXISTING)	3C #6 CABLE & 1 #8 AWG BARE CU. GND (EXISTING)	



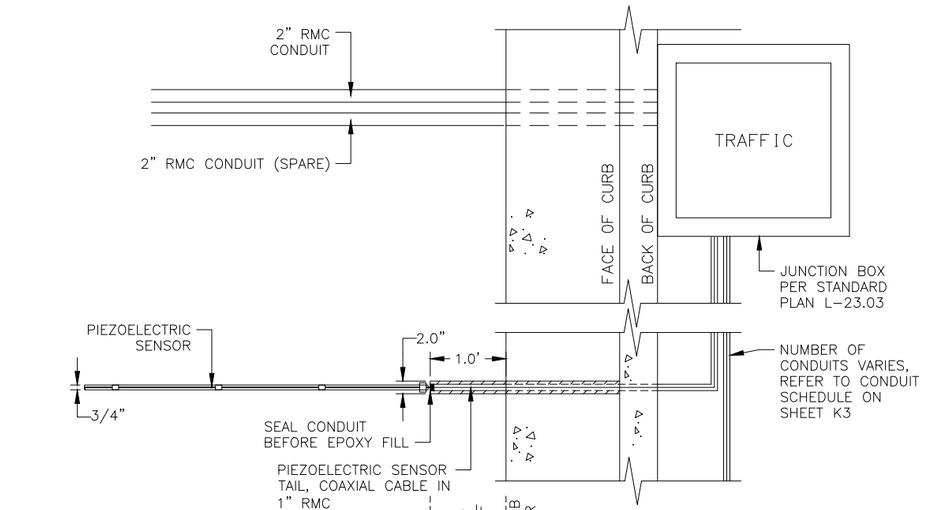
DATA/COMMUNICATION CIRCUITS
NTS

WIRING DIAGRAM

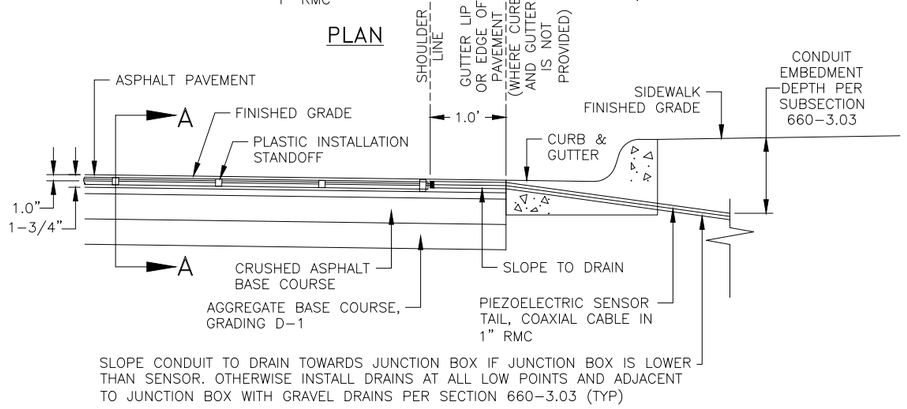
STATE OF ALASKA
49TH
ZAID SAHER HUSSEIN
No. CE14883
REGISTERED PROFESSIONAL ENGINEER
01/9/24
50232.03

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	K4	K5



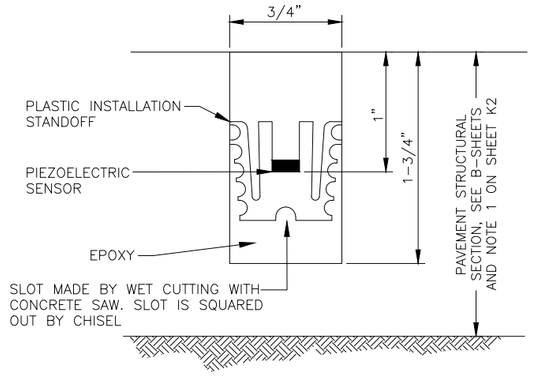
PLAN



PROFILE

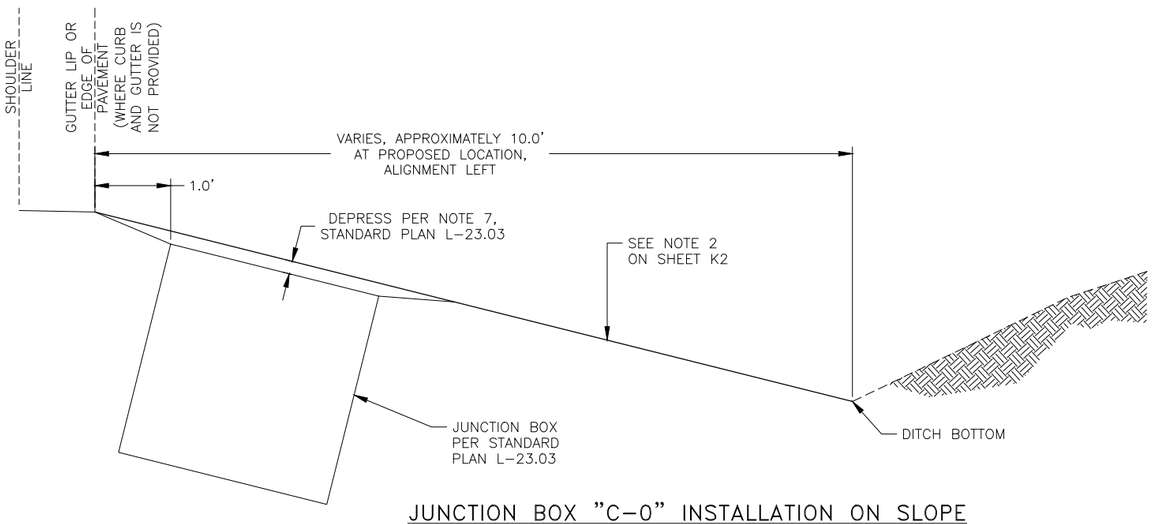
PIEZOELECTRIC SENSOR INSTALLATION DETAILS
OPTION I – THROUGH CURB & GUTTER

NTS



SECTION A–A

NTS

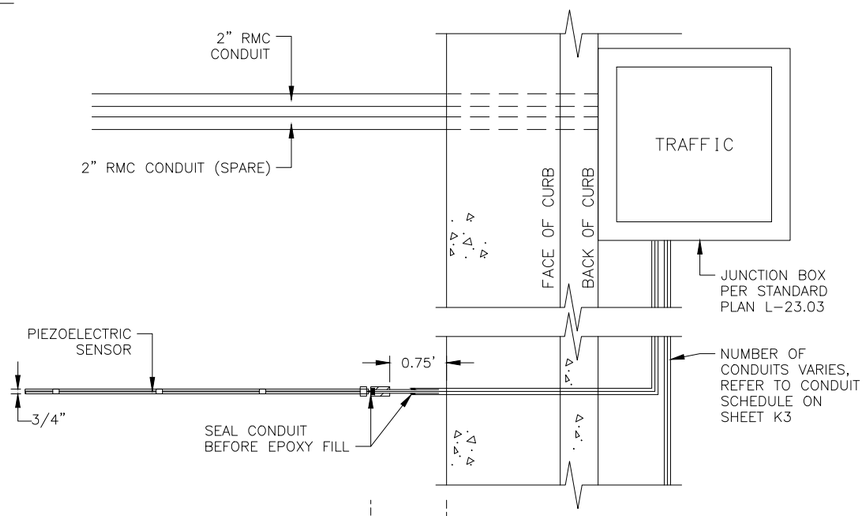


JUNCTION BOX "C-0" INSTALLATION ON SLOPE

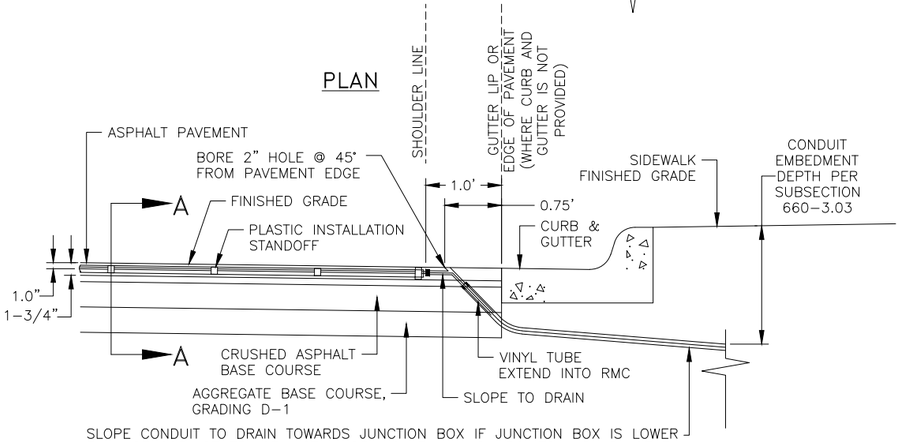
NTS

SENSOR LAYOUT NOTES:

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



PLAN



PROFILE

PIEZOELECTRIC SENSOR INSTALLATION DETAILS
OPTION II – UNDER CURB & GUTTER

NTS

PIEZOELECTRIC SENSOR DETAILS

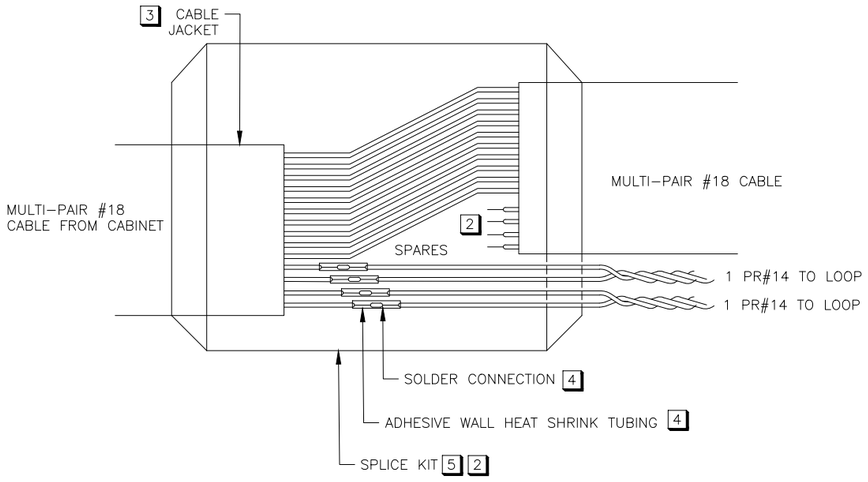
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\Temp\AcadTemp\AcPublish_49540\00129_K_AVC_DTL-K4 Wed, Jan/10/24 02:32pm

NO.	DATE	REVISION

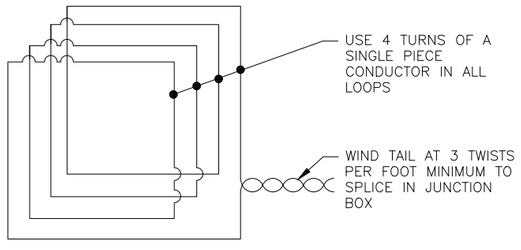
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	K5	K5

SPLICE NOTES:

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



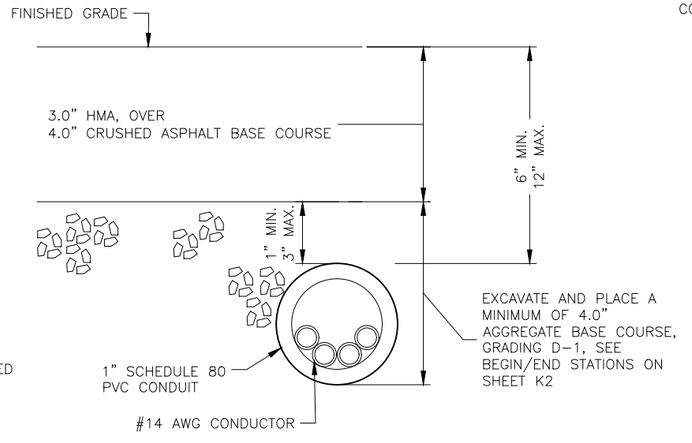
TYPICAL SPLICE DETAIL
NTS



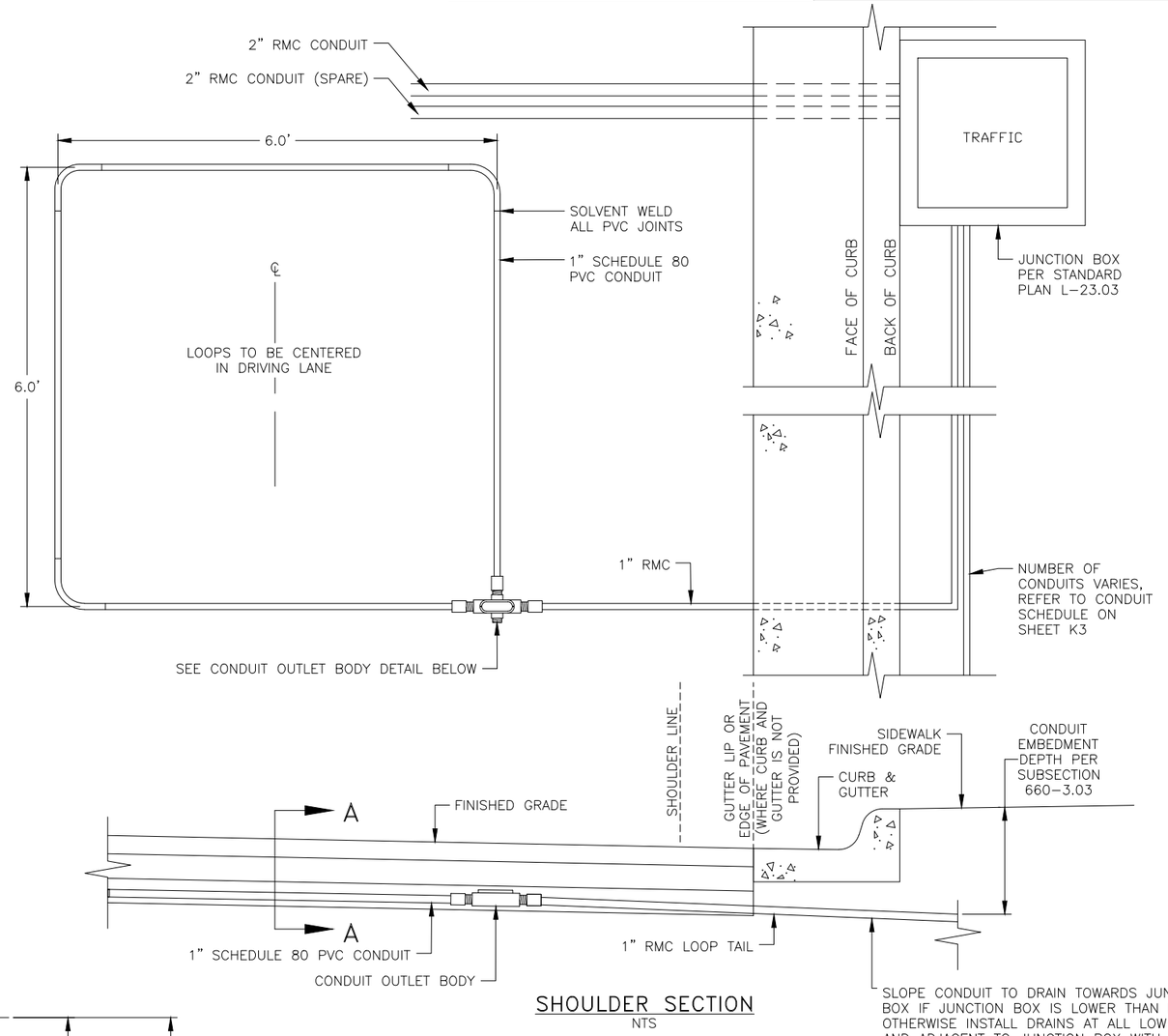
LOOP WIRING DETAIL
NTS

INDUCTIVE LOOP NOTES:

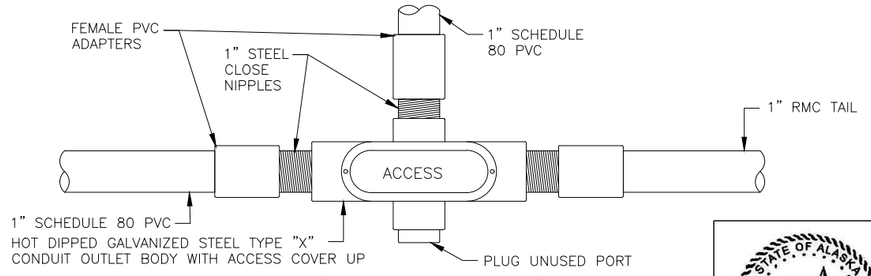
1. ALL INDUCTIVE LOOPS SHALL BE WOUND IN THE SAME DIRECTION WITH THE STARTING LEAD MARKED "S" PER SUBSECTION 660-3.05.13.
2. LEAD-IN WIRES FOR EACH LOOP SHALL BE IN SEPARATE CONDUITS TO THE FIRST JUNCTION BOX.
3. INDUCTIVE LOOPS SHALL BE INSTALLED IMMEDIATELY PRIOR TO PAVING THE SECTION OF ROADWAY. FINAL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



SECTION A-A



SHOULDER SECTION
NTS



CONDUIT OUTLET BODY DETAIL
NTS

SPLICE AND PRESENCE LOOP DETAILS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\temp\AcadTemp\AcPublish_49540\00129_K_AVC_DTL-K5 Wed, Jan/10/24 02:32pm

NO.	DATE	REVISION

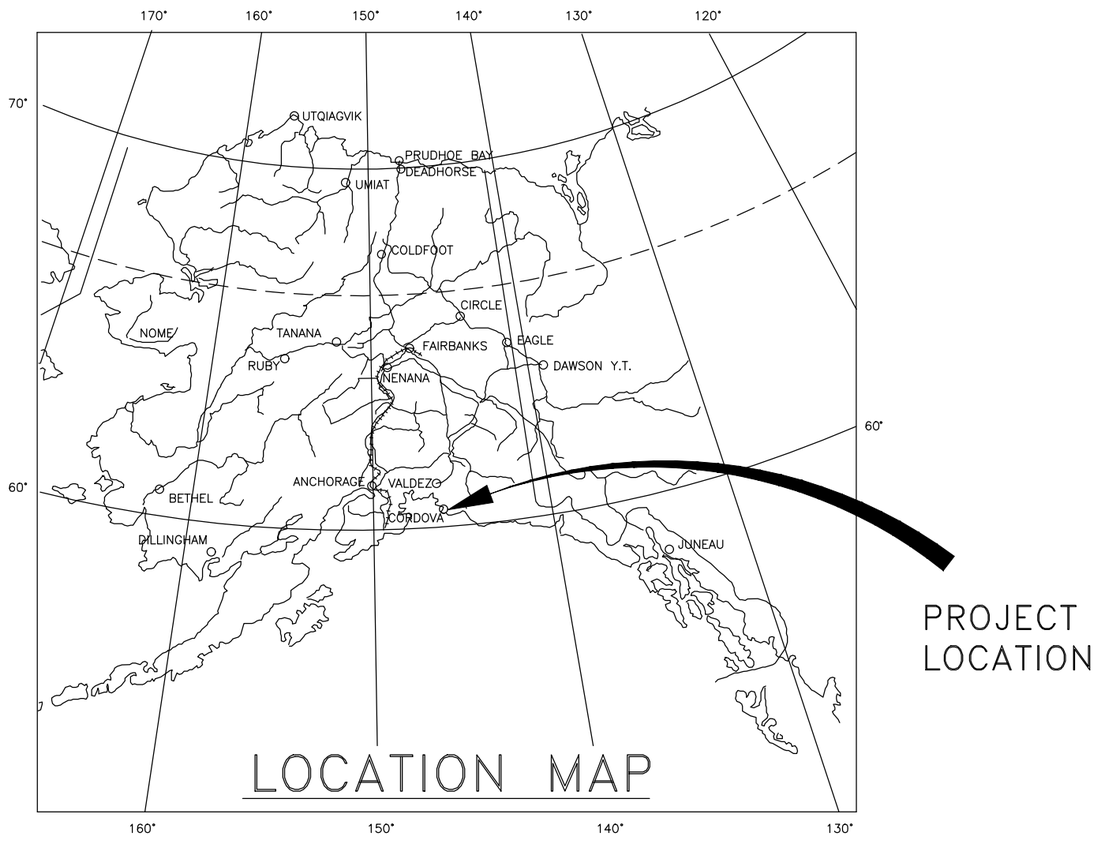
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	Q1	Q3

ESCP GENERAL NOTES:

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

ENVIRONMENTAL COMMITTMENTS:

1. MECHANIZED VEGETATION CLEARING WILL BE AVOIDED DURING THE RECOMMENDED MIGRATORY BIRD NESTING WINDOW FOR THE PROJECT (MAY 1 – JULY 15) UNLESS A MITIGATIVE BMP IS SUBMITTED BY THE CONTRACTOR AND APPROVED BY DOT&PF



LOCATION MAP

PROJECT LOCATION

LEGEND:

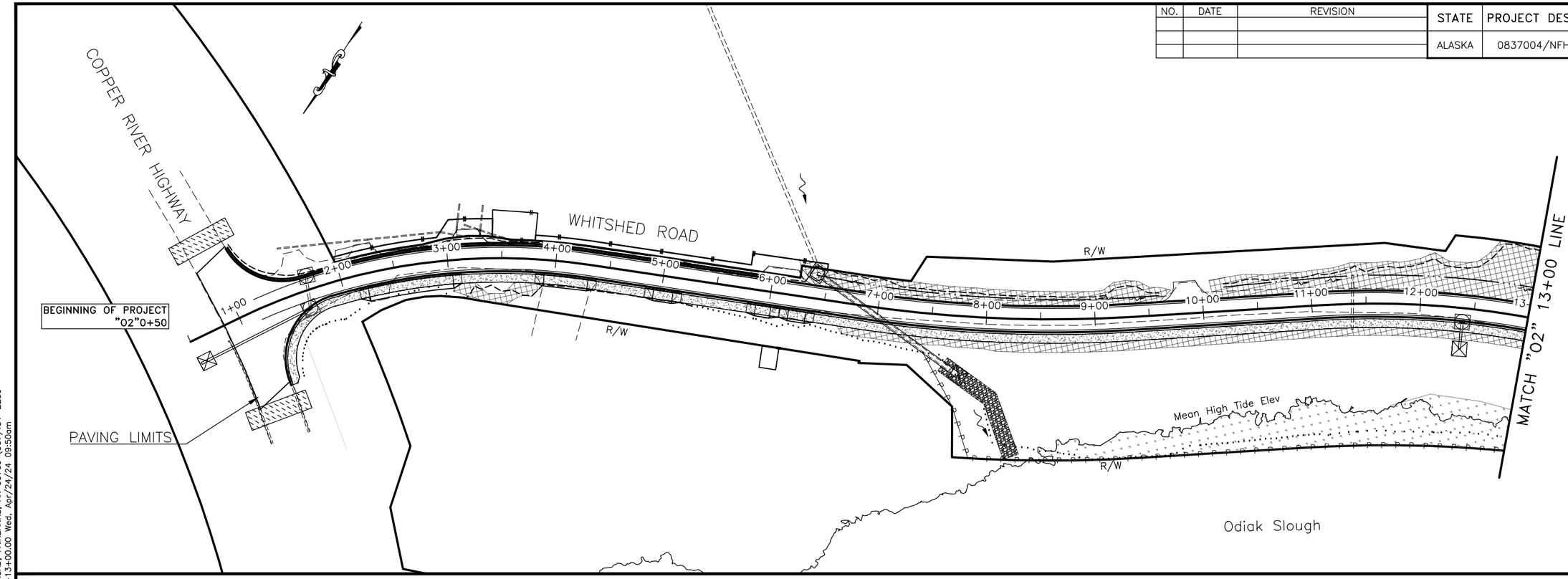
- WETLANDS
- APPROACH
- CULVERT
- RIPRAP
- REVEGETATIVE EFFORT
- PERIMETER CONTROL
- INLET PROTECTION
- OUTLET PROTECTION
- EXISTING SURFACE FLOW DIRECTION
- CHECK DAMS OR OTHER VELOCITY CONTROL BMPS
- CONSTRUCTION ENTRANCE AND EXIT

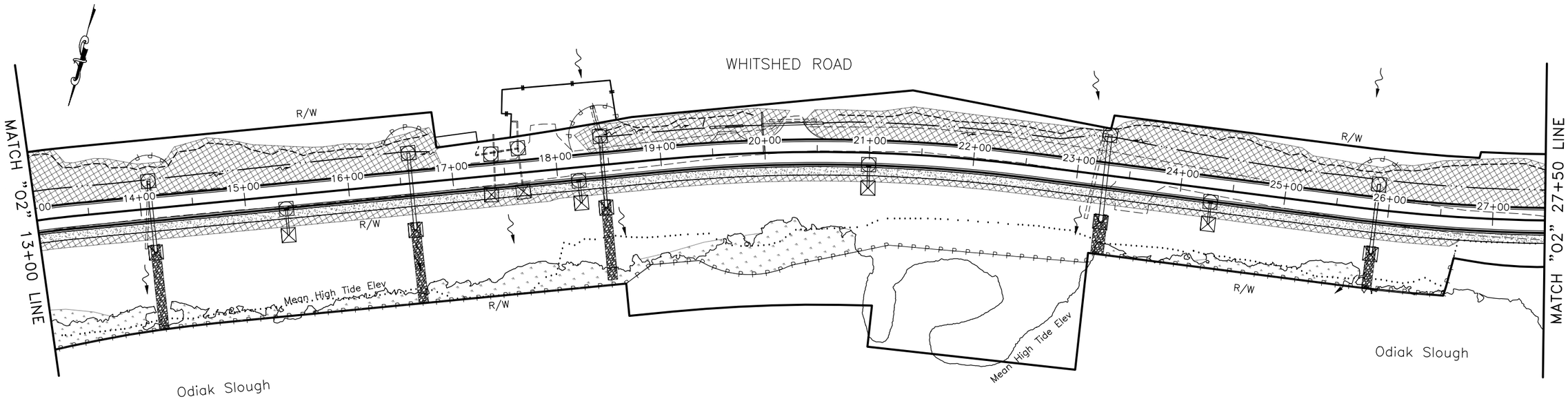
ESCP

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP-Q1 ESCP Wed, Apr/10/24 08:08am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	Q2	Q3

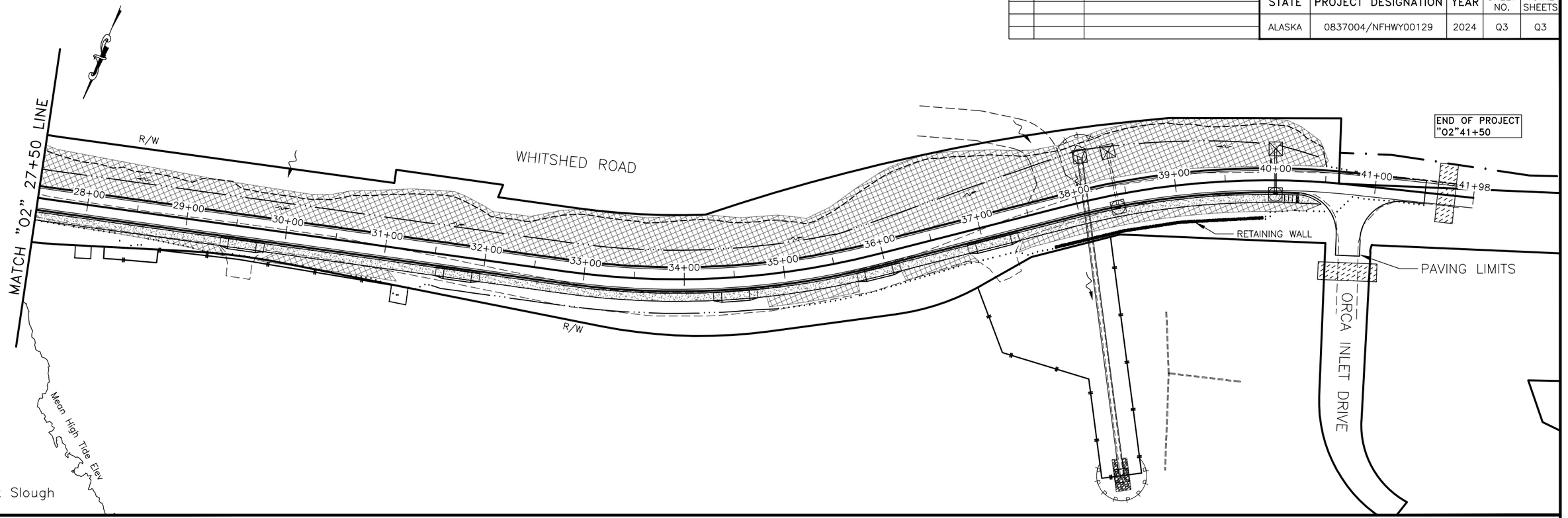




PLANS DEVELOPED BY:: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP_Q2 1+01.59-13+00.00 Wed, Apr/24/24 09:50am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	Q3	Q3



PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Communities\Cordova\00129_Whitshed\6 Design\5 Civil 3D\1 Plots\00129_Q SHEETS_P-OVER-P_ESCP-Q3 27+50.00-41+98.29 Wed, Apr/24/24 08:12am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U1	U3

NOTES:

1. ALL EXISTING UNDERGROUND UTILITIES SHALL BE FIELD LOCATED BEFORE ANY CONDUIT TRENCHING OR OTHER EXCAVATION WORK BEGINS. ANY EXISTING UTILITIES TO REMAIN DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
2. ALL EXISTING UTILITIES SHALL BE MAINTAINED UNTIL THE NEW SYSTEM IS FULLY OPERATIONAL. PROVIDE TEMPORARY FACILITIES AS REQUIRED.
3. GCI, CTC AND CEC WILL FURNISH AND INSTALL ALL CABLES, CONDUCTORS AND RECONNECTIONS.
4. CTC, AND CEC WILL PROVIDE ALL VAULTS AND PEDESTALS AT THEIR RESPECTIVE STORAGE YARDS IN CORDOVA. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY ON THE LOCATION OF THEIR STORAGE YARD AND SHALL PICK UP, DELIVER TO THE PROJECT, AND INSTALL THE VAULTS AND PEDESTALS. THE CONTRACTOR SHALL PROVIDE SIGN–OFF UPON RECEIPT OF ALL ITEMS AT THE TIME OF PICK UP.
5. GCI WILL MAKE THE GCI PROVIDED MATERIALS AVAILABLE TO THE PRIME CONTRACTOR AT GCI'S ANCHORAGE WAREHOUSE FOR PICKUP. THE PRIME CONTRACTOR WILL NOTIFY GCI A MINIMUM OF 3 MONTHS IN ADVANCE OF THE PLANNED MATERIALS PICKUP DATE.
6. CONTRACTOR SHALL COORDINATE WITH EACH UTILITY ON THEIR REQUIREMENTS FOR INSTALLING NEW CONDUIT INTO THE NEW VAULTS AND PEDESTALS. SEE THE APPENDICES FOR PRODUCT INFORMATION ON THE VAULTS AND PEDESTALS THE UTILITIES WILL PROVIDE.
3. THE CONTRACTOR SHALL TERMINATE AND CAP THE CONDUIT RUNS AT EXISTING VAULTS AND PEDESTALS PER THE DETAIL PROVIDED ON THE PLANS.
4. IN GENERAL, THE LOCATIONS OF VAULT PADS AND VAULTS, ROUTING OF UTILITY CONDUITS, SWEEPS, AND CROSSINGS SHOWN IN THE PLAN ARE TO SCALE. CONTRACTOR TO VERIFY EXACT FIELD CONDITIONS AND LOCATIONS OF PROPOSED INFRASTRUCTURE BEFORE BEGINNING WORK.
5. CROSSING OF CONDUIT TO ACCOMPLISH THE INDICATED CONDUIT LAYOUT AND ROUTING SHALL BE FIELD DETERMINED BY THE CONTRACTOR.
6. MODIFY THE TRENCH ELEVATION AT CROSSINGS WITH EXISTING UTILITIES, PROPOSED CULVERTS, AND PROPOSED AVC AS REQUIRED FOR CLEARANCE. SEE PLANS.
7. MAINTAIN A MINIMUM OF 12–INCH SEPARATION BETWEEN ELECTRIC POWER AND TELECOMMUNICATION CONDUITS.
8. FOR CLARITY, EACH UTILITY IS REPRESENTED ON THE PLANS BY A SINGLE LINE THAT REPRESENTS NUMEROUS CONDUIT. REFER TO THE UTILITY TRENCH SECTIONS (A1, B2, ETC.) ON THESE PLANS AND THE UTILITY AGREEMENT DRAWINGS FOR ADDITIONAL INFORMATION ON CONDUIT NUMBER AND ROUTINGS.
9. FIELD VERIFY MANHOLE DIMENSIONS, RISER JOINT DEPTHS, CONE ROTATION AND FRAME SIZE BEFORE ORDERING MATERIALS TO RECONSTRUCT OR ADJUST MANHOLES OR CLEANOUTS. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. NEW SANITARY SEWER MANHOLE RISERS AND CONES SHALL BE INSTALLED WITH RUNGS IN ALIGNMENT WITH EXISTING RUNGS.
11. DUCTILE IRON PIPE, SLEEVE, AND CLEANOUT FITTINGS REQUIRED FOR ADJUSTMENT OF CLEANOUT SHALL BE CONTRACTOR FURNISHED.
12. CEC, CTC, AND GCI HAVE DESIGNED THEIR RESPECTIVE UTILITY SYSTEMS, INCLUDING LAYOUT, MATERIALS, AND CONSTRUCTION REQUIREMENTS. THESE PLANS REFLECT THEIR DESIGN AND HAVE BEEN APPROVED BY THE UTILITIES. COMPLIANCE WITH THE NATIONAL ELECTRIC CODE REQUIREMENTS IS THE RESPONSIBILITY OF THE UTILITY. THESE PLANS REFLECT A DESIGN THAT COMPLIES WITH STANDARD ROAD DESIGN PRACTICE AND AVOIDS CONFLICTS WITH EXISTING INFRASTRUCTURE AND NEW IMPROVEMENTS AS PROVIDED BY THE PROJECT.
13. FOR SEWER STRUCTURE RECONSTRUCT OR ADJUSTMENTS, CONFIRM FG ACCORDING TO ROADWAY GRADE AND MANHOLE OR CLEANOUT DETAILS BEFORE ORDERING MATERIALS OR PERFORMING WORK.

SUPPLEMENTAL ABBREVIATIONS & LEGEND

ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AVC	AUTOMATIC VEHICLE CLASSIFICATION COUNTER
BFV	BUTTERFLY VALVE
CTE	CONNECT TO EXISTING
GV	GATE VALVE
INV	INVERT
NEC	NATIONAL ELECTRIC CODE
O.C.	ON CENTER
PED	PEDESTAL
PVC	POLYVINYL CHLORIDE
S/W	SIDEWALK

PROPOSED GCI CONDUIT

PROPOSED CTC CONDUIT

PROPOSED CEC CONDUIT

CE–V#	CEC VAULT	E	
CT–V#	CTC VAULT		
GCI–AP#	GCI AMP PED		
GCI–NP#	GCI NODE PED		
GCI–TP#	GCI TAP PED		
GCI–FV#	GCI FIBER VAULT		

626.2013.0000 ADJUST SANITARY SEWER CLEANOUT

SHEET	ID	STATION	OFFSET	EG RIM	FG RIM	REMARKS
U102	SSCO 107–A–8	5+85.98	1.60 RT	56.04	55.68	ADJUST EXISTING CLEANOUT

627.0001.0004 DUCTILE IRON WATER CONDUIT, 4", CLASS 350

SHEET	FROM STATION	TO STATION	FROM OFFSET	TO OFFSET	REMARKS
U104	17+66.70	17+66.64	49.03 LT	32.11 RT	INSTALL WATER DRAIN LINE, CONNECT TO EXISTING PIPE 2' FROM FACILITY FOUNDATION

627.0001.0012 DUCTILE IRON WATER CONDUIT, 12", CLASS 350

SHEET	FROM STATION	TO STATION	FROM OFFSET	TO OFFSET	REMARKS
U104	17+41.20	17+41.20	24.08 RT	30.05 RT	INSTALL WATER LINE, CONNECT TO EXISTING 12" BLOWOFF

627.0005.0000 FIRE HYDRANT INSTALLATION

SHEET	STATION	OFFSET	REMARKS
U106	SEE PLAN	SEE PLAN	INSTALL HYDRANT ASSEMBLY AS DETAILED, HYDRANT PAD IS SUBSIDIARY TO THIS PAY ITEM

627.0010.0000 ADJUSTMENT OF VALVE BOX

SHEET	STATION	OFFSET	REMARKS
U101	1+40	42 RT	LOCATE AND ADJUST EXISTING VALVE BOX
U101	3+20	27 LT	LOCATE AND ADJUST EXISTING VALVE BOX
U102	6+62	19 LT	LOCATE AND ADJUST EXISTING VALVE BOX
U102	7+59	14 LT	LOCATE AND ADJUST EXISTING VALVE BOX
U104	17+38	17 LT	LOCATE AND ADJUST EXISTING VALVE BOX
U104	17+40.8	13 LT	ADJUST EXISTING VALVE BOX
U104	17+58	18 LT	LOCATE AND ADJUST EXISTING VALVE BOX
U108	40+83	18 LT	LOCATE AND ADJUST EXISTING VALVE BOX

680.2000.0000 COMMUNICATION UTILITY RELOCATION, GCI (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
2" HDPE	13,400 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
AMP PEDESTAL	2
NODE PEDESTAL	2
TAP PEDESTAL	4
FIBER VAULT	4

680.2000.0000 COMMUNICATION UTILITY RELOCATION, CTC (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
1–1/4" HDPE	8,550 LF
2" PVC	950 LF
4" PVC	4,400 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
TELEPHONE VAULT	8

687.2000.0000 POWER UTILITY RELOCATION, CEC (LUMP SUM)

CONDUIT LENGTH SUMMARY	
CONDUIT SIZE	TOTAL LENGTH
2" PVC	5,150 LF
4" PVC	9,100 LF
6" PVC	4,400 LF
STRUCTURE SUMMARY	
STRUCTURE TYPE	QUANTITY
ELECTRIC VAULT	6

604.0003.0000 RECONSTRUCT EXISTING MANHOLE

SHEET	STRUCTURE			CASTING			REMARKS
	ID	STATION	OFFSET	EG RIM	FG RIM	TYPE	
U106	MH 1	27+61.55	17.21 RT	43.51	43.82	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U107	MH 2	31+43.74	17.30 RT	41.04	43.23	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U107	MH 3	35+07.09	33.24 RT	37.28	37.99	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U108	MH 4	38+63.44	5.56 RT	35.90	37.04	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED
U108	MH 5	40+67.78	0.82 LT	34.97	35.05	48" SSMH	RECONSTRUCT MANHOLE. EXIST BASE LEFT IN PLACE, NEW CONE OR BARREL SECTIONS INSTALLED

604.0004.0000 ADJUST EXISTING MANHOLE

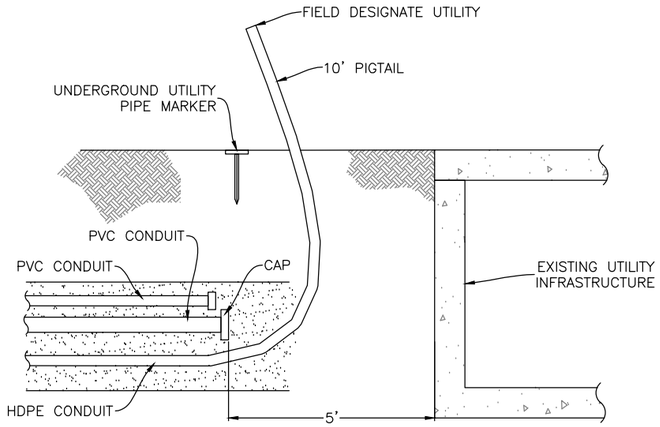
SHEET	STRUCTURE			CASTING			REMARKS
	ID	STATION	OFFSET	EG RIM	FG RIM	TYPE	
U101	MH 107–A–7	2+46.32	9.12 RT	46.79	46.74	48" SSMH	ADJUST EXISTING MANHOLE
U101	MH 107–A–2A	5+11.02	3.31 RT	54.35	53.70	48" SSMH	ADJUST EXISTING MANHOLE

UTILITY LEGEND, NOTES AND SUMMARY TABLES

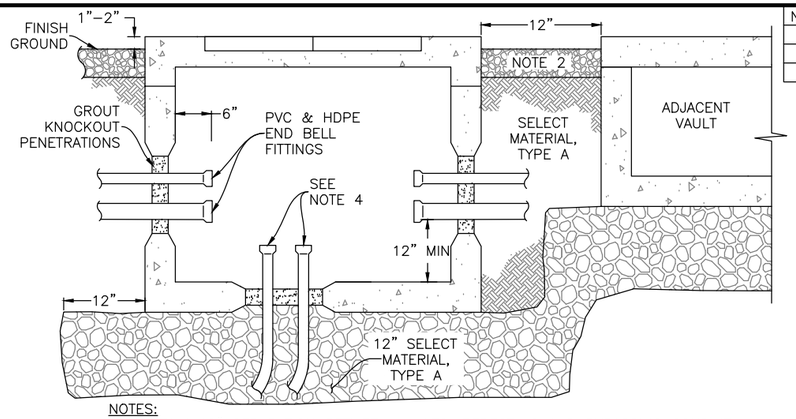
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374–0275
C:\dowl_pw\d0412737\00129_U_Details–U1 Fri, Jan/12/24 04:06pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U2	U3

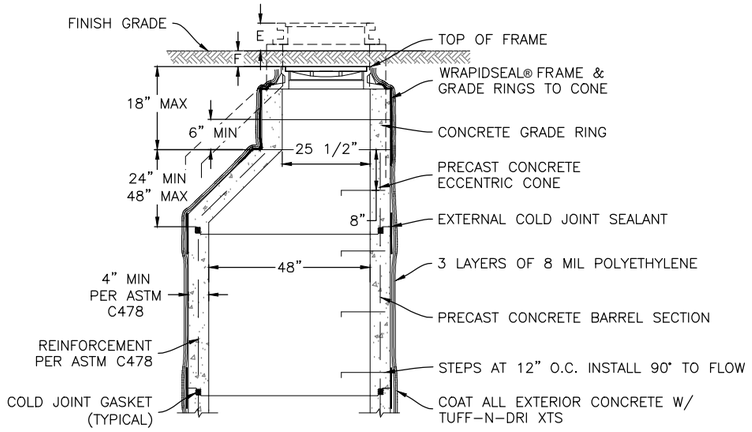


CONDUIT TERMINATION DETAIL
(NTS)



NOTES:
1. MAINTAIN 12" SEPARATION BETWEEN VAULTS, PEDESTALS AND BYPASSING CONDUIT.
2. 6" AGGREGATE BASE COURSE, GRADING D–1 SHALL EXTEND 3' BEYOND OUTERMOST VAULT.
3. EDGE OF VAULT ON ROADWAY SIDE SHALL BE 9' FROM BACK OF CURB.
4. GCI FIBER VAULTS ARE OPEN BOTTOMED. HDPE DUCT WILL NEED TO BE ROUTED UNDER VAULT FOOT AND UP INTO VAULT USING MAXIMUM 48" RADIUS BENDS.

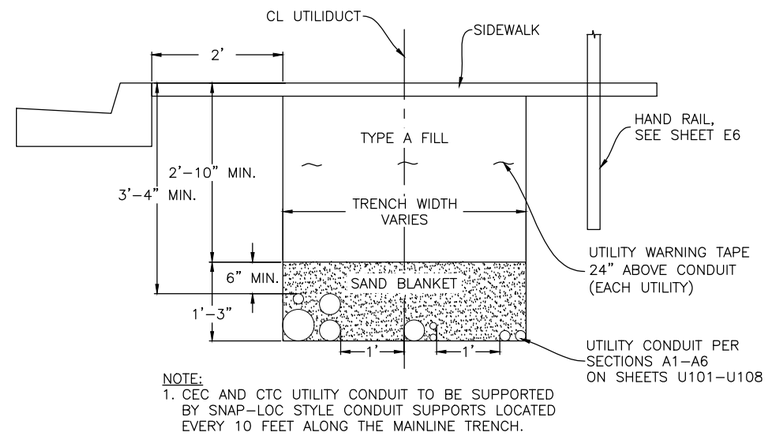
VAULT BEDDING AND BACKFILL
(NTS)



NOTE:
1. BACKFILL AROUND MANHOLE WITH NFS MATERIAL (3FT MIN).

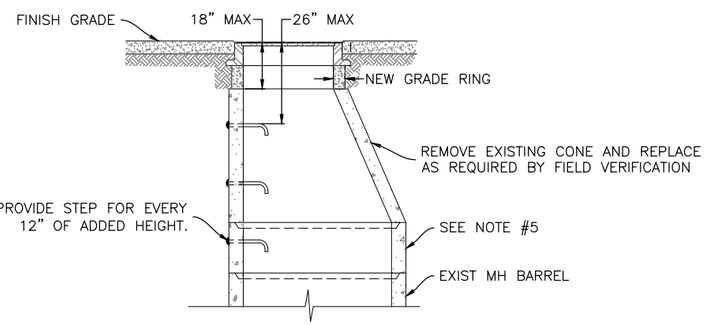
LOCATION	E–MIN	E–MAX	F–MIN	F–MAX
LANDSCAPED AREAS, GRAVEL STREETS, AND ALLEY AREAS WHERE TRAVELED.			0"	2"
UNDEVELOPED AND SWAMPY AREAS.	24"	36"		
HIGHWAY R.O.W.S OUTSIDE TRAFFIC AREAS.	6"	10"		
PAVED STREETS.			1/2"	1"

TYPICAL MANHOLE
(NTS)



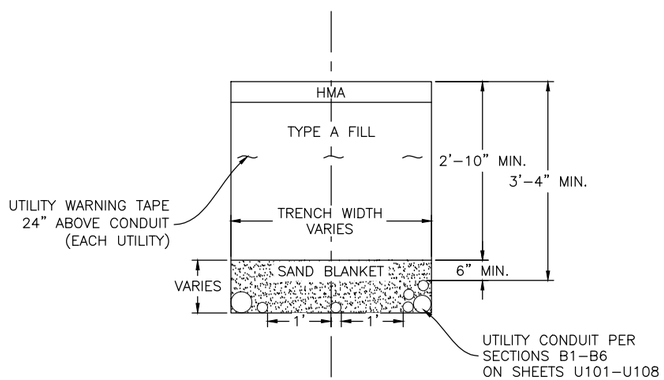
NOTE:
1. CEC AND CTC UTILITY CONDUIT TO BE SUPPORTED BY SNAP–LOC STYLE CONDUIT SUPPORTS LOCATED EVERY 10 FEET ALONG THE MAINLINE TRENCH.

MAINLINE TRENCHES
(NTS)



NOTES:
1. WHEN AN ADJUSTMENT OF GREATER THAN 12" IN GRADE RINGS IS REQUIRED, ADJUST CONE PER RECONSTRUCT MANHOLE DETAIL.
2. SEAL FRAME AND GRADE RING TO CONE WITH WRAPID SEAL® OR APPROVED EQUAL.

ADJUST MANHOLE
(NTS)

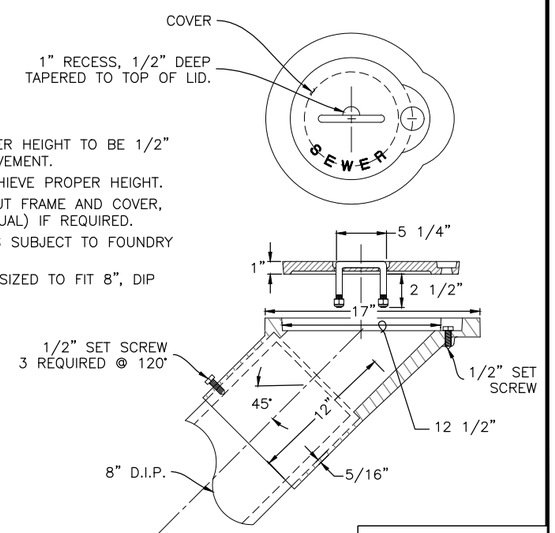


NOTES:
1. MAINTAIN 12" SEPARATION FROM WATERLINE AT CROSSINGS.
2. CEC AND CTC CONDUIT TO BE SUPPORTED BY SNAP–LOC STYLE CONDUIT SUPPORTS LOCATED EVERY 10 FEET ALONG CROSSING TRENCHES.

CROSSING TRENCHES
(NTS)

NOTES:
1. RESET CONE WITH COLD JOINT GASKET AND SEAL EXTERIOR JOINT WITH COLD JOINT SEALANT.
2. ADJUST FRAME TO PROPER DEPTH BELOW SURFACE OF PAVEMENT. FEATHER EDGE OF PAVEMENT TO SMOOTH TRANSITION, PER TYPICAL MANHOLE DETAIL.
3. SEAL FRAME,AND GRADE RINGS TO CONE WITH WRAPIDSEAL® OR APPROVED EQUAL.
4. WRAP CONES & BARREL SECTIONS WITH THREE (3) LAYERS OF 8–MIL THICK POLYETHYLENE ENCASEMENT MATERIAL AFTER INSTALLING THE WRAPIDSEAL®, PER TYPICAL MANHOLE DETAIL.
5. ADD OR REMOVE PRECAST RISER SECTIONS OR RADIAL CONCRETE MANHOLE.

RECONSTRUCT MANHOLE
(NTS)



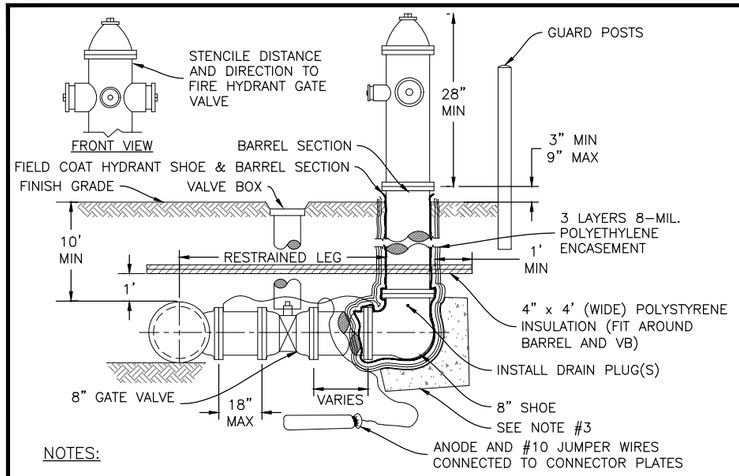
NOTES:
1. ADJUST EXIST COVER HEIGHT TO BE 1/2" BELOW TOP OF PAVEMENT.
2. CUT 8" DIP TO ACHIEVE PROPER HEIGHT.
3. NEW CAST CLEANOUT FRAME AND COVER, EJIW 3668 (OR EQUAL) IF REQUIRED.
4. CASTING THICKNESS SUBJECT TO FOUNDRY REQUIREMENTS.
5. CASTING MUST BE SIZED TO FIT 8", DIP CLASS 50 ONLY.

TYPICAL CLEANOUT
(NTS)

STATE OF ALASKA
49TH
Joey L. Hopkins II
CE–9962
5D232.03
1-12-24
REGISTERED PROFESSIONAL ENGINEER

UTILITY DETAILS

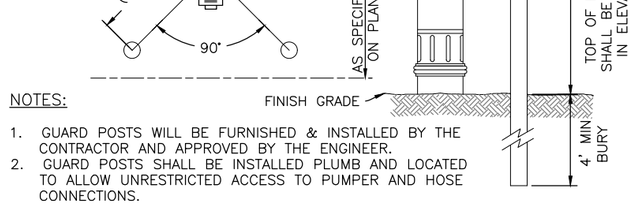
PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374–0275
C:\dowl_pw\d0412737\00129_U_Details–U2 Fri, Jan/12/24 04:07pm



NOTES:

1. HYDRANT BARREL SHALL BE INSTALLED PLUMB AND THE LEG SHALL BE LEVEL.
2. ALL BACKFILL MATERIAL WITHIN 3 FEET AROUND HYDRANT BARREL SHALL BE NFS.
3. ALL PVC C-900 HYDRANT LEGS SHALL HAVE THRUST BLOCKS PER AK STANDARD PLAN U-03.01 "THRUST BLOCKS".

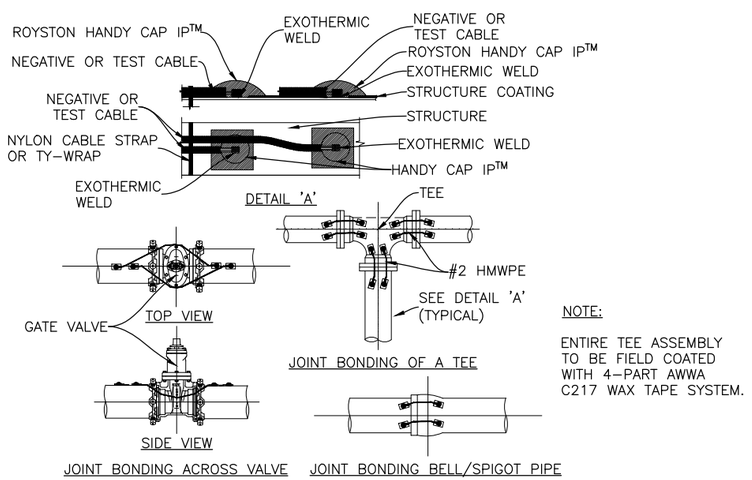
DOUBLE PUMPER HYDRANT
(NTS)



NOTES:

1. GUARD POSTS WILL BE FURNISHED & INSTALLED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
2. GUARD POSTS SHALL BE INSTALLED PLUMB AND LOCATED TO ALLOW UNRESTRICTED ACCESS TO PUMPER AND HOSE CONNECTIONS.

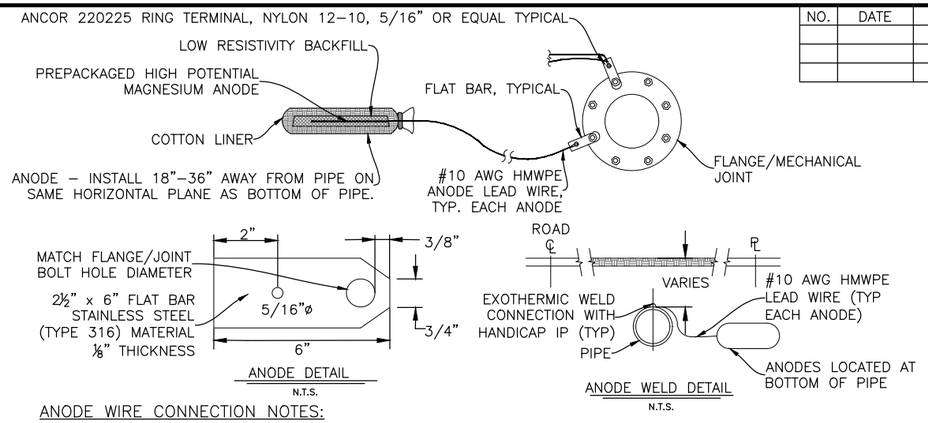
HYDRANT GUARD POSTS
(NTS)



NOTE:

ENTIRE TEE ASSEMBLY TO BE FIELD COATED WITH 4-PART AWWA C217 WAX TAPE SYSTEM.

ANODE & CONNECTIONS
(NTS)



ANODE WIRE CONNECTION NOTES:

1. CONTRACTOR TO FABRICATE FLAT BAR.
2. INSTALL FLAT BAR ON BODY SIDE OF FLANGE OR MECHANICAL JOINT. REMOVE COATING AT THE FLAT BAR LOCATION PRIOR TO INSTALLATION. METAL TO METAL CONTACT IS REQUIRED. REPAIR VISIBLE COATING DAMAGE WITH DENSYL TAPE AND PRIMER.
3. CONNECT WIRE WITH COMPRESSION RING CONNECTOR AND 1/4"ø x 1" STAINLESS STEEL BOLT (TYPE 316) WITH WASHER AND SELF LOCKING NUT.
4. WRAP ELECTRICAL INSULATION TAPE AROUND RING CONNECTOR AND BOND STRAP (WIRE END ONLY). DENSYL TAPE OR APPROVED EQUAL.
5. WRAP ELECTRICAL INSULATION TAPE A MINIMUM OF 3" DOWN ON WIRE INSULATION TO ENCAPSULATE CONNECTION.

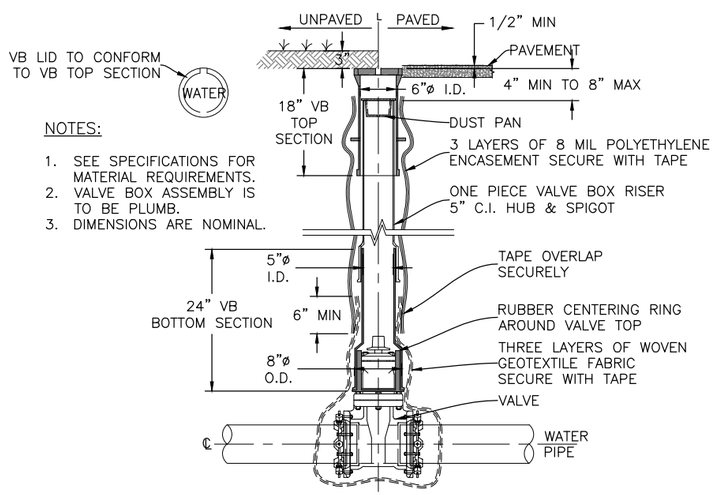
ANODE NOTES:

1. HIGH POTENTIAL MAGNESIUM ANODES SHALL BE PREPACKAGED IN A CLOTHE BAG WITH A BACKFILL MIXTURE OF 75% GYPSUM, 20% BENTONITE AND 5% SODIUM SULFATE. THE ANODES SHALL HALVE A 20LB BARE WEIGHT AND APPROXIMATELY 70LB PACKAGED WEIGHT.
2. ANODES SHALL BE INSTALLED AT EACH VALVE AND EACH FITTING. AN ADDITIONAL TWO (2) ANODES MUST BE INSTALLED ON THE EXISTING TIE-IN PIPE.
3. CONTRACTOR SHALL PROVIDE COORDINATES OR PIPE STATIONING FOR EACH ANODE INSTALLED.
4. ALL CABLES SHALL BE SINGLE CONDUCTOR, STRANDED COPPER, WITH TYPE HMWPE INSULATION RATED FOR 600 VOLTS.
5. SPLIT-BOLT CONNECTIONS SHALL NOT BE ALLOWED ON ANY UNDERGROUND CONDUCTORS. IF SPLICES ARE REQUIRED, COMPRESSION CONNECTIONS SHALL BE SEALED WITH A HEAT SHRINK SLEEVE RATED FOR BELOW GRADE USE.
6. AT FIRE HYDRANT LOCATIONS, INSTALL ONE ANODE (18"-36" AWAY FROM THE PIPE) AT THE MIDPOINT BETWEEN THE TEE FROM THE MAIN LINE PIPE AND THE HYDRANT SHOE.

EXOTHERMIC WELD NOTES:

1. EXOTHERMIC WELDS SHALL BE MADE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (NOTE: COPPER CONDUCTOR SLEEVES ARE REQUIRED FOR #10 WIRE BY SOME MANUFACTURERS). THE EXOTHERMIC WELD AREA SHALL BE COATED WITH HANDICAP IP OR EQUAL AND ANY BASE METAL EXPOSED AFTER INSTALLATION OF HANDICAP IP MUST BE COATED WITH COAL TAR MASTIC.
2. EXOTHERMIC WELD MOLDS AND WELD METAL SHALL BE SIZED FOR THE PIPE SIZE, WIRE TYPE, WIRE SIZE AND PIPE MATERIAL. DUCTILE IRON PIPE SHALL USE MOLDS AND WELD METAL FOR CAST IRON.

ANODE & CONNECTIONS
(NTS)



NOTES:

1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. VALVE BOX ASSEMBLY IS TO BE PLUMB.
3. DIMENSIONS ARE NOMINAL.

TYPICAL VALVE BOX
(NTS)

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U3	U3

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE INSTALLED AS SPECIFIED IN THE CURRENT EDITION OF THE STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND THE SPECIAL PROVISIONS.
2. MAINTAIN A MINIMUM OF TEN (10) FEET HORIZONTAL AND EIGHTEEN (18) INCHES VERTICAL SEPARATION BETWEEN WATER AND SANITARY OR STORM SEWER MAINS AND SERVICES. SANITARY AND STORM SEWER PIPE JOINTS SHALL BE PLACED AT LEAST NINE (9) FEET FROM ANY WATERLINE CROSSING.
3. MAINTAIN A MINIMUM OF 36 INCHES OF VERTICAL SEPARATION BETWEEN ANY STORM SEWER (STORM DRAIN OR FOOTING DRAIN) AND WATERLINE (MAINS OR SERVICES) OR SANITARY SEWER (MAINS OR SERVICES). IF 36 INCHES CANNOT BE MAINTAINED, PROVIDE A MINIMUM OF 4 INCH THICK INSULATION.
4. ALL WATER/SEWER PIPE INSULATION SHALL BE RIGID BOARD, HIGH DENSITY EXTRUDED OR EXPANDED POLYSTYRENE, MIN. 60 P.S.I., FOR UNDERGROUND INSTALLATIONS EQUIVALENT TO R-20 PER FOUR (4) INCH THICK INSULATION. THIS REQUIREMENT DIFFERS FROM INSULATION FOR ROADWAY.
5. CONTRACTOR SHALL VERIFY AND RECORD THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES ENCOUNTERED IN THE FIELD AND RECORD ANY CHANGES ON THE CONTRACTOR RECORD DRAWINGS.
6. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PROPERTY, INCLUDING DRAINAGE SWALES, DISTURBED BY CONTRACT ACTIVITIES TO PRECONSTRUCTION CONDITION.
7. IN CASE OF CONFLICT BETWEEN STATIONING LOCATION OF PIPE OR FITTINGS, USE DIMENSIONED LOCATIONS RELATIVE TO THE CENTERLINE AND PROPERTY LINE, THE DIMENSIONED LINES SHALL GOVERN.
8. THE CONTRACTOR SHALL RECORD SURVEY NOTES FOR SUBMITTAL WITH RECORD DRAWING PLANS PRIOR TO CONTRACT FINAL PAYMENT.
9. CONTRACTOR SHALL FIELD INSTALL RESTRAINED FITTINGS ON ALL MECHANICAL JOINTS.

WATER NOTES

1. CITY OF CORDOVA, FIRE DEPARTMENT, AND EXISTING CUSTOMERS SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS NOT TO EXCEED ONE-HUNDRED FORTY-FOUR (144) HOURS IN ADVANCE OF WATER SERVICE INTERRUPTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY WATER SERVICE TO THE EXISTING CUSTOMERS IF THE OUTAGE EXCEEDS 6 HOURS IN ANY 24-HOUR PERIOD OR IF DEEMED NECESSARY BY THE ENGINEER.
2. ALL WATER MAINS SHALL BE CLASS 52 DUCTILE IRON PIPE.
3. ALL BENDS, TEES, AND DEAD-ENDS SHALL HAVE THRUST RESTRAINT IAW AK STANDARD PLAN U-03.01 "THRUST BLOCKS"..
4. THRUST RESTRAINT SHALL BE PROVIDED BY USE OF TR FLEX JOINTS (OR APPROVED EQUAL) UNLESS STATED OTHERWISE ON THE DRAWINGS, OR AS APPROVED BY THE ENGINEER.
5. NO PIPE LENGTH LESS THAN TEN (10) FEET SHALL BE INCORPORATED IN THE WATER SYSTEM EXCEPT FOR THOSE NECESSARY FOR VALVE LOCATIONS UNLESS RESTRAINED.
6. MAXIMUM DEFLECTION OF PIPE PER JOINT SHALL NOT EXCEED 80% OF THE MANUFACTURERS RECOMMENDED DEFLECTION FOR DIP.
7. ALL WATER MAIN AND SERVICE TRENCHES AND BEDDING SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.
8. ALL PIPE BEDDING SHALL BE AS SPECIFIED IN SECTION 627 OF THE PROJECT SPECIFICATIONS.
9. CONTRACTOR SHALL SEQUENCE WORK TO ENSURE WATER LINE IS PROTECTED AGAINST FREEZING PRIOR TO COMMISSIONING OF PIPE.
10. ALL NEW PIPE SHALL BE JOINT BONDED WITH #2 HMWPE WIRE PER THE DRAWINGS AND SPECIFICATIONS.

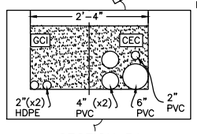
UTILITY DETAILS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0412737\00129_U_Details-U3 Fri, Jan/12/24 04:07pm

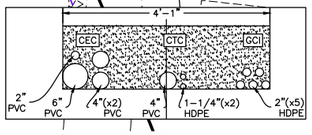
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U101	U108

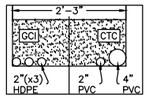
LOCATE AND ADJUST VALVE BOX
TCE
PUE
PROTECT EXISTING FIBER (GCI) FROM 3+50 TO 8+00 STATION LEFT
ADJUST MH 107-A-7 TO GRADE
"02" 3+00
3+20
"02" 4+00
WHITSHED ROAD
"02" 5+00
"02" 2+00
B2
B1
1+36
A2
MATCH "02" 5+50 LINE
GCI-NP1
STA 3+02.84
28.25' RT
CT-V2
STA 3+12.94
24.00' RT
GCI-FV1
STA 3+08.13
25.98' RT
PROTECT EXISTING TREES
ADJUST MH 107-A-2A TO GRADE
"02" 1+00
"02" 0+50
BOLLARDS, TYP
LOCATE AND ADJUST VALVE BOX
CT-V1
STA 1+55.70
44.40' RT
CE-V1
STA 1+49.12
45.99' RT
R/W
0 20 40 Feet



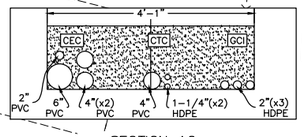
SECTION B1
STA: 1+36



SECTION A1
STA: 1+36-3+08



SECTION B2
STA: 3+20



SECTION A2
STA: 3+08-6+06

UTILITY PLAN AND PROFILE
SHTS STA. BOP-5+50

STATE OF ALASKA
49TH
Jon L. Watkins II
CE-9962
5023.03
1-12-24
REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTE:
FIELD LOCATE/STAKE PADS AND VAULTS FOR ENGINEER APPROVAL PRIOR TO DISTURBANCE

NOTE:
WATER, SEWER & STORM UTILITIES ARE SHOWN AT CL ROAD PROFILE

MH 107-A-2A
STA: 5+11.02 OFF: 3.31RT
EG RIM: 54.35
FG RIM: 53.70

MH 107-A-7
STA: 2+46.32 OFF: 9.12RT
EG RIM: 46.79
FG RIM: 46.74

FG @ CL UTILIDUCT
CL ROAD EXISTING GROUND
CL ROAD PROFILE GRADE
PROPOSED STORM CATCHBASINS
PROPOSED UTILIDUCT
EXISTING WATER
EXISTING SEWER
PROFILE GRADE EXISTING GROUND

54 52 50 48 46 44 42 40 38

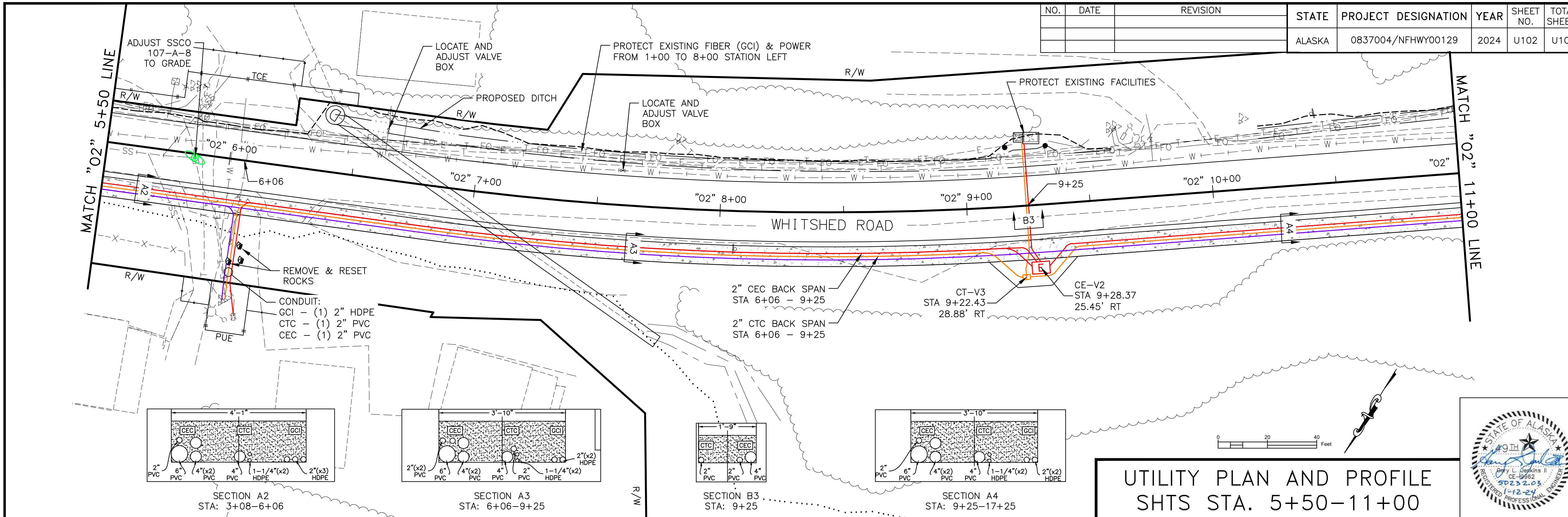
44.19 44.2 | 44.72 44.7 | 45.24 45.2 | 45.67 45.6 | 46.02 46.0 | 46.39 46.4 | 46.82 46.9 | 47.31 47.3 | 47.82 47.9 | 48.34 48.5 | 48.85 49.1 | 49.37 49.7 | 49.89 50.4 | 50.40 51.0 | 50.92 51.6 | 51.43 52.2 | 51.95 52.7 | 52.47 53.2 | 52.98 53.7 | 53.50 54.2 | 54.01 54.6 | 54.53 55.1 | 54.79 55.3

1+00 +20 +40 +60 +80 2+00 +20 +40 +60 +80 3+00 +20 +40 +60 +80 4+00 +20 +40 +60 +80 5+00 +20 +40 5+50

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0404028\00129_U_PnP-U101 Fri, Jan/12/24 04:25pm

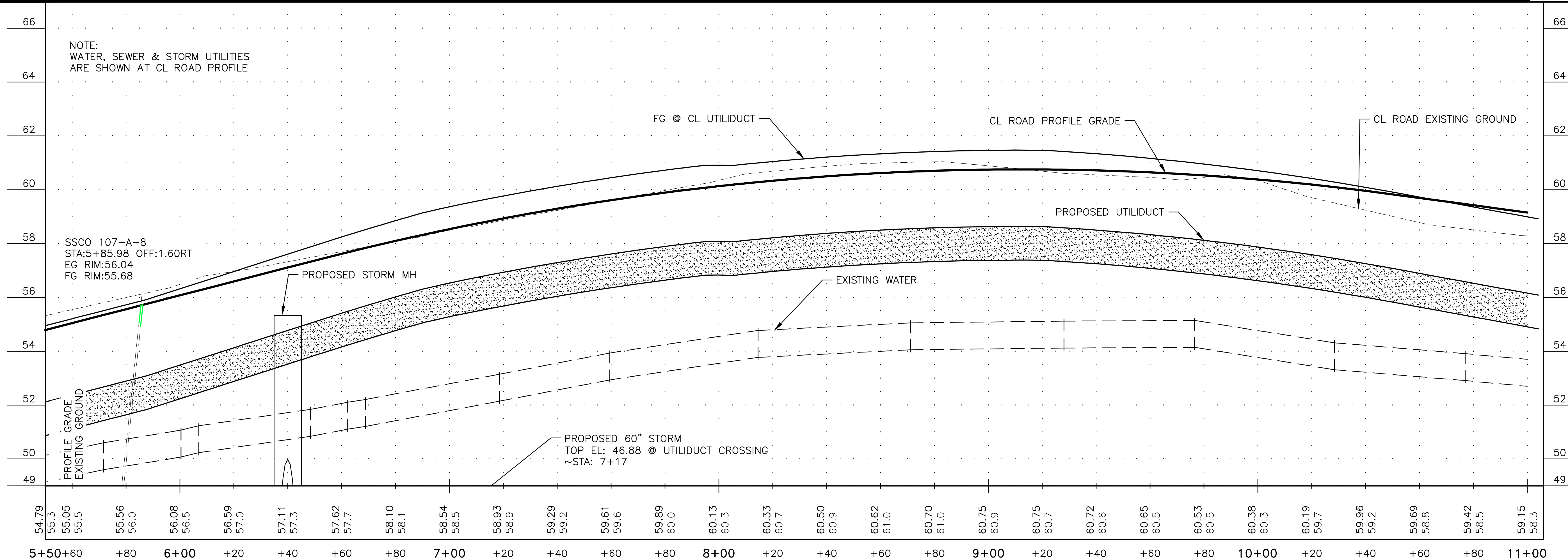
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U102	U108



UTILITY PLAN AND PROFILE SHTS STA. 5+50–11+00

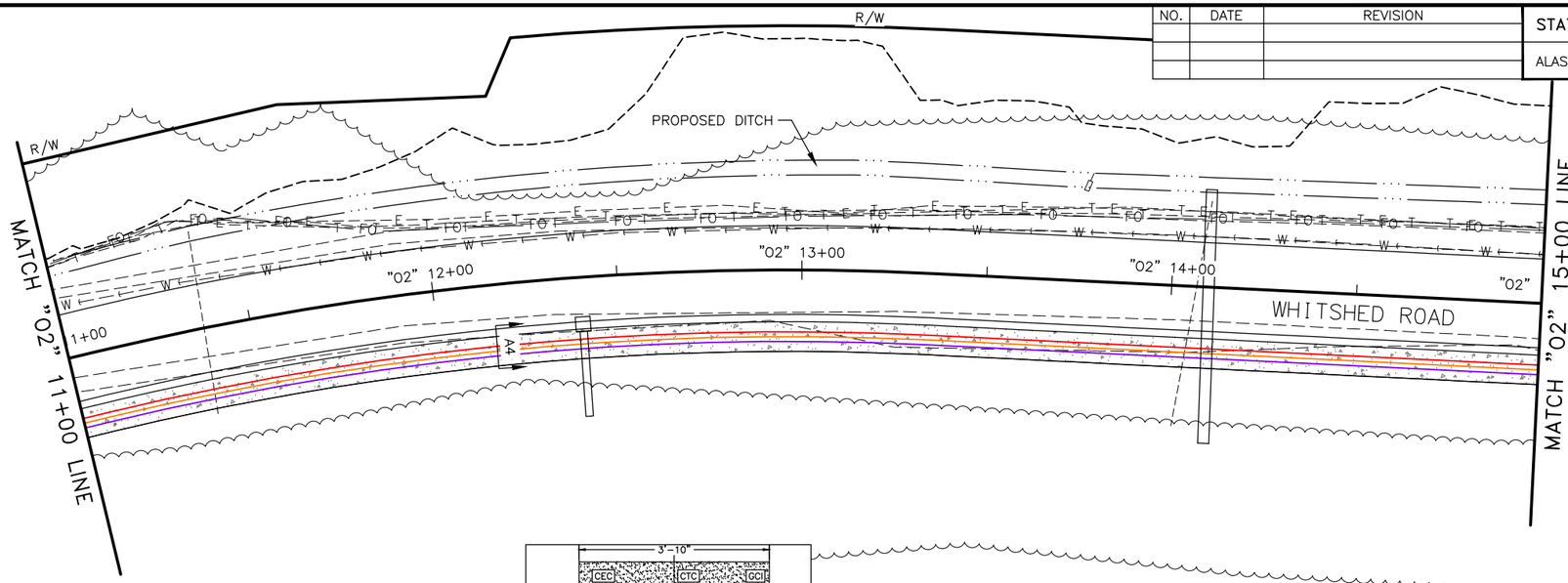
STATE OF ALASKA 49TH Gary L. Jenkins II CE-9962 50232.03 1-12-24 REGISTERED PROFESSIONAL ENGINEER

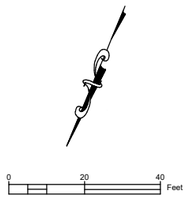


PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0404028\00129_U_PnP-U102 Fri, Jan/12/24 04:27pm

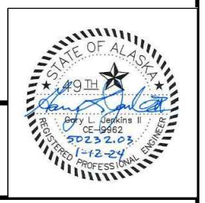
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U103	U108

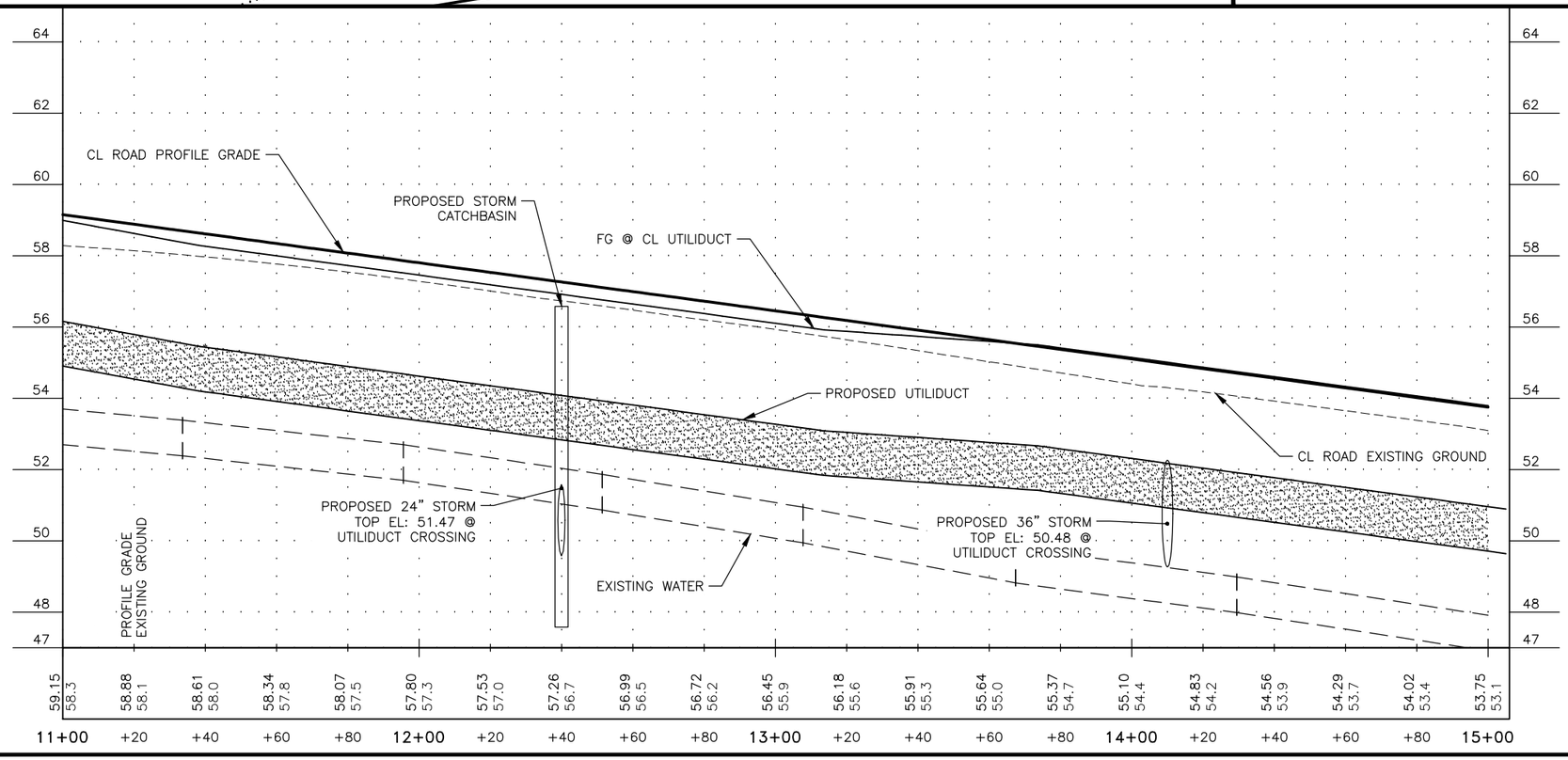




UTILITY PLAN AND PROFILE SHTS STA. 11+00–15+00



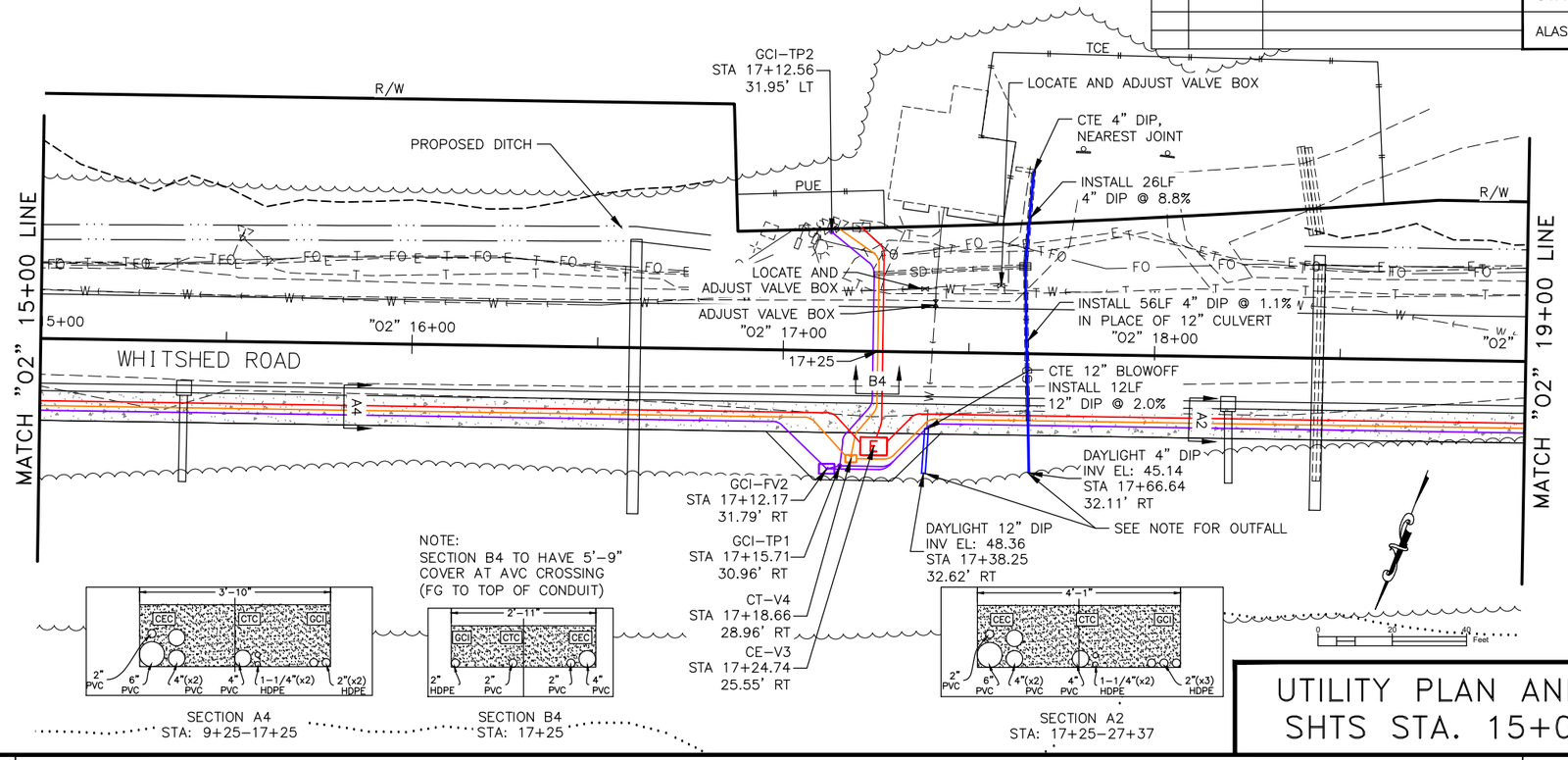
NOTE:
WATER, SEWER & STORM UTILITIES ARE SHOWN AT CL ROAD PROFILE



NOTE:
PROVIDE RIPRAP AT OUTFALL PER
CULVERT RIPRAP DETAIL, SEE SHEET E4.

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U104	U108



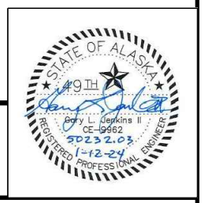
NOTE:
SECTION B4 TO HAVE 5'–9"
COVER AT AVC CROSSING
(FG TO TOP OF CONDUIT)

SECTION A4
STA: 9+25–17+25

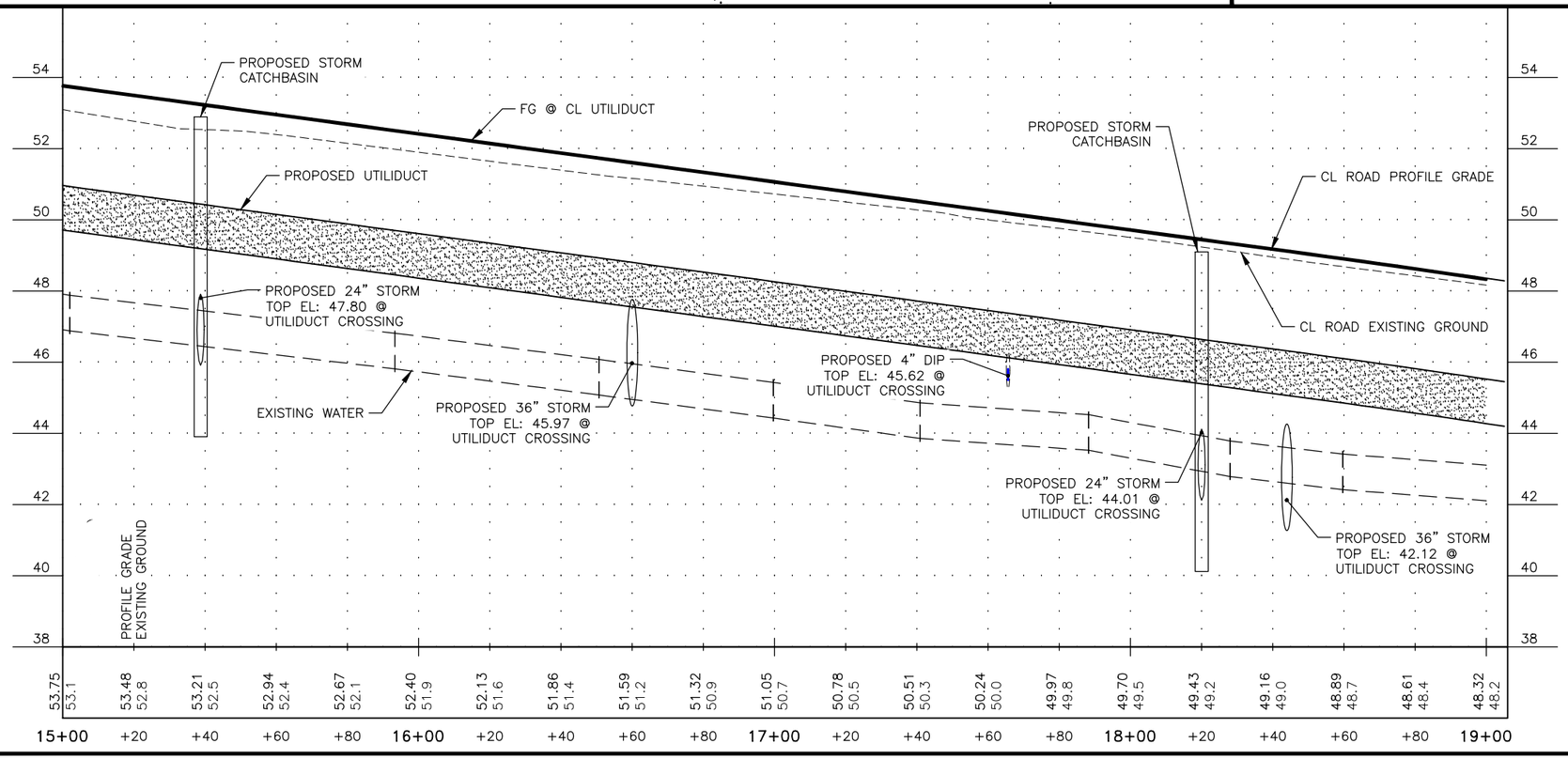
SECTION B4
STA: 17+25

SECTION A2
STA: 17+25–27+37

UTILITY PLAN AND PROFILE
SHTS STA. 15+00–19+00



NOTE:
WATER, SEWER & STORM UTILITIES
ARE SHOWN AT CL ROAD PROFILE



PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0404028\00129_U_PnP-U104 Fri, Jan/12/24 04:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U105	U108

PROTECT RETAINING WALL

R/W

PROPOSED DITCH

MATCH "02" 19+00 LINE

MATCH "02" 25+00 LINE

WHITSHED ROAD

"02" 20+00

"02" 21+00

"02" 22+00

"02" 23+00

"02" 24+00

19+83

9+00

B5

A2

A3

FUEL TANK

CE–V4
STA 19+79.46
25.48' RT

GCI–AP1
STA 19+89.74
30.88' RT

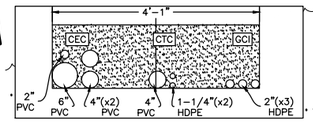
CT–V5
STA 19+85.65
28.89' RT

FUEL TANK TO BE REMOVED
SEE SHEET F5

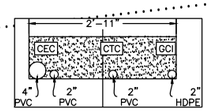
GCI–TP3
STA 23+56.08
26.12' RT

CT–V6
STA 23+53.14
24.11' RT

0 20 40 Feet



SECTION A2
STA: 17+25–27+37



SECTION B5
STA: 19+83

UTILITY PLAN AND PROFILE SHTS STA. 19+00–25+00

STATE OF ALASKA
49TH
Jerry L. Watkins II
CE-9962
5023.03
1-12-24
PROFESSIONAL ENGINEER

NOTE:
WATER, SEWER & STORM UTILITIES
ARE SHOWN AT CL ROAD PROFILE

PROPOSED STORM CATCHBASIN

CL ROAD EXISTING GROUND

PROPOSED UTILIDUCT

PROPOSED 24" STORM
TOP EL: 39.35 @
UTILIDUCT CROSSING

EXISTING WATER

PROPOSED 48" STORM
TOP EL: 30.25 @
UTILIDUCT CROSSING

PROPOSED STORM CATCHBASIN

FG @ CL UTILIDUCT

PROPOSED 24" STORM
TOP EL: 33.96 @
UTILIDUCT CROSSING

CL ROAD PROFILE GRADE

PROFILE GRADE
EXISTING GROUND

50 48 46 44 42 40 38 36 34 33

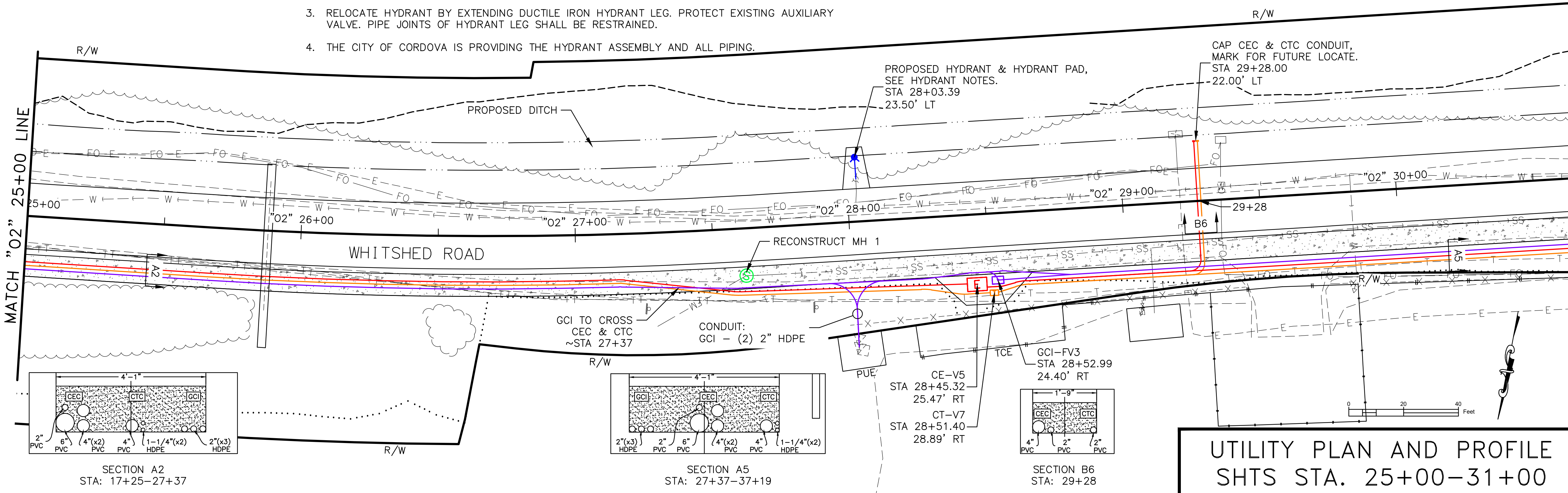
19+00	+20	+40	+60	+80	20+00	+20	+40	+60	+80	21+00	+20	+40	+60	+80	22+00	+20	+40	+60	+80	23+00	+20	+40	+60	+80	24+00	+20	+40	+60	+80	25+00
48.32	48.01	47.70	47.37	47.03	46.68	46.32	45.95	45.57	45.17	44.77	44.35	43.92	43.48	43.04	42.60	42.16	41.72	41.28	40.85	40.45	40.12	39.84	39.63	39.48	39.39	39.36	39.39	39.48	39.64	39.85
48.2	47.9	47.6	47.3	47.0	46.6	46.2	45.6	45.0	44.6	44.1	43.6	43.1	42.8	42.5	42.1	41.7	41.2	41.0	40.7	40.6	40.4	40.1	40.0	39.8	40.0	40.1	40.2	40.3	40.5	40.6

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U106	U108

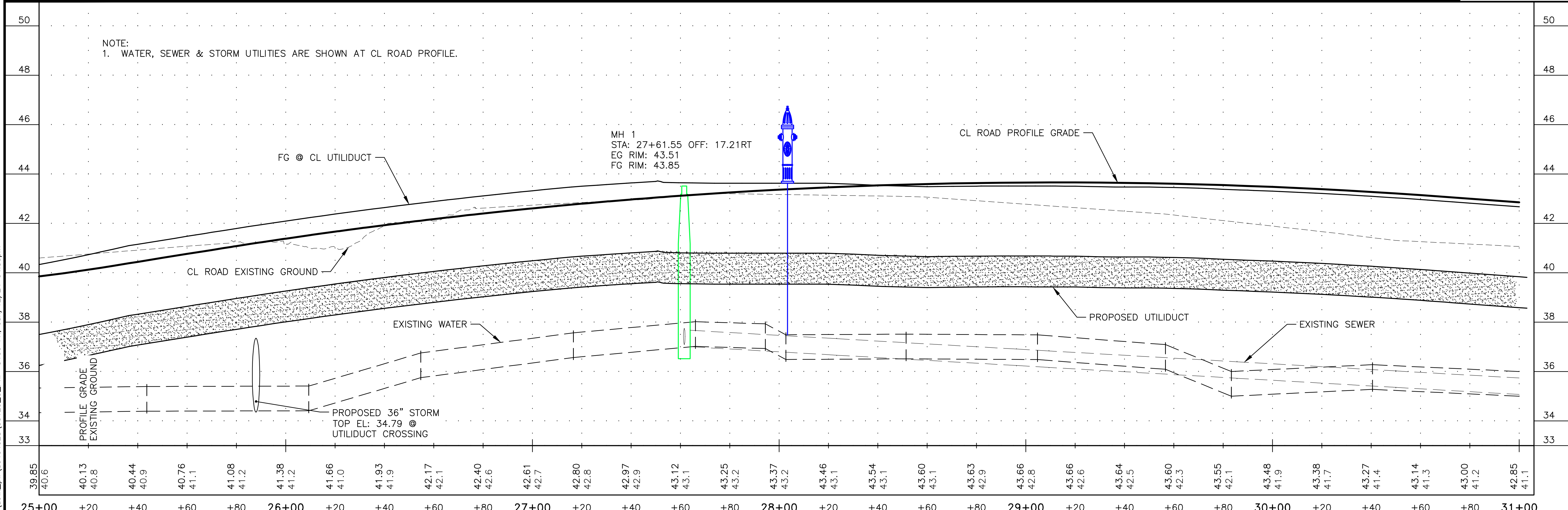
HYDRANT NOTES:

1. HYDRANT PAD SHALL BE 6' WIDE (MIN), 3' RADIUS AROUND HYDRANT, AND 4:1 SIDE SLOPES (2:1 TOWARDS DITCH). DO NOT BLOCK DITCH. GRADE AWAY FROM ROAD AT 2%. MATCH ROADWAY TYPICAL SECTION EXCEPT NO HMA. NO BOLLARDS.
2. SET HYDRANT BARREL TOP ELEVATION ACCORDING TO ROADWAY GRADE, NOTE 1, AND DETAILS.
3. RELOCATE HYDRANT BY EXTENDING DUCTILE IRON HYDRANT LEG. PROTECT EXISTING AUXILIARY VALVE. PIPE JOINTS OF HYDRANT LEG SHALL BE RESTRAINED.
4. THE CITY OF CORDOVA IS PROVIDING THE HYDRANT ASSEMBLY AND ALL PIPING.



UTILITY PLAN AND PROFILE SHTS STA. 25+00–31+00

NOTE:
1. WATER, SEWER & STORM UTILITIES ARE SHOWN AT CL ROAD PROFILE.

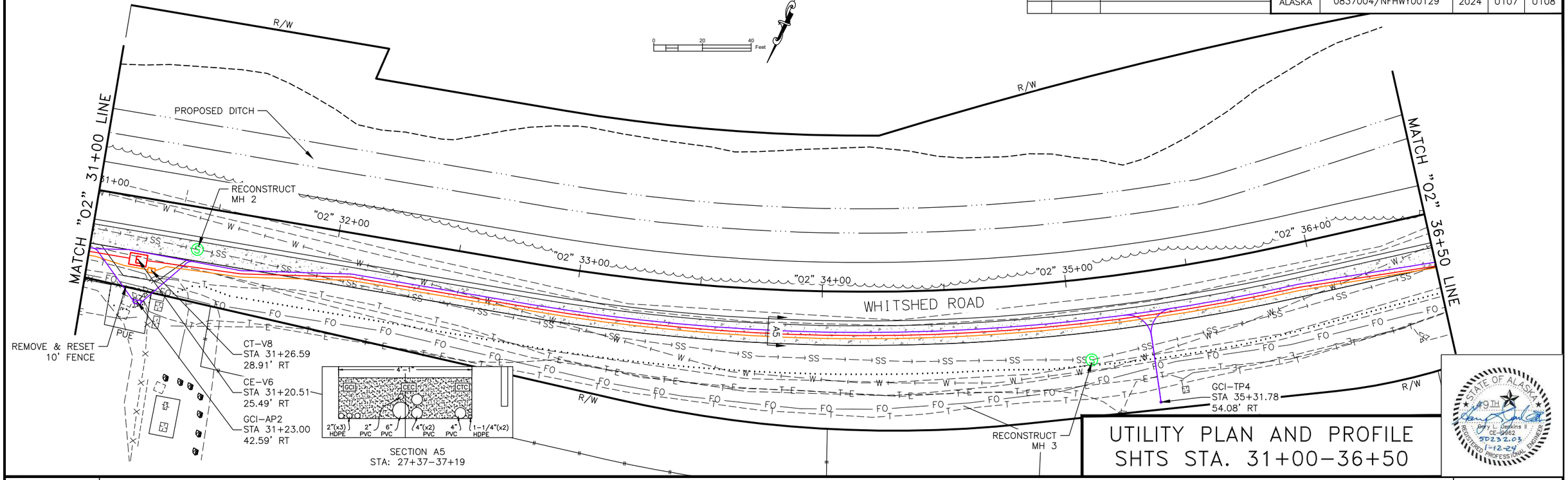


Station	Profile Grade	Existing Ground
25+00	39.85	40.6
+20	40.13	40.8
+40	40.44	40.9
+60	40.76	41.1
+80	41.08	41.2
26+00	41.38	41.2
+20	41.66	41.0
+40	41.93	41.9
+60	42.17	42.1
+80	42.40	42.6
27+00	42.61	42.7
+20	42.80	42.8
+40	42.97	42.9
+60	43.12	43.1
+80	43.25	43.2
28+00	43.37	43.2
+20	43.46	43.1
+40	43.54	43.1
+60	43.60	43.1
+80	43.63	42.9
29+00	43.66	42.8
+20	43.66	42.6
+40	43.64	42.5
+60	43.60	42.3
+80	43.55	42.1
30+00	43.48	41.9
+20	43.38	41.7
+40	43.27	41.4
+60	43.14	41.3
+80	43.00	41.2
31+00	42.85	41.1

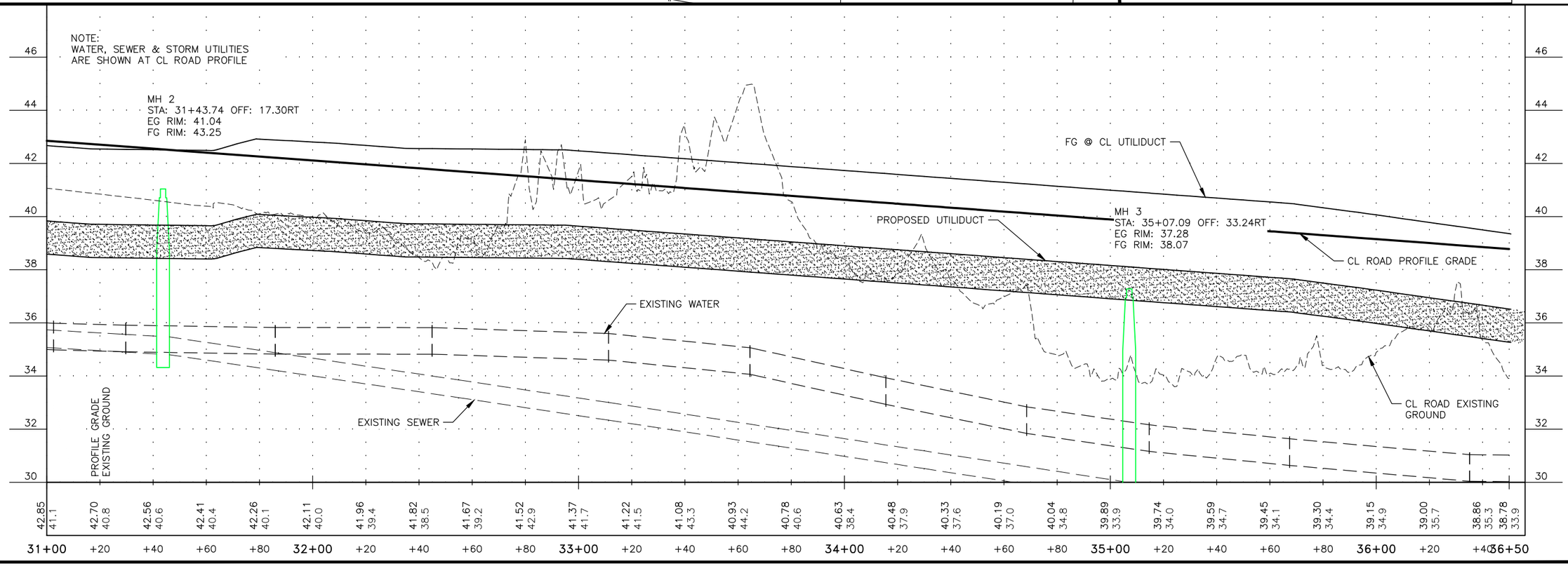
PLANS DEVELOPED BY: DOWL, LLC. CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0404028\00129_U_PnP-U106 Fri, Jan/12/24 04:30pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U107	U108

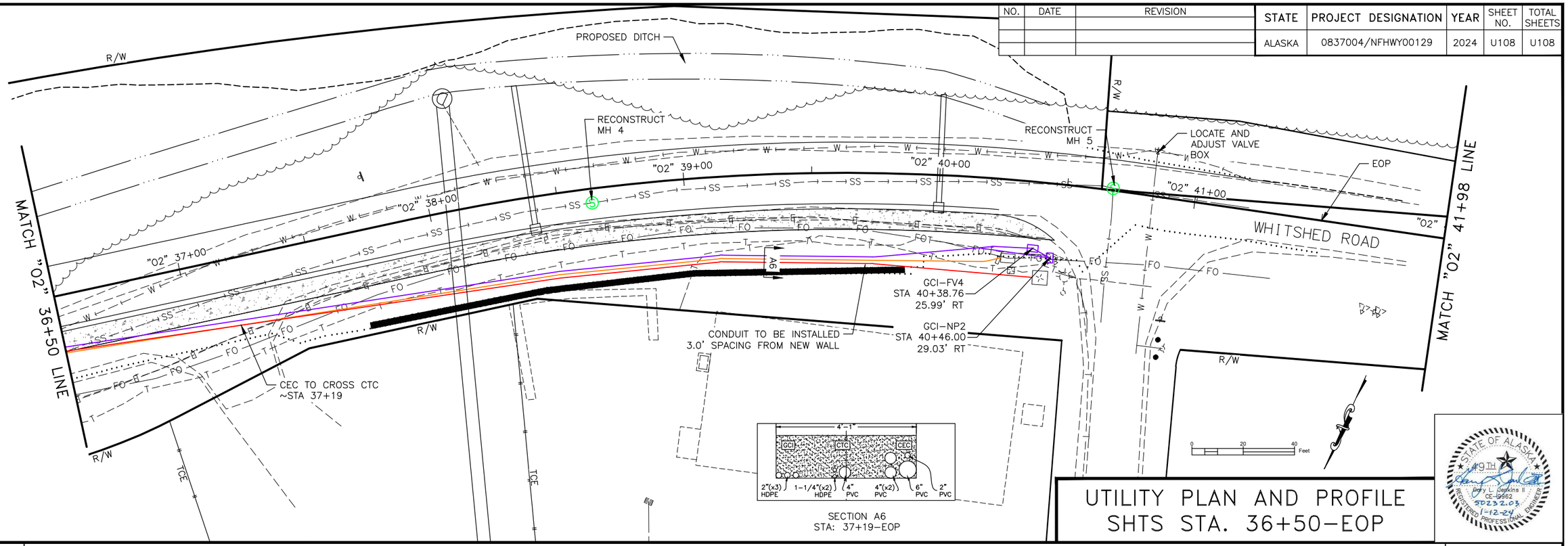


UTILITY PLAN AND PROFILE SHTS STA. 31+00–36+50

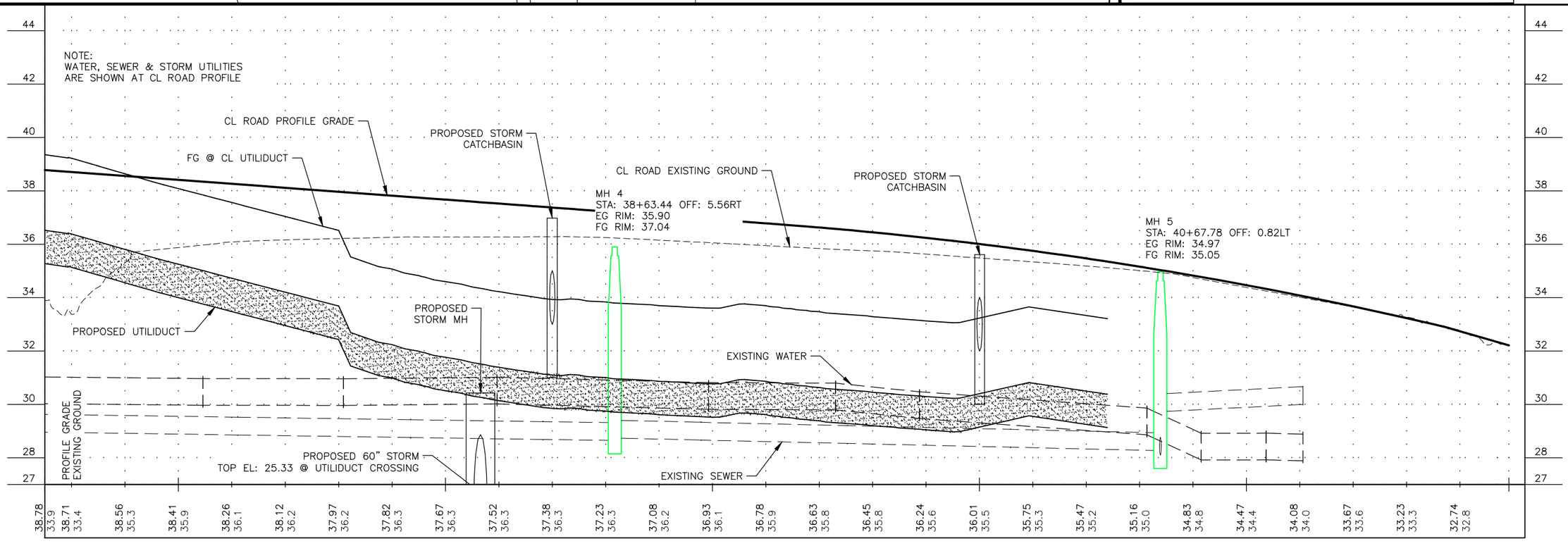


NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0837004/NFHWY00129	2024	U108	U108



UTILITY PLAN AND PROFILE
SHTS STA. 36+50–EOP



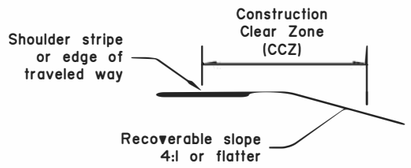


FIGURE 1

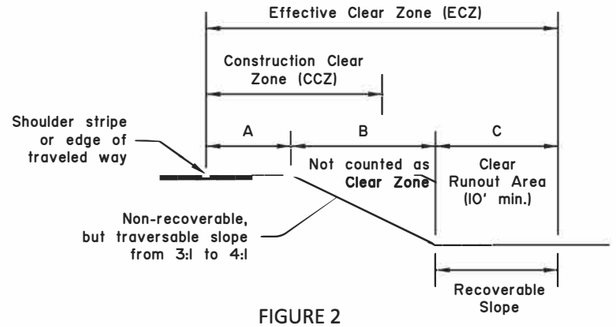


FIGURE 2

Table 1 - Width of Construction Clear Zone (feet)

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

Table 2 - Treatment for Hazards Within Construction Clear Zone

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

GENERAL NOTES:

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

INSTRUCTIONS FOR USING TABLES 1 THROUGH 5:

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

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

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

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

TABLE 4: Use to determine barrier flare rates.

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

TABLE 1 NOTES:

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

TABLE 2 NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

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

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

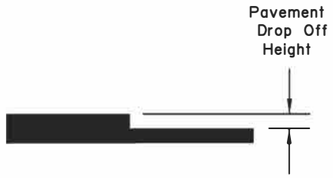


FIGURE 3
Pavement Drop-off Detail

FIGURE 4
Safety Edge Detail

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

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

Table 3b - Sign Numbers

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

* ATM = Alaska Traffic Manual

Table 4 - Barrier Flare Rates

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

TABLE 3 NOTES:

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

BARRIER TERMINATION AND TABLE 4 NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

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

Adoption Date: 09/15/2022

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

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

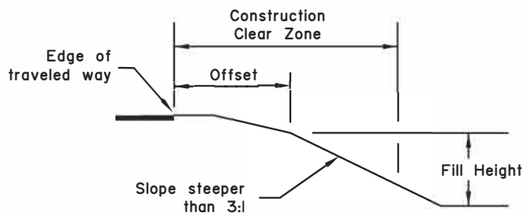


FIGURE 5

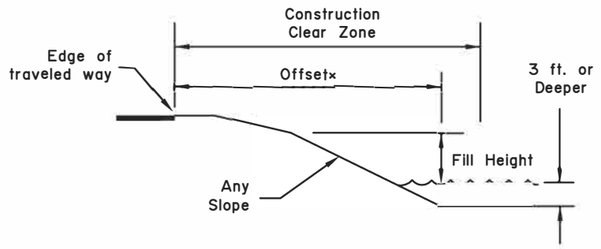


FIGURE 6

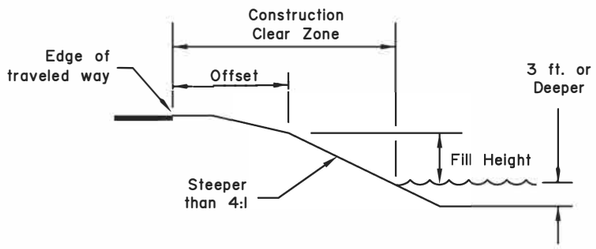


FIGURE 7

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

Seasonal Traffic Volume - ADT

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

TABLE 5 NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

ROADSIDE SAFETY TREATMENT FOR WORK ZONES

Adopted as an Alaska Standard Plan by: Carolyn H Morehouse

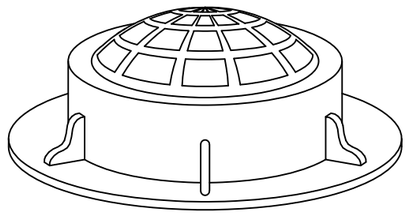
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 09/15/2022

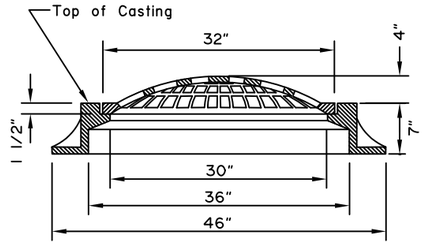
Last Code and Stds. Review
By: LRG Date: 09/15/2022

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

D-22.01 | SHEET | of |

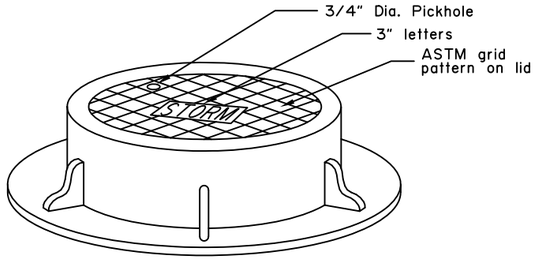


Surround field inlets with a 24" wide rock rubble collar 10" deep, 3" maximum size rock.



FIELD INLET FRAME & GRATE

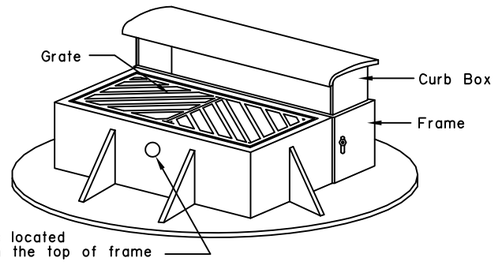
To be supplied for storm drain manholes where field inlets are specified. Field inlet frame and grate shall have a Minimum total weight of 525 lb.



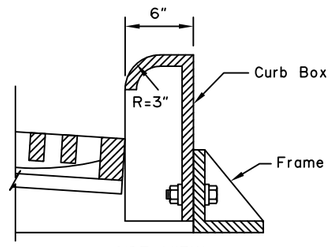
MANHOLE LID FRAME AND GRATE

NOTES:

1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers, except that inlet grate shall be within ¼"± of dimensions shown on this drawing.
2. Manhole lids shall be 32" in diameter and may be used with field inlet frames.
3. Type A field inlet frame inside dimensions shall be 24" x 36". Lugs will not protrude outside the concrete surface of the inlet box.
4. Grates shall be bicycle safe. Where high capacity grates are called for on the plans, they shall conform to Std. Dwg. D-25.
5. Frame and grate casting types are identified by the following abbreviations:
   C.I. = Curb Inlet
   F.I. = Field Inlet
   M.H. = Manhole
6. Flowline depression shall conform to Std. Dwg. D-23 for an on grade or sag point conditions.
7. These are the default frames and grates to be used unless shown otherwise on the drainage plans or drainage structure summary.

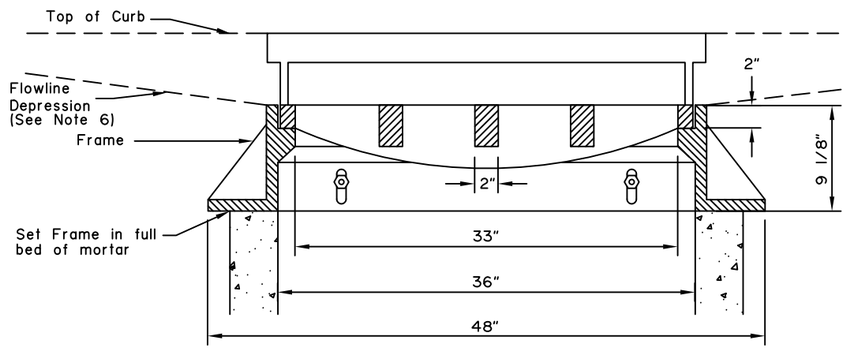


NOTE:
Curb Box, Grate and frame shall have a minimum total weight of 725 lb.

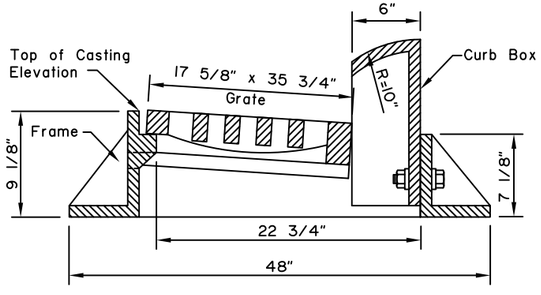


SIDE VIEW
MOUNTABLE CURB AND GUTTER

REQUIRED FRAME AND GRATES (See Note 7)			
STRUCTURE	INLET TYPE	CURB TYPE	TYPE FRAME AND GRATE
INLET BOX, TYPE A	Curb	Mountable	Standard Curb Inlet
	Curb	Expressway	Mountable Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
STORM DRAIN MANHOLES, TYPE I, II AND III	Curb	Mountable	Mountable Curb Inlet
	Curb	Expressway	Expressway Curb Inlet
	Curb	Rolled Curb	Depressed Inlet
	Field	------	Field Inlet
	Manhole Lids	------	Field Inlet Frame, Solid MH. Lid



FRONT VIEW



SIDE VIEW
EXPRESSWAY CURB AND GUTTER

CURB INLET FRAME AND GRATE

To be supplied for storm drain manholes Type I, Type II and Type III where curb inlets are specified.

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STORMDRAIN MANHOLE FRAME AND GRATE DETAILS

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

Adoption Date: 02/08/2019

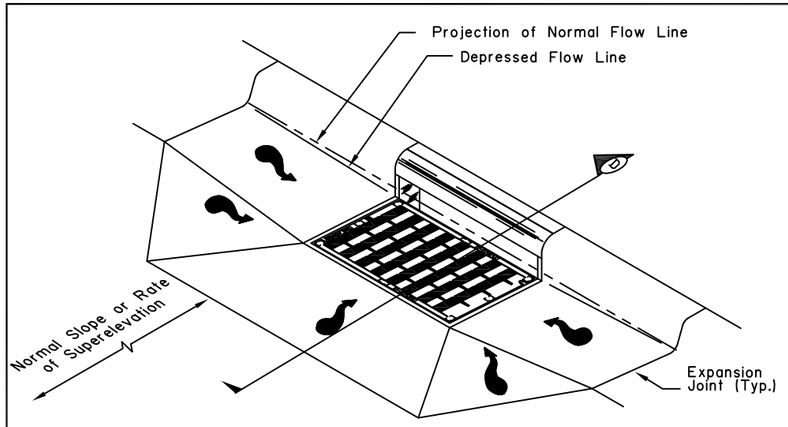
Last Code and Stds. Review
By: Date:

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

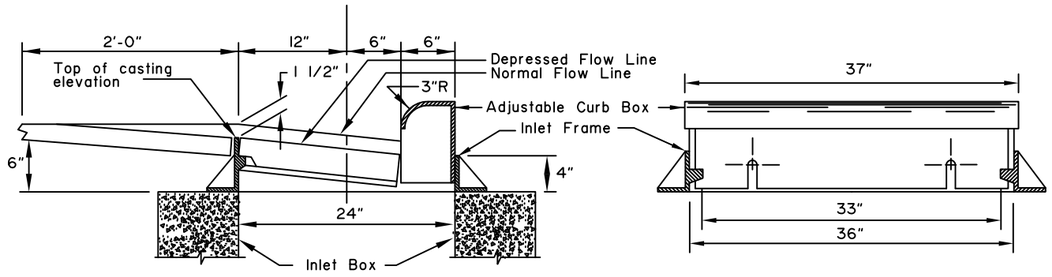
D-22.01

D-25.00

SHEET 1 of 2



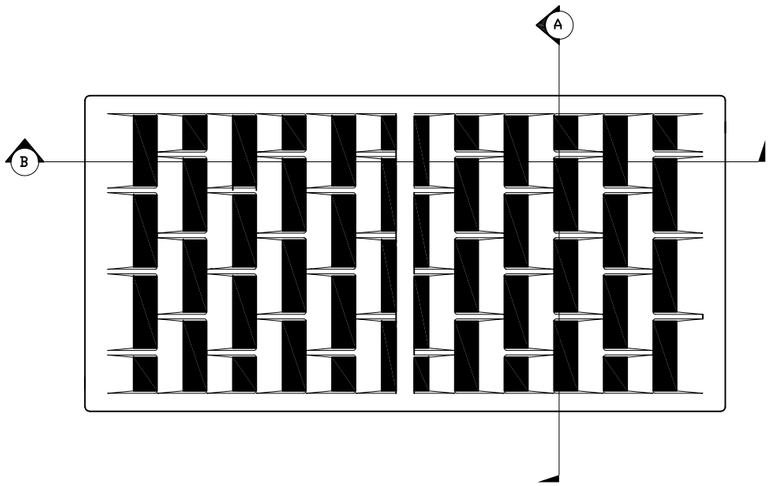
STANDARD CURB INLET INSTALLATION



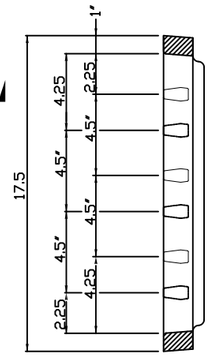
SECTION (D)

NOTES:

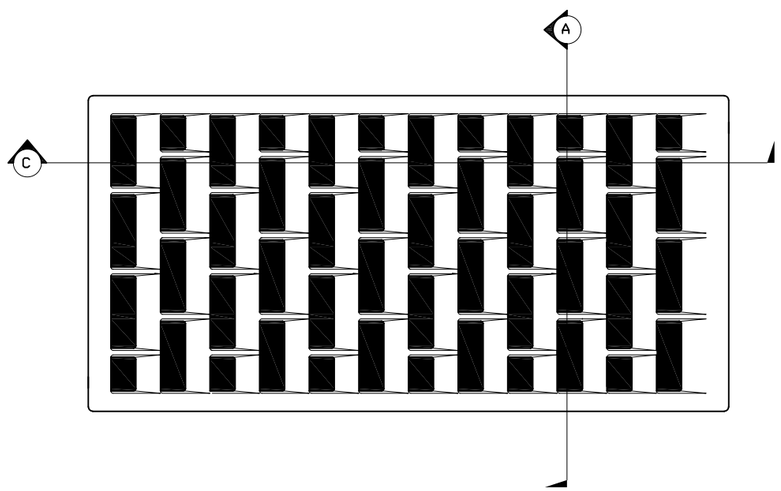
1. Details shown are to indicate general design only. Dimensions and design may vary among the manufacturers.
2. Minimum casting weight shall be 330 lbs for Curb Inlet Frame with Curb Box and 150 lbs. for Inlet Grate.
3. The outside dimensions of Inlet Grate shall be 35 1/2" x 17 1/2" and all grates shall be inter-changeable.



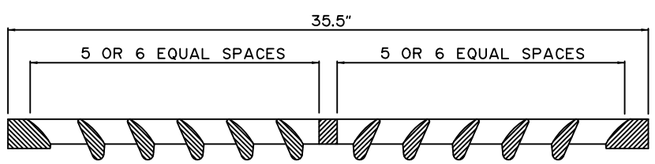
PLAN VIEW



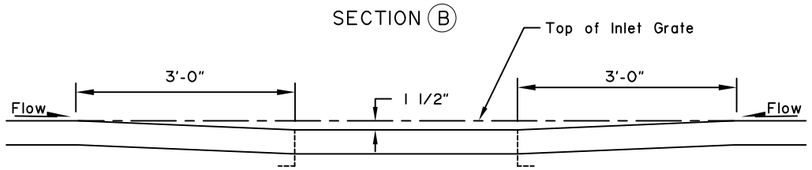
SECTION (A)



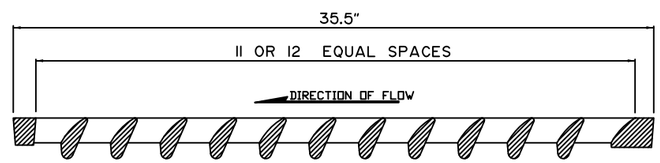
PLAN VIEW



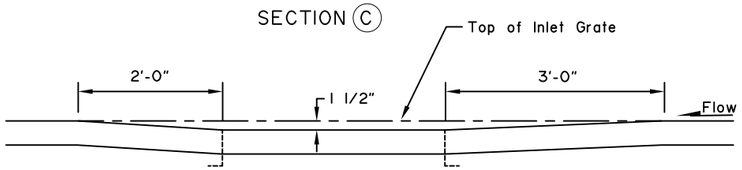
SECTION (B)



AT SAG POINT



SECTION (C)



ON GRADE

DEPRESSION IN FLOW LINE AT INLET CONSTRUCTION DETAILS

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

HIGH CAPACITY CURB INLET BOX FRAME AND GRATE

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

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

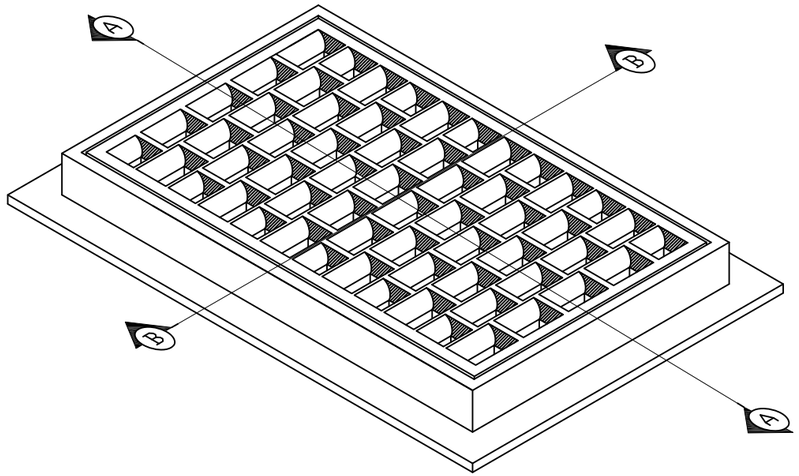
Next Code and Standards Review date: 02/08/2029

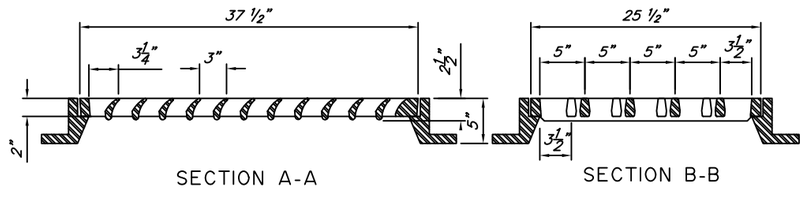
D-25.00

D-25.00 SHEET 2 of 2

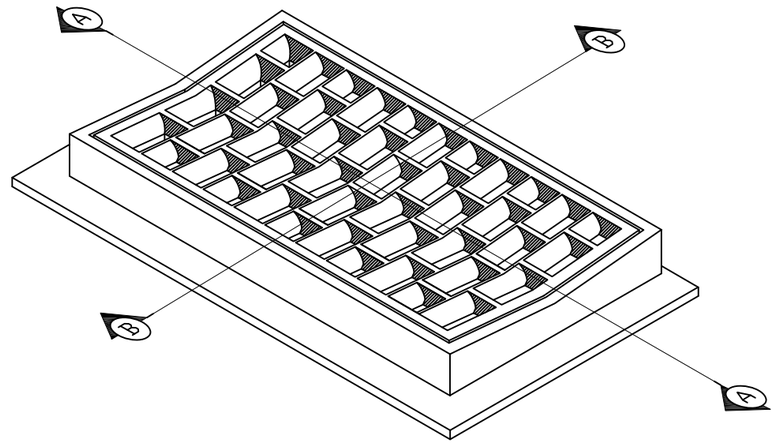
NOTES:

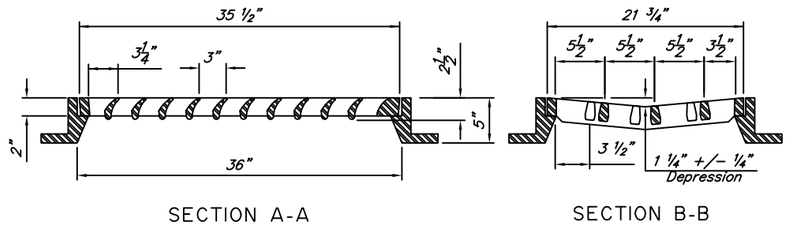
1. Details shown are to indicate general design only. Dimensions may vary between manufacturers. Tolerance for grate dimension shall be +/- 1", unless otherwise noted.





HIGH CAPACITY FIELD INLET FRAME AND GRATE





HIGH CAPACITY GUTTER INLET FRAME AND GRATE

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

HIGH CAPACITY CURB INLET BOX FRAME AND GRATE (FIELD AND GUTTER INLETS)

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

Adoption Date: 02/08/2019

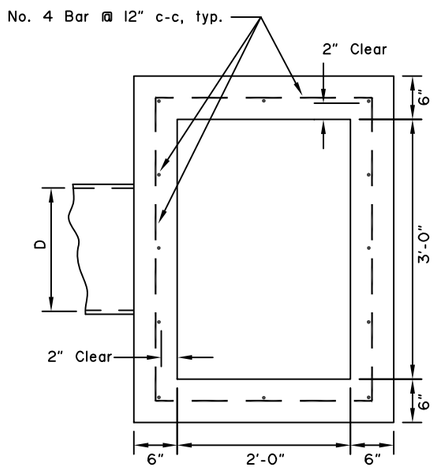
Last Code and Stds. Review
By: Date:

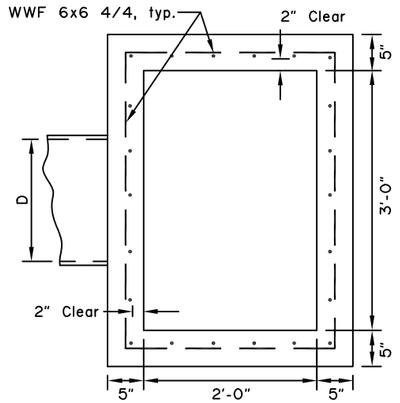
Next Code and Standards Review date: 02/08/2029

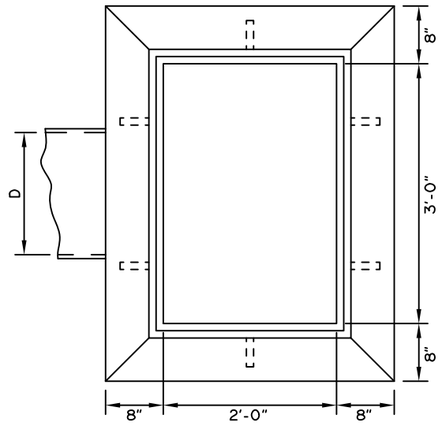
D-25.00

D-26.04

SHEET | of |

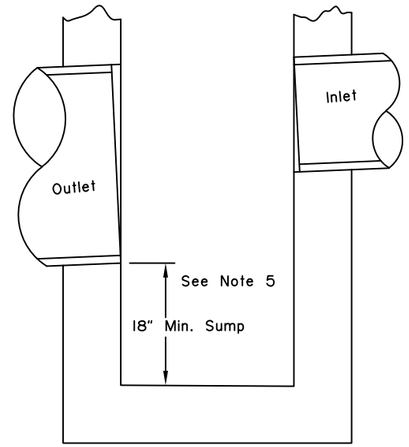




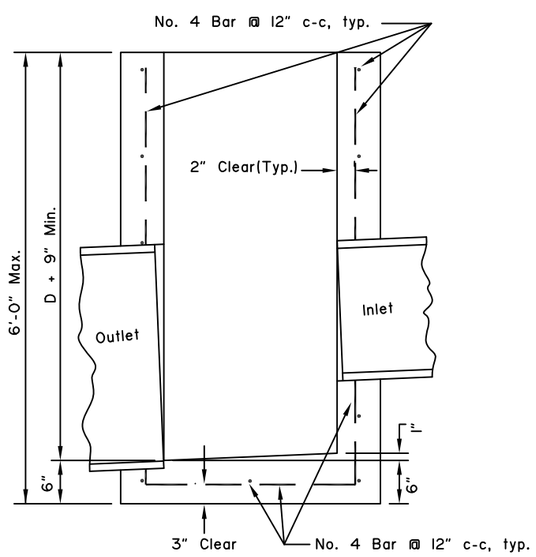


GENERAL NOTES:

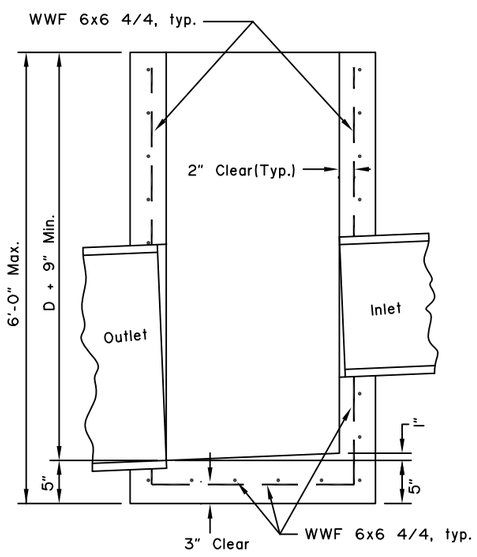
1. Install inlet boxes parallel to the curb line.
2. The plans will indicate which inlet boxes require a sump.
3. Shape floors to drain.
4. Use Grade 40 minimum reinforcing steel.
5. The plans will indicate which inlet boxes require sumps.



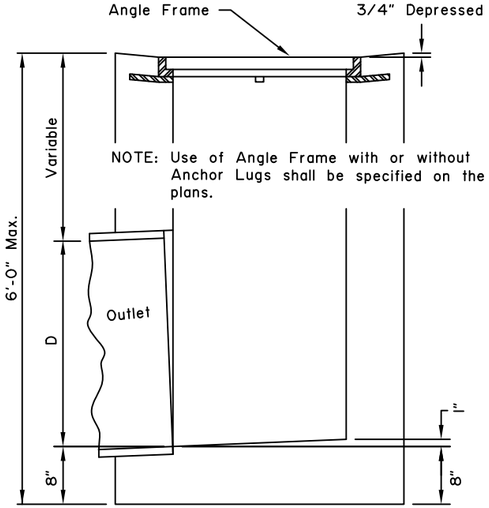
SUMP DETAIL



REINFORCED
CAST IN PLACE



PRECAST



FIELD INLET BOX
CAST* IN PLACE

* May be Precast or Reinforced Cast-In-Place Box.

TYPE "A" CONCRETE INLET BOXES

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

**TYPE "A"
INLET BOX**

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

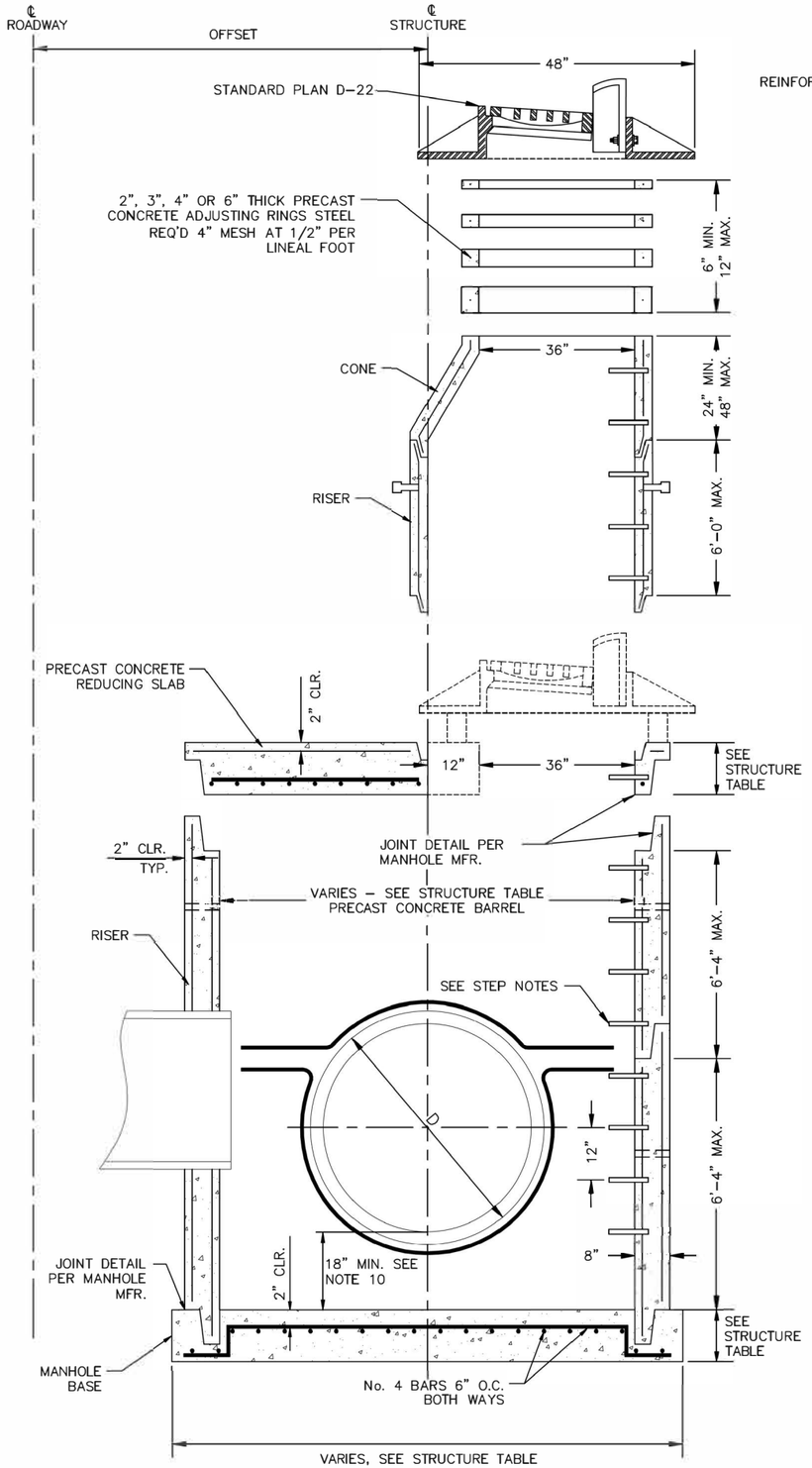
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

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

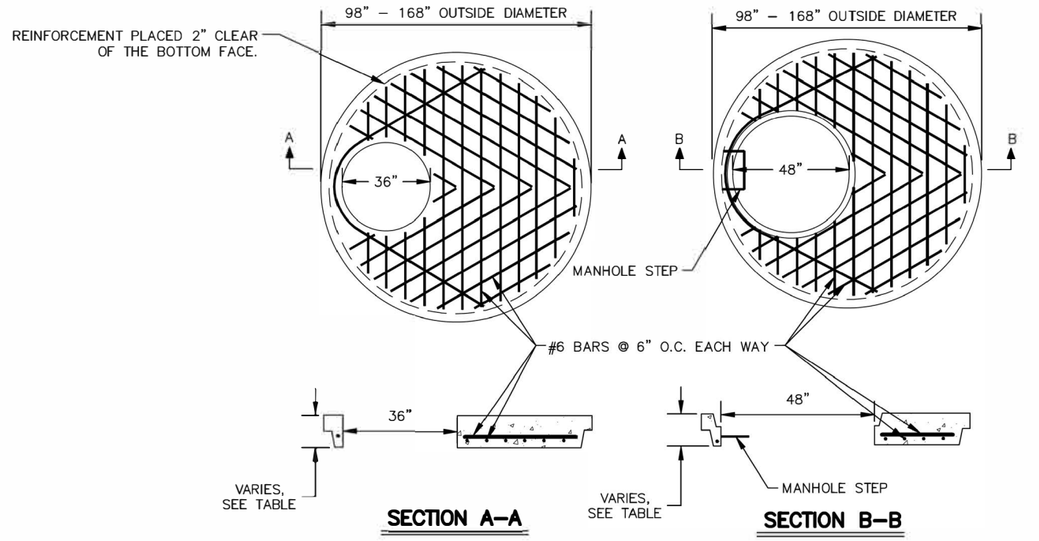
D-26.04

D-37.10 | SHEET | of |



STORM DRAIN MANHOLE, TYPE III

N.T.S.



SECTION A–A

SECTION B–B

PRECAST CONCRETE REDUCING SLAB (84"–144" TO 36")

N.T.S.

PRECAST CONCRETE REDUCING SLAB (84"–144" TO 48")

N.T.S.

REDUCING SLAB NOTES:

1. USE NO. 6 FOR ALL REBAR EXCEPT STIRRUPS AND HOOPS.
2. ALL REBAR SHALL BE SPACED AT 6" CENTERS UNLESS OTHERWISE NOTED.
3. MAINTAIN A MINIMUM OF 1 1/2" OF CONCRETE COVER OVER ALL REBAR.
4. REINFORCING STEEL SHOWN IS A MINIMUM PER ASTM C478. PRECAST MFR TO COMPLETE AND SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR ENGINEER'S REVIEW.

GENERAL NOTES:

1. THESE DRAWINGS ARE FOR PRECAST REINFORCED CONCRETE FOR HIGHWAY USE. CAST IN PLACE STRUCTURES MAY BE USED AS APPROVED BY THE ENGINEER.
2. MEET THE REQUIREMENTS OF ASTM C–478 FOR ALL DRAINAGE STRUCTURES AND APPURTENANCES.
3. WHEN BASE PAD IS ATTACHED TO FIRST BARREL SECTION, MINIMUM STEEL REQUIRED FOR BARREL AS PER ASTM C–478 SHALL BE IMBEDDED IN BASE SO THAT THE FIRST BARREL SECTION IS CONNECTED TO THE BASE BY CONTINUOUS STEEL. PROVIDE REINFORCING STEEL TYPE AND GRADE PER DOT&PF STANDARD SPECIFICATIONS.
4. MINIMUM COVER ON REINFORCING STEEL IS 1" FOR CAST–IN–PLACE PRESTRESSED CONCRETE. ALL OTHER NON–PRESTRESSED CONCRETE TO HAVE 1 1/2" MIN. COVER.
5. USE CLASS A OR CLASS B CONCRETE PER DOT&PF STANDARD SPECIFICATIONS.
6. SEAL RISER JOINTS WITH FLEXIBLE PLASTIC JOINT SEALERS.
7. PROVIDE NON–SHRINK GROUT. PROTECT GROUT DURING CURE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHOD.
8. FORM ALL BLOCK–OUTS.
9. MANHOLE SHALL HAVE A MINIMUM OF ONE 6" GRADE RING.
10. ALL STORM DRAIN MANHOLES AND INLETS SHALL HAVE 18" MINIMUM SUMPS. MANHOLES WITH PETROLEUM SEPARATORS SHALL HAVE 24" MINIMUM SUMPS.
11. OFFSET IS MEASURED TO CENTERLINE OF STRUCTURE.
12. EXTEND PIPE 2" INTO MANHOLE. SEAL PIPE PENETRATIONS WITH NON–SHRINKABLE GROUT MIXED WITH POTABLE WATER PER MANUFACTURES RECOMMENDATIONS.
13. CATCH BASIN LEADS SHALL ENTER THE MANHOLE AT LEAST ONE PRIMARY LEAD DIAMETER ABOVE THE TOP OF THE PRIMARY LEAD UNLESS MINIMUM PIPE SLOPES CANNOT BE ACHIEVED.
14. MAXIMUM PIPE DIAMETER IS NOT TO EXCEED HALF OF THE STRUCTURE DIAMETER. PRIMARY LEADS MUST BE A MINIMUM OF 135 DEGREES APART.
15. ALL PENETRATIONS REQUIRE ADDITIONAL #4 HOOP.
16. LIVE LOAD FOR DESIGN OF THE MANHOLE BARRELS, RISERS AND REDUCING SLABS IS AASHTO HL–93 (HS20 AND DESIGN TANDEM AXLE/WHEEL LOADS).
17. A FLAT LID WITH A SMALLER OPENING MAY ALSO BE USED IF CALLED FOR IN THE PLANS.

MANHOLE STEP NOTES:

1. MEET CURRENT OSHA STANDARDS FOR STEPS AND ACCESS OPENINGS.
2. STEPS SHALL BE PLACED 12" O.C. ON AN UNOBSTRUCTED SIDE OF THE STRUCTURE, 18" MAXIMUM FROM MANHOLE BASE. IF UNOBSTRUCTED SIDE NOT AVAILABLE, BOTTOM STEP TO BE PLACED 6" OVER SMALLEST PIPE. WHEN USING A CONE, FIRST LADDER RUNG IS 8" MAXIMUM FROM TOP OF CONE. WHEN USING A FLAT LID, FIRST LADDER RUNG IS 4" MAXIMUM FROM TOP OF RISER.
3. PROVIDE INJECTION MOLDED POLYPROPYLENE COVERED GRADE 60 STEEL STEPS TIGHTLY IMBEDDED AT LEAST 3" INTO CONCRETE.
4. INSTALL STEPS TO RESIST A PULLOUT FORCE OF 1500 LB.
5. THE MINIMUM DIAMETER OF CLEAR ACCESS TO STEP IS 24".
6. THE CONTRACTOR SHALL TAKE SPECIAL CARE FOR ANY MANHOLE THAT FALLS IN A CURB LINE TO SEE THAT WHEN MANHOLE IS OFFSET DURING INSTALLATION THAT THE STEPS FALL UNDER THE CURB INLET.

STRUCTURE TABLE

MANHOLE I.D.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MIN. TOP SLAB THICKNESS	MIN. BASE PAD DIAMETER
84"	7"	12"	12"	104"
96"	8"	12"	12"	118"
108"	9"	14"	14"	132"
120"	10"	16"	14"	140"
132"	11"	16"	14"	154"
144"	12"	16"	14"	168"

State of Alaska DOT&PF
ALASKA STANDARD PLAN

84" TO 144" STORM DRAIN MANHOLE (PRECAST CONCRETE) TYPE III MANHOLE

Adopted as an Alaska Standard Plan by:

Lauren Little, P.E.
Interim Chief Engineer

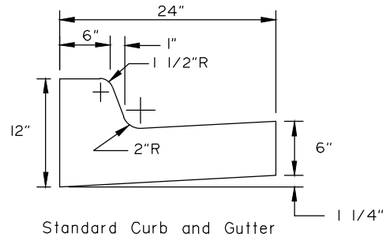
Adoption Date: 01/29/2024

Last Code and Stds. Review By: BMM Date: 12/13/2023

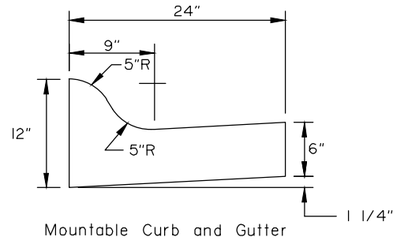
Next Code and Standards Review Date: 12/13/2033

D-37.10

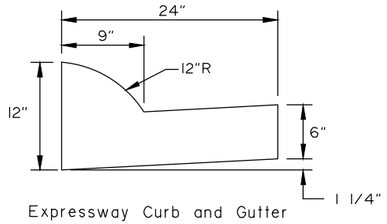
I-20.20 | SHEET | of |



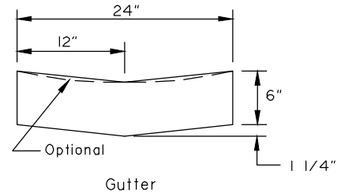
Standard Curb and Gutter



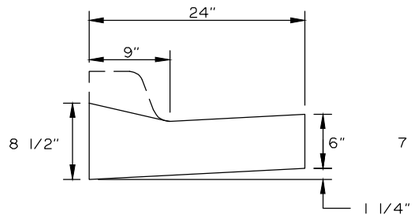
Mountable Curb and Gutter



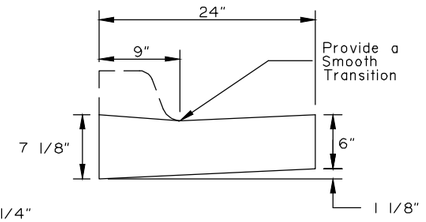
Expressway Curb and Gutter



Gutter

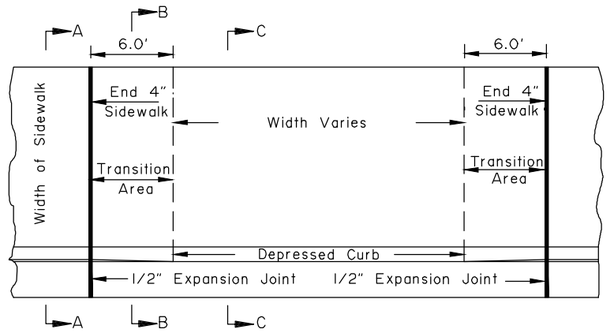


Depressed Curb and Gutter

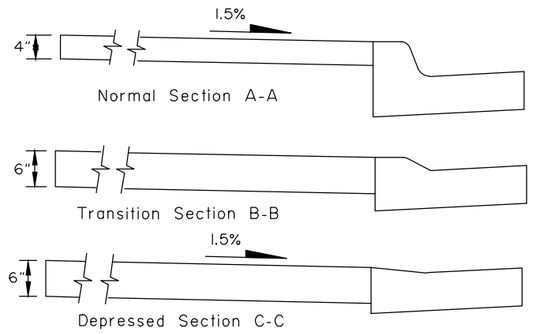


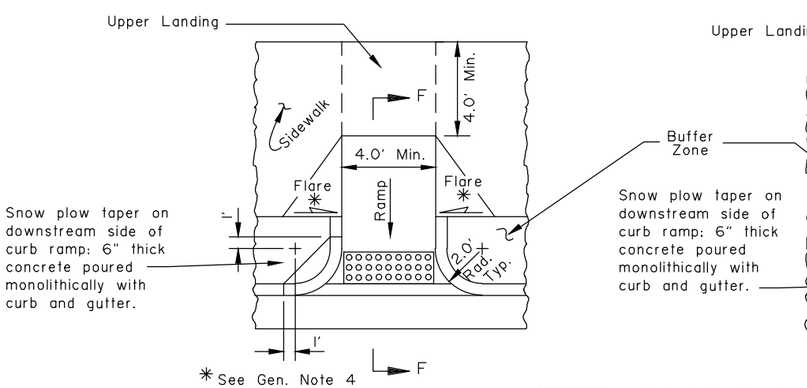
ADA Curb and Gutter

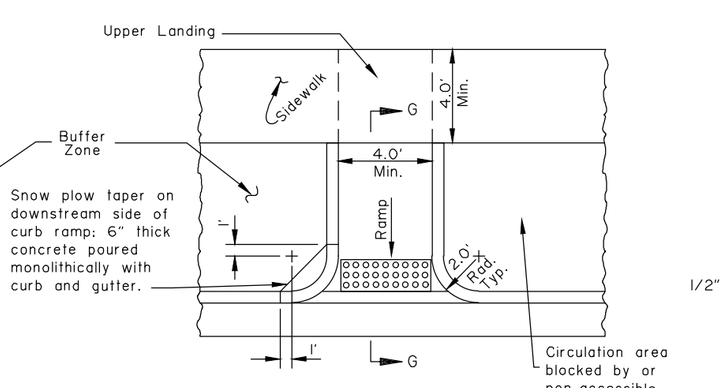
CURB and GUTTER DETAILS

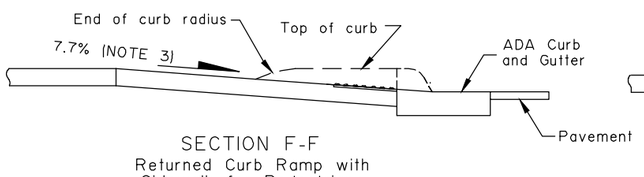


DRIVEWAY CURB CUT DETAILS

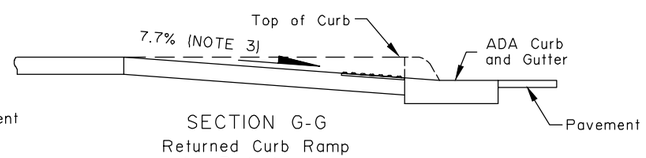




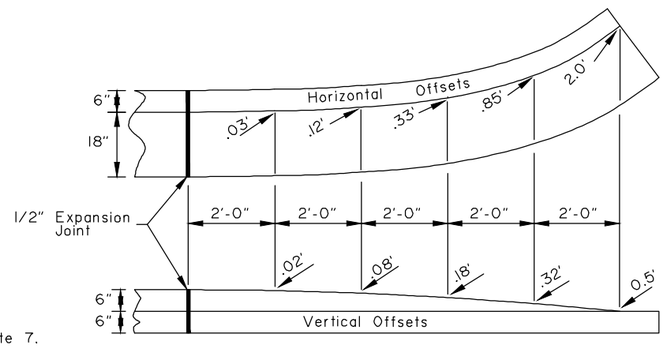




SECTION F-F
Returned Curb Ramp with
Sidewalk for Pedestrians



SECTION G-G
Returned Curb Ramp
for Pedestrians



CURB and GUTTER
TERMINATION TRANSITIONS

Note: Drawing not to scale

CONSTRUCTION NOTES:

1. Use the type of curb and gutter shown on the plans.
2. Construct ramp runs and landings of concrete, regardless of whether the sidewalk is asphalt or concrete.
3. Construct ramp slopes at a 7.7% nominal grade, or flatter. Ramp slopes may be increased to a maximum of 8.3% when site conditions warrant it. Ramp lengths should be increased to keep grades under the 8.3% maximum, but are not required to exceed 15.0 feet. The resulting ramp grade at a 15.0 foot ramp length is acceptable even if it exceeds 8.3%.
4. Construct flare slopes at 8.3% (measured paralllel to the curb line) or flatter, sidewalk cross slopes at 1.5% nominal (1.0% min. and 2.0% max), and ADA Curb and Gutter gutter pan slopes at 4.7% nominal. Construct grade breaks perpendicular to ramp runs.
5. Do not construct flare slopes steeper than 10.0%, sidewalk cross slopes steeper than 2.0% and ADA Curb and Gutter gutter pan slopes steeper than 5.0%. These are the steepest slopes allowed under the 2006 ADA Standards for Transportation Facilities.
6. Provide a coarse broomed finish on ramp runs perpendicular to the ramp slope.
7. When approved by the Engineer, curb returns may be replaced with flares at locations where access to the side of a ramp run is free of poles, utility boxes, other obstructions, or non-accessible surfaces such as a dirt planter strips. See Standard Plan I-22 for flare details.
8. Install 24" wide detectable warning tiles for the full width of the ramp. Provide tiles with truncated domes meeting Section 705.1 of the 2006 ADA Standards for Transportation Facilities. Align truncated dome pattern in the predominant direction of wheelchair travel to permit wheels to roll between domes.
9. Maximum cross slope on upper landings, measured in any direction, is 2.0%. Maximum cross slope on ramps is 2.0% measured perpendicular to the ramp run.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CURB CUT
CURB & GUTTER
AND CURB RAMP DETAILS

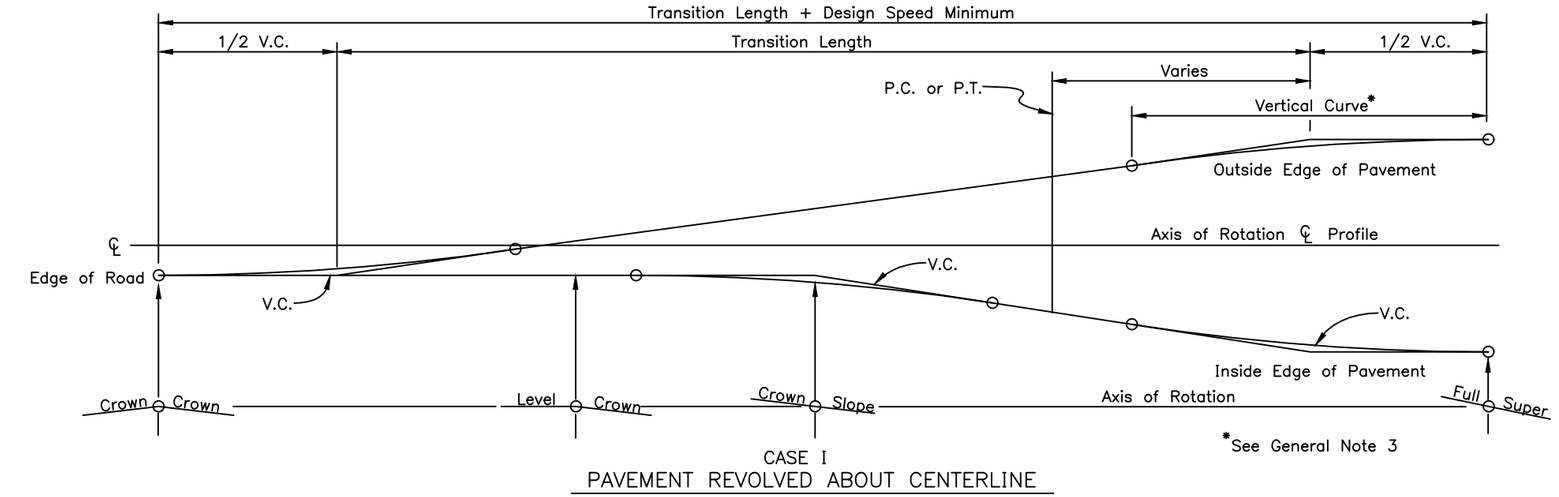
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

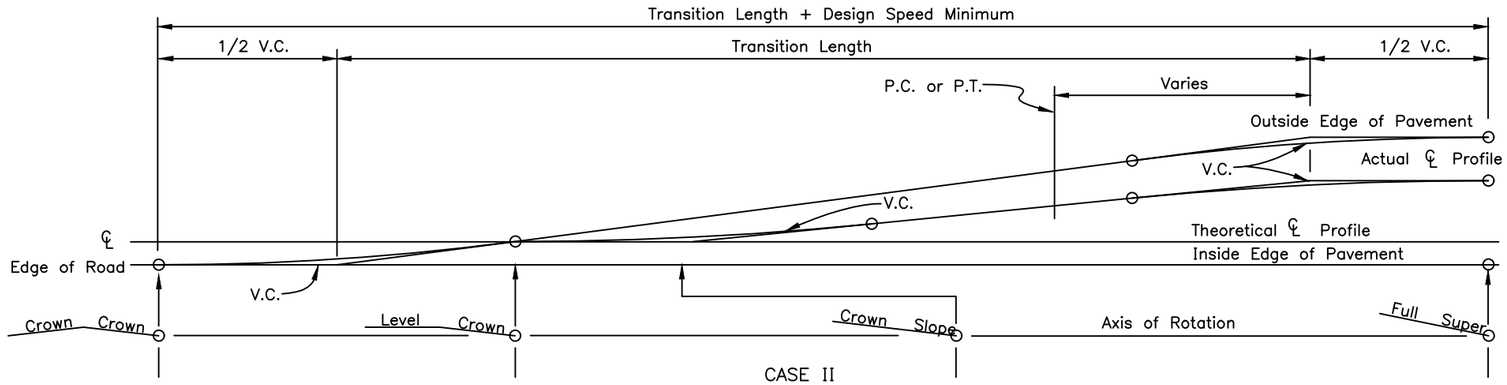
Last Code and Stds. Review
By: KLH Date: 7/8/2020

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

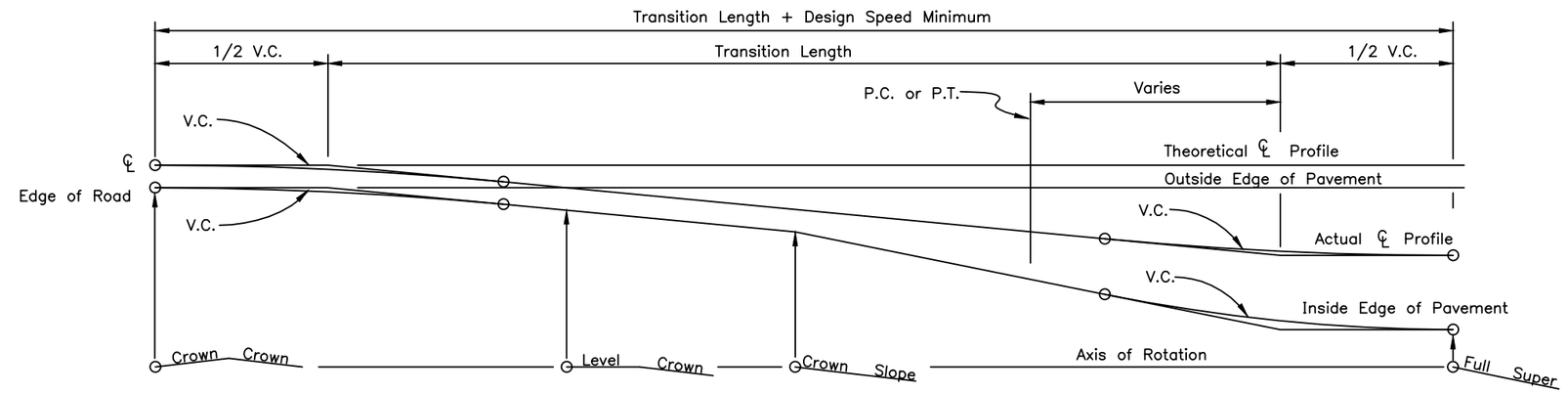
I-20.20



CASE I
PAVEMENT REVOLVED ABOUT CENTERLINE



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



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

I-81.00 | SHEET 1 of 1

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SUPERELEVATION TRANSITION

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

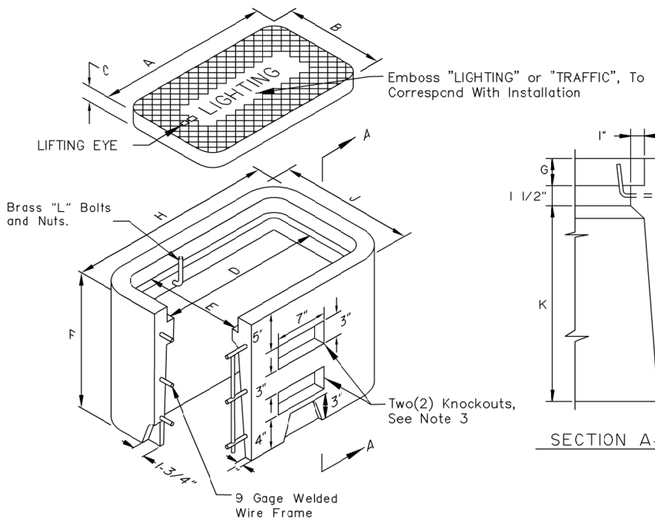
Adoption Date: 7/17/2020

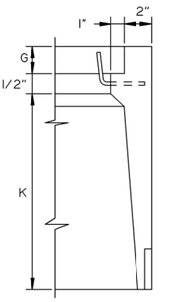
Last Code and Stds. Review
By: KLK Date: 7/8/2020

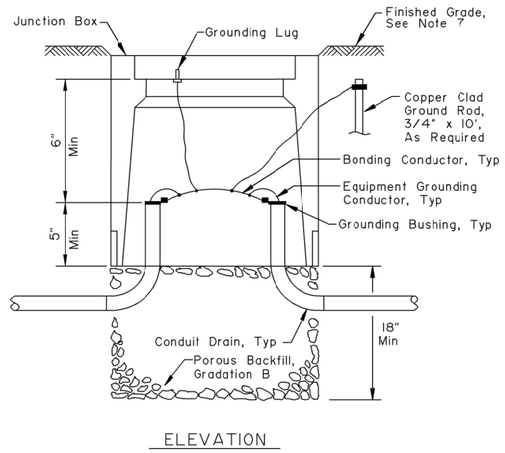
Next Code and Standards Review Date: 7/8/2030

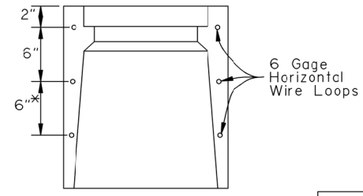
I-81.00

L-23.03 SHEET | of |









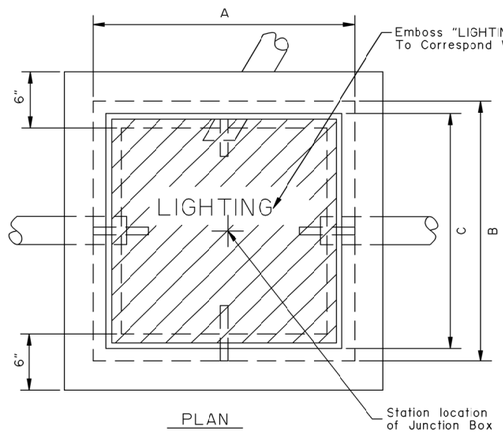
TYPE I & IA JUNCTION BOX

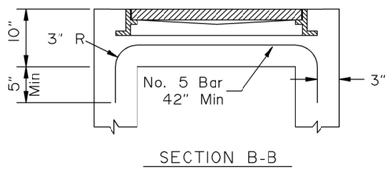
	DIMENSIONS (IN)	
	TYPE I	TYPE IA
A	15	22 3/4
B	10	13 1/4
C	1 3/4	2
D	13 1/2	21 1/4
E	8 1/2	11 3/4
F	12	18
G	1 3/4	2
H	19 1/2	27 1/4
J	14 1/2	17 3/4
K	8 3/4	14 1/2

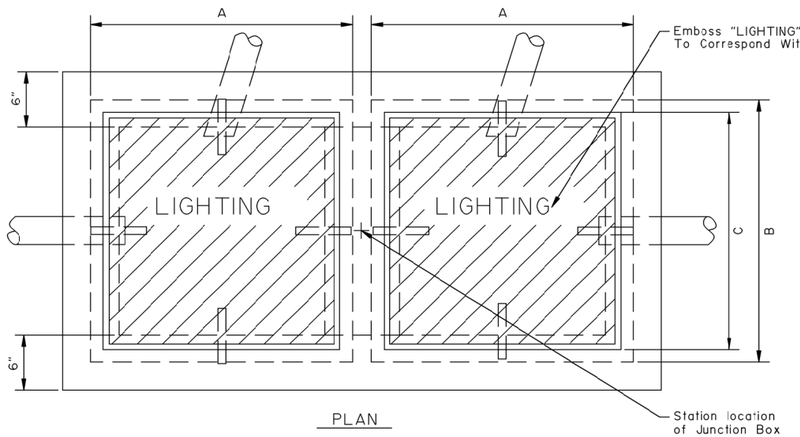
	DIMENSIONS (IN)		
	TYPE II	TYPE III	TYPE IV
A (Max)	30	30	30
B (Max)	30	30	36
C (Min)	22	22	30
D (Min)	22	22	24
E (Min)	24	24	30

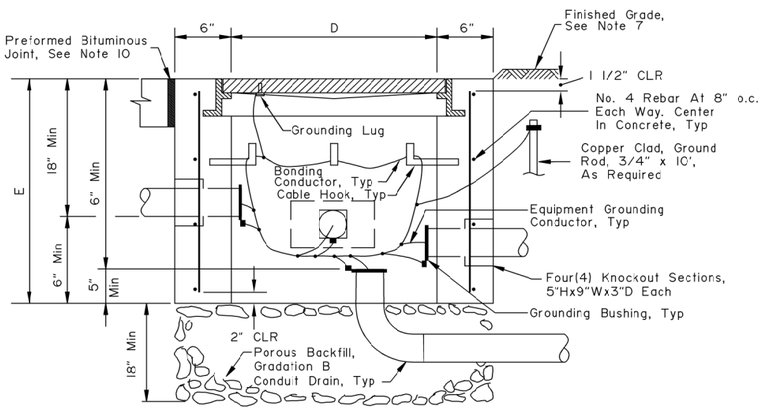
GENERAL NOTES:

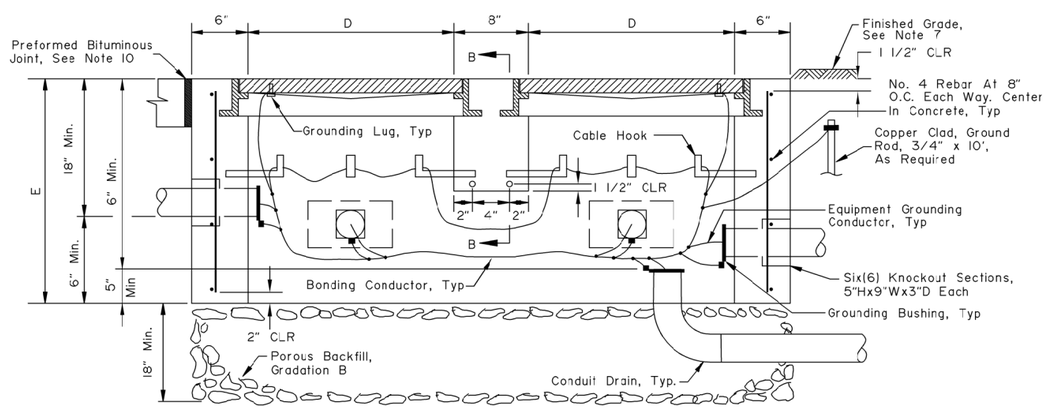
1. See the Standard Specificcations for Highway Construction (SSHC) for additional requirements.
2. See Section 660-2.01 of the SSHC for concrete and reinforcing steel requirements.
3. Provide knockouts indicated in Type IA junction box when installed for loop detection. Conduit for loop detectors to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











NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

JUNCTION BOXES FOR ELECTROLIER & TRAFFIC SIGNALS

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

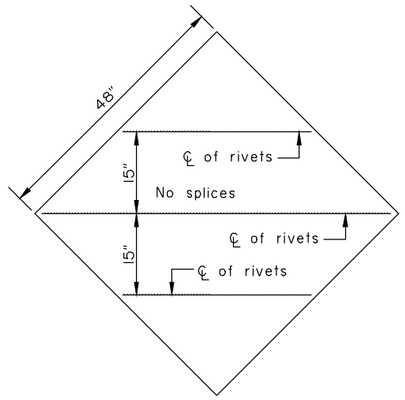
Adoption Date: 09/15/2022

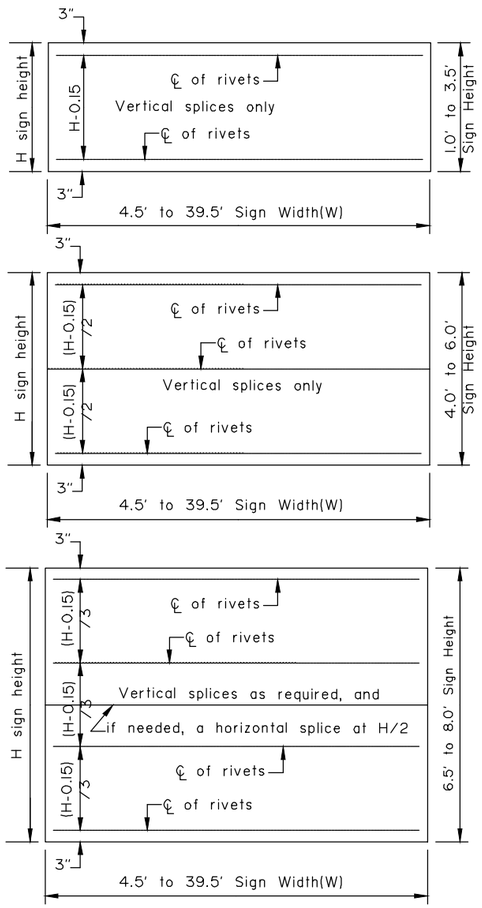
Last Code and Stds. Review
By: CNH Date: 7/15/2020

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

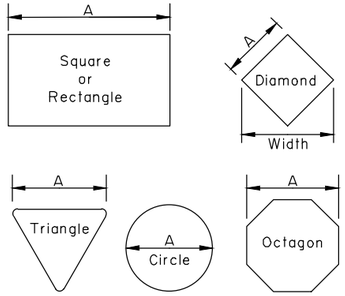
L-23.03

S-00.12 SHEET | of |





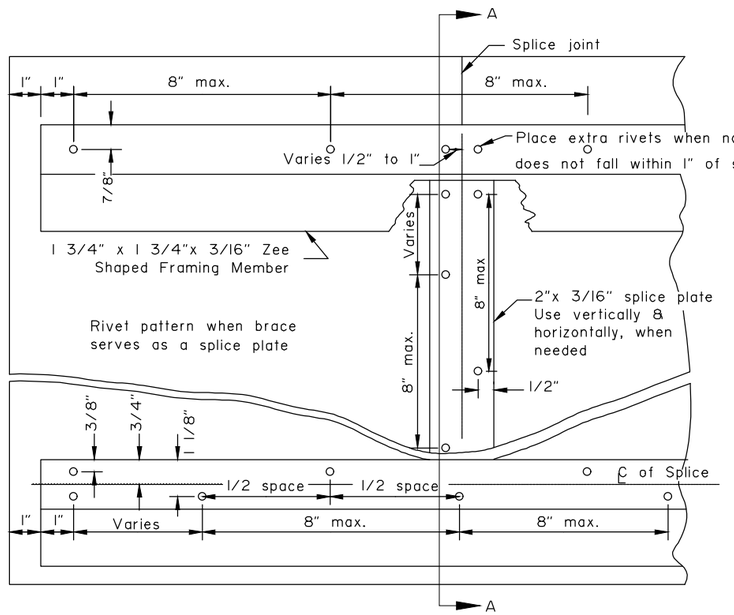
WIND FRAMING LOCATIONS



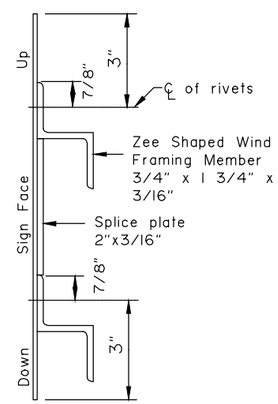
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

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

LIGHT SIGNS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

Note: Drawing not to scale

GENERAL NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN FRAMING

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

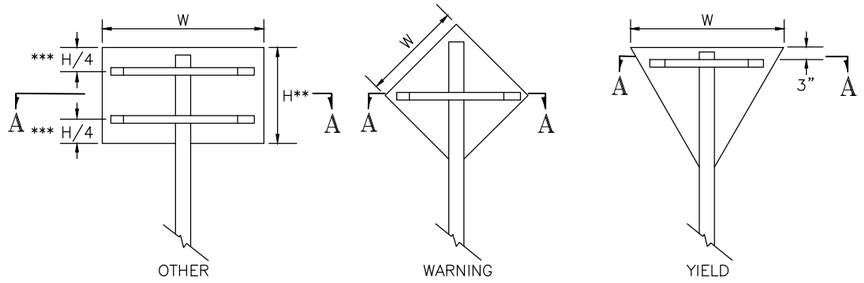
Adoption Date: 7/17/2020

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

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

S-00.12

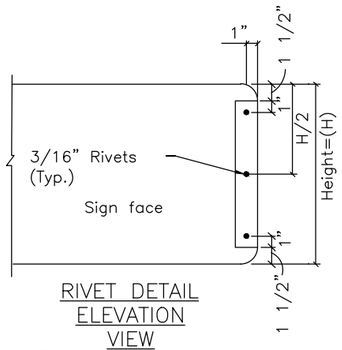
S-01.02 SHEET | of |



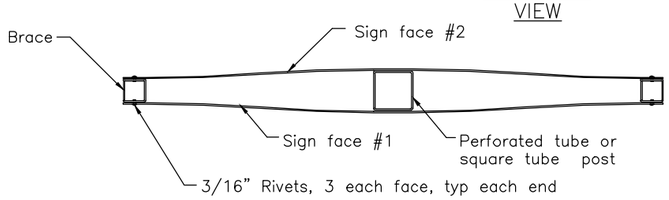
*** Use one brace when H ≤ 18"
Use two braces when 18"< H < 48"
Use three braces when H ≥ 48"

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

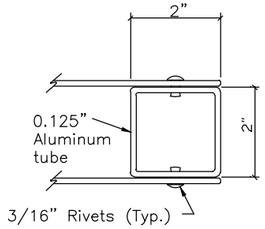
SIGN BRACING PLACEMENT



RIVET DETAIL
ELEVATION
VIEW

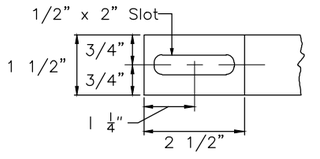


PLAN VIEW

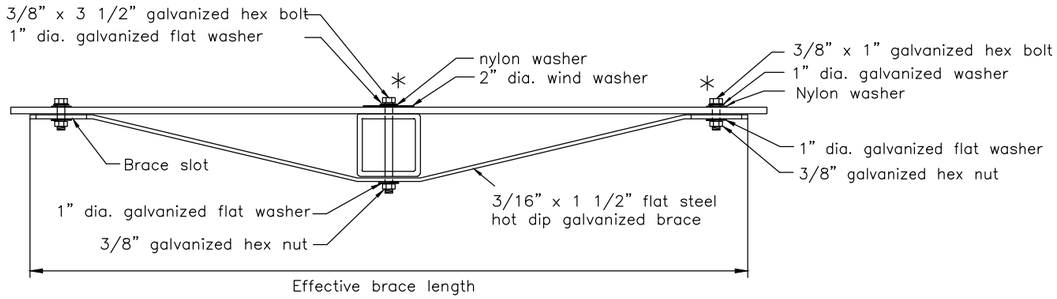


END BRACE DETAIL

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



DETAIL OF BRACE SLOT
Elevation view



TUBE POST SIGN BRACING SECTION A-A
Plan view

* 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

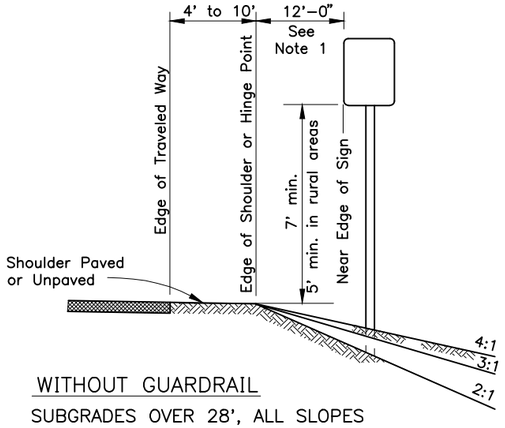
Adoption Date: 7/17/2020

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

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

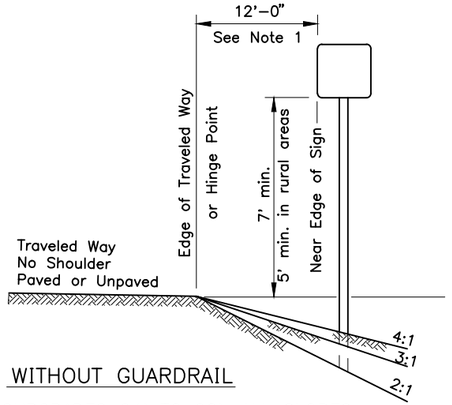
S-01.02

S-05.02 | SHEET 1 of 1



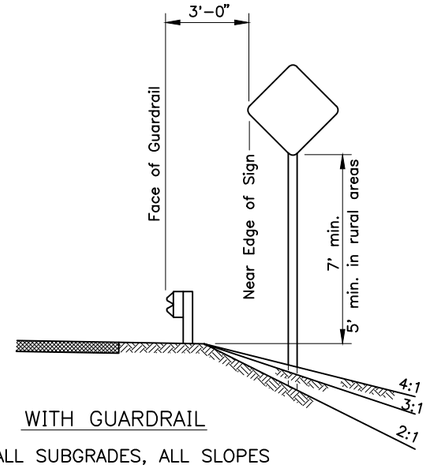
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

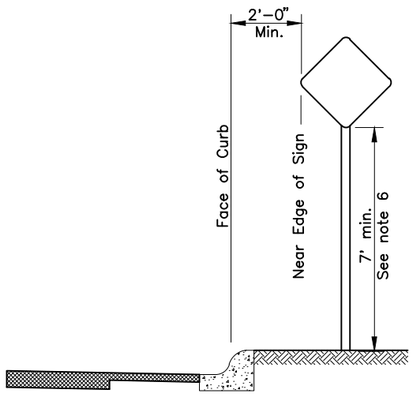


WITH GUARDRAIL

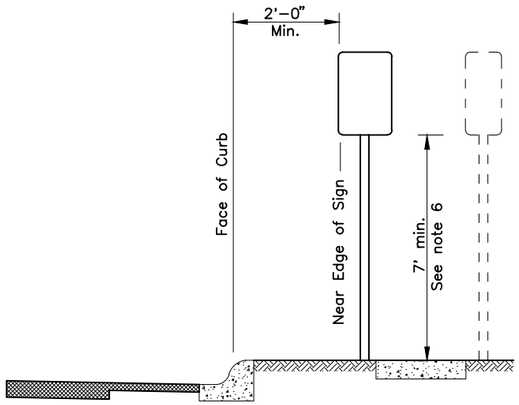
ALL SUBGRADES, ALL SLOPES

GENERAL NOTES

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

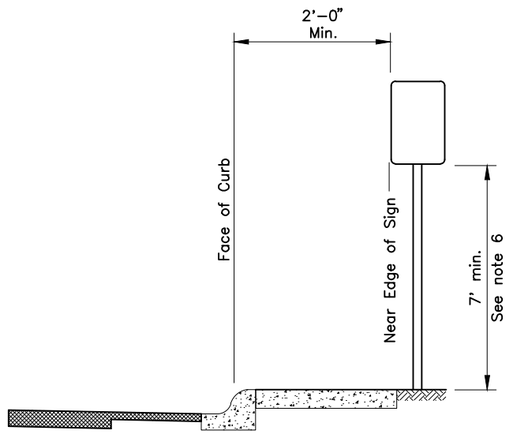


CURB WITHOUT SIDEWALK

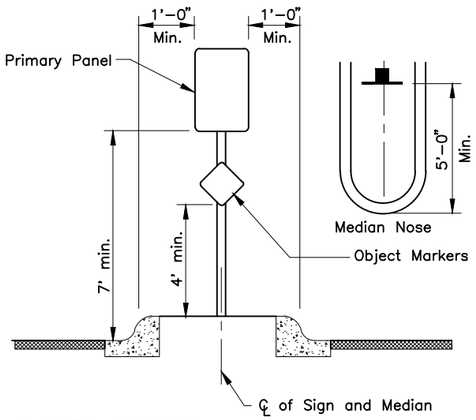


CURB WITH PARKWAY AND SIDEWALK

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

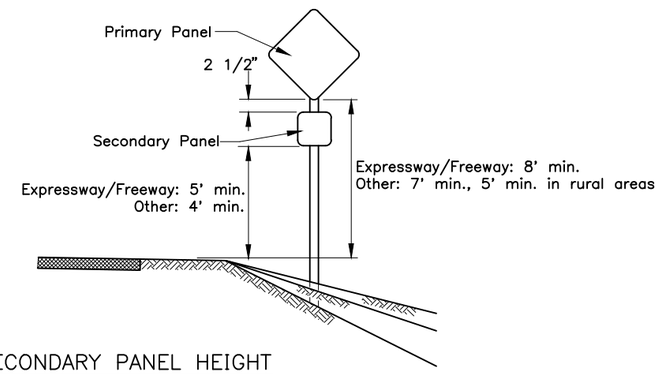


CURB WITH SIDEWALK WITHOUT PARKWAY



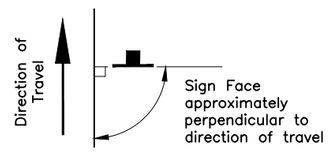
RAISED MEDIANS

Minimum 4' Width for Signing



SECONDARY PANEL HEIGHT

ALL TWO PANEL MOUNTING



SIGN POSITIONING

State of Alaska DOT&PF
ALASKA STANDARD PLAN

POST MOUNTED SIGN
OFFSET AND HEIGHT

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

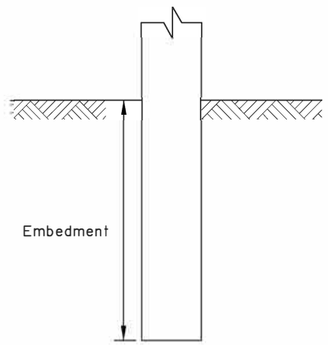
Adoption Date: 7/17/2020

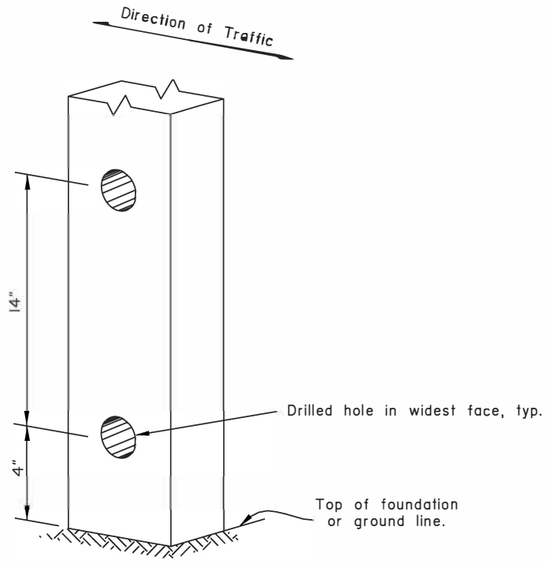
Last Code and Stds. Review
By: KLK Date: 7/8/2020

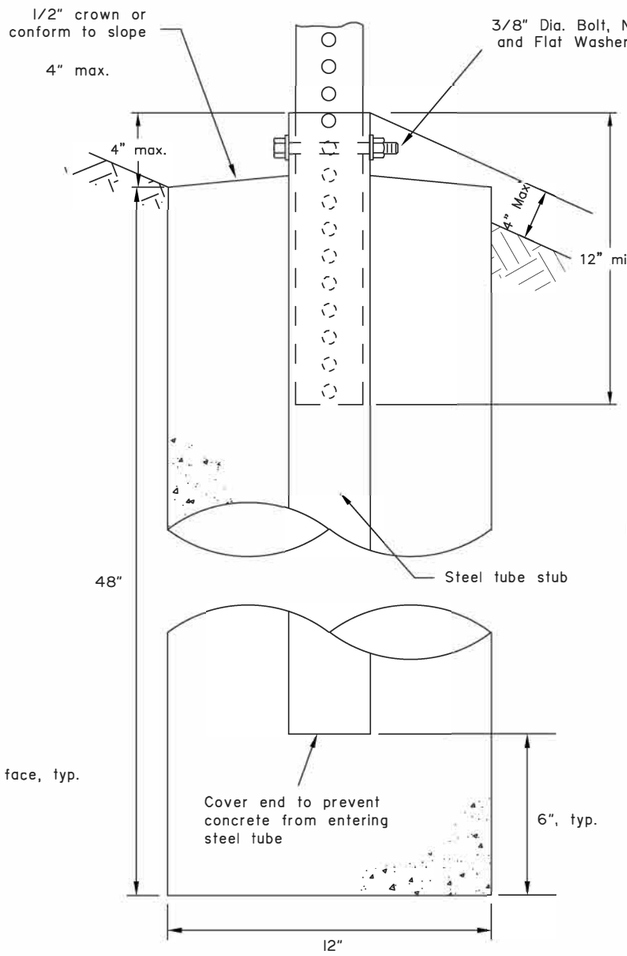
Next Code and Standards Review Date: 7/8/2030

S-05.02

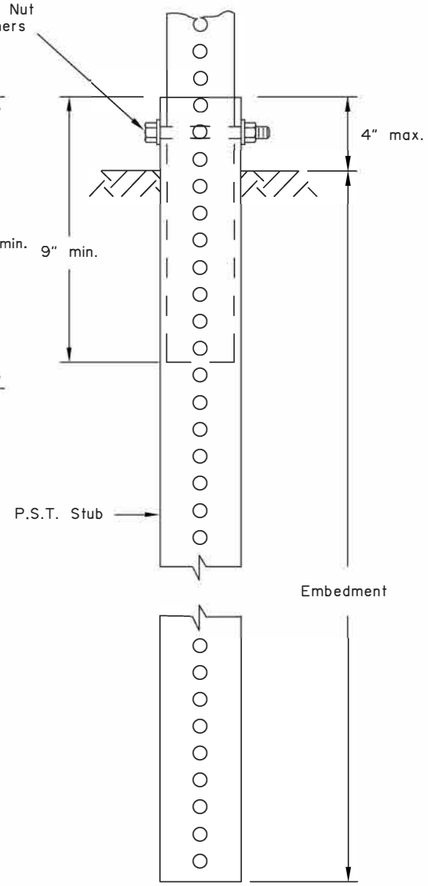
S-30.05 SHEET 1 of 1







SLEEVE TYPE
CONCRETE FOUNDATION



SLEEVE TYPE*
SOIL EMBEDMENT

GENERAL NOTES:

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

SIGN POST SPACING NOTES:

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

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

* Embedment depth applies in both strong and weak soil.

WOOD POSTS

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

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

PERFORATED STEEL TUBE (PST) POSTS

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

TUBE SIGN POST SPACING

Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

LIGHT SIGN STRUCTURE
POST EMBEDMENT

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

Adoption Date: 7/17/2020

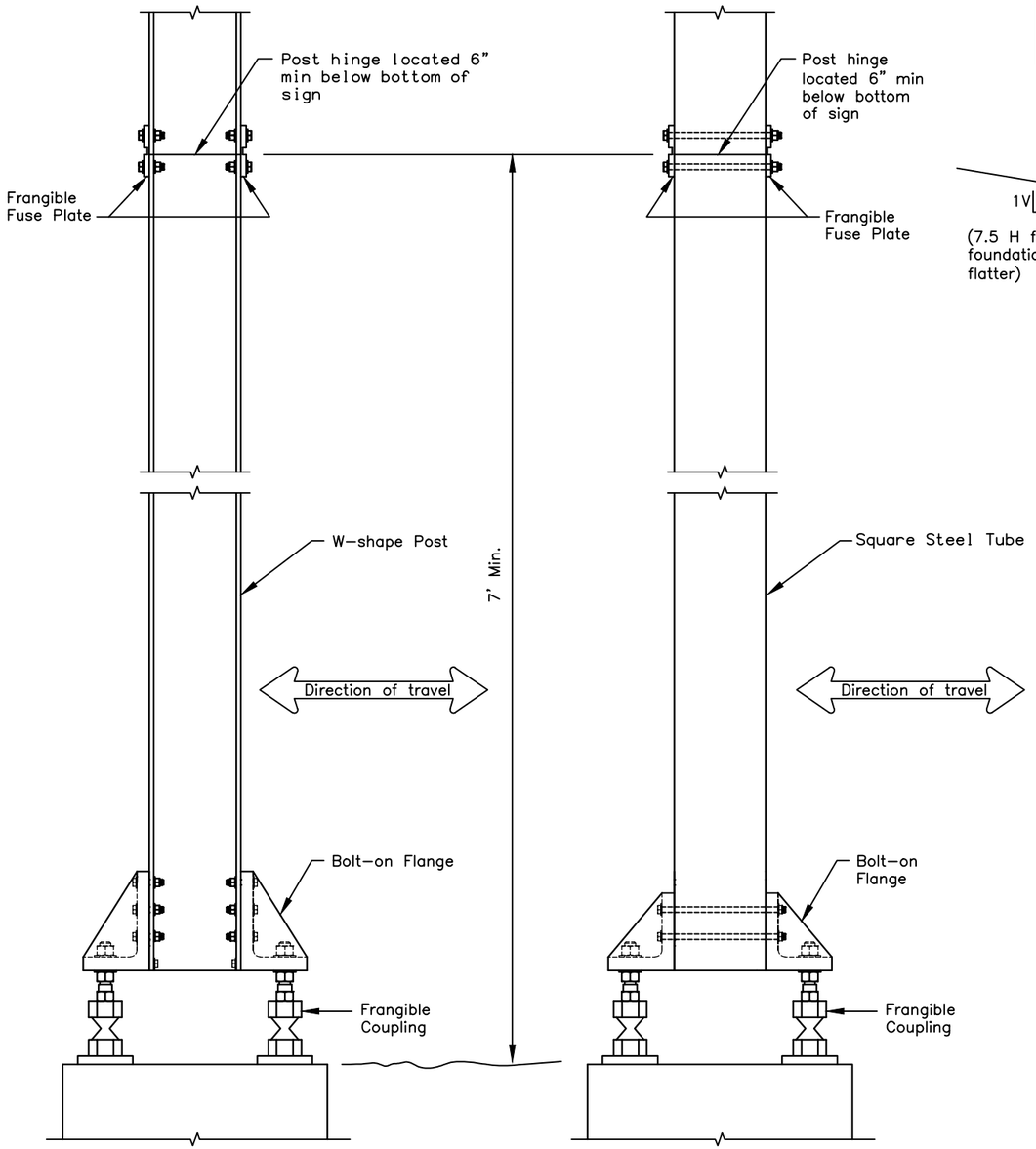
Last Code and Stds. Review
By: WTH Date: 7/8/2020

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

S-30.05

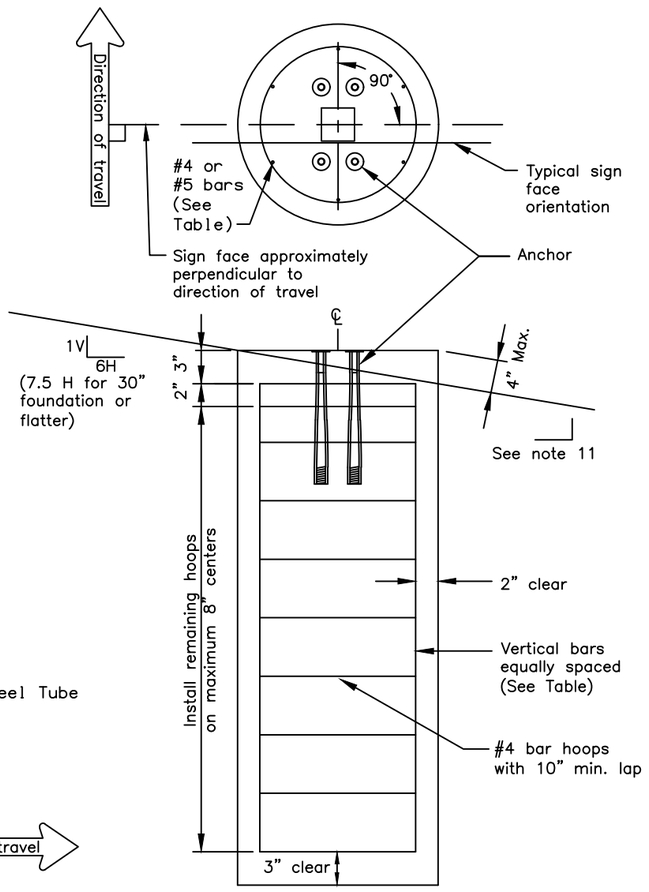
S-31.02 SHEET 1 of 1

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.	VERTICAL BARS SIZE	VERTICAL BARS LGTH.	HOOPS QTY.	HOOPS SIZE	HOOPS DIA.
2 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
3 1/2" TUBE	1'–6"	6'–0"	0.39	7	#5	5'–6"	10	#4	1'–2"
4" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
4 1/2" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
5" TUBE	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 9	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 12	2'–6"	6'–0"	1.09	8	#8	5'–6"	10	#4	2'–2"
W6 x 15	3'–0"	6'–6"	1.70	8	#11	6'–0"	12	#4	2'–8"
W6 x 30	3'–0"	7'–6"	1.96	8	#11	7'–0"	13	#4	2'–8"

FOUNDATION TABLE

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

GENERAL NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SIGN POST BASE AND FOUNDATION

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

Adoption Date: 7/17/2020

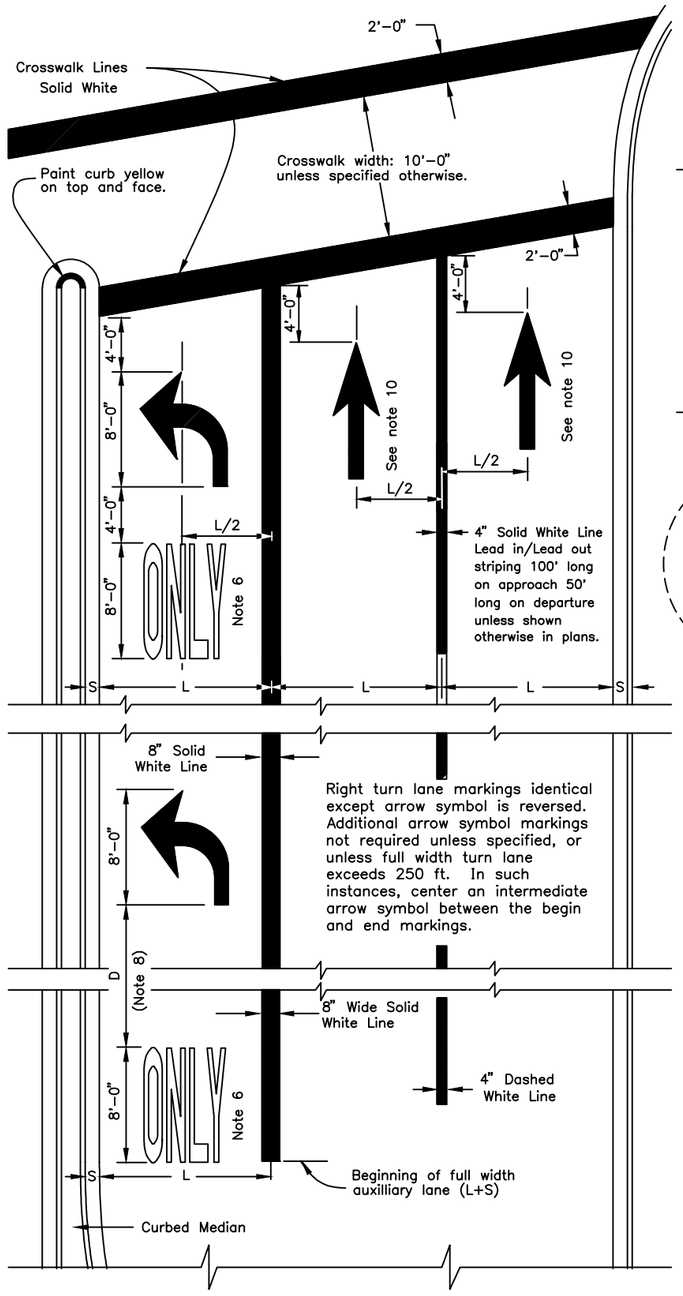
Last Code and Stds. Review
By: KLK, MJM Date: 7/8/2020

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

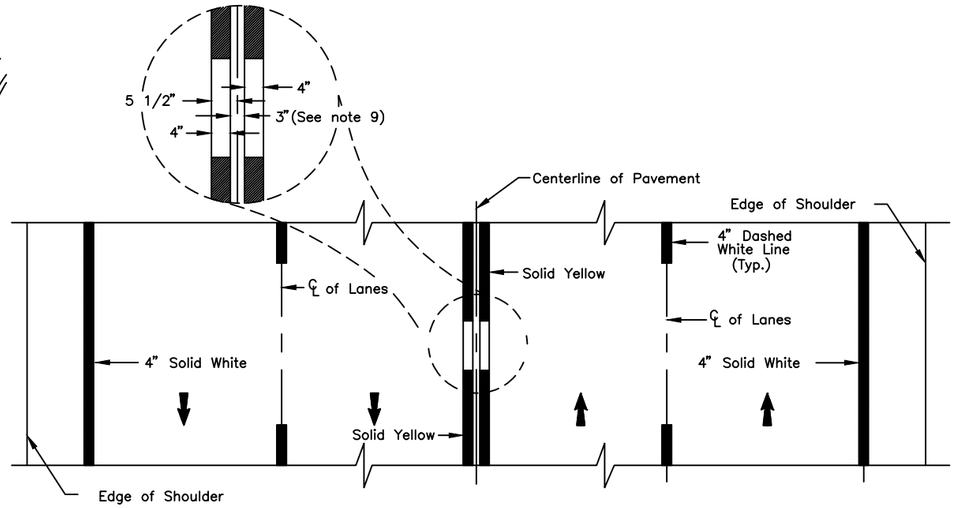
S-31.02

T-21.04

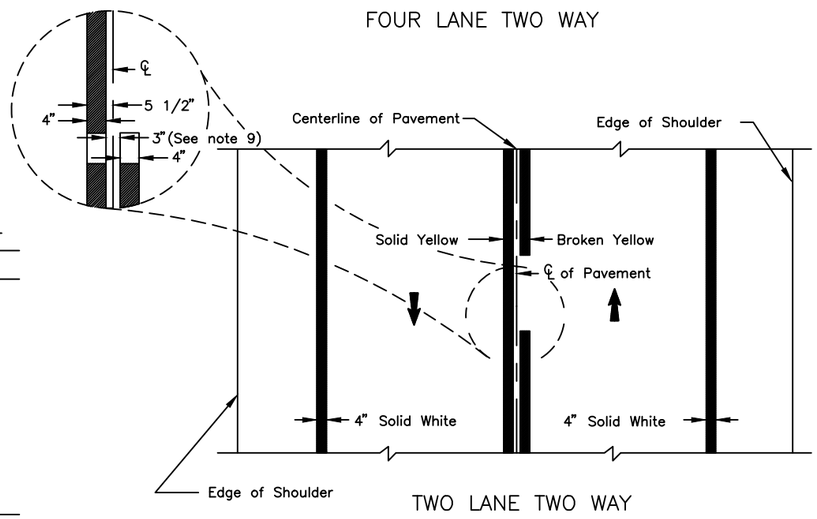
SHEET 1 of 1



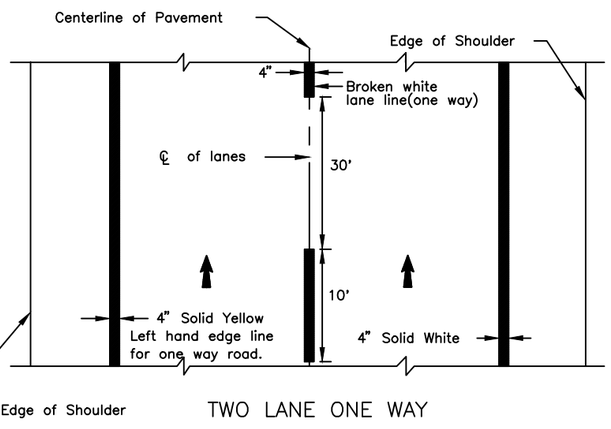
APPROACH TO INTERSECTION



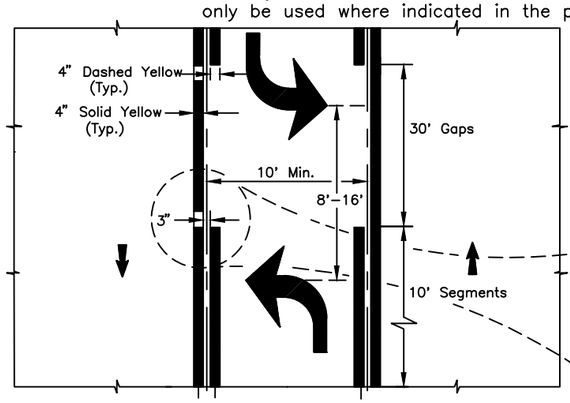
FOUR LANE TWO WAY



TWO LANE TWO WAY

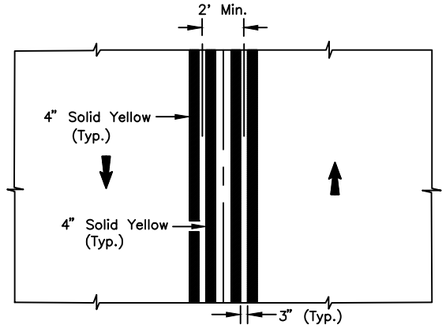


TWO LANE ONE WAY



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

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



STRIPED MEDIAN

GENERAL NOTES:

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

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

U-03.01 SHEET | of |

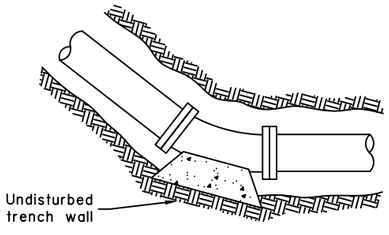
THRUST BLOCK MINIMUM SIZE TABLE

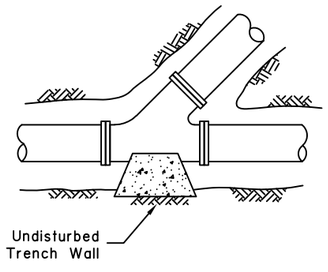
For Bends Greater Than 45°, Tee Branches & Crosses

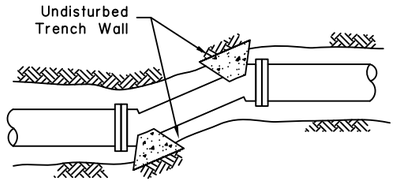
Pipe Diam. (In.)	Water Pressure in Pipe (P.S.I.) 50 Bearing Area (Sq. Ft.)	50 Concrete Volume (Cu. Ft.)	150 Bearing Area (Sq. Ft.)	150 Concrete Volume (Cu. Ft.)	250 Bearing Area (Sq. Ft.)	250 Concrete Volume (Cu. Ft.)
2	0.5	0.5	0.8	1.0	1.0	1.3
3	0.6	0.8	1.0	1.3	1.1	1.5
4	0.8	1.0	1.6	3.1	1.5	3.0
6	1.0	1.3	1.9	4.0	3.2	7.0
8	1.1	1.5	3.2	7.0	5.4	11.0
10	1.7	3.2	4.9	10.0	8.3	19.0
12	2.4	5.2	7.1	17.0	11.8	24.3
14	3.2	7.0	9.8	21.0	16.1	32.0
16	4.1	8.0	12.3	25.0	20.5	40.0
18	5.4	11.0	16.2	32.0	27.1	50.0
20	6.8	15.0	20.6	40.0	34.4	70.0
24	8.2	19.0	25.3	50.0	42.0	80.0

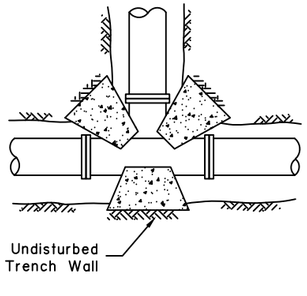
For Bends 45° or Less

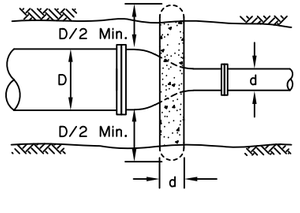
2	0.5	0.5	0.5	0.5	0.6	0.8
3	0.5	0.5	0.7	0.9	0.8	1.0
4	0.5	0.5	0.9	1.1	1.0	1.5
6	0.6	0.8	1.2	2.0	1.7	3.2
8	0.8	1.0	1.8	3.6	2.9	6.0
10	1.0	1.3	2.7	5.8	4.5	9.0
12	1.3	2.5	3.8	7.5	6.4	14.0
14	1.7	3.2	5.2	11.0	8.6	19.0
16	2.2	4.5	6.7	15.0	11.2	24.0
18	2.8	5.9	8.5	19.0	14.1	30.0
20	3.5	7.0	10.5	22.2	17.5	35.0
24	4.2	8.0	12.8	26.0	21.5	40.0

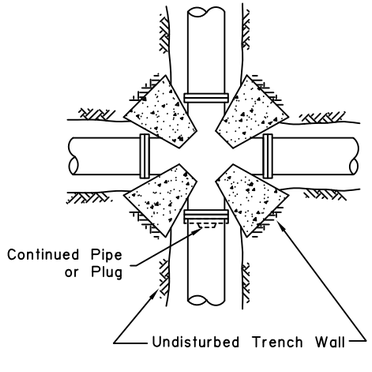






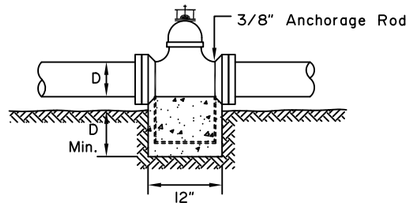






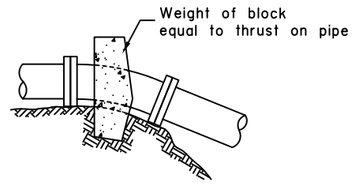
PLACEMENT OF THRUST BLOCKS

VALVES REQUIRING ANCHORAGE	
WORKING PRESSURE (P.S.I.)	VALVES REQUIRING ANCHORAGE
50 - 100	12 Inch and up
101 - 150	8 Inch and up
151 - 200	All Sizes

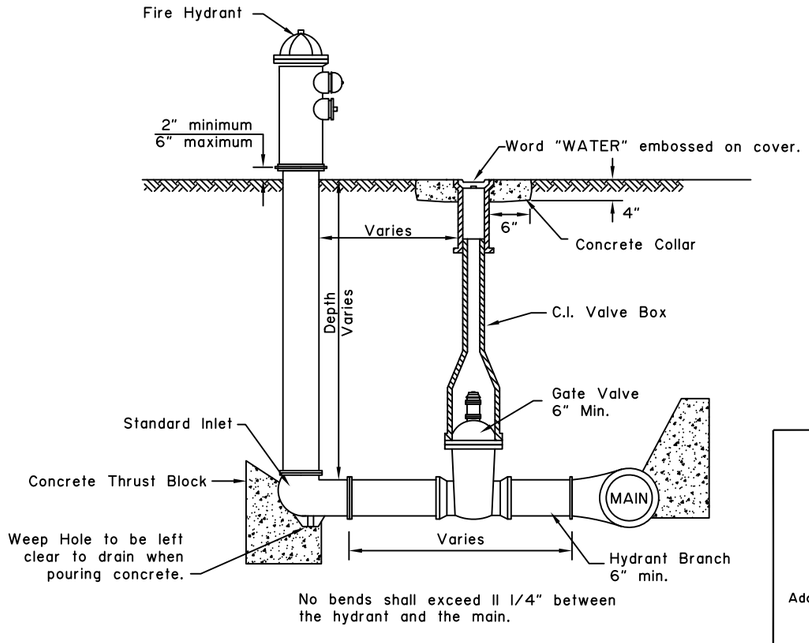


ANCHORAGE OF VALVES

THRUST AT VERTICAL BEND PER DEGREE DEFLECTION AT 100 P.S.I. WATER PRESSURE			
PIPE SIZE	THRUST (LB.)	PIPE SIZE	THRUST (LB.)
4"	35	10"	197
6"	72	12"	278
8"	122	14"	377
		16"	486



VERTICAL BENDS



No bends shall exceed 11 1/4" between the hydrant and the main.

STANDARD HYDRANT

GENERAL NOTES:

1. Thrust blocks are to be concrete poured in place between the fitting and undisturbed trench wall.
2. Concrete shall be kept centered behind bell of fitting and not obstructing pipe joints.
3. Thrust blocks are required whenever pipe-line changes direction, changes size, dead ends, or develops thrust at valves.
4. Material, behind the thrust blocks, deemed unsuitable by the engineer shall be removed and replaced as directed by the engineer.
5. In impervious soils, a hole shall be dug beneath the hydrant thrust block tp a minimum volume of 7 cubic feet. The hole shall be filled with porous backfill material.
6. Refer to AWWA C600-64 Section II for placement of hydrant
7. Orient hydrant with nozzles facing street.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

THRUST BLOCKS

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

Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

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

U-03.01