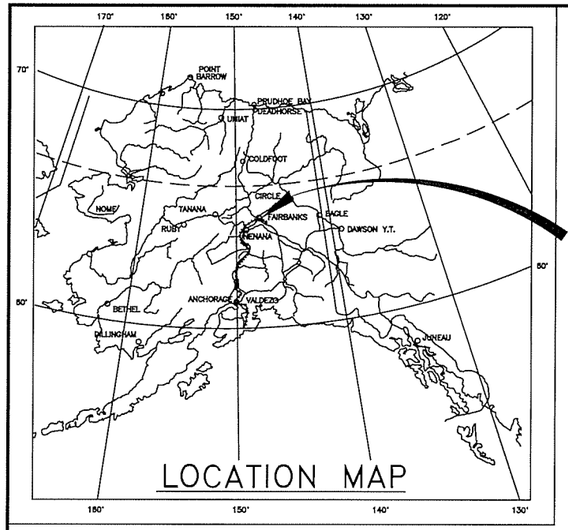
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	A1	93
CDS ROUTE: 152000	MILEPOINT: 0.4 TO 0.7			



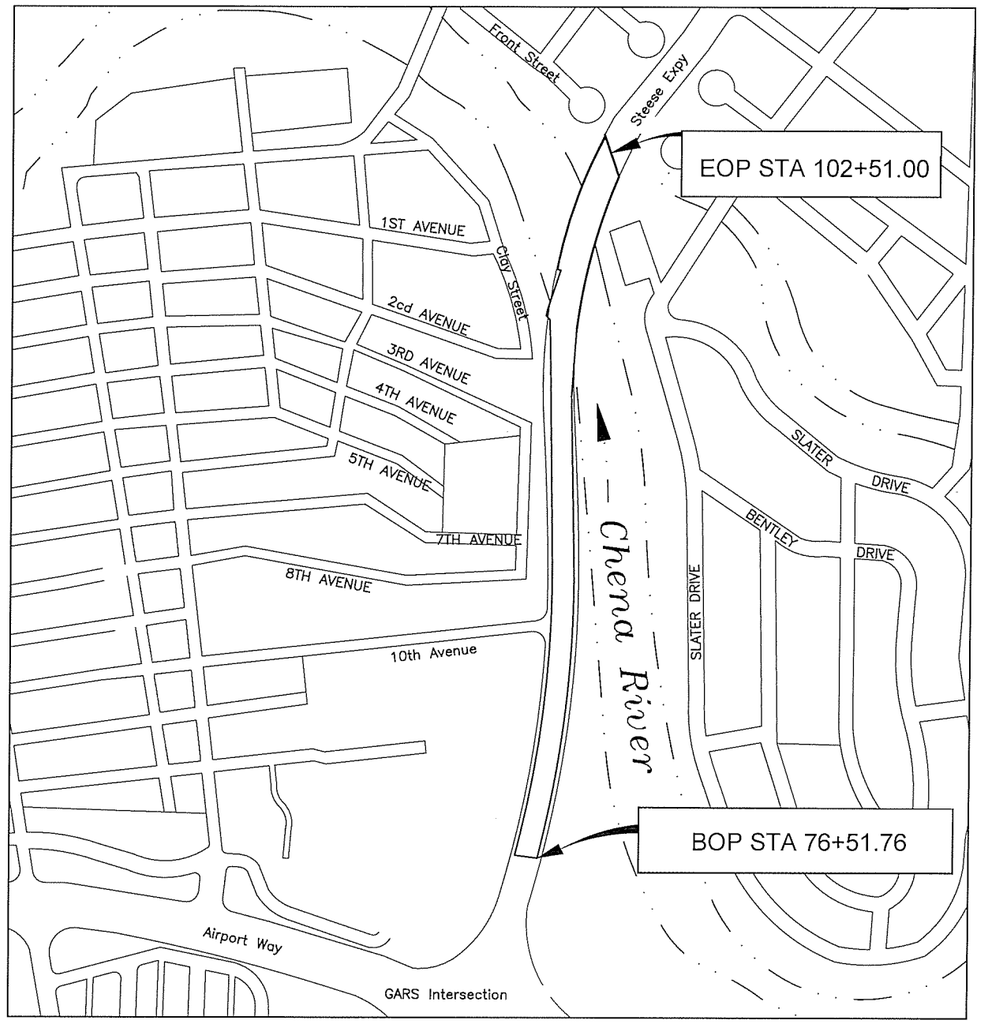
PROJECT LOCATION

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

STEESE EXPRESSWAY CHENA RIVER BRIDGE #0231 REDECK

0651033 / NFHWY00421



INDEX OF SHEETS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:
F–01.04, F–03.02,
G–00.05, G–05.11S, G–10.20, G–14.01, G–20.12, G–32.02, G–47.00,
PARALLEL CURB RAMP, I–81.00,
L23.02,
S–00.12, S–05.02, S–30.05, S–31.02
T–20.04, T–21.04, T–22.04

DESIGN DESIGNATIONS

ADT (2015)	27,576
ADT (2030)	30,864
ADT (2040)	33,989
DHV (%)	10.60%
PERCENT TRUCKS (T)	7%
DIRECTIONAL SPLIT (D)	45 / 55
DESIGN SPEED (V)	50 MPH
DESIGN EAL'S (2045)	5,911,547

PROJECT SUMMARY

WIDTH OF PAVEMENT	75 FEET
LENGTH OF GRADING	2,375 FEET
LENGTH OF PAVING	2,375 FEET
LENGTH OF PROJECT	3,020 FEET

RUSSELL JOHNSON, PROJECT MANAGER
THOR BERGSTROM, DESIGNER
NICHOLAS ROBERTSION, DOWL
ZAID SAHER HUSSEIN, DOWL
ELIZABETH T. B. JOHNSTON, DESIGN ALASKA

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
&
PUBLIC FACILITIES

APPROVED BY: _____ DATE 10/28/2021
Sarah E. Schacher, P.E.
Preconstruction Engineer, Northern Region

ACCEPTED FOR CONSTRUCTION: _____ DATE 10/29/20
Joseph P. Kemp, P.E.
Acting Regional Director, Northern Region

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\NFHWY00421 Steese Bridge\6 Design\15 Civil 3D\3 Drafting\00421_A1-A1 Title Thu, Oct/28/21 01:11pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	A2	A3

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

CONSTRUCTION CENTERLINE	5+00
MISCELLANEOUS CENTERLINE	10+00
STATION EQUATION	"L"48+97.23 POT BK= / "O"48+97.23 PC AHD
PROJECT RIGHT-OF-WAY LINE	R/W
EXISTING RIGHT-OF-WAY LINE	
EXISTING PROPERTY LINE	
CONTROLLED ACCESS LINE	C/A
UTILITY EASEMENT LINE	PUE
TEMPORARY EASEMENT LINE (TCP OR TCE)	TCP
ACCESS OR SECTION LINE EASEMENT	ACCESS EASEMENT
PROPOSED CUT SLOPE LIMIT	
PROPOSED FILL SLOPE LIMIT	
SECTION LINE	
1/4 SECTION LINE	
1/16 SECTION LINE	
TOWNSHIP & RANGE LINE	T. 2 N. / T. 1 N. ; T. 1 E. ; T. 2 E.

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

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX	MB	MB
RAILROAD TRACKS		
RAILROAD DEVICES	CROSS-BUCK, FLASHING LIGHT, CANTILEVER, SWITCH	
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS	H	H = HOUSE, G = GARAGE, M = MERCHANT/STORE, B = BARN, S = SHED, P = PRIVY, SS = SERVICE STATION, W = WAREHOUSE
POST OR BOLLARD		
WELL OR MONITORING WELL	W	
SEPTIC PIPE	S, VP	
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
LOAD CENTER		
LUMINAIRE		N2 N3
RIGID METAL CONDUIT		

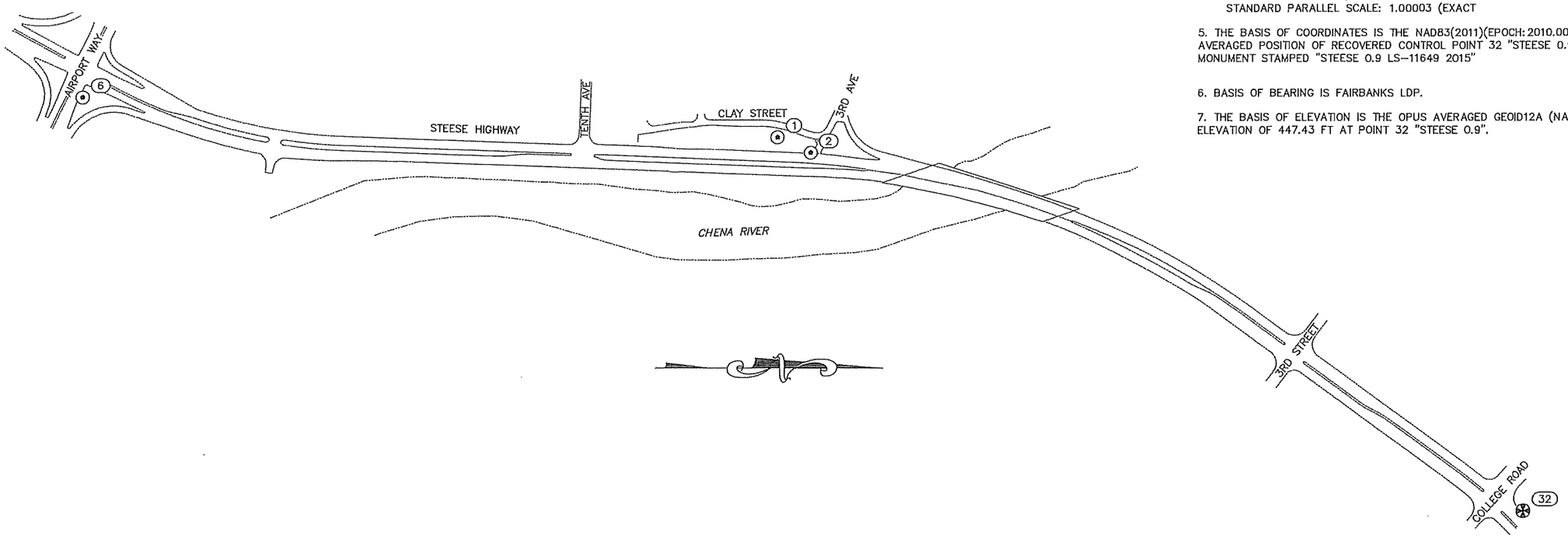
LEGEND

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9953
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\(bks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\3 drafting\00421_A1-LEGEND Mon, Sep/27/21 08:47am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00421	2021	A3	A3

CONTROL MONUMENTS						
POINT NO.	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	DESCRIPTION
1	197671.85	679788.74	443.95	N64° 5D' 29.8713"	W147° 42' 19.6010"	REBAR CAP FND CP 1 LS-11758 2018
2	197792.04	679845.21	452.28	N64° 50' 31.0608"	W147° 42' 18.3294"	REBAR CAP FND CP 2 LS-11758 2018
6	195174.08	679639.64	448.85	N64° 50' 05.2730"	W147° 42' 22.3430"	REBAR CAP FND CP 6 LS-11758 2018
32	200367.98	681143.46	447.43	N64° 50' 56.5654"	W147° 41' 49.0316"	PRIM MON FND STEESE 0.9 LS-11649 2015



GENERAL NOTES

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

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

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

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

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

5. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH:2010.0000) OPUS AVERAGED POSITION OF RECOVERED CONTROL POINT 32 "STEESE 0.9", A PRIMARY MONUMENT STAMPED "STEESE 0.9 LS-11649 2015"

6. BASIS OF BEARING IS FAIRBANKS LDP.

7. THE BASIS OF ELEVATION IS THE OPUS AVERAGED GEOID12A (NAVD88) ELEVATION OF 447.43 FT AT POINT 32 "STEESE 0.9".

LEGEND

- PRIMARY MONUMENT FOUND
- REBAR AND CAP FOUND

GRAPHIC SCALE

0 200 400 600 800 1000

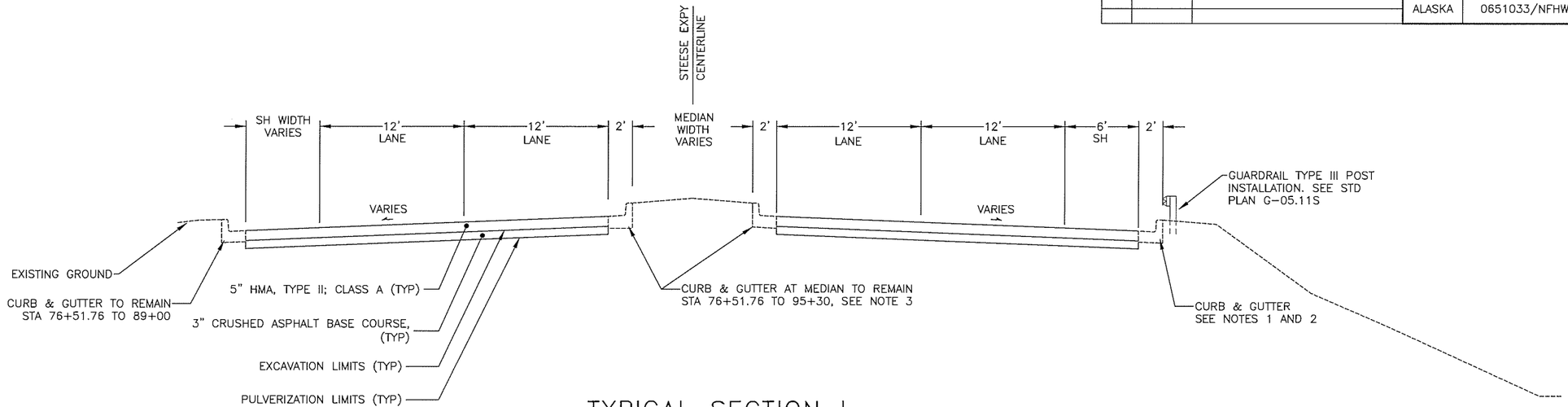
SCALE 1"=200'

SURVEY CONTROL

STATE OF ALASKA 49TH
TROY M. HICKS
May 20, 2021
LS-14471
REGISTERED PROFESSIONAL LAND SURVEYOR

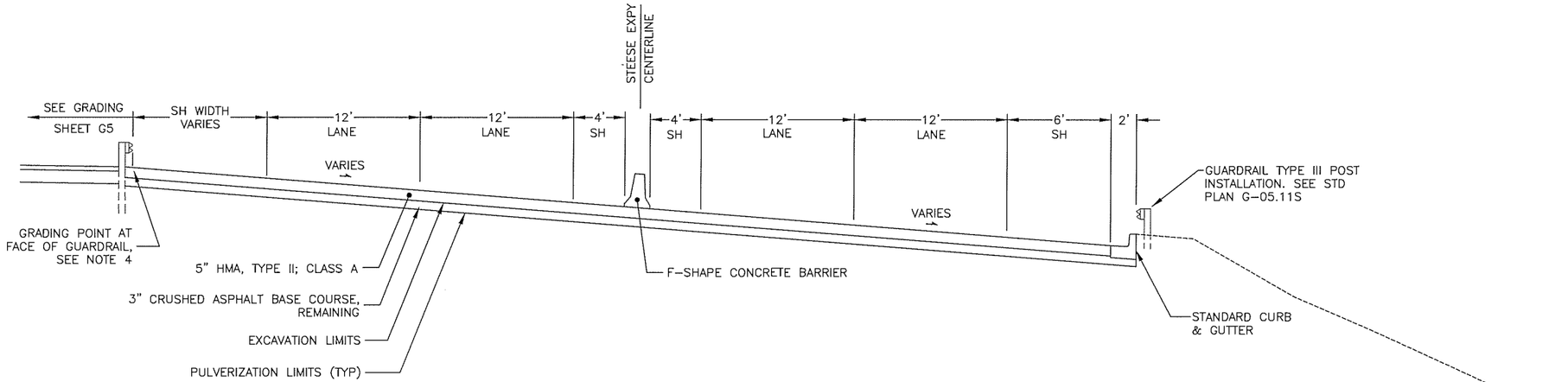
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
K:\21_Projects\Steese Bridge NFHWY00421\5-CAD Drawings\2-Control\NFHWY00421_control-A3 Thu, May/20/21 03:26pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	B1	B1



TYPICAL SECTION I

STA 76+51.76 TO 95+50



TYPICAL SECTION II

STA 95+50.00 TO 96+75
STATIONING INCLUDES CRASH CUSHION

NOTES:

1. EXISTING CURB & GUTTER FROM STA 78+50 TO STA 95+30 TO REMAIN.
2. SEE SHEET E3 FOR NEW NEW CURB AND GUTTER LIMITS.
3. SEE RAMPED MEDIAN NOSE DETAILS ON SHEET E3.
4. SEE STANDARD PLAN G-05.11S.

TYPICAL SECTIONS

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Pbks_NP\NFHWY00421 Steese Bridge\6 Design\5 Civil 3D\3 Drafting\00421_B1-TYPICAL SECTION Thu, Oct/21/21 02:02pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	C1	C2

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
202.0001.0000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	ALL REQUIRED
202.0002.0000	REMOVAL OF PAVEMENT	SQUARE YARD	4,960
202.0003.0000	REMOVAL OF SIDEWALK	SQUARE YARD	59
202.0009.0000	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	293
202.2022.0000	REMOVAL OF FENCE	LINEAR FOOT	247
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	2,200
308.0001.0000	CRUSHED ASPHALT BASE COURSE	SQUARE YARD	15,620
401.0001.002A	HMA, TYPE II; CLASS A	TON	4,411.6
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	242.7
401.0008.002A	HMA PRICE ADJUSTMENT, TYPE II; CLASS A	CONTINGENT SUM	ALL REQUIRED
401.0009.0000	LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
401.0012.002A	HMA, DRIVEWAY, TYPE II; CLASS A	TON	9.2
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	TON	6.5
501.0001.0000	CLASS A CONCRETE	LUMP SUM	ALL REQUIRED
503.0002.0000	EPOXY-COATED REINFORCING STEEL	LUMP SUM	ALL REQUIRED
503.0003.0000	DRILL AND BOND DOWELS	EACH	48
504.0001.0000	STRUCTURAL STEEL CONDUIT SUPPORTS	LUMP SUM	ALL REQUIRED
507.2000.0000	STEEL BRIDGE RAILING REPLACEMENT, 2-TUBE	LINEAR FOOT	637
507.2000.0000	STEEL BRIDGE RAILING REPLACEMENT, 3-TUBE	LINEAR FOOT	604
507.2000.0000	STEEL BRIDGE RAILING REPLACEMENT, PEDESTRIAN	LINEAR FOOT	543
510.0001.0000	REMOVAL OF CONCRETE BRIDGE DECK	SQUARE FOOT	49,548
510.2001.0000	BRIDGE DECK REPAIR	CONTINGENT SUM	ALL REQUIRED
516.0001.0004	EXPANSION JOINT, PRECOMPRESSED SILICONE COATED	LINEAR FOOT	360
525.2001.0000	POLYESTER CONCRETE OVERLAY	LUMP SUM	ALL REQUIRED
550.0002.0000	CLASS W CONCRETE	LUMP SUM	ALL REQUIRED
606.0001.0000	W-BEAM GUARDRAIL	LINEAR FOOT	1,812.5
606.0006.0000	REMOVING AND DISPOSING OF GUARDRAIL	LINEAR FOOT	1750
606.0013.0000	PARALLEL GUARDRAIL TERMINAL	EACH	1
606.0016.0000	TRANSITION RAIL	EACH	4
606.2007.0000	CRASH CUSHION	EACH	1
607.0003.0000	CHAIN LINK FENCE	LINEAR FOOT	202
608.0001.0006	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	22
608.0006.0000	CURB RAMP	EACH	2
608.2002.0000	ASPHALT PATHWAY	TON	2.1
609.0002.0001	CURB AND GUTTER, TYPE 1	LINEAR FOOT	194.7
609.0003.0000	BACKING CURB	LINEAR FOOT	33.5
614.0001.0000	CONCRETE BARRIER F SHAPE	LINEAR FOOT	675
615.0001.0000	STANDARD SIGN	SQUARE FOOT	61.75
615.2020.0000	DELINEATION STRIPS	LUMP SUM	ALL REQUIRED
618.0002.0000	SEEDING	POUND	0.5
620.0001.0000	TOPSOIL	SQUARE YARD	35.1
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQUIRED
641.0001.0000	EROSION, SEDIMENT AND POLLUTION CONTROL ADMINISTRATION	LUMP SUM	ALL REQUIRED
641.0003.0000	TEMPORARY EROSION, SEDIMENT CONTROL	LUMP SUM	ALL REQUIRED
641.0005.0000	TEMPORARY EROSION, SEDIMENT CONTROL BY DIRECTIVE	CONTINGENT SUM	ALL REQUIRED
641.0006.0000	WITHHOLDING	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
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQUIRED
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQUIRED
643.2005.0000	PUBLIC INFORMATION PROGRAM	LUMP SUM	ALL REQUIRED
644.0001.0000	FIELD OFFICE	LUMP SUM	ALL REQUIRED

ESTIMATE OF QUANTITIES

ITEM NO.	PAY ITEM	PAY UNIT	QUANTITY
644.0006.0000	VEHICLE	LUMP SUM	ALL REQUIRED
646.0001.0000	CPM SCHEDULING	LUMP SUM	ALL REQUIRED
660.2016.0000	ELECTRICAL ILLUMINATION MODIFICATIONS	LUMP SUM	ALL REQUIRED
669.2007.0000	AUTOMATIC VEHICLE CLASSIFICATION SITE 01	LUMP SUM	ALL REQUIRED
670.2002.0000	MMA PAVEMENT MARKINGS, INLAID	LUMP SUM	ALL REQUIRED
670.2007.0000	MMA PAVEMENT MARKINGS, SYMBOLS AND ARROW(S) INLAID	EACH	6

REMOVAL OF STRUCTURE AND OBSTRUCTIONS

LOCATION	OFFSET	REMARKS
95+50 TO 95+76	CL	CRASH CUSHION
95+76 TO 102+51	CL	54 CONCRETE BARRIERS (675 LF)
95+86 TO 100+48.5	LT	37 CONCRETE BARRIERS (462.5 LF)

ESTIMATE LUMP SUM ITEMS

ITEM NO.	DESCRIPTION	VALUE
615.2020.0000	DELINEATION STRIPS	214 EACH

ESTIMATING FACTORS

ITEM NO.	DESCRIPTION	VALUE
401.0001.002A	HMA, TYPE II; CLASS A	113 LB/SY/IN
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	5.5% OF 401(CLASS A) QUANTITY
401.0012.002B	HMA, DRIVEWAY, TYPE II; CLASS B	113 LB/SY/IN
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	0.1 GALLONS/SQUARE YARD
402.0001.STE1	STE-1 ASPHALT FOR TACK COAT	256 GALLONS/TON
608.2002.0000	ASPHALT PATHWAY	113 LB/SY/IN

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

ESTIMATE OF QUANTITES

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\3 drafting\C1 ESTIMATE OF QUANTITES-ESTIMATE OF QUANTITES Wed, Feb/23/22 10:50am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	C2	C2

GENERAL NOTES:

1. WITHIN THE PROJECT LIMITS PROTECT ALL EXISTING FEATURES DESIGNATED TO REMAIN FROM DAMAGE, UNLESS OTHERWISE NOTED. ANY REPAIRS WILL BE AT THE CONTRACTORS EXPENSE.
2. SLOPE FINISH GRADES OF PATHS AND SIDEWALKS TO DRAIN AND PROHIBIT PONDING WATER.
3. DEWATERING IS PROHIBITED ON THIS PROJECT. COORDINATE WORK TO AVOID DEWATERING.
4. SAW CUT ALL EXISTING TO NEW PAVEMENT JOINTS.

UTILITIES NOTES:

1. PRIOR TO BEGINNING ANY GROUND DISTURBING WORK, LOCATE ALL EXISTING UTILITIES AND SERVICE CONNECTIONS WITHIN THE PROJECT AREA. PROTECT UTILITIES AND SERVICES FROM CONSTRUCTION DAMAGE FOR THE DURATION OF THE PROJECT. UTILITIES SHOWN IN THESE PLANS ARE FOR VISUAL PURPOSES ONLY. EXISTING UTILITIES MAY OR MAY NOT BE SHOWN IN THESE PLANS, OR MAY NOT BE PRECISELY WHERE SHOWN.

REMOVAL OF STRUCTURES AND OBSTRUCTIONS:

1. ALL UNUSABLE OR EXCESS MATERIAL IS TO BE DISPOSED OF OUTSIDE THE PROJECT LIMITS.

MATERIAL SOURCE NOTES:

1. ALL MATERIALS ON THIS PROJECT ARE CONTRACTOR FURNISHED.

LIST OF ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
ADEC	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AHD	AHEAD
AOP	AQUATIC ORGANISM PASSAGE
APPROX. OR ~	APPROXIMATE, APPROXIMATELY
ATM	ALASKA TRAFFIC MANUAL
AVC	AUTOMATIC VEHICLE CLASSIFIER
AVE	AVENUE
WAG	AMERICAN WIRE GAUGE
B&B	BALL AND BURLAP
BK	BACK
BOL	BEGINNING OF LINE
BOP	BEGINNING OF PROJECT
BSW	BACK OF SIDEWALK
C&G	CURB & GUTTER
CAL	CALIPER
CB	CATCH BASIN
CC	MUELER TAPERED THREAD
CF	CUBIC FOOT
CFS	CUBIC FEET PER SECOND
CGP	CONSTRUCTION GENERAL PERMIT
CKT	CIRCUIT
CL OR ℄	CENTERLINE
CLR	CLEAR DISTANCE
CLS	CLASS
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CSP	CORRUGATED STEEL PIPE
CY	CUBIC YARD
Δ	DELTA ANGLE
D	DEGREE OF CURVE
DIA OR ϕ	DIAMETER
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E.G.,	EXEMPLI GRATIA, "FOR EXAMPLE"
EA	EACH
ELEV	ELEVATION
EOL	END OF LINE
EOP	END OF PROJECT
EOTW	EDGE OF TRAVELED WAY
EP	EDGE OF PAVEMENT
ETC.	ET CETERA, "AND SO FORTH"
EX	EXISTING
EXPY	EXPRESSWAY
FG	FINISH GRADE
FKM	FLUOROCARBONS
FRP	FIBER REINFORCED CONDUIT
FT OR '	FOOT
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GP	GRADE POINT
HDG	HOT DIPPED GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE
HWY	HIGHWAY
HT	HEIGHT
I.E.,	ID EST, "THAT IS"
IE	INVERT ELEVATION
IN OR "	INCH
INV	INVERT
INCL	INCLUDING OR INCLUSIVE
J-BOX	JUNCTION BOX
L	LENGTH OF CURVE
LBS	POUNDS
LF	LINEAR FEET
LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LT	LEFT
LTG	LIGHTING
LVC	LENGTH OF VERTICAL CURVE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MJ	MECHANICAL JOINT
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NSF	NATIONAL SANITATION FOUNDATION
O/A	OPEN AREA
OC	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OHE	OVER HEAD ELECTRIC LINE
PAV	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PST	PERFORATED STEEL TUBE
PT	POINT OF TANGENCY
PVMT	PAVEMENT
R/W	RIGHT-OF-WAY
R	RADIUS
RAP	RECLAIMED ASPHALT PAVEMENT
RD	ROAD
REQ	REQUIRED
RMC	RIGID METAL CONDUIT
RP	RADIUS POINT
RT	RIGHT
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDMH	STORM DRAIN MANHOLE
SI	STREET INTERSECTION
SIM	SIMILAR
SP	STEEL PIPE
SPC	SPECIES
SQ	SQUARE
SQ.IN.	SQUARE INCHES
SS	SANITARY SEWER
ST	STREET
STA	STATION
STD	STANDARD
SY	SQUARE YARD
T	TANGENT LENGTH
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TCP	TEMPORARY CONSTRUCTION PERMIT
TRANS	TRANSITION
TYP	TYPICAL
USAK	UTILITY SERVICES OF ALASKA
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH
WSP	WOOD STAVE PIPE
WWM	WELDED WIRE MESH
@	AT
&	AND

GENERAL NOTES & LEGEND

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9063
REGISTERED PROFESSIONAL ENGINEER
10/28/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\fbks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\3 drafting\C2 GENERAL NOTES & DETAILS-GENERAL NOTES & DETAILS Wed, Oct/27/21 04:20pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	D1	D1

GUARDRAIL SUMMARY

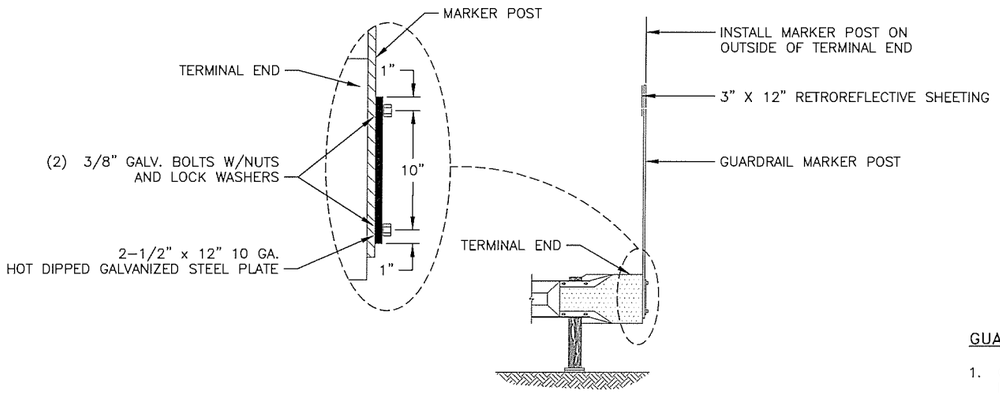
BEGIN STATION	OFFSET (FT)	END TREATMENT	END STATION	OFFSET (FT)	END TREATMENT	LENGTH LEFT	LENGTH RIGHT
95+87.5±	46.3 LT	DOWNSTREAM END ANCHOR *	97+00±	38.7 LT	BRIDGE RAIL THRIE BEAM TRANSITION **	112.5	
78+61±	42.8± RT	PARALLEL GUARDRAIL TERMINAL	95+64.4±	37.1± RT	BRIDGE RAIL THRIE BEAM TRANSITION **		1,700
					TOTAL LENGTH	1,812.5	

* SEE STANDARD PLAN G–14.01 W31 DOWNSTREAM END ANCHOR

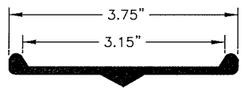
** SEE BRIDGE PLANS FOR TRANSITION RAIL DETAILS

GUARDRAIL REMOVAL SUMMARY

BEGIN STATION	ENDING STATION	LT/RT	LENGTH (ft)
78+16.0±	96+66±	RT	1,750
		TOTAL	1,750



GUARDRAIL MARKER POST ATTACHMENT DETAIL
DOWNSTREAM END ANCHOR



POST DETAIL
CROSS–SECTIONAL VIEW

GENERAL GUARDRAIL NOTES:

1. IN ADDITION TO THE GUARDRAIL REFLECTORS, INSTALL GUARDRAIL FLEXIBLE DELINEATORS AS SHOWN ON STANDARD PLAN G–00.05.
2. GUARDRAIL LOCATIONS AND LENGTHS ARE APPROXIMATE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
3. SEE THE GRADING SHEETS.
4. NOTE X OFFSET ON STANDARD PLAN G–20.12, X=2'.

GUARDRAIL MARKER NOTES:

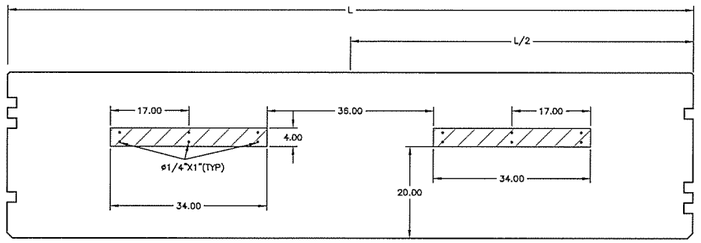
1. GUARDRAIL MARKER POSTS SHALL BE YELLOW AND AT LEAST 72" LONG. POSTS SHALL MEET THE REQUIREMENTS OF SECTION 730–2.05 FLEXIBLE DELINEATOR POSTS.
2. RETROREFLECTIVE SHEETING SHALL MEET ASTM D4956 REQUIREMENTS FOR TYPE VIII, IX, OR XI. COLOR OF RETROREFLECTIVE SHEETING SHALL MATCH COLOR OF ADJACENT EDGE LINE STRIPE. PLACE RETROREFLECTIVE SHEETING ON SIDE OF MARKER POST FACING TRAFFIC IN ADJACENT LANE.
3. DRILL ALL BOLT HOLES. COAT HOLES WITH ZINC RICH PAINT. FLAME CUTTING SHALL NOT BE PERMITTED.
4. ALL WORK AND MATERIAL REQUIRED TO INSTALL GUARDRAIL MARKER POSTS IS SUBSIDIARY TO 606 PAY ITEMS.

GUARDRAIL SUMMARY & DETAILS

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/28/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451–2200
H:\projects\fbks_mp\nfhwy00421 steese bridge\6 design\5 civil 3d\3 drafting\guardrail summary & details–GUARDRAIL SUMMARY & DETAILS Wed, Oct/27/21 04:21pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	E1	E8



INLAID DELINEATION STRIPS APPLIED TO MASH F SHAPE CONCRETE BARRIER

DELINEATION STRIP NOTES:

1. MASH F SHAPE CONCRETE BARRIERS SHALL HAVE PRECAST RECESSIONS TO A DEPTH OF ⅝" AND TO THE DIMENSIONS SHOWN TO ACCOMMODATE INLAID DELINEATION STRIPS.
2. DRILL SIX HOLES ¼" IN DIAMETER AND 1" DEEP THROUGH THE NEW DELINEATION STRIPS AS SHOWN. ANCHOR STRIPS USING ¼" X 1" STAINLESS STEEL IMPACT ANCHORS. USE ⅝" NYLON WASHERS BETWEEN THE ANCHOR AND THE DELINEATION STRIP.
3. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

MASH F SHAPE CONCRETE BARRIER NOTES:

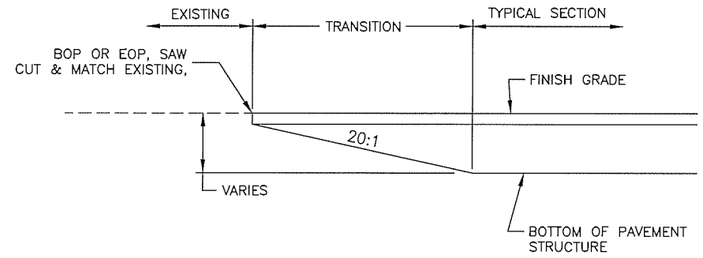
1. CONCRETE BARRIERS SHALL NOT BE PINNED TO THE BRIDGE DECK.
2. CONCRETE BARRIER JOINT SHALL BE AT THE BRIDGE/ROADWAY JOINT.
3. COORDINATE LOCATION(S) OF MASH F SHAPE CONCRETE BARRIER END STATION TO MATCH AND ALIGN UP WITH THE BARRIERS BEING PLACED UNDER THE 3RD STREET WIDENING PROJECT # Z625410000.

DELINEATION STRIP SUMMARY		
ITEM NO.	QUANTITY	UNIT
YELLOW DELINEATION STRIPS	214	EACH

MASH F SHAPE CONCRETE BARRIER DELINEATION SUMMARY		
ITEM NO.	DOUBLE SIDED EACH	DESCRIPTION
CONCRETE BARRIER	54	

CONCRETE BARRIER REMOVAL SUMMARY			
BEGIN STATION	ENDING STATION	LT/RT	LENGTH (ft)
±95+76	102+51±	CL	675
±95+86	100+48.5±	LT	462.5
		TOTAL	1,137.5

MASH F SHAPE CONCRETE BARRIER SUMMARY			
BEGIN STATION	ENDING STATION	LT/RT	LENGTH (ft)
±95+76	102+51±	CL	675
		TOTAL	675



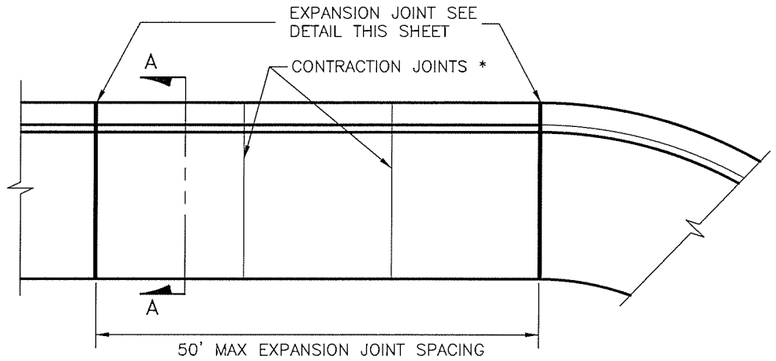
TYPICAL TRANSITION TO EXISTING PAVEMENT DETAIL

DETAILS

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

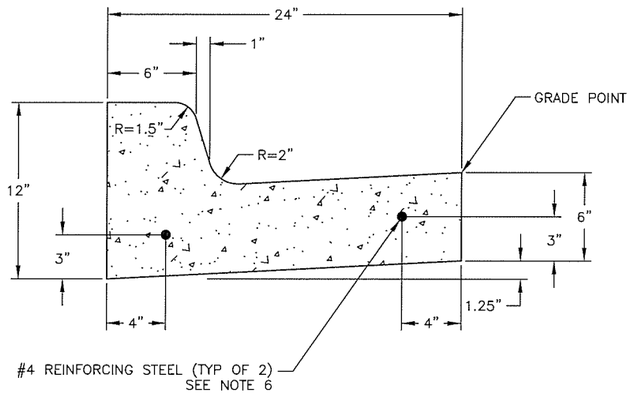
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\3 drafting\CONCRETE BARRIER DETAILS-MASH F SHAPE CONCRETE BARRIER DETAILS Tue, Feb/22/22 03:35pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	E2	E8

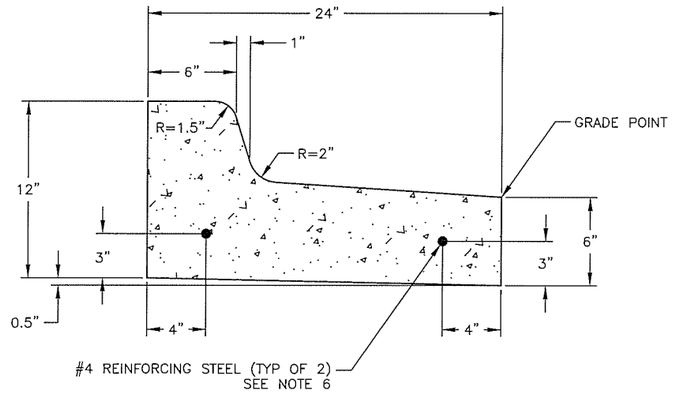


* CONTRACTION JOINT (DUMMY JOINTS) SPACING SHALL EQUAL SIDEWALK WIDTH

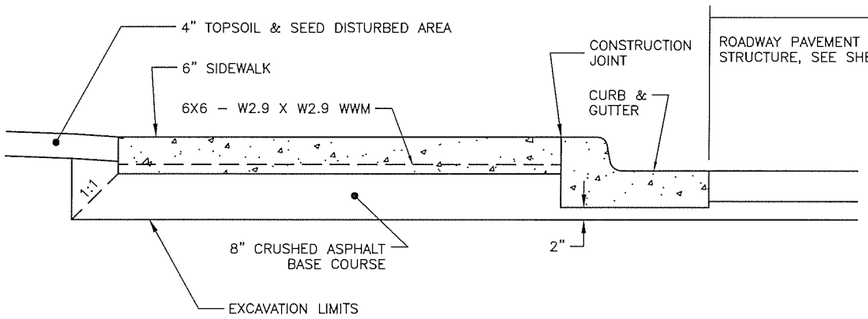
TYPICAL CONCRETE SIDEWALK
NTS



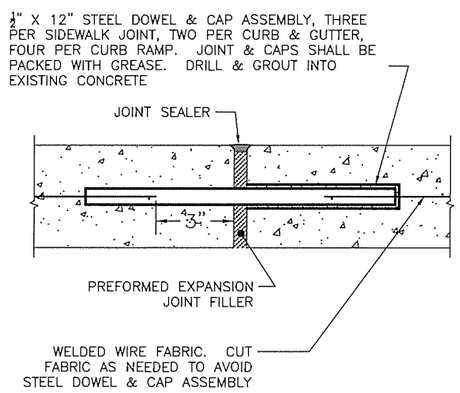
STANDARD CURB & GUTTER DETAIL
ALSO REFERRED TO AS CATCH CURB & GUTTER



SPILL CURB & GUTTER DETAIL
ONLY FOR USE WHERE SHOWN ON THE PLANS



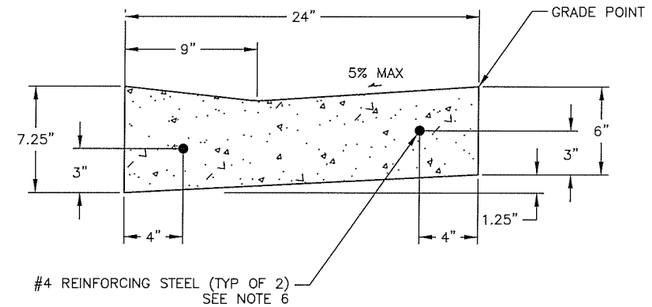
SECTION A–A



EXPANSION JOINT DETAIL

SHEET NOTES:

1. ALL SIDEWALKS AND CURB RAMPS SHALL BE 6" THICK (INCLUDING TRANSITIONS).
2. INSTALL CONTINUOUS FULL DEPTH CONSTRUCTION JOINTS AT ALL LOCATIONS WHERE SIDEWALK AND CURB MEET.
3. EXPANSION AND CONTRACTION JOINTS IN THE SIDEWALK SHALL LINE UP WITH EXPANSION AND CONTRACTION JOINTS IN THE CURB.
4. CONCRETE SHALL RECEIVE A MEDIUM BROOMED FINISH RUNNING PERPENDICULAR TO THE CURB ON STRAIGHT RUNS, RAMP RUNS, AND UPPER LANDINGS AND PARALLEL TO THE DIRECTION OF TRAVEL IN LOWER LANDINGS.
5. REINFORCING STEEL BARS SHALL MEET THE REQUIREMENTS OF SPECIFICATION SECTION 709–2.01.1.
6. APPLY STE–1 TACK COAT BETWEEN CONCRETE SURFACES AND ADJOINING ASPHALT.



ADA CURB & GUTTER DETAIL
ONLY FOR USE WHERE SHOWN ON THE PLANS

SIDEWALK, CURB & GUTTER

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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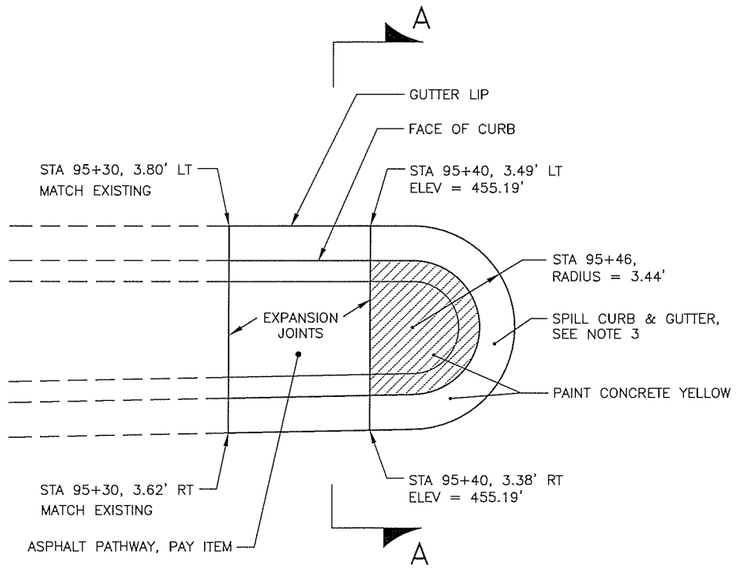
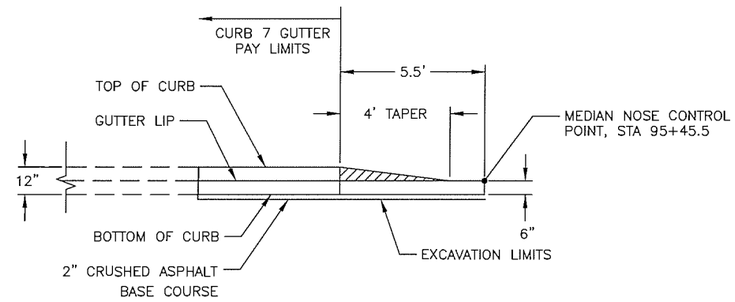
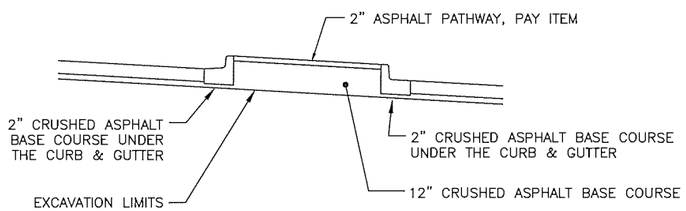
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	E3	E8



RAMPED MEDIAN NOSE – PLAN



RAMPED MEDIAN NOSE – ELEVATION



SECTION A–A

609.0002.0001 CURB AND GUTTER, TYPE 1 SUMMARY

FROM STATION	OFFSET LT/RT	TO STATION	OFFSET LT/RT	LENGTH (FT)	REMARKS
T10+45.92	41.1' LT	T10+45.93	34.8' LT	7.1	10TH AVE BEFORE ADA RAMP RECONSTRUCTION
T10+65.31	21.3' LT	T10+79.01	18.3' LT	14.1	10TH AVE AFTER ADA RAMP RECONSTRUCTION
T10+47.70	44.6' RT	T10+51.06	37.2' RT	8.1	10TH AVE BEFORE ADA RAMP RECONSTRUCTION
T10+65.94	23.0' RT	T10+76.62	19.2' RT	11.4	10TH AVE AFTER ADA RAMP RECONSTRUCTION
90+95	9' RT	91+65	9' RT	70	CENTER MEDIAN STD CURB & GUTTER, MATCH EXISTING
91+10	9.5' LT	91+20	9.5' LT	10	CENTER MEDIAN STD CURB & GUTTER, MATCH EXISTING
95+30	3.62' RT	95+40	3.38' RT	10	CENTER MEDIAN SPILL CURB & GUTTER
95+30	3.80' LT	95+40	3.49' LT	10	CENTER MEDIAN SPILL CURB & GUTTER
95+30	38.8' RT	95+84	37.4' RT	54	STANDARD CURB & GUTTER
			TOTAL	194.7	

609.0003.0001 BACKING CURB SUMMARY

FROM STATION	OFFSET LT/RT	TO STATION	OFFSET LT/RT	LENGTH (FT)	REMARKS
T10+55.6	38.9' LT	T10+68.2	28.2' LT	16.7	10TH AVE BACKING CURB
T10+57.5	41' RT	T10+69.5	29.6' RT	16.8	10TH AVE BACKING CURB
			TOTAL	33.5	

RAMPED MEDIAN NOSE NOTES:

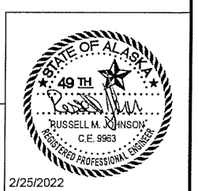
1. CONSTRUCT RAMPED MEDIAN NOSE OUT OF CLASS B PORTLAND CEMENT CONCRETE. SEE SPECIFICATION SECTION 550.
2. ALL WORK AND RESOURCES TO CONSTRUCT AND PAINT THE RAMPED MEDIAN NOSE IS SUBSIDIARY TO 609 SERIES PAY ITEMS.
3. CONSTRUCT SPILL CURB & GUTTER ALONG EACH SIDE OF THE CENTER MEDIAN.

608.0001.0006 CONCRETE SIDEWALK, 6 INCHES THICK

FROM STATION	OFFSET LT/RT	TO STATION	OFFSET LT/RT	AREA (SF)	REMARKS
T10+49.10	44.8 LT	T10+76.62	19.2 LT	45.8	
T10+50.95	35.8 LT	T10+66.88	24.8 LT	61.6	
T10+66.09	23.1 RT	T10+52.77	38.3 RT	50.2	
T10+79.03	20.4 RT	T10+54.36	40.8 RT	35.7	
			TOTAL	193.3	
			TOTAL SQUARE YARD	22	

607.0003.0000 CHAIN LINK FENCE

FROM STATION	OFFSET LT/RT	TO STATION	OFFSET LT/RT	AREA (LF)	REMARKS
94+00	76.4 LT	95+87	46.6 LT	192	
103+16.5	36.8 LT	103+23	44.4 LT	10	
			TOTAL	202	



2/25/2022

SIDEWALK, CURB & GUTTER

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\3 drafting\SUMMARY-SUMMARIES Tue, Feb/22/22 03:35pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	E4	E8

REMOVAL OF PAVEMENT

ITEM NO.	DESCRIPTION	VALUE
202.0002.0000	REMOVAL OF PAVEMENT, CHENA RIVER BRIDGE	4,880 SQUARE YARD
202.0002.0000	REMOVAL OF PAVEMENT, PATH SOUTH OF 10TH AVE	8.4 SQUARE YARD
202.0002.0000	REMOVAL OF PAVEMENT, PATH NORTH OF 10TH AVE	14.5 SQUARE YARD

202.0003.0000 REMOVAL OF SIDEWALK

LOCATION	OFFSET	REMARKS
97+66 TO 97+87	LT	CONCRETE SIDEWALK (21.4 SQUARE YARDS)
103+01 TO 103+16.5	LT	CONCRETE SIDEWALK (6.3 SQUARE YARDS)
FOR 10TH AVENUE ADA RAMP WORK	LT	CONCRETE SIDEWALK INCLUDES CURB RAMP (157 SF)= (17.44 SY)
FOR 10TH AVENUE ADA RAMP WORK	RT	CONCRETE SIDEWALK INCLUDES CURB RAMP (124.5 SF)= (13.83 SY)
	TOTAL	59 SQUARE YARD

202.0009.0000 REMOVAL OF CURB AND GUTTER

LOCATION	OFFSET	REMARKS
90+95 TO 91+65	RT	CURB & GUTTER (70 LF)
91+10 TO 91+20	LT	CURB & GUTTER (10 LF)
FOR 10TH AVENUE ADA RAMP WORK	LT	CURB & GUTTER (54.2 LF)
FOR 10TH AVENUE ADA RAMP WORK	RT	CURB & GUTTER (57.9 LF)
FOR 10TH AVENUE ADA RAMP WORK	LT	BACKING CURB (12.8 LF)
FOR 10TH AVENUE ADA RAMP WORK	RT	BACKING CURB (13.4 LF)
	TOTAL	218.3 (LINEAR FOOT)

202.2022.0000 REMOVAL OF FENCE

LOCATION	OFFSET	REMARKS
94+00 TO 95+84.4	LT	CHAIN LINK FENCE (192 LF)
103+00 TO 103+23.4	LT	CHAIN LINK FENCE (~25 LF)
97+74 TO 97+90	LT	CHAIN LINK FENCE (~30 LF)
	TOTAL	247 LINEAR FOOT

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Fbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\3 drafting\REMOVAL SUM-REMOVAL SUMMARIES Tue, Feb/22/22 03:35pm

REMOVAL SUMMARIES

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	E5	E8

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H:\Projects\Pbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\1 Plots\E4 DEMO-E5 DEMOLITION PLAN (1 OF 4) Tue, Feb/22/22 03:35pm

10th AVE

DEMO LIMITS, SAW CUT

REMOVE BACKING CURB

REMOVE BACKING CURB

PROTECT TYPE 1 J-BOX TO REMAIN

STEESE EXPRESSWAY

85+00

10+00

"T"10+00.00 POT

S"85+21.69 PI

DEMOLITION LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF SIDEWALK
- REMOVAL OF CURB & GUTTER

NOTE:

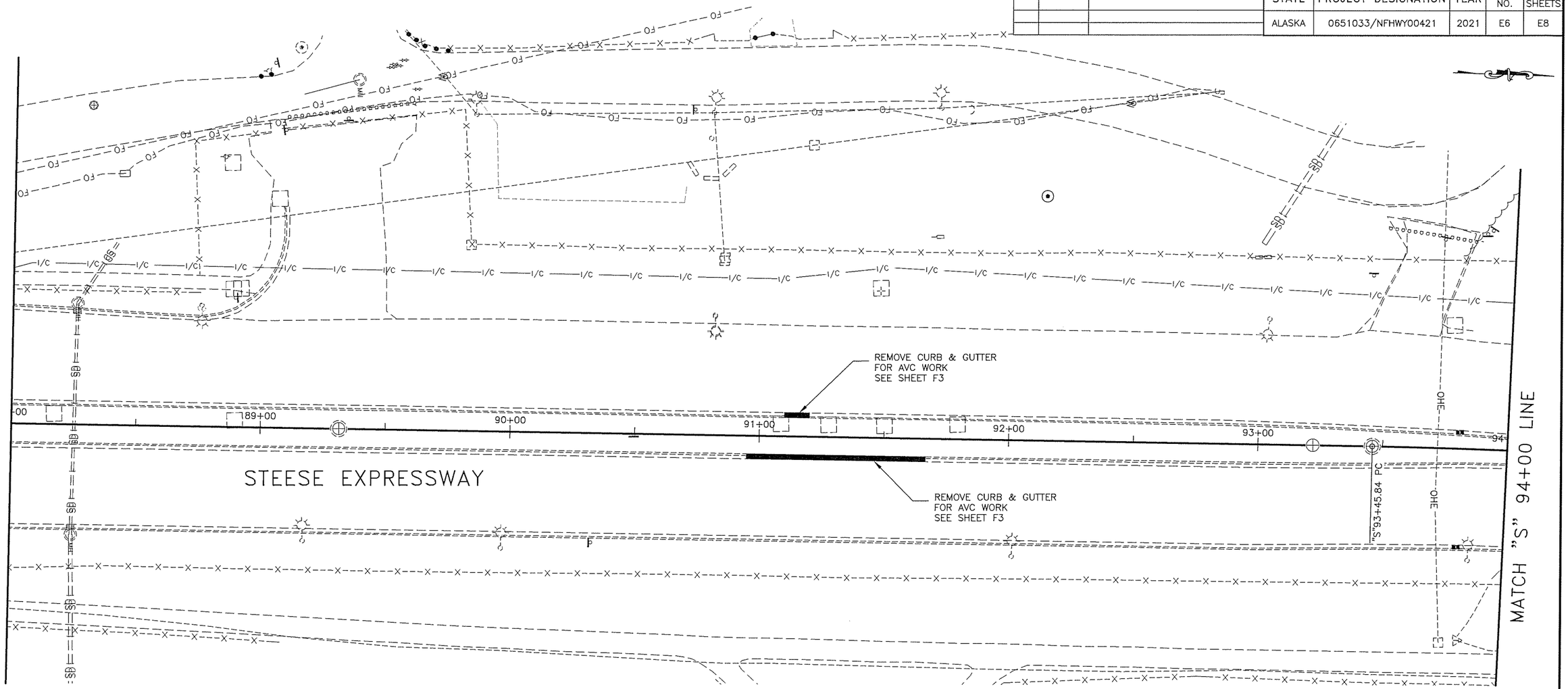
1. SEE SHEET G1 FOR DEMOLITION LIMITS

DEMOLITION PLAN (1 OF 4)

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	E6	E8



DEMOLITION PLAN
(2 OF 4)

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

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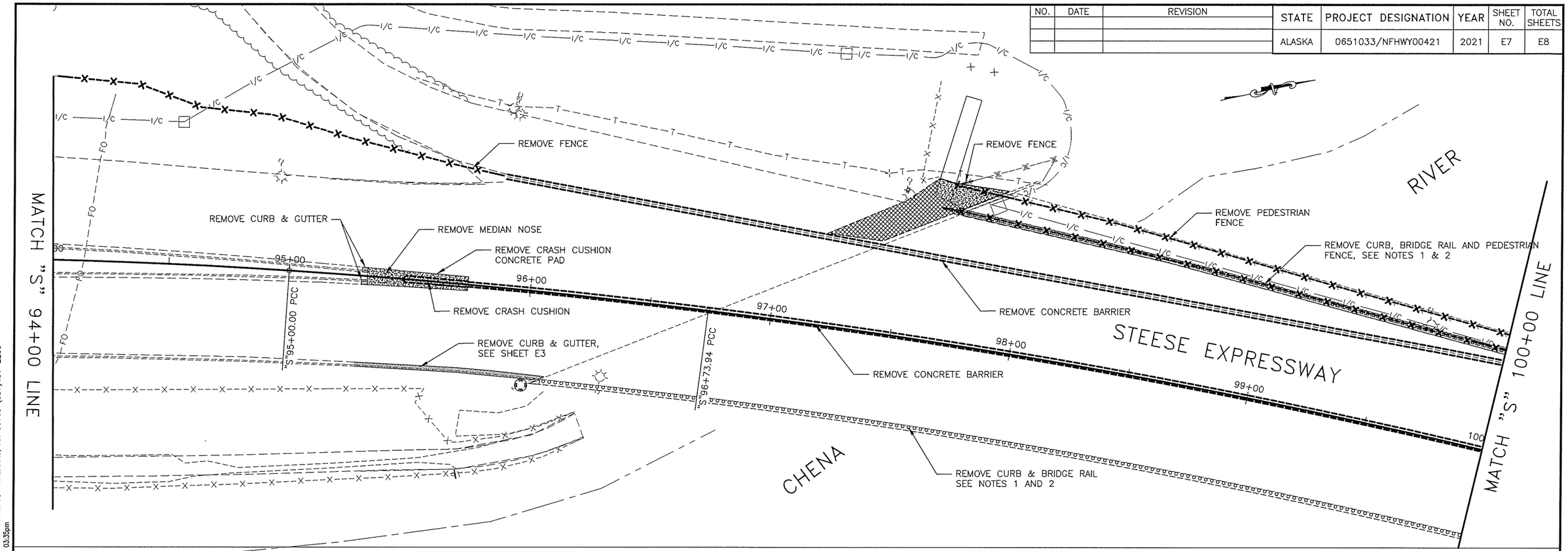
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	E7	E8



DEMOLITION LEGEND

- REMOVAL OF PAVEMENT
- REMOVAL OF SIDEWALK
- REMOVAL OF CURB & GUTTER
- REMOVAL OF CONCRETE BARRIER
- REMOVAL OF FENCE

NOTES:

1. EXISTING BRIDGE RAIL CURBS CONTAIN CONDUITS WITH ELECTRICAL BRIDGE ILLUMINATION CABLES
2. SEE BRIDGE SHEETS FOR BRIDGE REMOVAL WORK

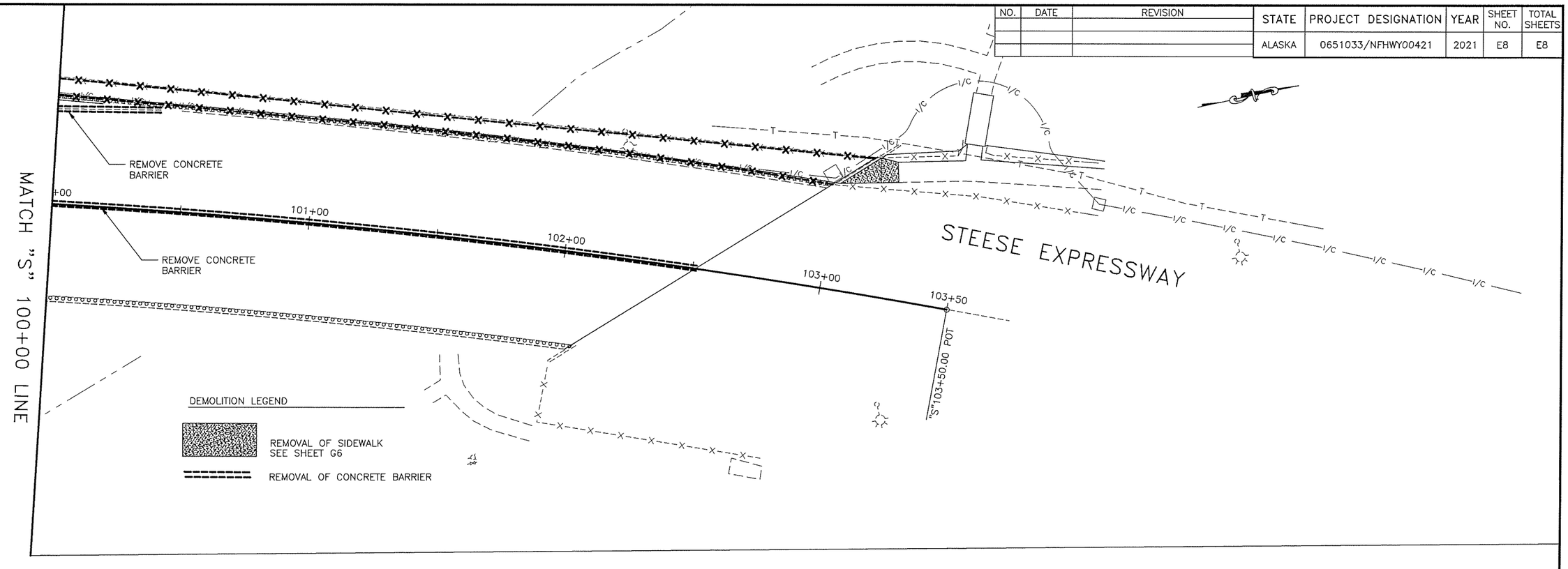
DEMOLITION PLAN (3 OF 4)

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Pbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\1 Plots\E4 DEMO-E7 DEMOLITION PLAN (3 OF 4) Tue, Feb/22/22 03:35pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	E8	E8



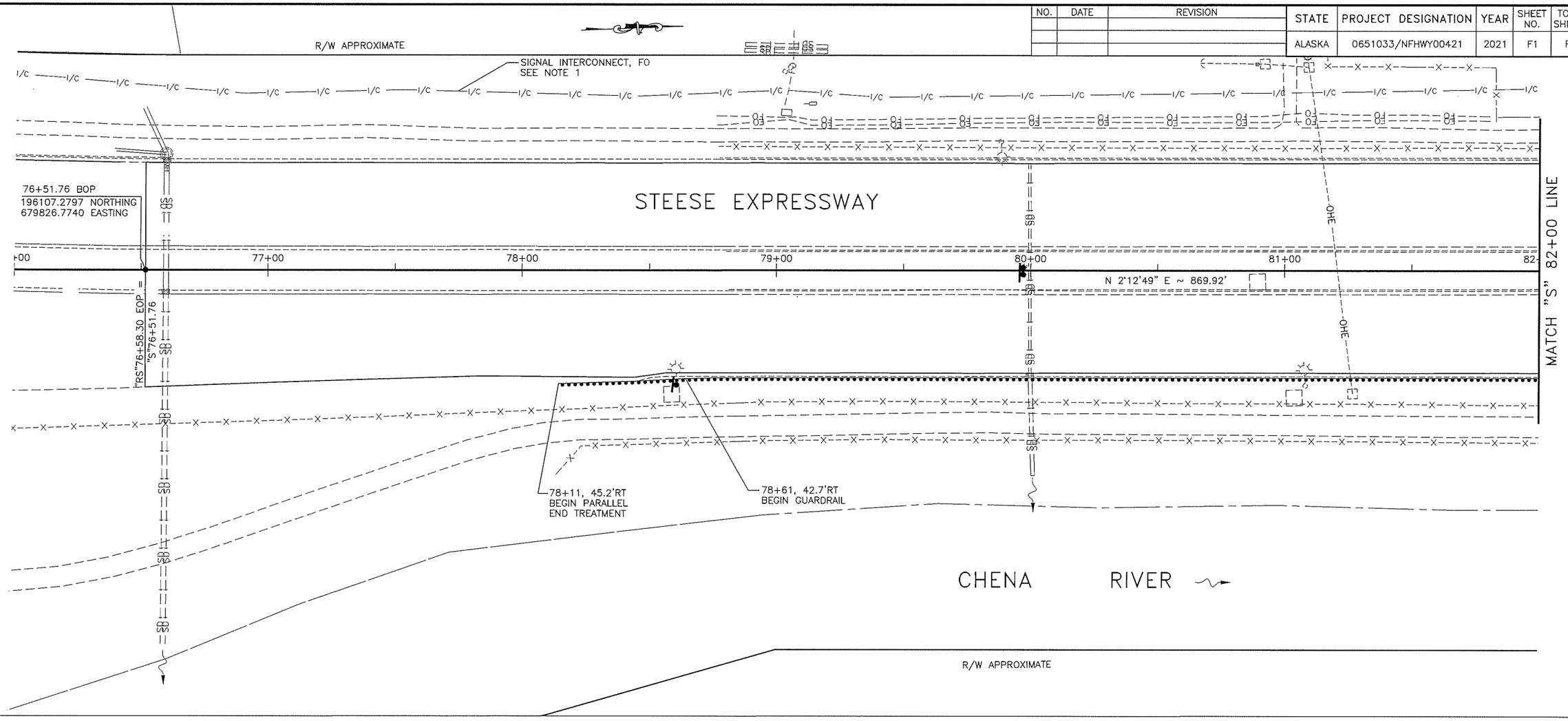
PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Paks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\1 Plots\E4 DEMO-GRADING SHEET (94+00 TO 94+00) (2) Tue, Feb/22/22 03:35pm

DEMOLITION PLAN
(4 OF 4)

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	F1	F5



NOTES:

1. I/C = FIBER OPTIC CABLE STEESE EXPRESSWAY SIGNAL INTERCONNECT – AIRPORT WAY TO COLLEGE ROAD, PROJECT NFHWY00578

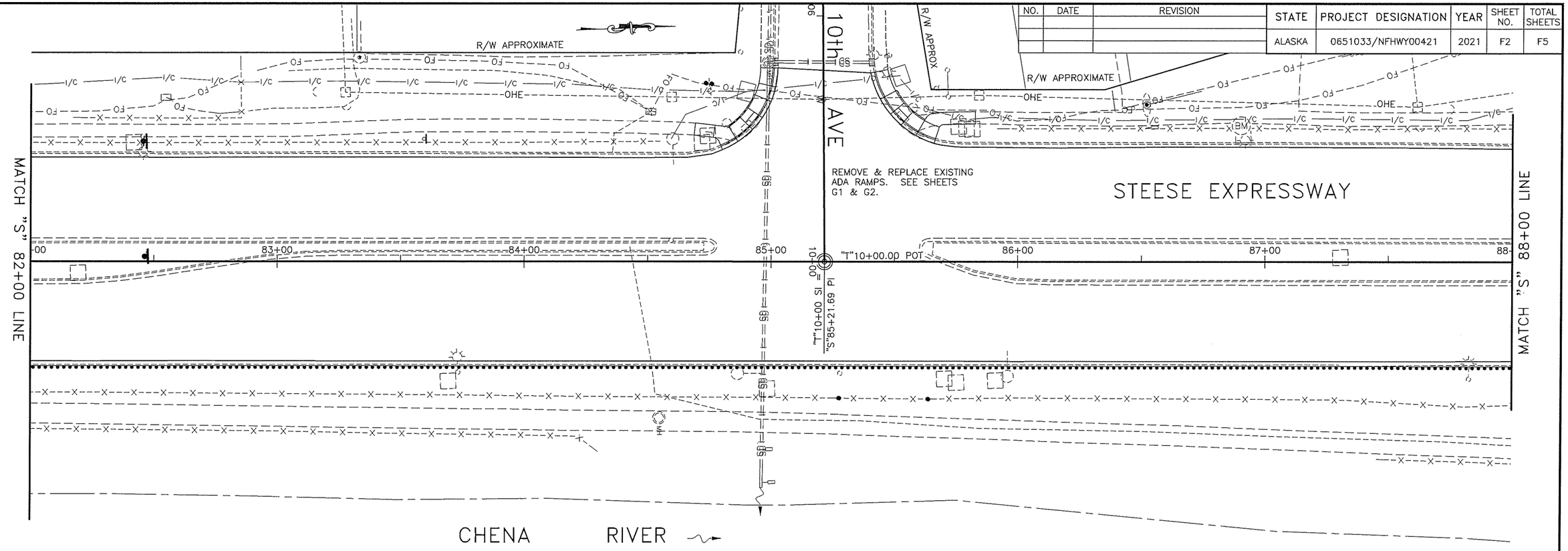
STEESE 76+00–82+00

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
1/26/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\00421_POP_ALL-76+00-82+00 Fri, Jan/14/22 09:34am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	F2	F5



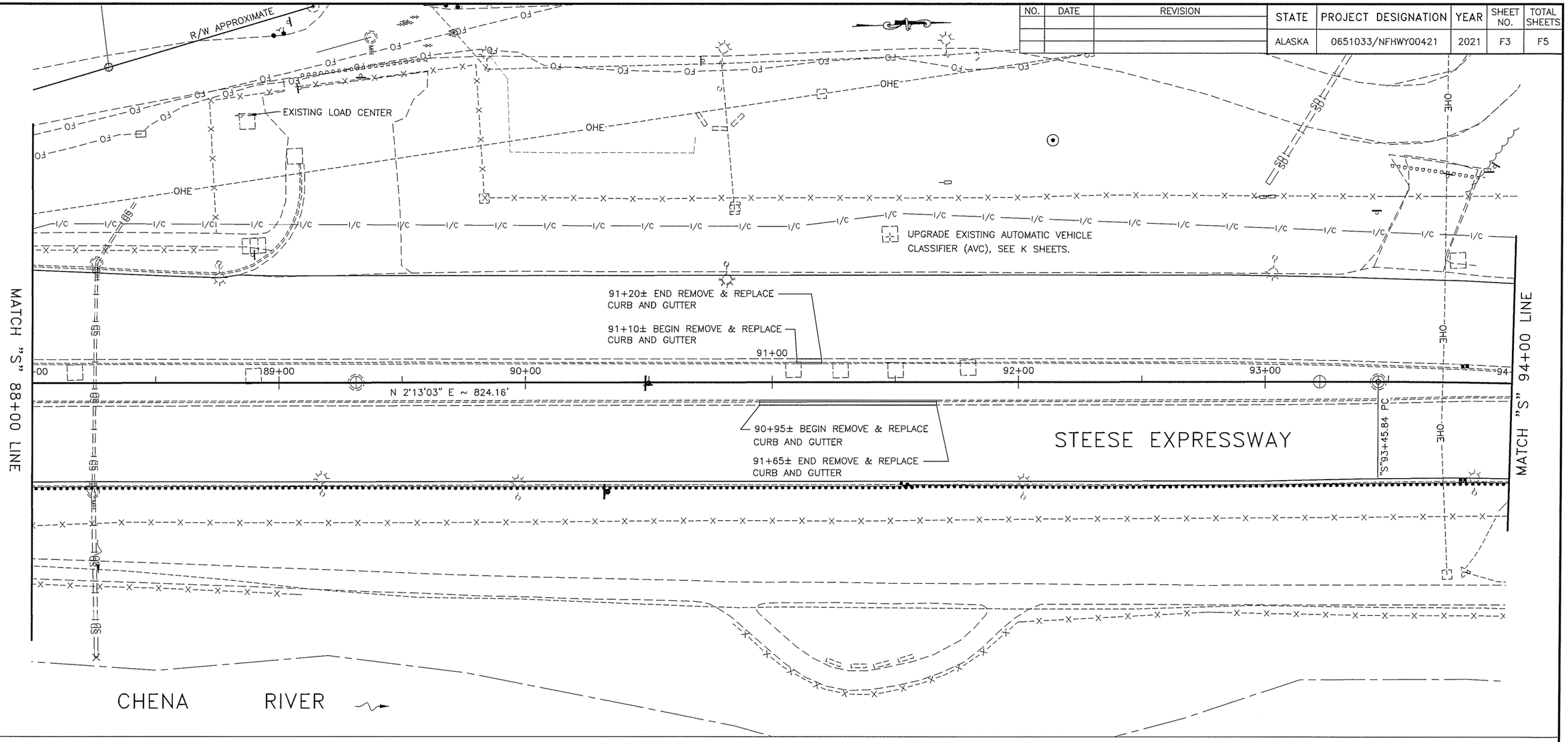
STEESE 82+00–88+00

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/27/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\fpbs_np\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\00421_PDP_ALL-82+00-88+00 Wed, Oct/27/21 09:36am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	F3	F5



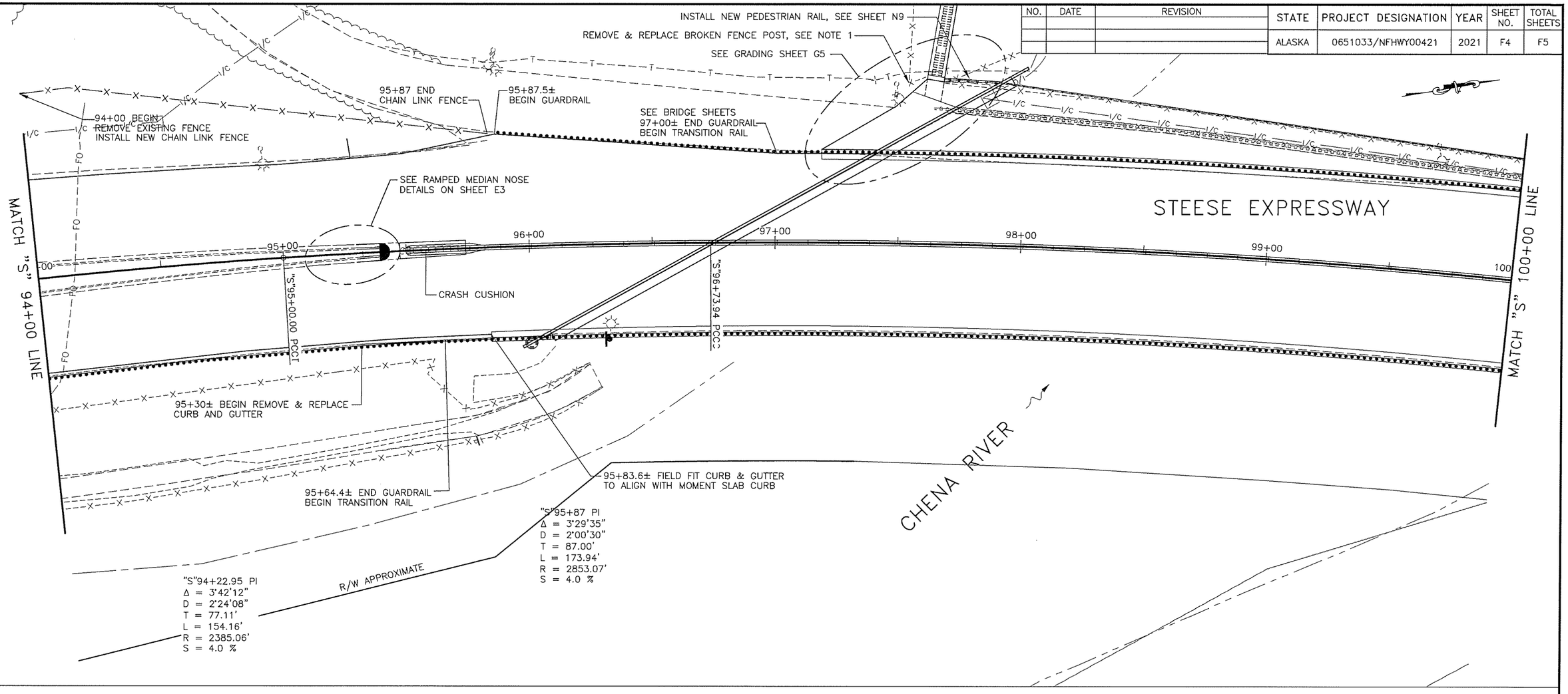
STEESE 88+00–94+00

STATE OF ALASKA
49TH
RUSSELL M JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/27/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\fbks_mp\fhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\00421_POP_ALL-88+00-94+00 Wed, Oct/27/21 09:38am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	F4	F5



NOTES:

1. REMOVING AND REPLACING THE BROKEN FENCE POST IS SUBSIDIARY TO PAY ITEM 607.0003.0000

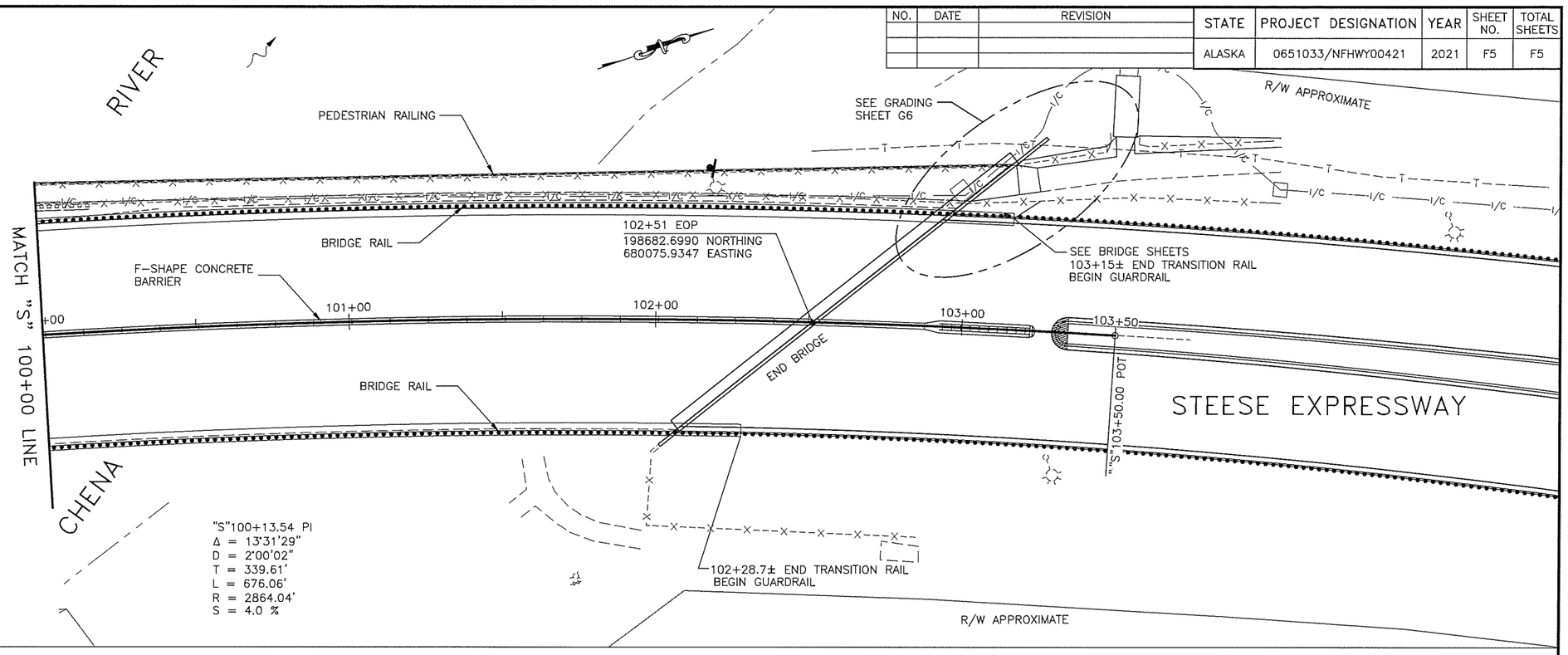
STEESE 94+00–100+00

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/27/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\00421_PDP_ALL-94+00-100+00 Wed, Oct/27/21 09:37am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	F5	F5



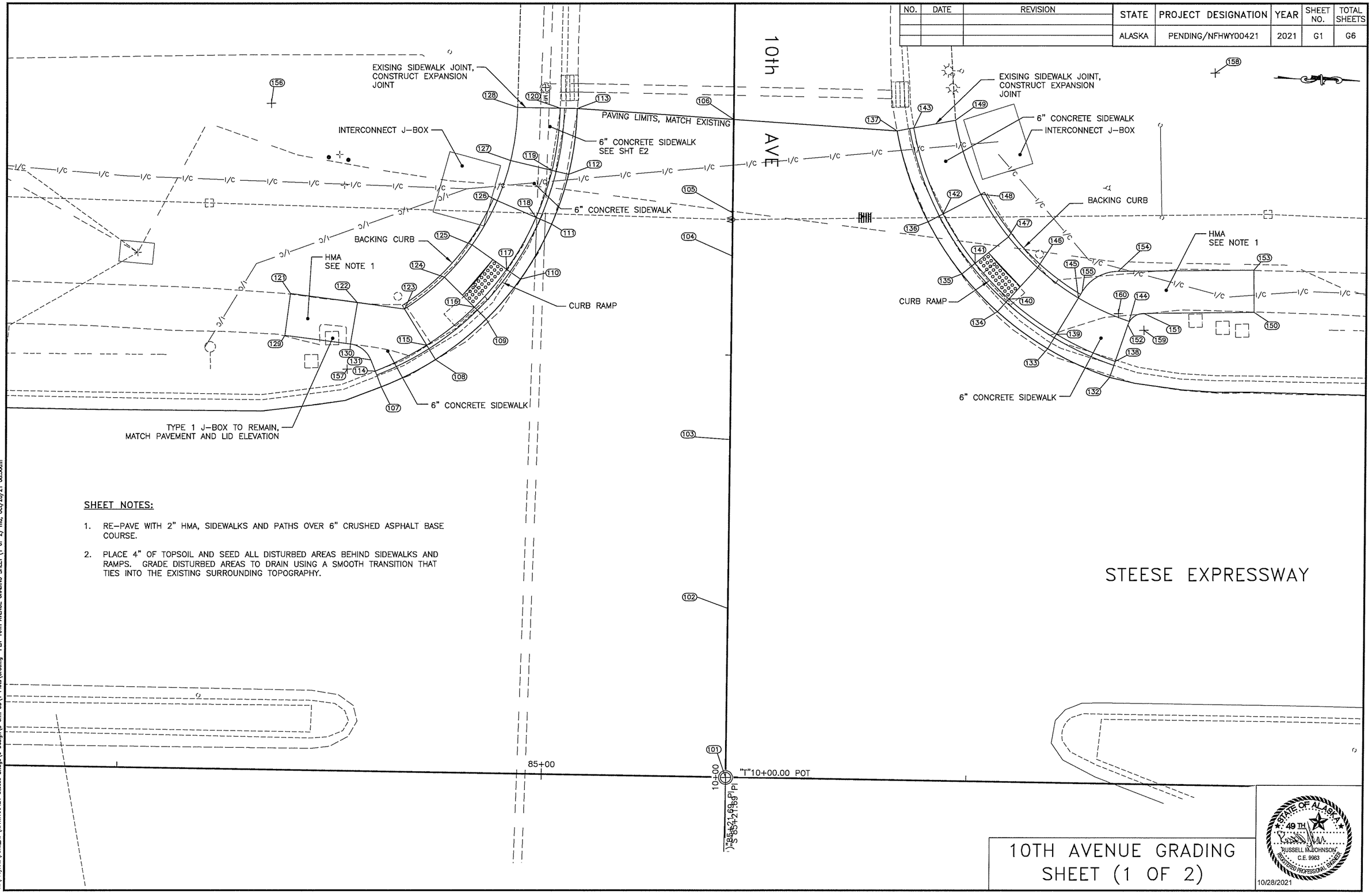
STEESE
100+00 – 103+50

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Pbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\1 Plots\00421_PQP_ALL-100+00 - 103+50 Wed, Feb/23/22 01:44pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00421	2021	G1	G6



SHEET NOTES:

1. RE-PAVE WITH 2" HMA, SIDEWALKS AND PATHS OVER 6" CRUSHED ASPHALT BASE COURSE.
2. PLACE 4" OF TOPSOIL AND SEED ALL DISTURBED AREAS BEHIND SIDEWALKS AND RAMPS. GRADE DISTURBED AREAS TO DRAIN USING A SMOOTH TRANSITION THAT TIES INTO THE EXISTING SURROUNDING TOPOGRAPHY.

10TH AVENUE GRADING SHEET (1 OF 2)

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/28/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\Pids_MP\NFHWY00421 Steese Bridge\6 Design\5 Civil 30\1 Plots\Grading PLN-10TH AVENUE GRADING SHEET (1 OF 2) Thu, Oct/28/21 08:50am

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00421	2021	G2	G6

LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	T10+00	CL	196976.5518	679860.4102	446.25	GP, SI, T10+00 = S85+21.69
102	T10+20	CL	196977.1445	679840.3818	446.04	GP
103	T10+40	CL	196977.7361	679820.3905	445.83	GP
104	T10+60	CL	196978.3785	679798.6811	445.57	GP
105	T10+66.81	CL	196978.5291	679793.5922	445.48	GP
106	T10+77.86	CL	196978.8587	679782.5490	445.52	MATCH EXISTING, GP
107	T10+45.92	41.1 LT	196936.8633	679813.2604	445.46	MATCH EXISTING, POC, GP
108	T10+45.93	34.8 LT	196943.2649	679810.1783	445.42	POC, GP
109	T10+54.01	28.8 LT	196949.3396	679805.5213	445.38	POC, GP
110	T10+58.79	24.9 LT	196953.4505	679800.8709	445.34	POC, GP
111	T10+65.31	21.3 LT	196957.2413	679794.4594	445.30	POC, GP
112	T10+71.21	19.3 LT	196959.3311	679788.6162	445.27	POC, GP
113	T10+79.01	18.3 LT	196960.4958	679780.8513	445.09	MATCH EXISTING, PT, GP
114	T10+47.77	41.8 LT	196936.1778	679811.3816	445.86	MATCH EXISTING, POC, GP
115	T10+50.95	35.8 LT	196942.2650	679808.4454	445.82	POC, GP
116	T10+55.43	30.2 LT	196947.9609	679804.0724	445.38	POC, GP
117	T10+59.94	26.5 LT	196951.8434	679799.6804	445.32	POC, GP
118	T10+66.09	23.1 LT	196955.4236	679793.6251	445.70	POC, GP
119	T10+71.67	21.3 LT	196957.4007	679788.1065	445.67	POC, GP
120	T10+79.03	20.4 LT	196958.4973	679780.7730	445.62	MATCH EXISTING, PT, GP
121	T10+56.90	51.9 LT	196926.3441	679801.9698	445.98	MATCH EXISTING, POT, GP
122	T10+55.97	44.0 LT	196934.2426	679803.2321	445.9.	POT, GP
123	T10+55.15	38.4 LT	196939.7630	676804.1144	445.89	PC, GP
124	T10+58.95	33.8 LT	196944.5142	679800.4502	445.42	POC, GP
125	T10+62.79	30.6 LT	196947.8258	679796.7041	445.39	POC, GP
126	T10+68.05	27.7 LT	196950.8794	679791.5393	445.78	POC, GP
127	T10+72.80	26.2 LT	196952.5658	679786.8322	445.75	POC, GP
128	T10+79.08	25.4 LT	196953.5011	679780.5772	445.77	MATCH EXISTING, PT, GP
129	T10+51.93	52.5 LT	196925.5814	679806.9111	446.06	MATCH EXISTING, PT, GP
130	T10+50.96	44.8 LT	196933.3148	679808.1047	445.90	PC, GP
131	T10+49.10	43.3 LT	196935.6895	679810.0434	445.87	PT, GP
132	T10+47.70	44.6 RT	197022.5422	679814.0030	445.43	POC, GP
133	T10+51.06	37.2 RT	197015.2884	679810.4462	445.39	POC, GP
134	T10+55.39	31.3 RT	197009.4751	679805.9408	445.35	POC, GP
135	T10+59.81	27.1 RT	197005.3704	679801.3892	445.32	POC, GP
136	T10+65.94	23.0 RT	197001.4876	679795.1428	445.25	POC, GP
137	T10+76.62	19.2 RT	196998.0308	679784.3216	445.14	POC, GP
138	T10+49.62	45.2 RT	197023.2268	679812.1238	445.83	MATCH EXISTING, POC, GP
139	T10+52.77	38.3 RT	197016.3549	679808.7542	445.79	POC, GP
140	T10+56.86	32.6 RT	197010.8475	679804.4859	445.32	POC, GP
141	T10+61.04	28.6 RT	197006.9589	679800.1739	445.32	POC, GP
142	T10+66.88	24.8 RT	197003.2804	679794.2563	445.62	POC, GP
143	T10+77.03	21.2 RT	197000.0055	679784.0046	445.63	MATCH EXISTING, POC, GP
144	T10+54.36	40.8 RT	197024.9384	679807.4259	445.85	POC, GP
145	T10+57.08	35.9 RT	197019.0209	679804.5243	445.81	POC, GP
146	T10+60.61	32.5 RT	197014.2785	679800.8489	445.40	POC, GP
147	T10+64.23	28.2 RT	197010.9299	679797.1357	445.40	POC, GP
148	T10+69.22	29.2 RT	197007.7623	679792.0400	445.70	POC, GP
149	T10+77.96	26.1 RT	197004.9423	67978302121	445.65	MATCH EXISTING, POC, GP
150	T10+55.54	61.5 RT	197039.6688	679806.6727	445.92	MATCH EXISTING, PT, GP
151	T10+55.31	48.5 RT	197026.6946	679806.5150	445.86	PC, GP
152	T10+53.95	46.7 RT	197024.7912	679807.8302	445.85	PT, GP
153	T10+60.52	61.4 RT	197039.7296	679801.6731	445.94	MATCH EXISTING, PT, GP
154	T10+60.25	45.4 RT	197023.7602	679801.4790	445.84	PC, GP
155	T10+57.81	41.2 RT	197019.4695	679803.8126	445.81	PT, GP

LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
156	T10+79.36	54.4 LT	196924.5238	679779.4417	N/A	(RP) 36.1 FT
157	T10+47.98	45.1 LT	196932.8713	679811.0717	N/A	(RP) 3 FT
158	T10+83.78	56.5 RT	197035.5505	679778.2989	N/A	(RP) 38 FT
159	T10+53.30	48.6 RT	197026.6703	679808.5149	N/A	(RP) 2 FT
160	T10+55.25	45.6 RT	197023.6995	679806.4786	N/A	(RP) 5 FT

10TH AVENUE ADA GRADING SHEET (2 OF 2)

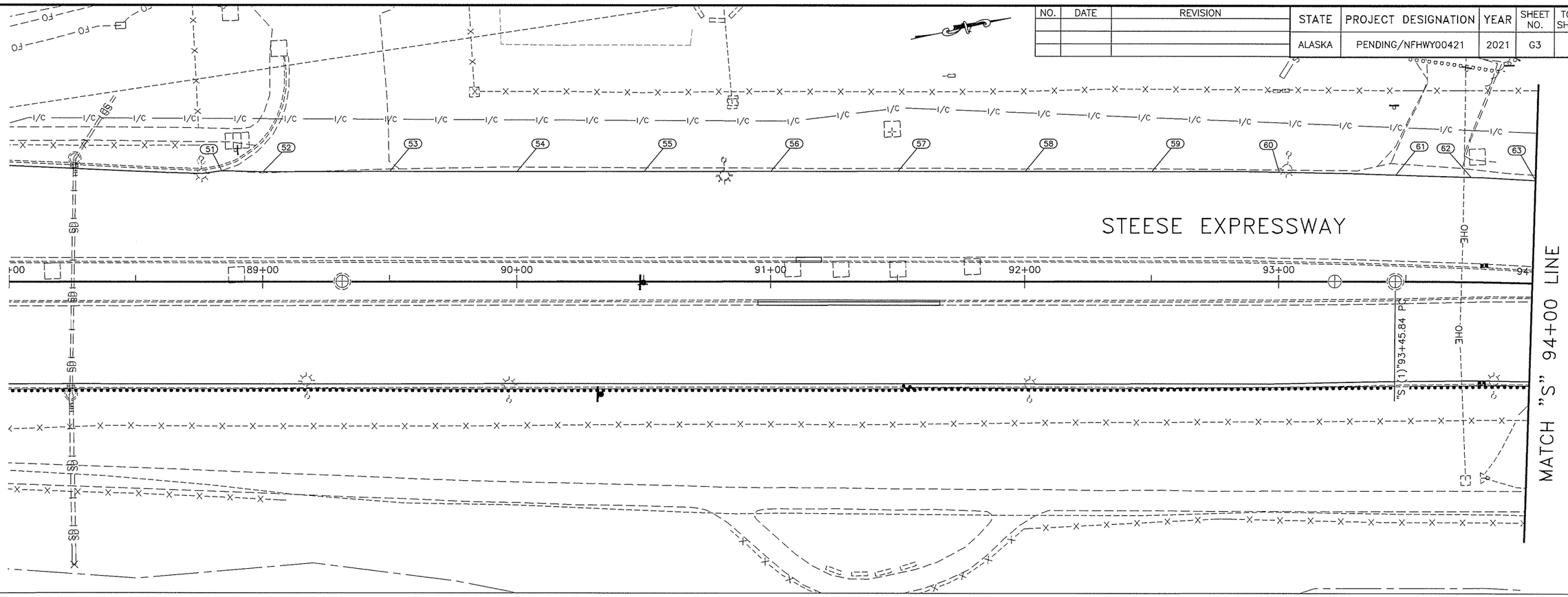
STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER

10/26/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bls_rp\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\Grading PLN-10TH AVENUE ADA GRADING SHEET (2 OF 2) Fri, Oct/22/21 05:36pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00421	2021	G3	G6



LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
51	88+84	43.8 LT	197340.0080	679830.4960	445.31±	GP
52	89+00	43.4 LT	197356.2593	679831.5146	445.49±	EP
53	89+50	43.5 LT	197406.2284	679833.3588	445.76±	EP, MATCH EXISTING ELEVATION
54	90+000	43.5 LT	197456.1862	679835.3375	446.11±	EP, MATCH EXISTING ELEVATION
55	90+50	43.5 LT	197506.1493	679837.2593	446.60±	EP, MATCH EXISTING ELEVATION
56	91+00	43.5 LT	197556.1115	679839.2027	447.06±	EP, MATCH EXISTING ELEVATION
57	91+50	43.5 LT	197606.0744	679841.1280	447.58±	EP, MATCH EXISTING ELEVATION
58	92+00	43.6 LT	197656.0370	677843.0610	448.38±	EP, MATCH EXISTING ELEVATION
59	92+50	43.5 LT	197705.9964	679845.0790	449.54±	EP, MATCH EXISTING ELEVATION
60	93+00	43.3 LT	197755.9502	679847.2423	451.17±	EP, MATCH EXISTING ELEVATION
61	93+45.84	43.1 LT	197801.7134	679850.1476	452.74±	EP, MATCH EXISTING ELEVATION
62	93+75	41.5 LT	197831.4544	679852.2237	453.48±	EP, MATCH EXISTING ELEVATION
63	94+00	40.7 LT	197856.7608	679854.4903	453.96±	EP, MATCH EXISTING ELEVATION

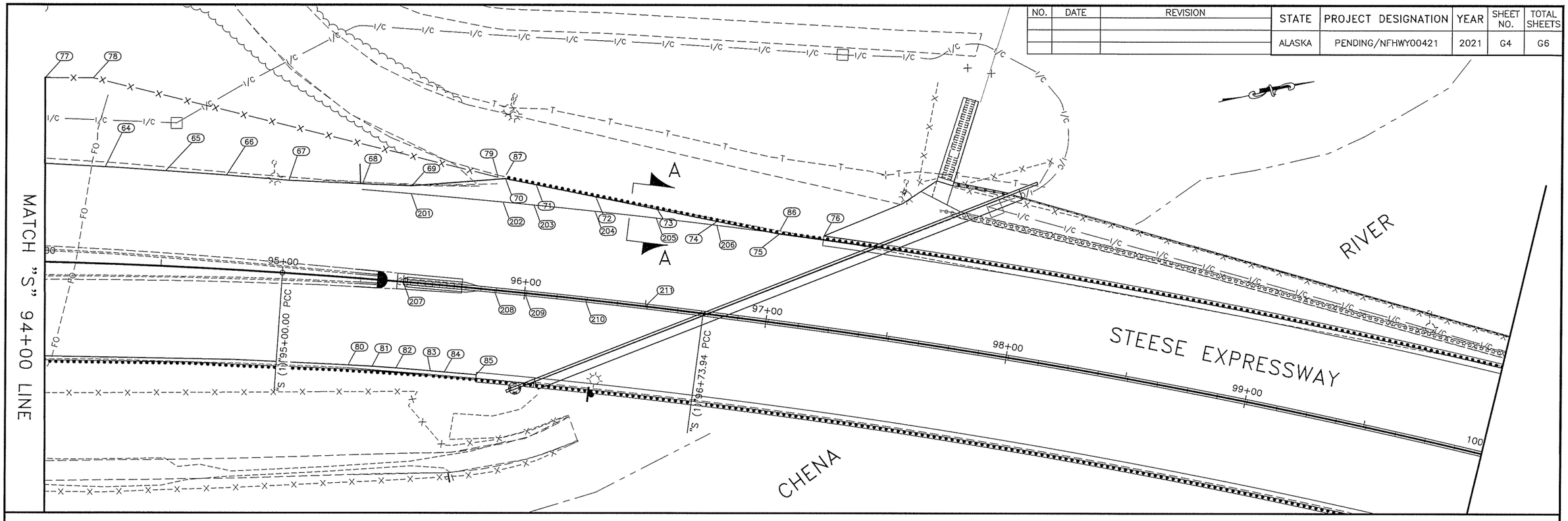
GRADING SHEET (88+50 TO 94+00)

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/26/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bks_nr\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\Grading PLN-GRADING SHEET (88+50 TO 94+00) Fri, Oct/22/21 05:38pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	PENDING/NFHWY00421	2021	G4	G6

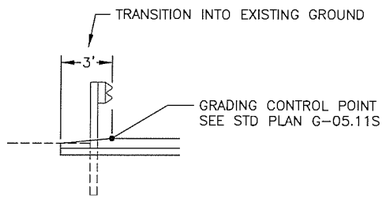


LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
64	94+25	40.0 LT	197882.4970	679856.9161	454.51±	EP, MATCH EXISTING ELEVATION
65	94+50	39.4 LT	197907.6985	679859.4889	455.01±	EP, MATCH EXISTING ELEVATION
66	94+75	38.9 LT	197932.2187	679862.3149	455.50±	EP, MATCH EXISTING ELEVATION
67	95+00	38.2 LT	197957.8406	679865.4836	456.01±	EP, MATCH EXISTING ELEVATION
68	95+25	39.0 LT	197988.1360	679868.1224	456.65±	EP, MATCH EXISTING ELEVATION
69	95+50	39.8 LT	198008.3656	679869.7092	457.02±	EP
70	95+87.6	46.3 LT	198046.8468	679868.2081	457.62±	GP
71	96+00	45.0 LT	198059.3455	679871.2591	457.69±	GP
72	96+25	42.6 LT	198083.7451	679877.2152	458.00±	GP
73	96+50	40.4 LT	198108.8468	679883.3427	458.25±	GP
74	96+75	38.4 LT	198133.2088	679889.2897	458.65±	GP
75	97+00.72	36.5 LT	198158.7069	679895.5140	459.19±	GP
76	97+23	38.2 LT	198176.9568	679897.0124	459.38±	GP
77	94+00	76 LT	197859.0056	679819.2334	N/A	GP, START REMOVE & REPLACE FENCE
78	94+19.3	76.5 LT	197878.8878	679820.0571	N/A	GP, REMOVE & REPLACE FENCE
79	95+84.4	46.5 LT	198043.8534	679867.5466	N/A	GP, END REMOVE & REPLACE FENCE
80	95+30	35.9 RT	197979.4632	679942.6325	453.65±	GP, CURB & GUTTER
81	95+40	35.8 RT	197989.3104	679943.5932	453.85±	GP, CURB & GUTTER
82	95+50	35.7 RT	197999.1107	679944.6519	454.05±	GP, CURB & GUTTER
83	95+64.4	35.7 RT	198013.2222	679946.3568	453.98±	GP, CURB & GUTTER, BEGIN TRSANSITION
84	95+70	35.6 RT	198018.9642	679947.0683	454.12±	GP, CURB & GUTTER
85	95+83.6	35.5 RT	198032.0127	679948.72.95	454.22±	GP, FIELD FIT CURB & GUTTER INTO MOMENT SLAB CURB
86	97+00.8	38.2LT	198159.1101	679893.8625	N/A	BACK OF GUARDRAIL POST
87	95+87.6	47.96 LT	198047.2500	679866.5566	N/A	BACK OF GUARDRAIL POST

LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
201	95+50	36.55 LT	197007.9651	679872.9527	457.00±	GP, FOG LINE
202	95+87.4	36.50 LT	198045.5222	679877.8892	457.60±	GP, FOG LINE
203	96+00	36.54 LT	198058.1662	679879.6042	457.68±	GP, FOG LINE
204	96+25	36.63 LT	198083.2344	679883.1701	457.97±	GP, FOG LINE
205	96+50	36.72 LT	198108.2720	679886.9521	458.23±	GP, FOG LINE
206	96+75	36.81 LT	198133.0681	679890.9156	458.64±	GP, FOG LINE
207	95+50	CL	198033.3669	679909.2119	455.57±	GP, MATCH EXISTING
208	95+87.4	CL	198040.5740	679914.0539	456.17±	GP
209	96+00	CL	198053.0523	679915.7893	456.38±	GP, VPI
210	96+25	CL	198077.7905	679919.3961	456.87±	GP
211	96+50	CL	198102.4965	679923.1476	457.33±	GP



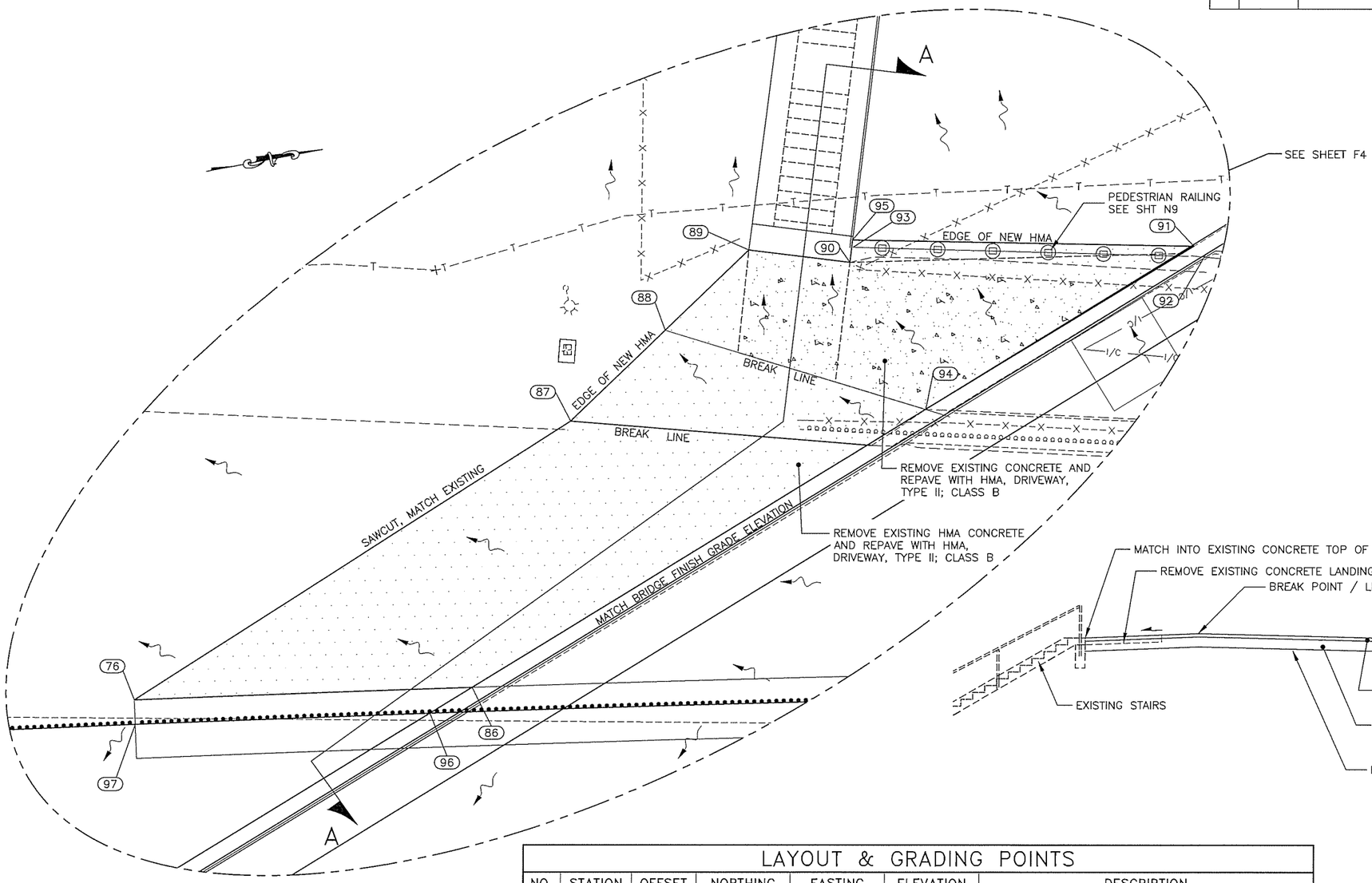
SECTION A-A

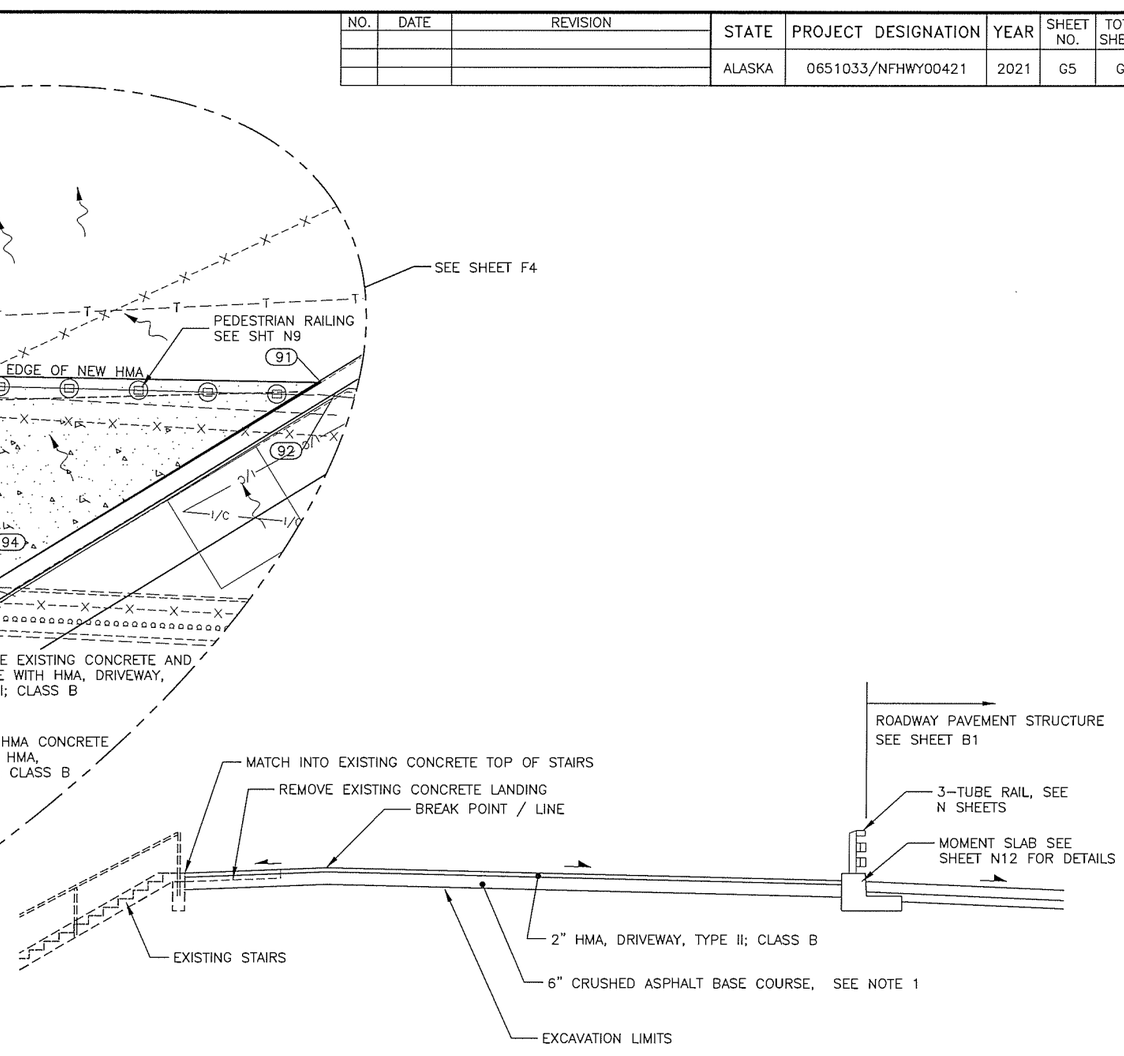
GRADING SHEET (94+00 TO 100+00)

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/28/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\(bks_np)\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\Grading PLN-GRADING SHEET (94+00 TO 94+00) Wed, Oct/27/21 10:50am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	G5	G6





LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
76	97+18.7	38.2 LT	198176.9568	679897.0124	459.54±	GP, MATCH EXISTING ELEVATION, BEGIN MOMENT SLAB
86	97+41.36	38.2 LT	198199.5092	679901.1199	459.73±	MATCH BRIDGE ELEV
87	97+48	55.1 LT	198198.8616	679884.7925	459.90±	EP, MATCH EXISTING
88	97+55	62.1 LT	198217.4484	679880.1275	459.82±	EP, EDGE PAVE
89	97+60.5	67.4 LT	198224.1441	679876.0105	459.60±	EP, MATCH TOP OF STAIRS
90	97+67	66.4 LT	198230.6519	679878.3113	459.59±	EP, MATCH TOP OF STAIRS
91	97+90	67 LT	198253.6771	679882.2757	460.15±	MATCH NEW BRIDGE ELEV
92	97+91	66.6 LT	198254.3847	679882.9528	N/A	MATCH BRIDGE PEDESTRIAN RAIL ELEV
93	97+67.4	67.4LT	198231.0764	679877.3505	459.59±	PEDESTRIAN RAIL, SEE NOTE 3
94	97+72	56.3 LT	198233.5599	679889.2260	460.09±	MATCH NEW BRIDGE ELEV
95	97+67.4	67.9 LT	198231.1556	679876.8597	459.58±	EP, MATCH INTO EXISTING STAIR LANDING
96	97+38.47	36.5 LT	198196.3443	679902.2273	459.72±	EP, END MOMENT SLAB, MATCH NEW BRIDGE ELEV
97	97+18.7	36.5 LT	198176.6647	679898.6532	459.53±	EP, BEGIN MOMENT SLAB

SECTION A–A

NOTES:

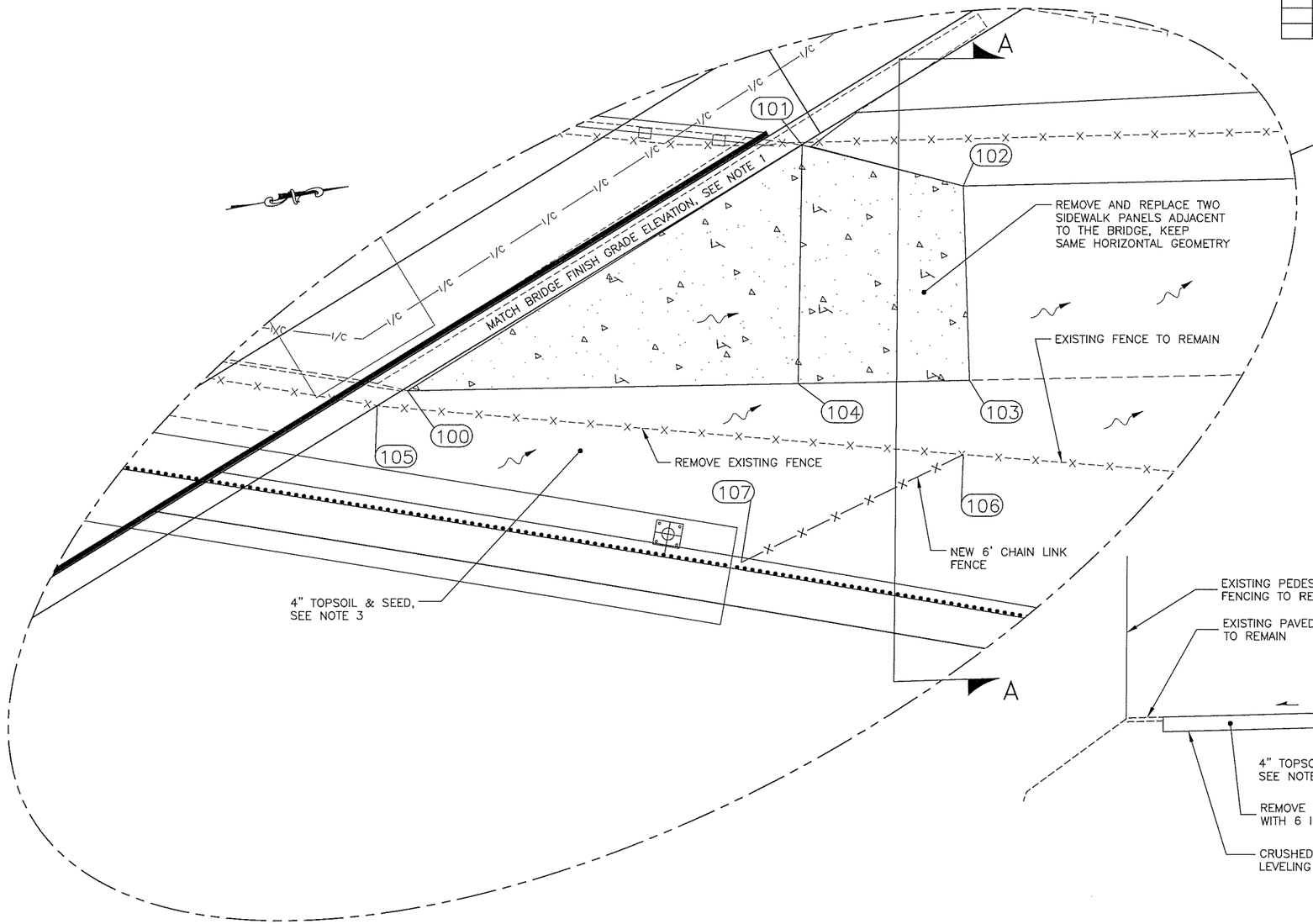
1. USE EXCESS CRUSHED ASPHALT BASE COURSE FROM STEESE EXPRESSWAY.
2. PLACE ADDITIONAL CABC AS NEEDED TO ESTABLISH FINAL GRADE.
3. SEE PLAN SHEET N9 FOR PEDESTRIAN RAIL DETAILS.

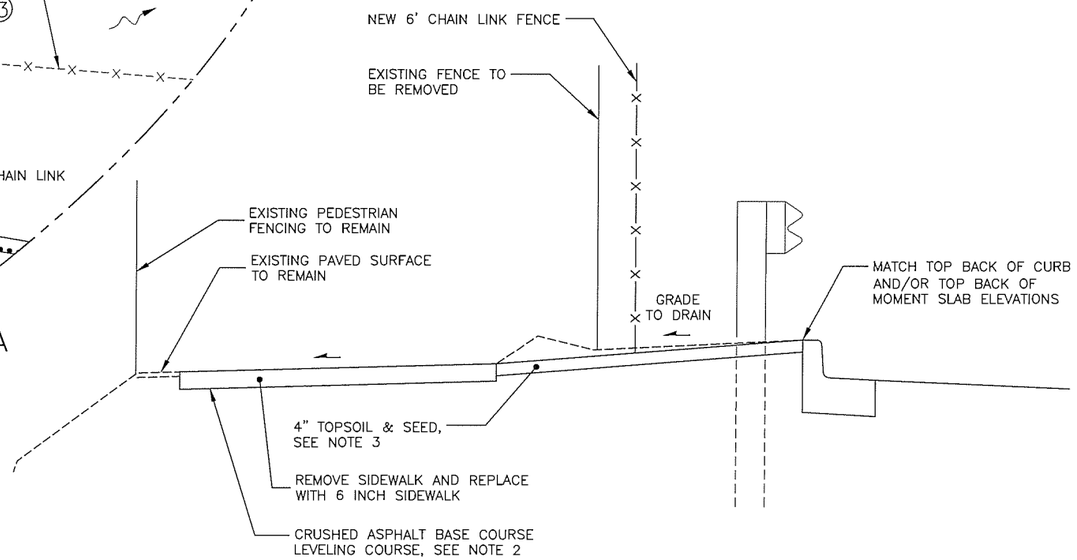
GRADING SHEET

STATE OF ALASKA 49TH RUSSELL M. JOHNSON C.E. 9953 REGISTERED PROFESSIONAL ENGINEER
10/28/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\fbks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\1 Plots\00421_05_G6-GRADING Sht 5 Wed, Oct/27/21 10:51am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	G6	G6





SECTION A–A

LAYOUT & GRADING POINTS

NO.	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	103+01.1	41.4 LT	198744.7689	680055.5614	457.82±	GP, MATCH NEW BRIDGE ELEVATION
101	103+14.9	53.9 LT	198762.4756	680049.2464	457.38±	GP, MATCH NEW BRIDGE ELEVATION
102	103+21.6	53.4 LT	198768.4934	680052.2798	457.07±	MATCH EXISTING ELEVATION, EDGE SIDEWALK, EDGE EXISTING PAVEMENT
103	103+23.2	45.7 LT	198767.0637	680060.0536	457.13±	MATCH EXISTING ELEVATION, EDGE SIDEWALK
104	103+16.5	44.4 LT	198760.2560	680058.6933	N/A	SMOOTH TRANSITION, EDGE SIDEWALK
105	103+00	40.8 LT	198743.4377	680055.9044	N/A	GP, BEGIN REMOVE FENCE
106	103+23	44.4 LT	198766.1751	680062.9490	N/A	GP, END REMOVE FENCE, BEGIN INSTALL FENCE, MATCH INTO EXISTING
107	103+16.5	36.8 LT	198756.4616	680065.3063	N/A	GP, END INSTALL FENCE, WITHIN 4 INCHES OF NEW GUARDRAIL

NOTES:

1. ADJUST SIDEWALK ELEVATIONS AS NEEDED SO THEY MATCH THE BRIDGE FINISH GRADE ELEVATION(S) AFTER THE POLYESTER CONCRETE OVERLAY
2. PLACE ADDITIONAL CABC AS NEEDED TO ESTABLISH SIDEWALK FINISH GRADE. USE EXCESS CABC FROM THE STEESE EXPRESSWAY
3. PLACE 4' TOPSOIL & SEED DISTURBED AREAS BETWEEN THE SIDEWALK/PATH AND STEESE EXPRESSWAY

GRADING SHEET

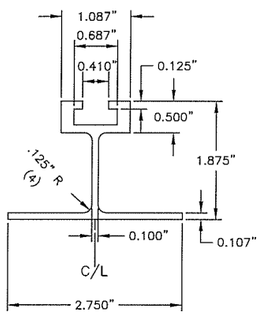
STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9953
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\Projects\fbks_NP\dfhwy00421 steese bridge\6 Design\5 civil 3d\1 Plots\00421_G5_G6-GRADING SHT 6 Tue, Feb/22/22 03:38pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H1	H7

SIGNING SUMMARY

LOC. NO.	STATION	LOCATION LT.	LOCATION RT.	ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/FRAMING BRACED	BRACING/FRAMING FRAMED	AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST TYPE	POST SIZE (INCHES)	POST NO.	REMARKS
1	78+61		X	M3-1	NORTH	36 X 18		X	4.50		S				MOUNTED ON LIGHT POLE
				M1-5	ALASKA 2	36 X 36		X	9.00						
2	79+97	CL		D3-201	10th Ave City Core	78 X 42		X	22.75		S	TS	2	2	SEE NOTE 13
3	82+45	X		W8-6	TRUCK CROSSING	X					N				MOUNTED ON LIGHT POLE, REUSE PANEL
4	82+46	CL		W8-6	TRUCK CROSSING	X					N	PST	2.5	1	REUSE PANEL
5	90+33	CL		W8-13	BRIDGE ICES BEFORE ROAD	36 X 36			9.00		N	PST	2.5	1	
6	90+50		X	W8-13	BRIDGE ICES BEFORE ROAD	36 X 36			9.00		N	PST	2.5	1	
7	96+16		X	I-3	CHENA RIVER	30 X 18		X	3.75		N				MOUNT ON LIGHT POLE
8	102+17	X		I-3	CHENA RIVER	30 X 18		X	3.75		S	PST	2.5	1	MOUNT ON LIGHT POLE
						TOTAL =			61.75						



EXTRUDED ALUMINUM WINDBEAM

NOTES:

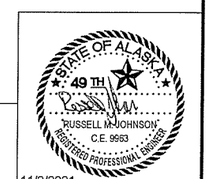
1. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR EXTRUDED WINDBEAM AND RIVETS.
2. ATTACH SIGNS TO WINDBEAM WITH 3/16" RIVETS AT 4" STAGGERED SPACING.

SIGN SYMBOL KEY

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

SIGN NOTES:

1. DELIVER THE REMOVED SIGN PANELS TO THE DOT MAINTENANCE STATION ON PEGER ROAD.
2. REMOVE AND DISPOSE OF ALL EXISTING BASES AND POSTS IN THE PROJECT LIMITS SCHEDULED FOR REPLACEMENT.
3. ALL SIGNS NOTED FOR REMOVAL AND REINSTALLATION SHALL BE REPLACED AT THE CONTRACTORS EXPENSE IF THEY ARE DAMAGED DURING THE RELOCATION EFFORT.
4. MOUNT SIGNS THAT PROJECT OVER OR WITHIN 2 FEET OF THE SIDEWALK WITH A MOUNTING HEIGHT OF 8 FEET.
5. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED. DETERMINE POST LENGTHS IN THE FIELD, DO NOT EXTEND POSTS ABOVE THE SIGN HEIGHT.
6. INSTALL PST SIGN POSTS WITH SLEEVE TYPE CONCRETE EMBEDMENT. EMBED PST IN SLEEVE PER STANDARD PLAN S-30.05.
7. FOR SIGNS TO BE MOUNTED ON LIGHT POLES, INSTALL THE PANELS ON LIGHT POSTS AS SHOWN ON STANDARD PLAN S-23.00.
8. INSTALL "TUBE POST SIGN BRACING" AS SHOWN ON STANDARD DRAWING S-01.02 ON ALL SIGNS MOUNTED ON A SINGLE PST POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER, INSTALL GALVANIZED SPLIT LOCK WASHERS ON ALL 3/8" BOLTS. 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.
9. 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.
10. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
11. 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.
12. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
13. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
14. INSTALL PST SIGN POSTS WITH SLEEVE TYPE CONCRETE FOUNDATION EMBEDMENT. EMBED PST IN SLEEVE 12" – 24". ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED $\frac{3}{8}$" BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
15. SIGNS TO BE INSTALLED ON LIGHT POLES MAY REQUIRE TEMPORARY INSTALLATION ON 2-1/2 INCH PST UNTIL THE LIGHT POLES ARE IN PLACE. THIS WORK IS SUBSIDIARY TO PAY ITEM 614.0001.0000.
16. CLEARING, AS DIRECTED BY ENGINEER, MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
17. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
18. HINGED JOINTS WITH FRANGIBLE FUSE PLATES ARE REQUIRED ON ALL MULTIPLE POST SIGNS WITH FRANGIBLE COUPLING SYSTEMS. THE HINGE LOCATION ON ALL POSTS SHALL BE THE SAME DISTANCE BELOW THE SIGN, INSTEAD OF THE 6" MINIMUM SHOWN ON STANDARD PLAN S-31.02. SEE MANUFACTURE'S SPECIFICATION FOR HINGE LOCATION BELOW SIGN.



11/2/2021

SIGNING & STRIPING

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H2	H7

Panel Style: D3-201 (42in).ssi
M.U.T.C.D.: 2009 Edition

STRIPING SUMMARY

KEY	DESCRIPTION	TOTAL LENGTH
4"W	4" WHITE LINE	5,224 LF
8"W	8" WHITE LINE	446.5 LF
4"Y	4" YELLOW LINE	1,442.5 LF
4"WS	4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)	4,608.6 LF
4"WD	4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)	173.5 LF
4"DY	4" DOUBLE YELLOW LINE	41 LF
24"W	24" WHITE LINE (STOP BAR AND CROSS WALK)	202 LF
YELLOW	YELLOW PAINT FOR THREE MEDIAN NOSES (10TH AVENUE)	92 SF

TRAFFIC MARKING KEY

- 4"W — 4" WHITE LINE
- 4"WS — 4" WHITE SKIP LINE (10' STRIPE/30' SKIP PATTERN)
- 4"WD — 4" WHITE DOTTED LINE (2' STRIPE/6' SKIP PATTERN)
- 8"W — 8" WHITE LINE
- 4"Y — 4" YELLOW LINE
- 4"DY — 4" DOUBLE YELLOW LINE

NOTE:
DIMENSIONS ARE TO CENTER OF STRIPE OR STRIPE GROUP.

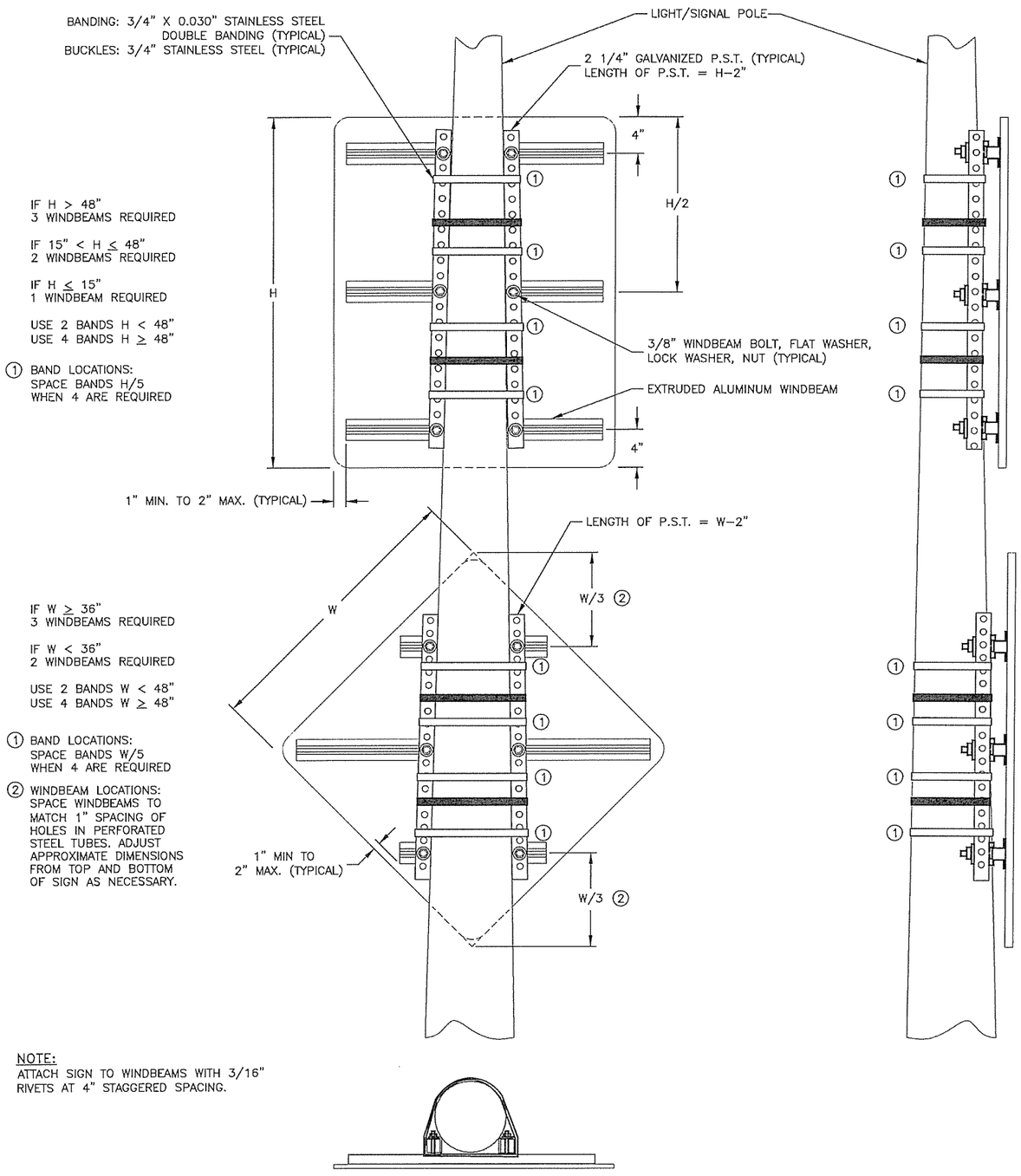
SIGN AND STRIPING DETAILS

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\fbks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\3 drafting\00421_H2-SIGN AND STRIPING DETAILS Fri, Oct/01/21 09:55am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H3	H7

LIGHT/SIGNAL POLE SIGN FRAMING & MOUNTING DETAILS



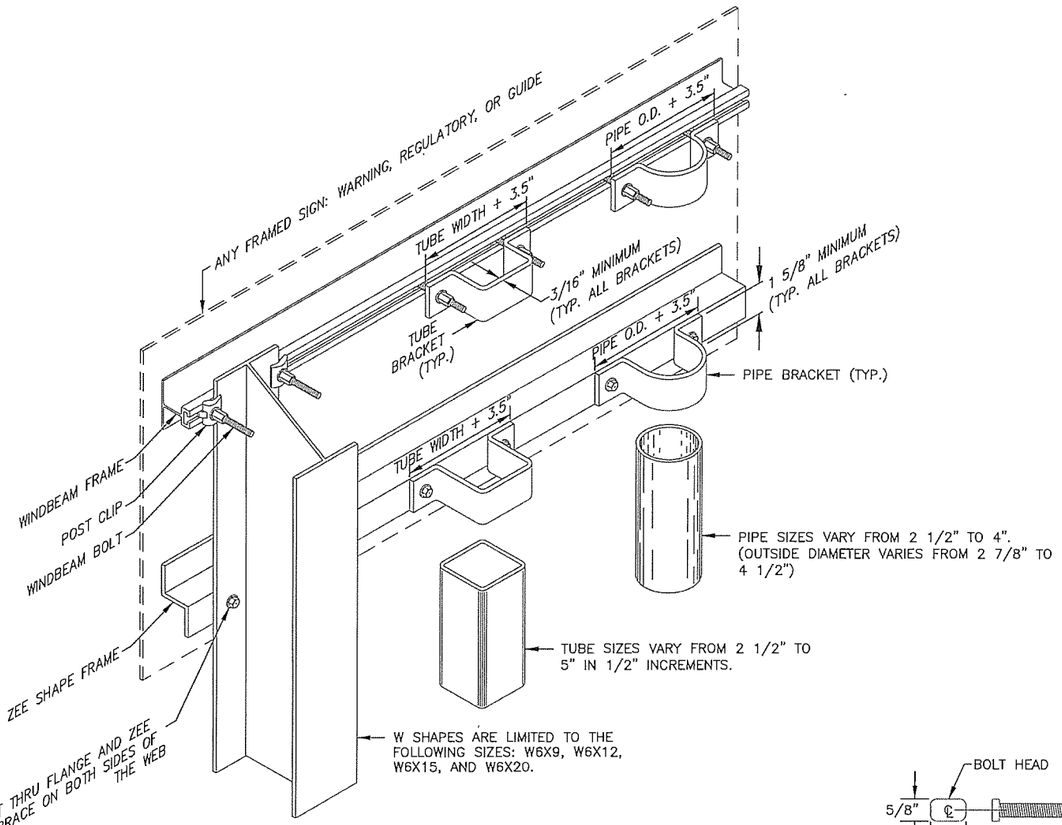
NOTE:
ATTACH SIGN TO WINDBEAMS WITH 3/16" RIVETS AT 4" STAGGERED SPACING.

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bks_np\nfhwy00421 steese bridge\6 design\5 civil 3d\3 drafting\TSM408A-TSM408A Tue, Sep/21/21 07:05pm

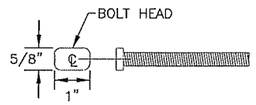
SIGNING AND STRIPING

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H4	H7



FRAMED SIGN ATTACHMENT BRACKETS



3/8" WINDBEAM BOLT

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 AND RIVETS.

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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SIGNING AND STRIPING

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9563
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	H5	H7

MATCH "S" 76+00 LINE

MATCH "S" 82+00 LINE

MATCH INTO GARS PROJECT STRIPING

"S"76+20.51 PI

"S"76+51.76 PI

"S"76+51.76

4"WS

4"W

12'

77+00

78+00

79+00

80+00

81+00

82+00

78+61 ① M3-1, M1-5

NORTH ALASKA 2

79+97 ② D3-201

10th Ave

City Core

"T"11+06.15 POT

+15 105' LT

+28 105' LT

8"W

4"DY

STD

+45.4 64.0' LT

+27.5 64.4' LT

+15 63.9' LT

+99 62.5' LT

+63 49' LT

+56.8 52.4' LT

24"W

+88 50.1' LT

+84

+93

+23

+73

4"WD

* Y

** Y

+83 5.1' LT

+83 40.4' RT

"T"10+00.00 POT

"S"85+21.69 PI

+12

+6

+28

+52

+82

+10

+40

+65

+95

+99

11.6'

BM

3 82+45 W8-6 TRUCK CROSSING

4 82+46 W8-6 TRUCK CROSSING

* 29.6 SQUARE FOOT YELLOW PAINT

** 39.5 SQUARE FOOT YELLOW PAINT

76+00–88+00 SIGNING & STRIPING

STATE OF ALASKA 49TH RUSSELL M. JOHNSON C.E. 9993 REGISTERED PROFESSIONAL ENGINEER

10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
H:\projects\bks_rp\nfhwy00421 steese bridge\S design\S civil 3d\1 Plots\SIGN_STRIPE POP_ALL-76+00-88+00 SIGNING & STRIPING Tue, Sep/21/21 07:06pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	H6	H7

MATCH "S" 88+00 LINE

AVC / TRAFFIC COUNTER

4"WD

4"W

4"WS

4"Y

12'

4'

"S" 93+45.84 PCC

"S" 96+73.94 PCC

"S" 94+00.00 PCC

90+33 W8-13 (5)

90+50 W8-13 (6)

96+33 I-3 (7)

BRIDGE 1265 BEFORE ROAD

* 22.5 SQUARE FOOT YELLOW PAINT SEE SHEET E3

MATCH "S" 94+00 LINE

MATCH "S" 100+00 LINE

CHENA RIVER

88+00–100+00
SIGNING & STRIPING

STATE OF ALASKA
49TH
RUSSELL M. JOHNSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER

10/22/2021

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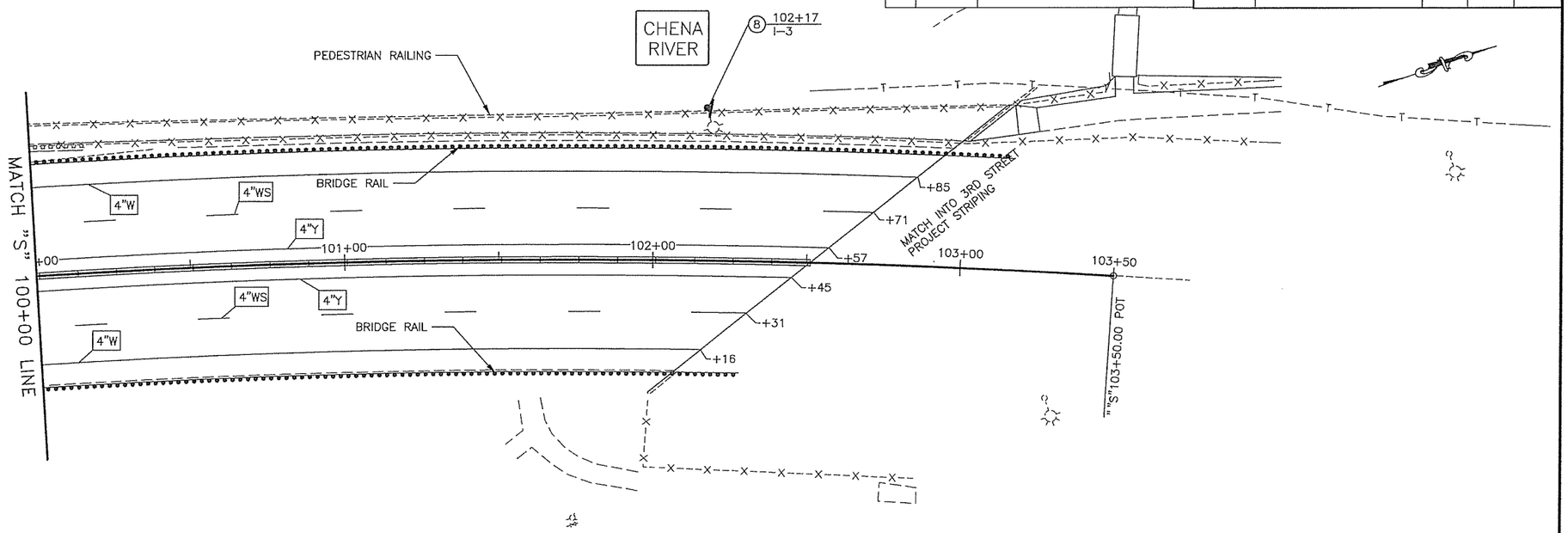
NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	H7	H7



PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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100+00–103+50 SIGNING & STRIPING

STATE OF ALASKA
49 TH
RUSSELL M. JOHNSON
C.E. 9583
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H101	H107

JUNCTION BOX SCHEDULE

[J] NO.	SHEET NO.	STATION <1>	OFFSET <1>	TYPE	NOTES
1	H104	"S" 95+90.5	41.5 RT	1A	
2	H104	"S" 96+30.6	31.4 RT	1A	INSTALLED AT GRADE LEVEL BELOW BRIDGE
3	H104	"S" 98+07.7	73.2 LT	1A	INSTALLED AT GRADE LEVEL BELOW BRIDGE
4	H104	"S" 98+83.4	17.3 RT	NEMA 3R	INSTALLED UNDER BRIDGE, ATTACHED TO RACKING SYSTEM
5	H104	"S" 99+65.0	47.9 LT	NEMA 3R	INSTALLED UNDER BRIDGE, ATTACHED TO RACKING SYSTEM
6	H104	"S" 101+02.3	27.6 RT	NEMA 3R	INSTALLED UNDER BRIDGE, ATTACHED TO RACKING SYSTEM
7	H104	"S" 101+59.7	26.7 RT	NEMA 3R	INSTALLED UNDER BRIDGE, ATTACHED TO RACKING SYSTEM
8	H104	"S" 102+17.4	45.4 LT	NEMA 3R	INSTALLED UNDER BRIDGE, ATTACHED TO RACKING SYSTEM

660.2016.0000
ELECTRICAL ILLUMINATION MODIFICATIONS
(LUMP SUM)

DESCRIPTION	ESTIMATED QUANTITIES
RACEWAY	
RMC: 1"	75-FT
RMC: 2"	1,250-FT
HDPE: 2"	425-FT
WIRING	
(PORTIONS OF) UNDERBRIDGE CIRCUIT: #10 AWG, XHHW-2	225-FT
BRANCH CIRCUIT: (3c) #8 AWG, XHHW-2	1,850-FT
BRANCH CIRCUIT (GROUND): #8 AWG BARE CU	1,850-FT
GENERAL	
TYPE 1A JUNCTION BOXES	3
NEMA 3R JUNCTION BOXES	5
DEMOLITION	AS REQ'D

ELECTRICAL NOTES

1. ROADWAY ELECTROLIERS, FOUNDATIONS, JUNCTION BOXES, AND ASSOCIATED CIRCUITING ALONG AIRPORT WAY ARE EXISTING TO REMAIN. PROTECT THESE EXISTING TO REMAIN ITEMS IN-PLACE DURING THIS PROJECT WORK.
2. ALL EXISTING UNDERGROUND UTILITIES SHALL BE FIELD LOCATED BEFORE ANY CONDUIT TRENCHING OR FOUNDATION WORK BEGINS. DAMAGE TO ANY EXISTING TO REMAIN BURIED UTILITIES OR ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. THE UNDERGROUND ROUTING SHOWN FOR NEW CIRCUITS IS SCHEMATICALLY DRAWN FOR CONCEPTUAL AND MATERIAL TAKE-OFF PURPOSES ONLY. ROUTE THE CIRCUITS AS NECESSARY TO AVOID CONFLICTS WITH EXISTING TO REMAIN ITEMS. NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES OR CONCEPT MODIFICATIONS TO THE LIGHTING CIRCUIT ROUTING.
4. BELOW GRADE LIGHTING CONDUITS SHALL BE BURIED A MINIMUM OF:
   -30" UNDER ALL VEHICULAR ROADWAYS
   -24" IN ALL OTHER LOCATIONS.
5. LIGHTING CIRCUIT CONDUIT SHALL BE:
   -RMC FOR ALL SWEEPS.
   -RMC UNDER ROADWAYS.
   -HDPE UNDER OPEN AREAS & DEDICATED WALKING PATHWAYS.
   -RMC WHERE EXPOSED OR OTHERWISE LOCATED ABOVE GRADE.
   ALL CONNECTORS AND COUPLINGS BETWEEN RMC AND HDPE CONDUIT SHALL BE LISTED AND RATED FOR SUCH USE.
6. ALL LIGHTING BRANCH CIRCUITS SHALL BE (3c) #8 AWG XHHW-2 COPPER (BLACK, RED, WHITE), WITH A SEPARATE BARE #8 COPPER GROUND. NOTE THAT ONE PHASE CONDUCTOR IS A SPARE. WHERE SPECIFICALLY NOTED, BRANCH CIRCUIT WIRING TO UNDERBRIDGE LIGHTING FIXTURES MAY BE (2)#10 AWG, XHHW-2 COPPER, WITH #10 INSULATED (GREEN) EQUIPMENT GROUND.
7. WHERE LISTED IN THE DRAWINGS, THE FOLLOWING DEFINITIONS APPLY:
   -(E) = EXISTING TO REMAIN
   -(R) = RELOCATE/RELOCATED
   -(X) = DEMOLISH
8. IN GENERAL, THE HIGHWAY LIGHTING ELECTROLIERS, LUMINAIRES, AND LIGHTING STANDARDS ARE EXISTING TO REMAIN. THIS PROJECT IS ONLY PROVIDING CHANGES TO THE CONDUIT SYSTEM FOR RECONNECTING THE CONDUIT AND WIRING FROM THE BOTTOM-SIDE OF THE BRIDGE.
9. IN GENERAL, THE EXISTING UNDERBRIDGE LIGHTING SYSTEM CONSISTS OF SURFACE MOUNTED RACEWAY, LIGHT FIXTURES, AND JUNCTION BOXES. IN GENERAL, THE UNDERBRIDGE LIGHTING SYSTEM IS EXISTING TO REMAIN. ONLY PROVIDE NECESSARY CHANGES FOR RECONNECTING POWER TO THE SYSTEM.
10. THE HIGHWAY LIGHTING AND UNDERBRIDGE LIGHTING CIRCUITS ARE POWERED FROM AN EXISTING TO REMAIN DOT LOAD CENTER LOCATED AT THE END OF 7TH STREET NEAR THE STEESE EXPRESSWAY, APPROXIMATELY LOCATED AT "S" 88+87, 106 LT. THE DOT LOAD CENTER IS 240/480V, 1-PHASE, 3-WIRE, WITH 225-AMP MCB. THE LIGHTING CIRCUITS ARE 480-VOLT, 2-POLE, SERVED BY 30-AMP CIRCUIT BREAKERS.

SPECIFIC SHEET NOTES

<1> JUNCTION BOX STATIONING AND OFFSET IS INCLUDED FOR REFERENCE TO MATCH THE PLAN DRAWINGS. IT IS NOT IMPERATIVE THE JUNCTION BOXES BE INSTALLED AT THESE EXACT LOCATIONS. THE CONTRACTOR MAY SHIFT THE BOXES TO BETTER SUIT FIELD CONDITIONS. THE CONTRACTOR SHALL REDLINE THE JUNCTION BOX SCHEDULE WITH ANY CHANGES TO THE JUNCTION BOX STATIONING AND/OR OFFSET.

LIGHTING NOTES & QUANTITIES

STATE OF ALASKA
49 TH
Elizabeth T.B. Johnston
09-Sep-2021
No. EE12945
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DESIGN ALASKA, INC. AECC511, 601 COLLEGE ROAD, FAIRBANKS, AK 99701 (907)452-1241
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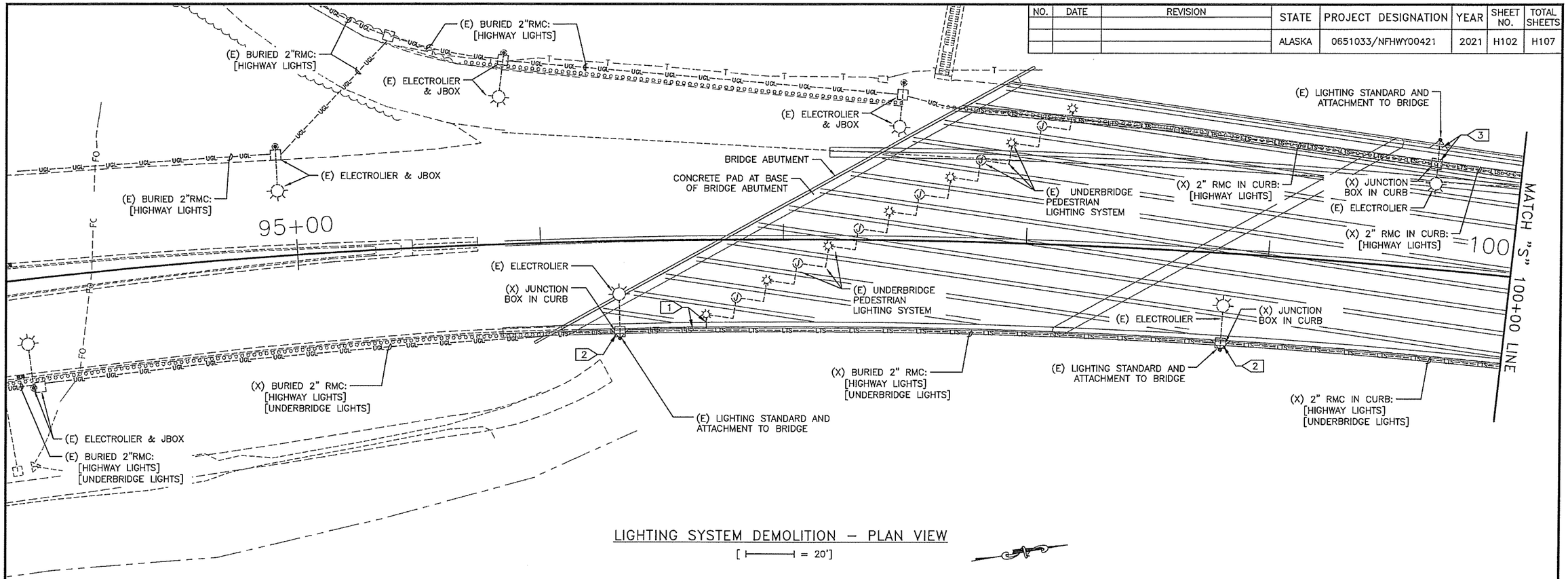
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H102	H107



LIGHTING SYSTEM DEMOLITION – PLAN VIEW

[⊢——⊣ = 20']

SPECIFIC SHEET NOTES

1. DEMOLISH CONDUIT ROUTING THROUGH GIRDER TO UNDERBRIDGE PEDESTRIAN LIGHTING. UNDERBRIDGE PEDESTRIAN LIGHT FIXTURE AND DOWN STREAM CIRCUITING IS EXISTING TO REMAIN FOR RECONNECTION.
2. LIGHTING CONDUIT ROUTES FROM JUNCTION BOX DOWN THROUGH BRIDGE DECK INTO TRIANGLE SPACE OF LIGHTING STANDARD BELOW. DEMOLISH PORTIONS OF LIGHTING SYSTEM TO ACCOMMODATE THE RENOVATION. SEE SHEET H106 FOR FURTHER DETAILS.
3. LIGHTING CONDUIT ROUTES FROM JUNCTION BOX, DOWN THROUGH BRIDGE DECK, INTO GIRDER BAY, ALONG UNDERSIDE OF SIDEWALK, PENETRATES THROUGH GIRDER, AND INTO THE TRIANGLE SPACE OF THE LIGHTING STANDARD. DEMOLISH PORTIONS OF THE LIGHTING SYSTEM TO ACCOMMODATE THE RENOVATION. SEE SHEET H106 FOR FURTHER DETAILS. THE EXISTING PENETRATION THROUGH GIRDER SHALL BE REUSED.

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LIGHTING DEMOLITION
1 OF 2

STATE OF ALASKA 49TH
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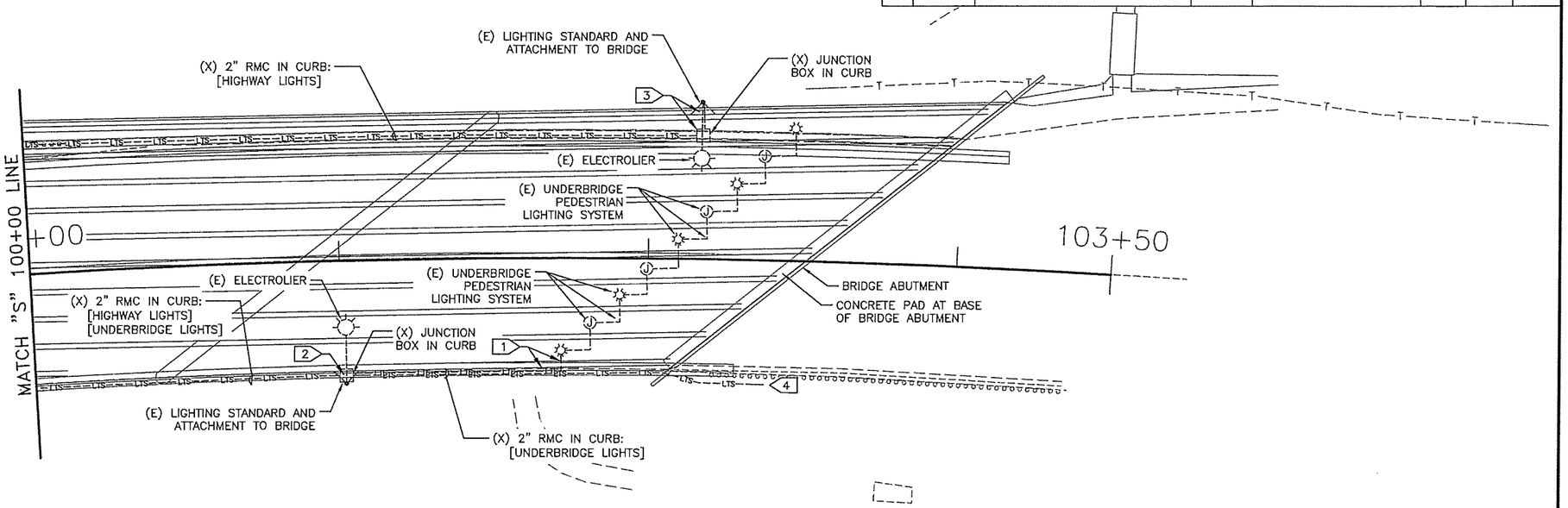
08-Sep-2021
No. EE12945
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H103	H107



LIGHTING SYSTEM DEMOLITION – PLAN VIEW

[⊢——⊣ = 20']

SPECIFIC SHEET NOTES

1. DEMOLISH CONDUIT ROUTING THROUGH GIRDER TO UNDERBRIDGE PEDESTRIAN LIGHTING. UNDERBRIDGE PEDESTRIAN LIGHT FIXTURE AND DOWN STREAM CIRCUITING IS EXISTING TO REMAIN FOR RECONNECTION.
2. LIGHTING CONDUIT ROUTES FROM JUNCTION BOX DOWN THROUGH BRIDGE DECK INTO TRIANGLE SPACE OF LIGHTING STANDARD BELOW. DEMOLISH PORTIONS OF LIGHTING SYSTEM TO ACCOMMODATE THE RENOVATION. SEE SHEET H106 FOR FURTHER DETAILS.
3. LIGHTING CONDUIT ROUTES FROM JUNCTION BOX, DOWN THROUGH BRIDGE DECK, INTO GIRDER BAY, ALONG UNDERSIDE OF SIDEWALK, PENETRATES THROUGH GIRDER, AND INTO THE TRIANGLE SPACE OF THE LIGHTING STANDARD. DEMOLISH PORTIONS OF THE LIGHTING SYSTEM TO ACCOMMODATE THE RENOVATION. SEE SHEET H106 FOR FURTHER DETAILS. THE EXISTING PENETRATION THROUGH GIRDER SHALL BE REUSED.
4. LIGHTING CIRCUIT PARTIALLY DEMOLISHED AND CAPPED BY PREVIOUS 3RD STREET PROJECT. FIELD VERIFY EXTENTS OF DEMOLITION FROM THE PREVIOUS PROJECT, THEN DEMOLISH THE REMAINDER.

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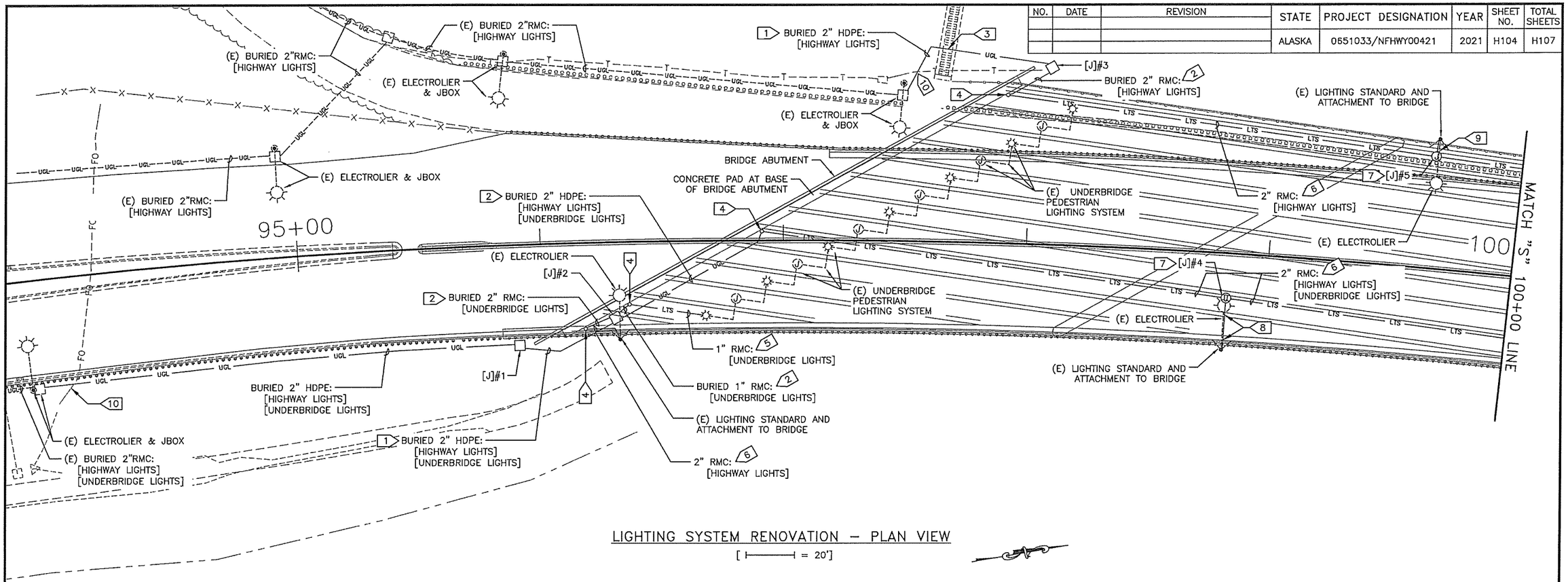
LIGHTING DEMOLITION
2 OF 2

STATE OF ALASKA
49TH
Elizabeth T.R. Johnston
08-Sep-2021
No. EE12945
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H104	H107



LIGHTING SYSTEM RENOVATION – PLAN VIEW

[⊢——⊣ = 20']

SPECIFIC SHEET NOTES

1. ROUTE RACEWAY DOWN AND AROUND BRIDGE ABUTMENT. TRENCH WILL REQUIRE REMOVAL OF TREES. TEMPORARILY REMOVE EXISTING RIPRAP AS NECESSARY TO INSTALL NEW CONDUIT. REINSTALL THE EXISTING RIPRAP AFTER INSTALLATION OF THE NEW CONDUIT.
2. ROUTE BURIED RACEWAY NEAR CONCRETE PAD AT BASE OF ABUTMENT. OFFSET CONDUIT A MINIMUM OF 1–FT FROM PAD. TEMPORARILY REMOVE EXISTING RIPRAP AS NECESSARY TO INSTALL NEW CONDUIT. REINSTALL THE EXISTING RIPRAP AFTER INSTALLATION OF THE NEW CONDUIT.
3. CONTRACTOR SHALL ROUTE NEW CIRCUIT CONDUIT UNDER EXISTING TO REMAIN STAIRWELL. NEW CONDUIT INSTALLATION SHALL NOT COMPROMISE THE STAIRWELL. UTILIZE DIRECTIONAL DRILLING OR SIMILAR.
4. SEE SHEET H106 FOR VERTICAL TRANSITION DETAIL OF RMC UP ABUTMENT WALL FROM BELOW GRADE.
5. SURFACE MOUNT 1" RMC AND ATTACH DIRECTLY TO UNDERSIDE OF BRIDGE DECK. RECONNECT POWER TO THE EXISTING TO REMAIN LIGHT FIXTURE. THE WIRING WITHIN THE 1" RMC, FROM THE TYPE 1A JUNCTION BOX UP TO THE FIXTURE, MAY BE (2) #10 AWG, XHHW, WITH #10 GND. VERIFY POWER AT THE FIRST FIXTURE.
6. RMC ATTACHED TO BRIDGE GIRDERS SHALL BE MADE UP WITH THREADED COUPLINGS. SEE DRAWINGS N100–N103 FOR ATTACHING THE CONDUIT SUPPORT SYSTEM TO THE BRIDGE GIRDERS.
7. PROVIDE NEW NEMA 3R PULL BOX UNDER BRIDGE, ATTACHED TO CONDUIT SUPPORT SYSTEM FOR PULLING BRANCH CIRCUITS AND RECONNECTING LIGHTING. SEE SHEET H106 FOR FURTHER DETAILS.
8. ROUTE LIGHTING CONDUIT THROUGH NEW GIRDER PENETRATIONS PER DRAWINGS N100–N103. SEE DETAILS ON SHEET H106 FOR FURTHER INFORMATION REGARDING CONDUIT & WIRING CONNECTIONS.
9. NEW CONDUIT SHALL ROUTE THROUGH EXISTING GIRDER PENETRATION.
10. LOCATE AND PROTECT BURIED UTILITY, SEE ELECTRICAL NOTE 2 ON SHEET H101.

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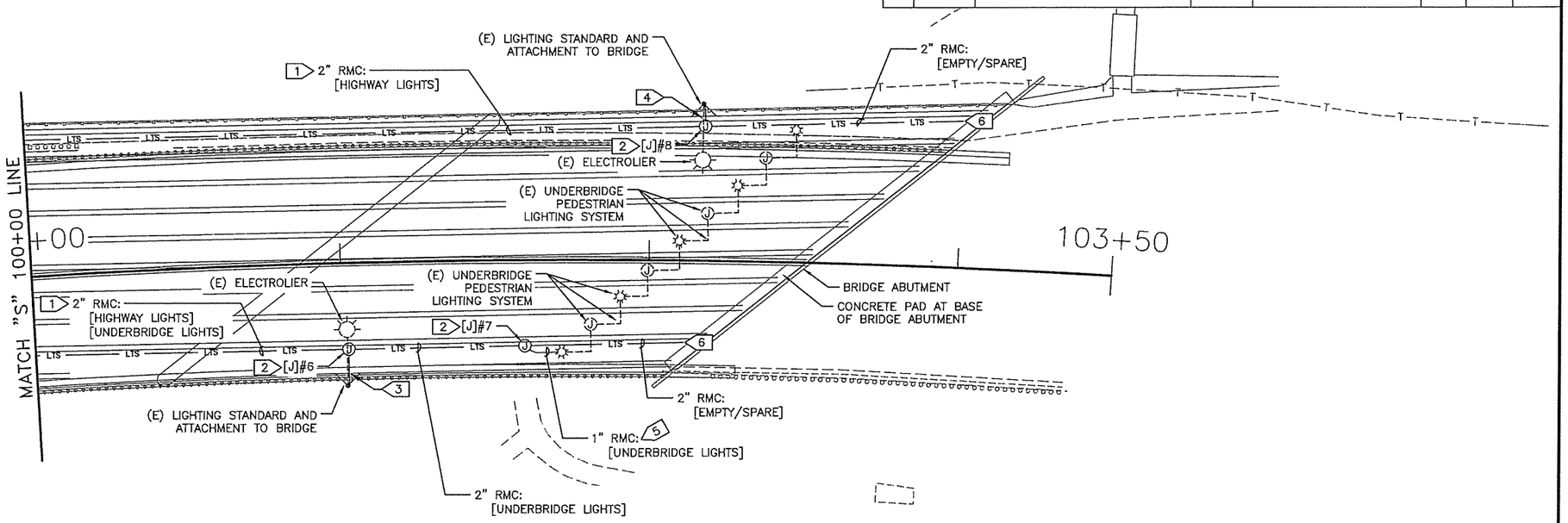
Elizabeth T.B. Johnston
09-Sep-2021
No. EE-12945
REGISTERED PROFESSIONAL ENGINEER

LIGHTING RENOVATION
1 OF 2

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	H105	H107



LIGHTING SYSTEM RENOVATION – PLAN VIEW

[⊢——⊣ = 20']

SPECIFIC SHEET NOTES

1. RMC ATTACHED TO BRIDGE GIRDERS SHALL BE MADE UP WITH THREADED COUPLINGS. SEE DRAWINGS N100–N103 FOR ATTACHING THE CONDUIT SUPPORT SYSTEM TO THE BRIDGE GIRDERS.
2. PROVIDE NEW NEMA 3R PULL BOX UNDER BRIDGE, ATTACHED TO CONDUIT SUPPORT SYSTEM FOR PULLING BRANCH CIRCUITS AND RECONNECTING LIGHTING. SEE SHEET H106 FOR FURTHER DETAILS.
3. ROUTE LIGHTING CONDUIT THROUGH NEW GIRDER PENETRATIONS PER DRAWINGS N100–N103. SEE DETAILS ON SHEET H106 FOR FURTHER INFORMATION REGARDING CONDUIT & WIRING CONNECTIONS.
4. NEW CONDUIT SHALL ROUTE THROUGH EXISTING GIRDER PENETRATION.
5. SURFACE MOUNT 1" RMC AND ATTACH DIRECTLY TO UNDERSIDE OF BRIDGE DECK. RECONNECT POWER TO THE EXISTING TO REMAIN LIGHT FIXTURE. THE WIRING WITHIN THE 1" RMC, FROM THE NEMA 3R JUNCTION BOX UP TO THE FIXTURE, MAY BE (2) #10 AWG, XHHW, WITH #10 GND. VERIFY POWER AT THE FIRST FIXTURE.
6. HIGHWAY LIGHTING CIRCUIT ENDS AT PREVIOUS ELECTROLIER. REGARDLESS, THE CONDUIT SHALL BE EXTENDED TO THE END OF THE BRIDGE NEAR THE ABUTMENT WALL. PROVIDE PULL ROPE FROM END OF CONDUIT TO NEAREST PULL POINT. SEAL AND CAP END OF CONDUIT. THE EMPTY CONDUIT SHALL BE SUPPORTED PER DRAWINGS N100–N103.

LIGHTING RENOVATION
2 OF 2

STATE OF ALASKA 49TH
Elizabeth T.R. Johnston
08-Sep-2021
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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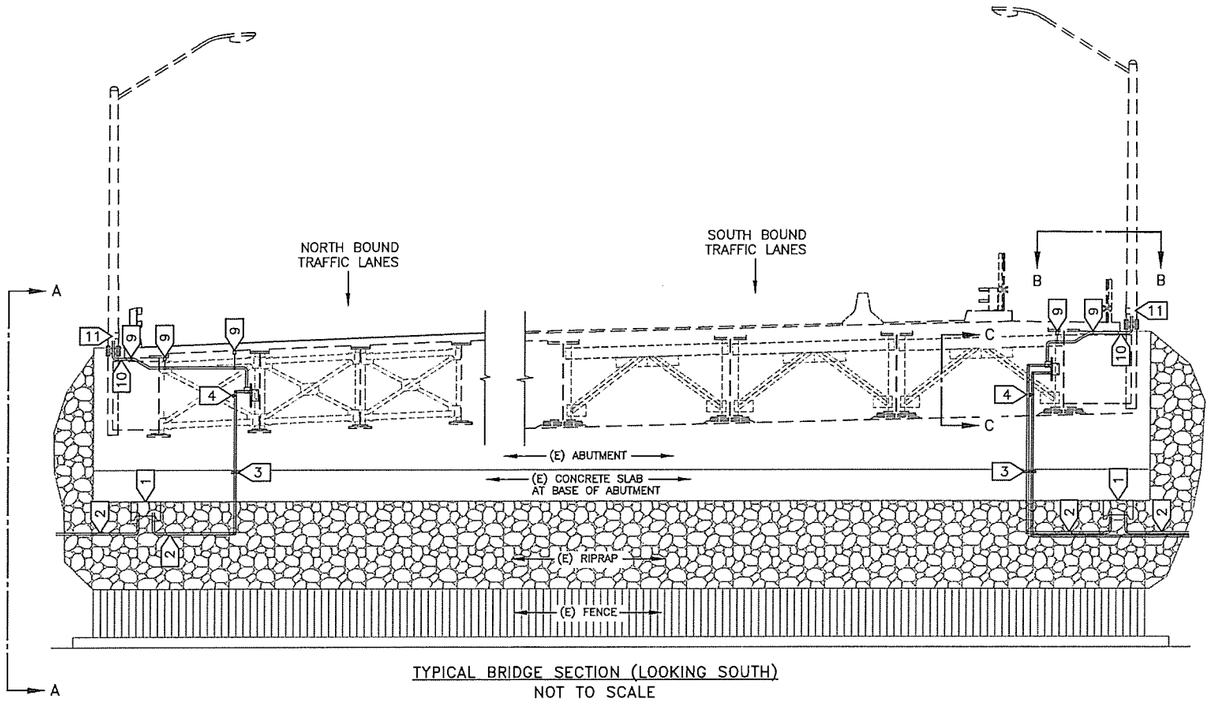


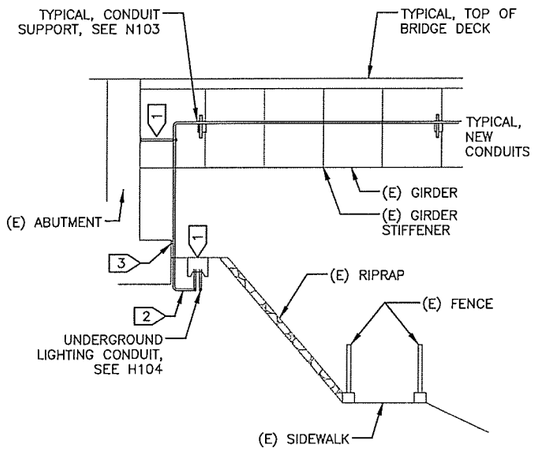
TYPICAL BRIDGE SECTION (LOOKING SOUTH)
NOT TO SCALE

GENERAL SHEET NOTES

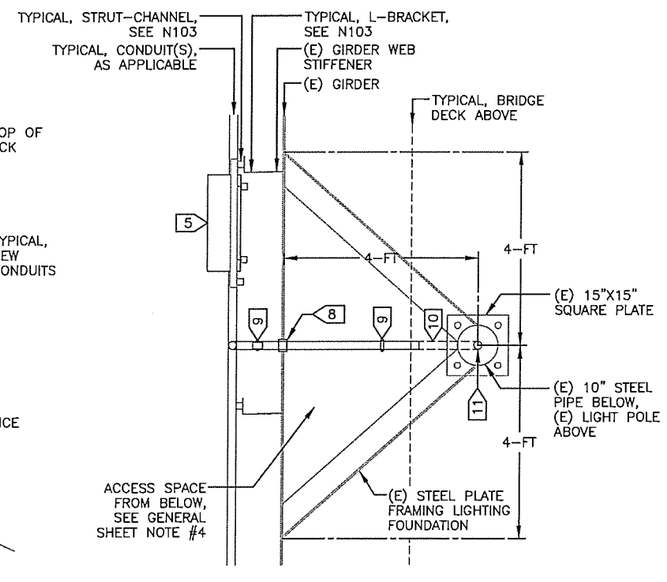
1. THE DETAILS ON THIS SHEET ARE NOT INTENDED TO ILLUSTRATE ALL INSTALLATION SCENARIOS, BUT ARE INTENDED TO SCHEMATICALLY SHOW PARTS OF THE OVERALL SYSTEM. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND MODIFY THESE DETAILS AS NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM THAT IS COMPLIANT WITH THE NEC.
2. SEE PLAN DRAWINGS H104 AND H105 FOR QUANTITIES AND ROUTING OF CONDUITS, QUANTITIES AND APPROXIMATE LOCATIONS OF JUNCTION BOXES, AND OTHER LIGHTING NOTES AS APPLICABLE.
3. SEE SHEETS N100 THROUGH N103 FOR CONDUIT SUPPORTING MATERIAL, TYPES, SIZES, RATINGS, AND FURTHER DETAILS.
4. IN ORDER TO COMPLETE THE CONDUIT MODIFICATIONS AT THE LIGHTING STANDARD FOUNDATION, THE WORK WILL HAVE TO COMPLETED FROM THE UNDERSIDE OF THE BRIDGE WITHIN THE TRIANGLE SPACE CREATED BY THE FOUNDATION ATTACHMENT FRAMING. THE CONTRACTOR SHALL PROVIDE A SAFE MEANS TO ACCESS THIS SPACE FROM BELOW TO COMPLETE THE WORK AT ALL LIGHTING FOUNDATION LOCATIONS.

SPECIFIC SHEET NOTES

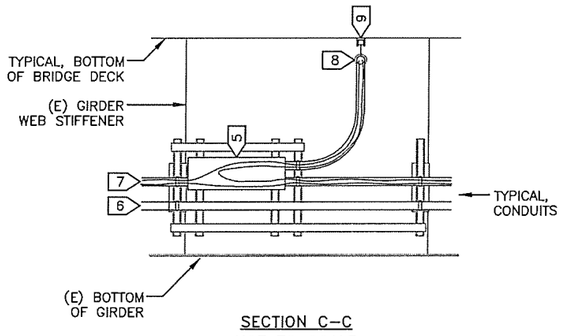
1. PER AVAILABLE ASBUILTS, A 3–FT FLAT AREA OF GRADE EXTENDS FROM THE CONCRETE SLAB AT THE BASE OF THE ABUTMENT. LOCATE NEW JUNCTION BOXES 1–FT FROM EDGE OF CONCRETE TO EDGE OF JUNCTION BOX.
2. TEMPORARILY REMOVE RIPRAP FOR TRENCHING CONDUITS. REINSTALL RIPRAP AFTER CONDUIT INSTALLATION. DO NOT REINSTALL RIPRAP DIRECTLY OVER JUNCTION BOX LIDS, BUT SPREAD AMONG ADJACENT AREA.
3. PROVIDE CHANNEL STRUT ATTACHED TO FACE OF CONCRETE SLAB AT BASE OF ABUTMENT FOR SUPPORTING CONDUIT. PROVIDE CONDUIT STRAP AND SECURE CONDUIT.
4. PROVIDE SINGLE OR DOUBLE CHANNEL STRUT STAND OFF ATTACHED TO FACE OF ABUTMENT FOR SUPPORTING CONDUIT. PROVIDE CONDUIT STRAP AND SECURE CONDUIT.
5. PROVIDE A NEMA 3R PULL BOX FOR CIRCUIT CONDUCTORS. THE DESIGN ANTICIPATES THE BOX WILL BE AN 8"X8"X24" ELECTRICAL GUTTER TO ACCOMMODATE A STRAIGHT PULL AND ANGLE PULL VIA THREE 2" CONDUITS. THE CONTRACTOR MAY RECONFIGURE THE CONDUITS AND TYPES OF PULLS, SO LONG AS THE BOX IS RESIZED TO MEET NEC ARTICLE 314 REQUIREMENTS.
6. THE SECOND, INTERCONNECT CONDUIT IS ONLY PRESENT ON THE WEST SIDE OF THE BRIDGE. SEE INTERCONNECT PROJECT DRAWINGS FOR FURTHER INFORMATION.
7. THE UNDERBRIDGE LIGHTING CIRCUIT CABLE SHALL BE ROUTED IN THE SAME CONDUIT AS THE HIGHWAY LIGHTING CIRCUIT. THE UNDERBRIDGE LIGHTING CIRCUIT IS ONLY PRESENT IN THE CONDUIT ON THE EAST SIDE OF THE BRIDGE.
8. SEE N100 SERIES SHEETS FOR LOCATIONS OF NEW GIRDER PENETRATIONS, OR FIELD VERIFY LOCATION OF EXISTING GIRDER PENETRATIONS. THE NEW LIGHTING CONDUIT SHALL BE CONFIGURED AND ROUTED THROUGH THE NEW OR EXISTING PENETRATION AS APPLICABLE.
9. PROVIDE CONDUIT SUPPORT STRAP OR HANGAR SUPPORT WITH CHANNEL STRUT AS NECESSARY TO SUPPORT THE CONDUIT FROM THE BOTTOM OF THE BRIDGE DECK. PROVIDE CONDUIT SUPPORTS AND SECURING AS REQUIRED BY NEC ARTICLE 344.
10. THE CONTRACTOR MAY INTERCEPT THE EXISTING CONDUIT AND/OR CONDUIT SWEEP AND RECONNECT VIA NEW CONDUIT. THE CONTRACTOR MAY ELECT TO REPLACE THE SWEEP AND STUB UP INTO LIGHT POLE IF IT PROVES EASIER TO COMPLETE THE WORK.
11. PROVIDE NEW DOUBLE FUSED, Y–TAP, QUICK DISCONNECT IN (E) LIGHT POLE HANDHOLE. RECONNECT (E) LUMINAIRE TAP CONDUCTORS TO LOAD SIDE OF QUICK DISCONNECT. NEW CABLING SHALL BE CONNECTED TO THE LINE SIDE OF THE QUICK DISCONNECTS. SEE "ELECTROLIER WIRING DETAIL".



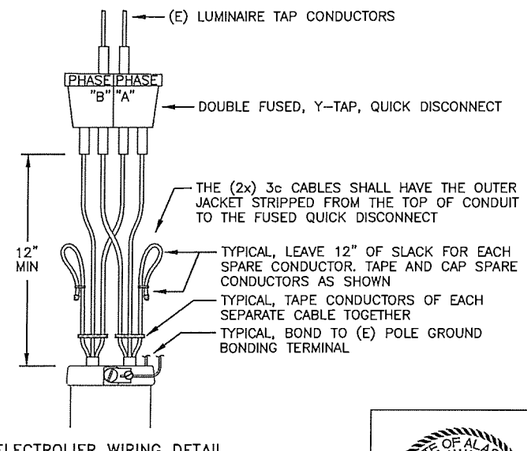
SECTION A–A
NOT TO SCALE



SECTION B–B
NOT TO SCALE



SECTION C–C
NOT TO SCALE



ELECTROLIER WIRING DETAIL
NOT TO SCALE

LIGHTING DETAILS

STATE OF ALASKA 49TH
Elizabeth T.K. Johnston
08-Sep-2021
No. EE12945
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PLANS DEVELOPED BY: DESIGN ALASKA, INC. AECC511, 601 COLLEGE ROAD, FAIRBANKS, AK 99701 (907)452-1241
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NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
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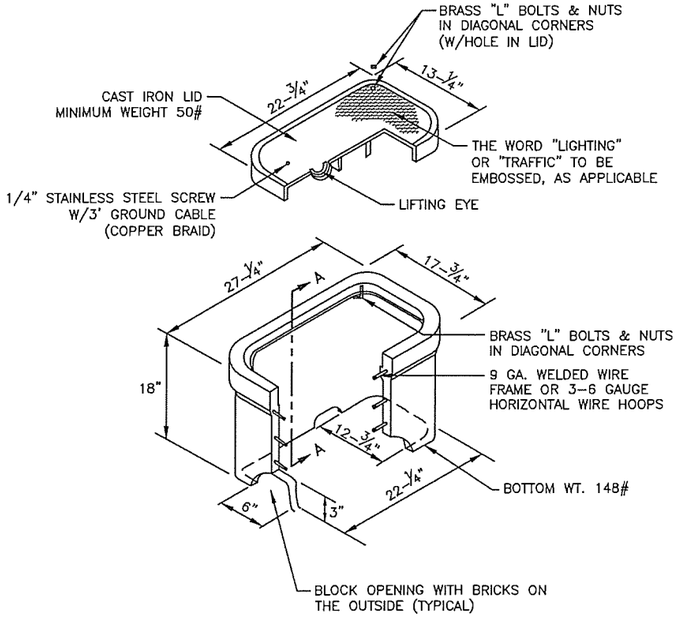
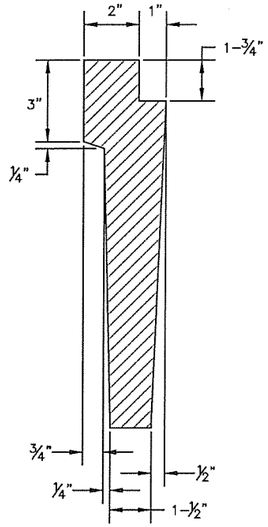
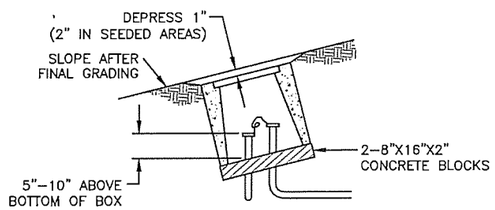




SECTION A-A

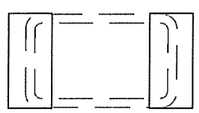
TYPE 1A JUNCTION BOX DETAIL

NOT TO SCALE



TYPE 1A J-BOX INSTALLATION ON SLOPE

NOT TO SCALE



TYPE 1A JUNCTION BOX BASE DETAIL

NOT TO SCALE

GENERAL SHEET NOTES

1. THIS SHEET MODIFIES SPECIFIC DETAILS OF STANDARD PLAN L-23.02. REMAINING ITEMS SHOWN ON THE STANDARD PLAN ARE UNMODIFIED AND STILL APPLICABLE.

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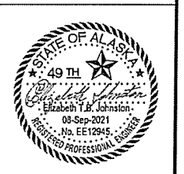

JUNCTION BOX DETAILS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K1	K7

GENERAL NOTES:

1. REMOVE EXISTING PIEZOELECTRIC SENSORS, PRESENCE LOOPS, TEMPERATURE SENSORS, JUNCTION BOXES, CONDUITS, AND WIRING.
2. EQUIPMENT IN THE EXISTING TRAFFIC CABINET INCLUDING DATA EQUIPMENT CABLES AND AMBIENT AIR TEMPERATURE SENSOR ARE SCHEDULED FOR REPLACEMENT AND SHALL BE SALVAGED AND DELIVERED TO DOT&PF MAINTENANCE YARD 2301 PEGER ROAD, FAIRBANKS, AK 99709. COORDINATE EQUIPMENT DROP OFF WITH THE SIGNALS SHOP, CALL (907) 451-5279.
3. SEE NOTE 1 AND 6 ON SHEET K7 FOR THE EXISTING TRAFFIC CABINET EQUIPMENT SCHEDULED TO REMAIN.
4. FURNISH AND INSTALL NEW CABINET HARDWARE INCLUDING TERMINAL BLOCKS AND ALL OTHER NECESSARY ELECTRICAL COMPONENTS, REFER TO SECTION 669 OF THE PROJECT SPECIFICATION, TRAFFIC CABINET EQUIPMENT SCHEDULE, AND DETAILS ON SHEET K7.
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. UNLESS NOTED OTHERWISE, REMOVE AND DISPOSE OF ALL EXISTING CURB AND GUTTER WITHIN THE CONDUIT CROSSING AREAS BACK TO THE NEAREST CONSTRUCTION JOINT. RECONSTRUCT CURB AND GUTTER IN ACCORDANCE WITH DETAILS ON THE E-SHEETS.
7. COORDINATE AND PROVIDE CELLULAR SERVICE TO THE SITE AS REQUIRED.
8. 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.
9. PROVIDE AS-BUILT PLANS, REFER TO SUBSECTION 669-1.04 OF THE PROJECT SPECIFICATION.

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.

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 PIEZOELECTRIC SENSORS	AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS
1	139205041252	91+48.0	60.0' LT	EXISTING, SEE GENERAL NOTES 2, 3, & 4	EXISTING, SEE GENERAL NOTE 3	3	4	8	8	YES

TRAFFIC CABINET EQUIPMENT SCHEDULE
(SEE GENERAL NOTES 2, 3, & 4 AND DETAILS ON SHEET K7 FOR ADDITIONAL HARDWARE NOT LISTED IN THIS SCHEDULE)

INSTALL AMBIENT AIR AND PAVEMENT TEMPERATURE SENSORS	FURNISH DATA LOGGER	INSTALL TELEPHONE SERVICE	INSTALL CELLULAR MODEM WITH EXTERNAL ANTENNA, INCLUDE TWO (2) 6-9-INCH DIPOLE ANTENNA AS SPARES	INSTALL REMOTELY CONTROLLABLE SERIAL SWITCH	INSTALL SERVICE PANELBOARD WITH TRANSIENT VOLTAGE SURGE PROTECTION	INSTALL RECEPTACLES AND PLUG STRIP RECEPTACLES	INSTALL INTERIOR LED LIGHT	INSTALL COOLING FAN	INSTALL HEATER	INSTALL THERMOSTAT	INSTALL INTERIOR POWER CIRCUITS	INSTALL TERMINAL BLOCK	INSTALL AVC COUNTER
YES	YES	NO	YES	YES	EXISTING	EXISTING	YES	YES	YES	YES	YES	YES	YES

LABELS:

1. ALL CABLES SHALL BE LABELED AT BOTH ENDS AND AT EVERY JUNCTION BOX THROUGH WHICH THE CABLES PASS, PER SPECIFICATION SECTION 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:

A	B		B	A
↓	↓		↑	↑

   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 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

IC2LA INDUCTIVE LOOP SENSOR

STATE OF ALASKA 49TH ZAID SAHER HUSSEIN No. CE14683 REGISTERED PROFESSIONAL ENGINEER

AUTOMATIC VEHICLE CLASSIFICATION COUNTER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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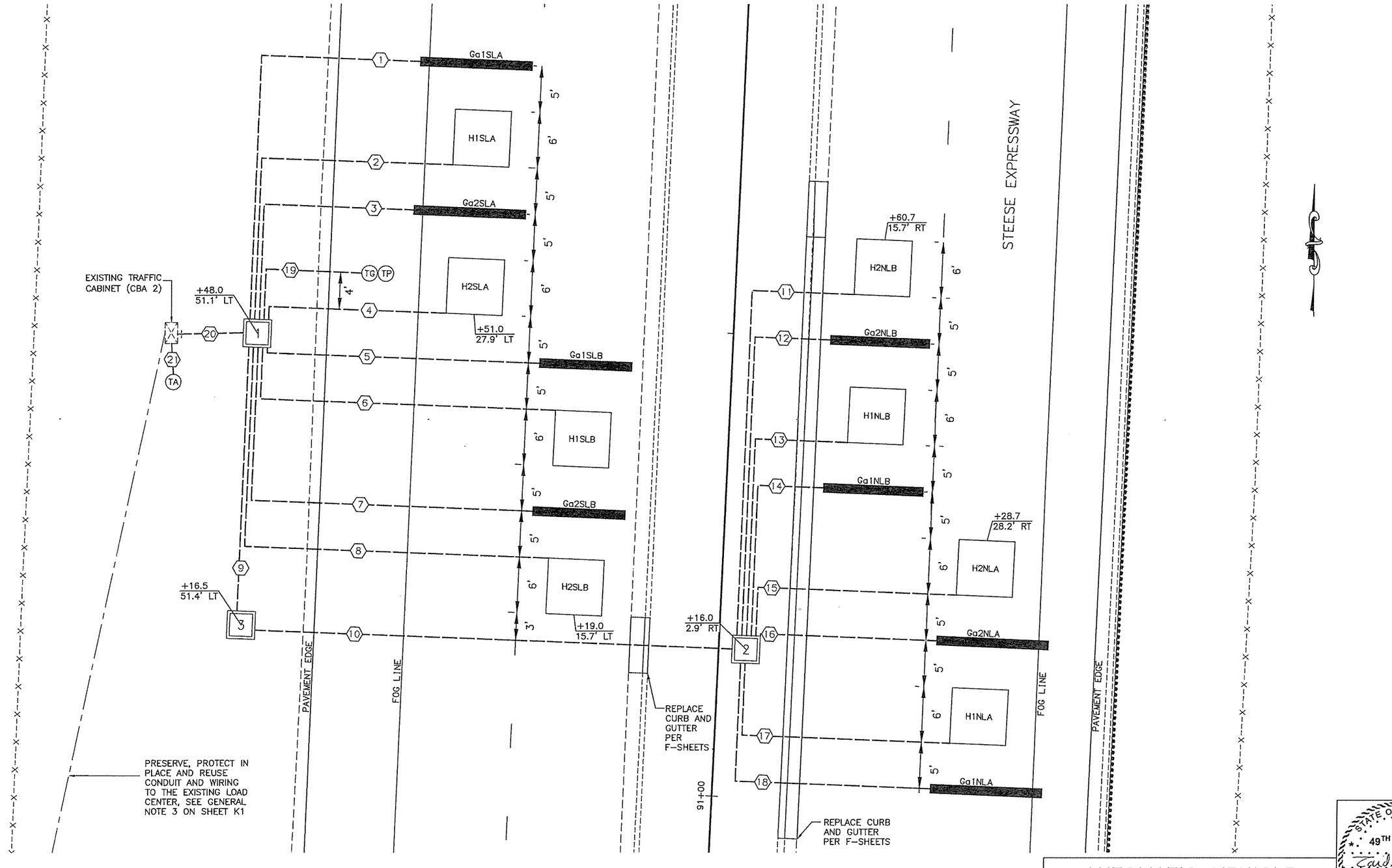
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K2	K7



AVC SITE 1
1":5' SCALE

AUTOMATIC VEHICLE CLASSIFICATION COUNTER

STATE OF ALASKA
49TH
ZAID SAHER HUSSEIN
No. CE14683
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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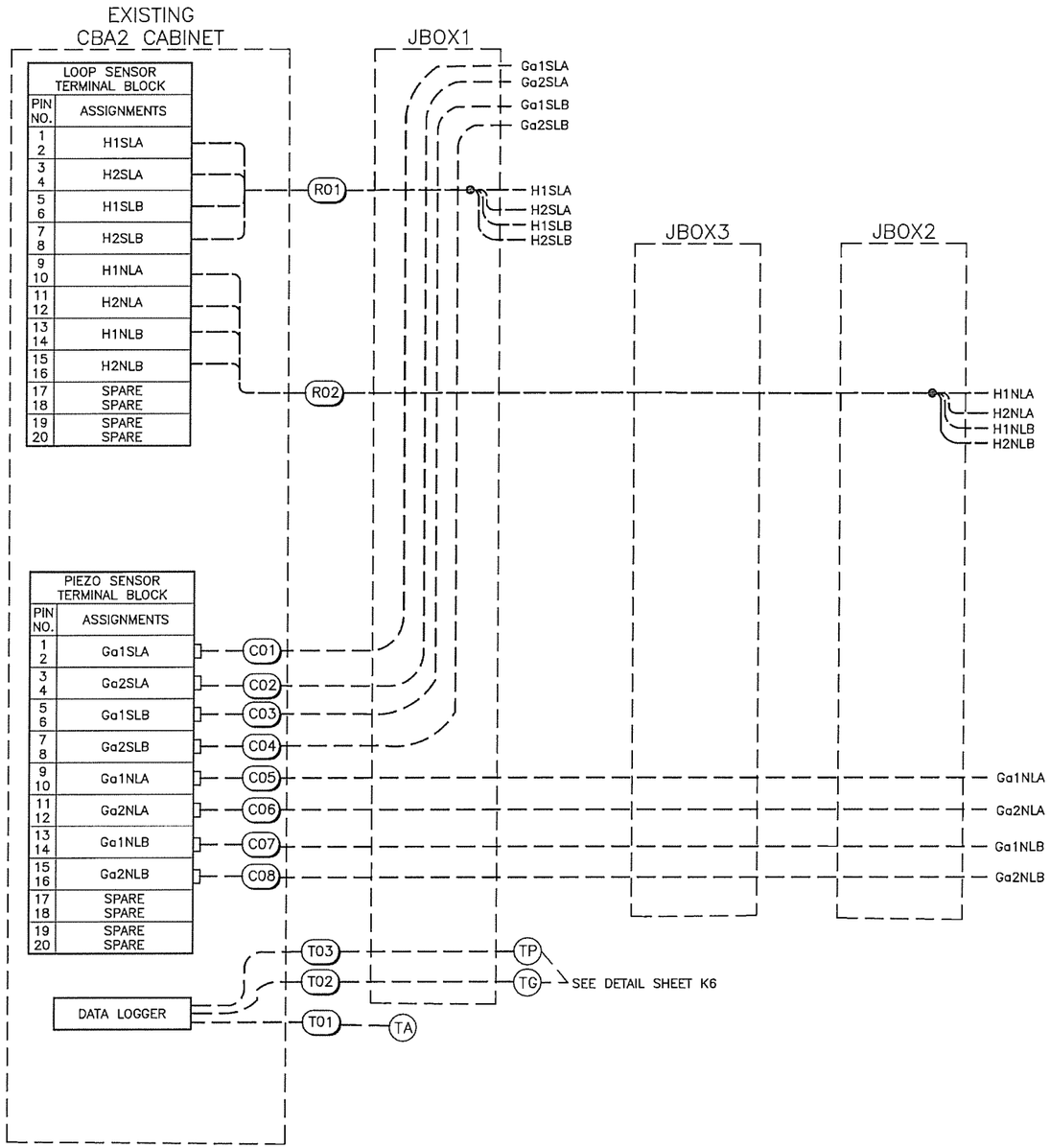
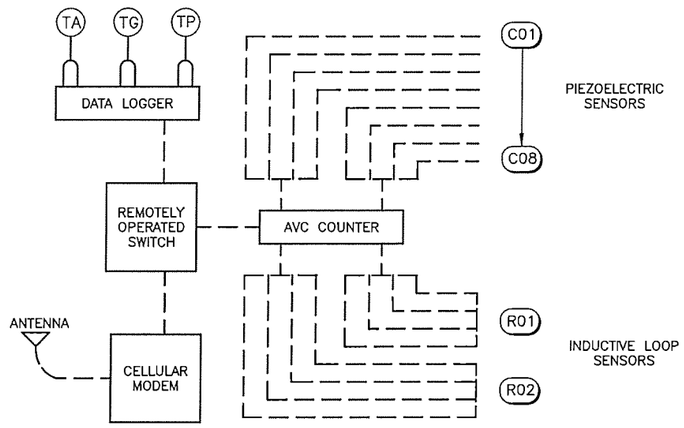
			ALASKA	0651033/NFHWY00421	2021	K3	K7



WIRING DIAGRAM
NTS

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT #	CONDUIT QTY	CONDUIT SIZE (INCHES)	FROM	TO	CABLE QTY	CABLE TYPE	CABLE NUMBER
1	1	1	JBOX1	Ga1SLA	1	RG58 COAX	C01
2	1	1	JBOX1	H1SLA	1	1 PR#14	
3	1	1	JBOX1	Ga2SLA	1	RG58 COAX	C02
4	1	1	JBOX1	H2SLA	1	1 PR#14	
5	1	1	JBOX1	Ga1SLB	1	RG58 COAX	C03
6	1	1	JBOX1	H1SLB	1	1 PR#14	
7	1	1	JBOX1	Ga2SLB	1	RG58 COAX	C04
8	1	1	JBOX1	H2SLB	1	1 PR#14	
9	1	2	JBOX1	JBOX3	4	RG58 COAX	C05–C08
					1	6 PR#18	R02
	1	2			SPARE	SPARE	
10	1	2	JBOX3	JBOX2	4	RG58 COAX	C05–C08
					1	6 PR#18	R02
	1	2			SPARE	SPARE	
11	1	1	JBOX2	H2NLB	1	1 PR#14	
12	1	1	JBOX2	Ga2NLB	1	RG58 COAX	C08
13	1	1	JBOX2	H1NLB	1	1 PR#14	
14	1	1	JBOX2	Ga1NLB	1	RG58 COAX	C07
15	1	1	JBOX2	H2NLA	1	1 PR#14	
16	1	1	JBOX2	Ga2NLA	1	RG58 COAX	C06
17	1	1	JBOX2	H1NLA	1	1 PR#14	
18	1	1	JBOX2	Ga1NLA	1	RG58 COAX	C05
19	1	1	JBOX1	TG,TP	1	2 C#14	T02
					1	2 C#14	T03
20	2	2	CBA2	JBOX1	8	RG58 COAX	C01–C08
					2	6 PR#18	R01,R02
	1	2			SPARE	SPARE	
21	1	1	CBA2	TA	1	2 C#14	T01



DATA/COMMUNICATION CIRCUITS
NTS

WIRING DIAGRAM

STATE OF ALASKA 49TH
ZAID SAHER HUSSEIN
No. CE14663
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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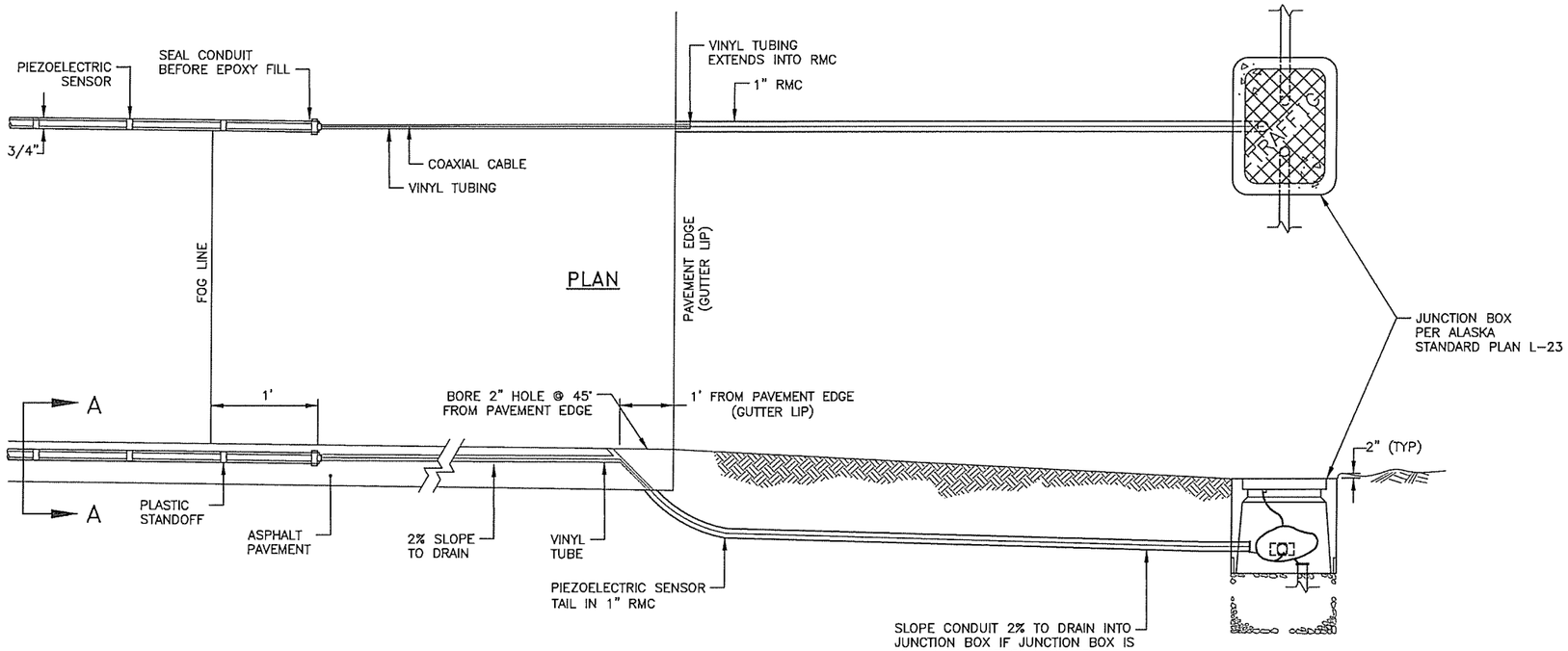
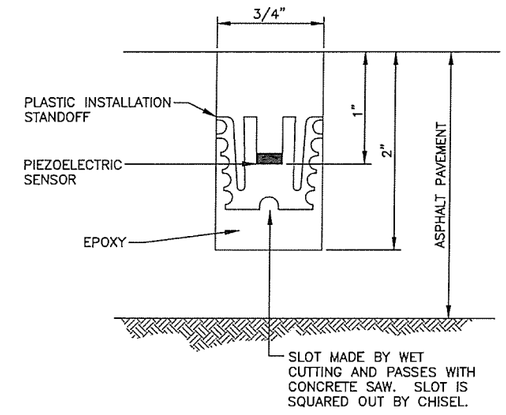
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K4	K7



PROFILE
SHOULDER SECTION

PIEZOELECTRIC SENSOR INSTALLATION DETAILS
NTS



SECTION A-A
NTS

SENSOR LAYOUT NOTES:

1. INTERIOR LANE PIEZOELECTRIC SENSORS: PLACE IN THE CENTER OF THE LANE WITH EACH END EXTENDED ONE FOOT FROM THE LANE LINE OR GUTTER LIP.
2. SHOULDER LANE PIEZOELECTRIC SENSORS: PLACE IN THE CENTER OF THE LANE WITH ONE END EXTENDED ONE FOOT BEYOND THE SHOULDER LINE (FOG LINE).
3. 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.

STATE OF ALASKA 49TH
ZAID SAHER HUSSEIN
No. CE14683
REGISTERED PROFESSIONAL ENGINEER

PIEZOELECTRIC SENSOR DETAILS

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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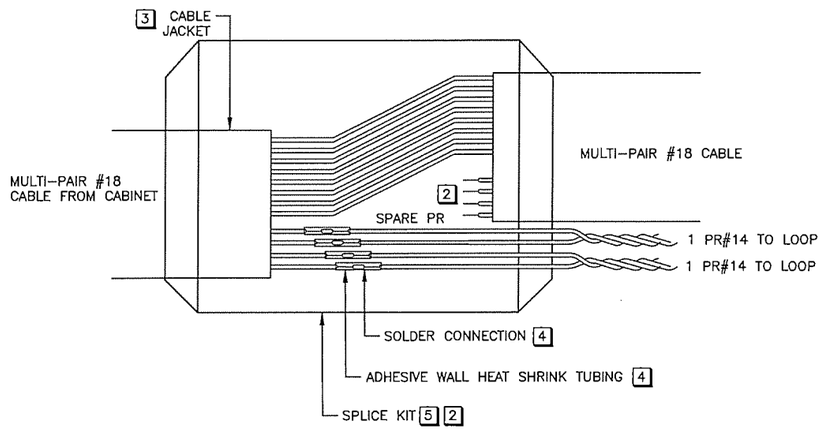
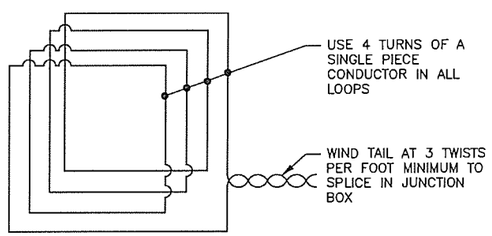
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K5	K7

SPLICE NOTES:

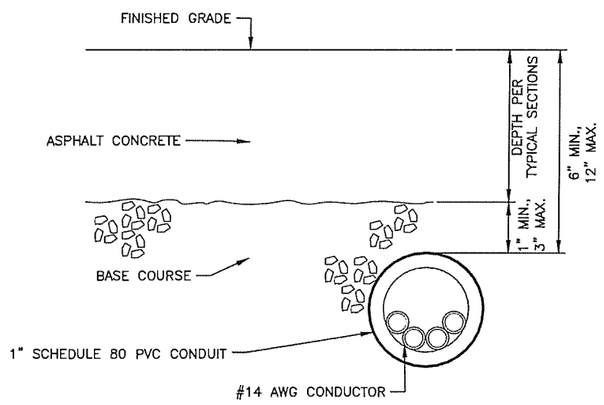
1. SCHEMATIC SKETCH SHOWS AN EXAMPLE OF TWO PAIRS USED WITH ONE SPARE.
2. TERMINATE ALL SPARES WITHIN THE SPLICE BODY.
3. SPLICE BODY TO ENCLOSE ALL CABLE JACKETS.
4. STAGGER SPLICE POINTS. SOLDER CONNECTIONS, ENCLOSE EXPOSED CONDUCTORS IN ADHESIVE WALL HEAT SHRINK TUBING. DO NOT USE COMPRESSION CONNECTORS. 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



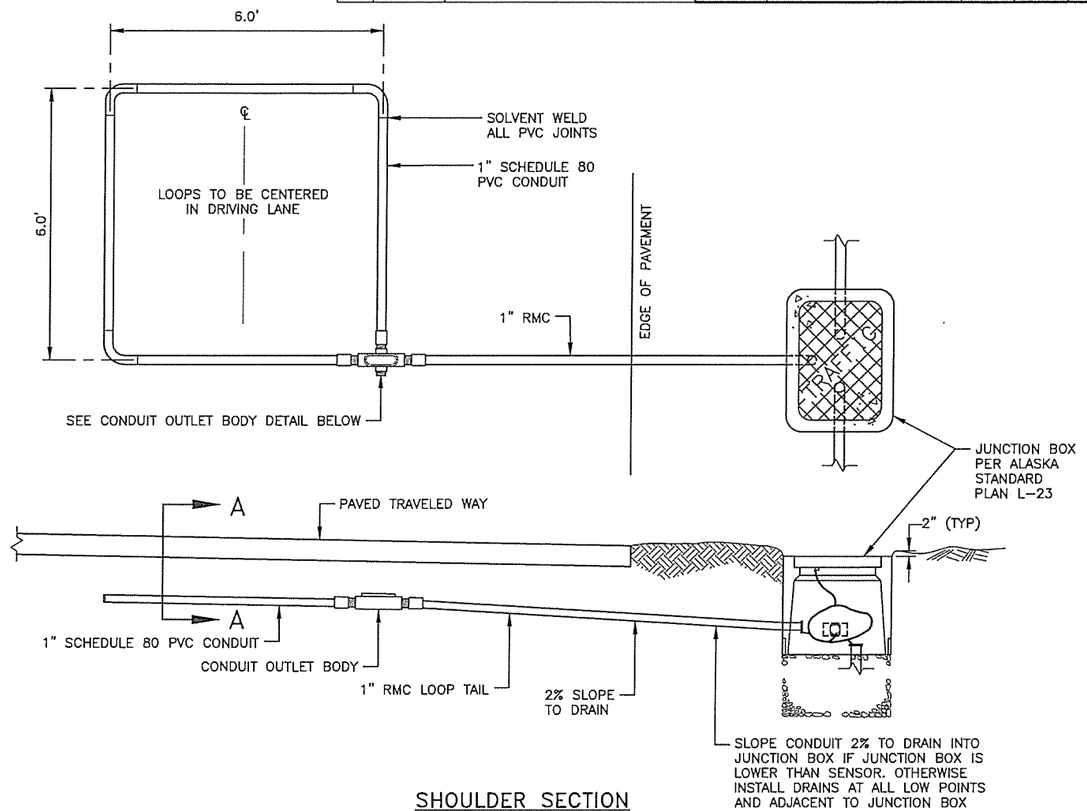
LOOP WIRING DETAIL
NTS



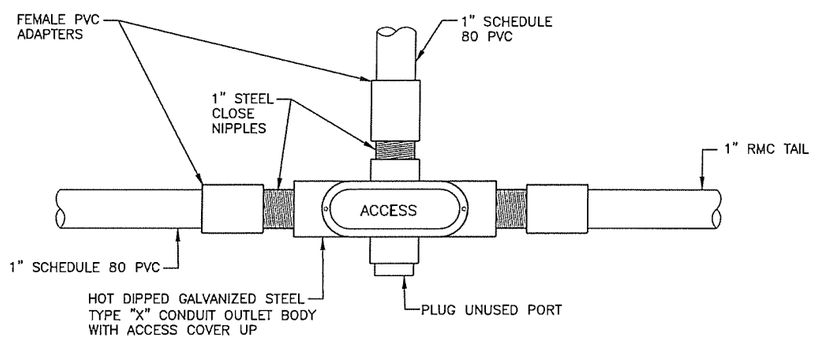
SECTION A–A

INDUCTIVE LOOP NOTES:

1. ALL INDUCTIVE LOOPS SHALL BE WOUND IN THE SAME DIRECTION WITH THE STARTING LEAD MARKED "S" PER SECTION 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.



SHOULDER SECTION
NTS



CONDUIT OUTLET BODY DETAIL
NTS

SPLICE AND PRESENCE LOOP DETAILS

STATE OF ALASKA 49TH
ZAID SAHER HUSSEIN
No. CE14683
REGISTERED PROFESSIONAL ENGINEER

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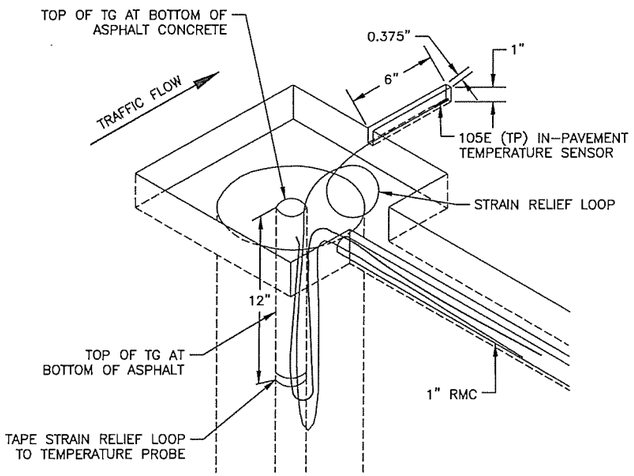
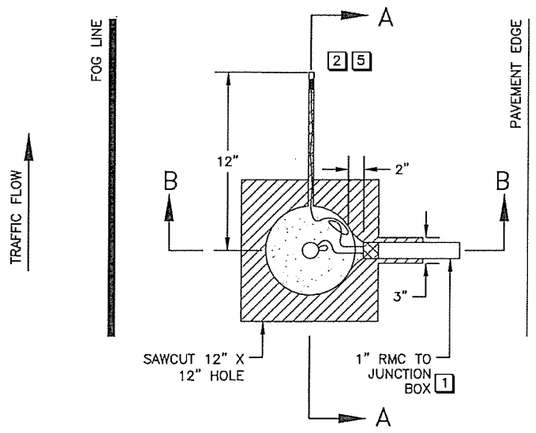
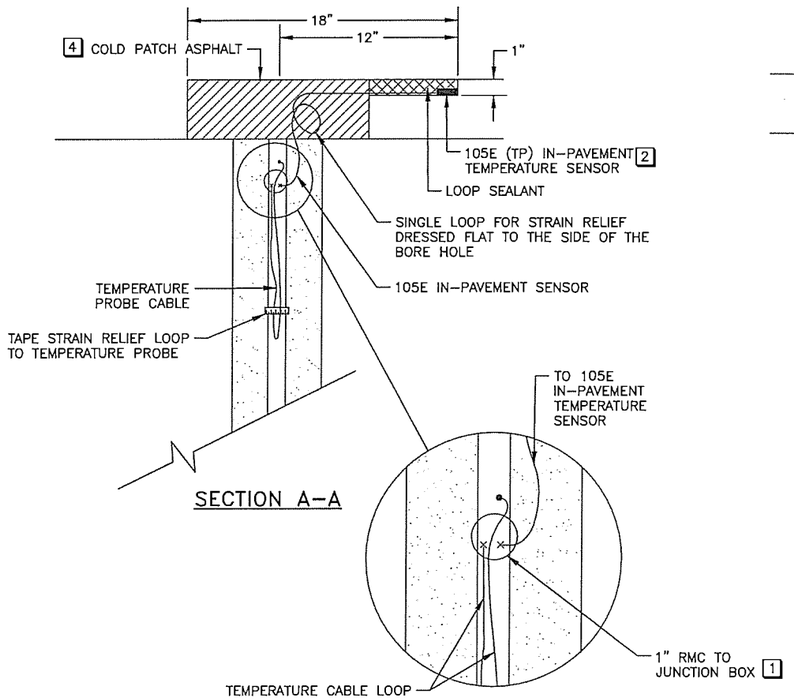


ISOMETRIC VIEW

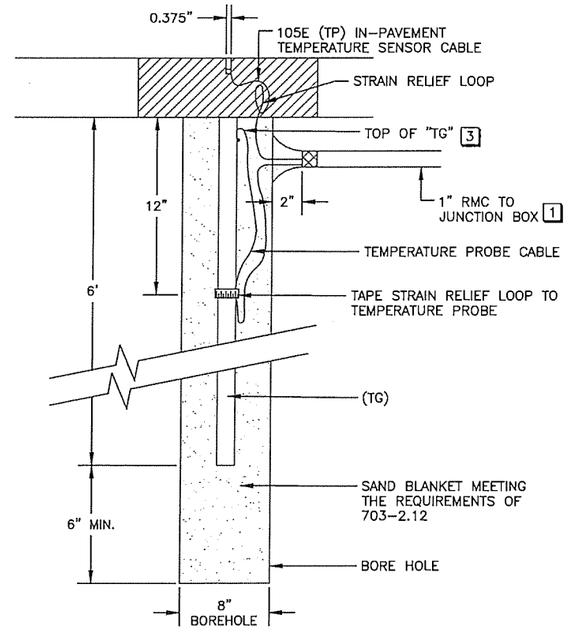
NTS



PLAN VIEW – GROUND TEMPERATURE PROBES



SECTION A–A



SECTION B–B

GROUND TEMPERATURE SENSOR DETAILS

NTS

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K6	K7

NOTES:

1. SEAL END OF CONDUIT WITH LOOP SEALANT AS APPROVED BY THE ENGINEER.
2. SLOT FOR IN-PAVEMENT SENSORS SHALL BE PARALLEL TO THE DIRECTION OF TRAVELED WAY.
3. INSTALL TOP OF GROUND TEMPERATURE PROBE (TG) IMMEDIATELY UNDERNEATH BOTTOM OF BOUND LAYER.
4. DO NOT HEAT COLD PATCH ASPHALT WITH FLAME DIRECTLY ABOVE TEMPERATURE SENSORS. HEAT COLD PATCH OFF TO THE SIDE OF BOREHOLE THEN GENTLY SHOVEL IT INTO PLACE. DIRECT FLAMES WILL DAMAGE THE SENSORS.
5. CENTER GROUND TEMPERATURE PROBE IN SHOULDER PAVEMENT. RUN TEMPERATURE PAVEMENT SENSOR CABLE UN-SPLICED TO THE CABINET FOR CONNECTION TO THE DATA LOGGER AND PROVIDE A MINIMUM OF 6-FOOT OF SLACK IN THE CABINET.
6. AMBIENT AIR TEMPERATURE SENSOR (TA) AND RADIATION SHIELD MOUNTING IS SHOWN ON SHEET K7.

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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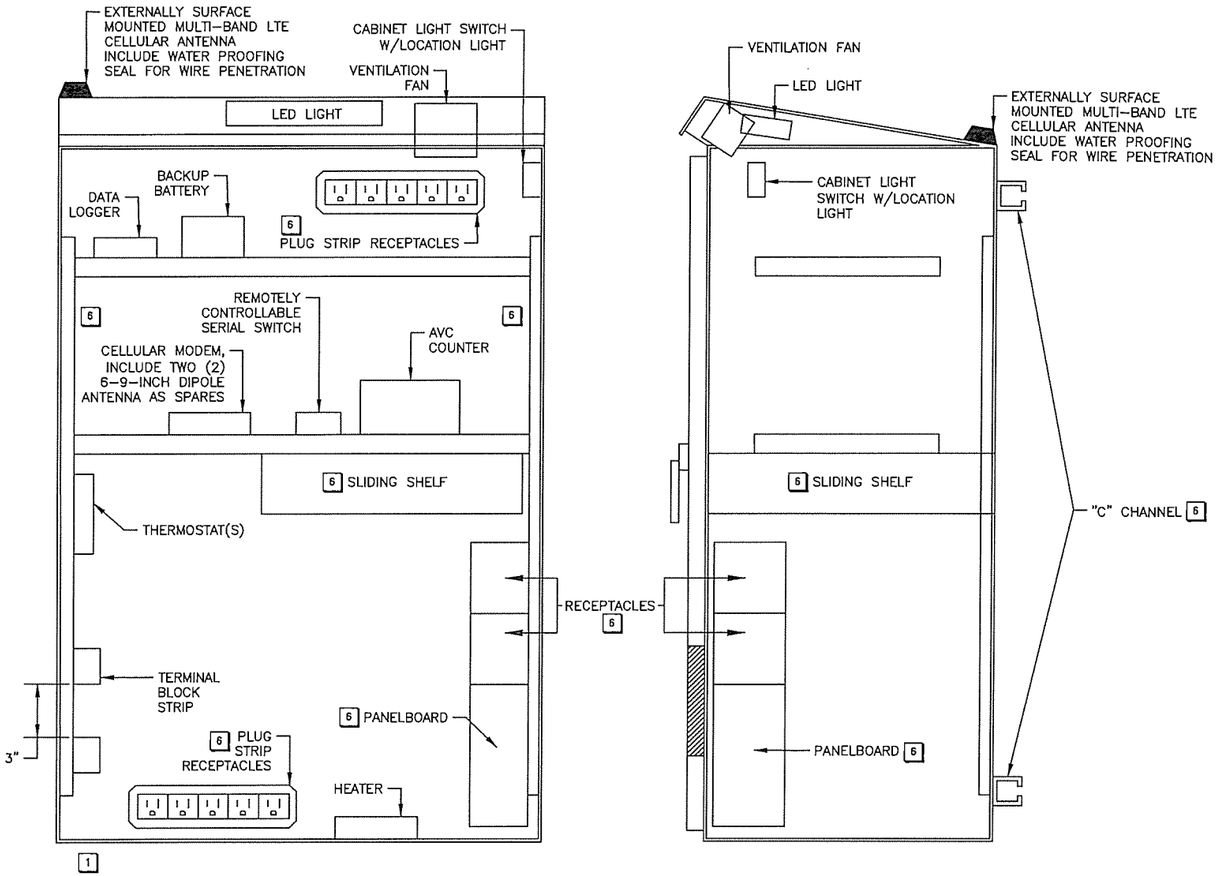
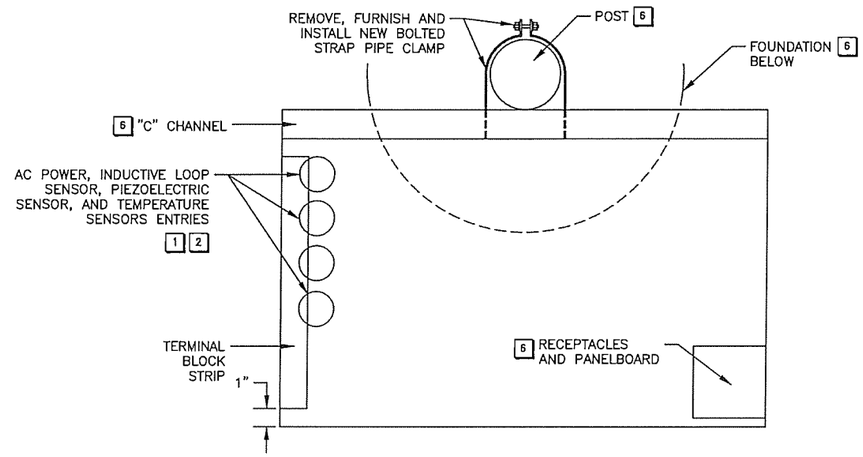
STATE OF ALASKA 49TH
ZAID SAHER HUSSEIN
No. CE14683
REGISTERED PROFESSIONAL ENGINEER

TEMPERATURE SENSOR DETAILS

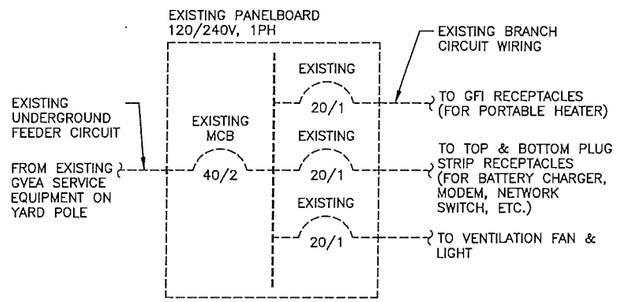
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	K7	K7



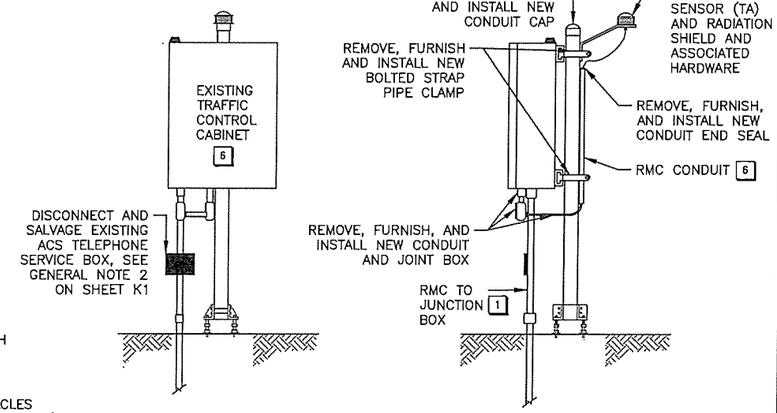
CABINET INTERIOR DETAILS
NTS



CABINET TOP VIEW
NTS



EXISTING PANELBOARD SINGLE LINE DIAGRAM
NTS



FRONT ELEVATION

SIDE ELEVATION

CABINET ENCLOSURE
NTS

NOTES:

1. NOT ALL CONDUITS SHOWN IN DETAIL. PRESERVE, PROTECT IN PLACE, AND REUSE THE EXISTING CONDUIT FOR AC POWER ENTRY. REPLACE CONDUITS ENTRIES FOR INDUCTIVE LOOP SENSORS, PIEZOELECTRIC SENSORS, AND TEMPERATURE SENSORS.
2. USE CONDUIT HUBS IN BOTTOM OF CABINET. USE TYPE CHT WITH NEOPRENE SEAL AND INSULATED THROAT FOR NON-POWER CONDUITS.
3. ALL 120V WIRING, INCLUDING THAT FOR PANELBOARD, LIGHT, FAN, AND THERMOSTATS TO BE IN FLEXIBLE METAL CONDUIT WITH EXCEPTION OF CORD CONNECTED ELECTRONIC EQUIPMENT.
4. ALL EQUIPMENT INSIDE CABINET TO BE FASTENED TO RAILS WITH NO SCREW PENETRATIONS OF THE CABINET SURFACE.
5. ALL CONDUIT SHALL BE RMC UNLESS NOTED OTHERWISE.
6. SCHEDULED TO REMAIN, PRESERVE AND PROTECT IN PLACE INCLUDING THE CBA2 CABINET, CABINET FOUNDATION AND POST, "C" CHANNEL, SIDE RAILS, SHELVES, RECEPTACLES, PANELBOARD, PLUG STRIP RECEPTACLES, ALL INTERIOR INSULATION, AND EXISTING ELECTRIC FEEDER FROM THE LOAD CENTER.
7. PANELBOARD SINGLE LINE DIAGRAM NOTES:
   - 7.1. THIS DETAIL WAS DEVELOPED VIA LIMITED FIELD INSPECTION AND IS ONLY SHOWN FOR REFERENCE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING PANELBOARD CONNECTIONS PRIOR TO BEGINNING WORK. IN GENERAL, THE PANELBOARD BRANCH CIRCUIT CONFIGURATION IS EXISTING TO REMAIN.
   - 7.2. SOME ITEMS WILL BE REPLACED WITH NEW IN THEIR EXISTING LOCATIONS. SEE "CABINET INTERIOR DETAILS" FOR FURTHER INFORMATION. THE CONTRACTOR SHALL MODIFY THE EXISTING BRANCH CIRCUIT WIRING AS NECESSARY TO ACCOMMODATE RECONNECTION OF NEW EQUIPMENT. ANY NEW SEGMENTS OF BRANCH CIRCUIT WIRING SHALL BE MINIMUM #12 AWG, XHHW-2, COPPER.
   - 7.3. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION, IF ANY WIRING OR DEVICES SCHEDULED TO REMAIN ARE NOT CODE COMPLIANT OR ARE OTHERWISE NOT SUITABLE FOR REUSE, ALSO REFER TO SUBSECTION 669-2.02 OF THE PROJECT SPECIFICATION.

EXISTING CBA2 CABINET DETAILS

STATE OF ALASKA 49TH
ZAID SAHER HUSSEIN
No. CE14683
REGISTERED PROFESSIONAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
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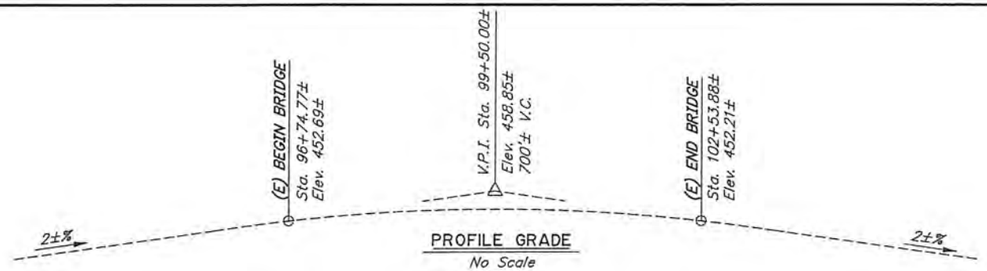
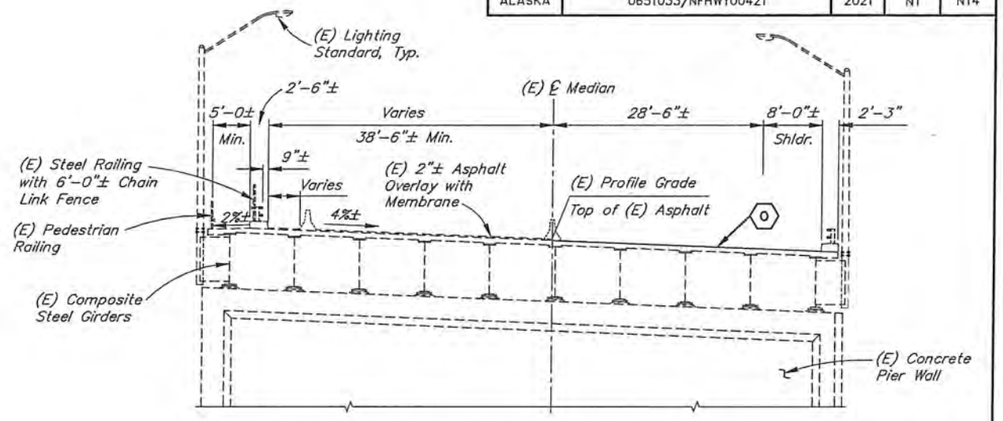
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N1	N14



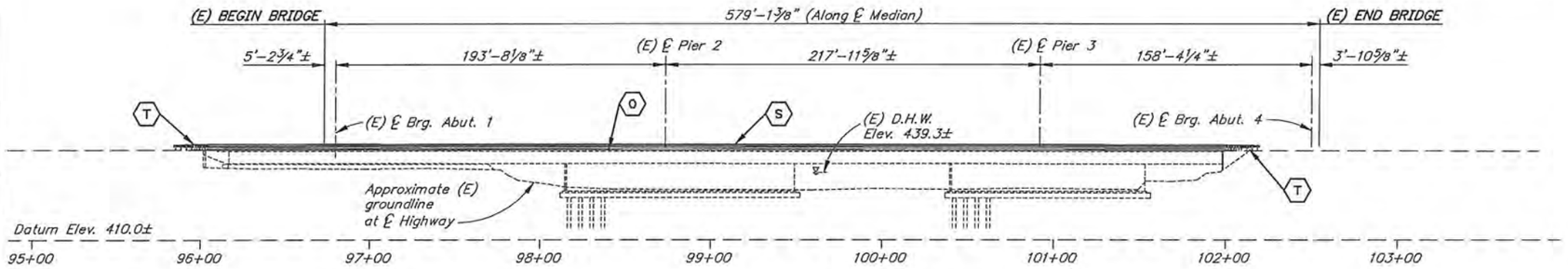
PROFILE GRADE

No Scale



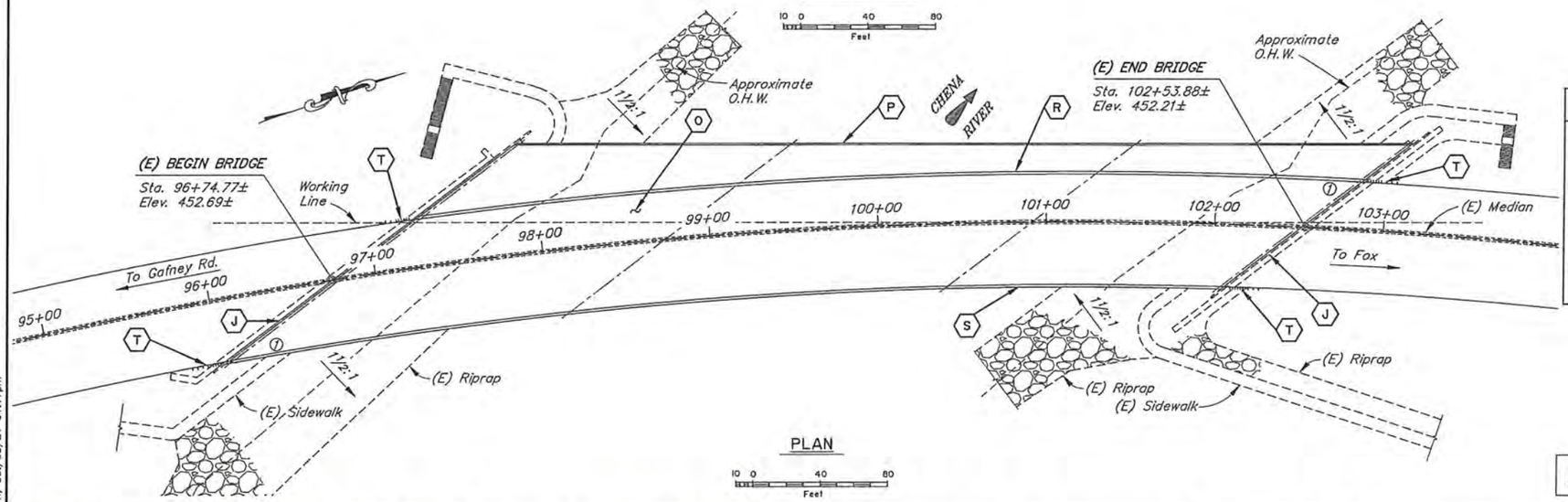
EXISTING TYPICAL SECTION

10 5 0 10 20
Feet



ELEVATION

10 0 40 80
Feet



PLAN

10 0 40 80
Feet

BRIDGE DRAWING INDEX

LEGEND

- (J) – Replace Expansion Joint
- (O) – Place Polyester Concrete Overlay
- (P) – Replace Pedestrian Railing
- (R) – Relace Steel Bridge Railing, 3–Tube
- (S) – Replace Steel Bridge Railing, 2–Tube
- (T) – Replace Transition Rail

(E) MEDIAN CURVE DATA

Δ = 33°54'41"
D = 2°00' Rt.
T = 873.43'
L = 1695.57'
R = 2864.79'

REHABILITATION

NOTES:

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

Bridge elevations and stations are based on 1977 as–built drawings.

For project stations and elevations, see roadway sheets.

Verify controlling field dimensions before ordering or fabricating any material.

⑦ Approximate location of Bridge Number Plate.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	LAYOUT BY: Jesse Escamilla III	CHECKED BY: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III	SPECIFICATIONS BY: Jesse Escamilla III	P S & E COMPARED: Ben Fetterhoff
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	APPROVAL RECOMMENDED BY: Rich Pratt	

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

STATE OF ALASKA – Jesse Escamilla III – 10-06-2021 – SE# 12554? – REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

GENERAL LAYOUT

BRIDGE NO. 231

DWG. NO. 1

R:\Leaf\231\231 Rehab-1 Fri, Oct/08/21 01:17pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N2	N14

ESTIMATE OF QUANTITIES

ITEM NO.	ITEM	PAY UNIT	ESTIMATING UNIT	SUBST.	SUPERST.	TOTAL QUANTITY
501.0001.0000	Class A Concrete	LS	CY	11.9	---	11.9
503.0002.0000	Epoxy-Coated Reinforcing Steel	LS	LBS	4,365	---	4,365
503.0003.0000	Drill and Bond Dowels	EA	EA	48	---	48
507.2000.0000	Steel Bridge Railing Replacement, 2-Tube	LF	LF	---	637	637
507.2000.0000	Steel Bridge Railing Replacement, 3-Tube	LF	LF	---	604	604
507.2000.0000	Steel Bridge Railing Replacement, Pedestrian	LF	LF	---	543	543
510.0001.0000	Removal of Concrete Bridge Deck	SF	SF	---	49,548	49,548
510.2001.0000	Bridge Deck Repair	CS	CS	---	All Req'd	All Req'd
516.0001.0004	Expansion Joint, Precompressed Silicone Coated	LF	LF	---	360	360
525.2001.0000	Polyester Concrete Overlay	LS	SY	---	5,505	5,505
550.0002.0000	Class W Concrete	LS	CY	1.2	---	1.2
606.0016.0000	Transition Rail	EA	EA	---	4	4

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

GENERAL NOTES

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

Seismic design per US Federal Highway Administration Seismic Retrofitting Manual for Highway Bridges 1995.

REINFORCEMENT: ..... *ASTM A706, Grade 60, Fy = 60,000 psi*
Space reinforcement evenly unless otherwise noted.

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

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

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

ABBREVIATIONS:

℄	= centerline	(E)	= existing	LF	= linear foot
℔	= plate	EA	= each	LS	= lump sum
&	= and	Elev.	= elevation	LT.	= left
@	= at	e.f	= each face	max.	= maximum
ø	= diameter	e.w.	= each way	M.H.W	= median high water
±	= approximate	Ext.	= exterior	min.	= minimum
Abut.	= abutment	F	= fixed	n.f.	= near face
Approx.	= approximate	f.f.	= front/air face	No.	= number
Alt.	= alternating	f'c	= specified concrete compressive strength	o.c.	= on center
b.f.	= back/dirt face	f'ci	= specified concrete compressive strength at release	O.H.W.	= ordinary high water
bot.	= bottom	Ft.	= feet	pcf	= pounds per cubic foot
Br.	= bridge	Fy	= yield stress	psf	= pounds per square foot
btwn.	= between	Galv.	= galvanize	psi	= pounds per square inch
Brg.	= bearing	H.S.	= high strength	R	= radius
C.A.	= center of gravity	Hwy.	= highway	R.O.W.	= right of way
C.I.P.	= cast in place	ID	= internal diameter	RT.	= right
CJP	= complete joint penetration	Int.	= interior	Rd.	= road
Clr.	= clear, clearance	Jt.	= joint	S.I.P.	= stay-in-place
CMP	= corrugated metal pipe	K	= kips	spcs.	= space, spaces
CF	= cubic feet	ksf	= 1000 pounds per square foot	Sta.	= station
CY	= cubic yard	ksi	= 1000 pounds per square inch	SF	= square feet
D.H.W.	= design high water	LBS or lb	= pounds	SY	= square yard
Dia.	= diameter			Std.	= standard
Dwg.	= drawing			Symm.	= symmetric
E	= expansion			Typ.	= typical
				UT	= ultrasonic testing
				w/	= with

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	**REHABILITATION**	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff		

STATE OF ALASKA 49 TH — Jesse Escamilla III 10-08-2021 SEW 125547 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

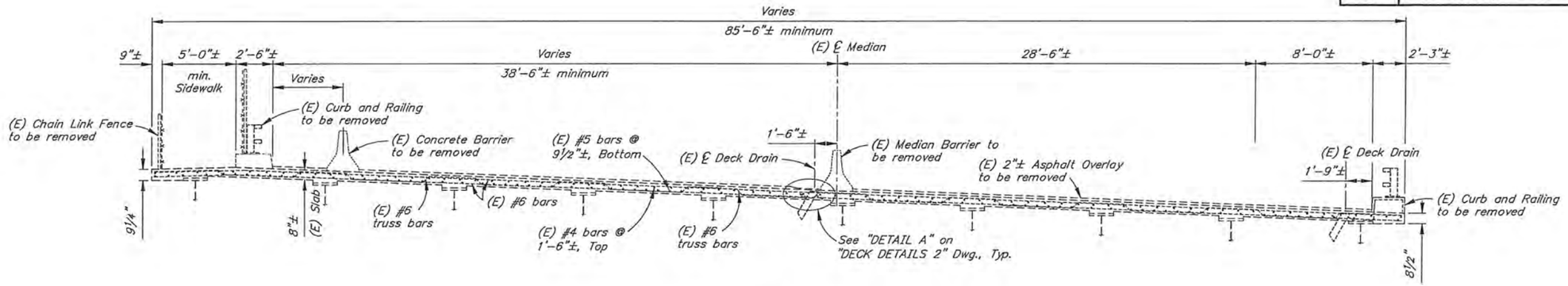
GENERAL NOTES

BRIDGE NO. 231

DWG. NO. 2

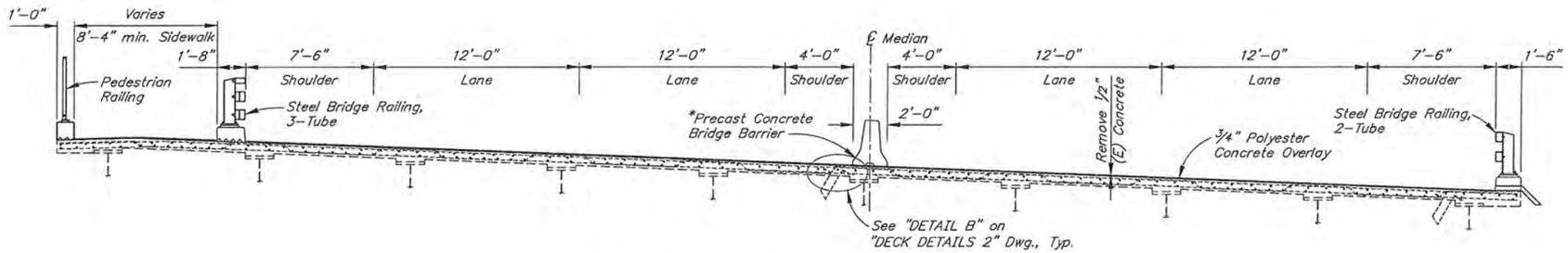
R:\cad\231\231 Rehab-2 Fri, Oct/08/21 01:17pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0851033/NFHWY00421	2021	N3	N14



EXISTING - TYPICAL SECTION

12 0 4 8
In. Feet



PROPOSED - TYPICAL SECTION

12 0 4 8
In. Feet

*See Civil Sheets for details.

NOTES:

(E) = Existing
– – – – – = Existing
——— = Proposed

1. Verify controlling field dimensions before ordering or fabricating any material.
2. Do not damage existing drains.
3. Deck Drain locations measured at face of (E) curb.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff

REHABILITATION

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

STATE OF ALASKA 49 TH
Jesse Escamilla III
10-08-2021
SEAL 125547
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

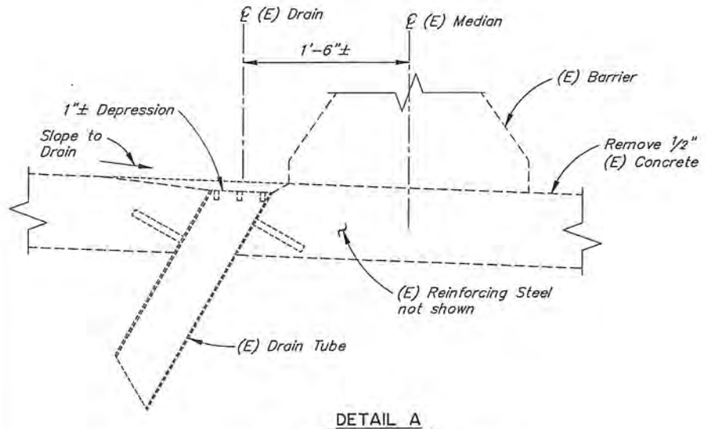
DECK DETAILS 1

BRIDGE NO. 231

DWG. NO. 3

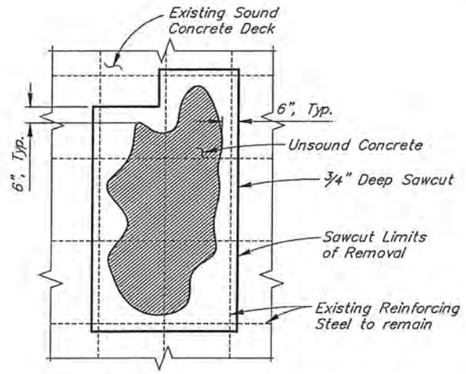
R:\cad\231\231 Rehab-3 Fri, Oct/08/21 01:17pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N4	N14



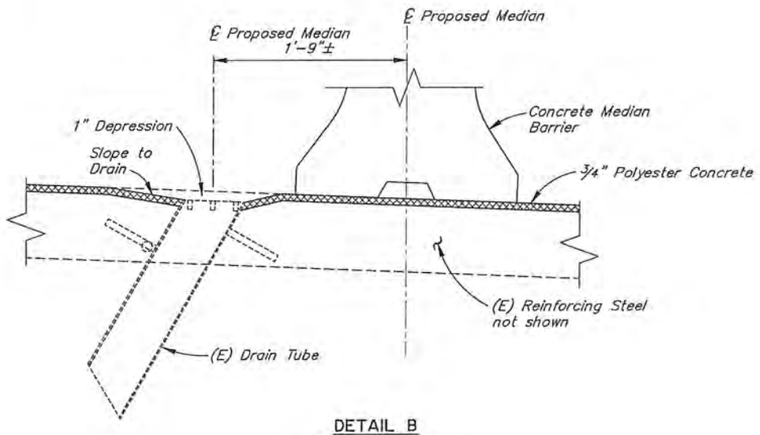
DETAIL A

12 6 0 1
In. Feet



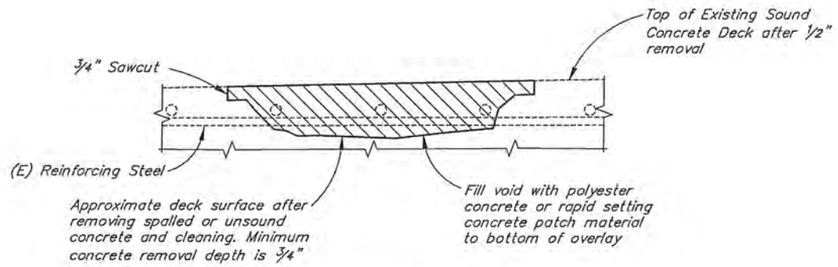
CONCRETE DECK REPAIR PLAN

No Scale



DETAIL B

12 6 0 1
In. Feet



UNSOUND CONCRETE DECK REPAIR DETAIL

No Scale

NOTES:

(E) = Existing

– – – – – = Existing

——— = Proposed

1. Verify controlling field dimensions before ordering or fabricating any material.
2. Do not damage existing drains.
3. Deck Drain locations measured at face of (E) curb.

R:\cad\231\231 Rehab-4 Fri, Oct/08/21 01:17pm

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff

REHABILITATION

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

STATE OF ALASKA 49TH
Jesse Escamilla III
10-08-2021
SE# 125547
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

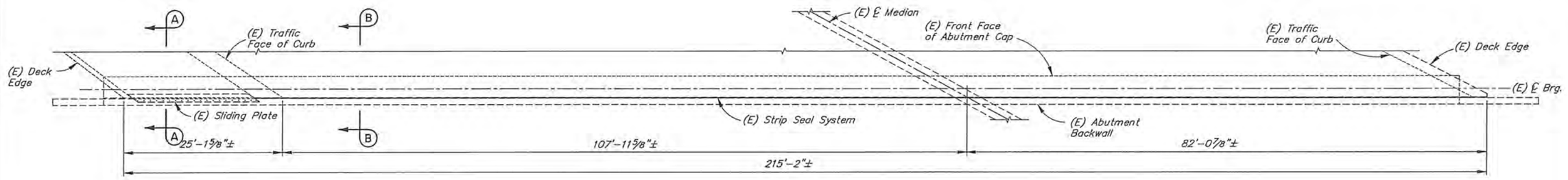
STEESE HIGHWAY

DECK DETAILS 2

BRIDGE NO. 231

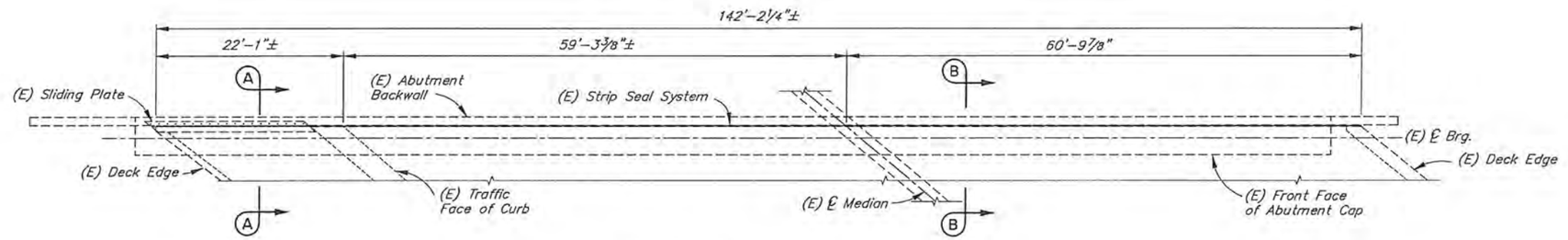
DWG. NO. 4

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N5	N14



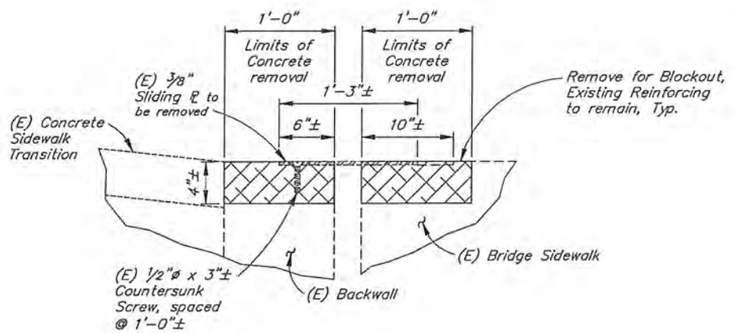
ABUTMENT 1

(Looking Ahead on Station)

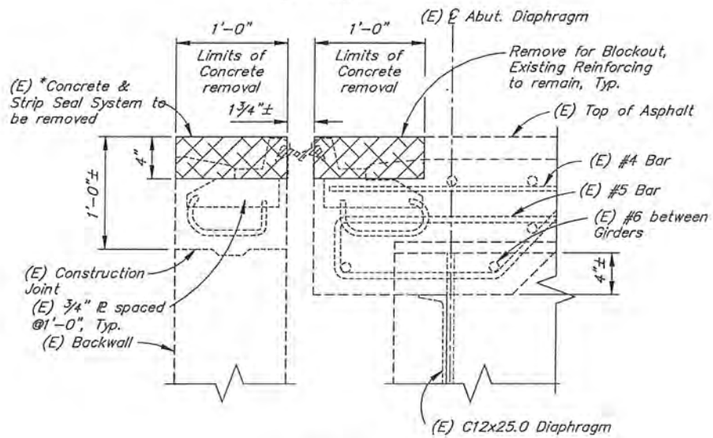


ABUTMENT 4

(Looking Ahead on Station)



SECTION A-A



SECTION B-B

*(E) Steel gland extrusion to be cut from embedded ⅜"

NOTES:

(E) = Existing

– – – – – = Existing

——— = Proposed

1. Verify controlling field dimensions before ordering or fabricating any material.
2. Do not damage existing drains.
3. Deck Drain locations measured at face of (E) curb.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff

REHABILITATION

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

STATE OF ALASKA 49TH — Jesse Escamilla III 10-08-2021 SE# 125542 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

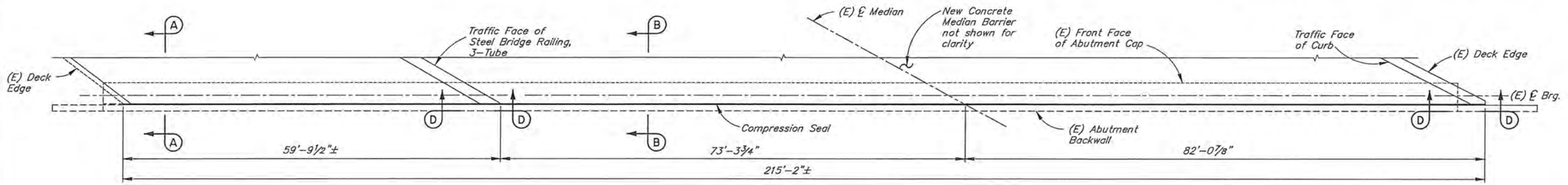
EXISTING JOINT DETAILS

BRIDGE NO. 231

DWG. NO. 5

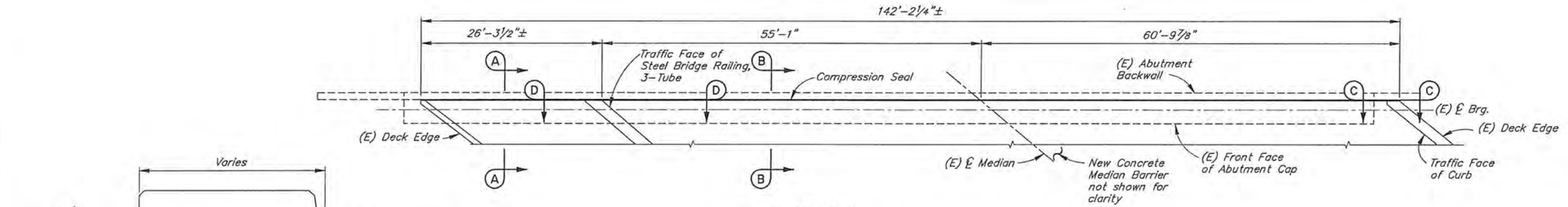
R:\cad\231\231 Rehab-5 Fri, Oct/08/21 01:17pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N6	N14



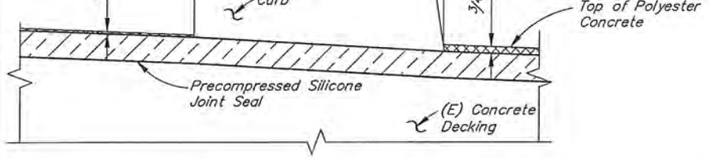
ABUTMENT 1

(Looking Ahead on Station)

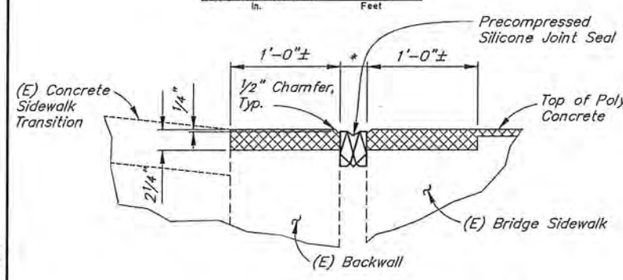


ABUTMENT 4

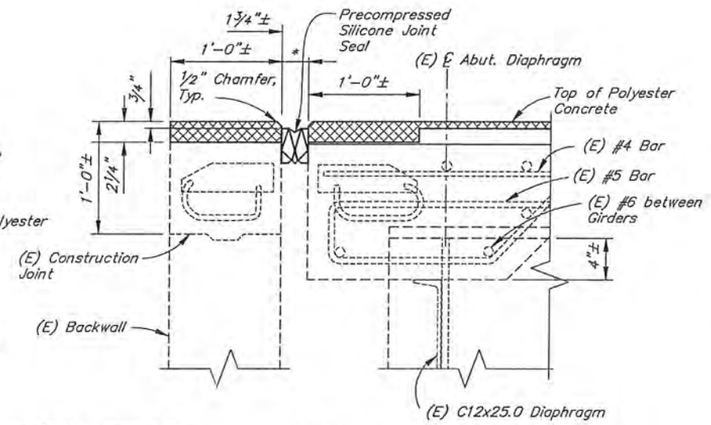
(Looking Ahead on Station)



SECTION D-D

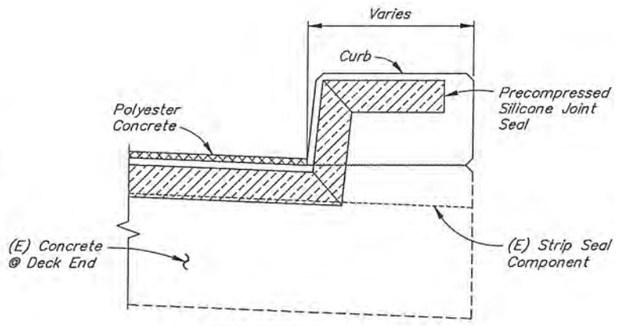


SECTION A-A



*2" ± at 60°F (Adjust 3/16" for each 10°F temperature change)

SECTION B-B



SECTION C-C

(Pedestrian Curb similar)

NOTES:

(E) = Existing

- - - - - - = Existing

——— = Proposed

1. Verify controlling field dimensions before ordering or fabricating any material.
2. Do not damage existing drains.
3. Deck Drain locations measured at face of (E) curb.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	**REHABILITATION**
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	

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

STATE OF ALASKA — 49TH — Jesse Escamilla III 10-08-2021 SE# 125547 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

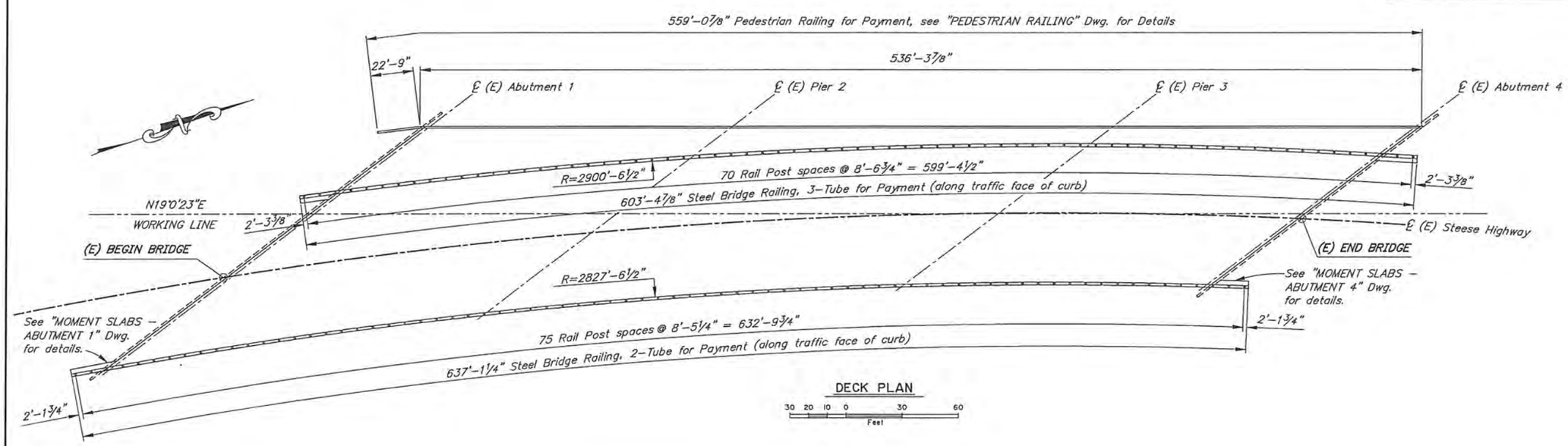
JOINT DETAILS

BRIDGE NO. 231

DWG. NO. 6

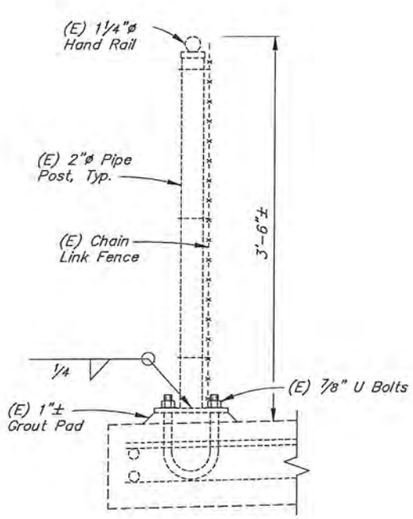
R:\cad\231\231 Rehab-6 Fri, Oct/08/21 01:17pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N7	N14



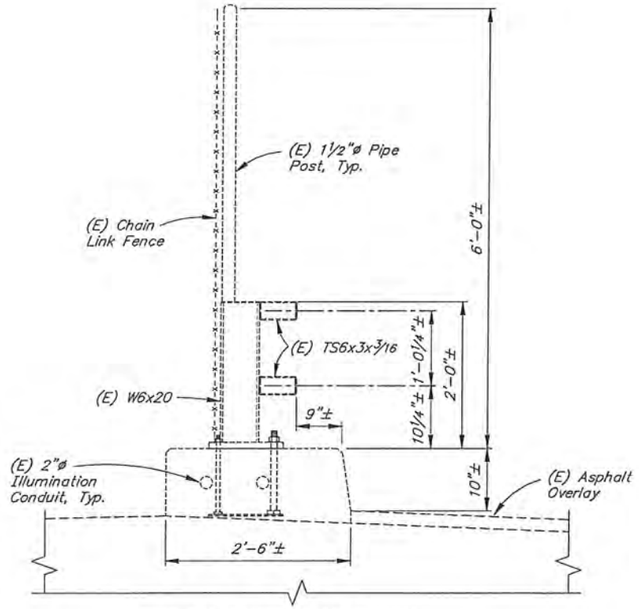
DECK PLAN

30 20 10 0 30 60
Feet



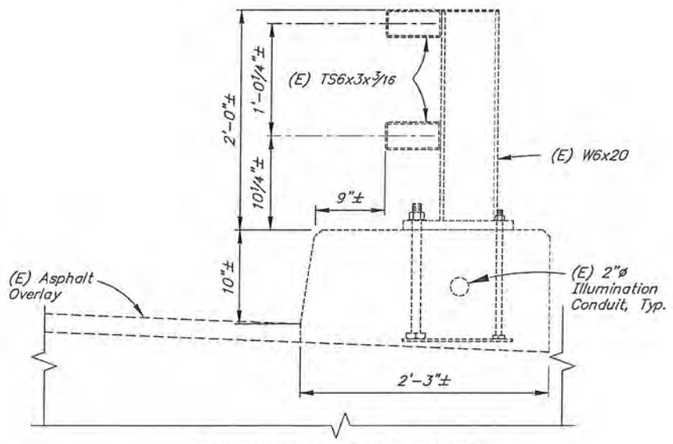
EXISTING PEDESTRIAN RAILING

12 6 0 1
In. Feet



EXISTING COMBINATION RAILING

12 6 0 1 2
In. Feet



EXISTING STEEL 2-TUBE RAILING

12 6 0 1
In. Feet

NOTES:

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

1. Verify controlling field dimensions before ordering or fabricating any material.
2. Do not damage existing drains.
3. Deck Drain locations measured at face of (E) curb.

R:\cad\231\231 Rehab-7 Fri, Oct/08/21 01:18pm

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	**REHABILITATION**	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff		

STATE OF ALASKA
49TH
Jesse Escamilla III
10-08-2021
SE# 125547
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

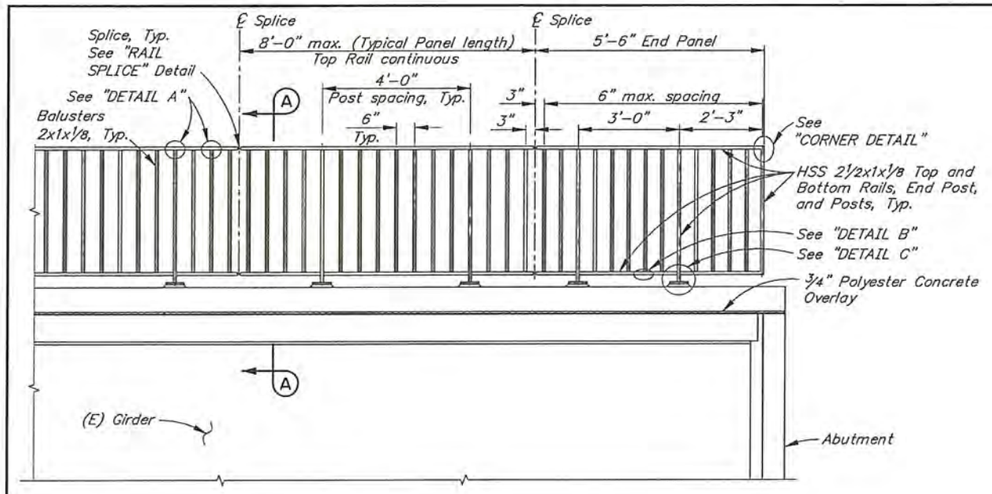
STEESE HIGHWAY

EXISTING RAILING AND NEW RAILING LAYOUT

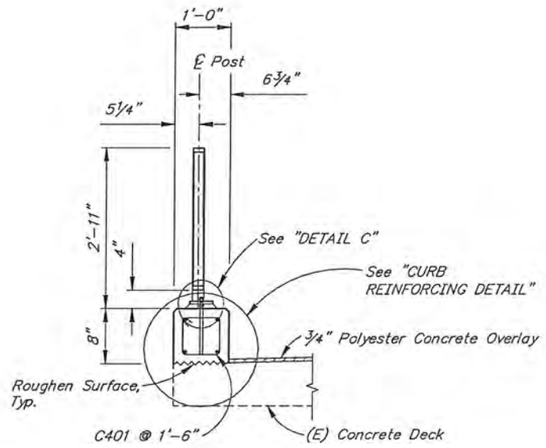
BRIDGE NO. 231

DWG. NO. 7

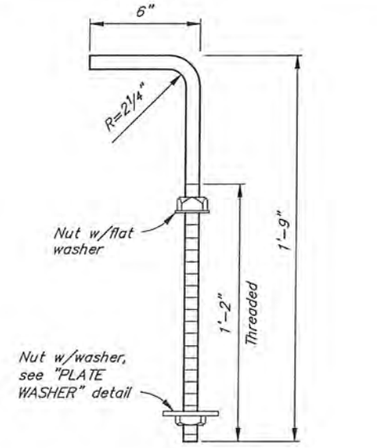
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N8	N14



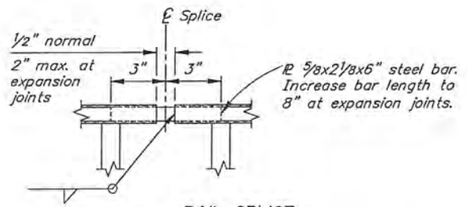
PEDESTRIAN RAIL TRANSITION - ELEVATION



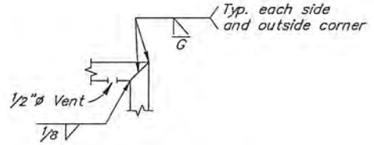
SECTION A-A



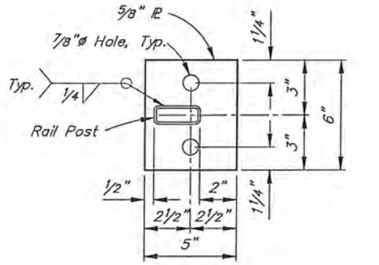
¾"ø ANCHOR ROD



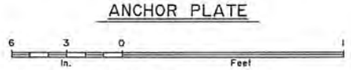
RAIL SPLICE

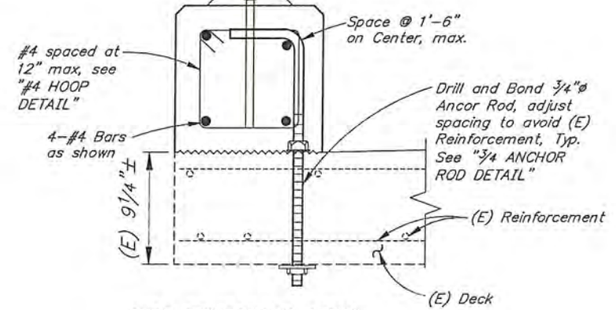


CORNER DETAIL

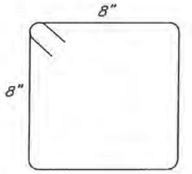


ANCHOR PLATE

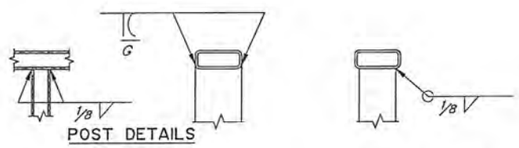




CURB REINFORCING DETAIL
No Scale

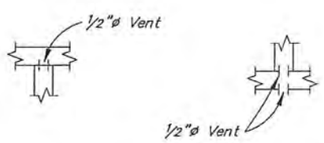


#4 HOOP DETAIL
No Scale



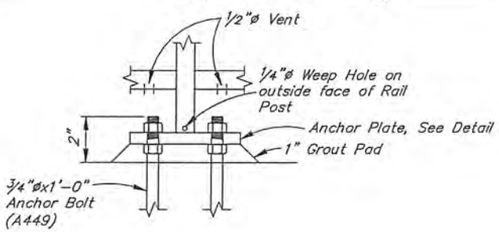
POST DETAILS

BALUSTER DETAILS



DETAIL A

DETAIL B



DETAIL C

TYPICAL WELD DETAILS

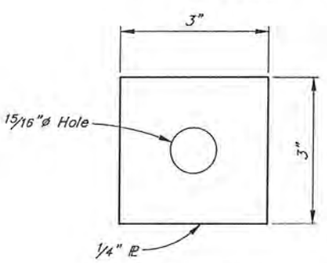


PLATE WASHER
No Scale

NOTES

1. *Install rail conforming to the horizontal and vertical profile of the structure.*
2. *Install rail posts plumb.*
3. *Provide a minimum of two anchor posts per panel.*
4. *Provide continuous bottom horizontal rail element between posts.*
5. *Provide continuous top horizontal rail elements over two or more posts unless shown otherwise.*

R:\cad\231\231 Rehab-8 Fri, Oct/08/21 01:18pm

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	**REHABILITATION**	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff		

STATE OF ALASKA — Jesse Escamilla III — 10-08-2021 — SE# 125547 — REGISTERED STRUCTURAL ENGINEER

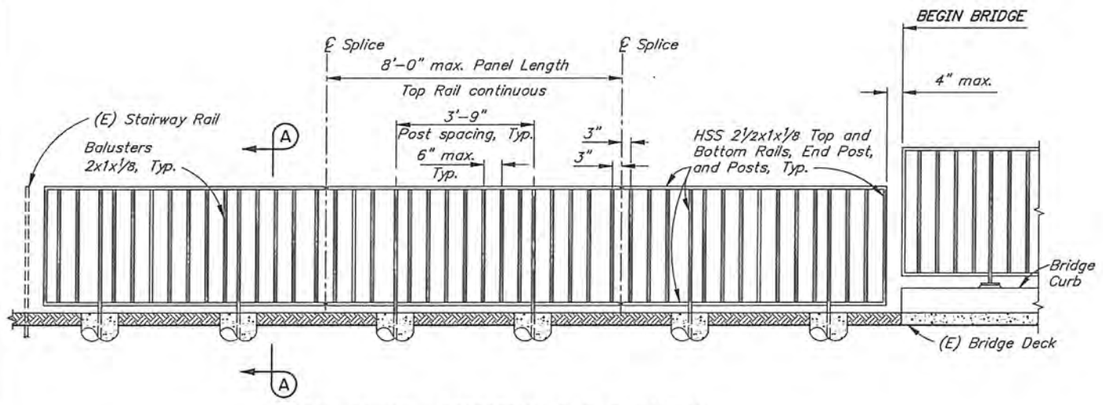
CHENA RIVER BRIDGE

STEESE HIGHWAY

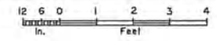
PEDESTRIAN RAILING

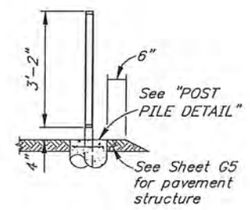
BRIDGE NO. 231

DWG. NO. 8

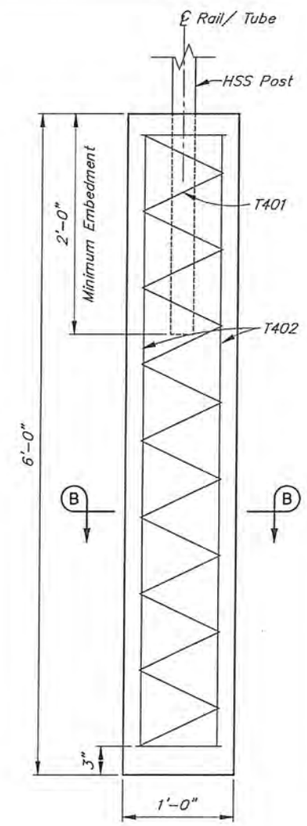


BEGIN BRIDGE - PEDESTRIAN RAIL ELEVATION

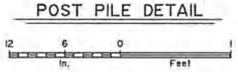




SECTION A-A



POST PILE DETAIL

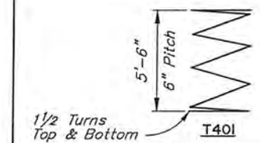


STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N9	N14

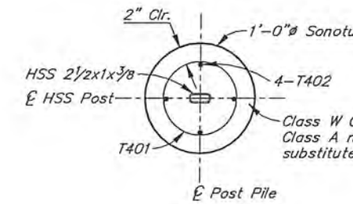
REINFORCING STEEL - ONE POST PILE

MARK	NOTE	SIZE	NO.	LENGTH	TYPE
T401	E	4	9	30'-0"	SPIRAL
T402	E	4	4	5'-7"	---

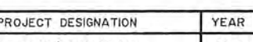
BENDING DIAGRAM

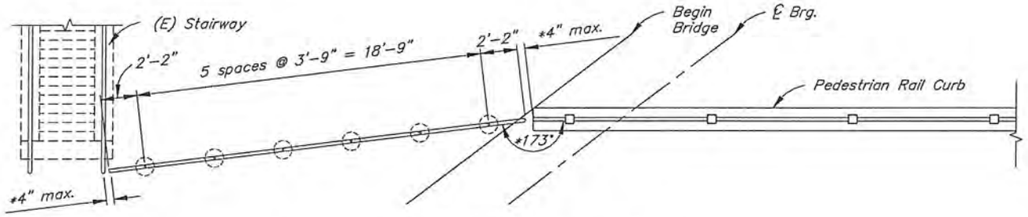


E – Epoxy-Coated reinforcing steel
S – splices permitted

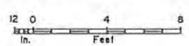


SECTION B-B





SW CORNER - PEDESTRIAN RAIL PLAN VIEW



*Adjust orientation and location to fit field conditions to tie bridge pedestrian railing to stair railing.

NOTES

1. Install all rail post plumb.
2. See "PEDESTRIAN RAILING" Dwg for details not shown.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	REHABILITATION
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	

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

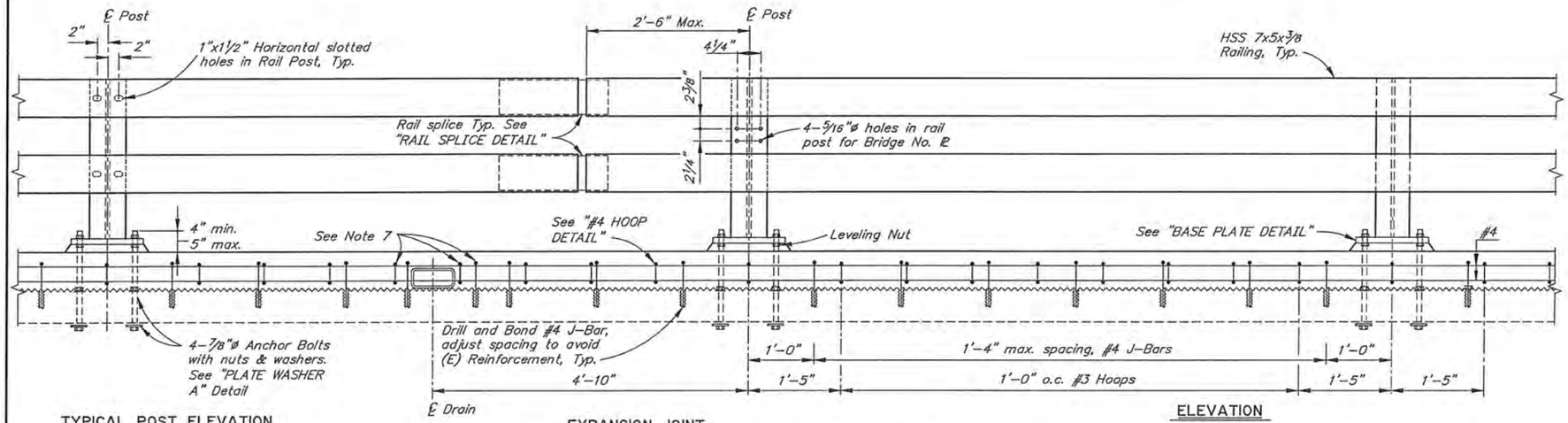
STATE OF ALASKA 49TH
Jesse Escamilla III
10-08-2021
SE# 125547
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE
STEESE HIGHWAY
PEDESTRIAN RAILING DETAILS

BRIDGE NO. 231
DWG. NO. 9

R:\cad\231\231 Rehab-9 Fri, Oct/08/21 01:18pm

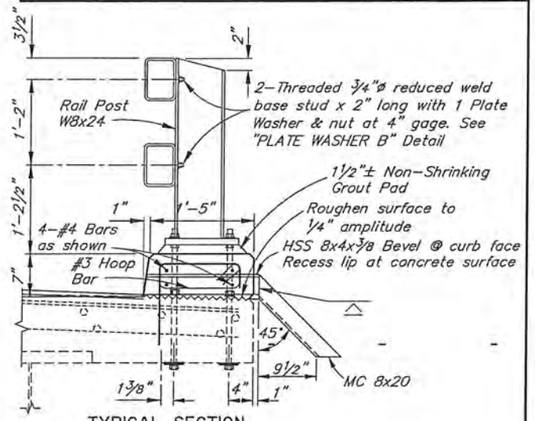
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N10	N14



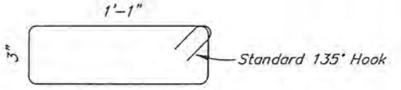
TYPICAL POST ELEVATION

EXPANSION JOINT

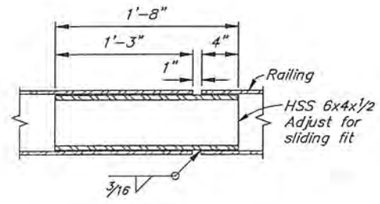
ELEVATION



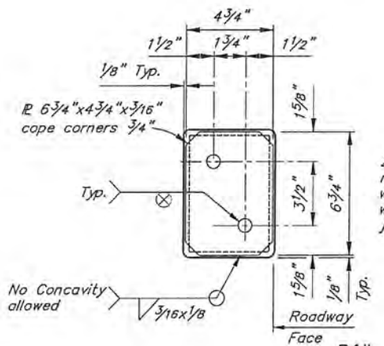
TYPICAL SECTION



#3 HOOP DETAIL
No Scale



RAIL SPLICE DETAIL



RAIL CAP DETAIL

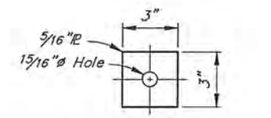
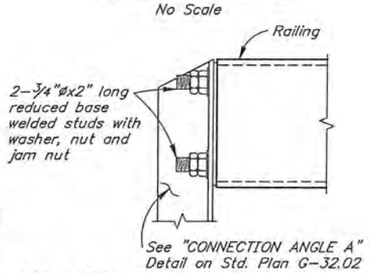
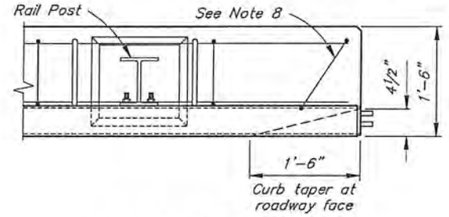


PLATE WASHER A
No Scale





END POST DETAIL

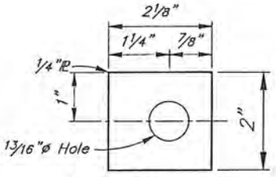
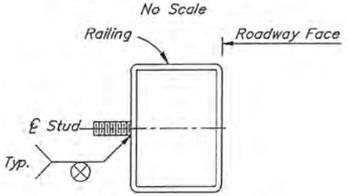
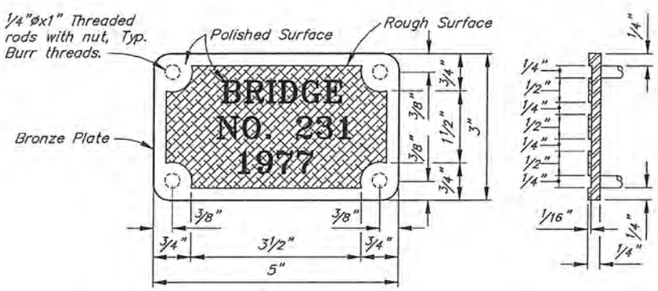


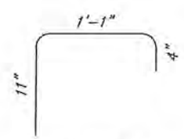
PLATE WASHER B
No Scale



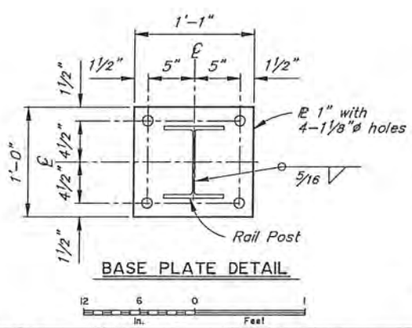
RAILING STUD DETAIL



BRONZE BRIDGE NO. PLATE
No Scale



#4 J-BAR
No Scale



BASE PLATE DETAIL

NOTES:

1. Remove existing bridge number plates. Install bridge number plates onto new steel bridge railing posts. Use studs and nuts that conform to UNS C65100 or UNS C65500. Braze ¼"ø threaded rod to back of plate with nut – 4 required. Use tamper proof nuts.
2. Locate bridge number plates on right hand side of approaching traffic near each end as shown on "GENERAL LAYOUT" Dwg. (2 total).
3. Provide railing expansion joints at 50'-0" maximum intervals. Railing shall be continuous over 2 posts minimum. Railing expansion joints are required in rail panels that span bridge expansion joints.
4. See "RAILING LAYOUT AND TYPICAL SECTION" Dwg. for rail post spacing.
5. Install bridge rail posts plumb.
6. Core and bond anchor bolts through the existing deck and existing rail hardware. Drill and bond J-Bars to deck. Adjust J-Bar spacing to avoid existing reinforcing and existing rail hardware.
7. Adjust J-Bar and hoop spacing as needed to avoid TS drains. Clip bottom #4 Bars as needed to avoid TS drains.
8. Adjust reinforcing to accommodate curb taper.
9. Verify all controlling field dimensions before ordering or fabricating any material.
10. Install grout in a single placement.
11. See Standard Plan G-32.01 for "MASH BRIDGE RAIL THRIE BEAM TRANSITION" Dwg.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff

REHABILITATION

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

STATE OF ALASKA 49TH Jesse Escamilla III 10-08-2021 SE# 125547 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

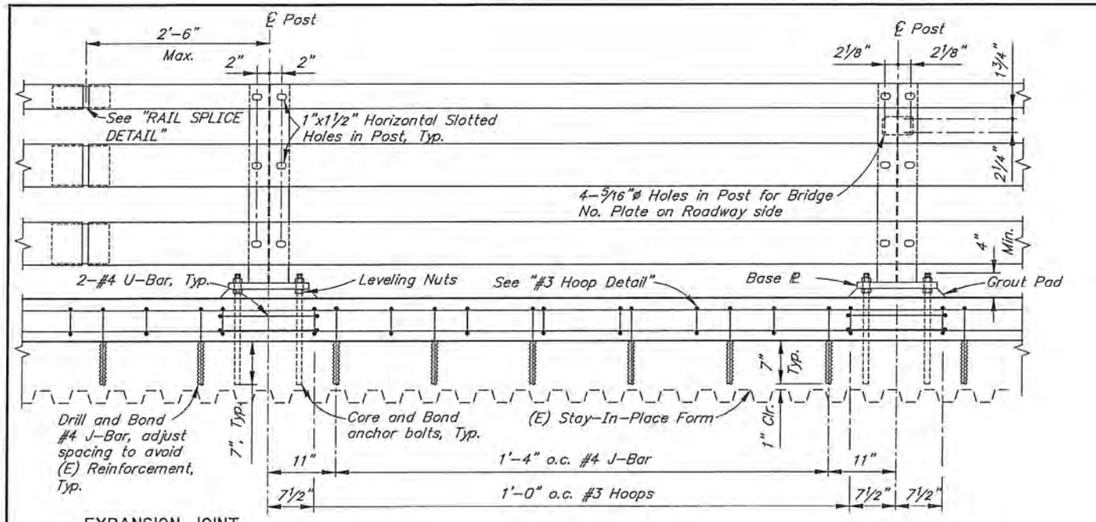
STEEL BRIDGE RAILING, 2-TUBE

BRIDGE NO. 231

DWG. NO. 10

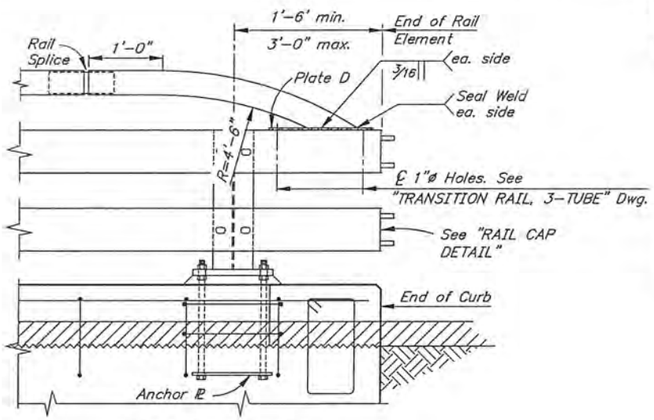
R:\cad\231\231 Rehab-10 Fri, Oct/08/21 01:18pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N11	N14

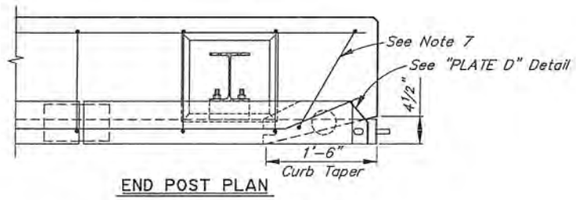


EXPANSION JOINT

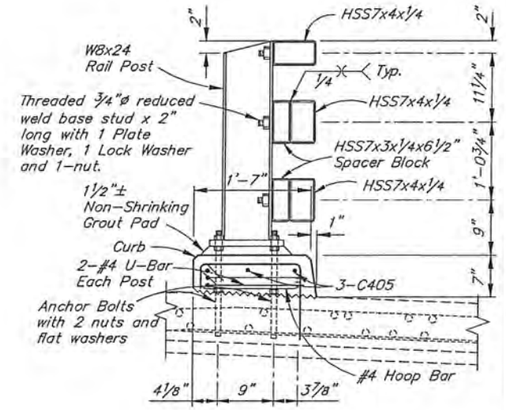
ELEVATION



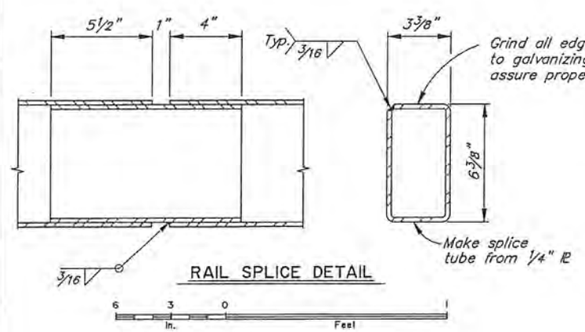
END POST ELEVATION



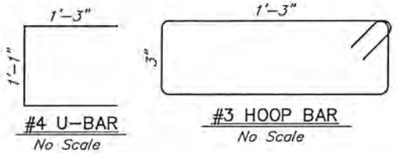
END POST PLAN



TYPICAL SECTION

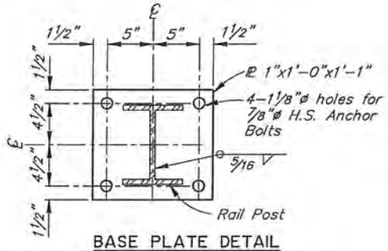


RAIL SPLICE DETAIL



#4 U–BAR
No Scale

#3 HOOP BAR
No Scale



BASE PLATE DETAIL

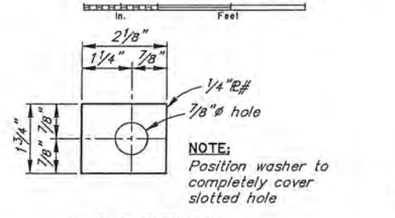
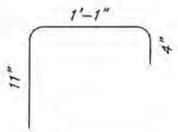


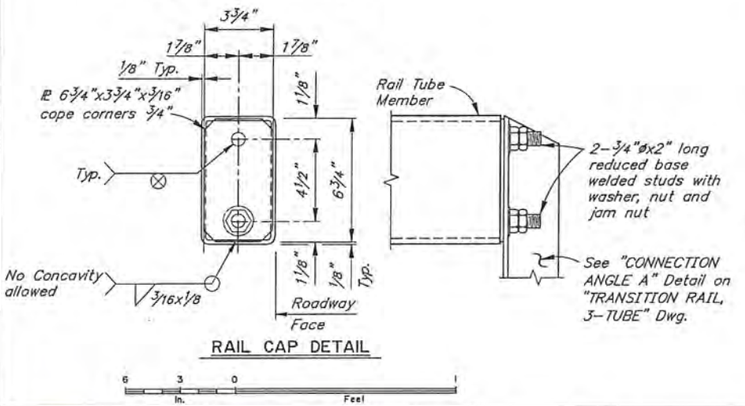
PLATE WASHER
No Scale

NOTE:
Position washer to completely cover slotted hole

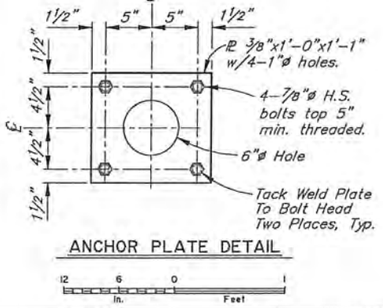


#4 J–BAR
No Scale

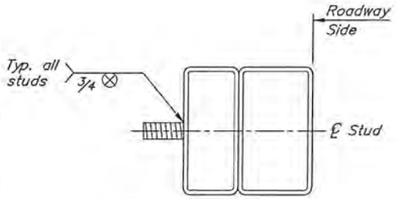
PLATE D



RAIL CAP DETAIL



ANCHOR PLATE DETAIL



RAILING STUD DETAIL
(Lower rail shown, upper rail similar)
No Scale

NOTES:

1. Locate bridge number plates on right hand side of approaching traffic near each end as shown on "GENERAL LAYOUT" Dwg. (2 total).
2. Furnish bridge number plates. Use "Century" type style lettering. Use studs and nuts that conform to UNS C65100 or C65500. Braze ¼"ø threaded rod to back of plate with nut – 4 required. Use tamper proof nuts.
3. Provide railing expansion joints at 50'–0" maximum intervals. Railing shall be continuous over 2 posts minimum. Railing expansion joints are required in rail panels that span bridge expansion joints.
4. Install grout in a single placement.
5. See "FRAMING PLAN AND TYPICAL SECTION" Dwg. for rail post spacing.
6. Install bridge rail posts plumb.
7. Adjust reinforcing to accommodate curb taper.

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff

REHABILITATION

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

STATE OF ALASKA – 49TH – Jesse Escamilla III 10-08-2021 REG# 12554? REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

STEEL BRIDGE RAILING, 3–TUBE

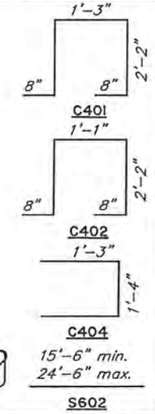
BRIDGE NO. 231
DWG. NO. 11

R:\cad\231\231 Rehab-11 Fri, Oct/08/21 01:18pm

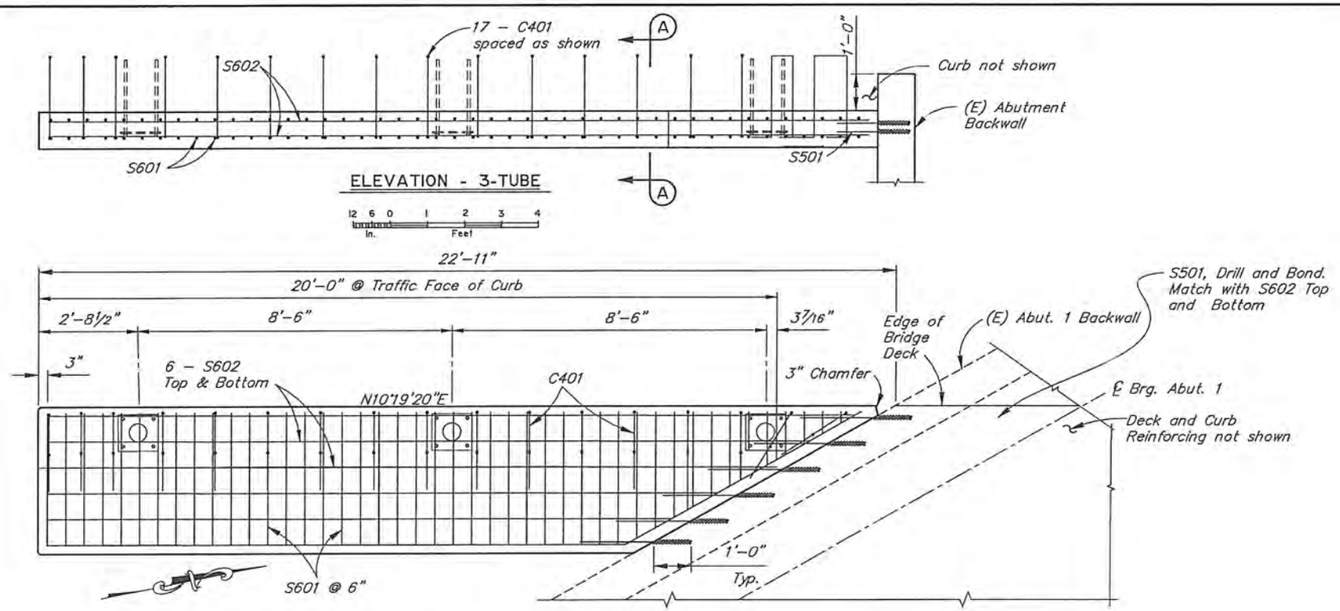
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N12	N14

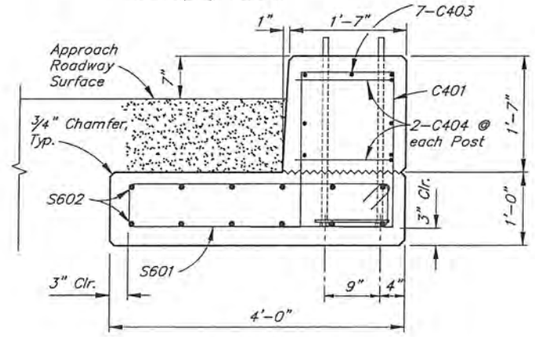
REINFORCING STEEL - ABUTMENT I

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
C401	E	4	17	6'-11"	BENT	
C402	E	4	14	6'-9"	BENT	
C403	E	4	7	VARIES	---	
C404	E	4	6	3'-10"	BENT	
C501	E	5	2	VARIES	---	
S501	E	5	24	2'-0"	---	
S601	E	6	88	VARIES	BENT	
S602	E	6	24	VARIES	---	

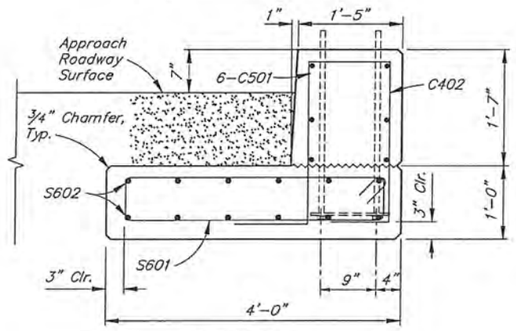


E - Epoxy-Coated





SECTION A-A



SECTION B-B

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	REHABILITATION	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff		

STATE OF ALASKA 49TH — Jesse Escamilla III 10-08-2021 SE# 125547 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

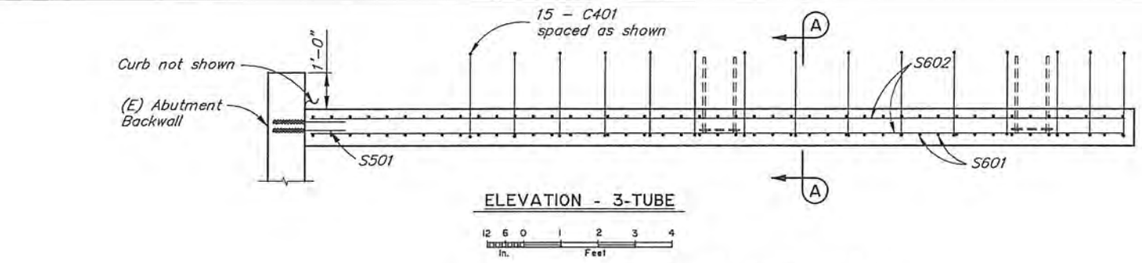
STEESE HIGHWAY

MOMENT SLABS - ABUTMENT 1

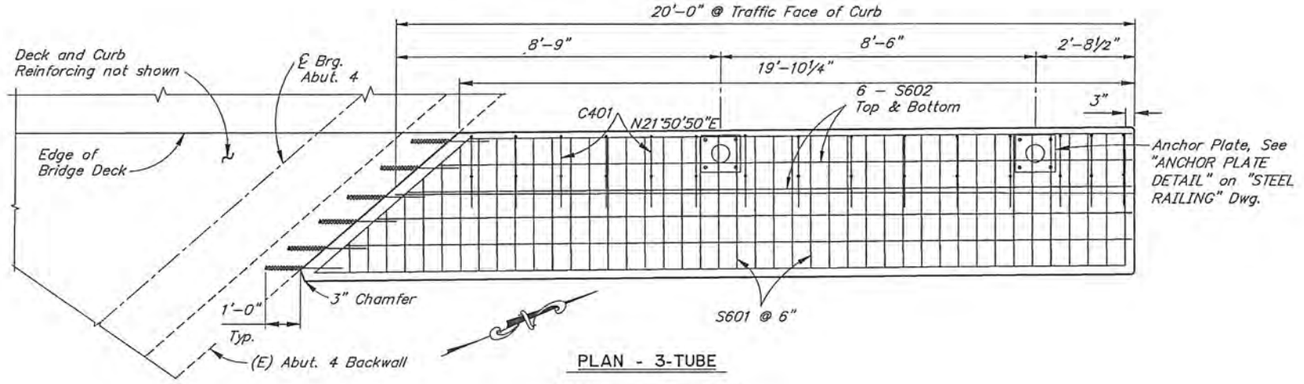
BRIDGE NO. 231

DWG. NO. 12

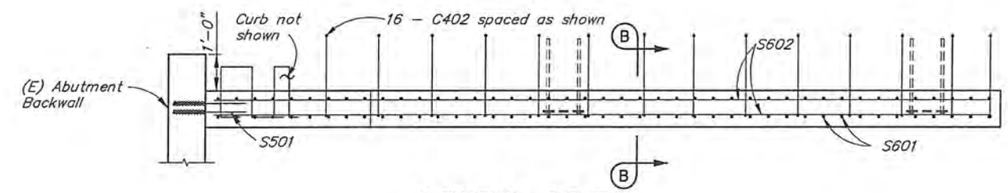
R:\cor\231\231 Rehab-12 Fri, Oct/08/21 01:18pm



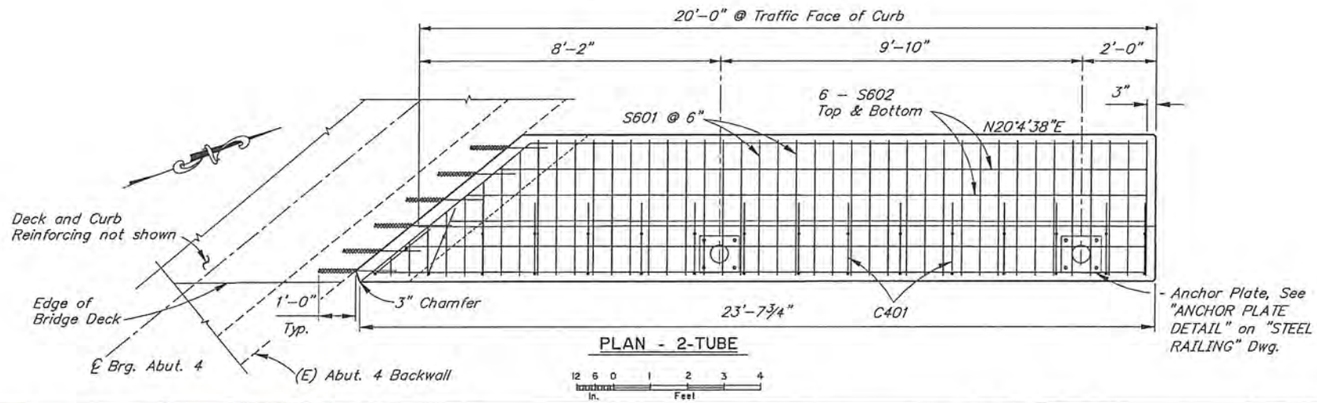
ELEVATION - 3-TUBE



PLAN - 3-TUBE



ELEVATION - 2-TUBE

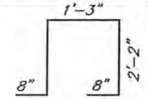


PLAN - 2-TUBE

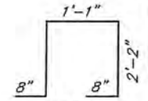
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N13	N14

REINFORCING STEEL - ABUTMENT 4

MARK	NOTE	SIZE	NO.	LENGTH	TYPE	BENDING DIAGRAM
C401	E	4	17	6'-11"	BENT	
C402	E	4	14	6'-9"	BENT	
C403	E	4	7	VARIES	---	
C404	E	4	6	3'-10"	BENT	
C501	E	5	2	VARIES	---	
S501	E	5	24	2'-0"	---	
S601	E	6	88	VARIES	BENT	
S602	E	6	12	VARIES	---	



C401



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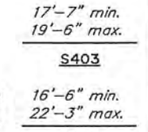

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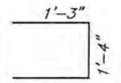

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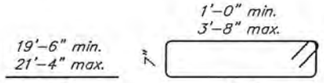
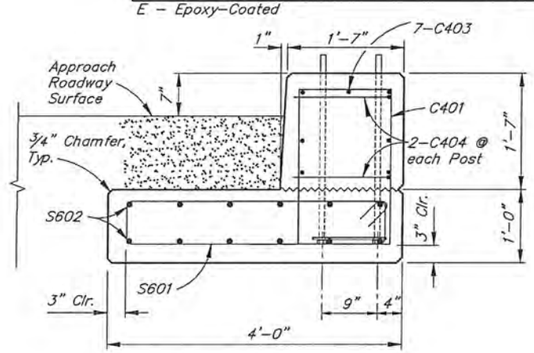


S501

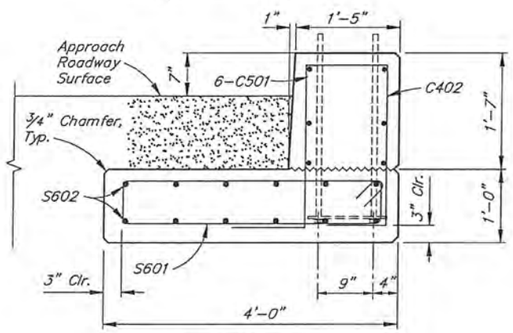
S601

S602

E – Epoxy-Coated



SECTION A-A



SECTION B-B

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	**REHABILITATION**	STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES BRIDGE SECTION 3132 Channel Drive Juneau, Alaska 99801 907-465-2975
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III		
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff		

STATE OF ALASKA
Jesse Escamilla III
10-09-2021
SE# 125547
REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

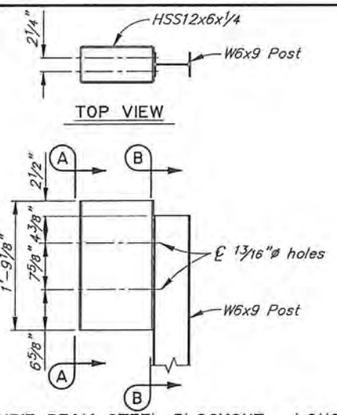
MOMENT SLABS – ABUTMENT 4

BRIDGE NO. 231

DWG. NO. 13

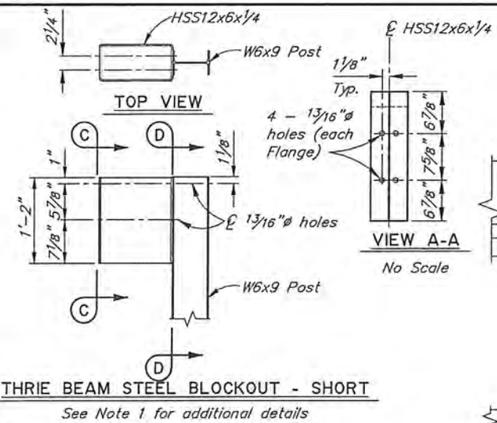
R:\cad\231\231 Rehab-13 Fri, Oct/08/21 01:18pm

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	N14	N14



THRIE BEAM STEEL BLOCKOUT - LONG

See Note 1 for additional details

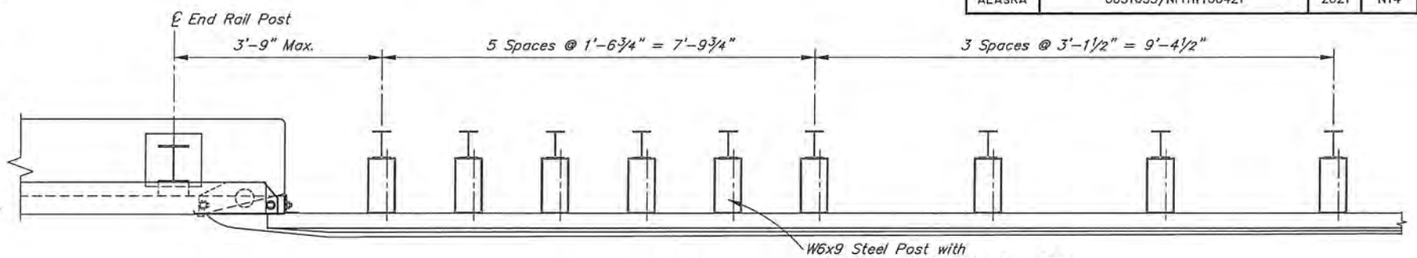


THRIE BEAM STEEL BLOCKOUT - SHORT

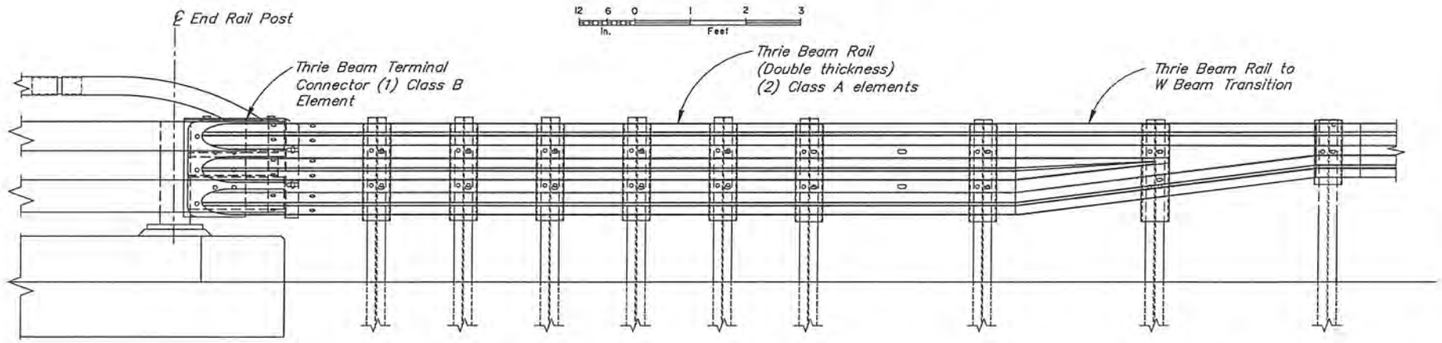
See Note 1 for additional details

VIEW A-A

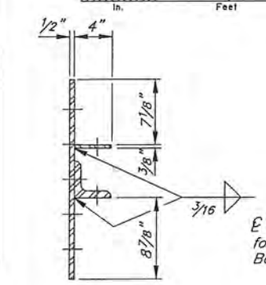
No Scale



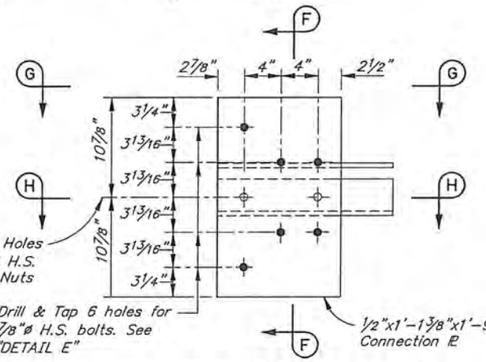
PLAN



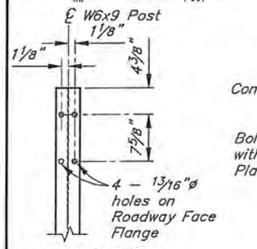
ELEVATION



SECTION F-F

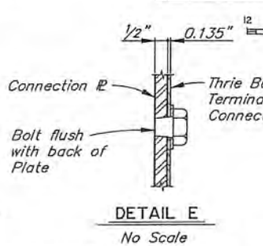


GUARDRAIL CONNECTION PLATE DETAILS



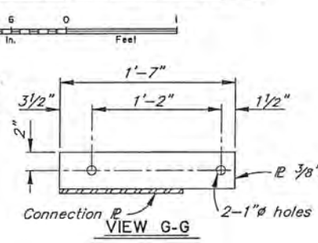
SECTION B-B

No Scale

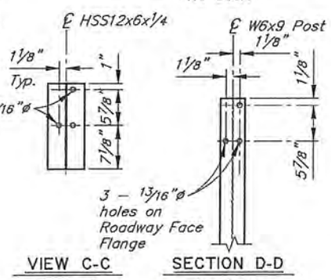


DETAIL E

No Scale



VIEW G-G

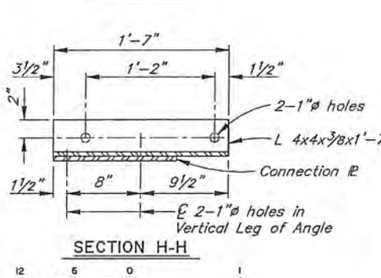


VIEW C-C

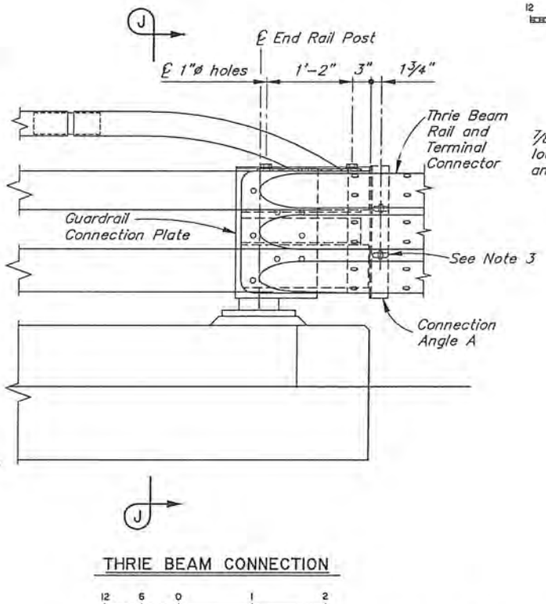
No Scale

SECTION D-D

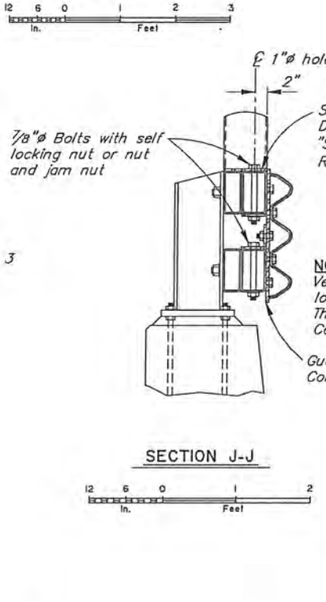
No Scale



SECTION H-H

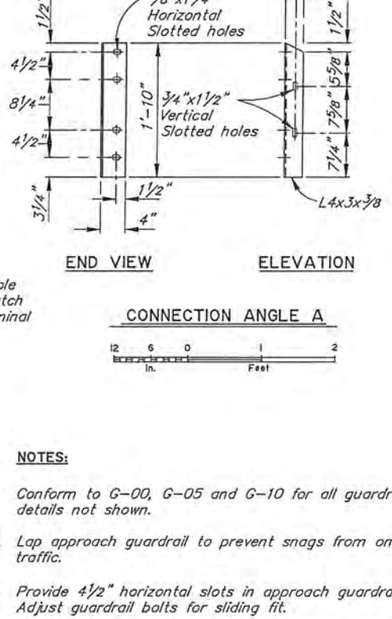


THRIE BEAM CONNECTION



SECTION J-J

NOTE:
Verify all bolt hole locations to match Thrie Beam Terminal Connector



END VIEW ELEVATION

CONNECTION ANGLE A

NOTES:

1. Conform to G-00, G-05 and G-10 for all guardrail details not shown.
2. Lap approach guardrail to prevent snags from oncoming traffic.
3. Provide 4 1/2" horizontal slots in approach guardrail. Adjust guardrail bolts for sliding fit.

R:\cad\231\231 Rehab-14 Fri, Oct/08/21 01:18pm

DESIGNED BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	REHABILITATION
DRAWN BY: Javier De Leon	CHECKED: Jesse Escamilla III	
QUANTITIES BY: Jesse Escamilla III	CHECKED: Ben Fetterhoff	

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

STATE OF ALASKA 49TH Jesse Escamilla III 10-08-2021 SE# 125547 REGISTERED STRUCTURAL ENGINEER

CHENA RIVER BRIDGE

STEESE HIGHWAY

TRANSITION RAIL, 3-TUBE

BRIDGE NO. 231

DWG. NO. 14

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00421/0651033	2021	N100	N103

STRUCTURAL SCOPE OVERVIEW

STRUCTURAL ACTIVITIES RELATED TO BELOW DECK CONDUIT RUNS INCLUDE:
- ADDITION OF GIRDER SUPPORTED CONDUIT SUPPORTS
- PENETRATIONS THROUGH GIRDER WEBS FOR CONDUIT ROUTING

STRUCTURAL GENERAL NOTES

SPECIFICATIONS AND STANDARDS

A. AASHTO LRFD BRIDGE DESIGN SPECIFICATION, 9TH EDITION; 2020
B. ALASKA BRIDGES & STRUCTURES MANUAL, CHAPTER 16; 2017 EDITION

DESIGN LOADS AND CRITERIA

A. DEAD LOAD
   a. 2" RMC CONDUIT PLUS WIRE = 8 PLF x 2 RUNS PER SIDE
B. EARTHQUAKE
   a. PEAK GROUND ACCELERATION (PGA) = 0.40
   b. MAPPED SPECTRAL RESPONSE COEFFICIENTS S_S = 0.99G AND S1 = 0.38G
   c. PROJECT SITE CLASS D; Fpga = 1.10
   d. OPERATIONAL CATEGORY: ESSENTIAL
   e. SEISMIC ZONE 4

PROJECT CONDITIONS

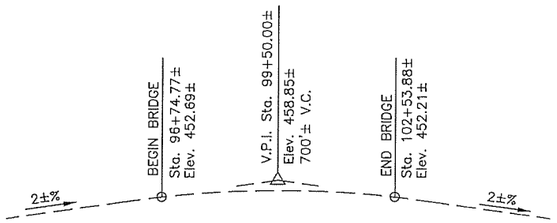
A. EXISTING CONDITIONS
   a. PLAN AND PROFILE GEOMETRY, DIMENSIONS AND DETAILS OF EXISTING CONSTRUCTION HAVE BEEN OBTAINED FROM ORIGINAL 'AS-BUILT' PLANS ASSUMED TO ACCURATELY REFLECT AS-CONSTRUCTED CONDITIONS: STEESE BRIDGE NO. 231 AS-BUILTS
   b. THE CONSTRUCTOR SHALL FIELD VERIFY ITEMS RELEVANT TO WORK SCOPE BEFORE FABRICATION AND MAKE ADJUSTMENTS NECESSARY TO COMPLETE THE WORK. NOTIFY THE ENGINEER OF ANY VARIATIONS IN DETAILS OR DIMENSIONS OF EXISTING CONSTRUCTION THAT DO NOT CORRELATE WITH INFORMATION ON THESE PLANS
B. PROTECT EXISTING STRUCTURE AND OTHER ASSETS FROM DAMAGE DURING NEW CONSTRUCTION
C. REFERENCE ROADWAY AND UTILITY PLANS IN THE PROJECT AREA ORIGINATED BY OTHERS FOR ITEMS UNDERGROUND

STRUCTURAL STEEL

A. STEEL MATERIALS
   a. PLATES, BARS, ANGLES AND CHANNELS: AASHTO M270/ASTM A709 Gr 36, FY = 36 KSI
B. FASTENERS
   a. HIGH STRENGTH BOLTS: ASTM F3125, GRADE A325 BOLTS, FU = 125 KSI. HARDENED WASHERS AND HEAVY HEX NUTS GRADE DH. HOLE SIZE BOLT PLUS 1/16" UNLESS NOTED OTHERWISE
C. ALL STRUCTURAL STEEL AND FASTENERS SHALL BE FINISHED PAINTED
D. WELDING SHALL CONFORM TO AWS D1.1 AND BE PREFORMED BY WELDERS QUALIFED BY THE APPROPRIATE AWS TEST FOR THE WELD METHOD AND DETAIL PREFORMED
E. PRETENSION ALL HIGH STRENGTH BOLTED CONNECTIONS UNLESS NOTED OTHERWISE

BRIDGE CONDUIT SUPPORT DRAWING INDEX	
TITLE	SHT. NO.
LAYOUT & CONDUIT SUPPORT NOTES	N100
BRIDGE FRAMING & CONDUIT SUPPORT PLAN	N101
BRIDGE CROSS FRAME SECTIONS	N102
CONDUIT SUPPORT DETAILS	N103

504.0001.0000 – ESTIMATED CONDUIT SUPPORT QUANTITIES (LUMP SUM)		
ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
CONDUIT SUPPORT BRACKET	EA	82
GIRDER WEB PENETRATION	EA	4



PROFILE GRADE
NTS

SHEET NOTES:

(E) = EXISTING

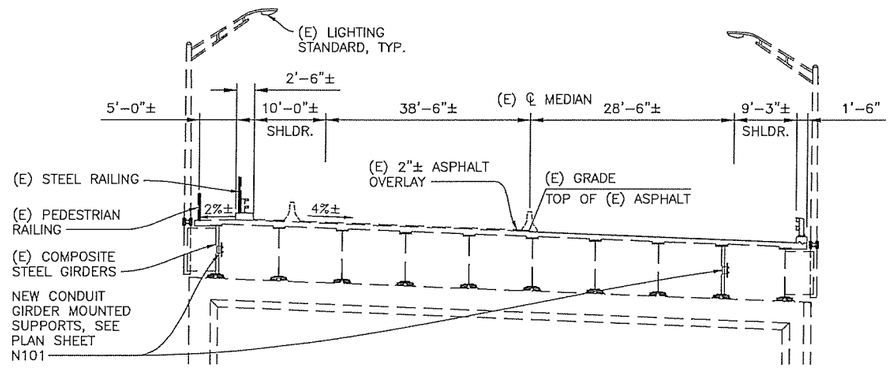
---------- = EXISTING

———— = PROPOSED

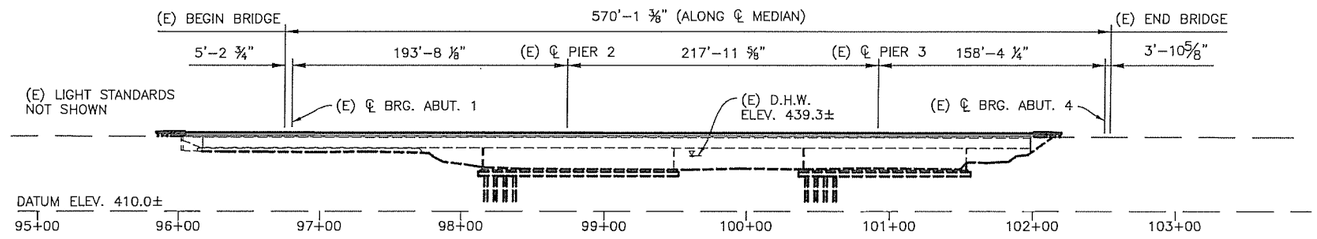
BRIDGE ELEVATIONS ARE BASED ON 1977 AS-BUILT DRAWINGS – THESE DRAWINGS PROVIDE FURTHER DETAIL IF REQUIRED BY CONTRACTOR

FOR PROJECT STATIONS AND ELEVATIONS, SEE ROADWAY SHEETS

VERIFY CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL



EXISTING TYPICAL SECTION
(CROSS-FRAMES NOT SHOWN)
[———| = 10']



ELEVATION
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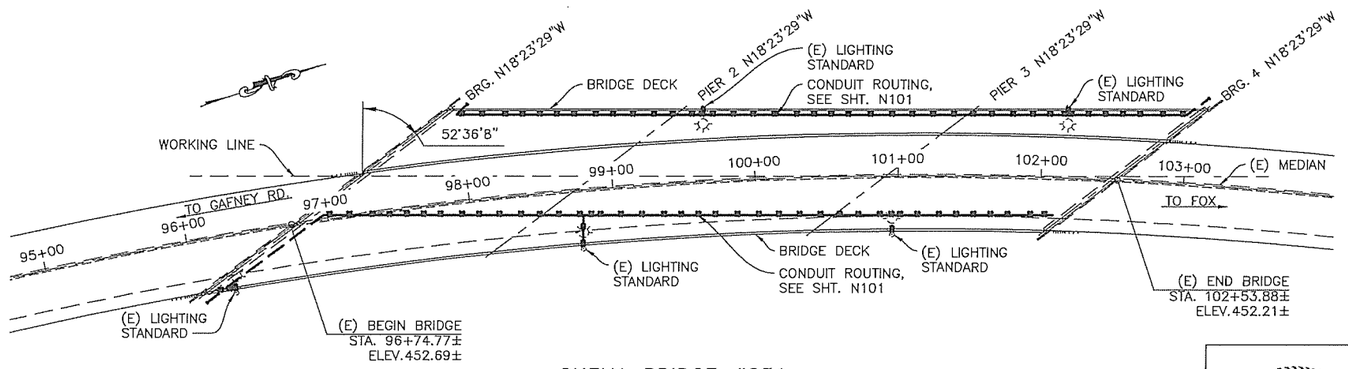


CHENA BRIDGE #231
SLAB PLAN
[———| = 50']

STATE OF ALASKA
49TH
NICHOLAS ROBERTSON
SE 155488
REGISTERED PROFESSIONAL ENGINEER

CHENA BRIDGE #231
LAYOUT & CONDUIT SUPPORT NOTES

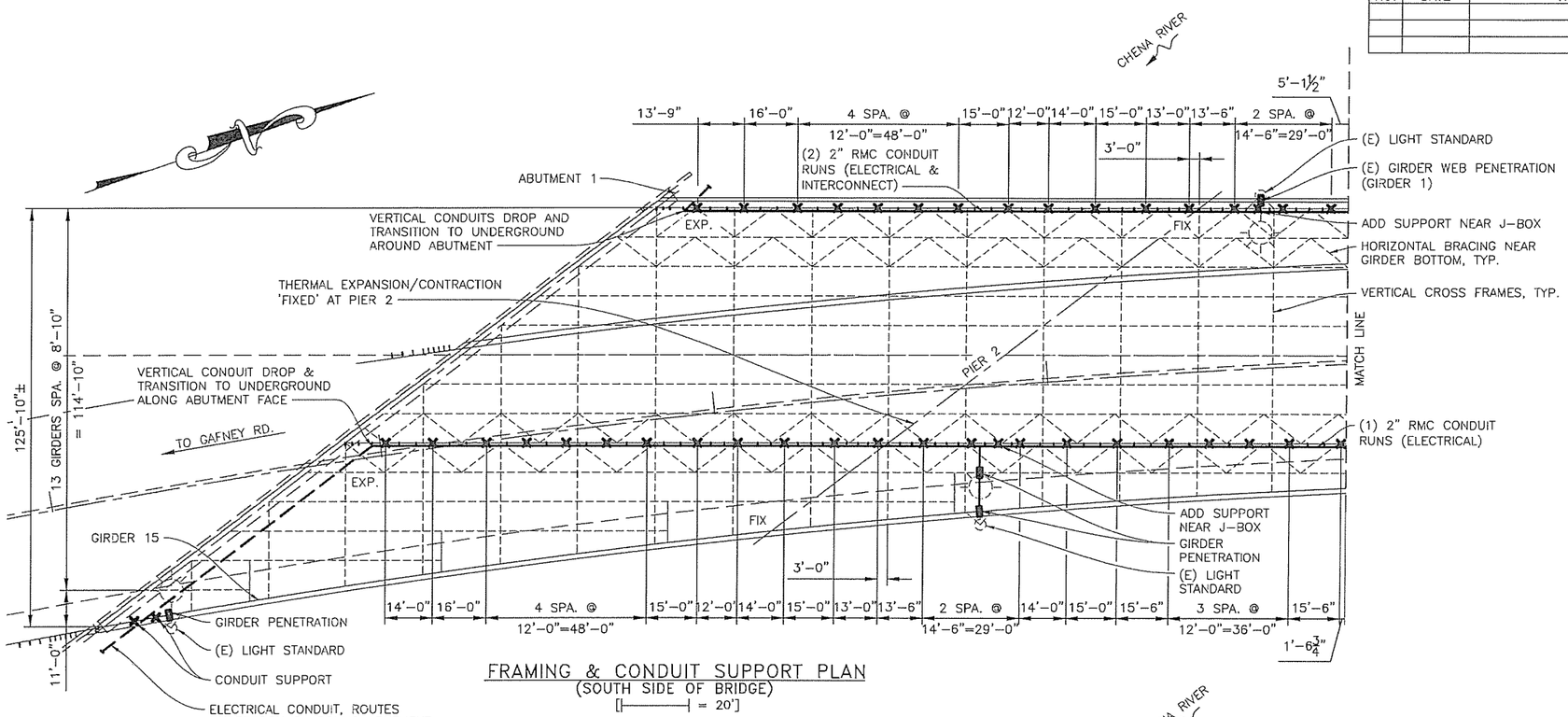
PLANS DEVELOPED BY: DOWL, LLC; CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0392983\XXXXX_N_Gen Layout-N100 Wed, Sep/15/21 05:23pm

NO.	DATE	REVISION

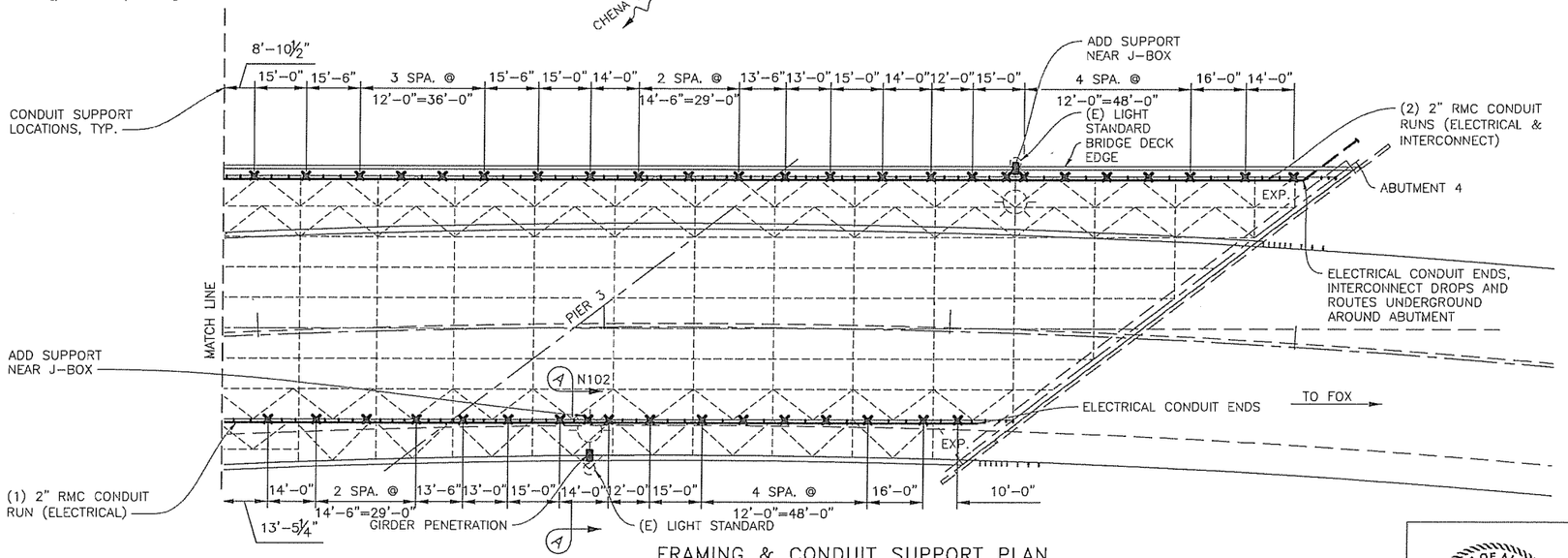
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	NFHWY00421/0651033	2021	N101	N103

NOTES:

1. SUPPORTS FOR PRIMARY CONDUIT RUNS SHOWN. MAXIMUM CONDUIT SPAN IS 16 FEET FOR THREAD COUPLED RMC.
2. FEEDERS TO EXISTING UNDER-DECK LIGHTING IS ALSO REQUIRED AND MAY REQUIRE MINOR SUPPORTS TO STEEL STRUCTURE OR DECK BY ELECTRICAL CONDUIT INSTALLER.
3. SEE ELECTRICAL AND INTERCONNECT DESIGN DRAWINGS FOR CONDUIT AND RELATED DETAILS.



FRAMING & CONDUIT SUPPORT PLAN
(SOUTH SIDE OF BRIDGE)
[= 20']



FRAMING & CONDUIT SUPPORT PLAN
(NORTH SIDE OF BRIDGE)
[= 20']

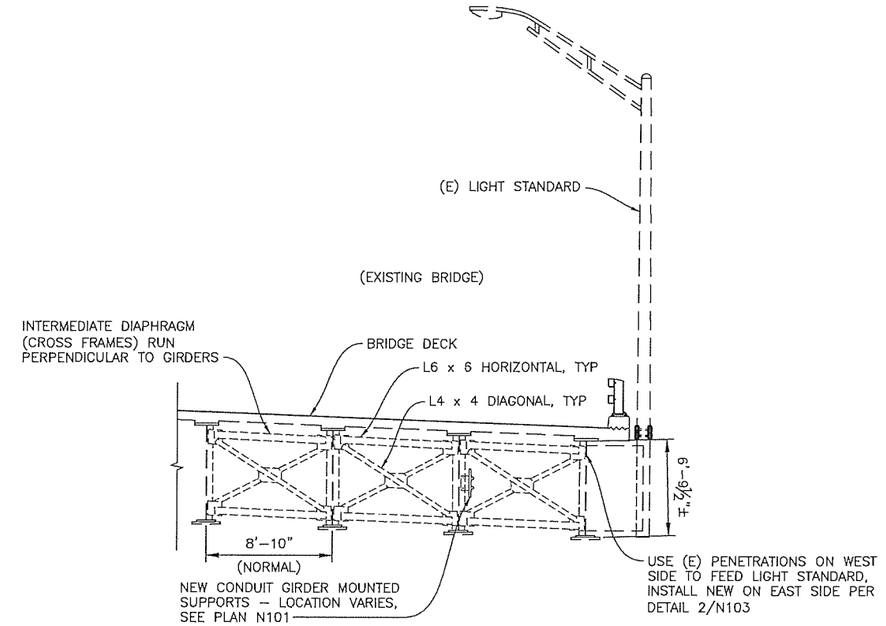
LEGEND

- × – CONDUIT SUPPORT TYPE 1 – BRACKET TO GIRDER WEB STIFFENER, SEE DETAIL 1/N103
- ⫽ – CONDUIT SUPPORT TYPE 2 – TRAPEZE TO TOP CROSS FRAME MEMBER – NOT USED IN FINAL DESIGN
- ▯ – CONDUIT PENETRATION THROUGH STEEL GIRDER WEB, SEE DETAIL 2/N103
- FIX – THERMAL POINT OF FIXITY IN STRUCTURE
- EXP – THERMAL EXPANSION/CONTRACTION REQUIRED IN CONDUIT

CHENA BRIDGE #231
BRIDGE FRAMING & CONDUIT SUPPORT PLAN

STATE OF ALASKA 49TH
NICHOLAS ROBERTSON SE 15648
REGISTERED PROFESSIONAL STRUCTURAL ENGINEER

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00421/0651033	2021	N102	N103



A–A / N101 PARTIAL BRIDGE SECTION
INTERMEDIATE
[|——| = 5']

CHENA BRIDGE #231
BRIDGE CROSS FRAME SECTION

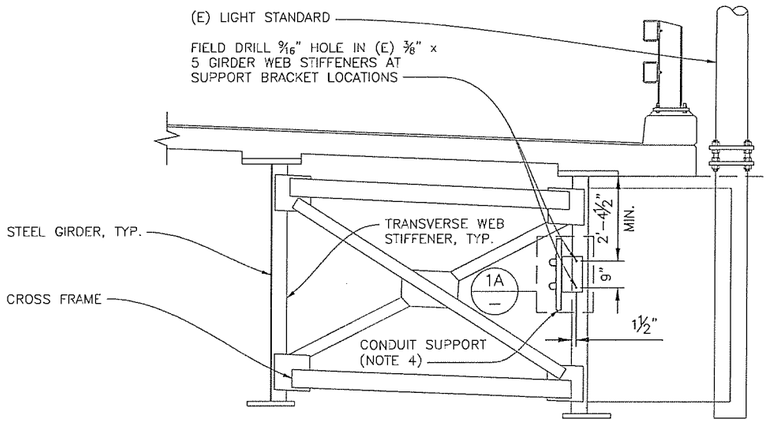
STATE OF ALASKA
49TH
NICHOLAS ROBERTSON
SE 156488
REGISTERED PROFESSIONAL STRUCTURAL ENGINEER

PLANS DEVELOPED BY: DOWL, LLC, CERT. OF AUTHORIZATION NO.: AECL848, 3535 COLLEGE ROAD, SUITE 100, FAIRBANKS, AK 99709, (907) 374-0275
C:\dowl_pw\d0392583\XXXXX_N_Sections-N102 Wed, Sep/15/21 05:24pm

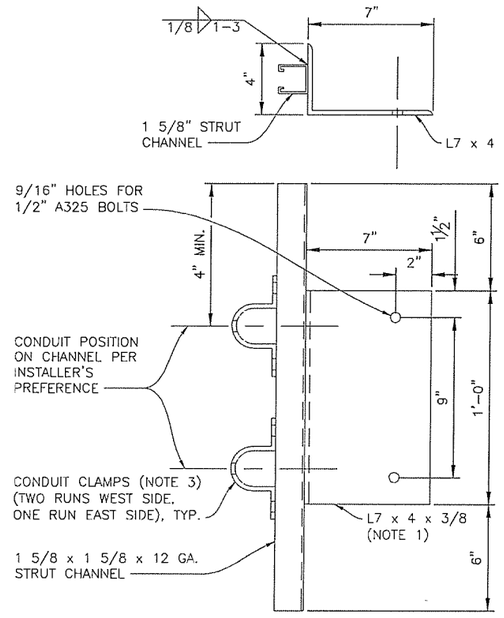
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	NFHWY00421/0651033	2021	N103	N103

NOTES:

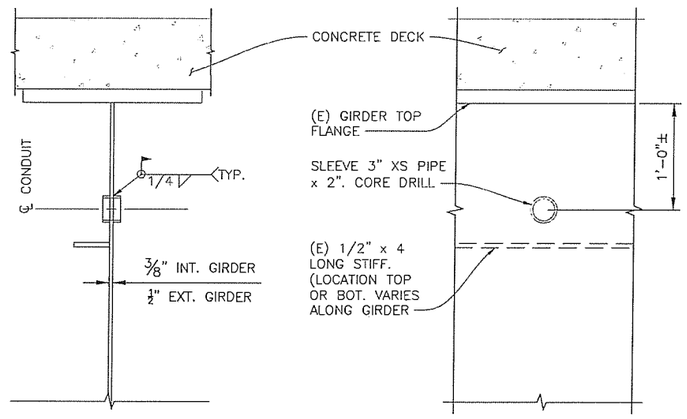
1. ALTERNATE TO ANGLE BRACKET L7 x 4 x ⅜ IS BENT PLATE L7 x 3 x ¼.
2. CONDUIT AND ACCESSORIES SPECIFIED BY OTHERS.
3. BOLTED CONDUIT CLAMP MUST BE CAPABLE OF RESISTING A SUSTAINED SERVICE LOAD OF 200 LBS MINIMUM IN THE VERTICAL DIRECTION AND A SEISMIC LOAD OF 300 LBS IN THE VERTICAL DIRECTION (UP) AND 110 LBS IN THE HORIZONTAL DIRECTION.
4. AS SHOWN ON PLAN SHEET N101, AN ADDITIONAL CONDUIT SUPPORT BRACKET IS ADDED NEAR EXISTING LIGHT STANDARD LOCATIONS TO FACILITATE J-BOX SUPPORT: ADD (2) HORIZONTAL STRUT CHANNELS BETWEEN THESE CLOSELY SPACED SUPPORTS AND VERTICAL STRUTS, WITH ALL CONNECTIONS HARDWARE, AS DEEMED NECESSARY BY THE CONDUIT INSTALLER.



1 — CONDUIT SUPPORT TYPE 1
[= 1']



1A — CONDUIT SUPPORT BRACKET
[= 1']



2 — STEEL GIRDER WEB PENETRATION DETAIL
[= 1']

CHENA BRIDGE #231

CONDUIT SUPPORT 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\a0392583\XXXXX_N_Details-N103 Wed, Sep/15/21 05:24pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	Q1	Q1

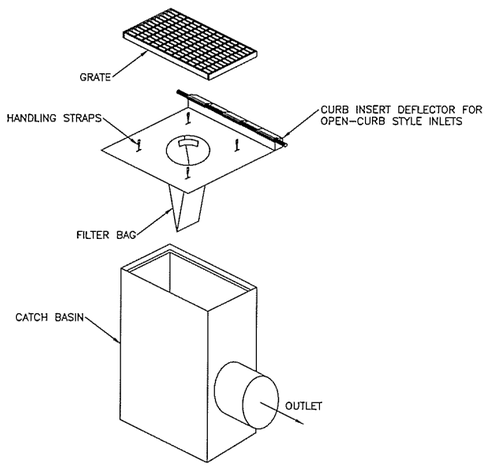
GENERAL SITE INFORMATION

1. SITE FUNCTION: ROAD
2. AVERAGE ANNUAL PRECIPITATION = FAIRBANKS MIDTOWN (502970) HAS AVERAGE ANNUAL RAINFALL OF 11.88 INCHES PER YEAR. (SOURCE: WESTERN REGIONAL CLIMATE CENTER– https://wrcc.dri.edu/cgi–bin/cliMAIN.pl?ak2970).
3. 2–YEAR 24–HOUR PRECIPITATION = 1.16 INCHES (SOURCE: NOAA POINT PRECIPITATION FREQUENCY ESTIMATES– FAIRBANKS INTL AP (50–2968) http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_ak.html).
4. SEE SHEET A1 FOR GENERAL PROJECT AREA MAP. SEE SHEET A3 FOR VICINITY MAP. PROJECT SITE IS LOCATED IN USGS QUAD D–2.

PROJECT INFORMATION TABLE	
PROJECT AREA (ACRE)	7.3
RECLAIMED PAVEMENT AREA (ACRE)	6.2
PRE–CONSTRUCTION RUNOFF COEFFICIENT	0.849
POST–CONSTRUCTION RUNOFF COEFFICIENT	0.846

ENVIRONMENTAL INFORMATION

1. RECEIVING WATER BODIES: CHENA RIVER, FAIRBANKS MS4
2. IMPAIRED WATER BODIES: CHENA RIVER
3. TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS: NONE.
4. THREATENED AND ENDANGERED SPECIES: NONE.
5. HISTORIC & CULTURAL RESOURCE PRESENCE: NONE.
6. FISH & WILDLIFE ESSENTIAL HABITAT: NONE.
7. WETLANDS: NONE WITHIN PROJECT FOOTPRINT.
8. PERMITS: FLOOD PLAIN PERMIT
9. CONTACT THE PROJECT ENGINEER WITH QUESTIONS/CONCERNS REGARDING ENVIRONMENTAL ISSUES OR PERMIT INFORMATION.



CATCH BASIN INLET PROTECTION
NOT TO SCALE

ESCP NOTES:

GENERAL:

1. THIS PROJECT WILL BE COMBINED WITH THE GARS PROJECT. SEE ESCP SHEETS FOR GARS PROJECT.
2. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
3. BEST MANAGEMENT PRACTICES (BMPS) IMPLEMENTED ON THE PROJECT WILL UTILIZE THE SPECIFICATIONS PROVIDED IN THE ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION STORM WATER GUIDE OR THE DOT& PF BMP GUIDE WHENEVER POSSIBLE.
4. TEMPORARY BMP'S THAT ARE REQUIRED, ARE SUBSIDIARY TO 641.0003.0000 TEMPORARY EROSION, SEDIMENT CONTROL.
5. MAINTAIN BMP'S ON A REGULAR BASIS INCLUDING, BUT NOT LIMITED TO REMOVAL AND DISPOSAL OF SEDIMENT AND REPLACING DAMAGED BMP'S OR AS DIRECTED BY THE ENGINEER.

CATCHBASINS AND CULVERTS:

6. PROVIDE TEMPORARY INLET AND OUTLET PROTECTION FOR CATCHBASINS AND CULVERTS IN THE PROJECT AREA PRIOR TO MAKING OPERATIONAL OR EARTH DISTURBING ACTIVITIES.
7. PERMANENT CULVERT INLET AND OUTLET PROTECTION IS ESTABLISHED VEGETATION.

DITCH PROTECTION AND CONCENTRATED FLOWS:

8. DURING CONSTRUCTION, PROTECT DITCHES TO LIMIT RELEASE OF SEDIMENT. PROVIDE TEMPORARY DITCH PROTECTION IN THE FORM OF VELOCITY CONTROLS OR TEMPORARY NON–ERODIBLE LINING.
9. EXPOSED MATERIAL OF NEW DITCHES CAPABLE OF SUPPORTING VEGETATION SHALL BE SEEDED FOR FINAL STABILIZATION.
10. WHEN POSSIBLE, AVOID CONDITIONS WHICH PROMOTE CONCENTRATED FLOWS. OTHERWISE, INSTALL VELOCITY CONTROL BMPS (I.E. WATTLE CHECK DAMS OR ROCK CHECK DAMS).

PERIMETER CONTROL:

11. VEGETATIVE BUFFER IS THE PREFERRED METHOD FOR PERIMETER CONTROL. INSTALL PERIMETER CONTROL BMP WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND WETLANDS WHERE A 25 FOOT VEGETATIVE BUFFER IS NOT RETAINED.

HAULING:

12. ENSURE LOADS ARE STABLE AND COVERED SO THAT NO MATERIAL ESCAPEMENT OCCURS DURING HAULING ACTIVITIES.
13. ALL ENTRANCE AND EXITS WILL BE SWEPT AT A FREQUENCY TO MINIMIZE THE TRACK OUT FROM THE PROJECT OR AS DIRECTED BY THE ENGINEER.
14. CONSTRUCTION ENTRANCE/EXIT, TRACK OUT CAN STILL BE CONSIDERED A DISCHARGE.

STOCKPILE PROTECTION:

15. ALL ERODIBLE STOCKPILES MUST BE PROTECTED BY EROSION AND SEDIMENT CONTROL DEVICES.
16. EROSION AND SEDIMENT CONTROL BMPS MAY HAVE TO BE REMOVED AND RE–INSTALLED EACH SHIFT.

TIMING OF BMP INSTALLATION:

17. INSTALL EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO THE START OF CONSTRUCTION, AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE.
18. INSTALL TEMPORARY PERIMETER CONTROL BMP'S BEFORE ANY UP–GRADIENT SOIL DISTURBANCE OCCURS.

BRIDGE CONTAINMENT:

19. BRIDGE WORK WILL HAVE A METHOD TO CATCH DERBIES AND PREVENT DERBIES FROM FALLING INTO THE CHENA RIVER. THESE PRACTICES ARE FOCUSED ON PROTECTING HABITAT AND ENSURING THAT POTENTIALLY HARMFUL MATERIALS ARE NOT ALLOWED TO ENTER RESOURCE WATER. THIS IS ACHIEVED THROUGH THE PROPER USE OF CONTAINMENT DEVICES, SOUND WORK SITE PRACTICES. A MINIMUM REMOVAL OF MATERIAL AND PROPER TIMING OF THE ACTIVITY.

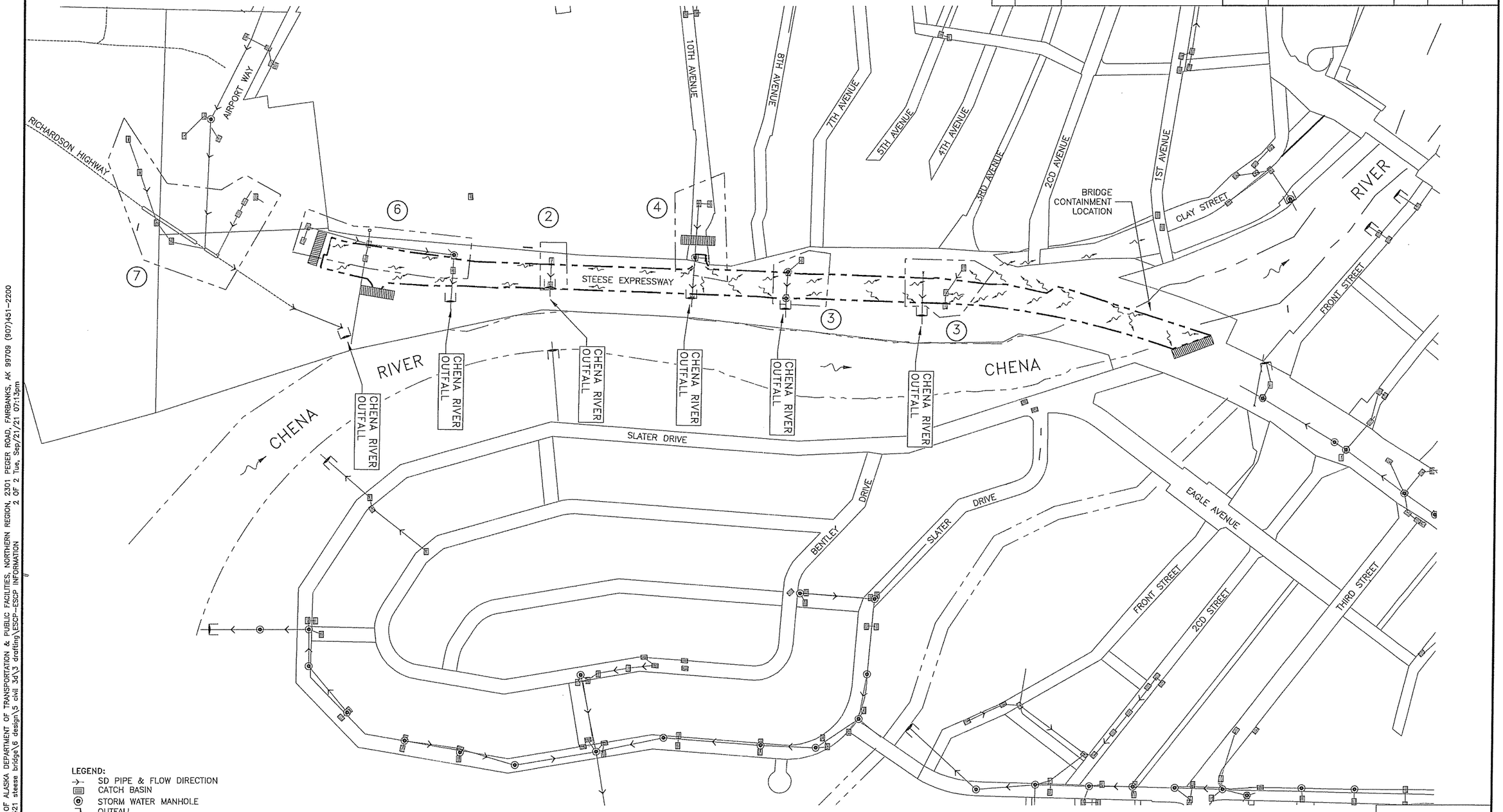
ESCP INFORMATION
1 OF 2

STATE OF ALASKA 49TH
RUSSELL M. ROBINSON
C.E. 9963
REGISTERED PROFESSIONAL ENGINEER
2/25/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451–2200
H:\Projects\Fbks_NP\nfhwy00421 steese bridge\6 Design\5 civil 3d\3 drafting\ESCP–ESCP INFORMATION 1 OF 2 Wed, Feb/23/22 01:26pm

NO.	DATE	REVISION

STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	Q2	Q2



LEGEND:

- SD PIPE & FLOW DIRECTION
- CATCH BASIN
- STORM WATER MANHOLE
- OUTFALL
- CATCH BASIN PROTECTION AREA
- APPROXIMATE LIMITS OF EARTH DISTURBANCE
- # OF CBs TO PROTECT
- SURFACE RUNOFF DIRECTION
- CONSTRUCTION ENTRANCE / EXIT

NOTES:

1. OUTFALLS THAT ARE LABELED NEED OUTLET PROTECTION.
2. CATCH BASINS IN CATCH BASIN PROTECTION AREAS NEED INLET PROTECTION.

ESCP INFORMATION
2 OF 2

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9953
REGISTERED PROFESSIONAL ENGINEER
10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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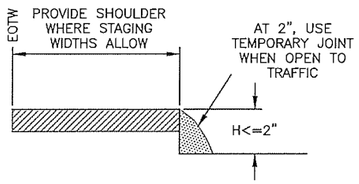
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0651033/NFHWY00421	2021	T1	T1

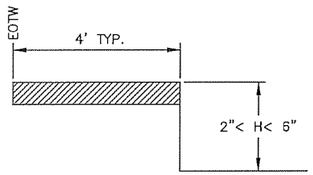
VERTICAL DROP-OFFS



CASE A

DROP-OFFS ≤2 INCHES
(PAVED SURFACES ONLY)

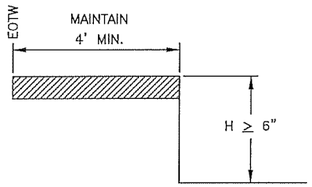
1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
2. LEAVE NO DROP-OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

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

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



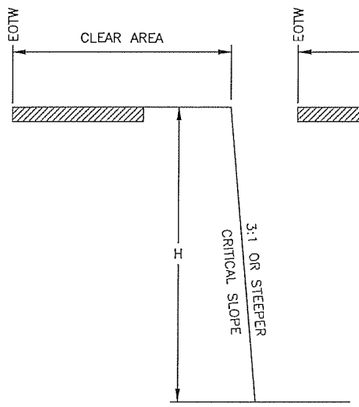
CASE C

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

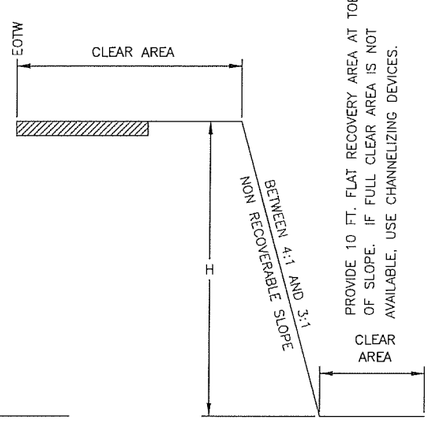
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS ≤ 24" WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS >24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

FILL SLOPES

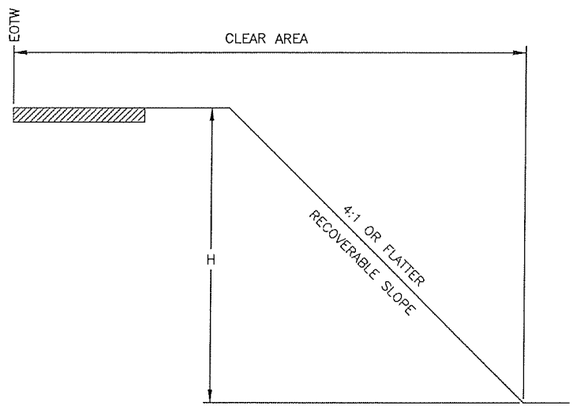
STEEPER THAN OR EQUAL TO 3:1



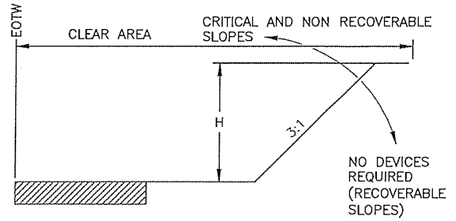
BETWEEN 4:1 AND 3:1



FLATTER THAN OR EQUAL TO 4:1



CUT SLOPES



EOTW = EDGE OF TRAVELED WAY

CLEAR AREA REQUIREMENTS

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

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

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

TRAFFIC CONTROL NOTES:

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

EQUIPMENT NOTES:

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

WINTER SHUTDOWN NOTES:

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

TRAFFIC CONTROL

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON C.E. 9963 REGISTERED PROFESSIONAL ENGINEER
10/22/2021

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
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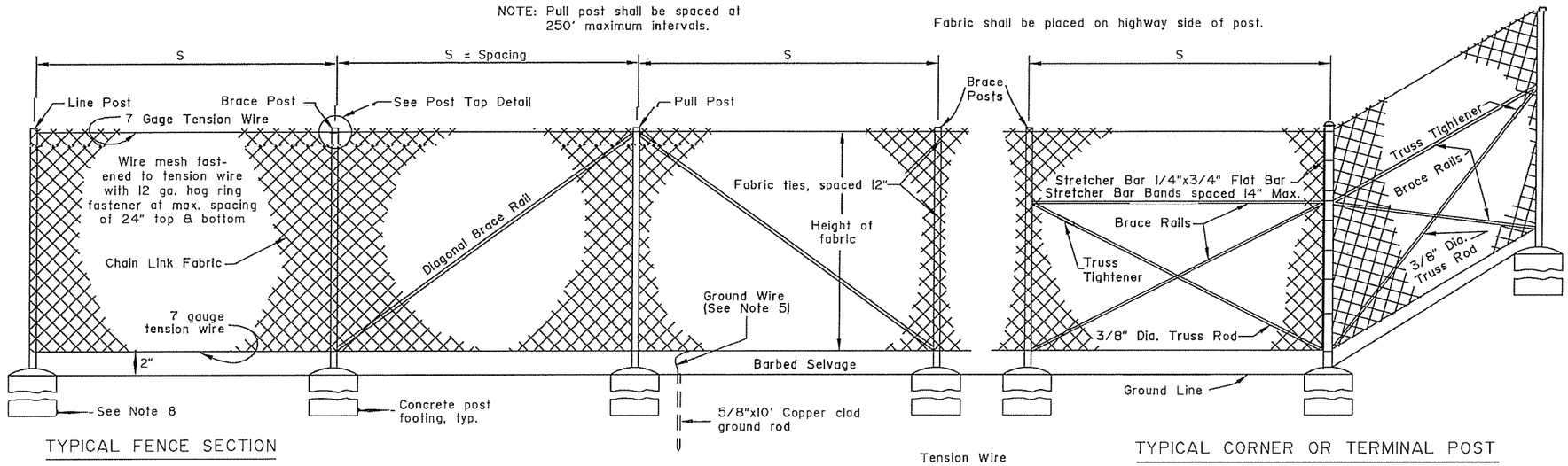
NOTE: Pull post shall be spaced at 250' maximum intervals.

Fabric shall be placed on highway side of post.



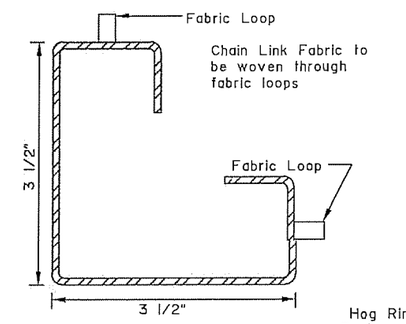
TYPICAL FENCE SECTION

TYPICAL PULL POST

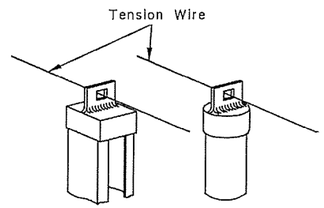
TYPICAL CORNER OR TERMINAL POST

GENERAL NOTES:

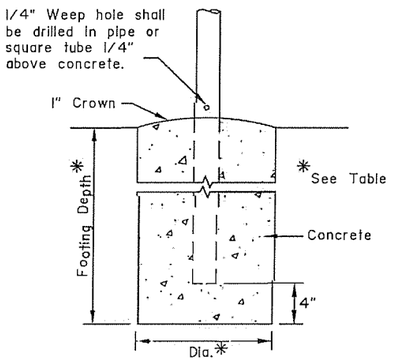
1. Use equal pole spacing (S). Maximum pole spacing is 10 feet unless directed otherwise by the Engineer.
2. Securely fasten post tops to post.
3. Securely fasten brace rails and truss rods to post with brace bands.
4. Provide truss rods with a tensioning adjusting mechanism.
5. Attach ground wire to fence fabric with a split bolt.
6. Stretch fabric to a smooth uniform appearance.
7. Details shown indicate general design and dimensions may vary among manufacturers.
8. Set line, pull, corner, and terminal posts in concrete footings unless in muskeg or shown otherwise in the plans.



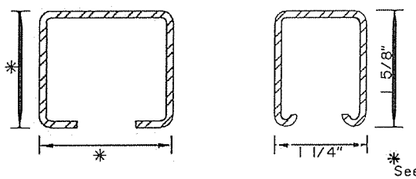
ROLL FORMED POST



LINE POST TOPS

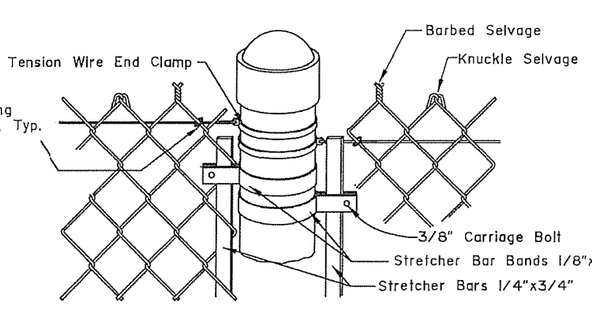


CONCRETE POST FOOTING

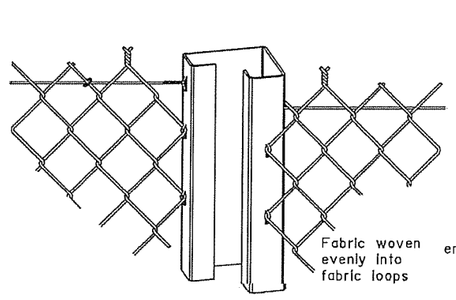


C POST

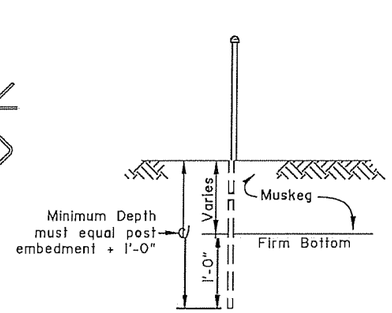
ROLL FORMED BRACE



PIPE STYLE POST TOP

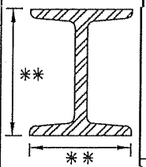


ROLL FORMED POST TOP



POST SETTING IN MUSKEG AREAS

FABRIC HEIGHT	POST								TOP OR BRACE RAIL						ALTERNATE POST	
	END-CORNER-PULL								LINE-BRACE						LINE-BRACE	
	PIPE		SQUARE TUBE		ROLL FORMED		FOOTING		PIPE		C POST		FOOTING		PIPE		ROLL FORMED		H POST		H POST	
	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	DEPTH	DIA.	SIZE	WT/FT	SIZE	WT/FT.	DEPTH	DIA	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.
3'	2"	3.65 #	2" x 2"	4.31 #	3 1/2"x3 1/2"	4.84 #	40"	10"	1 1/2"	2.72 #	1 7/8"x1 5/8"	2.28 #	28"	10"	1 1/4"	2.27 #	1 5/8"	1.35 #	1 1/2"x 1 5/16"	2.27 #	1 7/8"x1 5/8"	2.72 #
4'	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
5'	2"	3.65 #	2" x 2"	4.31 #	3 1/2"x3 1/2"	4.84 #	40"	10"	1 1/2"	2.72 #	1 7/8"x1 5/8"	2.28 #	28"	10"	"	"	"	"	"	"	1 7/8"x1 5/8"	2.72 #
6'	2 1/2"	5.79 #	2 1/2"x2 1/2"	5.59 #	3 1/2"x3 1/2"	4.84 #	48"	15"	2"	3.65 #	2 1/4"x1 45/64"	2.64 #	40"	12"	"	"	"	"	"	"	2 1/4"x2"	4.1 #
7'	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
8'	2 1/2"	5.79 #	2 1/2"x2 1/2"	5.59 #	3 1/2"x3 1/2"	4.84 #	48"	15"	2"	3.65 #	2 1/4"x1 45/64"	2.64 #	40"	12"	"	"	"	"	"	"	2 1/4"x2"	4.1 #



State of Alaska DOT&PF
ALASKA STANDARD PLAN

CHAIN LINK FENCE

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

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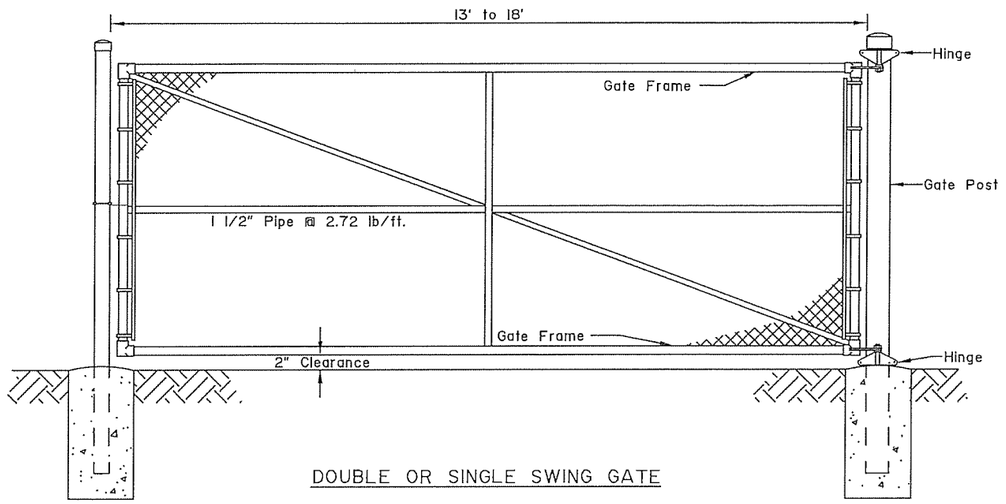
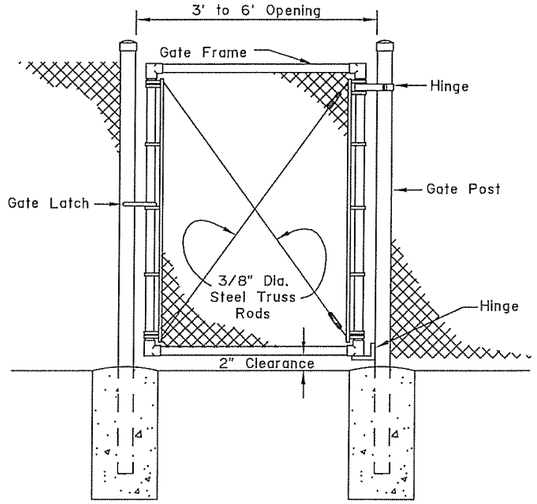


DOUBLE OR SINGLE SWING GATE

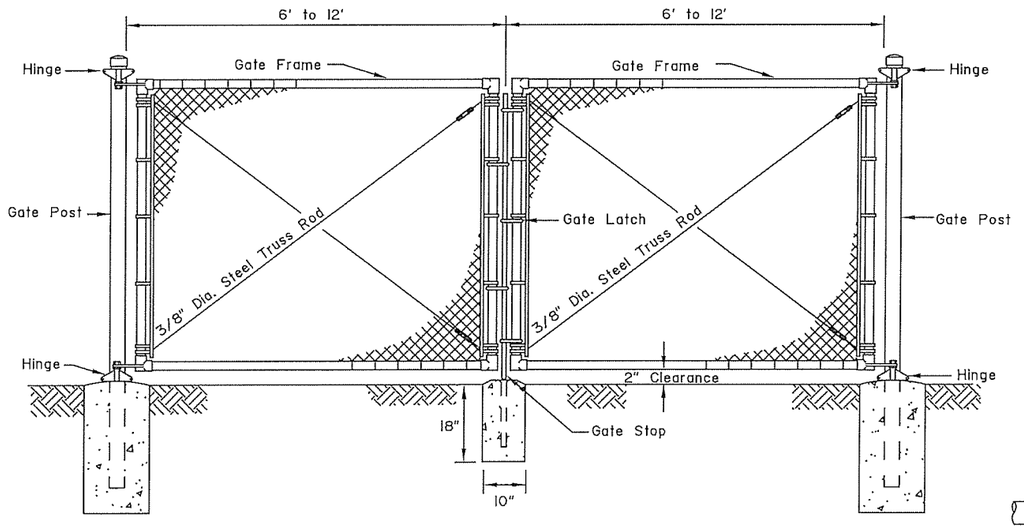


PEDESTRIAN GATE

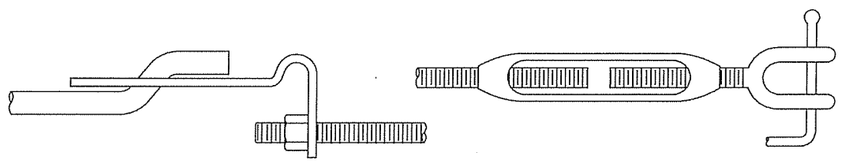
GENERAL NOTES:

1. Details shown are to indicate general design only. Dimensions may vary slightly among the manufacturers.
2. Gate fabric shall be of the same design and height of line fence fabric.
3. Gate fabric shall be furnished with knuckle selvage top and bottom.
4. Concrete footings shall be of the same depth as end posts with a diameter 1 1/2 times larger except as shown for gate stop.
5. Gate frames may be fabricated by welding or riveting and shall be braced to eliminate sagging. Hinges, latches and other gate appurtenances shall be of sufficient strength and design to assure easy trouble free operation.

Gate Fabric Height	Gate Opening		GATE POST						GATE FRAME			
	SINGLE GATE	DOUBLE GATE	ST'D PIPE		SQUARE TUBE		ROLL FORMED		ST'D PIPE		SQUARE TUBE	
			SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.	SIZE	WT/FT.
3' to 5'	3' to 6'	6' to 12'	2"	3.65#	2" x 2"	4.31 #	3 1/2"x3 1/2"	5.14 #	1 1/2"	2.72#	2" x 2"	4.31 #
"	7' to 12'	13' to 24'	2 1/2"	5.79#	2 1/2"x2 1/2"	5.59 #	" "	"	"	"	" "	"
"	13' to 18'	25' to 36'	"	"	" "	"	" "	"	"	"	" "	"
6' to 8'	3' to 6'	6' to 12'	2 1/2"	5.79 #	2 1/2"x2 1/2"	5.59 #	3 1/2"x3 1/2"	5.14 #	1 1/2"	2.72#	" "	"
"	7' to 12'	13' to 24'	3 1/2"	9.11 #	3 1/2"x3 1/2"	8.14 #	———	———	2"	3.65#	" "	"
"	13' to 18'	25' to 36'	6"	18.97#	6" x 6"	18.82#	———	———	"	"	2" x 2"	4.31 #



DOUBLE SWING GATE



TYPICAL TRUSS ROD TIGHTENERS

State of Alaska DOT&PF
ALASKA STANDARD PLAN

CHAIN LINK FENCE GATE

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

F-03.02

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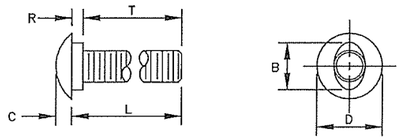
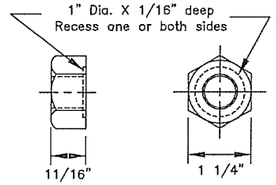
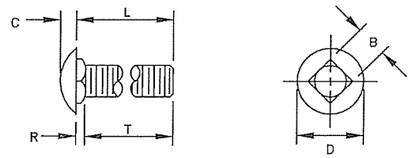


B	C	D	L (Length)	R	T (Thread Length)
15/16"	5/16"	1 5/16" or 1 7/16"	As Required	7/32"	As Required

5/8" BUTTONHEAD BOLT
(FBB01–05)

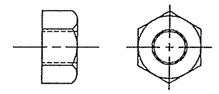


5/8" Dia. RECESSED HEX NUT
(FBB01–05)

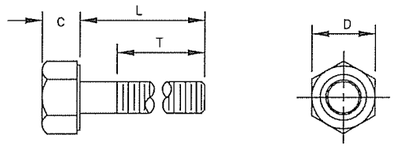


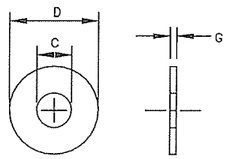
B	C	D	L (Length)	R	T (Thread Length)
5/8"	5/16"	1 5/16"	As Required	3/16"	As Required

5/8" Dia. CARRIAGE BOLT
(FBC10–20)



STANDARD HEX NUT



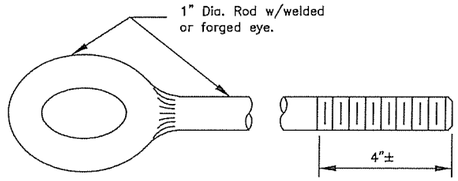


Bolt Size	C	D	L (Length)	T (Thread Length)
5/16"	——	——	1 1/2"	7/8"
5/16"	——	——	1"	1"
3/8"	——	——	7 1/2"	1 1/2"
1/2"	——	——	1 1/2"	1 1/2"
1/2"	——	——	1 1/4"	1 1/4"
5/8" H.S.	5/16"	7/8"	8"	1 1/2"
5/8"–11	——	——	1 1/2"	1 1/2"
3/4"	——	——	1 1/2"	1 1/2"
3/4"	——	——	As Required	2"
3/4" H.S.	15/32"	1 1/4"	2"	1 1/2"

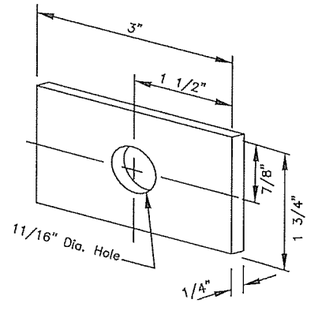
STANDARD HEX BOLTS

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

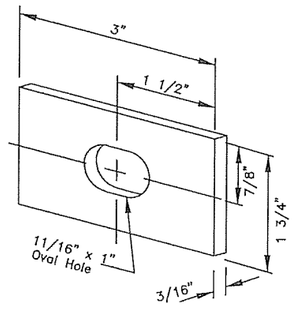
STANDARD STEEL WASHERS



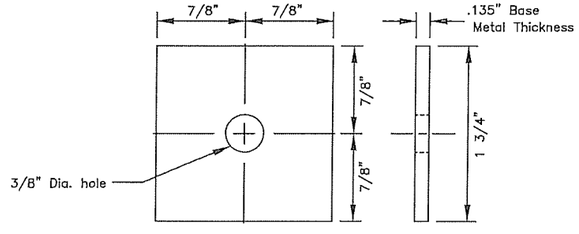
EYE BOLT



FLAT PLATE WASHER



RECTANGULAR POST BOLT WASHER
(FWR03)



SQUARE STEEL WASHER
(FWR01)

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE
(NUTS, BOLTS & WASHERS)

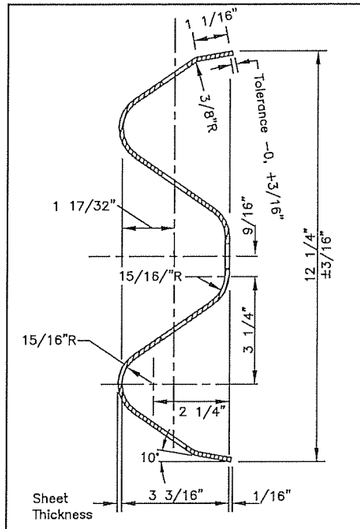
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

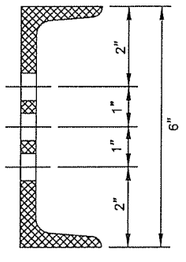
Last Code and Stds. Review
By: KLK Date: 7/8/2020

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

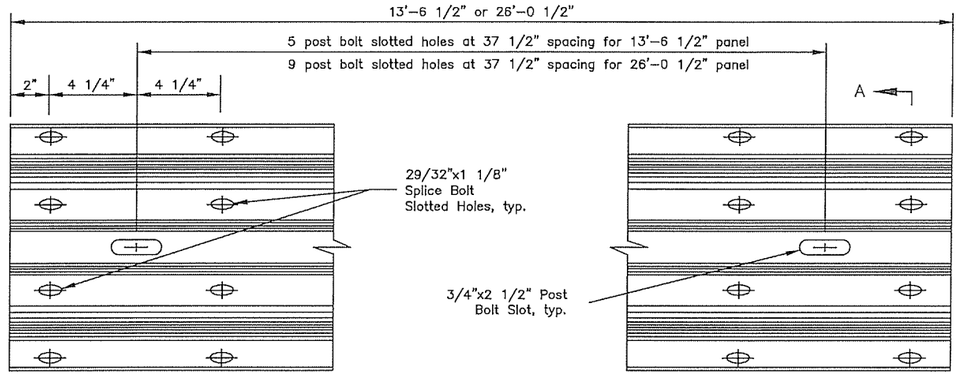
G-00.05



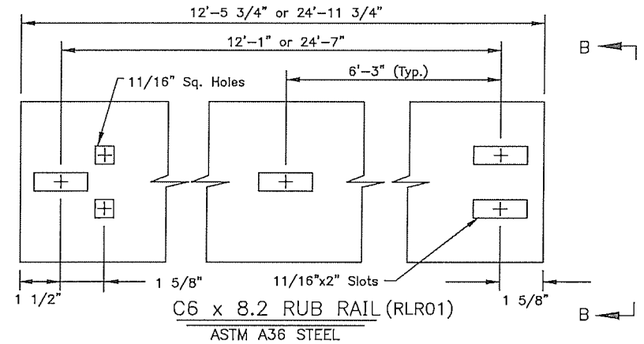
SECTION A–A
(cross section same as RWM02a–b)



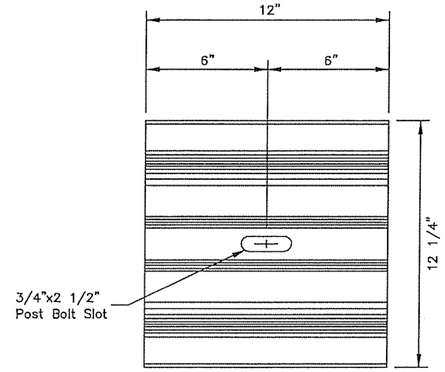
SECTION B–B



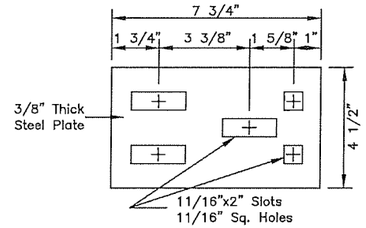
STANDARD W–BEAM PANEL (RWM04a–b)



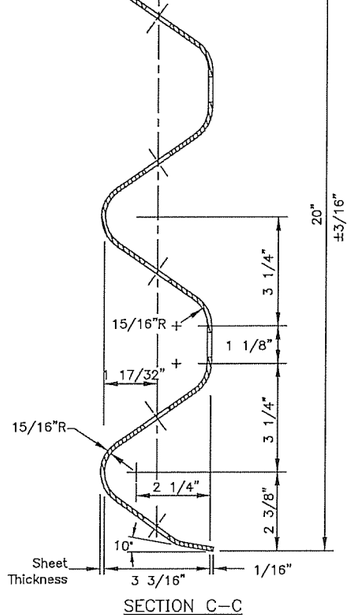
C6 x 8.2 RUB RAIL (RLR01)
ASTM A36 STEEL



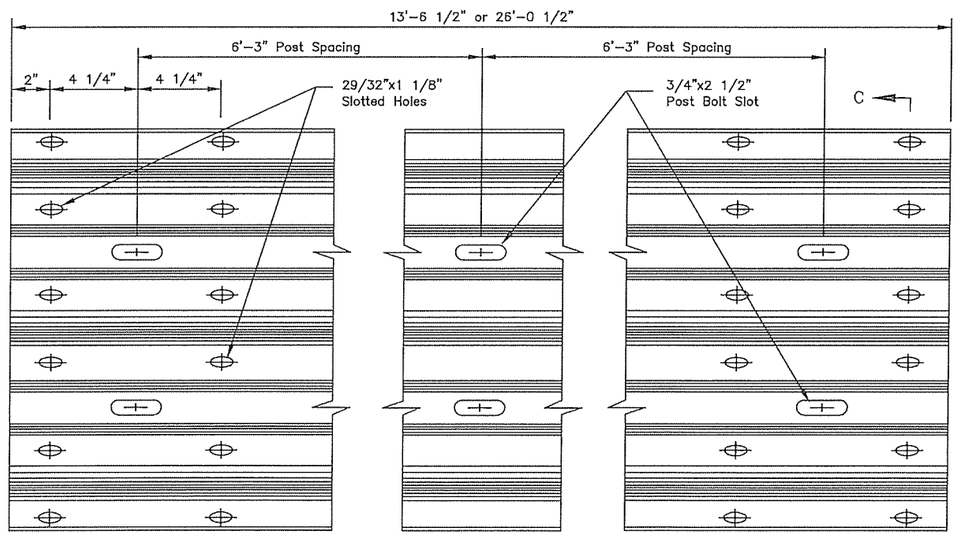
W–BEAM BACKUP PLATE
(RWB01a–b)



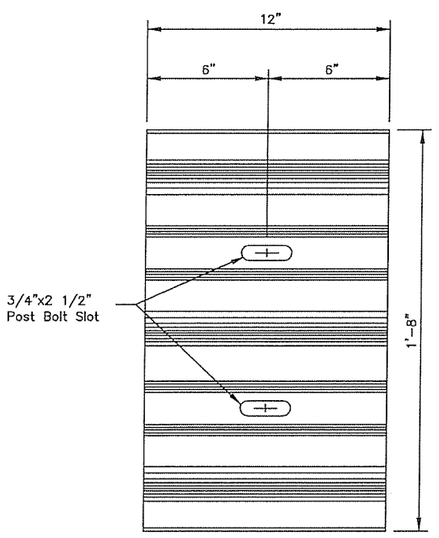
SPLICE PLATE (RLR01)
ASTM A36 STEEL



SECTION C–C
(RTM01a–02b)



STANDARD THRIE BEAM PANEL (RTM01a–02b)



THRIE BEAM BACKUP PLATE
(RTB01a–02b)

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (RAILS AND SPLICES)

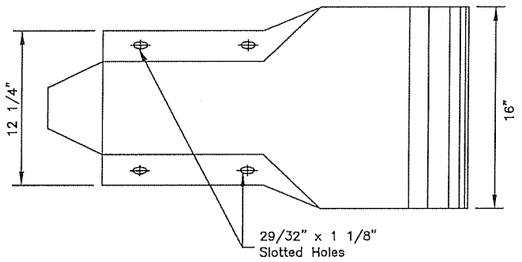
Adopted as an Alaska Standard Plan by: Carolyn Morehouse
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 7/17/2020

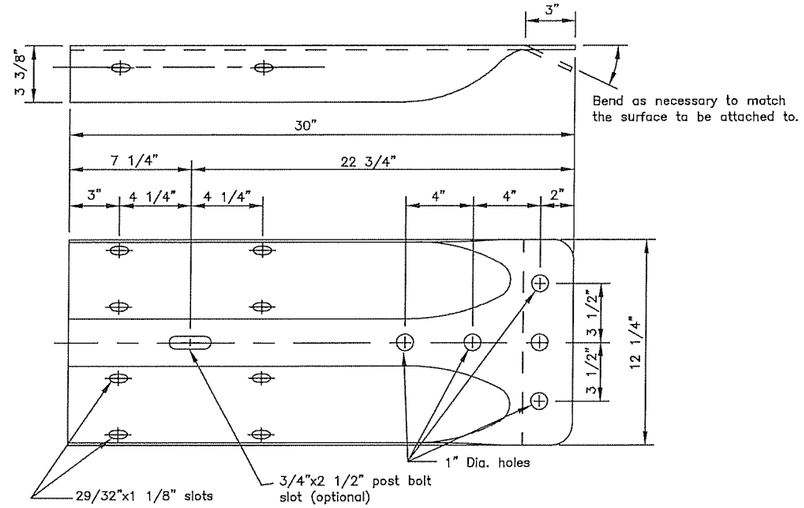
Last Code and Stds. Review By:KLK Date: 7/8/2020

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

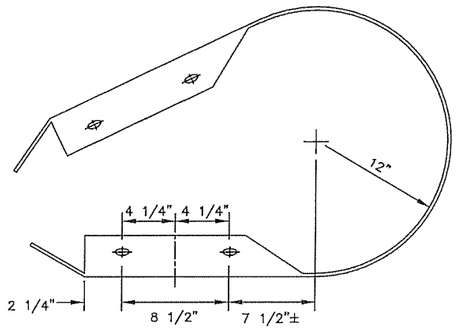
G–00.05



PROFILE

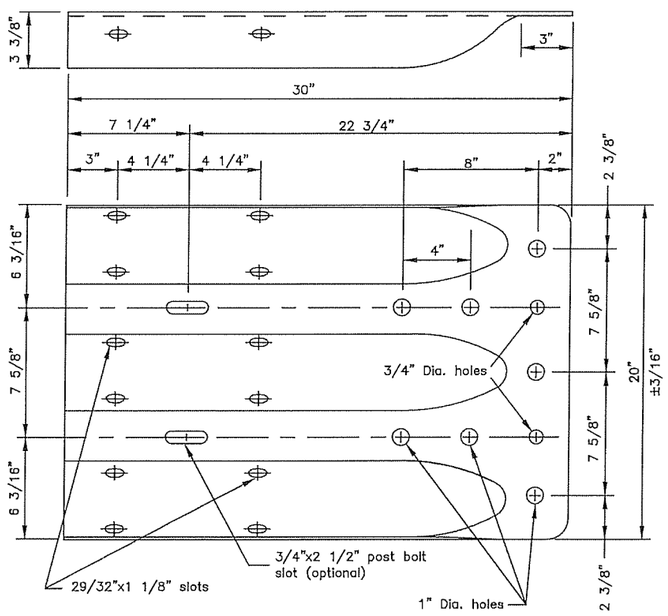


STANDARD W-BEAM TERMINAL CONNECTOR
(RWE02)



W-BEAM PLAN VIEW
*Radius to be specified on the plans

STANDARD W-BEAM END SECTION
(RWE06)



STANDARD THRIE BEAM TERMINAL CONNECTOR
(RTE01b)

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (TERMINAL CONNECTORS)

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

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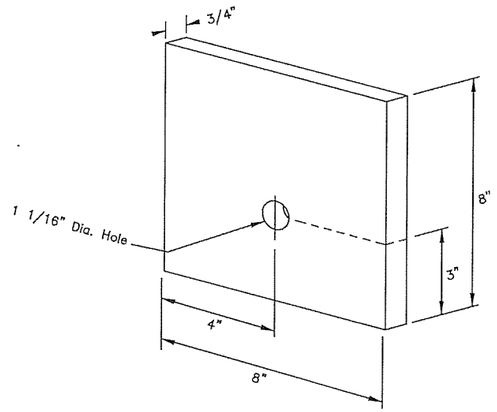
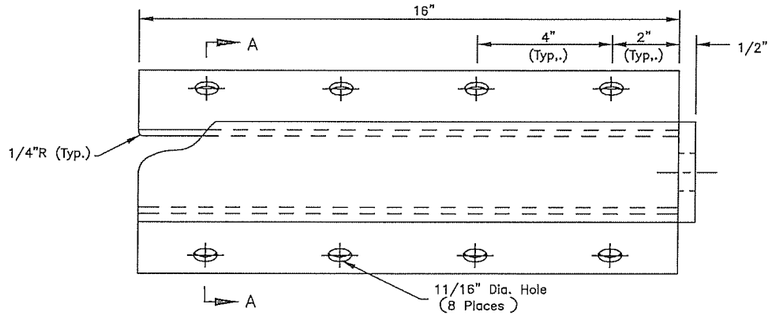
By: KLK Date: 7/8/2020

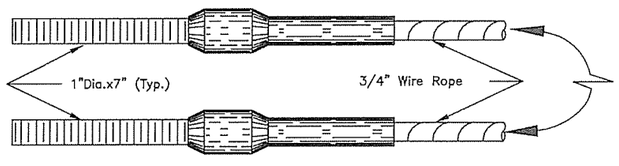
Next Code and Standards Review Date: 7/8/2030



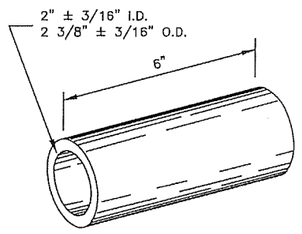
BEARING PLATE for CRT TERMINAL ANCHOR
(FPB01)



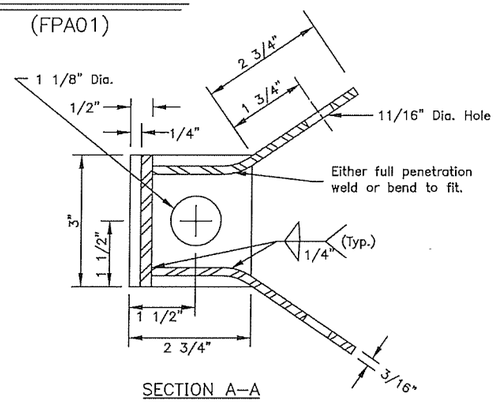
CABLE ANCHOR PLATE
(FPA01)



SWAGED FITTING DETAIL
(FCA01–02)



SLEEVE DETAIL
(FMM02)

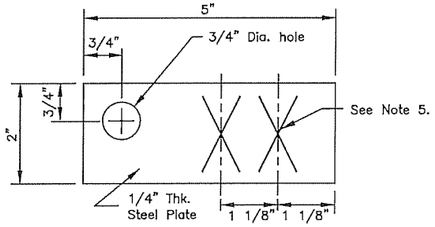


SECTION A–A

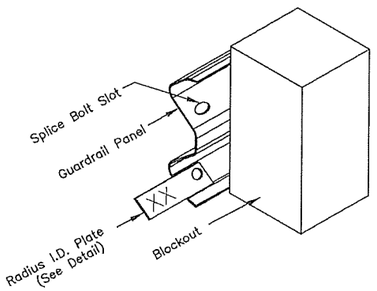
CONTROLLED RELEASE TERMINAL HARDWARE DETAILS

GENERAL NOTES:

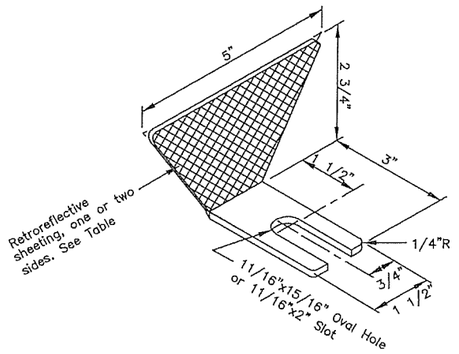
1. Cable Anchor Plate may be formed in single unit or welded fabrication.
2. Anchor Cable Assembly must conform to AASHTO M 30 with Type II Wire Rope.
3. Provide Sleeve for Wood Posts meeting the requirements of ASTM A53 and made of 2–inch galvanized standard pipe. Sleeve shall be a tight, pressed fit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



RADIUS I.D. PLATE



RADIUS I.D. PLATE MOUNTING DETAIL



GUARDRAIL REFLECTOR

Guardrail Reflector Table

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (MISCELLANEOUS)

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

Adoption Date: 7/17/2020

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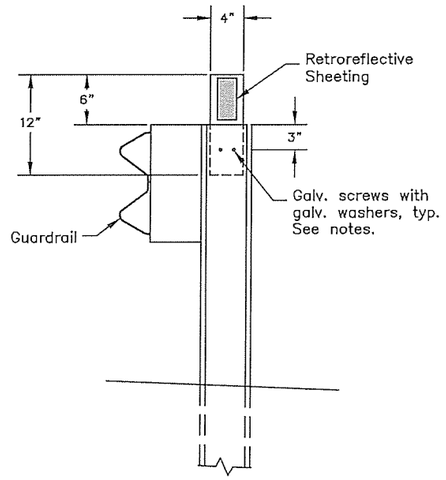
G-00.05



GUARDRAIL FLEXIBLE DELINEATOR DETAIL

(Steel post shown – similar for wood post)

CONSTRUCTION NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STANDARD GUARDRAIL HARDWARE (FLEXIBLE DELINEATORS)

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

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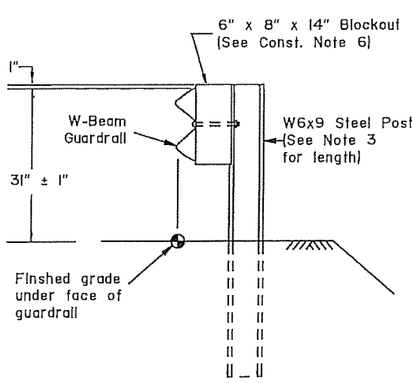
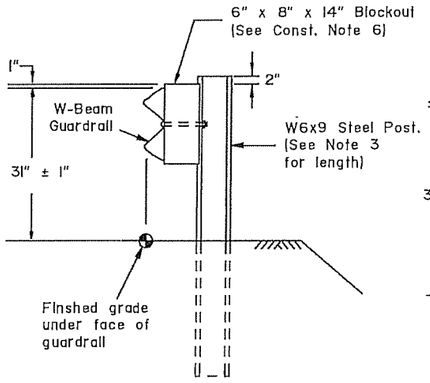
G-05.11S | SHEET 1 of 1

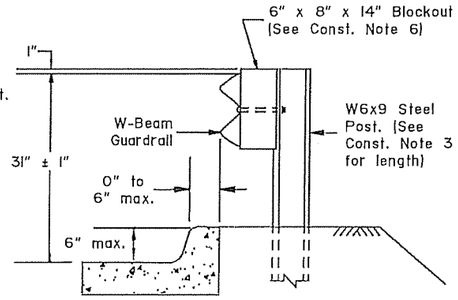


TYPE I POST INSTALLATION

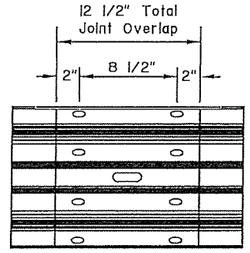


TYPE II POST INSTALLATION

(Facilitates raising rail for future overlays.)

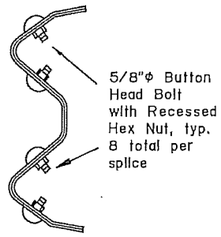


TYPE III POST INSTALLATION



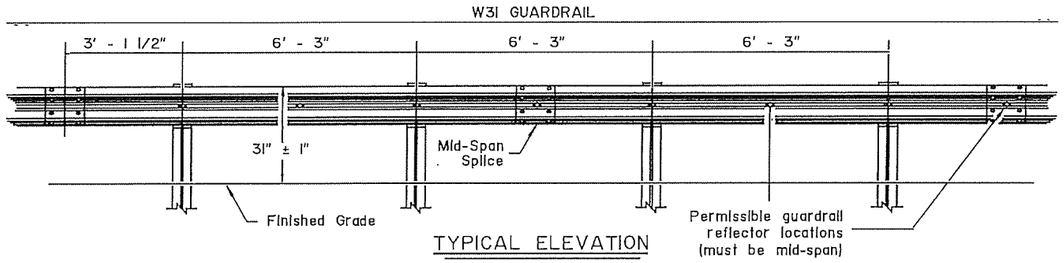
SPLICE DETAIL

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

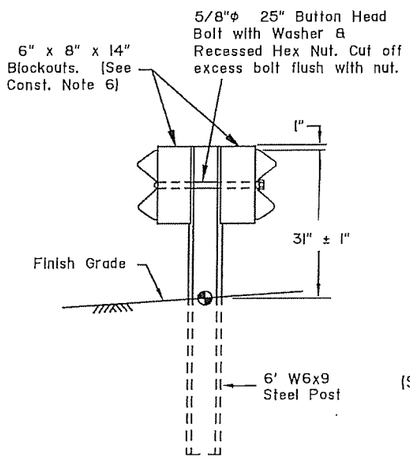


SPLICE CROSS-SECTION

W31 GUARDRAIL



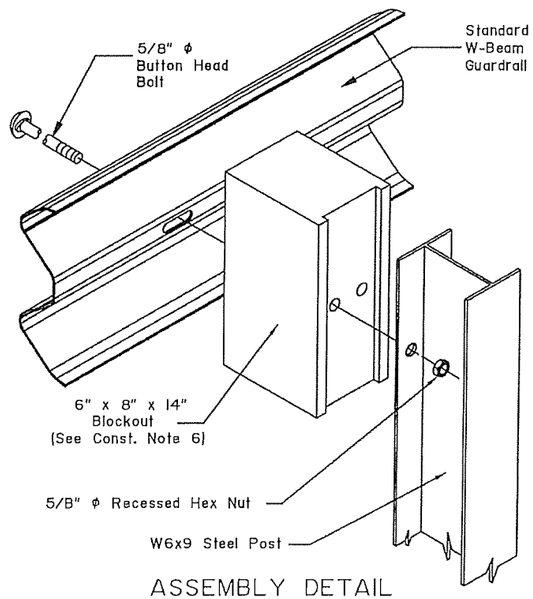
TYPICAL ELEVATION



TYPE IV DOUBLE SIDED INSTALLATION

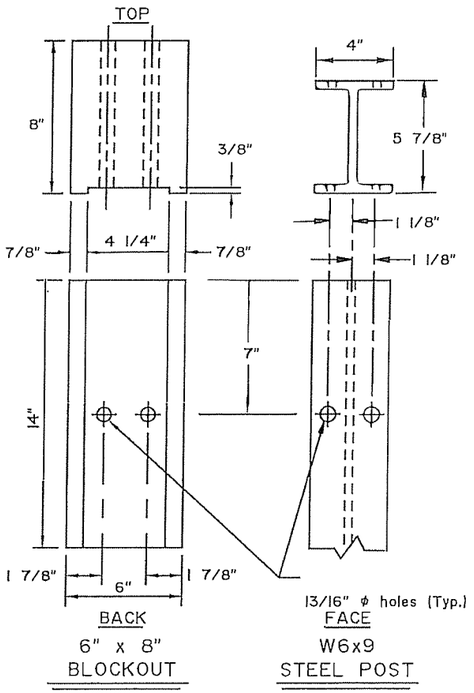
GUARDRAIL REFLECTOR

(See Const. Note 5)



ASSEMBLY DETAIL

(Type I post shown)



BACK

6" x 8" BLOCKOUT

FACE

W6x9 STEEL POST

CONSTRUCTION NOTES:

1. Provide hardware compliant with the Task Force 13 (TF13) Guide to Standardized Roadside Safety Hardware.
2. See Standard Plan G-00 for hardware details not shown on this drawing.
3. See Standard Plan G-10 for past lengths corresponding to different combinations of slope and behind-post embankment width.
4. Typical post spacing is 6'-3" center to center.
5. Attach guardrail reflector to guardrail using a 5/8" button head bolt with 5/8" recessed head hex nut and steel washer at location shown in the Typical Elevation. Install reflectors every 25' on tangents and every 12.5' on curves starting 100' before the P.C. and ending 100' after the P.T.
6. Use wood or synthetic blockouts designed, tested, and passed per MASH for use with steel posts. Either bolt hole on the blockout may be used for attachment.
7. Use a 25 linear foot transition to match differing height of existing or new rail elements and end treatments - see Standard Plan G-11.
8. W6x8.5 steel post may be substituted for W6x9 steel post.
9. Install flexible delineators on guardrail posts when called for in the contract. See Standard Plan G-00 for guardrail flexible delineator details.

DESIGN NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

STEEL POST W31 GUARDRAIL

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

Carolyn Morehouse, P.E.
Chief Engineer

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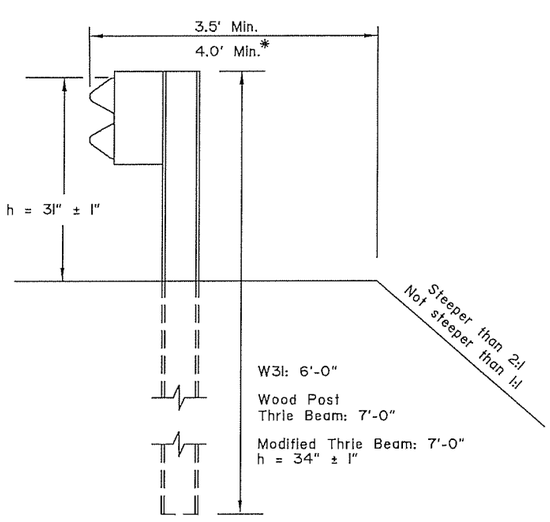
Next Code and Standards Review date: 5/15/2029

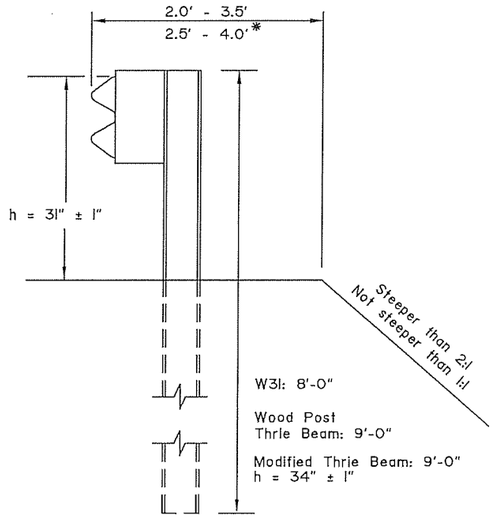
G-05.11S

G-10.20 | SHEET | of |



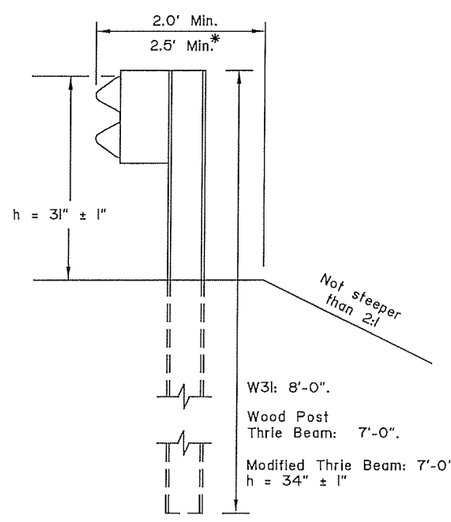
* with Modified Thrie Beam

CASE 1



* with Modified Thrie Beam

CASE 2



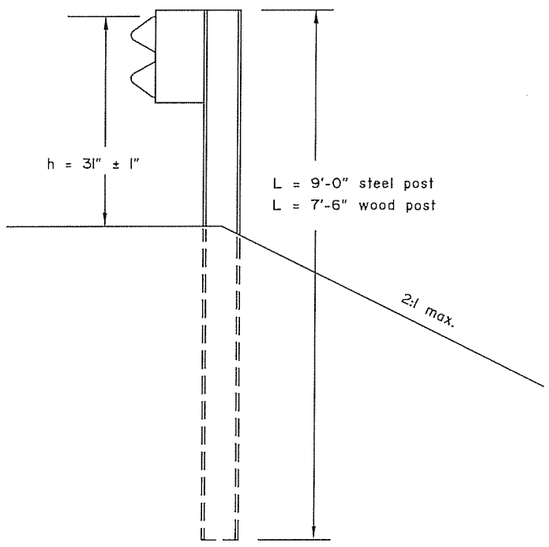
CASE 3

CONSTRUCTION NOTES:

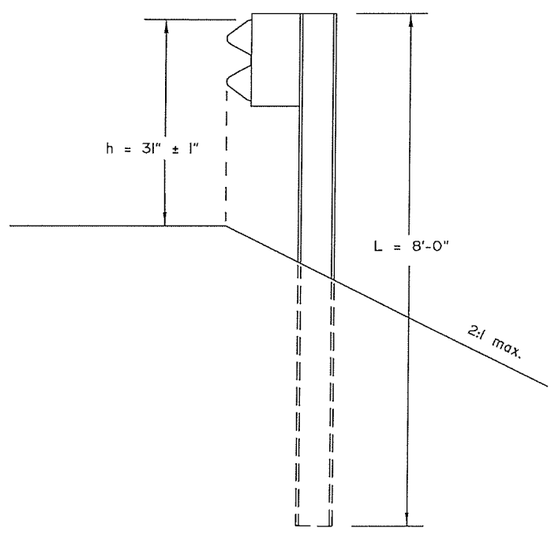
1. This drawings is to be used for post length determination only. See Plans for slopes and behind-post embankment widths.
2. To determine post length, identify the case that matches site conditions and read the length corresponding to the pertinent guardrail type.
3. These dimensions apply to both curbed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

DESIGN NOTES:

1. No fixed objects allowed within 36" of the back of post for Cases 1, 2 & 3.
2. No fixed objects allowed within 48" of the back of post for Cases 4 & 5.



CASE 4
(See Note 5)



CASE 5
(See Note 5)

State of Alaska DOT&PF
ALASKA STANDARD PLAN

GUARDRAIL POST INSTALLATION

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

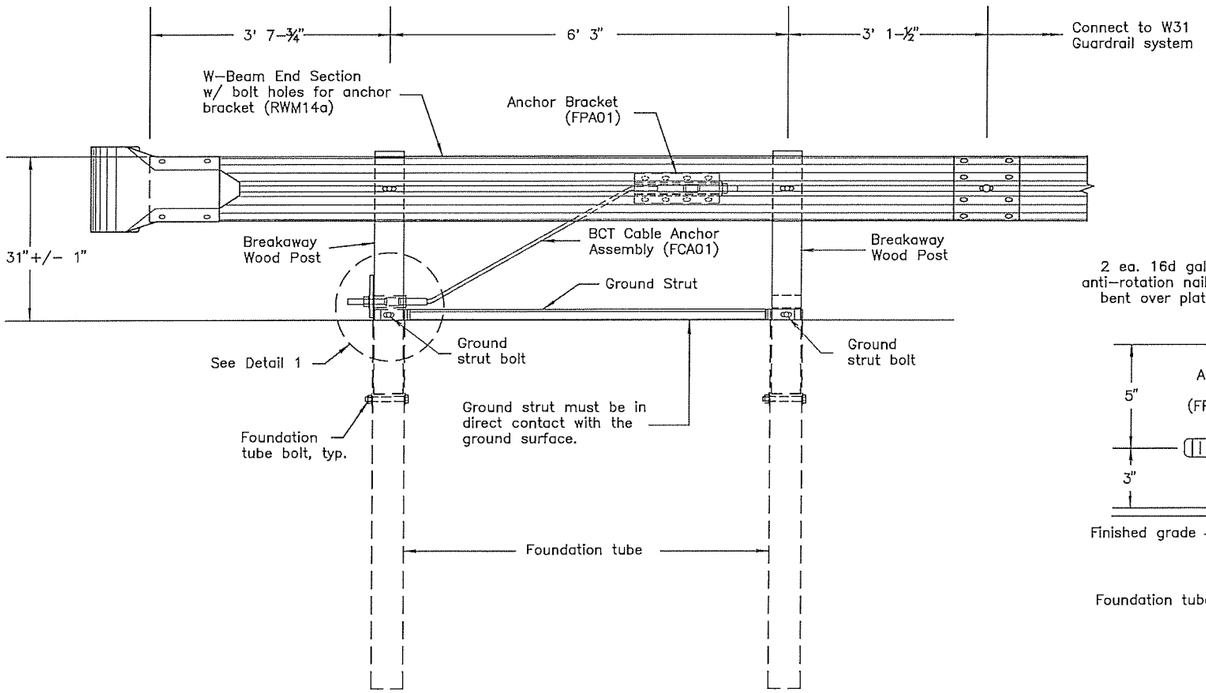
Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

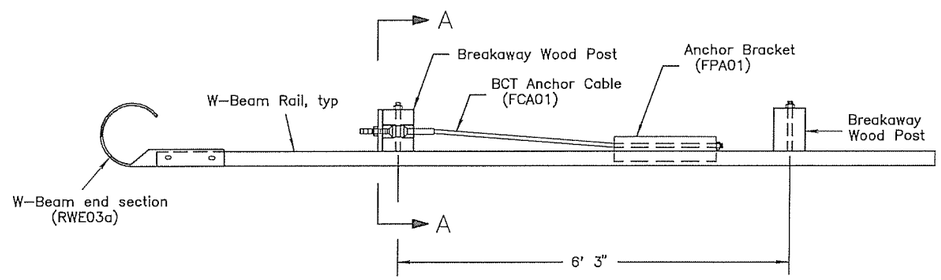
Next Code and Standards Review date: 02/08/2029

G-10.20

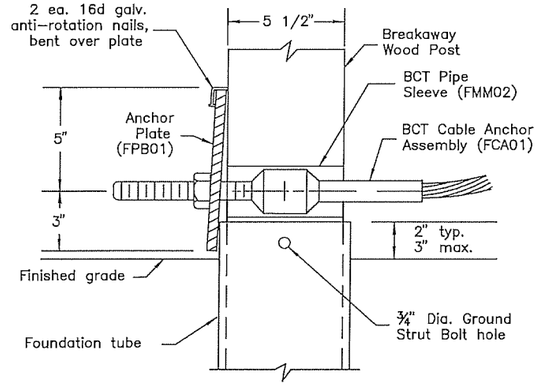
G-14.01 SHEET 1 of 2



ELEVATION

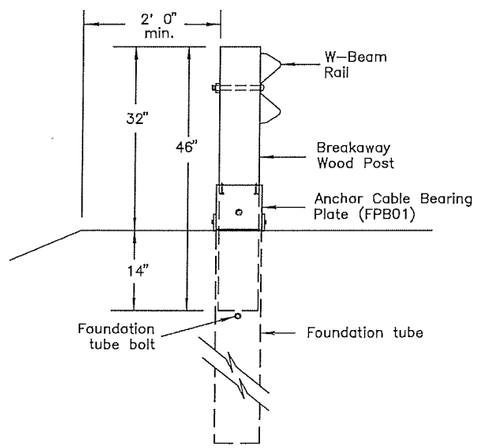


PLAN VIEW



DETAIL 1

(Ground strut not shown for clarity)



SECTION A-A

CONSTRUCTION NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 DOWNSTREAM END ANCHOR

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

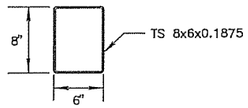
Adoption Date: 7/17/2020

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

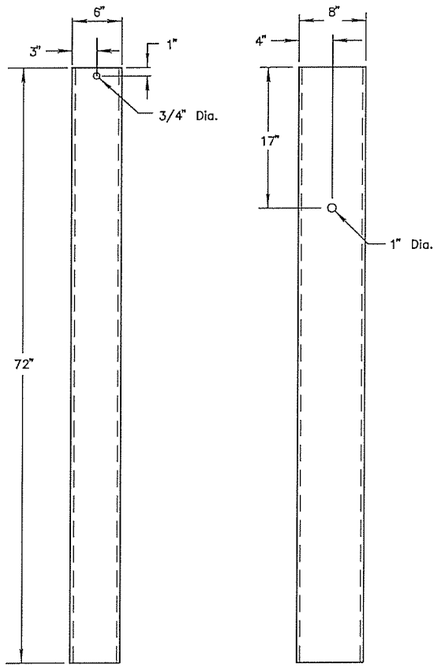
Next Code and Standards Review Date: 7/8/2030

G-14.01

G-14.01 SHEET 2 of 2

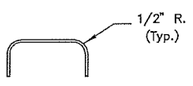


PLAN VIEW

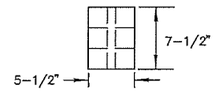


FRONT VIEW SIDE VIEW

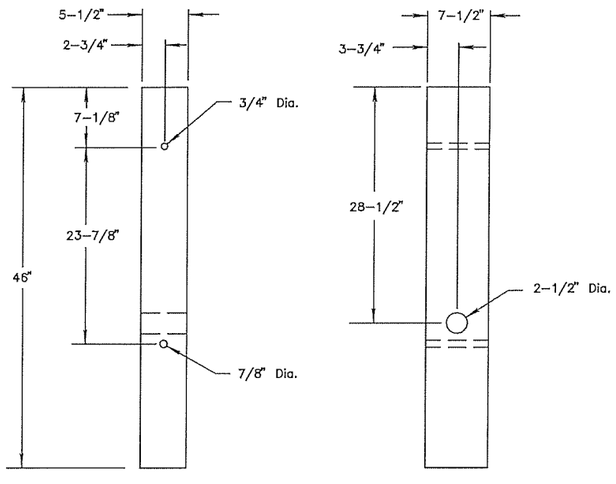
FOUNDATION TUBE



GROUND STRUT SECTION

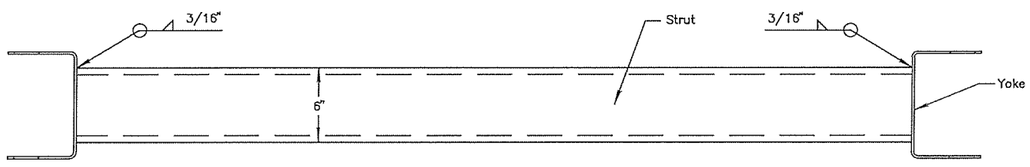


PLAN VIEW

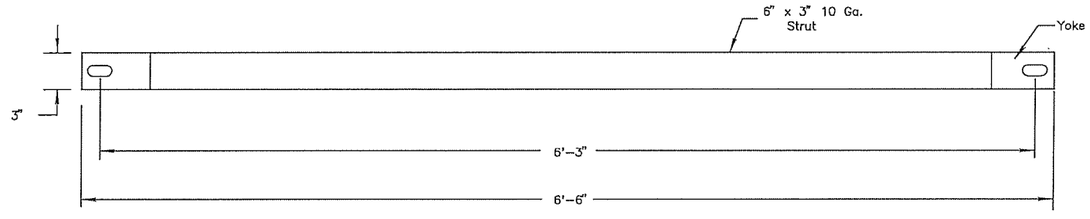


FRONT VIEW SIDE VIEW

BREAKAWAY WOOD POST

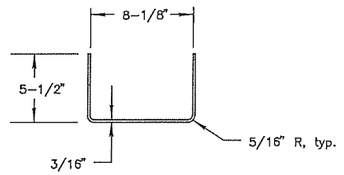


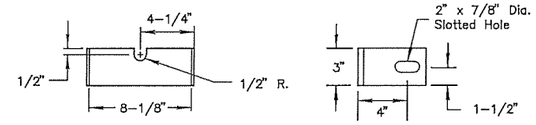
PLAN VIEW



FRONT VIEW

GROUND STRUT DETAIL





YOKE DETAIL

CONSTRUCTION NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

W31 DOWNSTREAM
END ANCHOR

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

Adoption Date: 7/17/2020

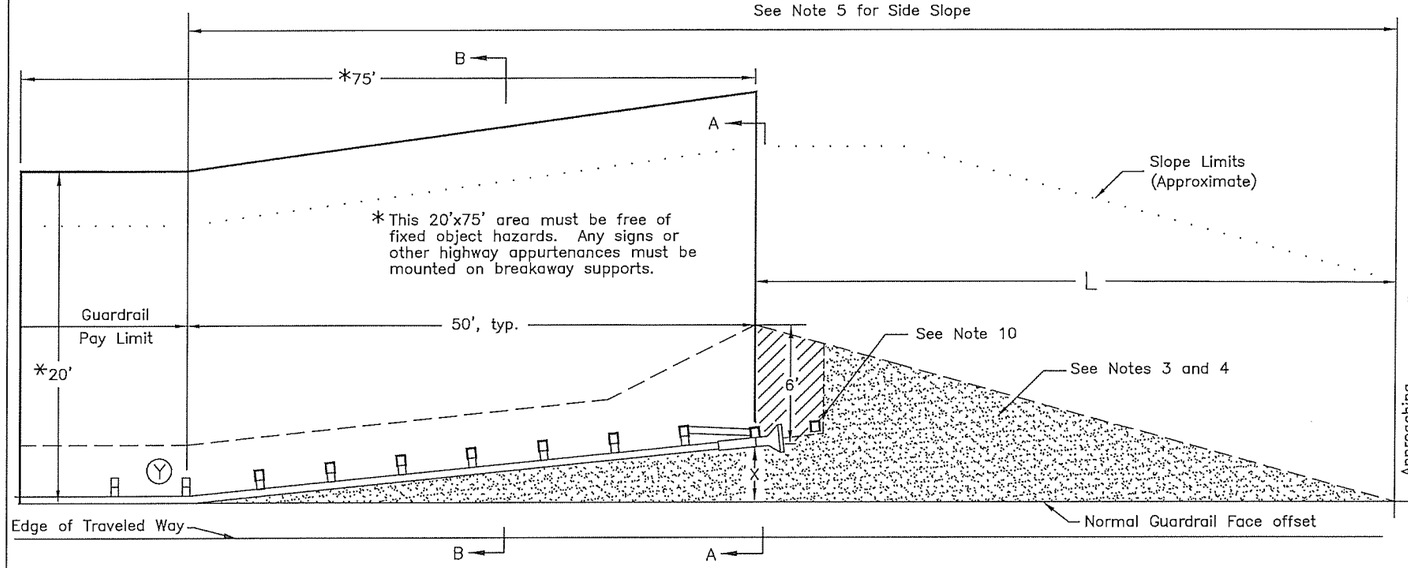
Last Code and Stds. Review
By: KLK Date: 7/8/2020

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

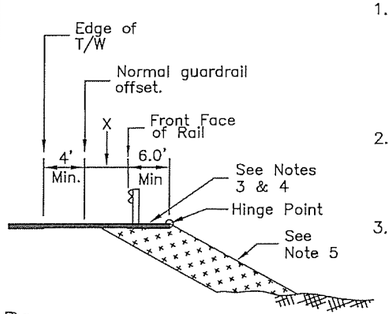
G-14.01

G-20.12

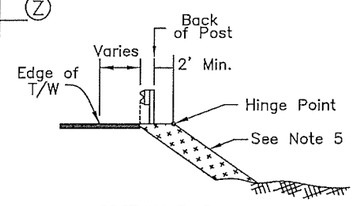
SHEET 1 of 1



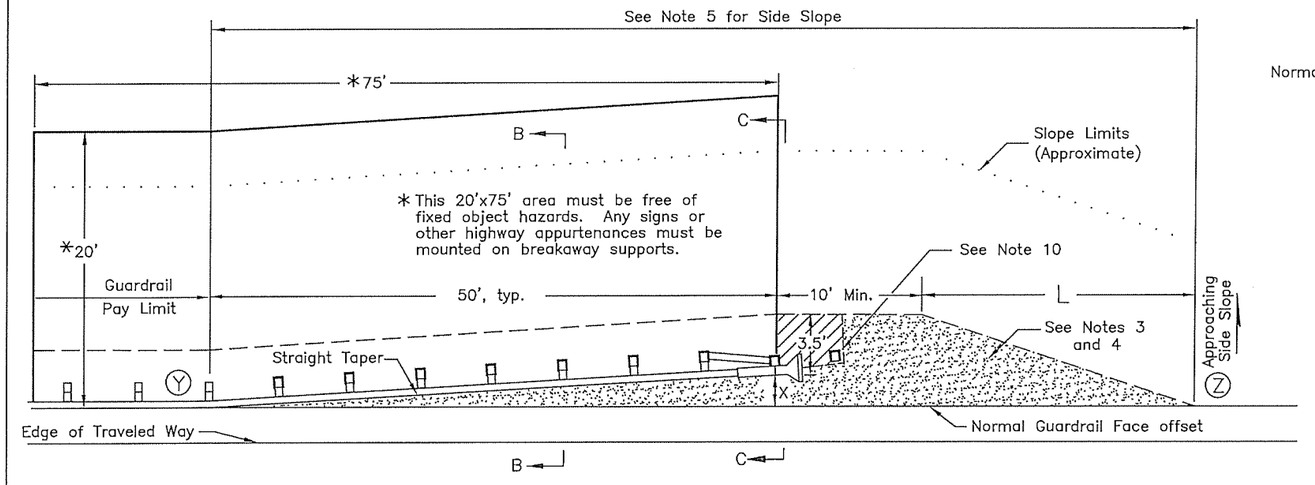
STANDARD GUARDRAIL TERMINAL WIDENING DETAIL



SECTION A–A

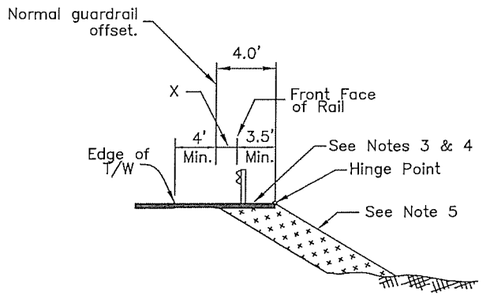


SECTION B–B
(Applies to both details)



ALTERNATE GUARDRAIL TERMINAL WIDENING DETAIL

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



SECTION C–C

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

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

GENERAL NOTES

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

WIDENING FOR GUARDRAIL END TERMINALS

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

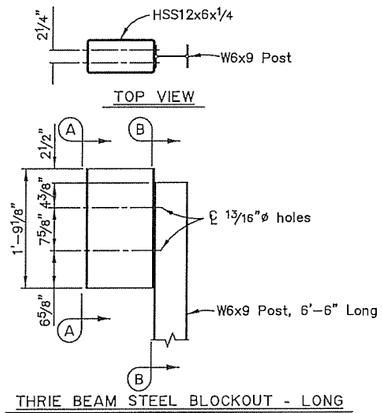
Adoption Date: 02/08/2019

Last Code and Stds. Review By: Date:

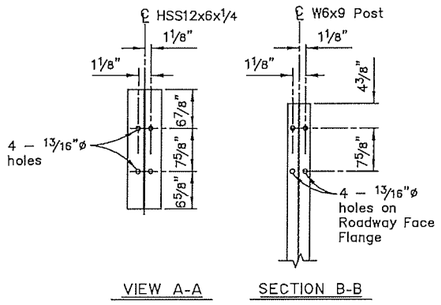
Next Code and Standards Review date:02/08/2029

G-20.12

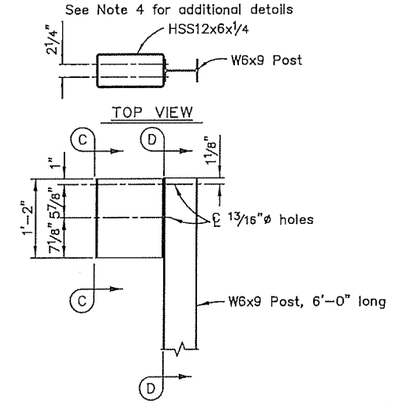
G-32.02 | SHEET | of |



THRIE BEAM STEEL BLOCKOUT - LONG

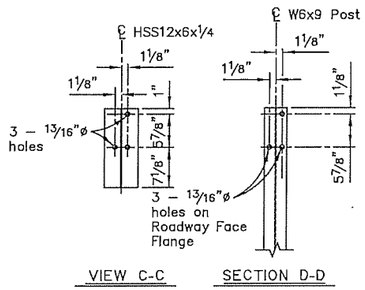


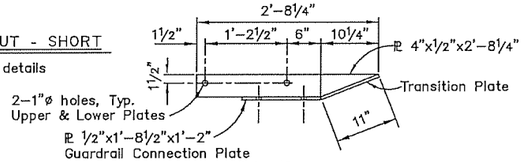
See Note 4 for additional details

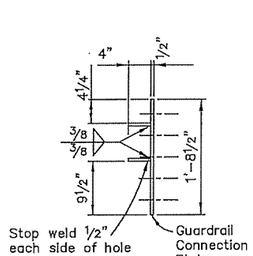


THRIE BEAM STEEL BLOCKOUT - SHORT

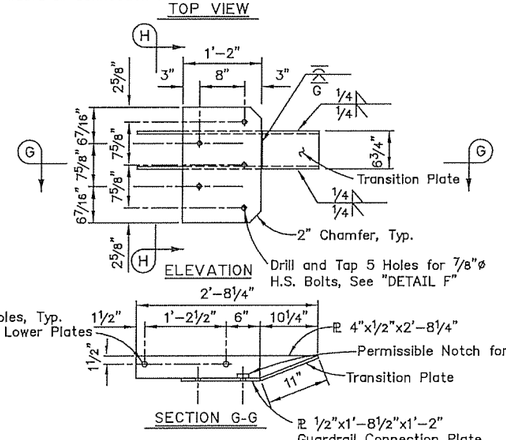
See Note 4 for additional details



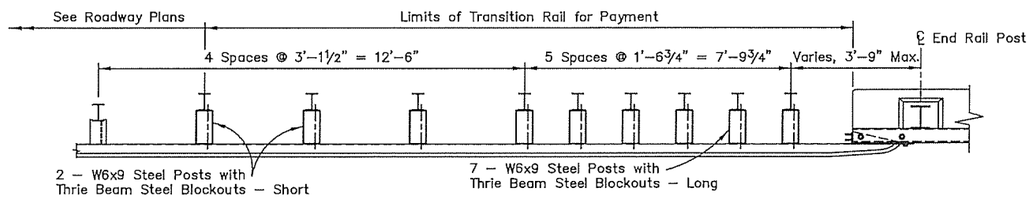




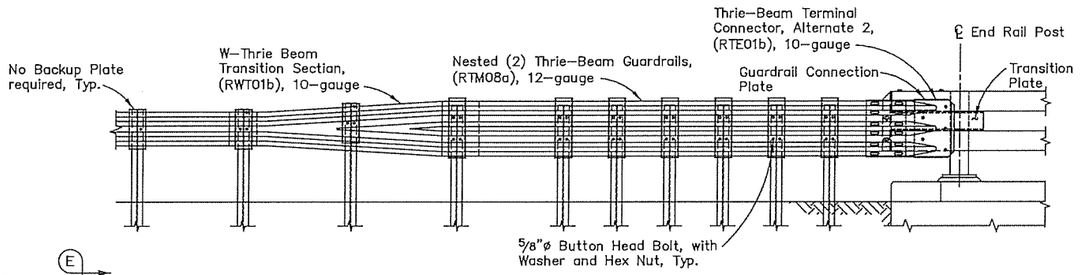
SECTION H-H



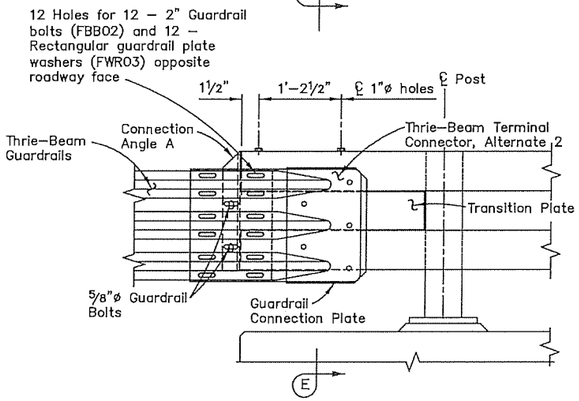
GUARDRAIL CONNECTION PLATE DETAILS



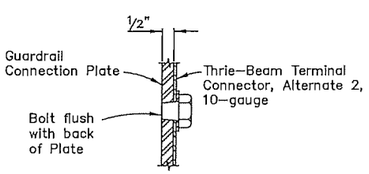
PLAN



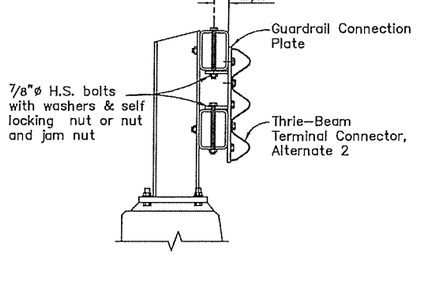
ELEVATION



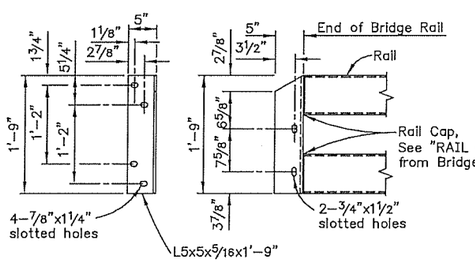
TRANSITION CONNECTION - ELEVATION



DETAIL F



SECTION E-E



CONNECTION ANGLE A

NOTES:

1. Use AASHTO M 180 for all guardrail, transition rail, and hardware. Use H.S. Bolts conforming to ASTM F3125 Grade A325. All other steel conforms to ASTM A709 Grade 50.
2. Permissible 3" horizontal slots in Thrie–Beam Guardrails. Adjust guardrail bolts for sliding fit.
3. Conform to G–00, G–05, and G–10 of the Standard Plans for all Thrie Beam Transition details not shown.
4. Thrie Beam Transition part numbers are listed in parentheses () and referenced in the "Task Force 13 Guide to Standardize Roadside Hardware."

No Scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MASH BRIDGE RAIL
THRIE BEAM TRANSITION

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

Adoption Date: 07/30/2021

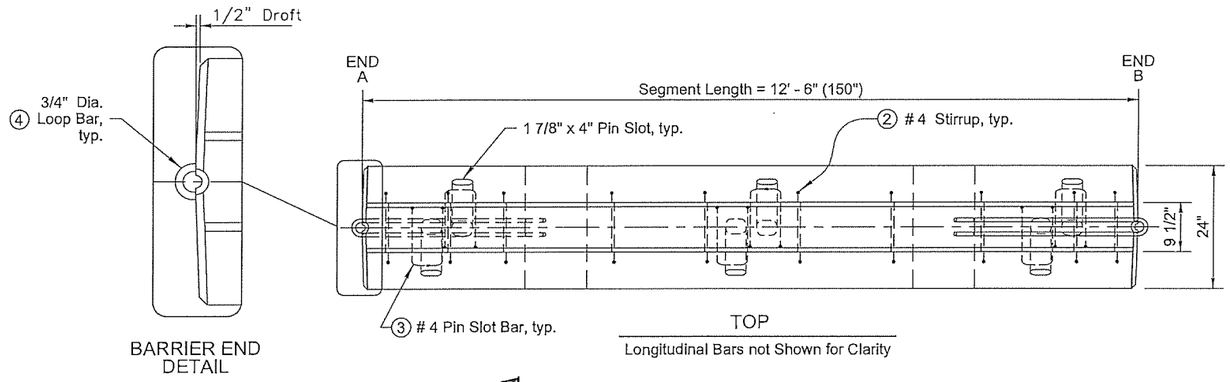
Last Code and Stds. Review
By: SEM Date: 07/17/2020

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

G-32.02

G-47.00

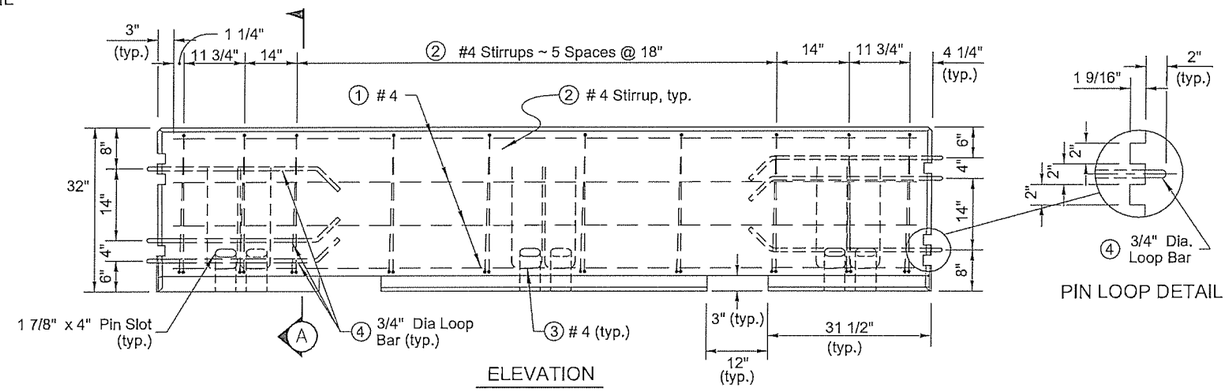
SHEET 1 of 2



BARRIER END DETAIL

TOP

Longitudinal Bars not Shown for Clarity



ELEVATION

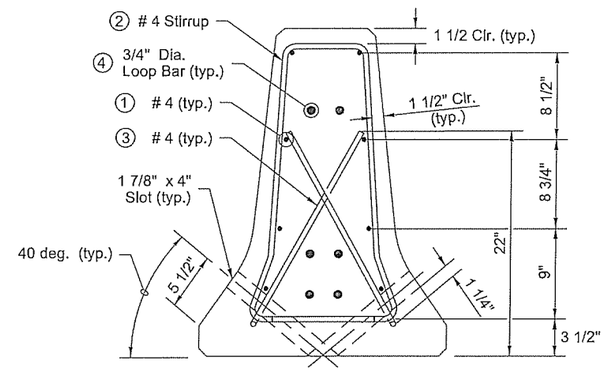
PIN LOOP DETAIL

CONSTRUCTION NOTES

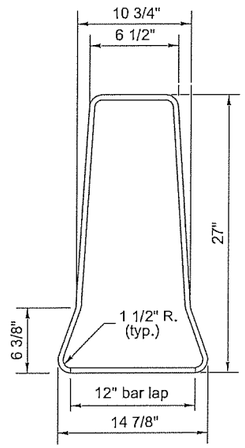
1. This concrete barrier meets MASH TL–3 and may be used for temporary and permanent applications.
2. Use Class B–B concrete (5,000 psi) meeting the requirements of Section 550 of the Standard Specifications.
3. Provide the following unobstructed smooth deflection area behind barrier:

   18" when anchored to concrete
   22" when anchored to asphalt pavement
   64" when unanchored

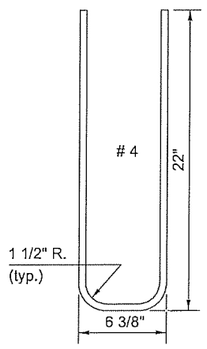
4. When anchored, install anchor pins on the side facing traffic. Concrete barrier used as permanent median barrier in medians less than 8' in width shall be anchored to the roadway with anchor pins on both sides of the barrier.



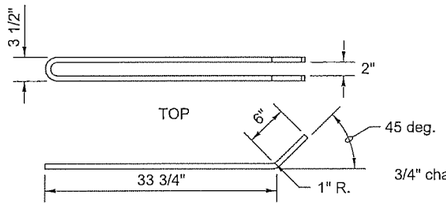
SECTION A



② STIRRUP BAR
#4 Rebar

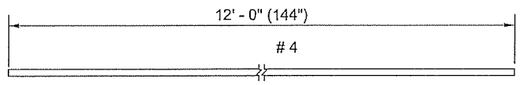


③ PIN SLOT BAR
#4 Rebar

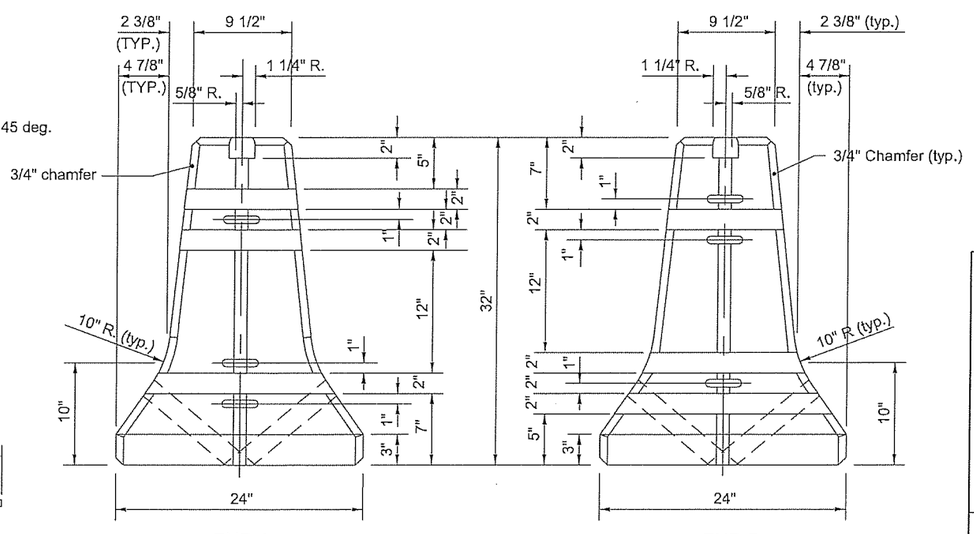


④ LOOP BAR DETAIL

3/4" Dia. Bar (ASTM A36)
Hot Dip Galvanize after Fabrication
(ASTM A123 OR AASHTO M 111)



① LONGITUDINAL BAR
#4 Rebar



Note: Drawing not to scale

State of Alaska DOT&PF
ALASKA STANDARD PLAN

MASH "F" SHAPE CONCRETE BARRIER

Adopted as an Alaska Standard Plan by: Carolyn Morehouse

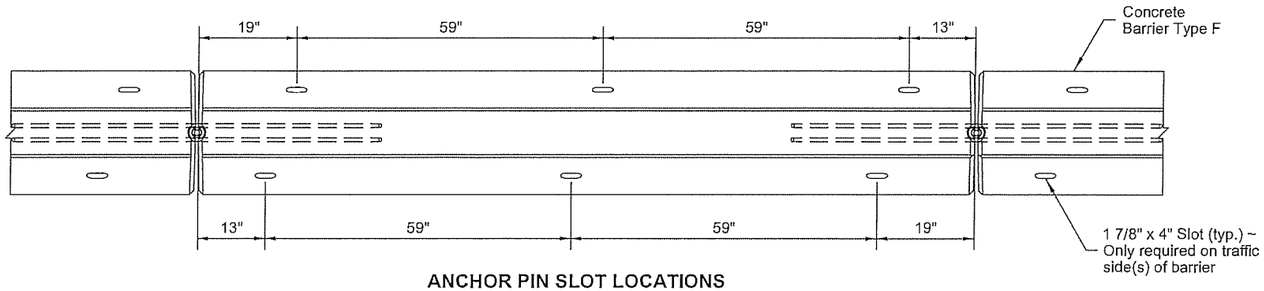
Carolyn Morehouse, P.E.
Chief Engineer

Adoption Date: 07/17/2020

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

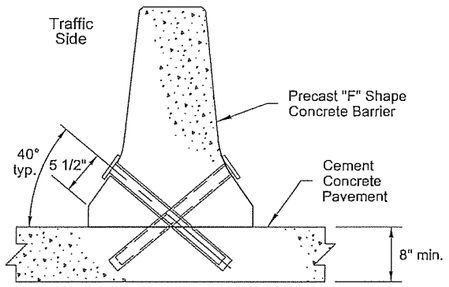
Next Code and Standards Review date:07/17/2030

G-47.00 Sheet 1 of 2

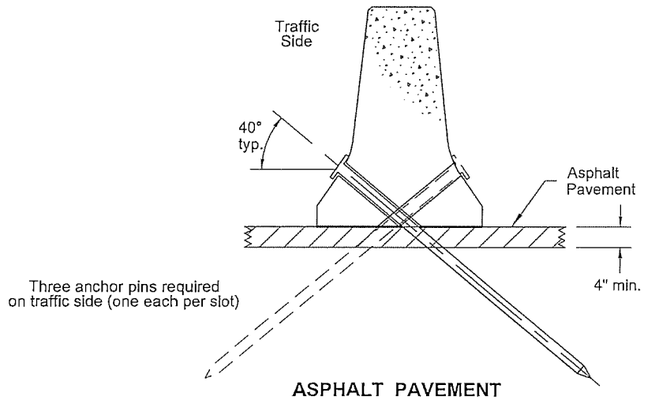


ANCHOR PIN SLOT LOCATIONS

Reinforcing steel not shown for clarity



CONCRETE ANCHOR PIN DETAILS



ASPHALT PAVEMENT ANCHOR PIN LOCATIONS

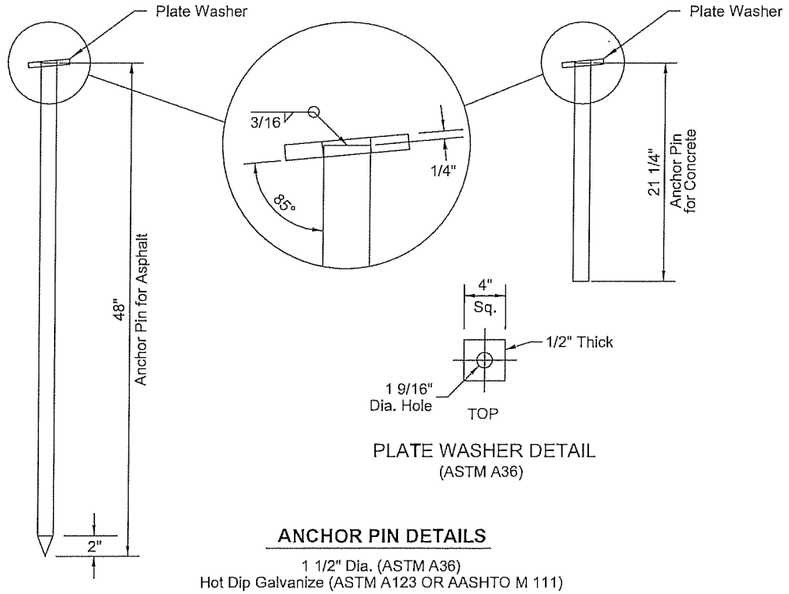
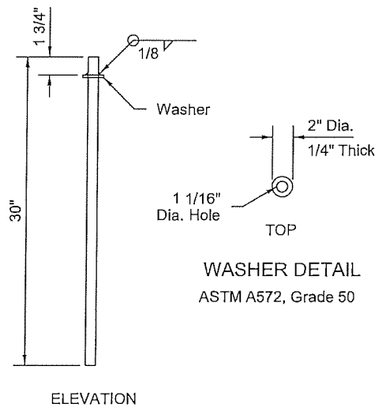


PLATE WASHER DETAIL
(ASTM A36)

ANCHOR PIN DETAILS

1 1/2" Dia. (ASTM A36)
Hot Dip Galvanize (ASTM A123 OR AASHTO M 111)

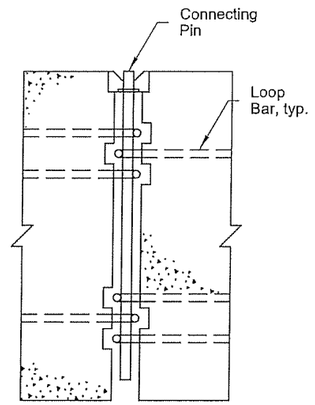


WASHER DETAIL
ASTM A572, Grade 50

ELEVATION

CONNECTING PIN DETAILS

1" Dia. - ASTM A449
Hot Dip Galvanize



BARRIER CONNECTION DETAIL

CONSTRUCTION NOTES

1. When this barrier is used as a temporary traffic control device, provide retroflective tabs or stripes meeting the requirements of Section 643 of the Standard Specifications.
2. When this barrier is used in a permanent application, provide reflector assemblies meeting the requirements of Section 614 of the Standard Specifications.

Note: Drawing not to scale

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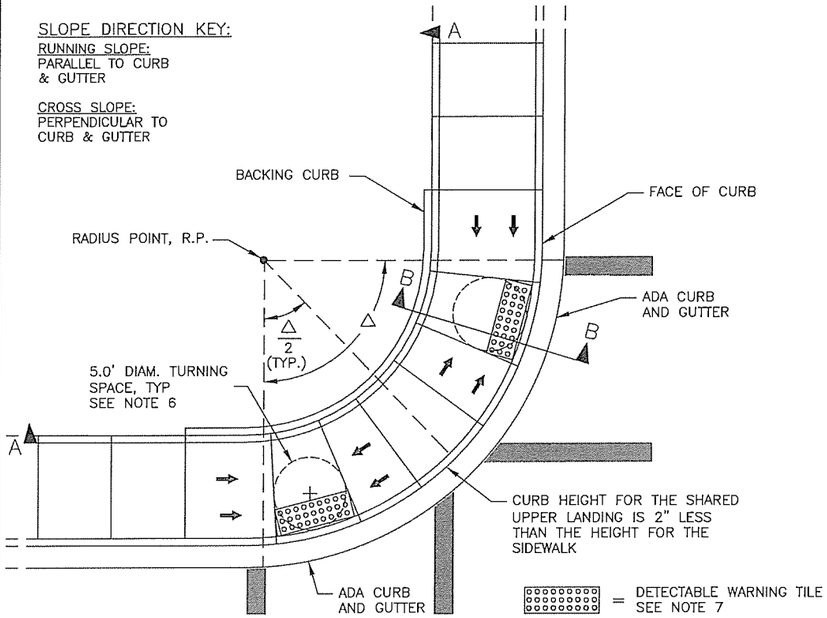
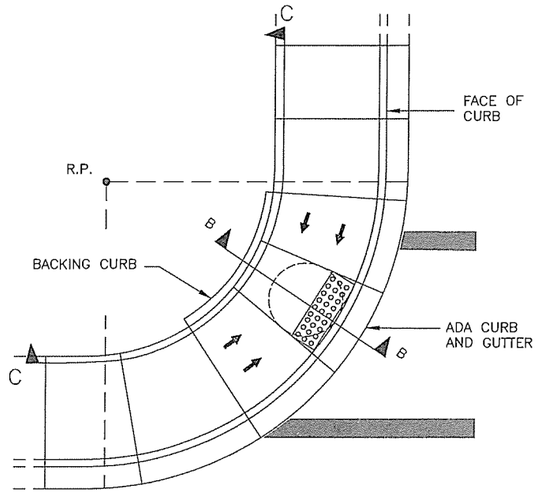
STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
ALASKA	0651033/NFHWY00421	2021	V16	V25

SLOPE DIRECTION KEY:
RUNNING SLOPE:
PARALLEL TO CURB & GUTTER

CROSS SLOPE:
PERPENDICULAR TO CURB & GUTTER



TWO CROSSING DIRECTIONS



ONE CROSSING DIRECTION

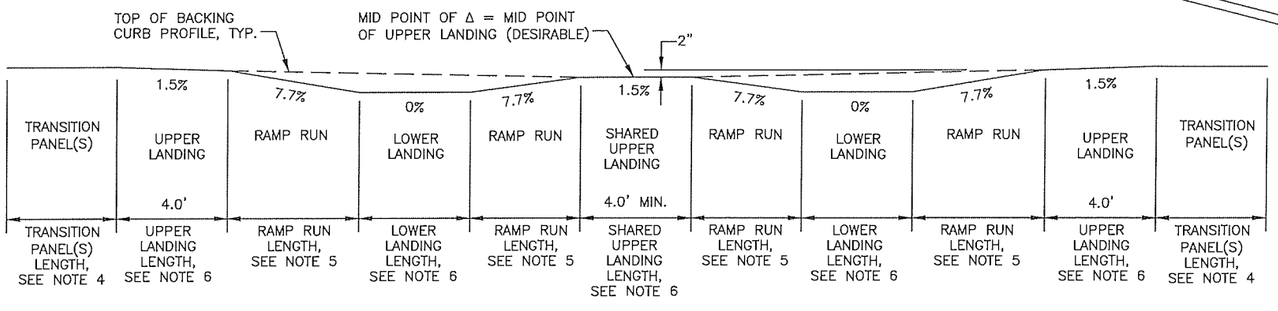
CONSTRUCTION NOTES:

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. WHEN ONE PARALLEL CURB RAMP WILL SERVE TWO DIRECTIONS, USE THE ONE CROSSING DIRECTION DETAIL AND REFER TO THE STRIPING PLANS FOR CROSSWALK LAYOUTS.
4. TRANSITION PANEL(S): 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.
5. RAMP RUN: SURVEY PRIOR TO CONSTRUCTION OF ADJACENT CURB AND GUTTER TO VERIFY RAMP RUN LENGTHS REQUIRED FOR COMPLIANT RUNNING SLOPES. ADJUST THE RAMP RUN LENGTH AS NEEDED TO ENSURE COMPLIANT RAMP RUN RUNNING SLOPE. THIS SURVEY IS SUBSIDIARY TO 642 PAY ITEMS.
6. 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.
   SHARED UPPER LANDING LENGTH: CONSTRUCT SHARED UPPER LANDING LENGTH TO 4.0 FEET, SHARED UPPER LANDING LENGTH MAY NOT BE DECREASED.
   UPPER LANDING WIDTH: THE WIDTH OF ALL UPPER LANDINGS SHALL MATCH OR EXCEED THE WIDTH OF THE ADJACENT RAMP RUN.
   LOWER LANDING: ENSURE LOWER LANDING HAS A 5-FT DIAMETER TURNING SPACE.
7. DETECTABLE WARNING TILE: INSTALL 24" DETECTABLE WARNING TILES FOR THE FULL WIDTH OF THE RAMP RUN.
8. JOINTS: INSTALL CONTINUOUS MINIMUM 6 INCH DEEP 1/2" EXPANSION JOINT AT ALL LOCATIONS WHERE 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 DUMMY JOINTS IN THE SIDEWALK AND CURB RAMP SHALL LINE UP WITH EXPANSION AND DUMMY JOINTS IN THE CURB AND GUTTER.

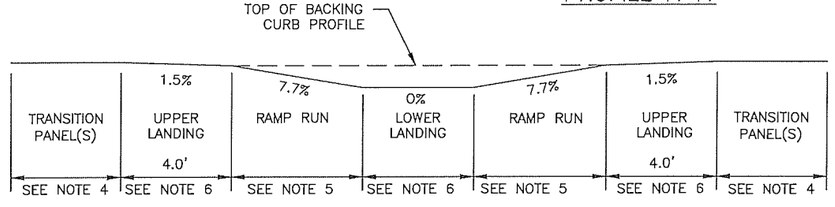
SLOPES GUIDE

	PREFERRED	MINIMUM	MAXIMUM
UPPER LANDING RUNNING SLOPE	1.5%	1.0%	5.0%
RAMP RUN RUNNING SLOPE	7.7%	N/A	8.3%
LOWER LANDING RUNNING SLOPE	0%	0%	*
CROSS SLOPE	1.5%	1.0%	2.0%

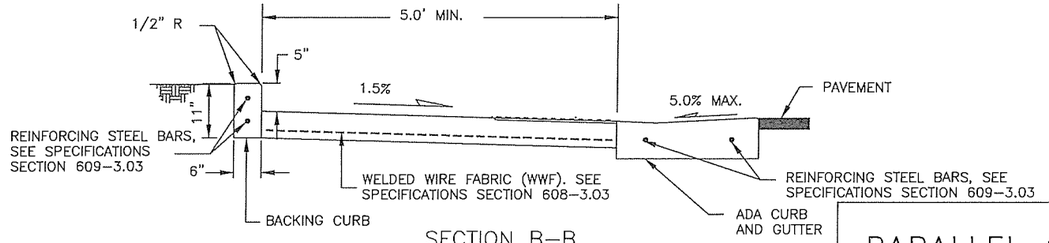
* SLOPE IN ANY DIRECTION (INCLUDING DIAGONAL) MAY NOT EXCEED 2.0%



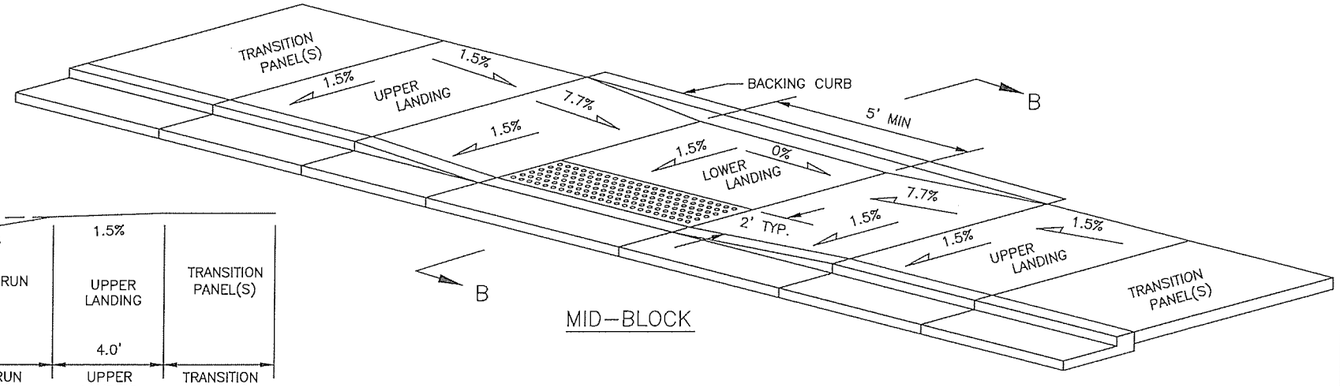
PROFILE A-A



PROFILE C-C



SECTION B-B



MID-BLOCK

Note: Drawing not to scale

PARALLEL CURB RAMP

STATE OF ALASKA 49TH
RUSSELL M. JOHNSON
C.E. 9993
REGISTERED PROFESSIONAL ENGINEER
3/8/2022

PLANS DEVELOPED BY: STATE OF ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES, NORTHERN REGION, 2301 PEGER ROAD, FAIRBANKS, AK 99709 (907)451-2200
C:\Users\jbergstrom\Desktop\Home Work Homw\Home Steese\3 Drafting\NR ADA Parallel C Ramp-PARALLEL ADA CURB RAMP DETAILS Wed, Jun/02/21 09:25am

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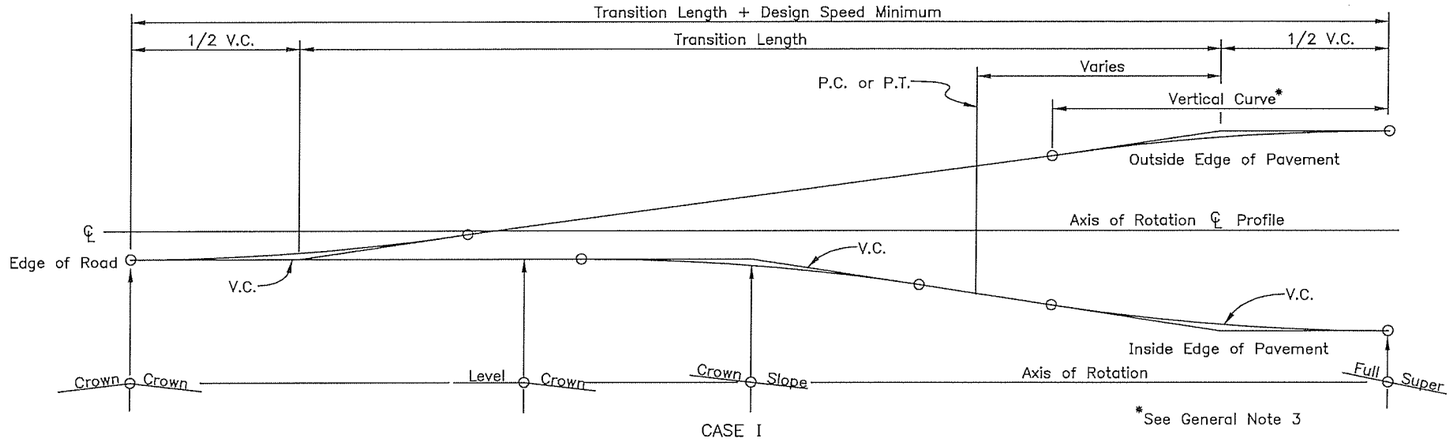
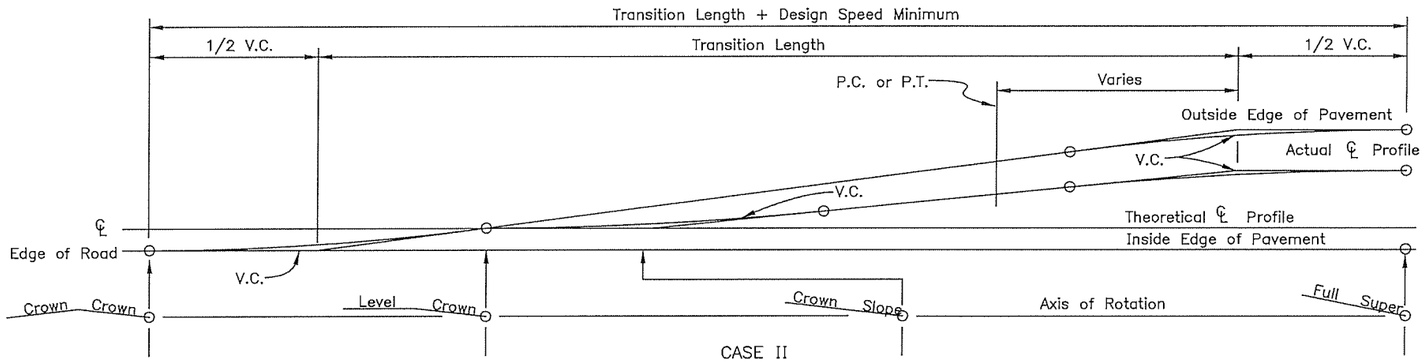
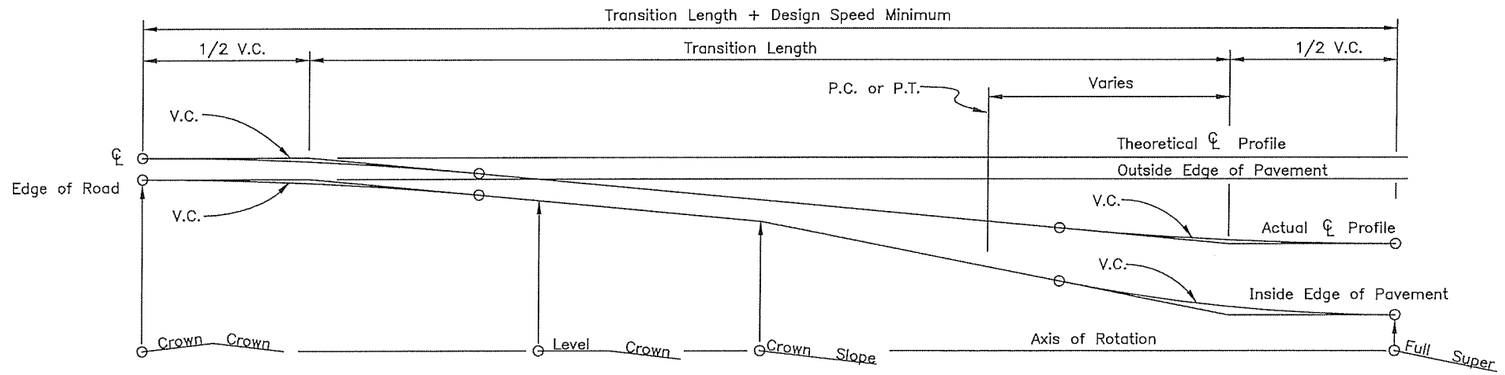


*See General Note 3

CASE I
PAVEMENT REVOLVED ABOUT CENTERLINE



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



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

GENERAL NOTES:

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

State of Alaska DOT&PF
ALASKA STANDARD PLAN

SUPERELEVATION TRANSITION

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

Adoption Date: 7/17/2020

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

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

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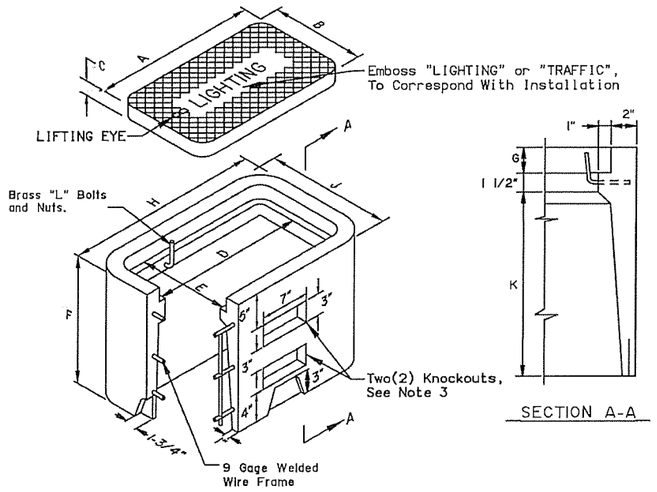
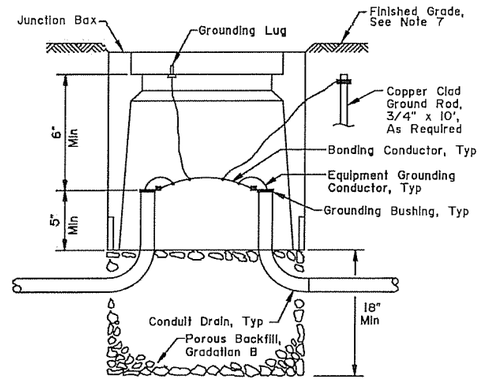
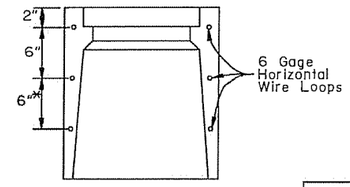


ISOMETRIC

SECTION A-A



ELEVATION

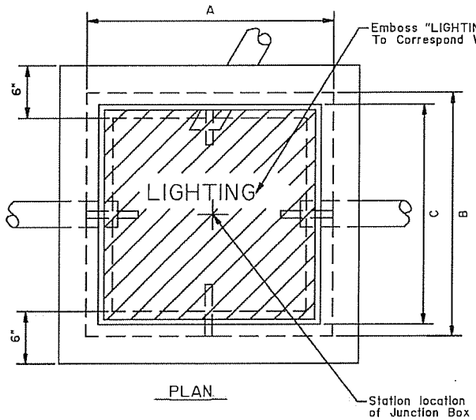


ALTERNATE REINFORCING
*Type IA Only

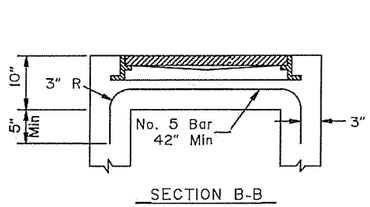
	DIMENSIONS (IN)	
	TYPE I	TYPE IA
A	15	22 3/4
B	10	13 1/4
C	1 3/4	2
D	13 1/2	21 1/4
E	8 1/2	11 3/4
F	12	18
G	1 3/4	2
H	19 1/2	27 1/4
J	14 1/2	17 3/4
K	8 3/4	14 1/2

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

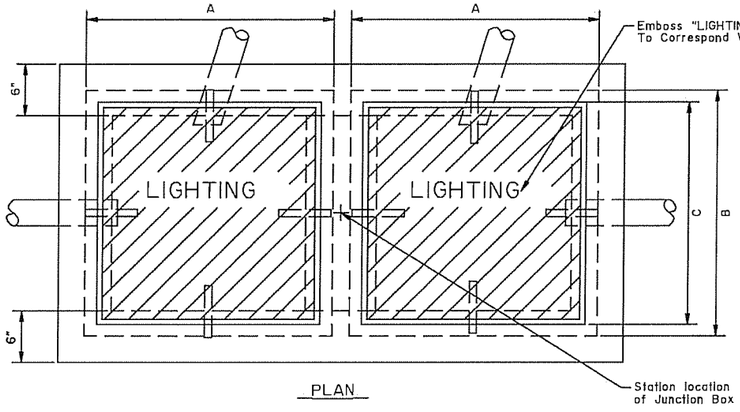
TYPE I & IA JUNCTION BOX



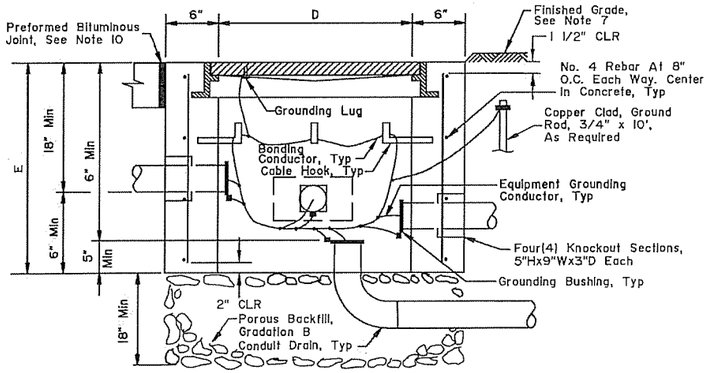
PLAN



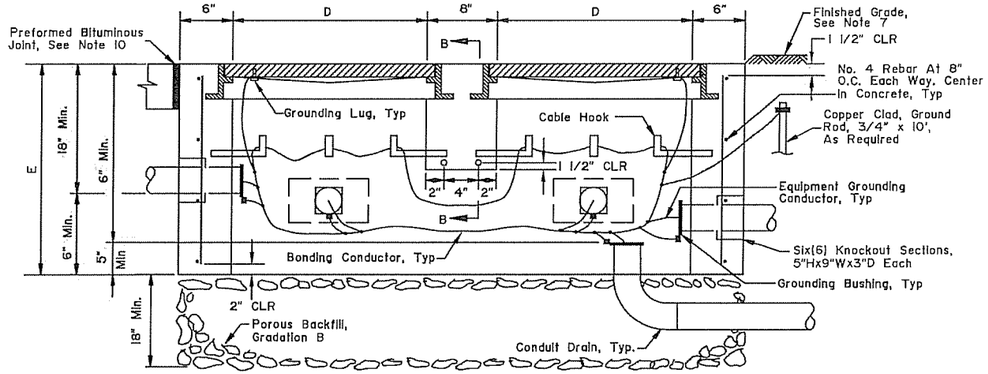
SECTION B-B



PLAN



ELEVATION
TYPE II JUNCTION BOX



ELEVATION
TYPE III & IV JUNCTION BOX

GENERAL NOTES:

1. See Alaska DOT&PF Standard Specifications for Highway Construction and Standard Plan Development Report (SPDR) for additional requirements.
2. Construct junction boxes using grade 60 reinforcing steel conforming to ASTM A615 and Class A concrete conforming to section 501 of the specifications.
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 & 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 & 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 specifications for stone drain material requirements.
7. See section 660-3.04 of the specifications 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 o 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.

State of Alaska DOT&PF
ALASKA STANDARD PLAN

JUNCTION BOXES FOR ELECTROLIER & TRAFFIC SIGNALS

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: CNH Date: 7/15/2020

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

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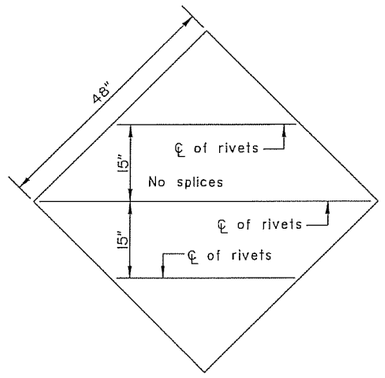
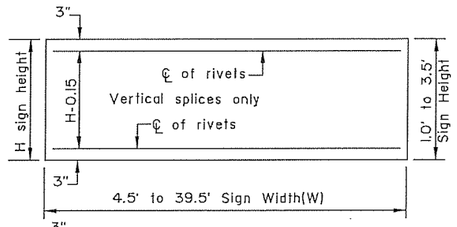
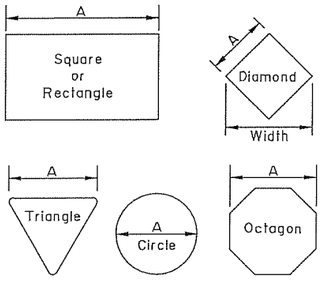


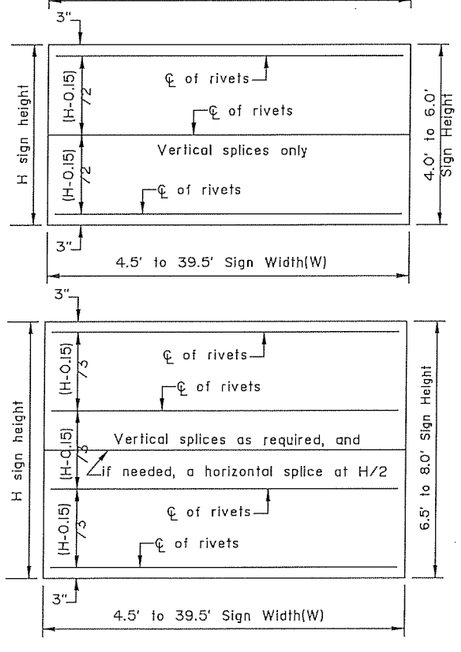




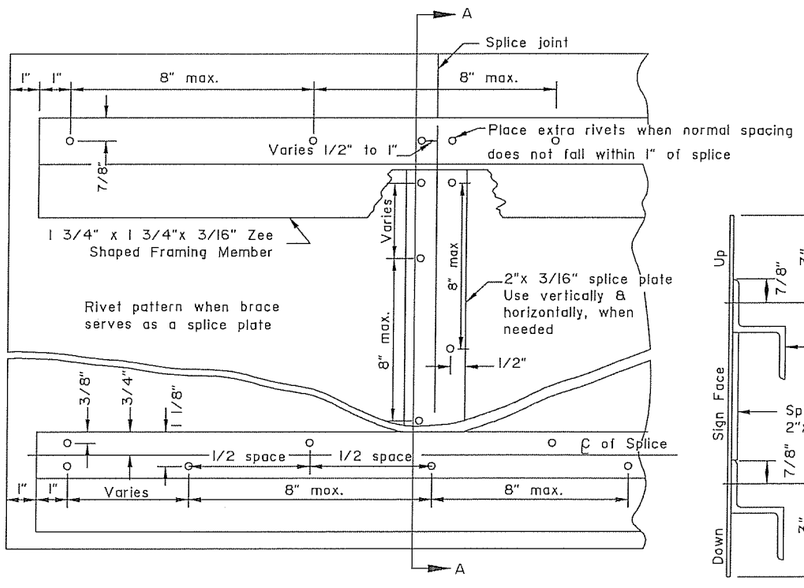
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagans	48"

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

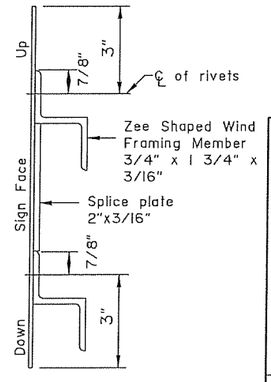
LIGHT SIGNS



WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

Note: Drawing not to scale

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 ta 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

Adoptian Date: 7/17/2020

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

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

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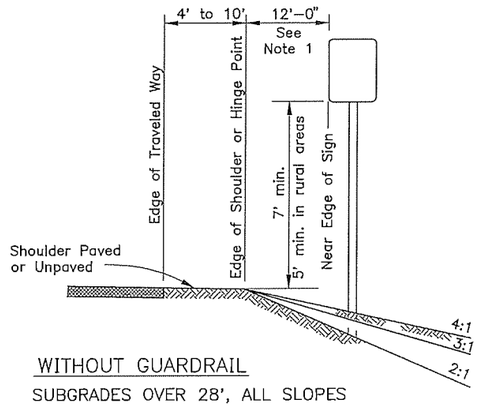
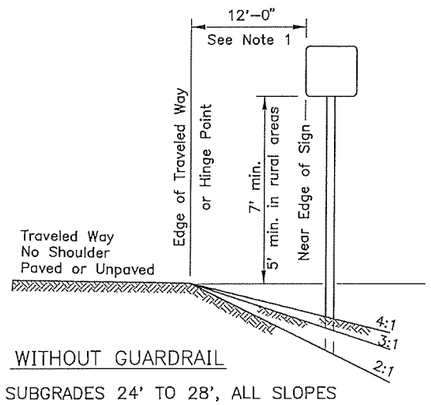
S-05.02 | SHEET 1 of 1



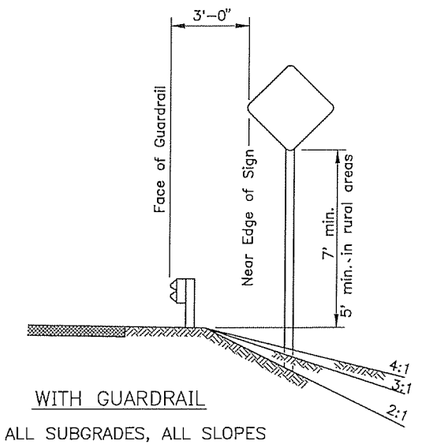
WITHOUT GUARDRAIL

SUBGRADES OVER 28', ALL SLOPES



WITHOUT GUARDRAIL

SUBGRADES 24' TO 28', ALL SLOPES

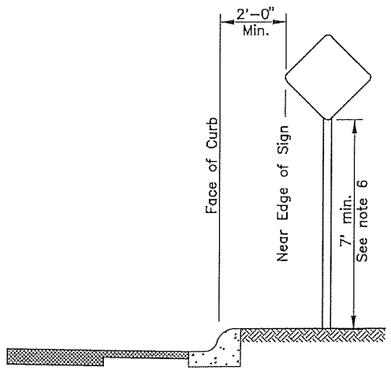


WITH GUARDRAIL

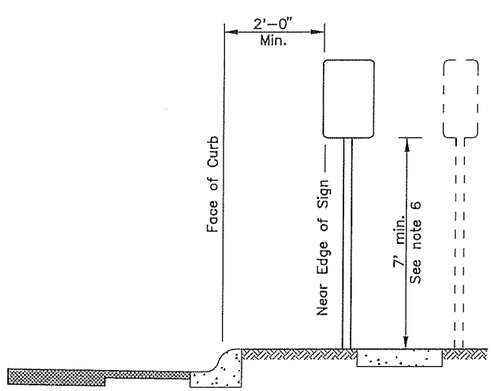
ALL SUBGRADES, ALL SLOPES

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.

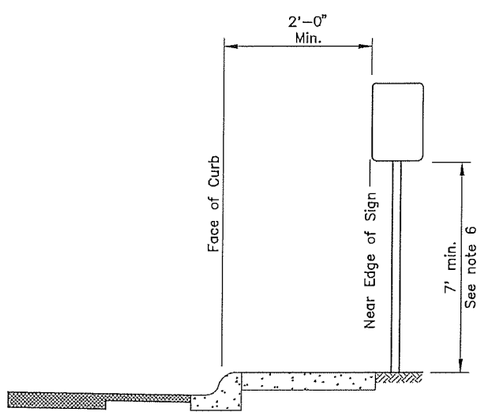


CURB WITHOUT SIDEWALK

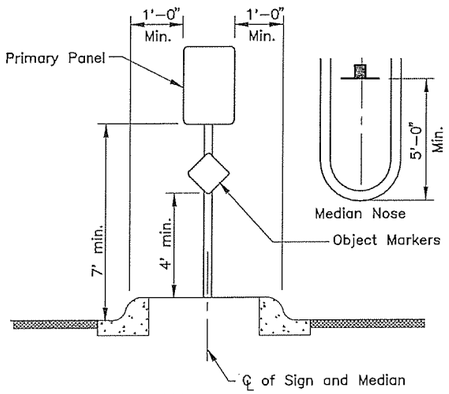


CURB WITH PARKWAY AND SIDEWALK

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

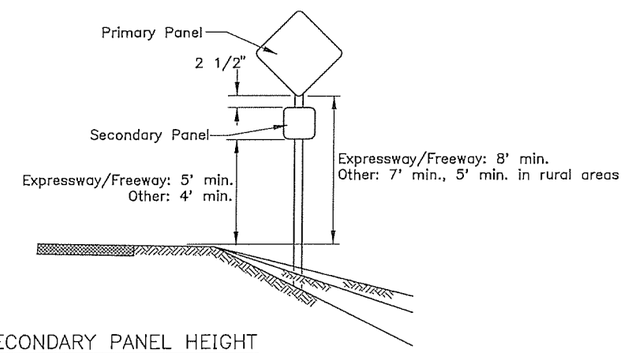


CURB WITH SIDEWALK WITHOUT PARKWAY



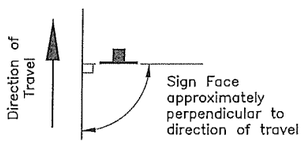
RAISED MEDIANS

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

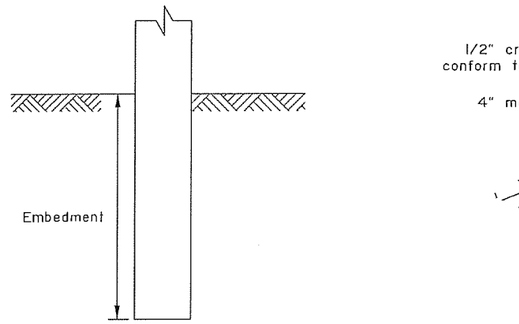
Adoption Date: 7/17/2020

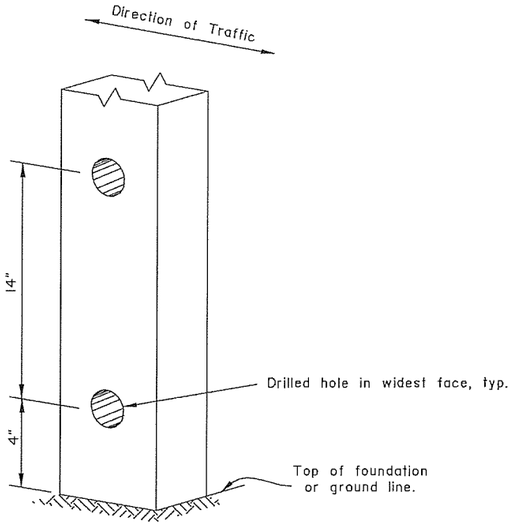
Last Code and Stds. Review
By: KLK Date: 7/8/2020

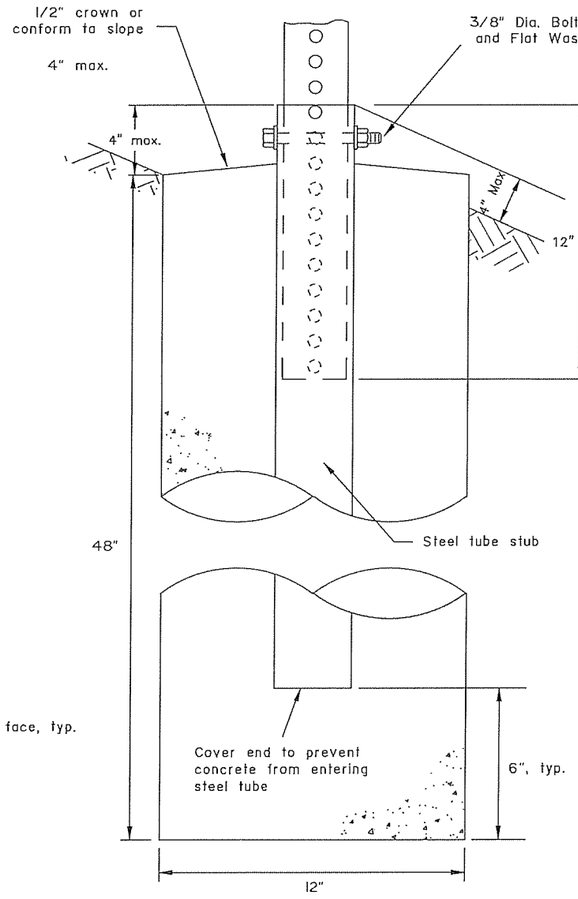
Next Code and Standards Review Date: 7/8/2030

S-05.02

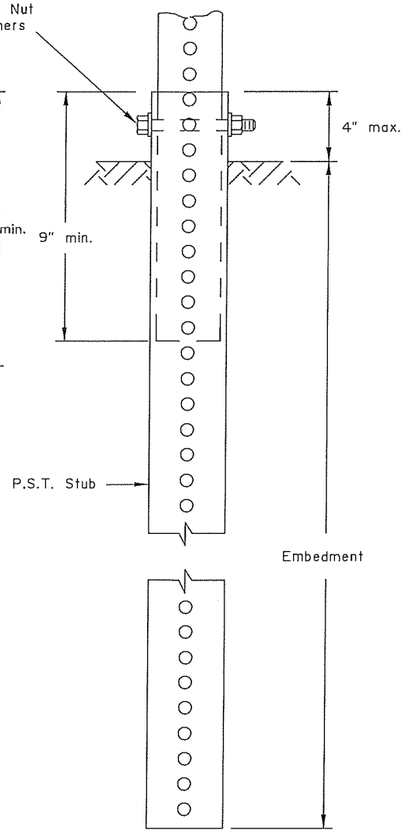
S-30.05 | SHEET | of |







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 far 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 acceptoble for that use. See tables below for the sizes of waod 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

Adaption Date: 7/17/2020

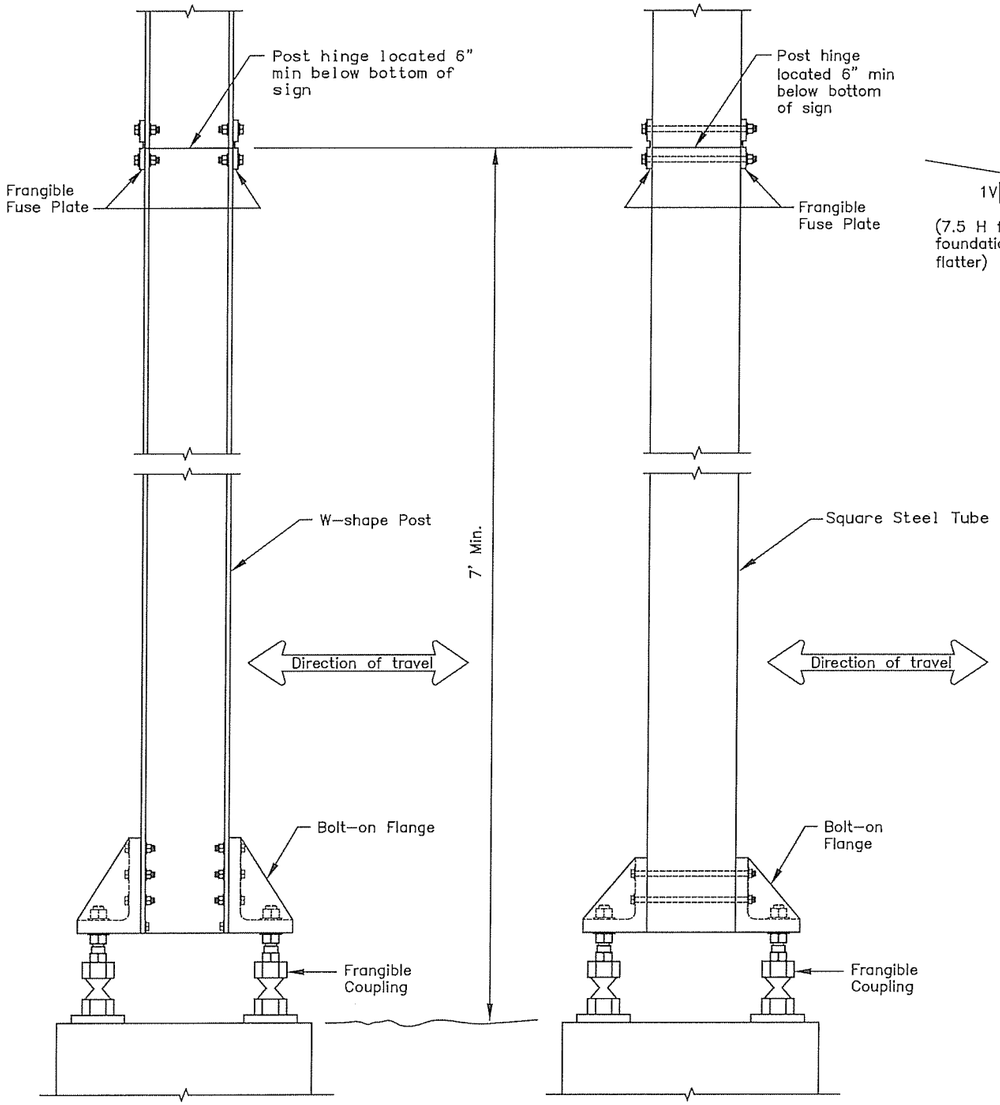
Last Code and Stds. Review
By: WTH Date: 7/8/2020

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

S-30.05

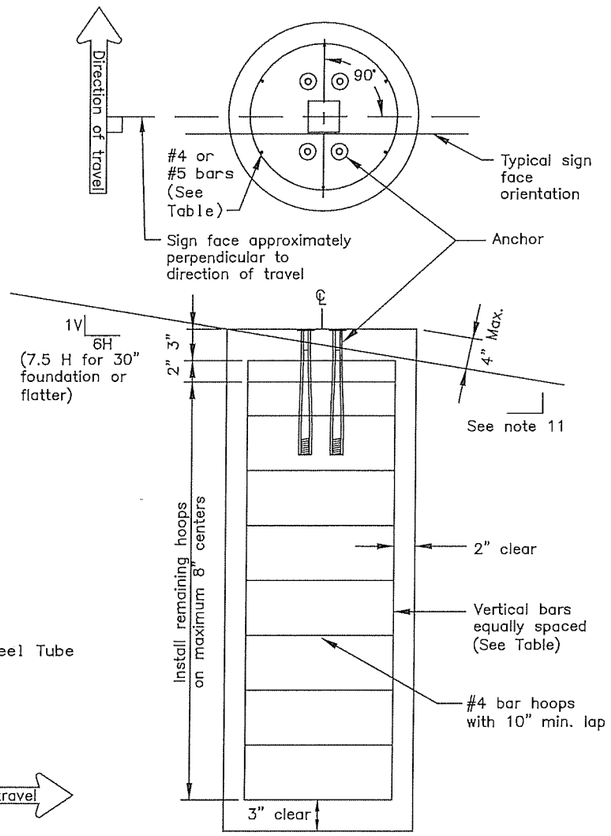
S-31.02 | SHEET 1 of 1

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

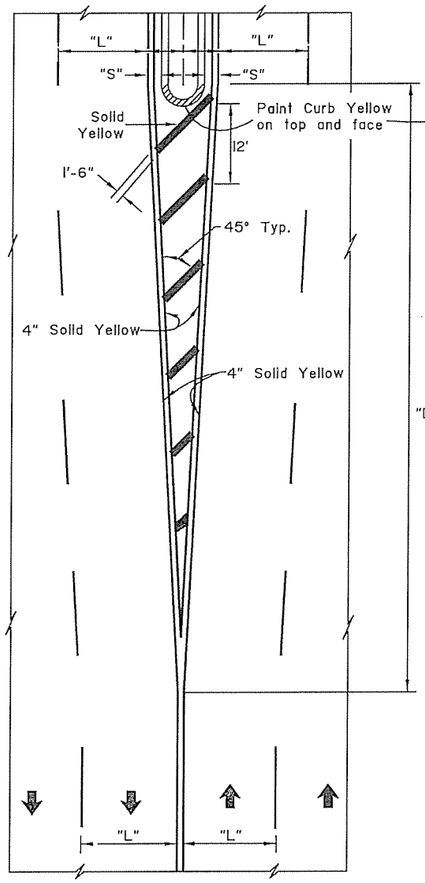
Last Code and Stds. Review
By: KLK, MJM Date: 7/8/2020

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

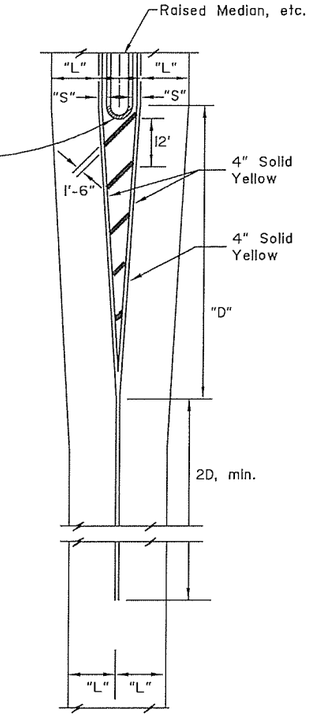
S-31.02

T-20.04

SHEET 1 of 1



FOUR OR MORE LANES
DRIVE TO RIGHT

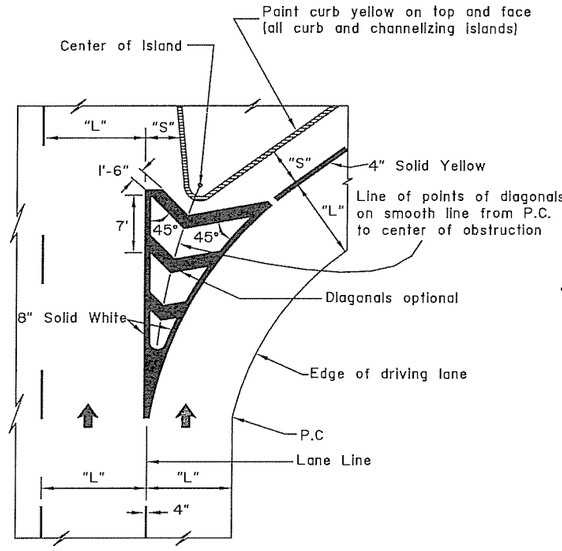


TWO LANES
DRIVE TO RIGHT

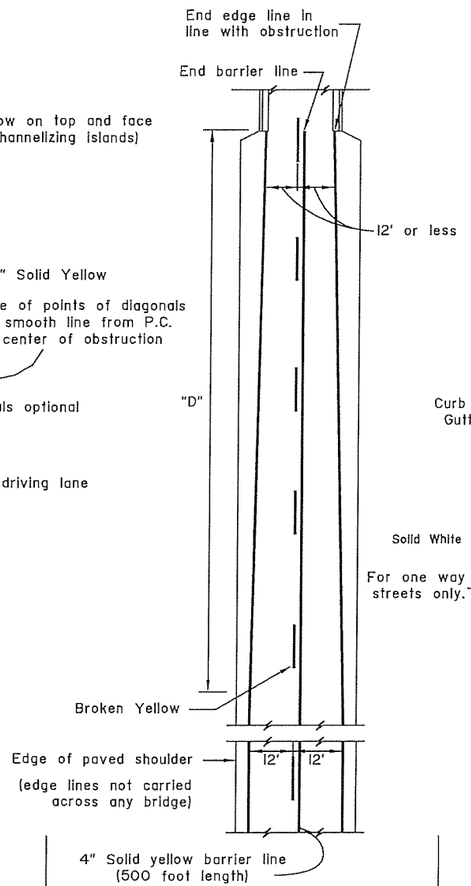
White longitudinal and diagonal markers identical to Four Lane Arrangement.

NOTES: "D" = Speed limit (mph) X "S" (offset width in feet) or as indicated on the plans. Minimum "D" = 100 feet urban, 200 feet rural.

APPROACH TO OBSTRUCTIONS

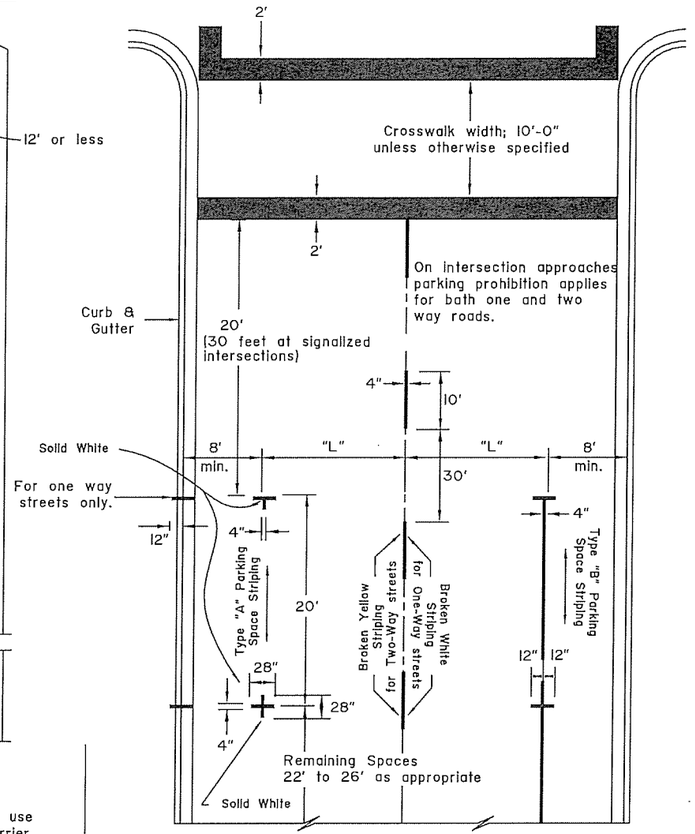


CHANNELIZING ISLAND



Note: On bridges over 24' wide use standard pavement markings. Barrier lines not used unless otherwise required.

EDGE LINE TRANSITION TO NARROW BRIDGE AND APPROACH BARRIER LINE

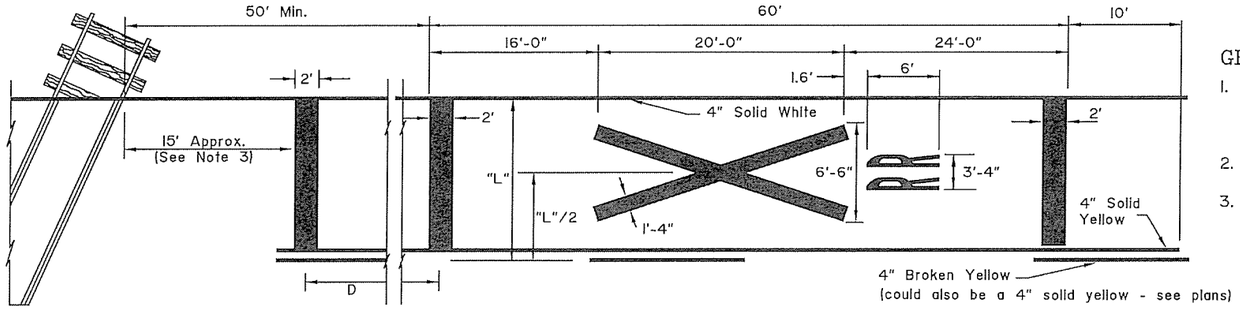


CENTERLINES FOR TWO LANE TWO WAY URBAN ROADS-PARKING LIMIT LINES

RAILROAD CROSSING NOTES:

1. All markings solid while unless indicated otherwise.
2. On 4-lane roadways place railroad crossing approach markings in each lane of the approach.
3. Locate Stop Bar 15' from railroad track or 8' from gate, if present.
4. Place edge lines and lane lines on a uni-directional approach in a normal manner except that the lane line(s) shall be solid 4" white in lieu of broken for a distance of (D+60') in advance of the stop bands.

POSTED LIMIT	D
30 M.P.H.	225'
40	350'
50	475'
60	625'



APPROACH TO RAILROAD CROSSING ON 2 LANE 2 WAY HIGHWAY

GENERAL NOTES:

1. "S"= offset distance as shown on the plans, otherwise 1 to 2 feet.
2. "L"= driving lane width.
3. See the Alaska Traffic Manual for additional guidance and/or restrictions on the use of traffic control devices.

NOT TO SCALE

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MAKING APPLICATIONS

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

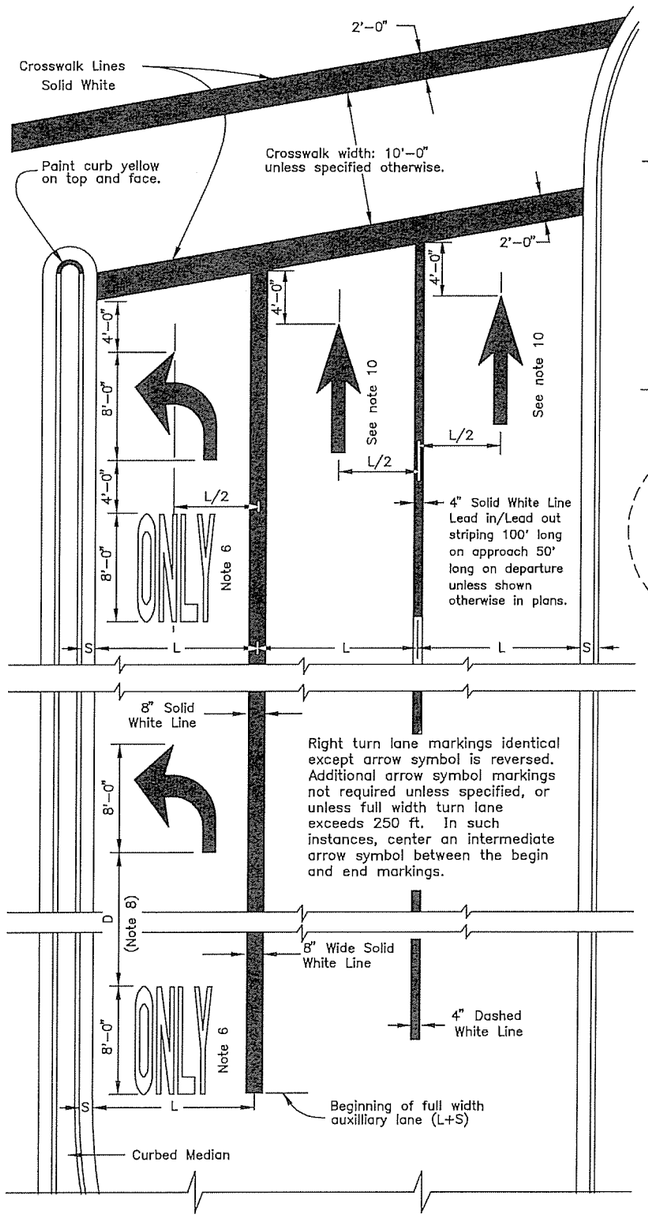
Adoption Date: 02/08/2019

Last Code and Stds. Review
By: Date:

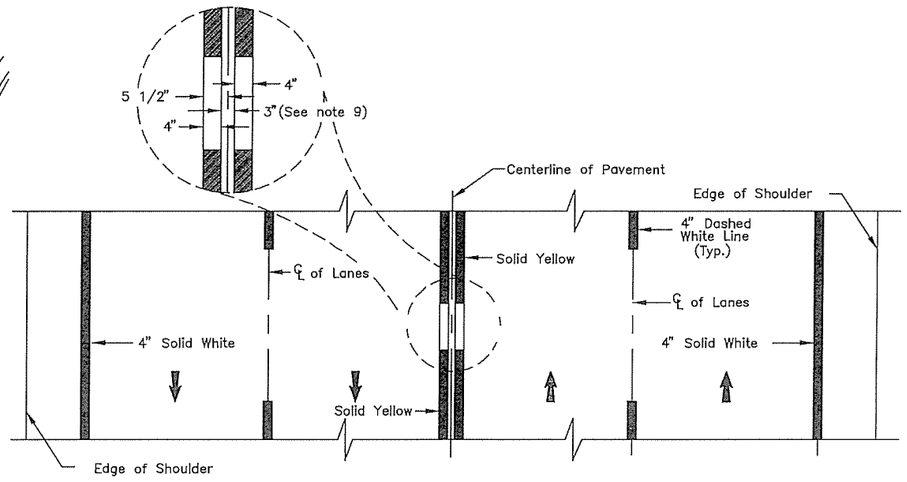
Next Code and Standards Review date: 02/08/2029

T-20.04

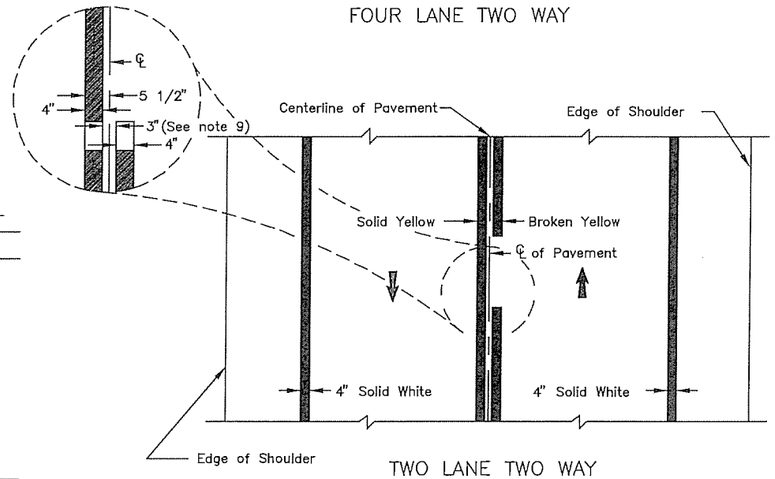
T-21.04 | SHEET 1 of 1



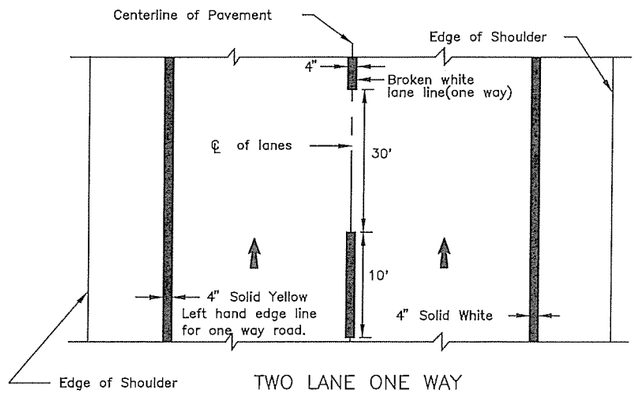
APPROACH TO INTERSECTION



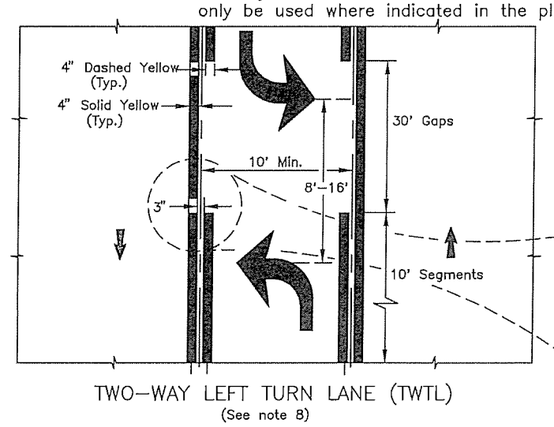
FOUR LANE TWO WAY



TWO LANE TWO WAY

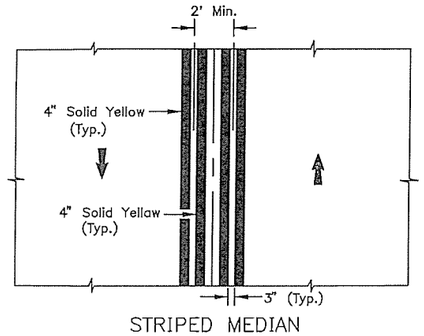


TWO LANE ONE WAY



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

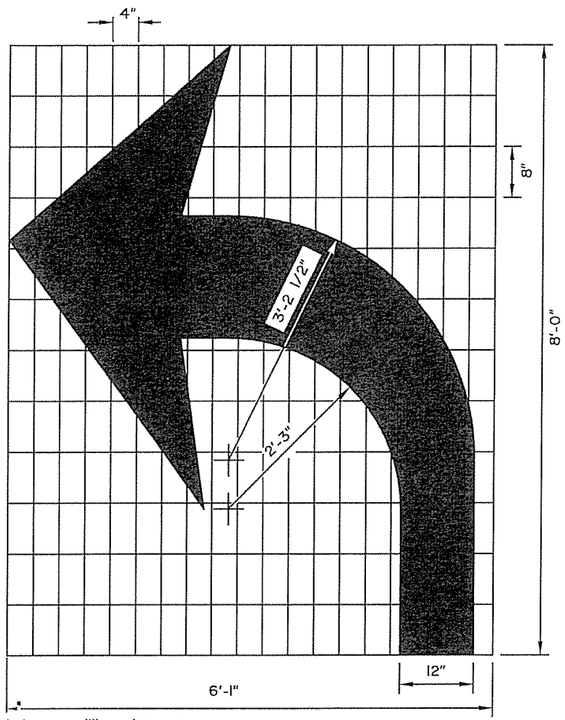
Next Code and Standards Review Date: 7/8/2030

T-21.04

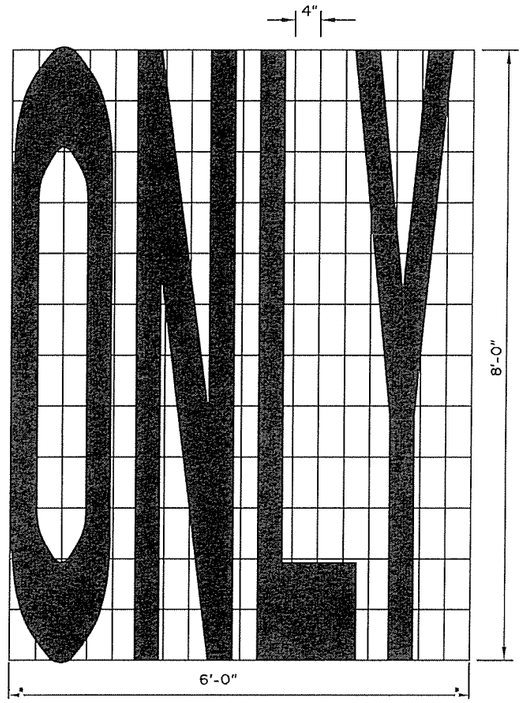
T-22.04	SHEET | of |

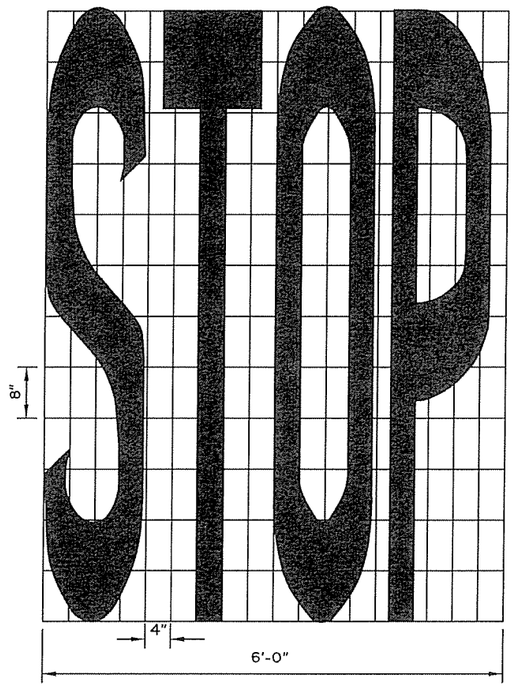
GENERAL NOTES:

1. All symbols shown shall be white and reflectorized in accordance with the Special Provisions.
2. See the Alaska Sign Design Specifications (ASDS) for lettering and symbols for pavement marking details not provided on this drawing.

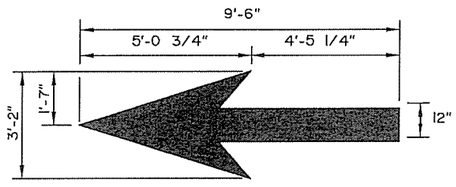


Right turn auxilliary lane usage markings identical except arrow symbol is reversed.

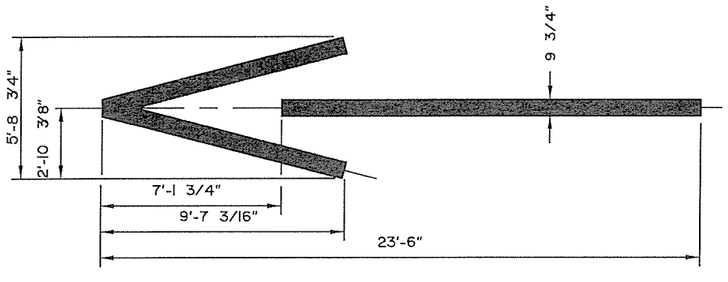




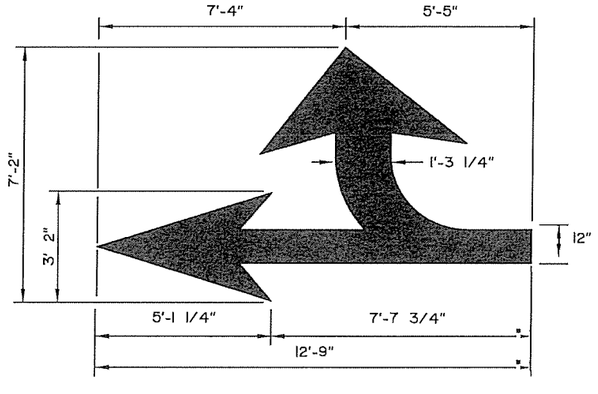
LAYOUT TEMPLATES FOR STENCILS



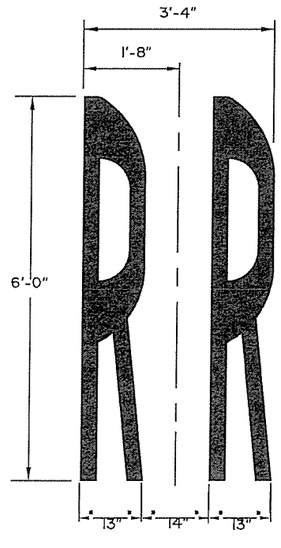
STRAIGHT AHEAD ARROW



WRONG WAY ARROW



COMBINATION ARROW



RAILROAD SYMBOL

State of Alaska DOT&PF
ALASKA STANDARD PLAN

PAVEMENT MARKING SYMBOL DIMENSIONS

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

T-2204