

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
&  
PUBLIC FACILITIES

PROPOSED HIGHWAY PROJECT

0620010/NFHWY00158

OLD RICHARDSON HIGHWAY INTERSECTION IMPROVEMENTS

GRADING, DRAINAGE, PAVING, SIGNING & STRIPING

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	A1	43
CDS ROUTE: 188855			MILEPOINT: 0.591 TO 0.638				
CDS ROUTE: 188858			MILEPOINT: 0.733 TO 0.762				

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
A1	TITLE SHEET
A2-A4	LEGEND, GENERAL NOTES, & SHEET LAYOUT
B1	TYPICAL SECTIONS
C1	ESTIMATE OF QUANTITIES
D1-D2	SUMMARIES
E1	DEMOLITION PLAN
E2-E4	DETAILS
G1-G2	GRADING PLANS
H1-H2	SIGNING, STRIPING, AND ILLUMINATION
H3-H4	SIGN SUMMARIES
H5-H14	DETAILS
Q1-Q3	ESCP
T1-T3	TRAFFIC CONTROL PLANS (and/or DEVICES)
V1-V9	ALASKA STANDARD PLANS

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT:  
C-04.12  
F-01.04  
S-00.12, S-05.02, S-30.05  
T-20.04, T-21.04, T-22.04, T-31.01

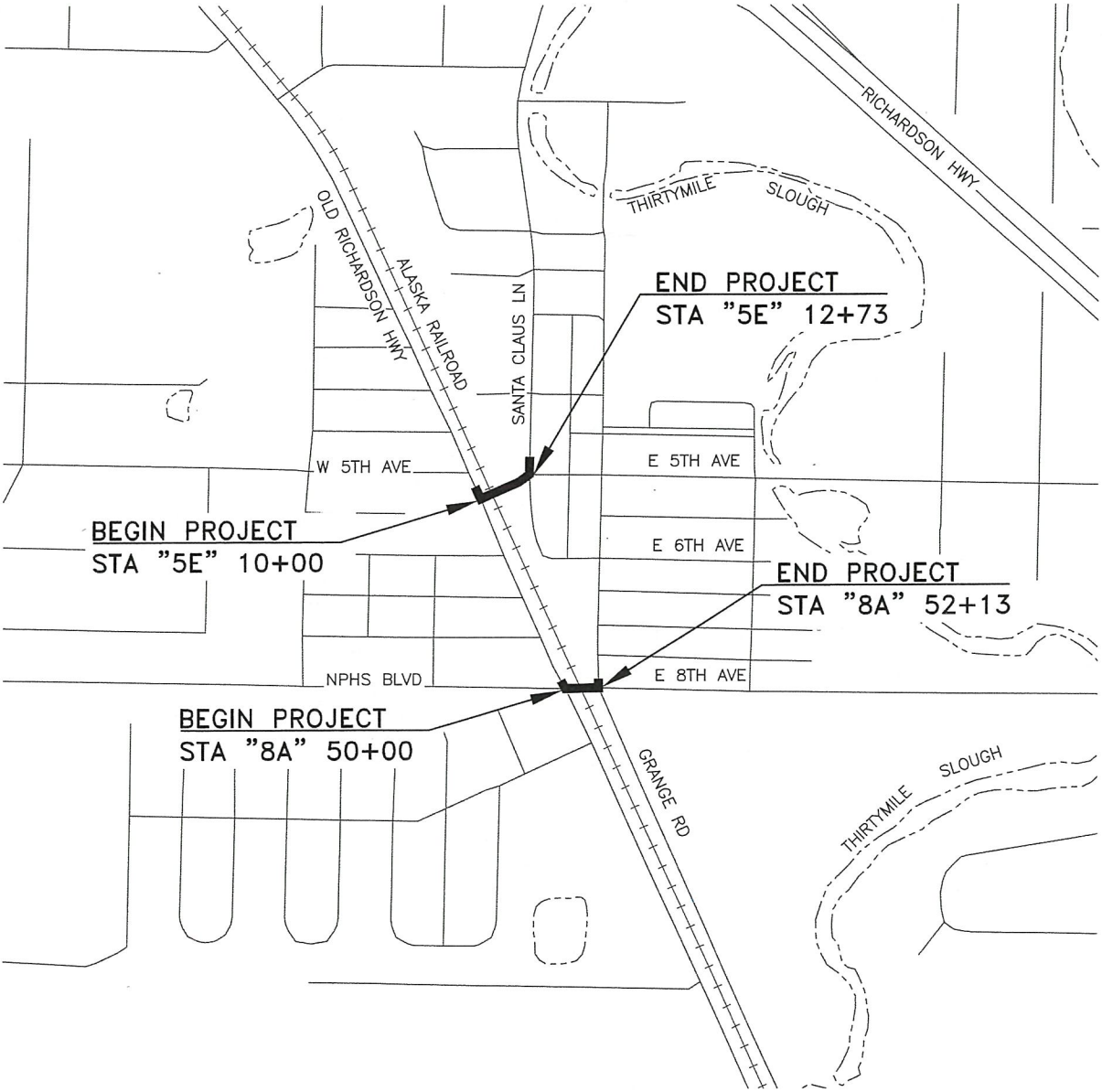
DESIGN DESIGNATIONS		
	5TH AVE	8TH AVE
ADT (2017)	2,900	900
ADT (2040)	4,100	1,200
DHV	370	220
PERCENT TRUCKS (T)	5%	13%
DIRECTIONAL SPLIT (D)	45/55	55/45
DESIGN SPEED (V)	25 MPH	20 MPH
DESIGN EAL'S (2040)	608,082	402,161

PROJECT SUMMARY	
WIDTH OF PAVEMENT	VARIES
LENGTH OF GRADING	475'
LENGTH OF PAVING	475'
LENGTH OF PROJECT	475'

CONFORMED  
COPY  
THE UNDERSIGNED HEREBY  
CERTIFIES THAT THIS INSTRUMENT IS AN EXACT AND TRUE  
COPY OF THE ORIGINAL  
*Stacy McGilley*

JOHN NETARDUS, PE, DOT&PF PROJECT MANAGER

STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION  
&  
PUBLIC FACILITIES  
APPROVED BY: *[Signature]* DATE 12/9/2021  
for Sarah E. Schacher, P.E.  
Preconstruction Engineer, Northern Region  
ACCEPTED FOR CONSTRUCTION: *[Signature]* DATE 12/9/2021  
for Joseph P. Kemp, P.E.  
Acting Regional Director, Northern Region



VICINITY MAP  
NTS

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

	EXISTING	PROPOSED
SANITARY SEWER (FLOW DIRECTION →)		
FUEL LINE		
GAS LINE		
WATER LINE		
METER, VALVE, FIRE HYDRANT		
EXISTING STORM DRAIN (FLOW DIRECTION →)		
PROPOSED STORM DRAIN		
FIBER OPTIC LINE		
DIRECT BURIAL TELEPHONE CABLE		
DIRECT BURIAL ELECTRIC CABLE		
ELECTRIC LINE (OVERHEAD)		
POWER POLE LINE		
JOINT USE POWER & TELEPHONE		
TELEPHONE POLE LINE		
POLE ANCHOR		
STUB POLE (POWER OR TELEPHONE)		
TELEPHONE DUCT		
TELEPHONE PEDESTAL		
ELECTRICAL PEDESTAL		
BURIED CABLE MARKER		
PIPELINE MARKER OR VALVE		
CATCH BASIN OR DROP INLET		
MANHOLE		
SANITARY SEWER CLEAN OUT		

	EXISTING	PROPOSED
ROADWAY/PAVEMENT EDGE		
HOT MIX ASPHALT SURFACE		
CONCRETE SURFACE		
FENCE		
CURB AND GUTTER		
DETECTABLE WARNINGS		
GUARDRAIL		
CULVERT PIPE		
SIGN		
MAILBOX		
RAILROAD TRACKS		
RAILROAD DEVICES		
RAILROAD CROSSING PAD		
TREE LINE		
WATER BOUNDARY		
ORDINARY HIGH WATER LINE		
FLOW CENTERLINE		
FLOW DIRECTION		
WETLANDS		
EXISTING BUILDINGS		
POST OR BOLLARD		
WELL OR MONITORING WELL		
SEPTIC PIPE		
FUEL TANK FILL PIPE/VENT		
SATELLITE DISH		
TEST HOLE		
CONIFER TREE		
DECIDUOUS TREE		

H = HOUSE  
G = GARAGE  
M = MERCHANT/STORE  
B = BARN  
S = SHED  
P = PRIVY  
SS = SERVICE STATION  
W = WAREHOUSE

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	A2	A4
			EXISTING	PROPOSED			
JUNCTION BOX, TYPE IA							
JUNCTION BOX, TYPE II							
SIGNAL CONTROLLER							
LOAD CENTER							
LUMINAIRE							
RIGID METAL CONDUIT							

## LEGEND





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_Old Rich Intersections\DWGS\00158\_A3\_Abbrev&GenNotes-A3 Tue, Dec/07/21 01:20pm

LIST OF ABBREVIATIONS/SYMBOLS

AC	ASPHALT CONCRETE	MMA	METHYL METHACRYLATE
ADA	AMERICANS WITH DISABILITIES REGULATIONS	MPH	MILES PER HOUR
ADEC OR DEC	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION	MTG. HT.	MOUNTING HEIGHT
ADT	AVERAGE DAILY TRAFFIC	N	NORTH, NORTHING
AH	AHEAD	N/A	NOT APPLICABLE
APPROX.	APPROXIMATE	NE	NORTHEAST
ARRC	ALASKA RAILROAD CORPORATION	N.I.C.	NOT IN CONTRACT
ARR	ALASKA RAILROAD	NO. OR #	NUMBER
ATB	ASPHALT TREATED BASE COURSE	NPS	NOMINAL PIPE SIZE
&	AND	NTS OR N.T.S	NOT TO SCALE
BMP	BEST MANAGEMENT PRACTICE	NW	NORTHWEST
BP	BACK OF PATHWAY	OC OR O.C.	ON CENTER
CC	CURB CUT	O.D.	OUTSIDE DIAMETER
C&G	CURB AND GUTTER	PC	POINT OF CURVATURE
CF	CUBIC FOOT	PCC	POINT OF COMPOUND CURVATURE
CGP	CONSTRUCTION GENERAL PERMIT	EX.	PERMANENT
€	CENTERLINE	PI	POINT OF INTERSECTION
D	DEGREE OF CURVATURE, DISTRIBUTION OF TRAFFIC, DIAMETER	POC	POINT OF CURVE
Δ	DELTA ANGLE	PRC	POINT OF REVERSE CURVATURE
DESC	DESCRIPTION	PST	PERFORATED STEEL TUBE
DHV	DESIGN HOURLY VOLUME	PT OR P.T.	POINT OF TANGENCY OR POINT
DIA	DIAMETER	R	RADIUS OF CURVE
DIR.	DIRECTION	RECP	ROLLED EROSION CONTROL PRODUCT
DOT&PF	DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES	REQ'D	REQUIRED
DWT	DETECTABLE WARNING TILE	RMC	RIGID METAL CONDUIT
E	EAST, EASTING	ROW OR R/W	RIGHT-OF-WAY
EA	EACH	RT	RIGHT
EC	END OF CURB	S	SOUTH
ED	END DRIVEWAY	SE	SOUTHEAST
E.G.	FOR EXAMPLE	SF	SQUARE FOOT
EP	EDGE OF PAVEMENT	SH.	SHOULDER
ELEV	ELEVATION	STA	STATION
ESAL	EQUIVALENT SINGLE AXLE LOAD	STD. DWG.	STANDARD PLAN
ESCP	EROSION AND SEDIMENT CONTROL PLAN	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
ETC.	ET CETERA	SY	SQUARE YARD
EX	EXISTING	T	TANGENT DISTANCE, HEAVY VEHICLE PERCENTAGE
°F	DEGREES FAHRENHEIT	TEMP	TEMPORARY
FT OR '	FOOT	TERM TRANS	C&G TERMINATION TRANSITION
GA	GAUGE	TOC	TOP OF CASTING
GALV.	GALVANIZED	TS	TUBE STEEL
GB	GRADE BREAK	TYP	TYPICAL
GP	GRADE POINT	UG	UNDERGROUND
H	HORIZONTAL	UGE	UNDERGROUND ELECTRIC
HMA	HOT MIX ASPHALT	USACE	UNITED STATES ARMY CORP OF ENGINEERS
HMCP	HAZARDOUS MATERIAL CONTROL PLAN	USFWS	UNITED STATES FISH AND WILDLIFE SERVICE
IN OR "	INCH	V	DESIGN SPEED/VERTICAL
LBS	POUNDS	VMS	VISUAL MESSAGE SIGN
LF	LINEAR FEET	PVI	POINT OF VERTICAL INTERSECTION
LT	LEFT	W	WEST, WATER
MAX	MAXIMUM	W/	WITH
ME	MATCH EXISTING	WWM	WELDED WIRE MESH
MIN	MINIMUM		

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	A3	A4

GENERAL NOTES:

1. PROTECT EXISTING IMPROVEMENTS FROM DAMAGE UNLESS OTHERWISE NOTED ON SHEET E1.
2. TIME VEGETATION CLEARING TO COMPLY WITH THE MIGRATORY BIRD ACT.
3. SAWCUT TO THE FULL DEPTH OF EXISTING ASPHALT, ALL MATCH LINES WHERE NEW CONSTRUCTION ABUTS EXISTING ASPHALT PAVEMENT. APPLY STE-1 ASPHALT FOR TACK COAT ON THE VERTICAL FACE OF ALL SAW CUT ASPHALT.
4. SAWCUT TO THE FULL DEPTH OF EXISTING CONCRETE (SIDEWALK, CURB AND GUTTER, DRIVEWAY, ETC.) AT THE NEAREST JOINT AT OR BEYOND MATCH LIMITS OR AS DIRECTED BY THE ENGINEER.
5. APPLY 4-INCHES OF TOPSOIL AND SEED TO ALL AREAS DISTURBED AND NOT OTHERWISE IMPROVED.
6. TO MEET PROVISIONS OF THE CGP, SEEDING MAY REQUIRE MULTIPLE MOBILIZATIONS. ALL MOBILIZATIONS REQUIRED TO MEET THE CGP ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.
7. ALL WORK SHALL BE CONTAINED WITHIN THE ROW AND ARRC PERMIT LIMITS.
8. WORK WILL BE IN ARRC ROW ACCORDING TO AGREEMENT/PERMIT. COORDINATION WITH THE ARRC WILL BE REQUIRED.
9. THE CITY OF NORTH POLE NOISE ORDINANCE (80.40.050) WILL APPLY TO THE CONTRACTOR'S ACTIVITIES WITHIN THE CITY OF NORTH POLE. USE OF EQUIPMENT IS RESTRICTED BETWEEN 11 PM AND 7 AM. CONTRACTOR SHALL COMPLY WITH NOISE ORDINANCE OR OBTAIN PERMIT FOR WORKING DURING QUIET HOURS. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THIS LAW, SCHEDULING THE PROJECT WORK ACCORDINGLY, AND ANY COSTS INCURRED FOR VIOLATIONS.

GENERAL UTILITY NOTES:

1. BURIED AND OVERHEAD UTILITIES EXIST THROUGHOUT THE PROJECT CORRIDOR. LOCATIONS (HORIZONTALLY AND VERTICALLY) DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM RECORD DRAWINGS AND UTILITY COMPANY LOCATES.
2. LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. SEE SECTION 651 OF THE SPECIAL PROVISIONS FOR UTILITY COMPANY CONTACT INFORMATION AND ADDITIONAL REQUIREMENTS.
3. MILITARY COMMUNICATION LINE IS NOT SHOWN ON THE PLANS AND MAY EXIST WITHIN THE PROJECT AREA. CONTACT EIELSON AIRFORCE BASE FOR UTILITY INFORMATION PRIOR TO WORK OPERATIONS.
4. WORK IN CLOSE PROXIMITY TO UNDERGROUND AND OVERHEAD ELECTRICAL SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, CODES AND GUIDELINES AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY.
5. HAND DIG WITHIN TWO FEET OF BURIED UTILITIES.
6. SUPPORT AND PROTECT UNDERGROUND UTILITIES, CONDUITS, AND STRUCTURES NOT SCHEDULED FOR DEMOLITION OR ABANDONMENT.
7. PROTECT, OR REMOVE AND REPLACE IN SAME LOCATION, EXISTING MARKER POSTS FOR UTILITIES DISTURBED DURING CONSTRUCTION.

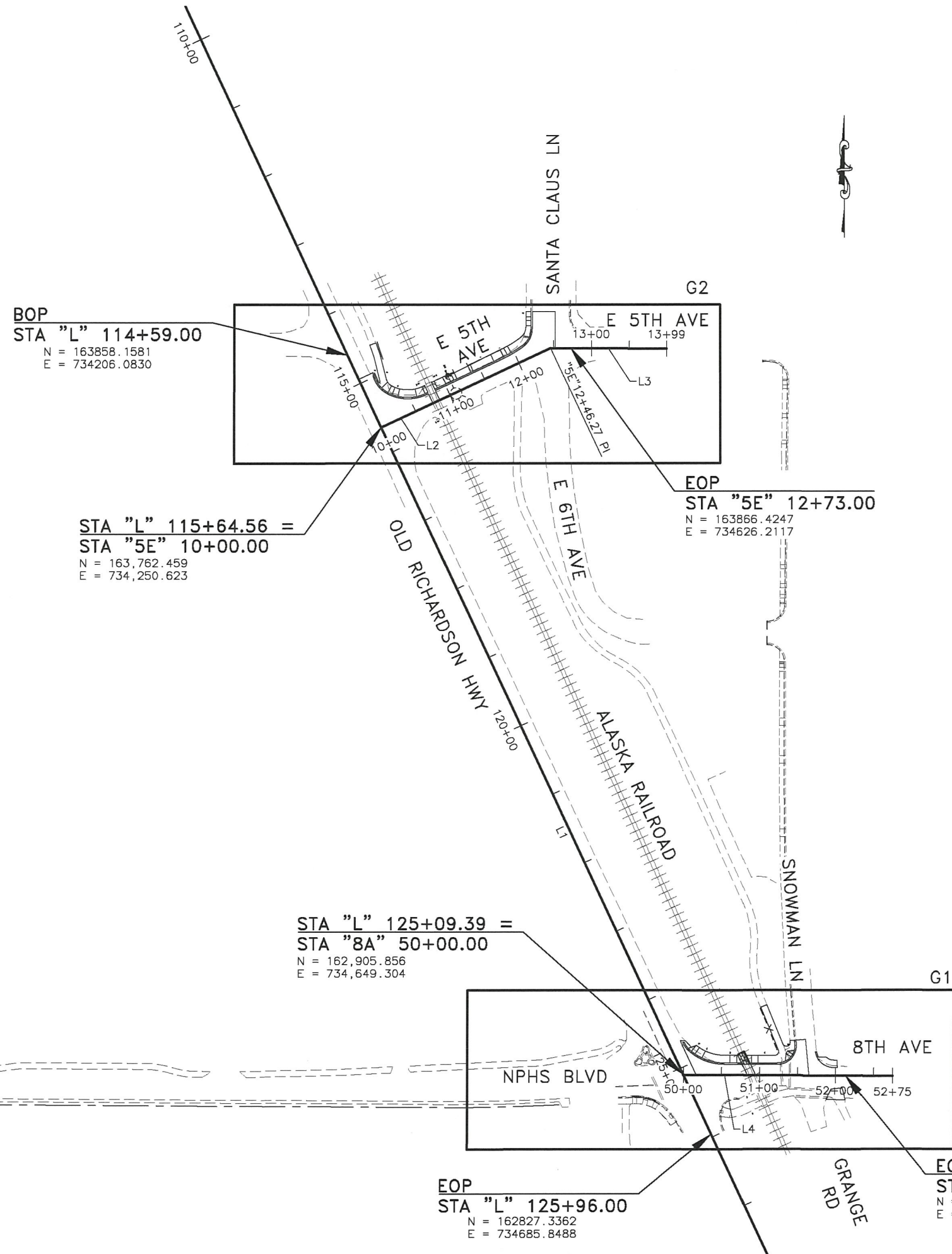
ABBREVIATIONS AND  
GENERAL NOTES



12/7/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWGS\C Sheets\00158\_A4\_Layout-A4\_Wed, Dec/08/21 10:45am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	A4	A4



PROJECT CONTROL NOTES

SEE RECORD OF SURVEY OLD RICHARDSON HIGHWAY  
INTERSECTION NFHWY00158/620010 DATED AUGUST 18, 2019  
FOR SURVEY CONTROL INFORMATION.

ALIGNMENT DESIGNATION

"L" OLD RICHARDSON HIGHWAY  
"8A" 8TH AVENUE  
"5E" 5TH AVENUE

DESIGN ALIGNMENT - "L"						
No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L1	105+10.18	N 164718.3731 E 733805.7211	151+78.30	N 160486.1871 E 735775.4681	S24°57'30"E	4668.12'
DESIGN ALIGNMENT - "5E"						
No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L2	10+00.00	N 163762.4591 E 734250.6233	12+46.27	N 163867.3315 E 734473.4426	N64°47'44"E	246.27'
L3	12+46.27	N 163867.3315 E 734473.4426	13+99.00	N 163866.4249 E 734626.1745	S89°39'36"E	152.73'
DESIGN ALIGNMENT - "8A"						
No.	STATION START	START COORDINATE	END STATION	END COORDINATE	BEARING	DISTANCE
L4	50+00.00	N 162905.8561 E 734649.3041	52+75.00	N 162904.0735 E 734924.2983	S89°37'43"E	275.00'

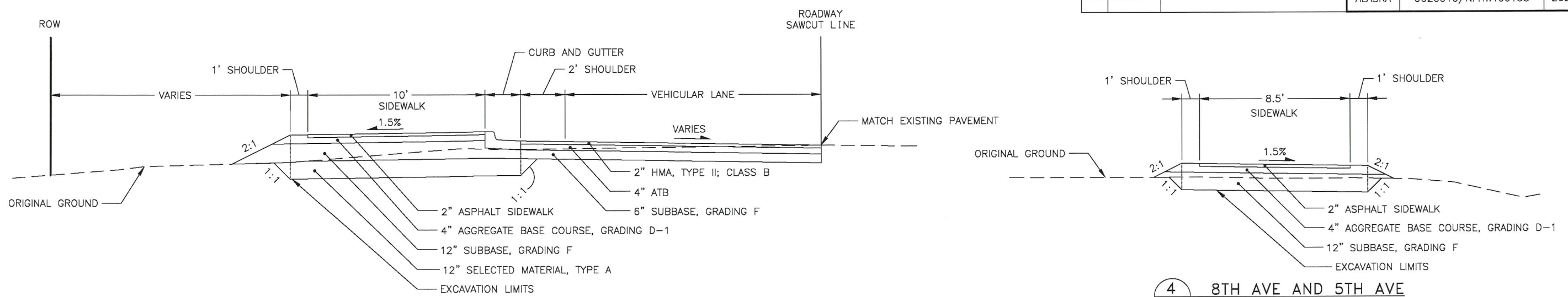
SHEET LAYOUT





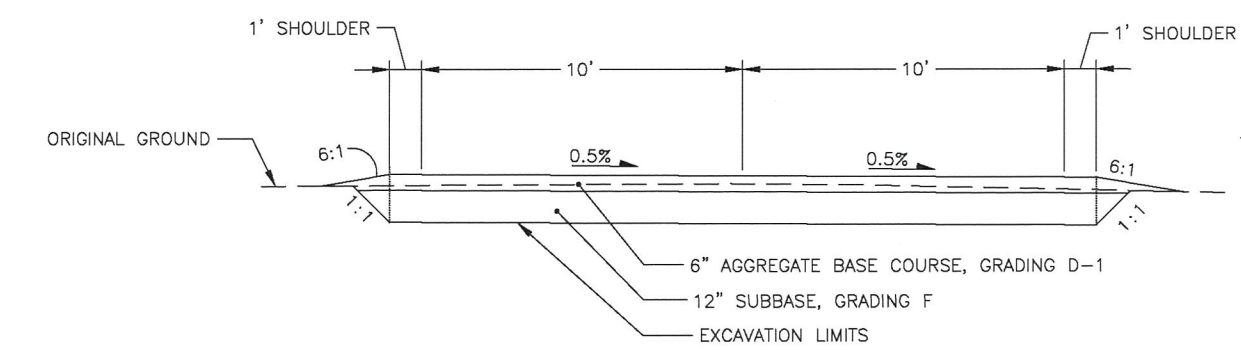
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWGS\0158-B1 TypSec-B1 Thu, Dec/02/21 02:43pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	B1	B1

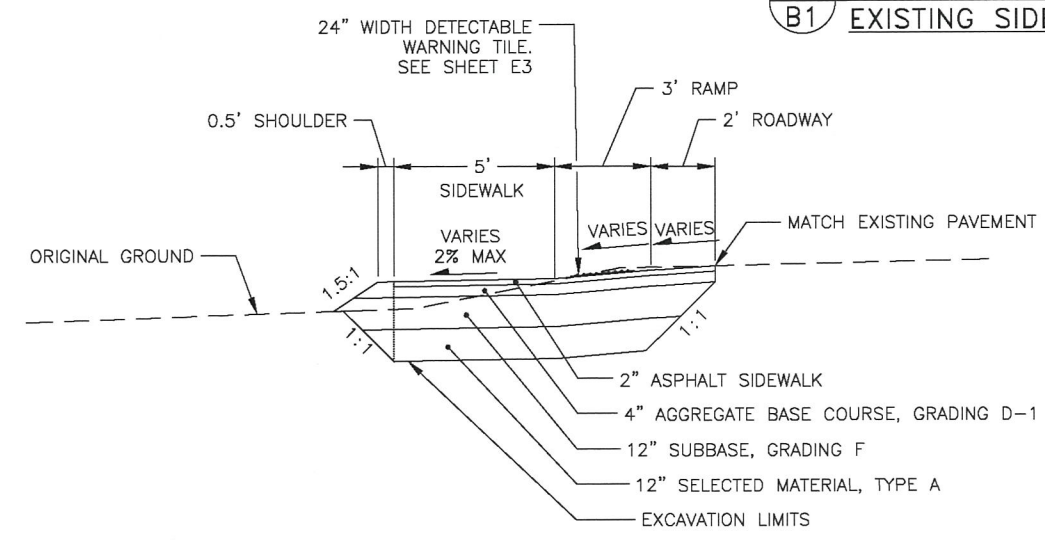


1 NEW SIDEWALK  
B1

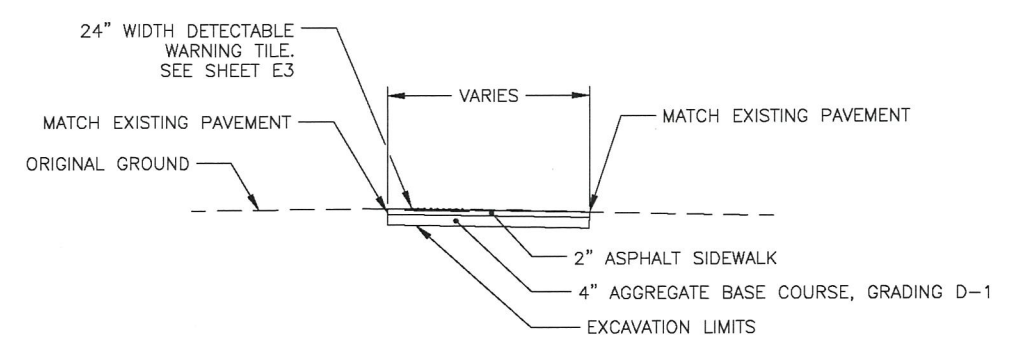
4 8TH AVE AND 5TH AVE  
B1 EXISTING SIDEWALK TIE-IN



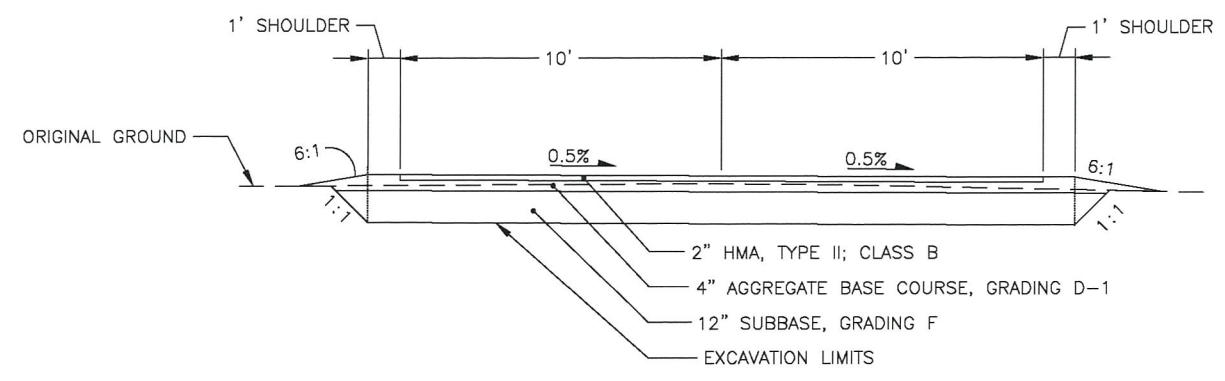
2 5TH AVE DRIVEWAY  
B1 ACCESS RAMP



5 8TH AVE-SNOWMAN LN  
B1 NE CORNER SIDEWALK



6 8TH AVE-SNOWMAN LN  
B1 SE CORNER SIDEWALK



3 5TH AVE DRIVEWAY  
B1 LANDING

NOTES:

1. SEE G SHEETS FOR GRADE POINTS, SAWCUT, AND LAYOUT INFORMATION.
2. CONSTRUCT PROJECT TO THE LIMITS SHOWN ON THIS SHEET UNLESS OTHERWISE DICTATED BY THE G SHEETS.

TYPICAL SECTIONS



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400, Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_Old Rich Intersections\DWGS\C\Sheets\00158\_C.EQ-C1\_Fri, Dec/10/21 11:42am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	C1	C1

ESTIMATE OF QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
201.0007.0000	CLEARING	LUMP SUM	ALL REQ'D
201.0009.0000	CLEARING AND GRUBBING	LUMP SUM	ALL REQ'D
202.0002.0000	REMOVAL OF PAVEMENT	SQUARE YARD	1,365
202.0003.0000	REMOVAL OF SIDEWALK	SQUARE YARD	37
202.0009.0000	REMOVAL OF CURB AND GUTTER	LINEAR FOOT	54
202.2022.0000	REMOVAL OF FENCE	LINEAR FOOT	84
203.0003.0000	UNCLASSIFIED EXCAVATION	CUBIC YARD	740
203.0006.0000	BORROW	TON	560
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	TON	180
304.0001.000F	SUBBASE, GRADING F	TON	935
306.0001.0000	ATB	TON	250
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	TON	11
401.0001.002B	HMA, TYPE II; CLASS B	TON	130
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	TON	6
401.0015.0000	ASPHALT MATERIAL PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
401.2010.0000	HMA, SIDEWALKS AND PATHWAYS	TON	75
607.0003.0000	CHAIN LINK FENCE	LINEAR FOOT	85
608.0001.0006	CONCRETE SIDEWALK, 6 INCHES THICK	SQUARE YARD	114
608.0006.0000	CURB RAMP	EACH	5
608.2016.0000	DETECTABLE WARNING TILE	SY	20
609.0002.0001	CURB AND GUTTER, TYPE 1	LINEAR FOOT	432
615.0001.0000	STANDARD SIGN	SQUARE FOOT	170.42
615.0006.0000	SALVAGE SIGN	EACH	41
618.0002.0000	SEEDING	POUND	2.00
620.0001.0000	TOPSOIL	SQUARE YARD	140
639.0001.0000	DRIVEWAY	EACH	1.00
640.0001.0000	MOBILIZATION AND DEMOBILIZATION	LUMP SUM	ALL REQ'D
641.2000.0000	POLLUTION CONTROL	LUMP SUM	ALL REQ'D
642.0001.0000	CONSTRUCTION SURVEYING	LUMP SUM	ALL REQ'D
642.0003.0000	THREE PERSON SURVEY PARTY	hour	40.00
643.0002.0000	TRAFFIC MAINTENANCE	LUMP SUM	ALL REQ'D
643.0003.0000	PERMANENT CONSTRUCTION SIGNS	LUMP SUM	ALL REQ'D
643.0023.0000	TRAFFIC PRICE ADJUSTMENT	CONTINGENT SUM	ALL REQ'D
643.0025.0000	TRAFFIC CONTROL	CONTINGENT SUM	ALL REQ'D
643.0032.0000	FLAGGING	CONTINGENT SUM	ALL REQ'D

ESTIMATE OF QUANTITIES			
ITEM NO.	DESCRIPTION	UNIT	TOTAL
644.0001.0000	FIELD OFFICE	LUMP SUM	ALL REQ'D
644.0006.0000	VEHICLE	LUMP SUM	ALL REQ'D
646.0001.0000	CPM SCHEDULING	LUMP SUM	ALL REQ'D
660.0002.0000	FLASHING BEACON SYSTEM COMPLETE, 5TH AVE	LUMP SUM	ALL REQ'D
660.0003.0000	HIGHWAY LIGHTING SYSTEM COMPLETE, 5TH AVE	LUMP SUM	ALL REQ'D
661.0005.0000	MODIFY LOAD CENTER	EACH	1
670.0010.0000	METHYL METHACRYLATE PAVEMENT MARKINGS	LUMP SUM	ALL REQ'D

ESTIMATED LUMP SUM QUANTITIES		
ITEM NO.	DESCRIPTION	QUANTITY
201.0007.0000	CLEARING	2.26 ACRES
201.0009.0000	CLEARING AND GRUBBING	4,604 SF
660.0002.0000	FLASHING BEACON SYSTEM COMPLETE, 5TH AVE	
	LED SIGN	1 EA
	POLE AND FOUNDATION	1 EA
	CABLE	80 LF
	CONDUIT	20 LF
660.0003.0000	HIGHWAY LIGHTING SYSTEM COMPLETE, 5TH AVE	
	ELECTRICAL ITEMS	1 LS
	JUNCTION BOX TYPE IA	1 EA
	JUNCTION BOX TYPE II	1 EA
	RELOCATE LIGHT POLE	1 EA
670.0010.0000	METHYL METHACRYLATE PAVEMENT MARKINGS	
	4" WHITE	384 LF
	8" WHITE	64 LF
	4" DY	291 LF
	24" WHITE	1,260 SF
	RR "X" WHITE	52 SF
	"RR" WHITE	10 SF

TABLE OF ESTIMATING FACTORS		
ITEM NO.	DESCRIPTION	UNIT
203.0006.0000	BORROW	2.0 TONS / CUBIC YARD
301.0001.00D1	AGGREGATE BASE COURSE, GRADING D-1	2.0 TONS / CUBIC YARD
304.0001.000F	SUBBASE, GRADING F	2.0 TONS / CUBIC YARD
306.0001.0000	ATB	2.0 TONS / CUBIC YARD
306.0002.5228	ASPHALT BINDER, GRADE PG 52-28	4.5% WEIGHT OF 306.0001.0000
401.0001.002B	HMA, TYPE II; CLASS B	2.0 TONS / CUBIC YARD
401.0004.0000	ASPHALT BINDER, GRADE PG 52E-40	5.5% WEIGHT OF 401.0001.002B
401.2010.0000	HMA, SIDEWALKS AND PATHWAYS	2.0 TONS / CUBIC YARD
618.0002.0000	SEEDING	1 LBS. / 1000 SQUARE FOOT

ESTIMATE OF QUANTITIES





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102

Z:\PROJECTS\00477\_old rich intersections\DWGS\CSheets\00158\_D\_Summaries-D1 Thu, Dec/02/21 02:46pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	D1	D2

201.0007.0000 CLEARING – LUMP SUM				
SHEET	START STATION	END STATION	OFFSET	REMARKS
E1	"L"115+81.2	"L"125+26.7	LT	WEST SIDE OF ARRC TRACKS BETWEEN 5TH & 8TH
E1	"L"115+79.7	"L"125+50.8	LT	EAST SIDE OF ARRC TRACKS BETWEEN 5TH & 8TH

201.0009.0000 CLEARING AND GRUBBING – LUMP SUM				
SHEET	START STATION	END STATION	OFFSET	REMARKS
E1	"8A" 50+01.13	"8A" 50+76.36	LT	8TH AVE WEST OF ARRC CROSSING
E1	"8A" 50+81.52	"8A" 51+41.24	LT	8TH AVE EAST OF ARRC CROSSING
E1	"8A" 51+74.75	"8A" 52+17.10	LT	8TH AVE–SNOWMAN LN NE CORNER SIDEWALK
E1	"8A" 51+96.60	"8A" 52+16.72	RT	8th AVE–SNOWMAN LN SE CORNER SIDEWALK
E1	"5E" 10+17.39	"5E" 10+75.3	LT	5TH AVE WEST OF ARRC CROSSING
E1	"5E" 10+85.33	"5E" 12+37.41	LT	5TH AVE EAST OF ARRC CROSSING

202.0002.0000 REMOVAL OF PAVEMENT – SQUARE YARD						
SHEET	BEGIN		END		AREA (SY)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"8A" 49+95.55	LT	"8A" 50+83.73	LT	175	8TH AVE WEST OF ARRC CROSSING
E1	"8A" 50+88.34	LT	"8A" 51+60.77	LT	273	8TH AVE EAST OF ARRC CROSSING
E1	"8A" 51+74.01	LT	"8A" 52+13.98	LT	11	8TH AVE–SNOWMAN LN NE CORNER SIDEWALK
E1	"8A" 51+96.60	RT	"8A" 52+16.64	RT	8	8TH AVE–SNOWMAN LN SE CORNER SIDEWALK
E1	"5E" 10+00	LT	"5E" 10+75.19	LT	393	5TH AVE WEST OF ARRC CROSSING
E1	"5E" 10+85.25	LT	"5E" 12+51.85	LT	505	5TH AVE EAST OF ARRC CROSSING
TOTAL					1,365	

202.0003.0000 REMOVAL OF SIDEWALK – SQUARE YARD						
SHEET	BEGIN		END		AREA (SY)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"5E"12+21.6	29.9' LT	"5E"12+42.7	53.8' LT	23	SANTA CLAUS LN
E1	"8A" 51+33.43	33.22' LT	"8A" 51+45.71	46.12' LT	14	SANTA CLAUS LN
TOTAL					37	

202.0009.0000 REMOVAL OF CURB AND GUTTER – LINEAR FOOT						
SHEET	BEGIN		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"8A" 51+45.85	32.39' LT	"8A" 51+46.21	46.17' LT	14	SNOWMAN LN
E1	"5E" 12+21.17	29.34' LT	"5E" 12+43.29	53.56' LT	40	SANTA CLAUS LN
TOTAL					54	

202.2022.0000 REMOVAL OF FENCE – LINEAR FOOT						
SHEET	BEGIN		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
E1	"8A" 50+99.62	88.5 LT	"8A" 51+22.86	33.2 LT	60	8TH AVE EXISTING SIDEWALK TIE-IN
E1	"5E" 10+43.50	103.9 LT	"5E" 10+40.62	80.3 LT	24	5TH AVE EXISTING SIDEWALK TIE-IN
TOTAL					84	

SUMMARY TABLES



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd., Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_Old Rich Intersections\DWGS\CSheets\00158\_D\_Summaries-D2 Tue, Dec/07/21 01:19pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	D2	D2

607.0003.0000 CHAIN LINK FENCE – LINEAR FOOT						
SHEET	BEGIN		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
G1	"8A" 51+20	88' LT	"8A" 51+00	32' LT	60	8' – 8TH AVE EXISTING SIDEWALK TIE-IN
G2	"5E" 10+44	105' LT	"5E" 10+41	80' LT	25	8' – 5TH AVE EXISTING SIDEWALK TIE-IN
TOTAL					85	

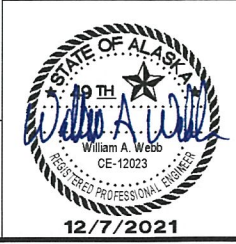
608.0006.0000 CURB RAMP – EACH				
SHEET	STATION	OFFSET	TYPE	REMARKS
G1	"8A" 50+11	LT	PARALLEL	8TH AVE–OLD RICHARDSON HWY
G1	"8A" 51+44	LT	PERPENDICULAR	8TH AVE–SNOWMAN LN NW CORNER
G2	"5E" 10+28	LT	PARALLEL	5TH AVE–OLD RICHARDSON HWY
G2	"5E" 11+88	LT	PARALLEL	5TH AVE–PATHWAY
G2	"5E" 12+41	LT	PARALLEL	5TH AVE–SANTA CLAUS LN
TOTAL			5	

608.0001.0006 CONCRETE SIDEWALK, 6 INCHES THICK – SQUARE YARD						
SHEET	BEGIN		END		AREA (SY)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
G1	"8A" 50+06	LT	"8A" 50+29	LT	19	8TH AVE–OLD RICHARDSON HWY CURB RAMP
G1	"8A" 50+56	LT	"8A" 50+58	LT	3	8TH AVE ARRC CROSSING DWT
G1	"8A" 51+05	LT	"8A" 51+07	LT	3	8th AVE ARRC CROSSING DWT
G1	"8A" 51+34	LT	"8A" 51+45	LT	9	8TH AVE–SNOWMAN LN CURB RAMP
G1	"8A" 51+79	LT	"8A" 52+02	LT	7	8TH AVE–SNOWMAN LN NE CORNER SIDEWALK DWT
G1	"8A" 51+91	RT	"8A" 52+10	LT	6	8TH AVE–SNOWMAN LN SE CORNER SIDEWALK DWT
G2	"5E" 10+21	LT	"5E" 10+44	LT	22	OLD RICHARDSON HWY–5TH AVE CURB RAMP
G2	"5E" 10+55	LT	"5E" 10+57	LT	3	5TH AVE ARRC CROSSING DWT
G2	"5E" 11+04	LT	"5E" 11+06	LT	3	5TH AVE ARRC CROSSING DWT
G2	"5E" 11+71	LT	"5E" 11+97	LT	27	5TH AVE MID–BLOCK CURB RAMP
G2	"5E" 12+29	LT	"5E" 12+43	LT	12	NW 5TH AVE–SANTA CLAUS CURB RAMP
TOTAL					114	

608.2016.0000 DETECTABLE WARNING TILE – SY				
SHEET	STATION	OFFSET	QUANTITY (SY)	REMARKS
G1	"8A" 50+57	LT	2.0	8TH AVE ARRC CROSSING
G1	"8A" 51+06	LT	2.2	8TH AVE ARRC CROSSING
G1	"8A" 51+87	LT	5.7	8TH AVE/SNOWMAN LN NE CORNER SIDEWALK
G1	"8A" 51+98	RT	4.8	8TH AVE/SNOWMAN LN SE CORNER SIDEWALK
G2	"5E" 10+56	LT	2.2	5TH AVE ARRC CROSSING
G2	"5E" 11+05	LT	2.2	5TH AVE ARRC CROSSING
TOTAL			20.0	ROUNDED UP TO WHOLE SY

609.0002.0001 CURB AND GUTTER, TYPE 1 – LINEAR FOOT						
SHEET	BEGIN		END		LENGTH (LF)	REMARKS
	STATION	OFFSET	STATION	OFFSET		
G1	"8A" 50+00	LT	"8A" 50+76	LT	86	8TH AVE WEST OF ARRC CROSSING
G1	"8A" 50+87	LT	"8A" 51+46	LT	79	8TH AVE EAST OF ARRC CROSSING
G2	"5E" 10+21	LT	"5E" 10+75	LT	89	5TH AVE WEST OF ARRC CROSSING
G2	"5E" 10+85	LT	"5E" 12+43	LT	178	5TH AVE EAST OF ARRC CROSSING
TOTAL					432	

SUMMARY TABLES



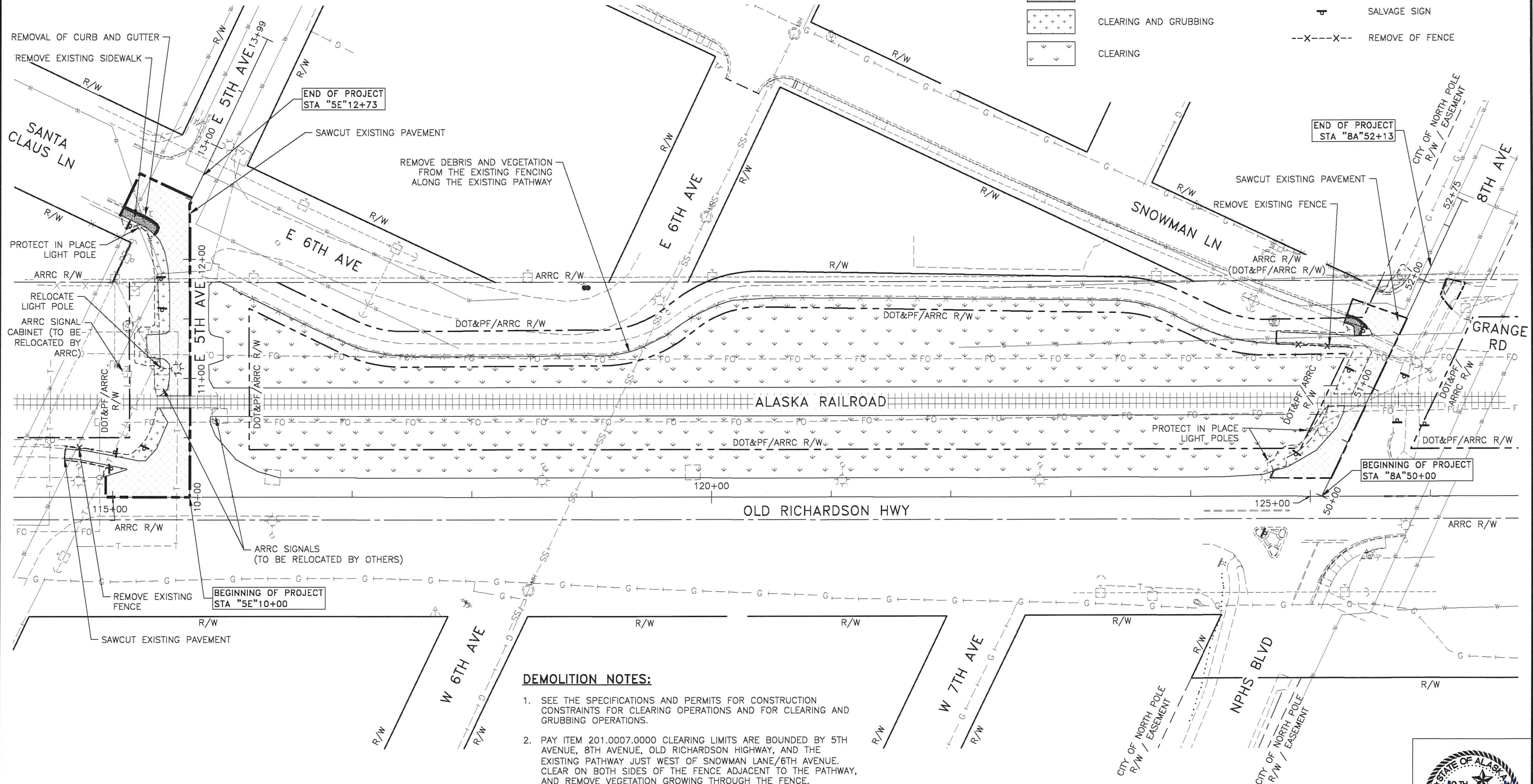


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC, 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich Intersections\DWG\00158\_E.Demo-E1 Wed, Dec/08/21 10:40am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	E1	E4

#### DEMOLITION LEGEND

	REMOVAL OF PAVEMENT		SAWCUT
	REMOVAL OF SIDEWALK		REMOVAL OF CURB AND GUTTER
	CLEARING AND GRUBBING		SALVAGE SIGN
	CLEARING		REMOVE OF FENCE



#### DEMOLITION NOTES:

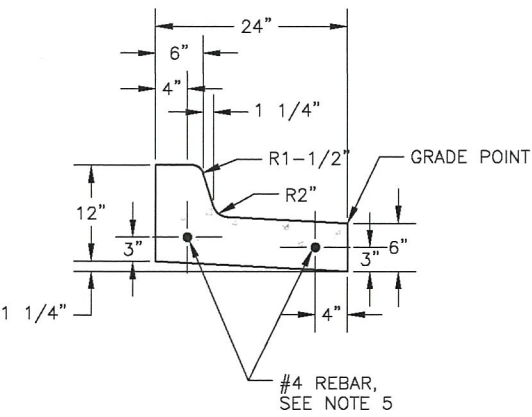
- SEE THE SPECIFICATIONS AND PERMITS FOR CONSTRUCTION CONSTRAINTS FOR CLEARING OPERATIONS AND FOR CLEARING AND GRUBBING OPERATIONS.
- PAY ITEM 201.0007.0000 CLEARING LIMITS ARE BOUNDED BY 5TH AVENUE, 8TH AVENUE, OLD RICHARDSON HIGHWAY, AND THE EXISTING PATHWAY JUST WEST OF SNOWMAN LANE/6TH AVENUE. CLEAR ON BOTH SIDES OF THE FENCE ADJACENT TO THE PATHWAY, AND REMOVE VEGETATION GROWING THROUGH THE FENCE.
- PAY ITEM 201.0009.0000 CLEARING AND GRUBBING LIMITS ARE FROM THE EDGE OF EXISTING IMPROVED SURFACE TO THE EXTENT OF THE PROPOSED SLOPE LIMITS.
- SAWCUT FULL DEPTH OF EXISTING ASPHALT.

DEMOLITION PLAN

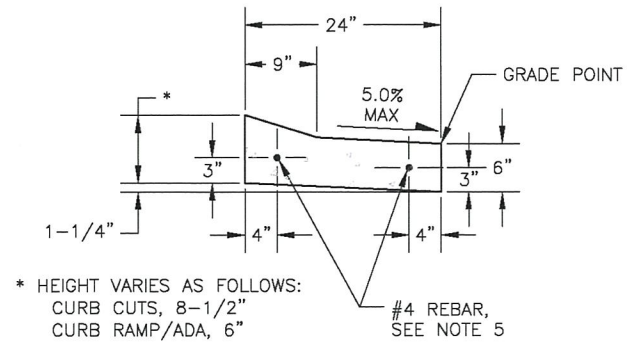




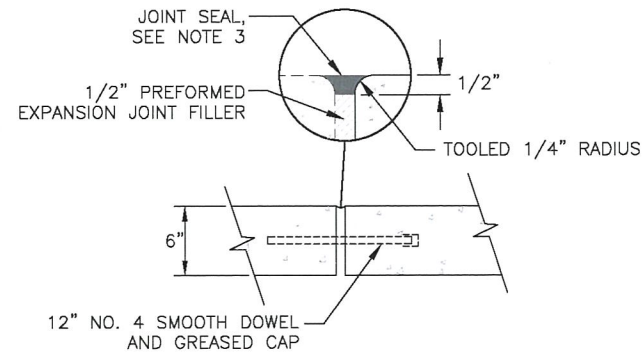
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWGS\G Sheets\0158\_E Details-E2 Thu, Dec/02/21 02:45pm



STANDARD CURB AND GUTTER  
(SPILL)



DEPRESSED CURB AND GUTTER  
(SPILL)

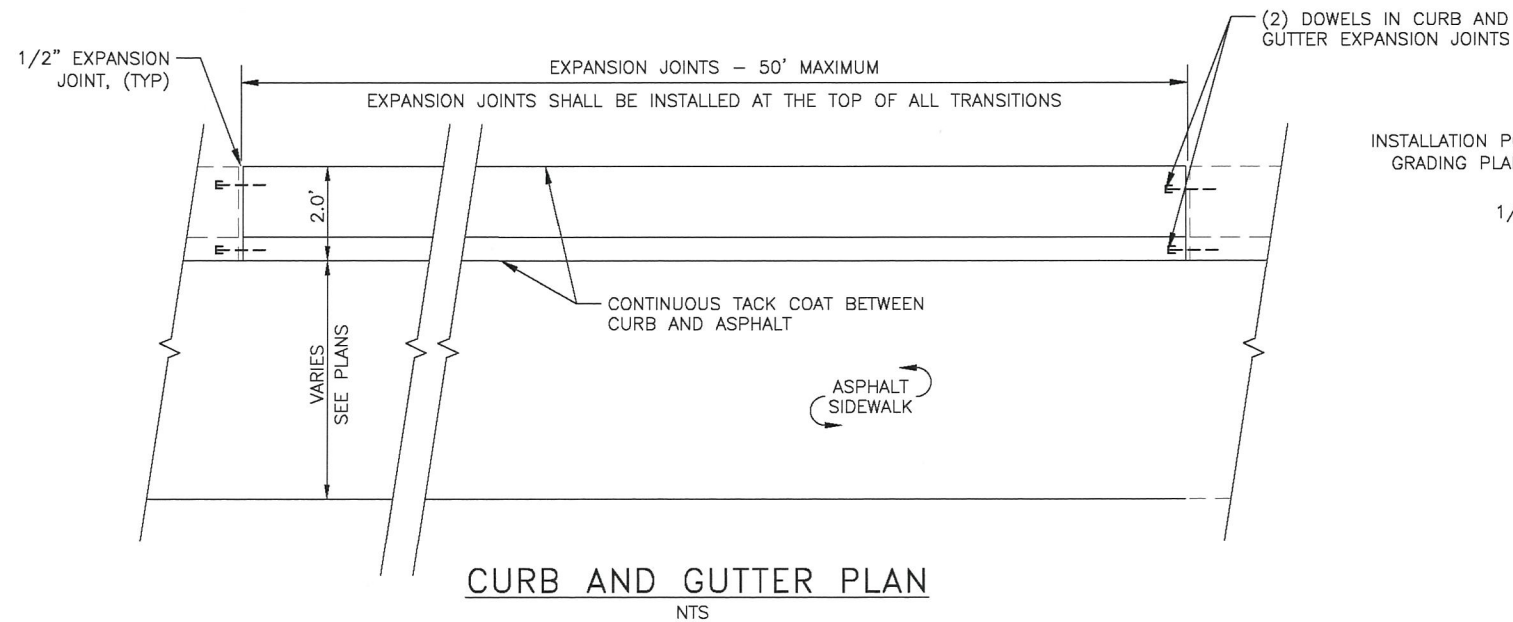


EXPANSION JOINT DETAIL

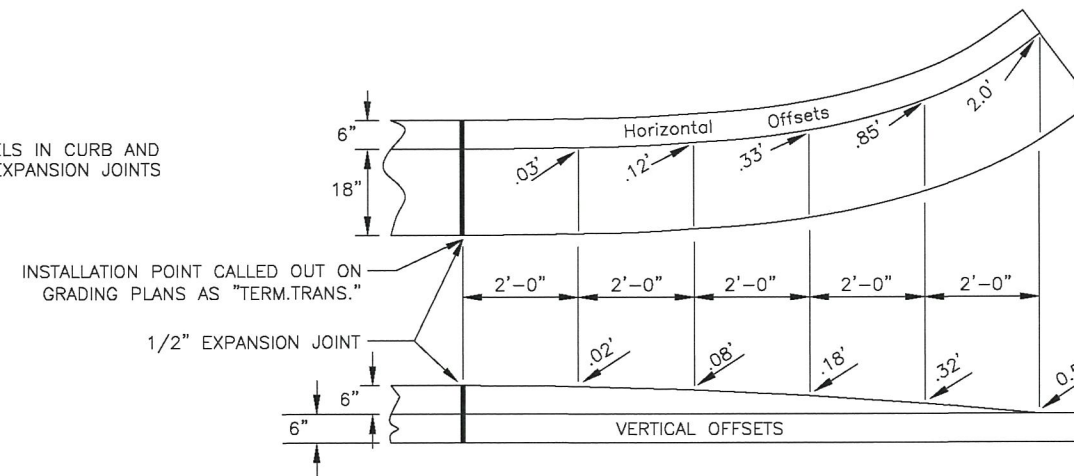
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	E2	E4

**NOTES:**

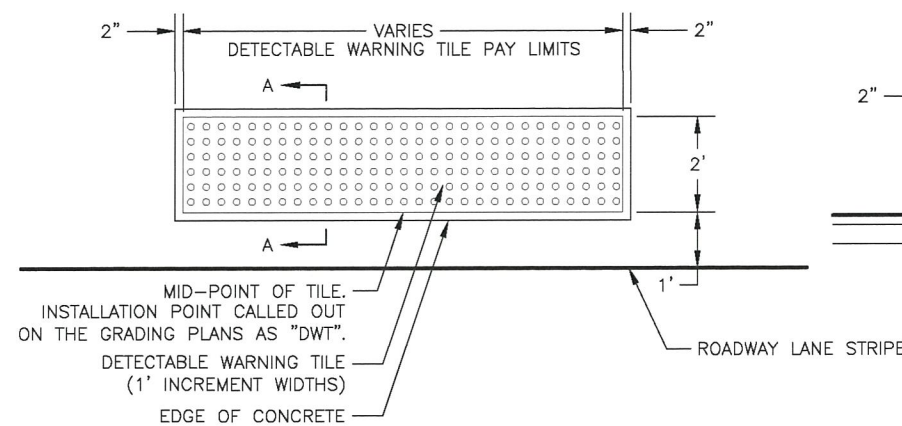
1. INSTALL CONTINUOUS, FULL DEPTH, 1/8" CONSTRUCTION JOINT AT ALL LOCATIONS WHERE SIDEWALK AND CURB (ALL TYPES) MEET.
2. APPLY TACK COAT BETWEEN ALL CONCRETE AND ASPHALT INTERFACES.
3. SEAL ALL EXPANSION JOINTS WITH HOT POURED ELASTIC TYPE JOINT SEAL CONFORMING TO AASHTO M173-60 REQUIREMENTS.
4. SAWCUT ALL MATCH LINES WHERE NEW CONSTRUCTION OF PAVEMENT, SIDEWALK, OR CURBING ABUTS EXISTING FEATURES. WORK IS SUBSIDIARY TO 202 PAY ITEMS.
5. REINFORCEMENT SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS.



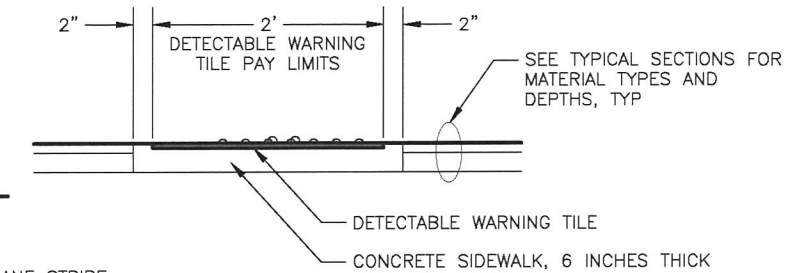
CURB AND GUTTER PLAN  
NTS



CURB & GUTTER TERMINATION TRANSITIONS

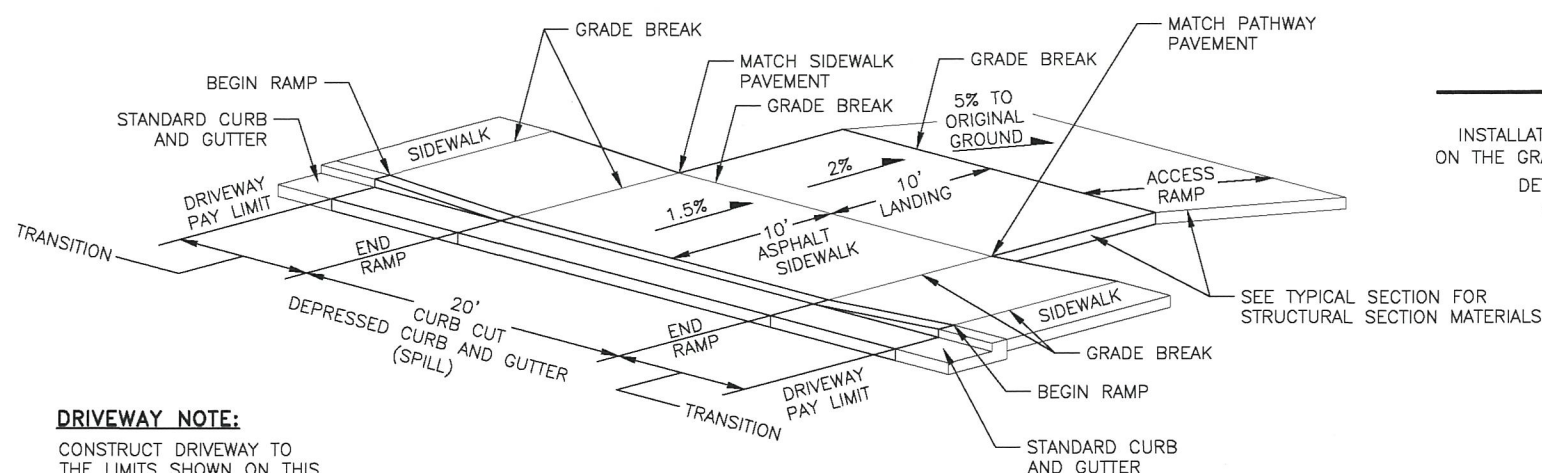


PLAN



SECTION A-A

ASPHALT PATHWAY DETECTABLE WARNING TILE  
NTS



**DRIVEWAY NOTE:**

CONSTRUCT DRIVEWAY TO THE LIMITS SHOWN ON THIS DETAIL UNLESS OTHERWISE DICTATED BY THE G SHEETS.

1 DRIVEWAY DETAIL  
E2 NTS

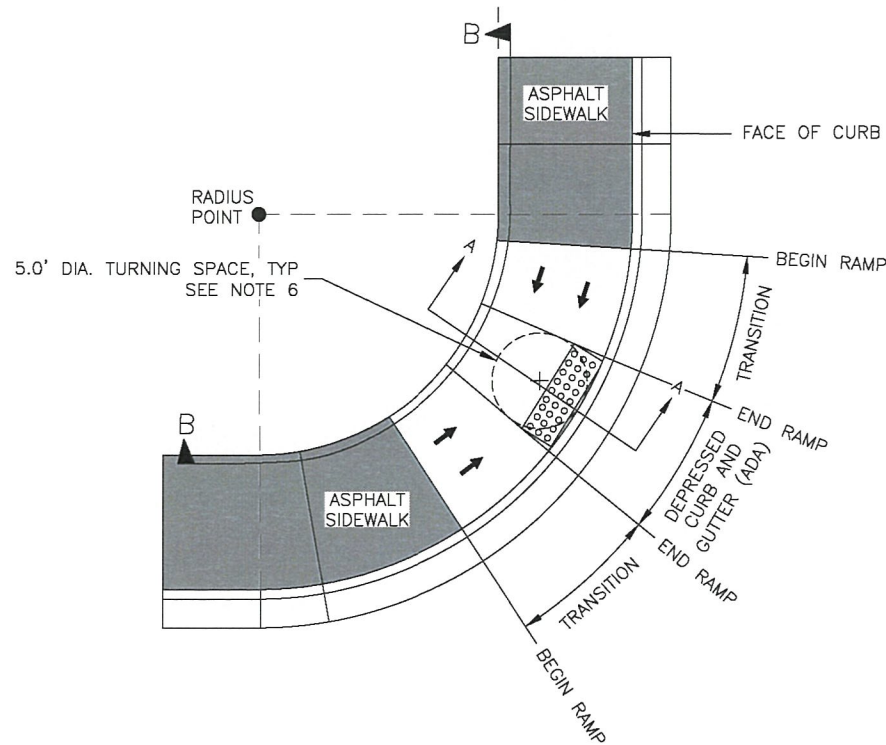
CURB & GUTTER AND  
DRIVEWAY DETAILS



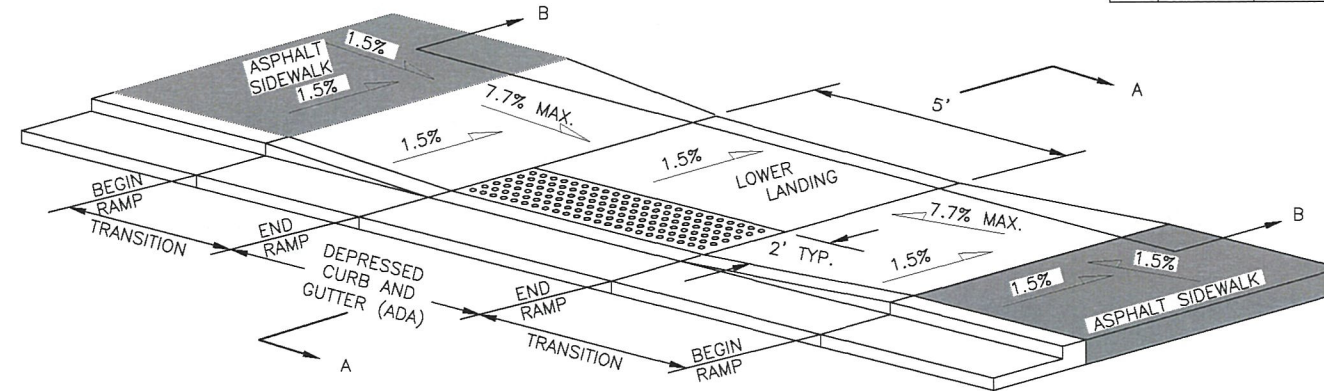


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01\_rich intersections\DWGS\0158\_E\_Details-E3 Thu, Dec/02/21 02:43pm

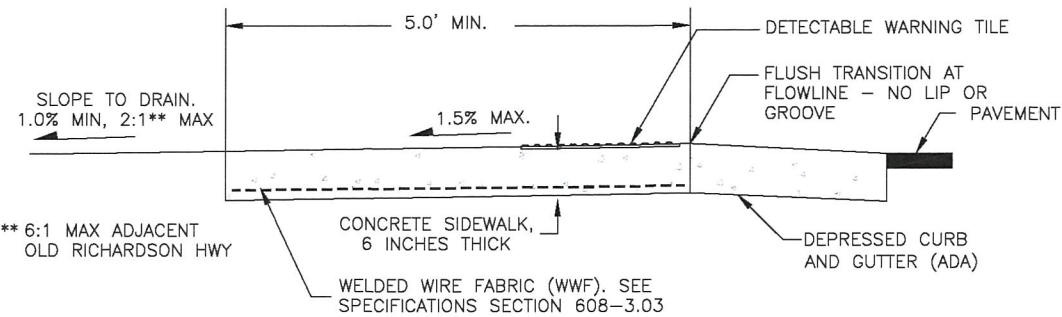
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	E3	E4



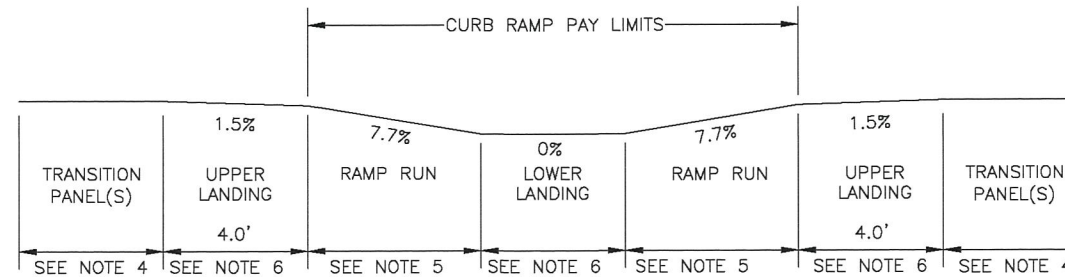
CORNER PLAN  
GENERIC LOCATION SHOWN



MID-BLOCK PLAN  
GENERIC LOCATION SHOWN

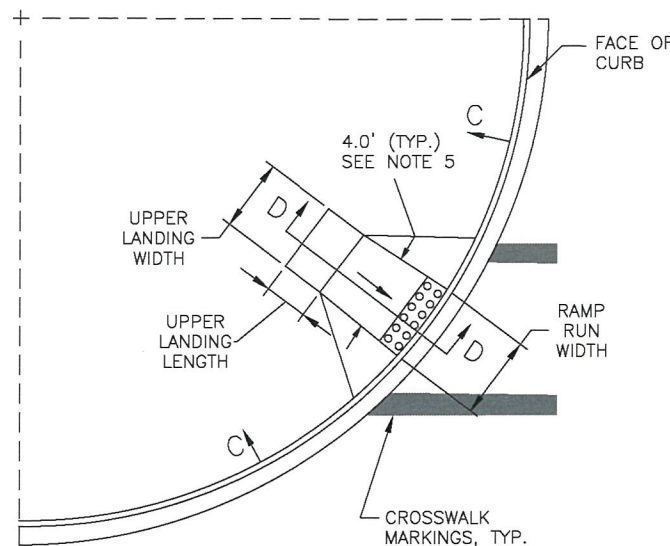


SECTION A-A

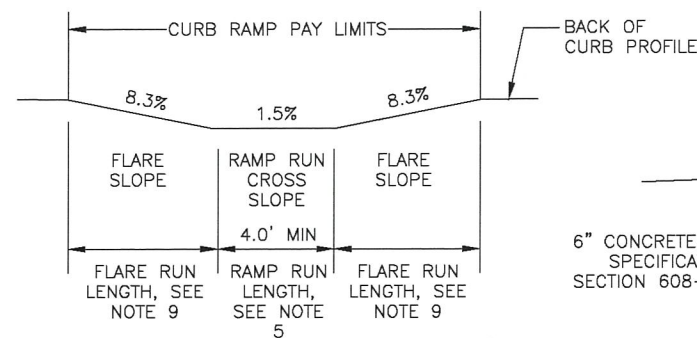


PROFILE B-B

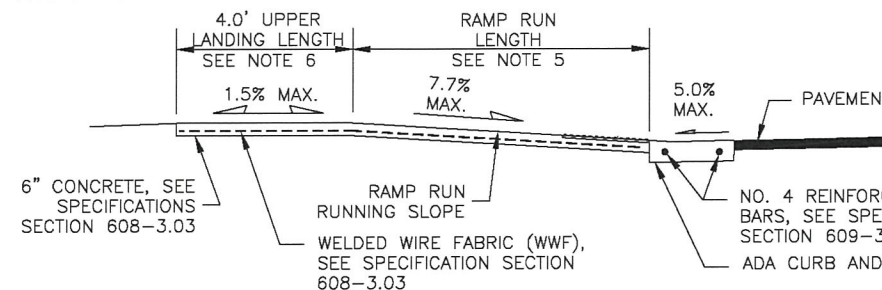
PARALLEL CURB RAMP



ONE CROSSING DIRECTION



PROFILE C-C



SECTION D-D

CONSTRUCTION NOTES:

1. CONSTRUCT RAMP RUNS, FLARES, AND BOTH UPPER AND LOWER LANDING OF 6" CONCRETE WITH COARSE BROOM FINISH IN THE DIRECTION OF THE CROSS SLOPE.
2. USE GRADING SHEETS TO LAYOUT CURB RAMPS. THE CURB RAMP DETAILS ON THIS SHEET SHALL BE USED AS REFERENCE IF FIELD ADJUSTMENTS ARE REQUIRED. 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. APPLY TACK COAT BETWEEN ALL CONCRETE AND ASPHALT INTERFACINGS.
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.  
  
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 MINIMUM 5.0-FOOT 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.
9. SLOPE GUIDE TABLE:

SLOPES GUIDE			
	PREFERRED	MINIMUM	MAXIMUM
RAMP RUN RUNNING SLOPE	7.7%	N/A	8.3%
FLARE SLOPE (IF UPPER LANDING)	8.3%	N/A	10.0%
FLARE SLOPE (NO UPPER LANDING)	7.7%	N/A	8.3%
UPPER LANDING CROSS SLOPE	0%	0%	**
UPPER LANDING RUNNING SLOPE	1.5%	1.0%	2.0%
ALL CROSS SLOPES	1.5%	1.0%	2.0%

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

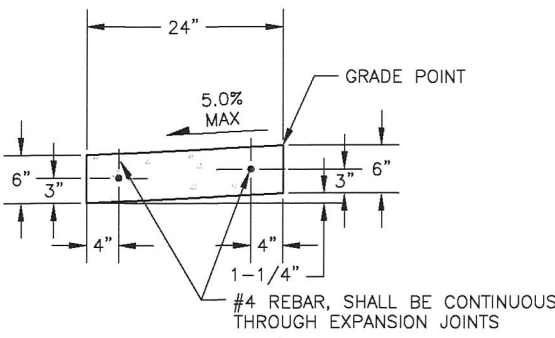
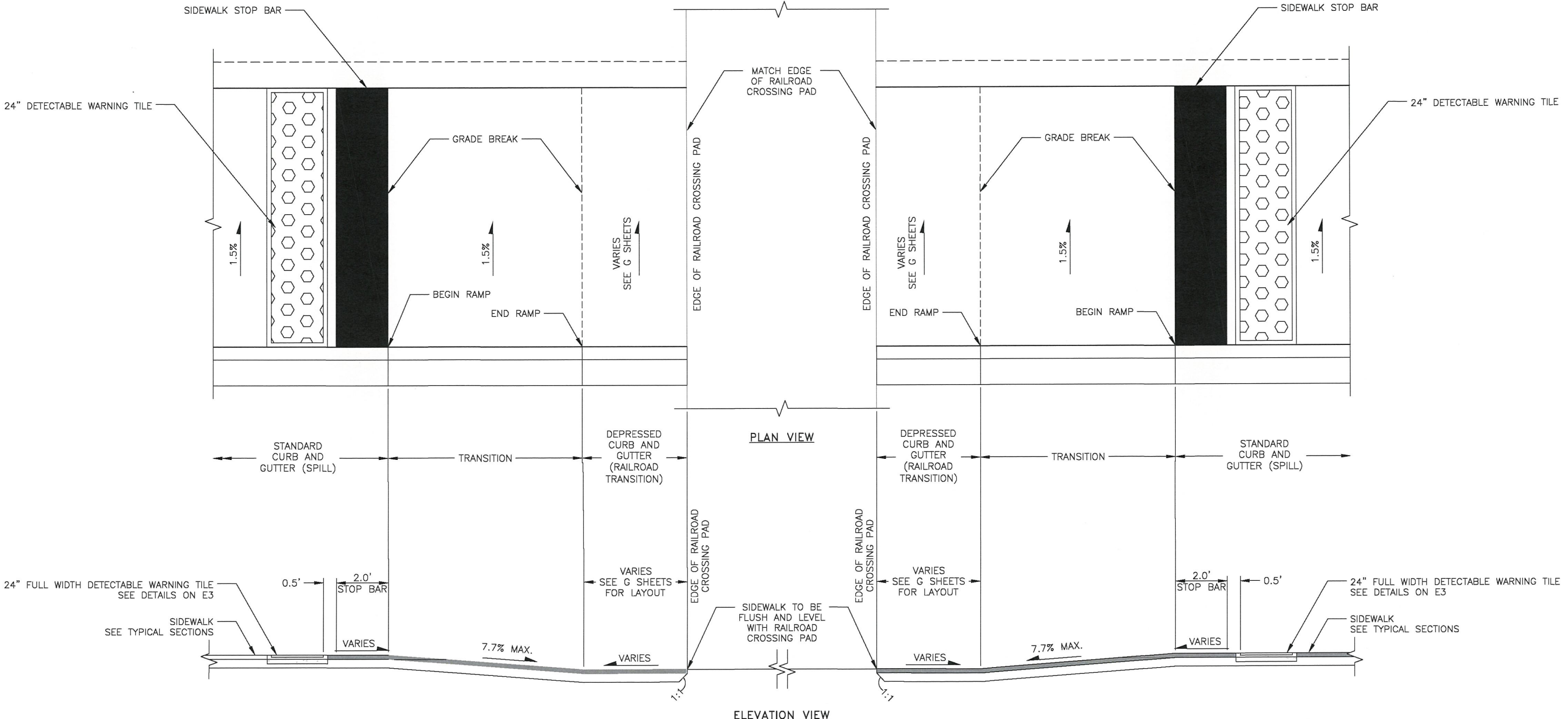
DETECTABLE WARNING TILE SEE NOTE 7

CURB RAMP DETAILS





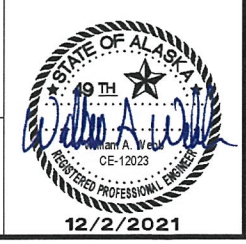
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	E4	E4



DEPRESSED CURB AND GUTTER  
(RAILROAD TRANSITION)

PATHWAY RAMP TO ARRC CROSSING  
TRANSITION DETAIL  
NTS

RAILROAD CROSSING  
DETAILS



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich intersections\DWGS\0158\_E\_Details-E4\_Thu, Dec/02/21 02:43pm

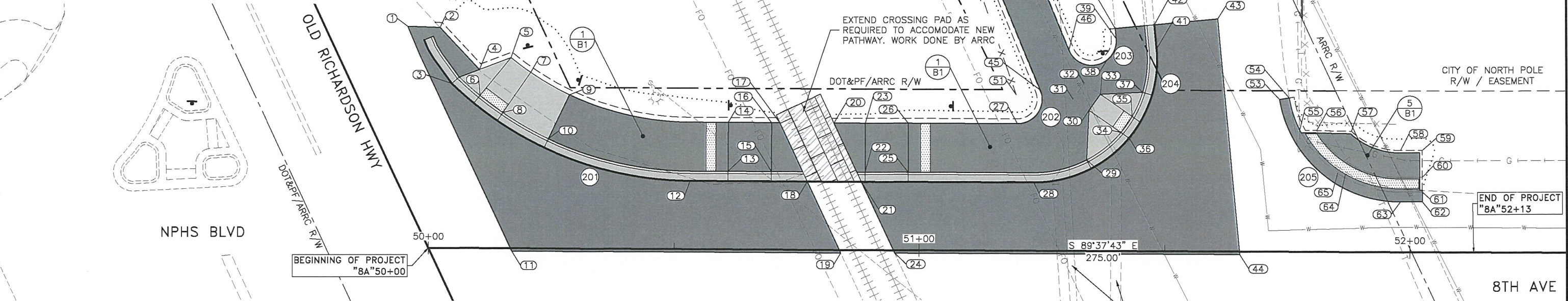


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich Intersections\00158\_G-GRADING-G1 Thu, Dec/02/21 02:43pm

RADIUS POINT TABLE				
PT#	STATION	OFFSET	RADIUS	DESC
201	"8A" 50+53.19	83.98' L	70'	
202	"8A" 51+19.92	31.00' L	5'	BP
203	"8A" 51+34.96	43.00' L	5'	BP
204	"8A" 51+23.29	39.00' L	25'	
205	"8A" 51+97.92	35.31' L	25'	SAWCUT

NOTES:

- SEE H SHEETS FOR SIGNING AND STRIPING LAYOUT.
- GRADING POINTS ARE TO LIP OF GUTTER UNLESS OTHERWISE NOTED.



GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
1	"L" 124+66.58	15.34' L	ME	PI, SAWCUT
2	"8A" 50+02.09	45.07' L	ME	PI, EP, SAWCUT
3	"8A" 50+04.55	33.65' L	496.71'	PC, TERM TRANS
4	"8A" 50+10.13	36.53' L	497.02'	PI, EP
5	"8A" 50+16.58	39.00' L	496.81'	END RAMP
6	"8A" 50+10.29	31.23' L	496.84'	TBC, END RAMP
7	"8A" 50+20.59	36.01' L	496.86'	END RAMP
8	"8A" 50+14.97	27.74' L	496.89'	TBC, END RAMP
9	"8A" 50+28.51	31.49' L	497.40'	BEGIN RAMP
10	"8A" 50+24.26	22.45' L	497.55'	TBC, BEGIN RAMP
11	"8A" 50+16.96	0.60' R	ME	SAWCUT
12	"8A" 50+53.21	13.98' L	497.25'	PT
13	"8A" 50+60.90	15.98' L	497.83'	TBC, BEGIN RAMP
14	"8A" 50+60.90	25.98' L	497.73'	BEGIN RAMP
15	"8A" 50+69.73	15.99' L	497.37'	TBC, END RAMP
16	"8A" 50+69.72	25.99' L	497.34'	PVI, BP, END RAMP
17	"8A" 50+71.40	25.99' L	497.37'	PI, BP
18	"8A" 50+77.09	13.99' L	ME	PI, EC
19	"8A" 50+84.01	0.60' R	ME	PI, EP, SAWCUT
20	"8A" 50+82.47	25.99' L	497.38'	PI, BP

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
21	"8A" 50+88.16	13.99' L	ME	PI, EC
22	"8A" 50+88.91	15.99' L	497.40'	TBC, END RAMP
23	"8A" 50+88.90	25.99' L	497.30'	PVI, BP, END RAMP
24	"8A" 50+95.08	0.60' R	ME	PI, EP, SAWCUT
25	"8A" 50+97.70	15.99' L	497.78'	TBC, BEGIN RAMP
26	"8A" 50+97.70	25.99' L	497.68'	BEGIN RAMP
27	"8A" 51+19.92	26.00' L	497.41'	PC, BP
28	"8A" 51+23.30	14.00' L	497.01'	PC, PVI
29	"8A" 51+34.03	18.66' L	497.42'	TBC, BEGIN RAMP
30	"8A" 51+34.48	28.81' L	497.21'	BEGIN RAMP, UPPER LANDING
31	"8A" 51+31.19	31.09' L	497.15'	GP, UPPER LANDING
32	"8A" 51+33.47	34.37' L	497.11'	GP, UPPER LANDING
33	"8A" 51+36.76	32.09' L	497.17'	BEGIN RAMP, UPPER LANDING
34	"8A" 51+40.98	24.30' L	0.00'	TBC, END RAMP
35	"8A" 51+43.26	27.58' L	496.76'	TBC, END RAMP
36	"8A" 51+42.63	23.16' L	496.80'	PVI
37	"8A" 51+45.37	32.53' L	497.07'	TBC, BEGIN RAMP
38	"8A" 51+38.09	39.11' L	497.03'	PVI, BP
39	"8A" 51+39.94	43.49' L	496.89'	PT, BP
40	"8A" 51+39.74	45.54' L	ME	PI, BP, SAWCUT

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
41	"8A" 51+48.18	41.42' L	496.43'	PT
42	"8A" 51+47.70	46.31' L	ME	PI, SAWCUT
43	"8A" 51+60.64	47.57' L	ME	PI, EP, SAWCUT
44	"8A" 51+65.32	0.60' R	ME	PI, EP, SAWCUT
45	"8A" 51+24.54	32.92' L	497.14'	PT, BP
46	"8A" 51+30.34	41.08' L	497.00'	PC, BP
47	"8A" 51+04.00	82.20' L	496.34'	PVI, PATH
48	"8A" 51+11.85	85.47' L	496.28'	PVI, PATH
49	"8A" 51+00.88	89.70' L	ME	PI, EP, PATH
50	"8A" 51+08.72	92.97' L	ME	PI, EP, PATH
51	"8A" 51+19.66	31.94' L		FENCE
52	"8A" 50+99.62	88.50' L		FENCE
53	"8A" 51+73.27	31.15' L	ME	PC, SAWCUT
54	"8A" 51+75.24	31.48' L	ME	PI, SAWCUT, EP
55	"8A" 51+77.42	24.89' L	496.41'	PI, EP, VPI, GB
56	"8A" 51+80.87	24.81' L	496.49'	VPI, GB
57	"8A" 51+88.01	24.72' L	496.52'	PC, BP
58	"8A" 51+98.00	20.81' L	496.73'	PT, BP, VPI
59	"8A" 52+02.43	20.84' L	496.80'	PI, BP
60	"8A" 52+02.46	15.34' L	496.76'	VPI, GB

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
61	"8A" 52+02.48	12.34' L	ME	PI, GB, SAWCUT
62	"8A" 52+02.49	10.34' L	ME	PI, SAWCUT
63	"8A" 51+98.06	10.31' L	ME	PT, SAWCUT
64	"8A" 51+86.78	15.96' L		DWT, 22.3' RADIUS
65	"8A" 51+85.21	16.14' L	496.66'	VPI, GB
66	"8A" 51+87.86	31.30' R	ME	SAWCUT
67	"8A" 51+94.79	17.63' R	ME	SAWCUT
68	"8A" 51+98.69	22.08' R		DWT, 24.0' RADIUS
69	"8A" 52+09.32	16.17' R	ME	SAWCUT
70	"8A" 52+13.22	32.17' R	ME	SAWCUT

GRADING PLANS





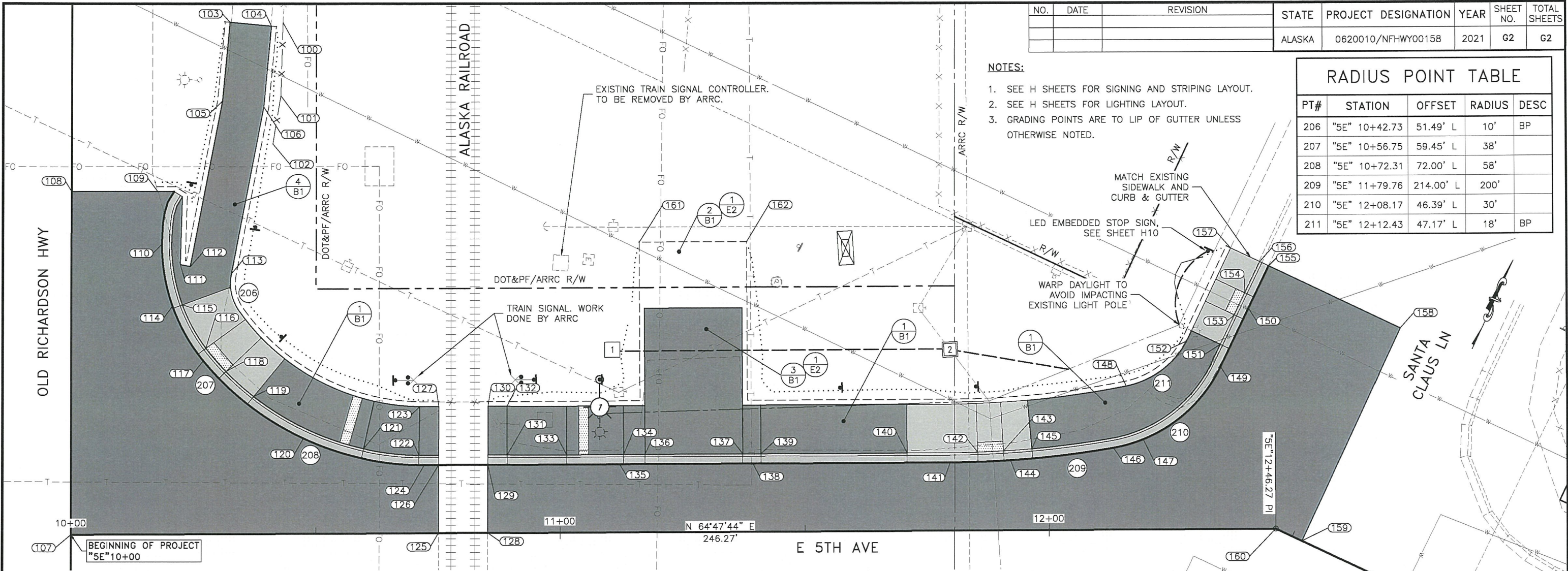
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01\_rich intersections\DWG\02\021 GRADING-G2 Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	G2	G2

NOTES:

- SEE H SHEETS FOR SIGNING AND STRIPING LAYOUT.
- SEE H SHEETS FOR LIGHTING LAYOUT.
- GRADING POINTS ARE TO LIP OF GUTTER UNLESS OTHERWISE NOTED.

RADIUS POINT TABLE				
PT#	STATION	OFFSET	RADIUS	DESC
206	"5E" 10+42.73	51.49' L	10'	BP
207	"5E" 10+56.75	59.45' L	38'	
208	"5E" 10+72.31	72.00' L	58'	
209	"5E" 11+79.76	214.00' L	200'	
210	"5E" 12+08.17	46.39' L	30'	
211	"5E" 12+12.43	47.17' L	18'	BP



GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
100	"5E" 10+43.62	104.81' L		FENCE
101	"5E" 10+43.12	89.82' L		FENCE
102	"5E" 10+41.45	79.97' L		FENCE
103	"5E" 10+32.80	104.94' L	ME	PI, EP, PATH
104	"5E" 10+41.26	104.10' L	ME	PI, EP, PATH
105	"5E" 10+31.21	88.78' L	496.28'	PI, EP, PATH
106	"5E" 10+39.63	87.55' L	496.16'	PI, EP, PATH
107	"5E" 10+00.00	0.00' R	ME	PI, SAWCUT
108	"5E" 10+00.30	70.38' L	ME	PI, EP, SAWCUT
109	"5E" 10+17.94	70.31' L	ME	EP, SAWCUT
110	"5E" 10+18.75	59.57' L	496.42'	PC, TERM TRANS
111	"5E" 10+22.51	55.36' L	497.01'	PI, BP
112	"5E" 10+24.56	54.96' L	496.98'	PI, BP
113	"5E" 10+32.92	53.42' L	496.85'	PC, BP
114	"5E" 10+20.89	46.86' L	496.44'	PVI
115	"5E" 10+22.92	47.11' L	497.04'	TBC, BEGIN RAMP
116	"5E" 10+27.71	38.16' L	496.49'	TBC, END RAMP
117	"5E" 10+27.16	35.60' L	496.38'	PCC
118	"5E" 10+31.77	33.37' L	496.47'	TBC, END RAMP

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
119	"5E" 10+37.39	28.23' L	496.93'	TBC, BEGIN RAMP
120	"5E" 10+47.52	19.57' L	496.27'	PVI
121	"5E" 10+59.85	17.41' L	496.90'	TBC, BEGIN RAMP
122	"5E" 10+71.23	16.01' L	496.22'	TBC, END RAMP
123	"5E" 10+71.42	26.01' L	496.07'	PVI, BP, END RAMP
124	"5E" 10+72.31	14.00' L	496.32'	PT
125	"5E" 10+75.19	0.00' R	ME	PI, EP, SAWCUT
126	"5E" 10+75.25	14.00' L	ME	PVI, SAWCUT
127	"5E" 10+75.34	26.00' L	ME	PVI, BP
128	"5E" 10+85.25	0.00' R	ME	PI, EP, SAWCUT
129	"5E" 10+85.31	14.00' L	ME	PVI, SAWCUT
130	"5E" 10+85.38	26.00' L	ME	PVI, BP
131	"5E" 10+89.25	16.00' L	496.23'	TBC, END RAMP
132	"5E" 10+89.25	26.00' L	496.08'	PVI, BP, END RAMP
133	"5E" 11+01.39	16.00' L	496.91'	TBC, BEGIN RAMP
134	"5E" 11+13.03	16.00' L	496.57'	TBC, BEGIN RAMP
135	"5E" 11+12.18	14.00' L	496.28'	PVI
136	"5E" 11+17.41	16.00' L	496.56'	TBC, END RAMP
137	"5E" 11+37.41	16.00' L	496.53'	TBC, END RAMP

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
138	"5E" 11+39.49	14.00' L	496.23'	PVI
139	"5E" 11+41.13	16.00' L	496.80'	TBC, BEGIN RAMP
140	"5E" 11+71.01	16.00' L	496.24'	TBC, BEGIN RAMP
141	"5E" 11+79.76	14.00' L	495.47'	PC
142	"5E" 11+85.44	16.08' L	495.46'	TBC, END RAMP
143	"5E" 11+90.70	16.30' L	495.36'	TBC, END RAMP
144	"5E" 11+92.11	14.38' L	495.24'	RAMP
145	"5E" 11+96.51	16.71' L	495.76'	TBC, BEGIN RAMP
146	"5E" 12+13.18	16.81' L	494.87'	PCC
147	"5E" 12+19.29	18.53' L	494.77'	PVI
148	"5E" 12+15.88	29.50' L	495.23'	PC, BP
149	"5E" 12+35.20	33.39' L	494.80'	PT
150	"5E" 12+40.96	45.36' L	494.82'	PVI
151	"5E" 12+35.18	37.95' L	495.16'	TBC, BEGIN RAMP
152	"5E" 12+28.28	38.65' L	495.31'	PT, BP
153	"5E" 12+38.08	43.98' L	494.92'	TBC, END RAMP
154	"5E" 12+40.25	48.49' L	494.93'	TBC, END RAMP
155	"5E" 12+45.12	54.00' L	ME	PI, SAWCUT
156	"5E" 12+43.31	54.86' L	ME	TBC, BEGIN RAMP

GRADING POINT TABLE				
PT#	STATION	OFFSET	ELEV	DESC
157	"5E" 12+37.41	57.69' L	ME	PI, BP
158	"5E" 12+51.86	48.19' L	ME	PI, EP, SAWCUT
159	"5E" 12+52.19	0.00' R	ME	PI, EP, SAWCUT
160	"5E" 12+46.27	0.00' R	ME	PI, EP, SAWCUT
161	"5E" 11+16.41	59.56' L	ME	PI, ED
162	"5E" 11+38.41	59.56' L	ME	PI, ED

GRADING PLANS





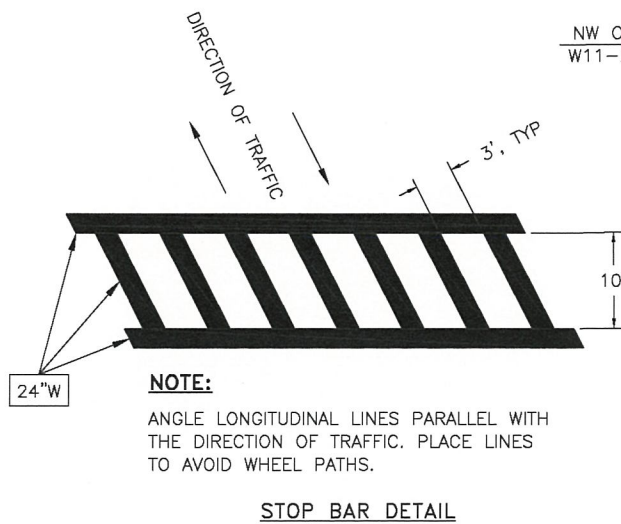
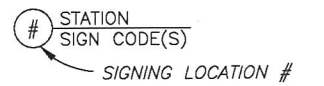
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich intersections\DWGS\01158\_H1-H2\_SSI-H1 Thu, Dec/02/21 02:44pm

TRAFFIC MARKING NOTES:

1. ALL PROPOSED PAVEMENT MARKINGS SHALL BE SURFACE APPLIED METHYL METHACRYLATE(MMA), UNLESS OTHERWISE NOTED IN THE PLANS.
2. TRANSITION NEW PAVEMENT MARKINGS TO MATCH EXISTING MARKINGS AT A 100:1 TAPER.
3. REMOVE ALL EXISTING PAVEMENT MARKINGS NOT COINCIDING WITH THE NEW MARKINGS, INCLUDING CROSSWALK ACROSS 8TH AVE WEST OF SNOWMAN LANE. THIS WORK IS SUBSIDIARY TO 670 PAY ITEMS.
4. DIMENSIONS REFER TO THE CENTER OF STRIPE, STRIPE GROUP, EDGE OF PAVEMENT OR LIP OF GUTTER WHEN PRESENT.
5. STRIPING CONFIGURATION IN THIS PLAN SET ARE APPROXIMATE. THE CONTRACTOR SHALL PERFORM PRELIMINARY SPOTTING (RABBIT TRACKING) OF STRIPING AT LEAST 48 HOURS PRIOR TO APPLICATION OF MARKINGS, THE ENGINEER WILL THEN APPROVE THE LAYOUT OR MAKE MODIFICATIONS AS REQUIRED.

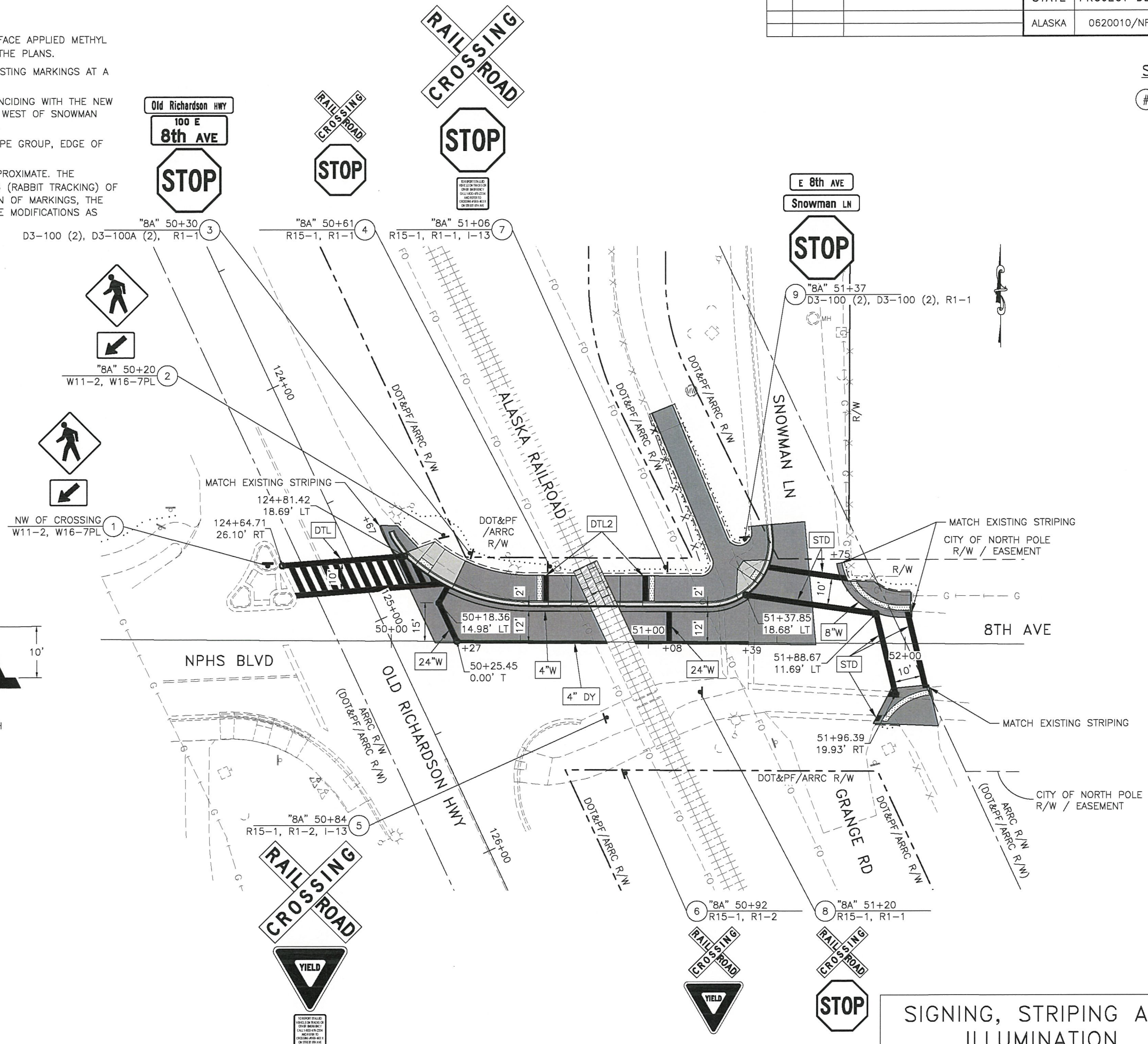
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H1	H14

SIGN SYMBOL KEY



TRAFFIC MARKING KEY

4"W	4" WHITE LINE
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
24"W	24" WHITE LINE
STD	SEE STANDARD PLAN
DTL	SEE DETAIL ON H1
DTL2	SEE DETAIL ON E4



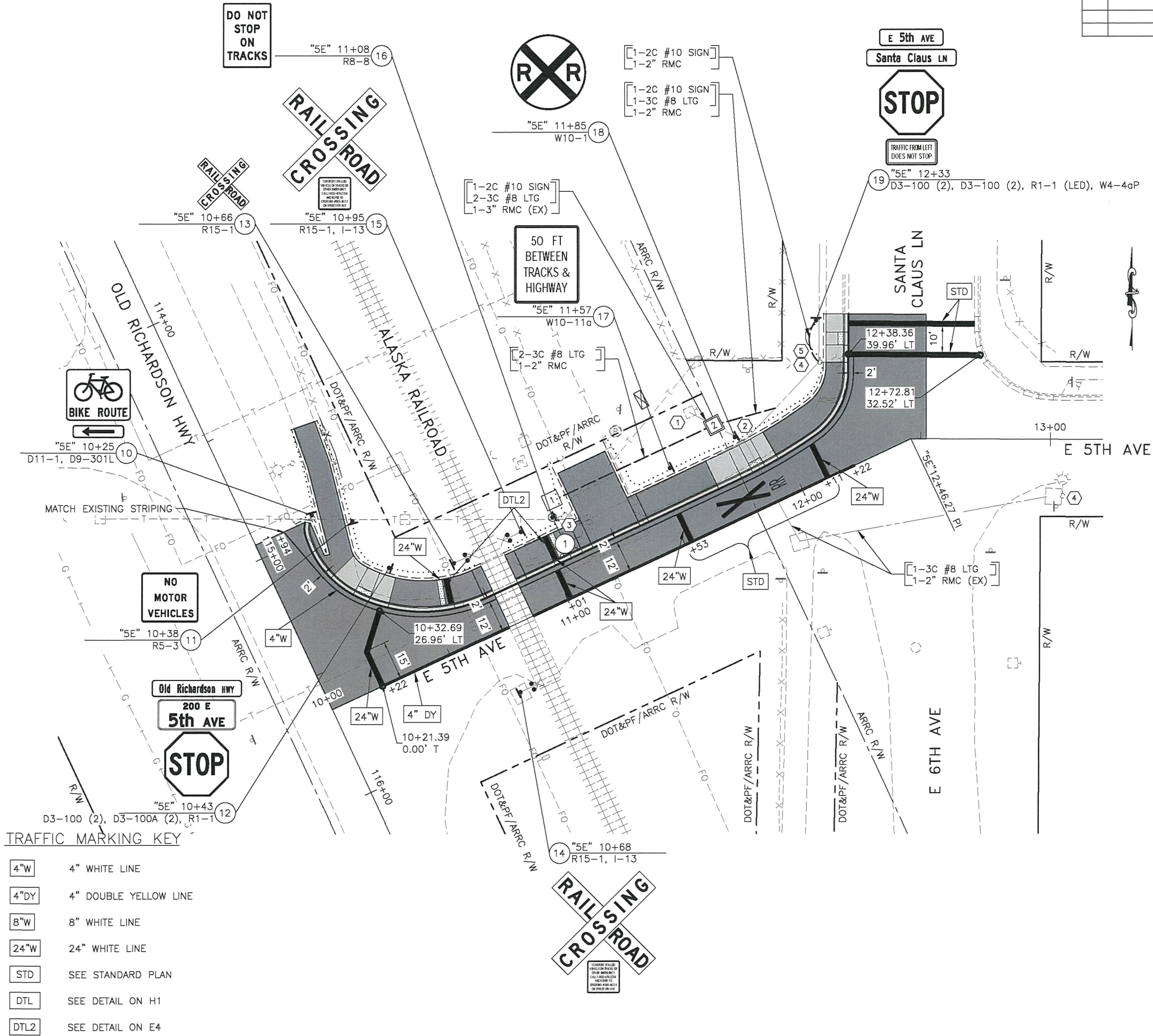
SIGNING, STRIPING AND ILLUMINATION



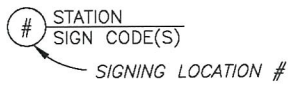


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400, Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01\0158\_H1-H2\_SSI-H2\_Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H2	H14



SIGN SYMBOL KEY



CONSTRUCTION NOTES:

1. MODIFY EXISTING LOAD CENTER. SEE SHEET H14.
2. REMOVE EXISTING JUNCTION BOX. EXTEND THE EXISTING 2" RMC RUNS CROSSING 5TH AVENUE AND SERVING LIGHTS ALONG SANTA CLAUS LANE TO NEW JUNCTION BOX 1.
3. SALVAGE EXISTING LIGHT POLE AND ABANDON FOUNDATION. INSTALL EXISTING LIGHT POLE ON NEW FOUNDATION AT POLE 1 LOCATION.
4. SPLICE NEW CONDUCTORS TO EXISTING IN LIGHT POLE BASE.
5. EXTEND NEW CONDUIT FROM EXISTING JUNCTION BOX AT POLE BASE.

NOTE:

1. ARRC SIGNAL WORK (NOT SHOWN) WILL BE DONE BY OTHERS.

JUNCTION BOX SUMMARY

NO.	STATION	LOCATION LT.	RT.	TYPE	REMARKS
1	"5E" 11+11	37.5		IA	
2	"5E" 11+80	37.3		II	SEE CONSTRUCTION NOTE 2.

ELECTROLIER FOUNDATION SUMMARY

POLE NO.	STATION	LOCATION LT.	RT.	REMARKS
1	"5E" 11+08	31.5		INSTALL EXISTING LIGHT POLE ON NEW FOUNDATION

TRAFFIC MARKING KEY

4"W	4" WHITE LINE
4"DY	4" DOUBLE YELLOW LINE
8"W	8" WHITE LINE
24"W	24" WHITE LINE
STD	SEE STANDARD PLAN
DTL	SEE DETAIL ON H1
DTL2	SEE DETAIL ON E4

SIGNING, STRIPING AND ILLUMINATION





NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H3	H14

SIGNING SUMMARY																
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING		AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST		REMARKS		
		LT.	RT.				BRACED	FRAMED				TYPE	SIZE (INCHES)		NO.	
1	N/A	X		W11-2	PED XING	36 X 36	X		9.00		N	PT	2.5	1	INSTALL ON PEDESTRIAN ISLAND ON OLD RICHARDSON HWY JUST NORTH OF NEW MARKED CROSSING	
				W16-7PL	LEFT DOWN ARROW	24 X 12			2.00		N					
2	"8A" 50+20	X		W11-2	PED XING	36 X 36	X		9.00		S	PT	2.5	1		
				W16-7PL	LEFT DOWN ARROW	24 X 12			2.00		S					
3	"8A" 50+30	X		D3-100 (2)	Old Richardson HWY	42 X 8		X	4.67		E/W	PT	2.5	1	USE B SERIES LETTERS FOR OLD RICHARDSON HWY	
				D3-100A (2)	100 E 8th AVE	42 X 12		X	7.00		N/S					
				R1-1	STOP	30 X 30	X		6.25		E					
4	"8A" 50+61	X		R15-1	RR CROSSBUCK	24 X 4.5			1.50		W	PT	2.5	1	PATHWAY SIGNS	
				R1-1	STOP	24 X 24			4.00		W					
5	"8A" 50+84		X	R15-1	RR CROSSBUCK	48 X 9		X	6.00		W	PT	2.5	1		
				R1-2	YIELD	30 X 30	X		6.25		W					
				I-13	RR EMERGENCY PL	15 X 12			1.25		W					
6	"8A" 50+92		X	R15-1	RR CROSSBUCK	24 X 4.5			1.50		W	PT	2.5	1	PATHWAY SIGNS	
				R1-2	YIELD	24 X 24			4.00		W					
7	"8A" 51+06	X		R15-1	RR CROSSBUCK	48 X 9		X	6.00		E	PT	2.5	1		
				R1-1	STOP	30 X 30	X		6.25		E					
				I-13	RR EMERGENCY PL	15 X 12			1.25		E					
8	"8A" 51+20		X	R15-1	RR CROSSBUCK	24 X 4.5			1.50		E	PT	2.5	1	PATHWAY SIGNS	
				R1-1	STOP	24 X 24			4.00		E					
9	"8A" 51+37	X		D3-100 (2)	E 8th AVE	30 X 8		X	3.33		N/S	PT	2.5	1		
				D3-100 (2)	Snowman LN	36 X 8		X	4.00		E/W					
				R1-1	STOP	30 X 30	X		6.25		N					
"8A" SUBTOTAL = 97.00																

**SIGNING NOTES:**

1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN POST FOUNDATIONS WITHIN THE PROJECT LIMITS, EXCEPT SIGNS DESIGNATED FOR REINSTALLATION, SALVAGE, OR OTHERWISE NOTED.
2. MOUNT SIGNS PER ASP S-05.02. SIGNS THAT PROJECT OVER OR WITHIN 2 FEET OF THE SIDEWALK AND PATHWAYS SHALL BE MOUNTED TO A HEIGHT OF 8 FEET.
3. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
4. UNLESS OTHERWISE NOTED, INSTALL PST POSTS WITH SLEEVE TYPE CONCRETE FOUNDATION PER ASP S-30.05. ATTACH THE SIGN POST USING GALVANIZED 3/8" DIA. BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
5. INSTALL "TUBE POST SIGN BRACING" AS SHOWN ON H8 ON ALL SIGNS MOUNTED ON A SINGLE PST POST AND HAVING A HORIZONTAL DIMENSION OF 30 INCHES OR GREATER, EXCEPT D3-100 SERIES SIGNS. 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.
6. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" DIA. BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
7. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON SHEET H6.

8. SIGNS INSTALLED ON LIGHT POLES MAY REQUIRE TEMPORARY INSTALLATION ON 2-1/2" POST UNTIL LIGHT POLES ARE IN PLACE. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
9. D3-100 (2) AND D3-100A (2) INDICATES TWO SEPARATE SINGLE-SIDED SIGN PANELS. PROVIDE SIGN BRACING AS INDICATED ON SHEET H8.
10. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
11. LOCATE AND PROTECT NEW AND EXISTING UNDERGROUND UTILITIES PRIOR TO INSTALLING SIGN POSTS. NOT ALL UTILITIES MAY BE SHOWN ON THE SIGNING AND STRIPING PLANS. SEE OTHER PROJECT PLAN SHEETS, LOCATES, AND AS-BUILT DRAWINGS FOR ADDITIONAL INFORMATION.
12. CLEAR AS DIRECTED BY THE ENGINEER TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.
13. PROVIDE WEATHER TIGHT CAPS ON ALL TUBE AND PIPE POSTS, EXCEPT PERFORATED STEEL TUBES.
14. ADJUST SIGN LOCATIONS AT THE DIRECTION OF THE ENGINEER.
15. CONSTRUCT LED STOP SIGN FOR SOUTHBOUND TRAFFIC AT SANTA CLAUS LANE/E 5TH AVENUE. STOP SIGN AND POST ARE PAID FOR UNDER PAY ITEM 660.0002.0000. OTHER SIGNS INSTALLED ON SAME POST ARE PAID FOR AS PAY ITEM 615.0001.0000.

SIGNING SUMMARY															
LOC. NO.	STATION	LOCATION		ASDS CODE	LEGEND	SIZE H X V (INCHES)	BRACING/ FRAMING		AREA (SQ.FT.)	MTG. HGT. (FT.)	DIR.	POST			REMARKS
		LT.	RT.				TYPE	SIZE (INCHES)				NO.			
10	"5E" 10+25	X		D11-1 D9-301L	BIKE ROUTE LEFT ARROW	24 X 18 24 X 6			3.00 1.00		N N	PT	2.5	1	PATHWAY SIGNS
11	"5E" 10+38	X		R5-3	NO MOTOR VEHICLES	24 X 24			4.00		S	PT	2.5	1	PATHWAY SIGNS
12	"5E" 10+43	X		D3-100 (2) D3-100a (2) R1-1	Old Richardson HWY E 5th AVE STOP	42 X 8 42 X 12 30 X 30		X X X	4.67 7.00 6.25		E/W N/S E	PT	2.5	1	USE B SERIES LETTERS FOR OLD RICHARDSON HWY
13	"5E" 10+66	X		R15-1	RR CROSSBUCK	24 X 4.5			1.50		W	PT	2.5	1	PATHWAY SIGNS
14	"5E" 10+68		X	R15-1 I-13	RR CROSSBUCK RR EMERGENCY PL	48 X 9 15 X 12		X	6.00 1.25		W W	PT	2.5	1	
15	"5E" 10+95	X		R15-1 I-13	RR CROSSBUCK RR EMERGENCY PL	48 X 9 15 X 12		X	6.00 1.25		E E	PT	2.5	1	
16	"5E" 11+08	X		R8-8	DO NOT STOP ON TRACKS	24 X 30			5.00		E				INSTALL ON LIGHT POLE
17	"5E" 11+57	X		W10-11a	50 FT BETWEEN TRACKS AND HWY	30 X 36	X		7.50		E	PT	2.5	1	
18	"5E" 11+85	X		W10-1	RR CROSSING	36 X 36	X		9.00		E	PT	2.5	1	
19	"5E" 12+33	X		D3-100 (2) D3-100 (2) R1-1 W4-4aP	E 5th AVE Santa Claus LN STOP TRAFFIC FROM RIGHT DOES NOT STOP	30 X 8 42 X 8 36 X 36 24 X 12		X X X	3.33 4.67 2.00		N/S E/W N N	INSTALL ON FLASHING SIGN POST. SEE NOTE 15.			LED SIGN
"5E" SUBTOTAL = 73.42															

POST TYPE LEGEND:

PST = PERFORATED STEEL TUBE  
TS = TUBE STEEL (SQUARE STRUCTURAL STEEL TUBING)  
W\_X\_ = WIDE FLANGE

## SIGN SUMMARIES





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWGS\C\Sheets\00158\_H\_SignSalvage-14\_Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H4	H14

SALVAGE SIGN AND DISPOSAL NOTES:

1. DELIVER ALL ASDS CODED D3-100 SIGN PANELS, AND ANY SIGN PANELS 48-INCH WIDE AND WIDER, NOT IDENTIFIED FOR REUSE IN THE SIGNING SUMMARY, TO THE DOT&PF FAIRBANKS MAINTENANCE YARD LOCATED AT 2301 PEGER ROAD. ALL OTHER SALVAGED SIGNS WILL BECOME THE CONTRACTOR'S PROPERTY.  
  
CONTACT DANIEL SCHACHER (907) 451-5276 TO ARRANGE FOR DELIVERY.
2. SALVAGED SIGNS WILL BE PAID PER EACH SIGN PANEL DELIVERED IN ACCEPTABLE CONDITION.

SALVAGE SIGN SUMMARY				
STATION	CL REF	ASDS CODE	LEGEND	REMARKS
N/A. LOCATED IN PEDESTRIAN ISLAND ON OLD RICHARDSON HWY WEST OF NEW MARKED CROSSWALK	LT	W12-1	DOUBLE ARROW	
		OM1-1	OBJECT MARKER	2 SIGNS BACK TO BACK
"8A" 50+22	LT	D3-100 (2)	OLD RICHARDSON HWY	2 SIGNS BACK TO BACK
		D3-100A (2)	100 E 8TH AVE	2 SIGNS BACK TO BACK
		R1-1	STOP	
"8A" 50+84	RT	R15-1	RR CROSS BUCKS	
		R1-2	YIELD	
		I-13	RR EMERGENCY PLAQUE	
"8A" 50+92	RT	R15-1	RR CROSSBUCKS	
"8A" 51+05	LT	R15-1	RR CROSSBUCKS	
		R1-1	STOP	
		I-13	RR EMERGENCY PLAQUE	
"8A" 51+20	RT	R15-1	RR CROSSBUCKS	
"8A" 51+40	LT	D3-100 (2)	E 8TH AVE	2 SIGNS BACK TO BACK
		D3-100 (2)	SNOWMAN LN	2 SIGNS BACK TO BACK
		R1-1	STOP	

SALVAGE SIGN SUMMARY				
STATION	CL REF	ASDS CODE	LEGEND	REMARKS
"5E" 10+24	LT	D11-1	BIKE ROUTE	
		D9-301L	LEFT ARROW	
"5E" 10+38	LT	R5-3	NO MOTOR VEHICLES	
"5E" 10+41	LT	D3-100 (2)	OLD RICHARDSON HWY	2 SIGNS BACK TO BACK
		D3-100A (2)	200 E 5TH AVE	2 SIGNS BACK TO BACK
		R1-1	STOP	
"5E" 10+67	RT	R15-1	RR CROSSBUCKS	ON ARRC SIGNAL
"5E" 10+92	LT	R15-1	RR CROSSBUCKS	ON ARRC SIGNAL
"5E" 11+08	LT	R8-8	DO NOT STOP ON TRACKS	ON LIGHT POLE
"5E" 11+57	LT	W10-11a	50 FT BETWEEN TRACKS AND HWY	
		I-13	RR EMERGENCY CONTACT PLAQUE	
"5E" 11+83	LT	W10-1	HIGHWAY-RAIL GRADE CROSSING	
"5E" 12+28	LT	D3-100 (2)	E 5TH AVE	2 SIGNS BACK TO BACK
		D3-100 (2)	SANTA CLAUS LN	2 SIGNS BACK TO BACK
		R1-1	STOP	
		W4-4aPR	TRAFFIC FROM RIGHT DOES NOT STOP	

SIGN SALVAGE



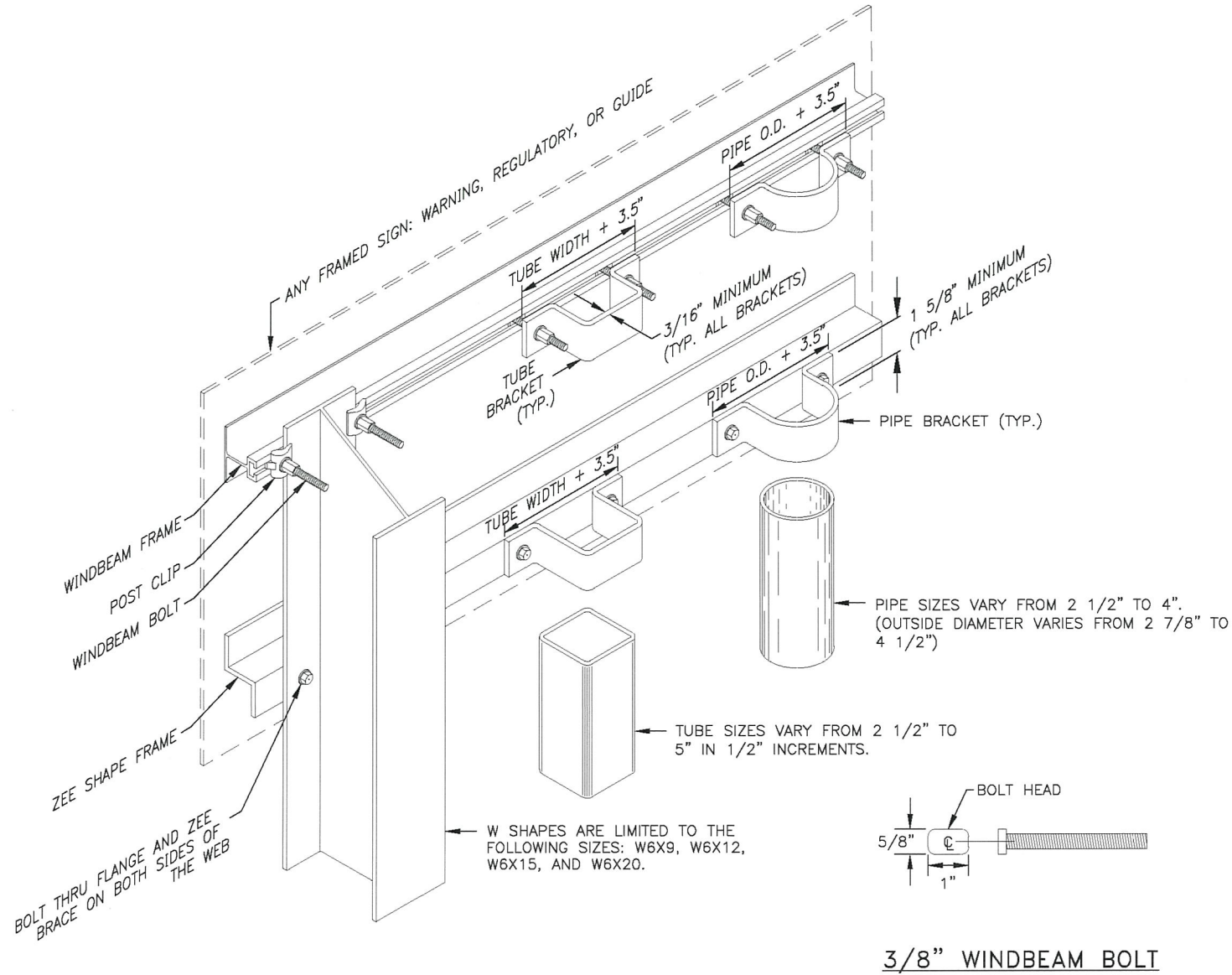






PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWGS\0158\_H\_Details\158\_H\_Details.dwg Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFWHY00158	2021	H6	H14



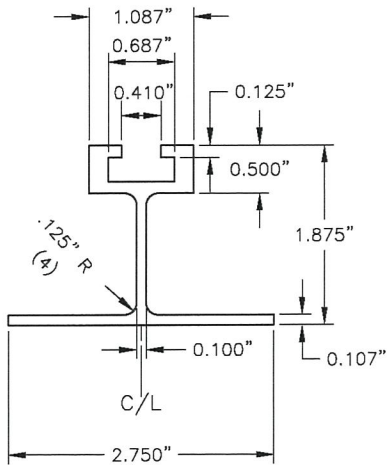
FRAMED SIGN ATTACHMENT BRACKETS

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.

FASTENER SPECIFICATION TABLE		
FASTENERS	HOT DIPPED GALVANIZED STEEL	STAINLESS STEEL
BOLTS	ASTM A 307	ASTM F 593
NUTS	ASTM A 563	ASTM F 594
WASHERS	ASTM F 844	ASTM A 480

THESE SPECIFICATIONS APPLY TO ALL SIGN FASTENER HARDWARE ON THE PROJECT.



EXTRUDED ALUMINUM WINDBEAM

NOTES:

1. ALUMINUM ALLOY 6061-T6 SHALL BE USED FOR EXTRUDED WINDBEAM AND RIVETS.
2. ATTACH SIGNS TO WINDBEAM WITH 3/6" RIVETS AT 4" STAGGERED SPACING.

SIGN DETAILS



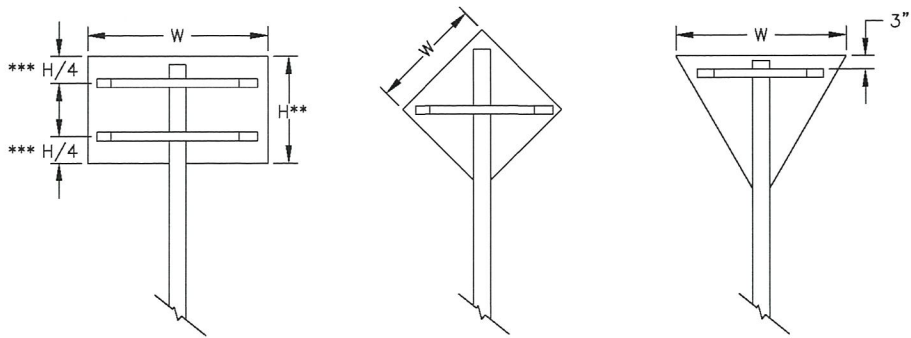






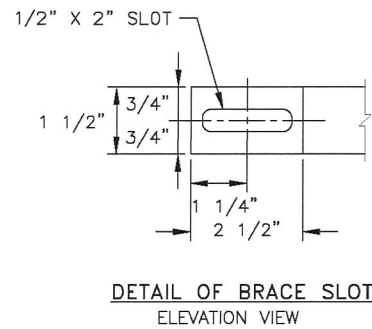
PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_ald rich intersections\DWGS\C\Sheets\00158\_H\_Details\ISM408A-H8 Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H8	H14

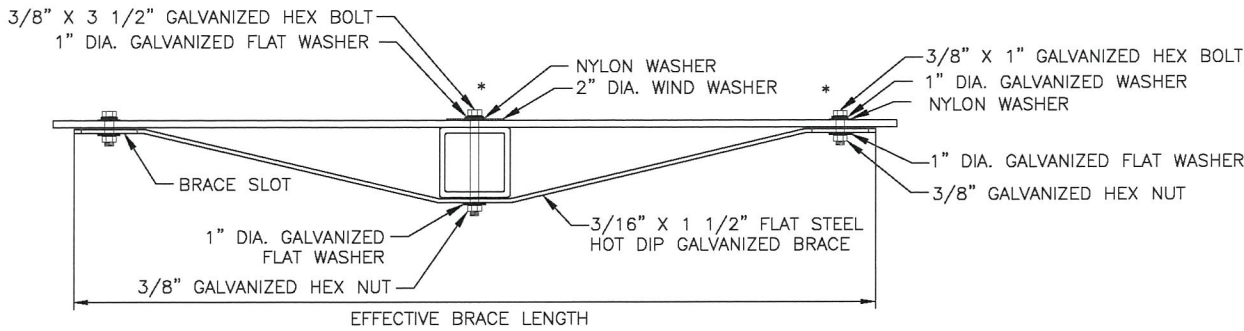


\*\*\* USE ONE BRACE WHEN  $H \leq 18"$   
USE TWO BRACES WHEN  $18" < H < 48"$   
USE THREE BRACES WHEN  $H \geq 48"$   
\*\* POSITION OF BRACE MAY BE VARIED TO MATCH  
PREDRILLED MOUNTING HOLES IN PANEL

SIGN BRACING PLACEMENT



DETAIL OF BRACE SLOT  
ELEVATION VIEW

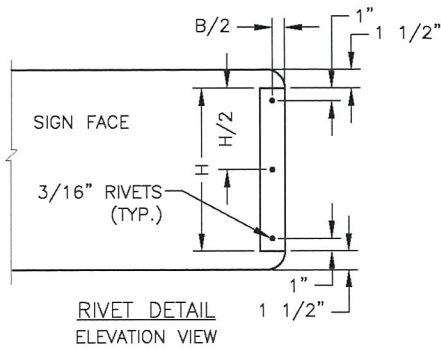


TUBE POST SIGN BRACING  
PLAN VIEW

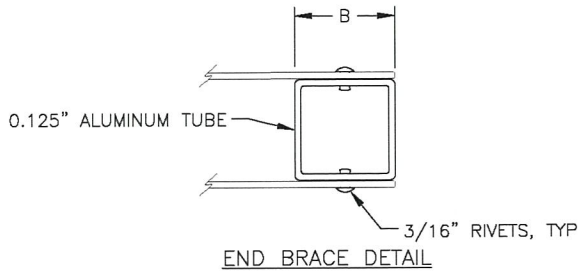
SIGN WIDTH(W)	EFFECTIVE BRACE LENGTH		
	WARNING	YIELD	OTHER
30"	36"	24"	24"
36"	42"	30"	30"
42"	48"	-	36"
48"	Two posts	36"	42"

< 30" NO BRACING REQUIRED AND USE SQUARE TUBE

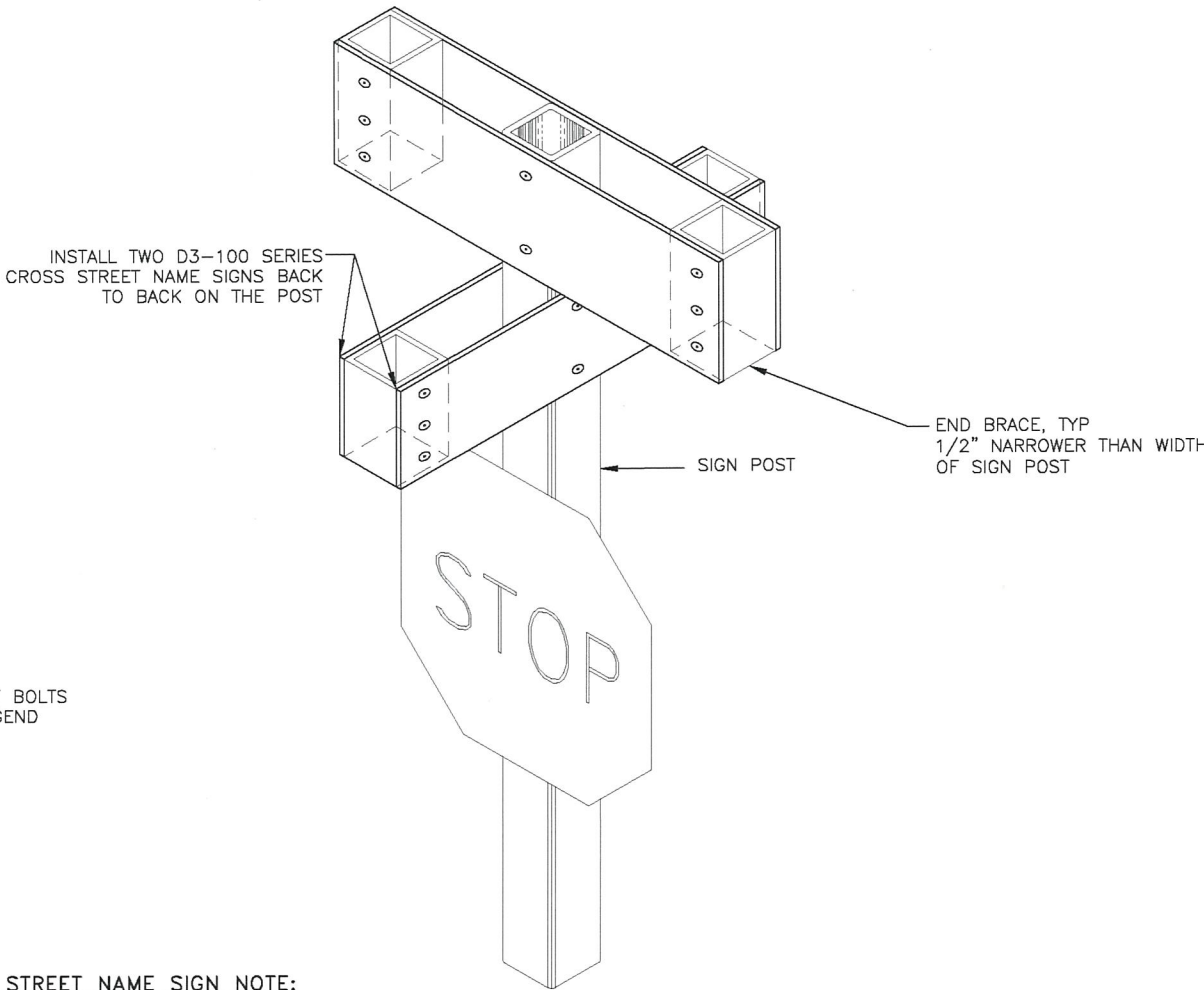
\* ADJUST LOCATION OF BRACING SO THAT BOLTS  
AND WASHERS WILL MISS THE SIGN LEGEND



RIVET DETAIL  
ELEVATION VIEW



END BRACE DETAIL



STREET NAME SIGN NOTE:

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

STREET NAME SIGN MOUNTING & BRACING DETAIL

SIGN BRACING DETAILS

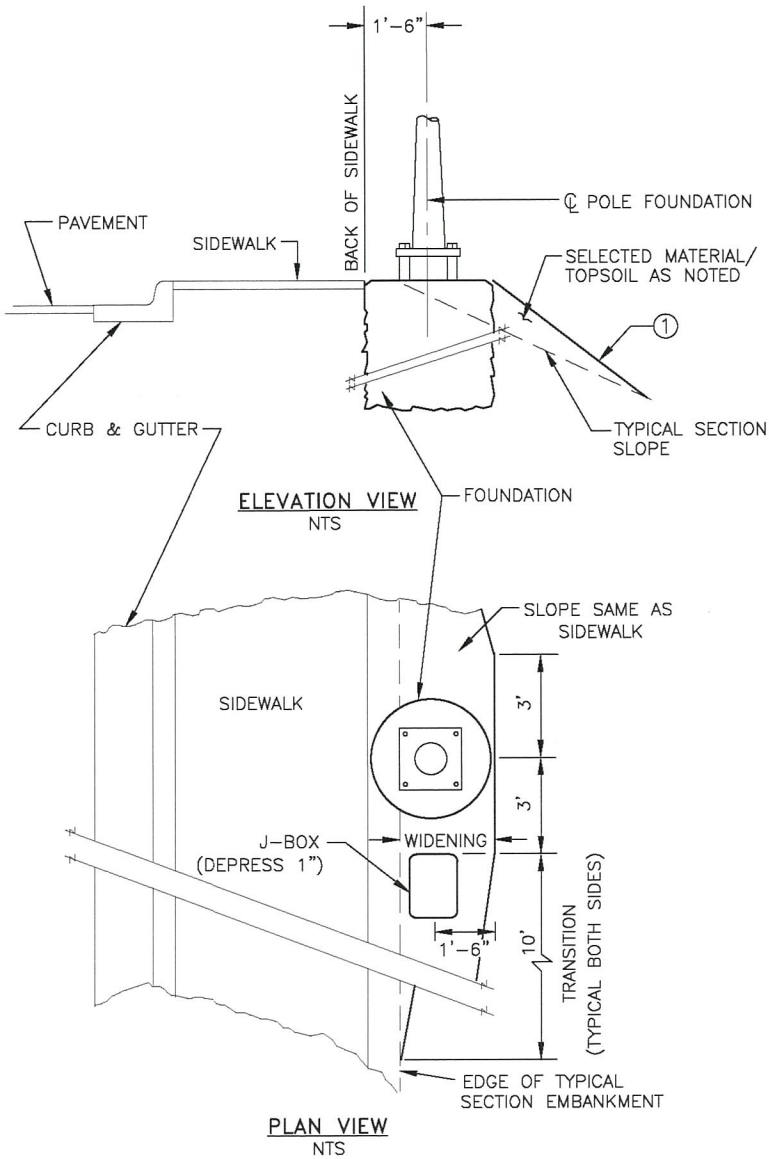


12/2/2021



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWGS\C\Sheets\00158\_H\_Elect\Details-H9\_Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H9	H14



① GRADE SLOPE FROM BACK OF FOUNDATION TO TYPICAL SECTION SLOPE CATCH POINT OR DITCH LINE EXCEPT THAT THE SLOPE SHALL BE NO STEEPER THAN 1-1/2:1.

**LIGHT POLE WIDENING DETAIL "A"**  
(USE WHEN POLE IS LOCATED BACK OF SIDEWALK)

- ① WARP SLOPE TO TOP CIRCUMFERENCE OF POLE FOUNDATION
- ② SLOPE FROM TOP EDGE OF POLE FOUNDATION TO TYPICAL SECTION DITCHLINE OR NORMAL TOE OF FILL. NO STEEPER THAN 1-1/2:1.
- ③ WHEN THE TYPICAL SECTION SLOPE IS STEEPER THAN 2:1 USE 35' FOR THE SLOPE TRANSITION AREA.
- ④ DEPRESS JUNCTION BOX 1" BELOW SURFACE. DEPRESS 2" IN SEEDED AREAS.
- ⑤ WIDENING SHALL BE CONSTRUCTED PRIOR TO POURING FOUNDATION OR CONSTRUCTING STABILIZING BERM.

LIGHT POLE WIDENING



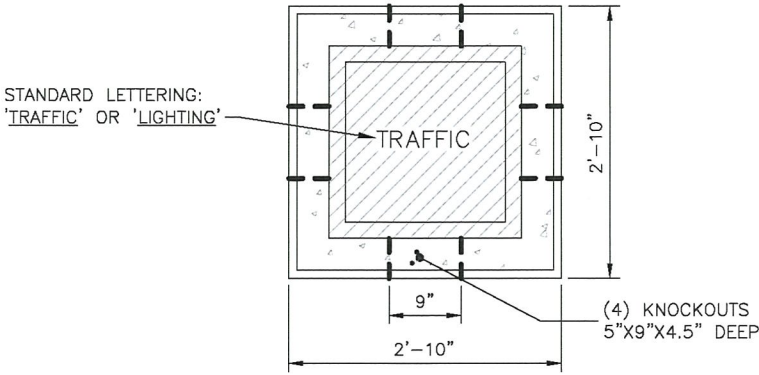




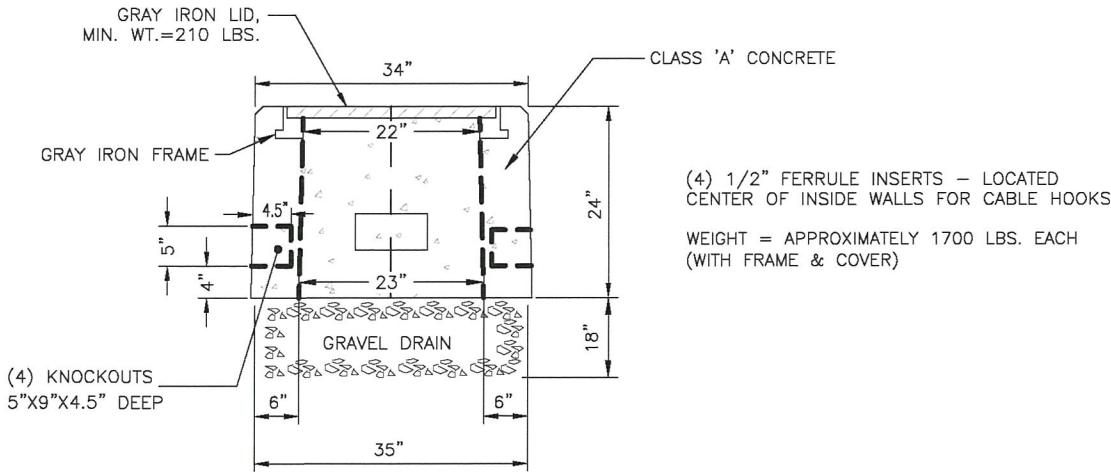


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich intersections\DWGS\00158\_H\_ElectDetails-H11 Thu, Dec/02/21 02:44pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H11	H14

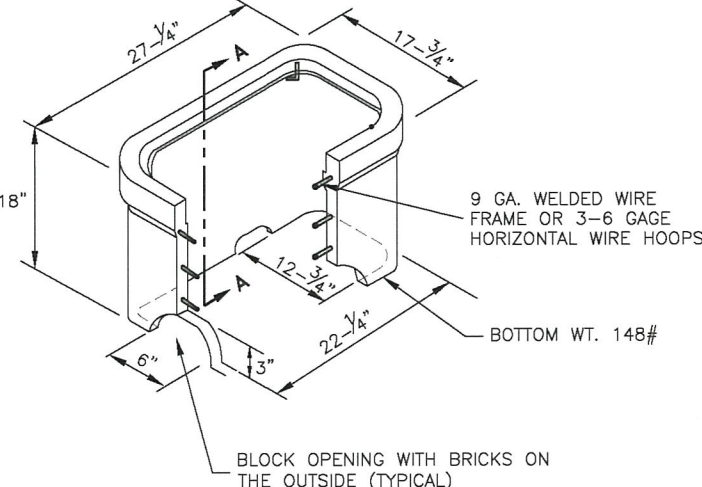
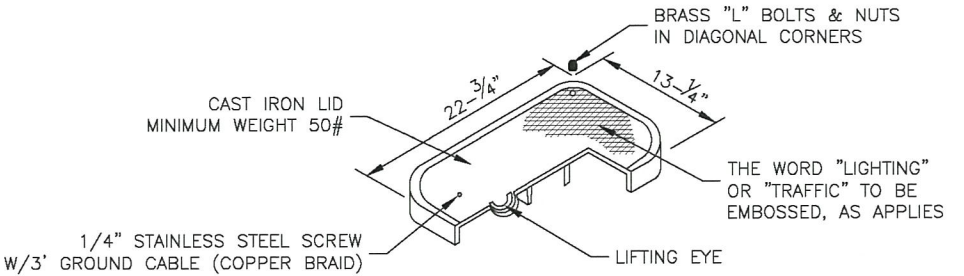


PLAN VIEW

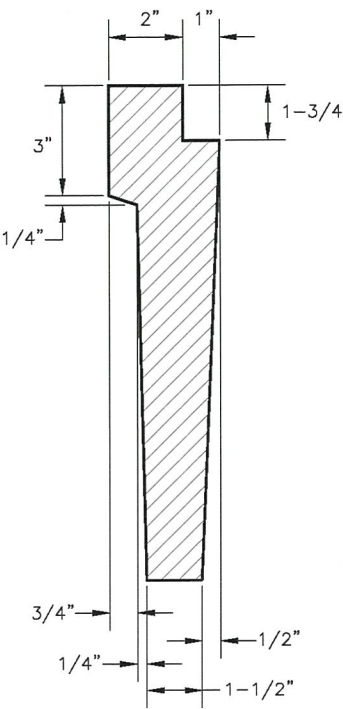


ELEVATION VIEW

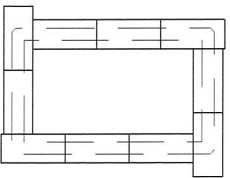
TYPE II JUNCTION BOX



TYPE 1A JUNCTION BOX DETAIL



SECTION A-A

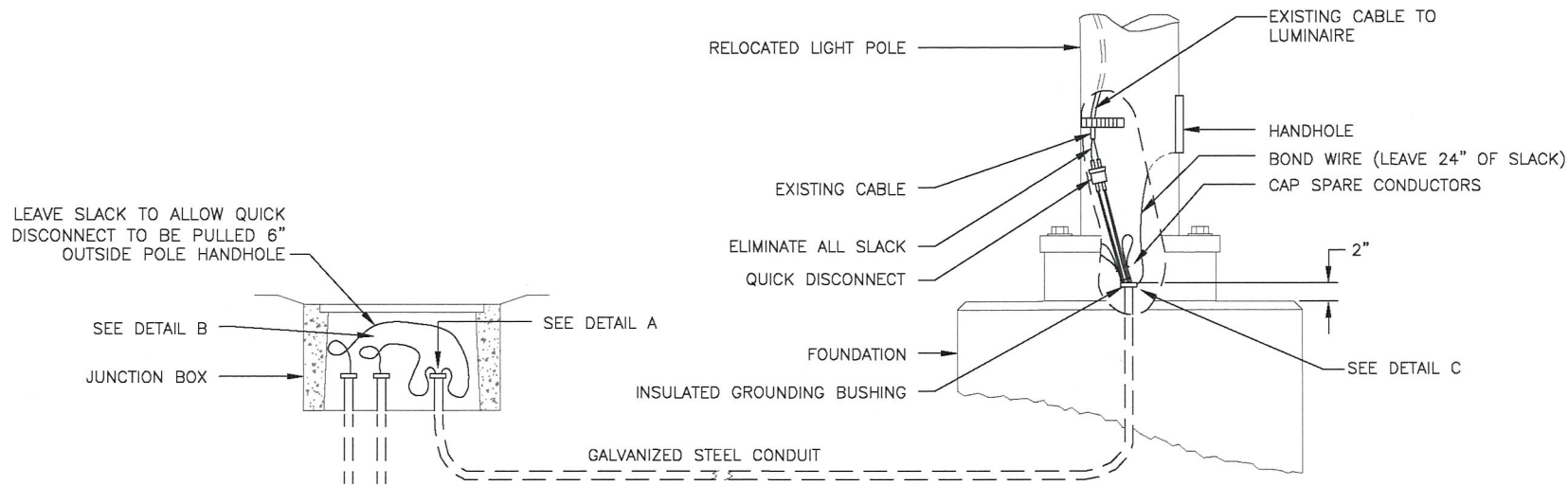


BRICK BASE DETAIL  
TYPE 1A JUNCTION BOX



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWGS\C\Sheets\00158\_H\_ElectDetails-H12 Thu, Dec/02/21 02:45pm

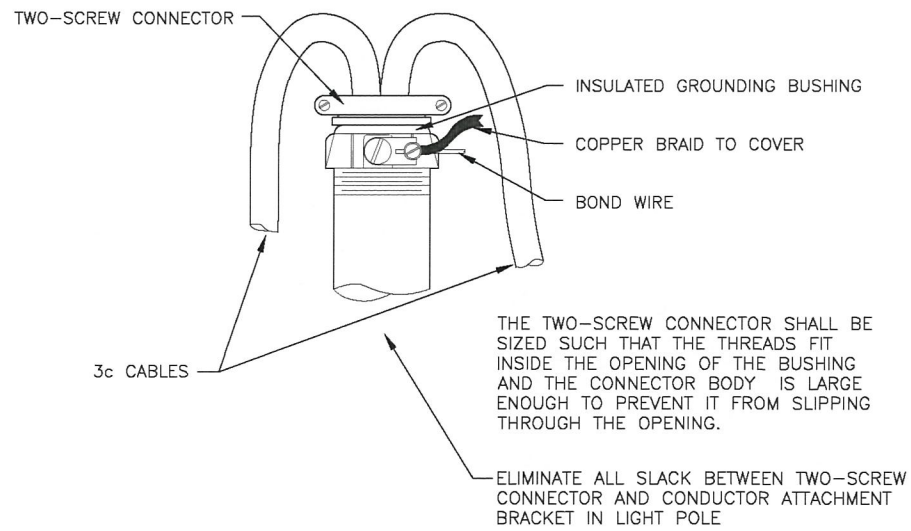
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H12	H14



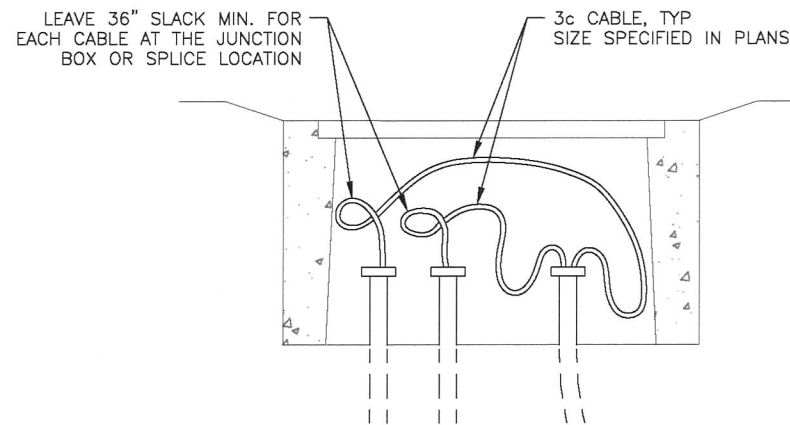
LIGHTING SYSTEM POLE AND J-BOX WIRING DETAILS  
NTS

**NOTES:**

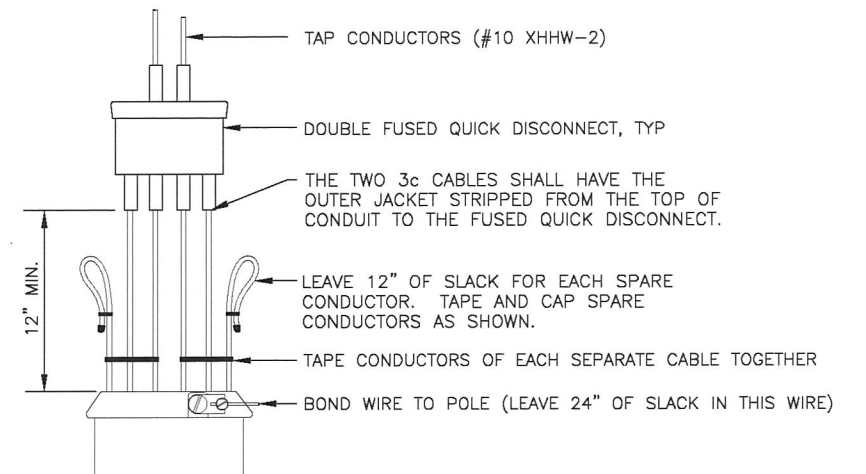
1. LABEL ALL CABLES AND CONDUCTORS IN POLE BASE AND J-BOX.
2. LEAVE ENOUGH SLACK ABOVE THE CONDUCTOR ATTACHMENT BRACKET TO ALLOW THE QUICK DISCONNECT TO BE PULLED 6" OUTSIDE OF HANDHOLE.
3. NOT ALL GROUNDING CONDUCTORS, AS REQUIRED BY SECTION 660-3.06, ARE SHOWN IN THESE DETAILS.



DETAIL A



DETAIL B



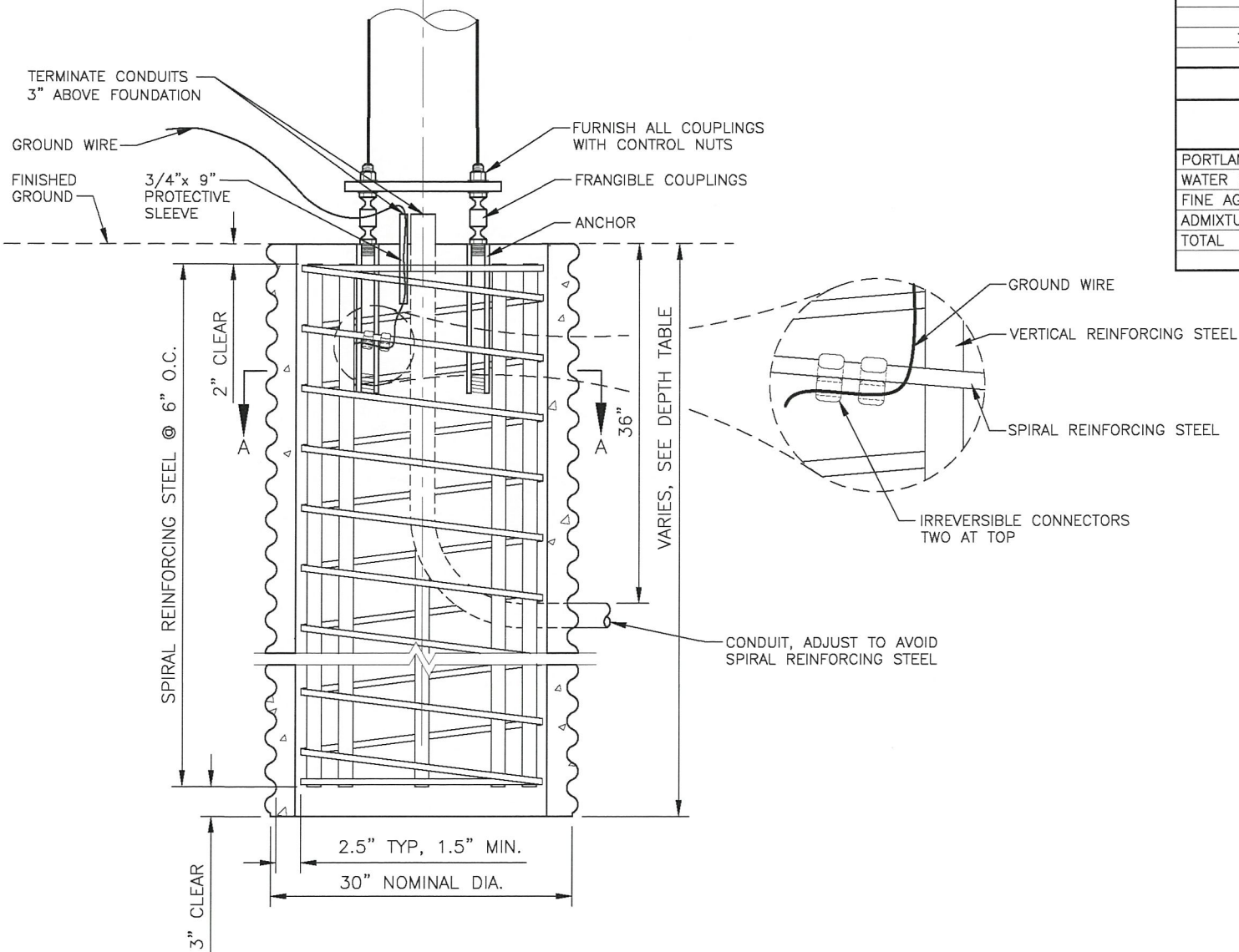
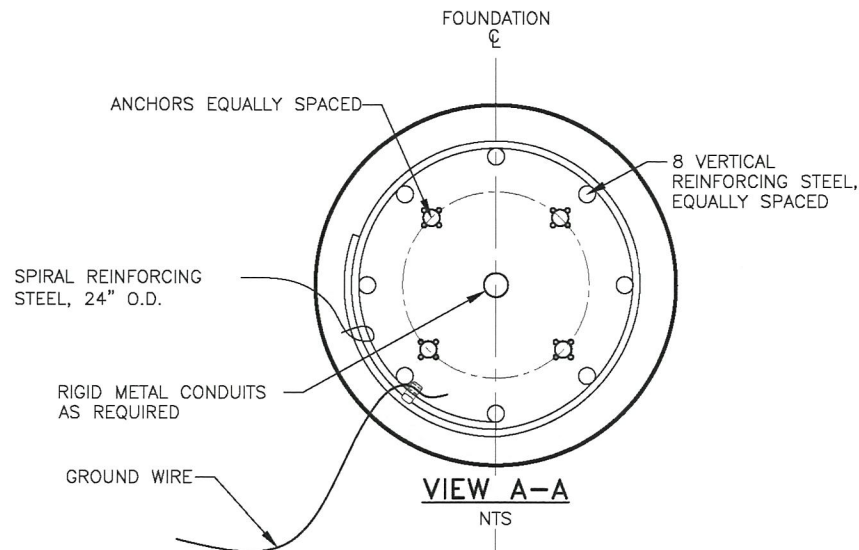
DETAIL C

WIRING DETAILS





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich intersections\DWGS\0158\_H\_Electricals\H13 Thu, Dec/02/21 02:43pm



**FOUNDATION DETAILS**  
NTS  
(SKIRT OMITTED FOR CLARITY)

MATERIAL REQUIREMENTS		
CONCRETE	CLASS A	F'C = 4000 PSI
CMP	AASHTO M218	14 GA.
VERTICAL REINFORCING STEEL	AASHTO M31 #11	GR 60
SPIRAL REINFORCING STEEL	AASHTO M31 #5	GR 60
GROUND WIRE		#4 awg
FRANGIBLE COUPLING	NCHRP 350 TL3 FRANGIBLE COUPLING	VU = 5.5 KIPS TU = 43.2 KIPS
ANCHOR	NCHRP 350 TL3 FRANGIBLE COUPLING ANCHOR	
CONDUIT	SCH 40	RMC
PROTECTIVE SLEEVE	SCH 40	PVC

DEPTH TABLE		
FOUNDATION DEPTH BY APPLICATION (FT.)		
GRADE	ELECTROLIER * SEE NOTE 9	BREAKAWAY TRAFFIC SIGNAL
FLAT TO 6:1	8	6
>=6:1 TO 3:1	9	7
>=3:1 TO 1.5:1	10	8

SAND SLURRY MIX DESIGN		
ITEM	BATCHING QUANTITIES PER CYD BATCH (LBS.)	APPLICABLE SPECS.
PORTLAND CEMENT CONCRETE	188	701-2.01
WATER (52.1 GAL.)	435	712-2.01
FINE AGGREGATE SSD	3041	703-2.01
ADMIXTURE: MICROAIR	2.0 OZ.	711-2.02
TOTAL	3664	

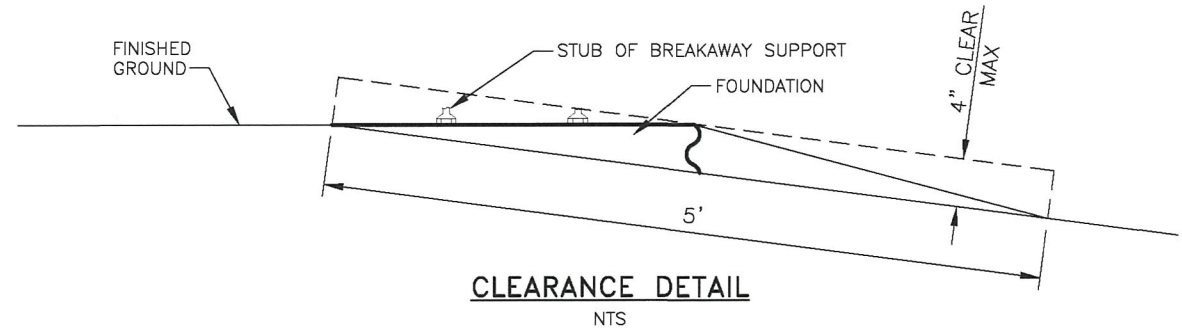
BOLT CIRCLE	
REGION	DIAMETER
NORTHERN REGION PROJECTS	14.5"

**DESIGN NOTES:**

- DESIGN STANDARD: SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LFRD 1ST EDITION, AASHTO, 2015, WITH 2017 AND 2018 INTERIM REVISIONS.
- DESIGN LOAD: 1,000 LBS AXIAL, 2,000 LBS SHEAR, 50,000 FT-LBS MOMENT.
- CONSTRUCTION STANDARD: LATEST EDITION OF THE STATE OF ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION WITH SPECIAL PROVISIONS.

**NOTES:**

1. THIS FOUNDATION IS APPROVED FOR ELECTROLIER AND BREAKAWAY TRAFFIC SIGNAL APPLICATIONS IN COHESIONLESS SOILS WITH AN N1-60 VALUE OF 10 OR GREATER PER AASHTO T-206, "STANDARD PENETRATION TEST" (SPT). THIS FOUNDATION SHALL NOT BE USED IF ANY OF THE FOLLOWING ARE ENCOUNTERED; WATER TABLE ABOVE THE BOTTOM OF FOUNDATION, VERY LOOSE SOILS, ORGANIC SOILS, COHESIVE SOILS (CLAY), OR SOILS SUSCEPTIBLE TO FROST JACKING. IF ANY OF THESE CONDITIONS ARE ENCOUNTERED, STOP FOUNDATION WORK AND CONTACT THE ENGINEER.
2. PLACE FOUNDATION IN DRILLED OR EXCAVATED HOLE WITH CENTERLINE OF FOUNDATION LOCATED AT THE STATION, OFFSET, AND ELEVATION SPECIFIED IN PLANS. SET FOUNDATION TO SATISFY THE CONDITIONS DEPICTED IN CLEARANCE DETAIL.
3. FORM THE FOUNDATION IN CORRUGATED METAL PIPE CONFORMING TO SUBSECTION 707-2.01 OF THE SPECIFICATIONS.
4. PROVIDE 1.5 EXTRA TURNS AT EACH END OF THE SPIRAL REINFORCING STEEL. REINFORCING STEEL SHALL NOT BE SPLICED. TIE VERTICAL REINFORCING STEEL TO EACH INTERSECTION OF THE SPIRAL REINFORCING STEEL.
5. CONNECT GROUND WIRE NEAR THE TOP OF SPIRAL REINFORCING STEEL WITH TWO IRREVERSIBLE CONNECTORS AS SHOWN. FASTEN CONNECTORS ACCORDING TO THE MANUFACTURERS' RECOMMENDATIONS INCLUDING THE USE OF MANUFACTURER SPECIFIED TOOLS. THE GROUND WIRE MAY BE BARE SOLID, STRANDED, OR BRAIDED COPPER. PROTECT GROUND WIRE WITH PROTECTIVE SLEEVE AS SHOWN AND FILL WITH SILICON SEALANT.
6. COMPLETE ALL CONCRETE WORK IN CONFORMANCE WITH SECTIONS 501, 503, AND 660 OF THE SPECIFICATIONS. USE A TUBE WITH A HOPPER HEAD OR OTHER APPROVED DEVICE WHEN DROPPING CONCRETE MORE THAN 5 FEET PER SUBSECTION 501-3.08. VIBRATE CONCRETE DURING PLACEMENT BY MECHANICAL VIBRATION PER SUBSECTION 501-3.08. ENSURE ANCHOR THREADS ARE PROTECTED FROM CONTACT WITH CONCRETE DURING POUR.
7. BACKFILL AND COMPACT ACCORDING TO SECTION 205, AND SUBSECTIONS 203-3.04 AND 660-3.01 OF THE SPECIFICATIONS. USE SELECT MATERIAL, TYPE A OR SAND SLURRY AS BACKFILL MATERIAL. ENSURE AREA BELOW FOUNDATION MEETS COMPACTION REQUIREMENTS AND IS FREE OF LOOSE MATERIAL AND DEBRIS PRIOR TO CONCRETE WORK.
8. INSTALL ALL ANCHORS ACCORDING TO THE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PLUMB. ANCHORS GREATER THAN 1:40 OUT-OF-PLUMB WILL RESULT IN FOUNDATION REJECTION.
9. WHEN USED FOR ELECTROLIER REDUCE THE FOUNDATION DEPTH 1 FOOT WHEN THERE IS NO LUMINAIRE ARM OR THE LUMINAIRE ARM IS LESS THAN OR EQUAL TO 12 FEET.
10. GRADE IN DEPTH TABLE REFERS TO FILL SLOPES. IF FOUNDATION IS IN A CUT SLOPE ASSUME FLAT GRADE IN TABLE. TO DETERMINE GRADE IN FILL SLOPES, USE THE MOST SEVERE GRADE FOUND WITHIN AN 8 FOOT RADIUS OF THE CENTER OF THE FOUNDATION. SLOPES STEEPER THAN 1.5:1 REQUIRE ENGINEERED DEPTH CALCULATION.

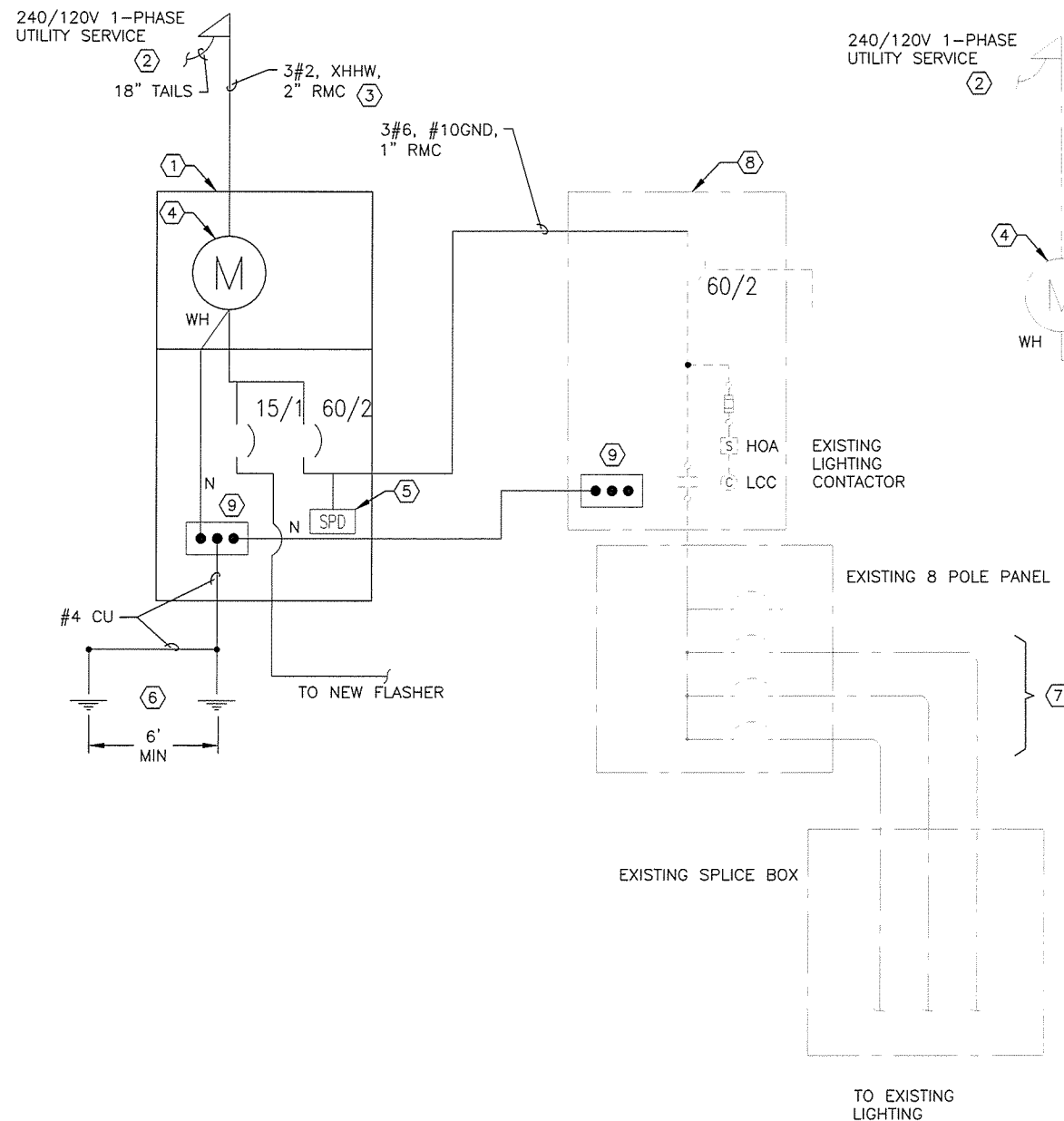


**LIGHT POLE FOUNDATION  
DETAIL**





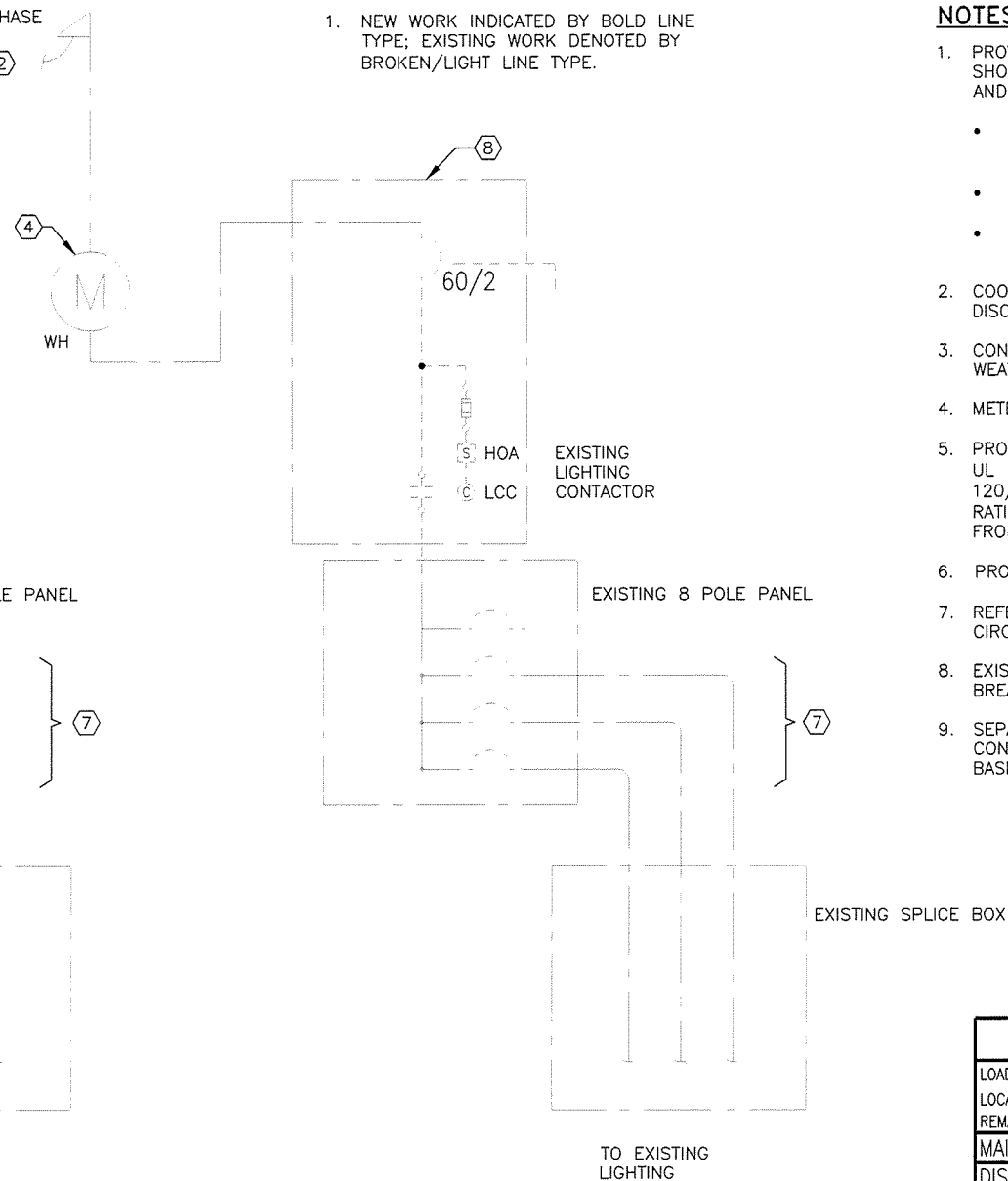
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	H14	H14



NEW LOAD CENTER ONE-LINE DIAGRAM

NOTE:

1. NEW WORK INDICATED BY BOLD LINE TYPE; EXISTING WORK DENOTED BY BROKEN/LIGHT LINE TYPE.



EXISTING LOAD CENTER ONE-LINE DIAGRAM

NOTES:

1. PROVIDE NEW 200AMP METER BASE WITH TWO BREAKERS AS SHOWN, TO COMPLY WITH SSHC SPECS, UTILITY REQUIREMENTS, AND AS FOLLOWS:
  - APPROXIMATE DIMENSIONS FOR MOUNTING IN EXISTING SPACE: 30"H X 15"W X 6"D.
  - PROVIDE KNOCKOUT SEAL NEXT TO NEW 20/1 AS REQUIRED.
  - PROVIDE 10,000 AIC RATED METER BASE.
2. COORDINATE WITH UTILITY AND INCLUDE ALL FEES FOR SERVICE DISCONNECT, RECONNECT, AND INSPECTIONS AS REQUIRED.
3. CONTRACTOR OPTION TO REUSE EXISTING 2"RMC RISER AND WEATHERHEAD, SUBJECT TO UTILITY REQUIREMENTS.
4. METER TO REMAIN ON SAME ACCOUNT AS EXISTING LOAD CENTER.
5. PROVIDE INTERNALLY MOUNTED SURGE PROTECTIVE DEVICE (SPD). UL 1449 LISTED, NEMA 4X WITH LED STATUS INDICATORS. 120/240V, 1-PH, 3W, 25KA SCCR, 34KA PEAK SURGE CURRENT RATING PER PHASE. SPD INDICATORS SHALL BE VISIBLE ON DEAD FRONT.
6. PROVIDE TWO 5/8" X 8' ROD ELECTRODES.
7. REFER TO LOAD CENTER SUMMARY AND PLANS FOR DISTRIBUTION CIRCUIT REQUIREMENTS.
8. EXISTING LIGHTING CONTACTOR TO REMAIN. RECONNECT TO NEW BREAKER IN THE METER BASE.
9. SEPARATE GROUND AND NEUTRAL CONNECTION IN EXISTING CONTACTOR. ESTABLISH NEW BONDING POINT IN THE NEW METER BASE.

METER BASE SUMMARY						
LOAD CENTER TAG: <b>LCN6</b>		TYPE: 3		UTILITY SOURCE: 25 KVA TRANSFORMER		
LOCATION: 5TH AVE, 11+73, 46' LT				SERVICE: 100 AMP, 240/120 VOLT, 1-PH, 3W		
REMARKS: NEW EQUIPMENT ON EXISTING POLE				MAX. AVAILABLE FAULT CURRENT: 2,193 AMPS		
MAIN CIRCUIT BREAKER: 60A/2 AND 15A/1 240/120 VOLT				INTERRUPTING RATING: 10,000 AMP		
DISTRIBUTION CIRCUITS:				INTERRUPTING RATING: 10,000 AMP		
CKT. NO.	DESCRIPTION	CIRCUIT BREAKER		VA / PHASE		
		TRIP /	# POLES	A	B	
LCN6-1	PHOTOCELL CONTACTOR LCN6	60 AMP	2P	1,500	-	NOTE 2, 3
	EXISTING STREET LIGHTS			-	1,500	
LCN6-2	LED STOP SIGN	15 AMP	1P	25	-	
PHASE VA TOTAL:				1,525	1,500	
CONNECTED TOTAL:				3,025	KVA	13 AMP
DEMAND TOTAL:				3,025	KVA	13 AMP
NOTES:						
1.	INCLUDE SURGE PROTECTIVE DEVICE ON LOAD SIDE OF MAIN BREAKER.					
2.	LED STOP SIGN: 20W					
3.	PROVIDE ACCESSORY LOCK-OFF DEVICE FOR CIRCUIT BREAKER.					





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWG\0158\_Q1 Sheets\00158\_Q1 ESCP-Q1 Thu, Dec/02/21 02:45pm

SITE INFORMATION:

- FOR GENERAL LOCATION MAP SEE VICINITY MAP ON SHEET A1 AND USGS FAIRBANKS C-1 NW AND D-1 SW QUADRANGLES, T2S, R2E, SECTION 9, FAIRBANKS MERIDIAN. 64° 44' 57.0 N, 147° 21' 8.3 W, VIA GOOGLE EARTH.
- SITE FUNCTION: ROAD AND PEDESTRIAN PATHWAY.
- AVERAGE ANNUAL PRECIPITATION: 10.53 INCHES (SOURCE: WESTERN REGIONAL CLIMATE CENTER) FOR FAIRBANKS WSO AIRPORT.
- 2-YEAR, 24-HOUR RAINFALL EVENT: 1.10 INCHES (SOURCE: NOAA ATLAS 14, VOLUME 7, VERSION 2) FOR NORTH POLE
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING LOCATIONS FOR STOCKPILING MATERIAL AND STAGING AND STORING EQUIPMENT. STAGING AND STOCKPILE AREAS MUST COMPLY WITH CGP, SWPPP, SECTION 641, AND ALL PERMITS.
- PROJECT AREAS ARE LISTED BELOW (MATERIAL SITES NOT INCLUDED):

PROJECT INFORMATION TABLE	
PROJECT AREA (ACRE)	5.69
DISTURBED AREA (ACRE)	0.42
PRE-CONSTRUCTION IMPERVIOUS AREA	36%
POST-CONSTRUCTION IMPERVIOUS AREA	37%
PRE-CONSTRUCTION RUNOFF COEFFICIENT	0.61
POST-CONSTRUCTION RUNOFF COEFFICIENT	0.60

- LANDSCAPE TOPOGRAPHY: ROADWAY IS RAISED ABOVE THE FLAT SURROUNDING AREA, WITH EMBANKMENT SLOPES VARYING FROM GENTLE (<10:1) TO 2:1. LAND COVER OF ROAD EMBANKMENT AND DITCHES VARY FROM GRAVEL TO GRASSES, LOW SHRUBS, AND TREES.
- DRAINAGE PATTERNS: EXISTING DRAINAGE ALONG OLD RICHARDSON HWY, 5TH AVE, AND 8TH AVE CONSIST OF DIRECT RUNOFF FROM CENTERLINE CROWN ROADWAY ACROSS ROADWAY SHOULDERS INTO ADJACENT DITCHES, WITH SHORT, INTERMITTENT SECTIONS OF CURB AND GUTTER. EXISTING DRAINAGE ALONG SANTA CLAUS LN CONSIST OF RUNOFF FROM CENTERLINE CROWN ROADWAY INTO CONTINUOUS CURB AND GUTTER SYSTEMS. PROPOSED DRAINAGE FOR 8TH AVE AND 5TH AVE WILL REGRADE CENTERLINE CROWN ROADWAY NEAR THE RAILROAD CROSSINGS TO PROVIDE CONTINUOUS CROSS-SLOPING TO THE SOUTH, DIRECTING DRAINAGE AWAY FROM THE PROPOSED CURB AND GUTTER INSTALLMENTS.
- SOILS: WELL SORTED ALLUVIAL SAND AND GRAVEL DEPOSITS OVERLAIN WITH SILT AND SILTY ORGANIC SOILS.
- EXISTING VEGETATION: DITCHES ALONG THE PROJECT AREA ARE OVERGROWN WITH GRASSES AND SHRUBS, WITH SOME STANDS OF TREES WITHIN THE ALASKA RAILROAD CORPORATION (ARRC) CORRIDOR. ADJACENT PROPERTIES INCLUDE TREES AND SHRUBS ON UNDEVELOPED LOTS, AND INCLUDE LAWN GRASSES ON DEVELOPED LOTS.
- APPROXIMATE GROWING SEASON: MAY 3 THROUGH OCTOBER 3 (SOURCE: USACE WETLANDS DELINEATION MANUAL: ALASKA REGION (VERSION 2). APPROXIMATE SPRING THAW AND FALL FREEZE DATES: JUNE 8 AND AUGUST 29 (SOURCE: <http://www.wrcc.dri.edu/summary/Climsmak.html>).

ENVIRONMENTAL INFORMATION:

- RECEIVING WATERS: ALONG RICHARDSON HWY AND ARRC CORRIDOR, RUNOFF ENTERS ADJACENT DITCHES AND INFILTRATES. ALONG 5TH AVE, RUNOFF MAY TRAVEL VIA CURB AND GUTTER SYSTEM AND ENTER THIRTYMILE SLOUGH, 0.2 MILES EAST OF THE PROJECT AREA.
- IMPAIRED WATERS: NONE
- TOTAL MAXIMUM DAILY LOADS (TMDL): NONE
- STORM SEWER/DRAINAGE SYSTEMS: NONE
- THREATENED AND ENDANGERED SPECIES: NONE
- HISTORICAL & CULTURAL RESOURCE PRESENCE: NONE (NO PROPERTIES IN NORTH POLE ARE LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES).
- TIME VEGETATION CLEARING TO COMPLY WITH THE MIGRATORY BIRD ACT. VEGETATION CLEARING WILL NOT BE ALLOWED DURING THE BIRD NESTING WINDOW, TYPICALLY MAY 1 - JULY 15, UNLESS A NEST SURVEY IS COMPLETED AND CONFIRMED THAT NO NESTS OR BIRDS WILL BE TAKEN.
- EXISTING PUBLIC WATER SYSTEM (PWS) DRINKING WATER PROTECTION AREAS: THIS PROJECT IS NOT LOCATED IN A PWS DRINKING WATER PROTECTION AREA. THE NEAREST EXISTING PWS DRINKING WATER PROTECTION AREAS ARE LOCATED APPROXIMATELY 0.5 MILES TO THE EAST AND INCLUDE PWSIDs AK2312504 AND AK2312457
- DEWATERING OF GROUNDWATER AND/OR STORMWATER THAT ACCUMULATES IN AN EXCAVATION AREA WITHIN 1,500 FT OF A DEC-IDENTIFIED CONTAMINATED SITE REQUIRES AN EXCAVATION DEWATERING PERMIT FROM DEC.

THE FOLLOWING DEC IDENTIFIED CONTAMINATED SITES ARE LOCATED WITHIN 1,500 FEET OF THE PROJECT AREA:

HAZARD ID 3222;	FILE NUMBER 100.38.158;	STATUS: CLEANUP COMPLETE - NO INSTITUTIONAL CONTROLS (IC'S) REQUIRED
HAZARD ID 3815;	FILE NUMBER 100.38.090;	STATUS: ACTIVE
HAZARD ID 24821;	FILE NUMBER 100.26.170;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 24999;	FILE NUMBER 100.26.173;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 4439;	FILE NUMBER 100.38.216;	STATUS: ACTIVE
HAZARD ID 2913;	FILE NUMBER 100.38.126;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 3229;	FILE NUMBER 100.38.137;	STATUS: CLEANUP COMPLETE - IC'S REQUIRED
HAZARD ID 2309;	FILE NUMBER 100.38.087;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 3954;	FILE NUMBER 100.38.174;	STATUS: ACTIVE
HAZARD ID 25469;	FILE NUMBER 100.38.224;	STATUS: ACTIVE
HAZARD ID 23415;	FILE NUMBER 100.26.080;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 25702;	FILE NUMBER 100.26.212;	STATUS: CLEANUP COMPLETE - NO IC'S REQUIRED
HAZARD ID 24299;	FILE NUMBER 100.26.299;	STATUS: CLEANUP COMPLETE - IC'S REQUIRED

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	Q1	Q3

ESCP NOTES:

- THE WORK RESULTS IN LESS THAN 1 ACRE OF GROUND DISTURBANCE AND WILL NOT REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
- THIS EROSION SEDIMENT CONTROL PLAN (ESCP) PROVIDES GENERAL INFORMATION FOR MINIMIZING EROSION AND TRANSPORT OF SEDIMENT. THE SHEETS ARE PROVIDED AS GUIDANCE FOR THE DEVELOPMENT OF THE:
  - MORE FULLY DEVELOPED ESCP
  - HAZARDOUS MATERIAL CONTROL PLAN (HMCP)
  - SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN
- SELECT AND IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICE CONTROLS (BMPS) BASED ON SITE SPECIFIC CONDITIONS, CONTRACTOR'S SCHEDULE, AND CONSTRUCTION METHODS.
- INSTALLATION AND MAINTENANCE OF BMPS SHALL BE IN ACCORDANCE WITH THE DOT&PF ALASKA SWPPP GUIDE (FEBRUARY 2011 OR LATEST VERSION) OR OTHER APPROVED BMP GUIDANCE DOCUMENT AS-APPROVED BY THE ENGINEER. IF APPLICABLE, INSTALLATION AND MAINTENANCE SHALL ALSO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
- MINIMIZE THE AMOUNT OF DISTURBED AREA OPEN TO EROSION AT ANY ONE TIME.
- STABILIZATION SHALL OCCUR AS EACH EARTH DISTURBING ACTIVITY IS COMPLETED IN ANY AREA. TEMPORARY STABILIZATION SHALL BE INSTALLED UNTIL PERMANENT STABILIZATION IS ACHIEVED.
- ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION MUST BE RE-VEGETATED FOR FINAL STABILIZATION. FINAL STABILIZED AREAS NOT RE-VEGETATED MUST BE 100% COVERED BY ROCK OR OTHER PERMANENT NON-ERODIBLE MATERIAL. ATTAINMENT OF FINAL STABILIZATION WILL BE AS APPROVED IN THE FIELD BY THE ENGINEER.
- PROVIDE VEHICLE CLEANING EQUIPMENT, OR OTHER APPROVED CONTROLS, TO PREVENT TRACKING DIRT AND GRAVEL ONTO PAVED SURFACES.
- ENSURE LOADS ARE STABLE AND COVERED SO THAT NO MATERIAL ESCAPES DURING HAULING ACTIVITIES.
- SWEEP STREET SURFACES ADJACENT TO THE WORK AREA DAILY TO COLLECT ANY SEDIMENT OR OTHER CONSTRUCTION DEBRIS TRACKED OFFSITE.
- DESIGNATE A CONCRETE WASHOUT AREA ONSITE, AS NECESSARY, TO CONTAIN THE WASHOUT WATER AND RESIDUALS DURING CONCRETE WORK.
- HAVE A SPILL KIT AVAILABLE AT EACH WORK AREA WHEN HEAVY EQUIPMENT IS BEING UTILIZED.
- RECLAIM STOCKPILE AND STAGING LOCATIONS TO THEIR ORIGINAL CONDITION. STOCKPILES AND/OR STAGING AREAS ARE NOT ALLOWED IN WETLANDS.
- PERMANENTLY STABILIZE ALL DISTURBED GROUND.
- WHEN CLEARING TO PLACE PERIMETER CONTROL BMPS, MINIMIZE DISTURBANCE ACTIVITIES TO PRESERVE EXISTING VEGETATION TO THE MAXIMUM EXTENT POSSIBLE. RESTORE DISTURBED VEGETATIVE BUFFER TO PRE-CONSTRUCTION CONDITIONS.
- INSTALL PERIMETER CONTROL BMPS WHEN WORKING WITHIN 25 FEET OF SURFACE WATERS AND ALONG WETLANDS WHERE A 25-FOOT VEGETATIVE BUFFER IS NOT RETAINED.
- TEMPORARY BMPS REQUIRED BY THIS ESCP WILL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO 641 PAY ITEMS.

PERIMETER CONTROL:

- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH DISTURBING ACTIVITIES. UTILIZE VEGETATIVE BUFFERS, FIBER ROLLS, SILT FENCE, OR OTHER METHODS APPROPRIATE FOR THE SITE CONDITIONS.
- WHERE POSSIBLE, PROVIDE A 30-FT VEGETATIVE BUFFER BETWEEN SENSITIVE AREAS AND CONSTRUCTION LIMITS. IF UNABLE TO MAINTAIN VEGETATIVE BUFFER, USE FIBER ROLLS TO PREVENT SEDIMENT FROM ENTERING SENSITIVE AREAS.
- PERIMETER CONTROLS ARE SHOWN ON ATTACHED FIGURES IN LOCATIONS WHERE VEGETATED BUFFER IS NOT EXPECTED TO BE SUFFICIENT. CONTRACTOR SHALL UPDATE PERIMETER CONTROL LOCATIONS BASED ON ACTUAL FIELD CONDITIONS.

STOCKPILE AND STAGING AREAS:

- ALL ERODIBLE STOCKPILES MUST BE PROTECTED BY EROSION AND SEDIMENT CONTROL DEVICES.
- COVER MUST BE USED ON STOCKPILES IN ACCORDANCE WITH SUBSECTION 641-3.01.5 TO PROVIDE ADDITIONAL EROSION PROTECTION.
- STOCKPILE AND STAGING LOCATIONS MUST BE RECLAIMED TO THEIR ORIGINAL CONDITION AS APPROVED BY THE ENGINEER. NO STOCKPILE OR STAGING AREAS ARE ALLOWED IN WETLANDS.

ESCP LEGEND:

PERIMETER CONTROL



APPROXIMATE LIMITS OF GROUND DISTURBANCE



STABILIZED CONSTRUCTION ENTRANCE/EXIT



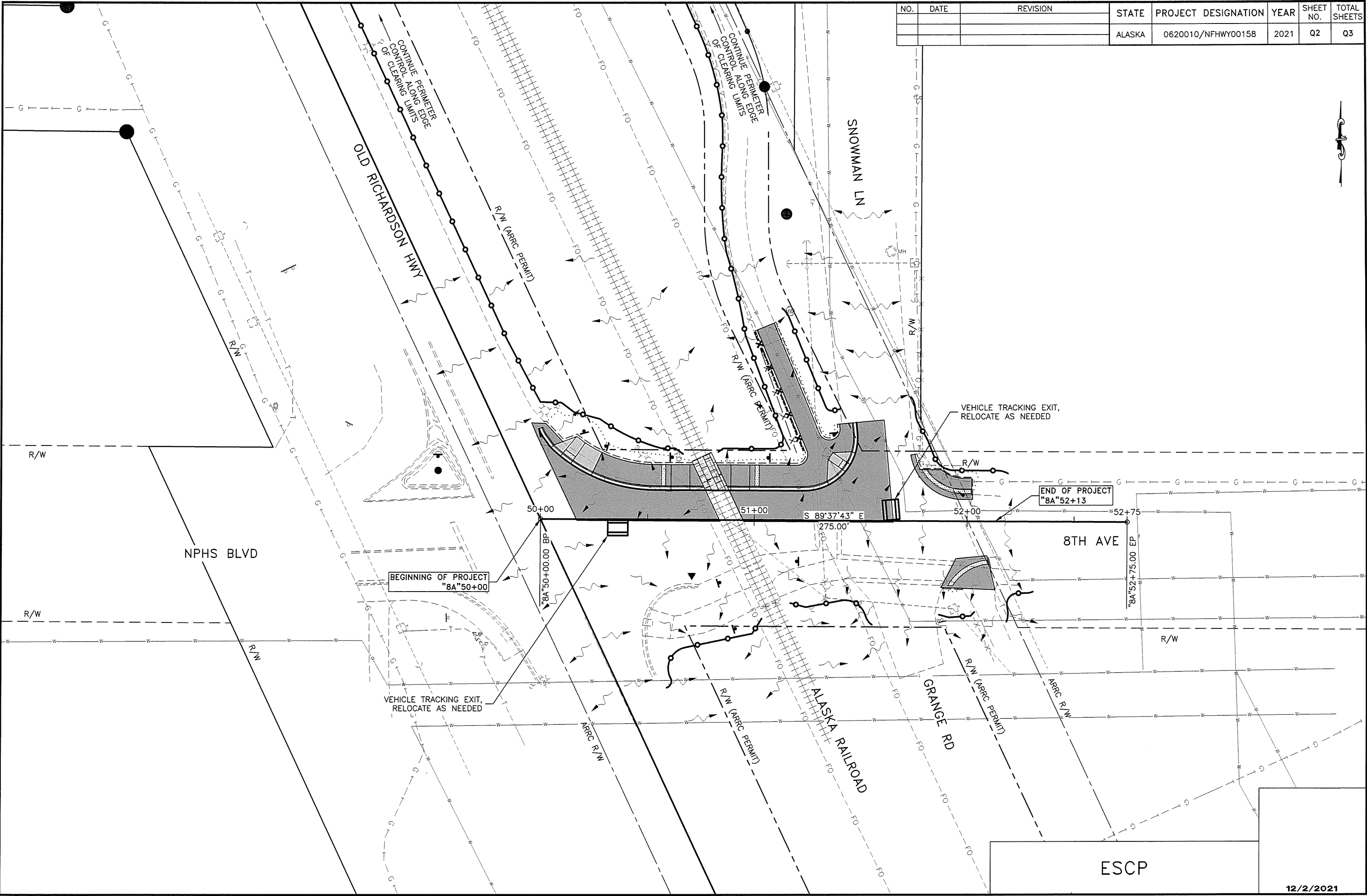
FLOW DIRECTION (POST CONSTRUCTION)



ESCP

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_ald rich intersections\DWG\00158\_Q.ESCP-02 Thu, Dec/02/21 02:45pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	Q2	Q3

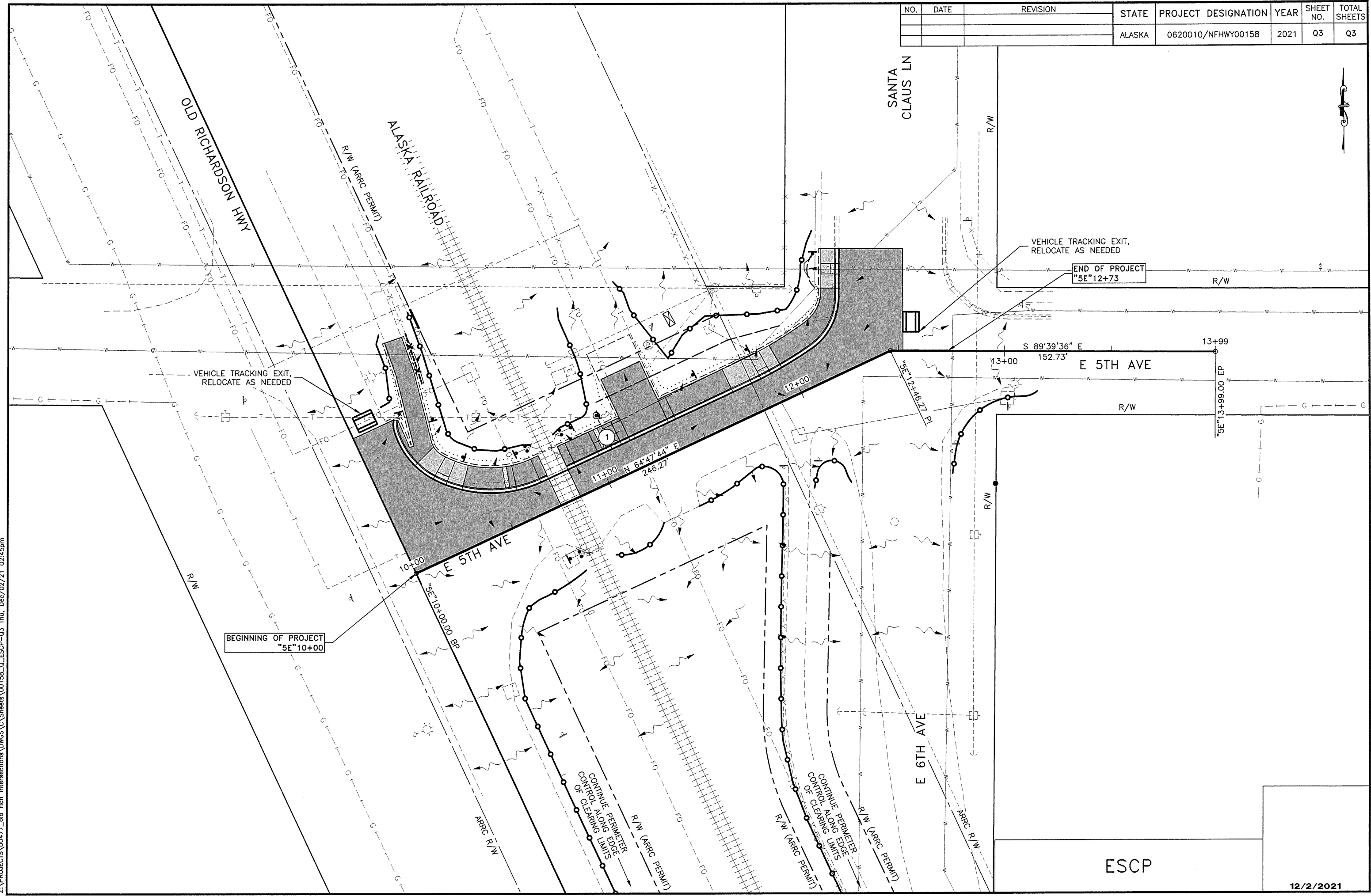


ESCP



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01 rich intersections\DWGS\00158\_Q.ESCP-Q3 Thu, Dec/02/21 02:45pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	Q3	Q3



ESCP

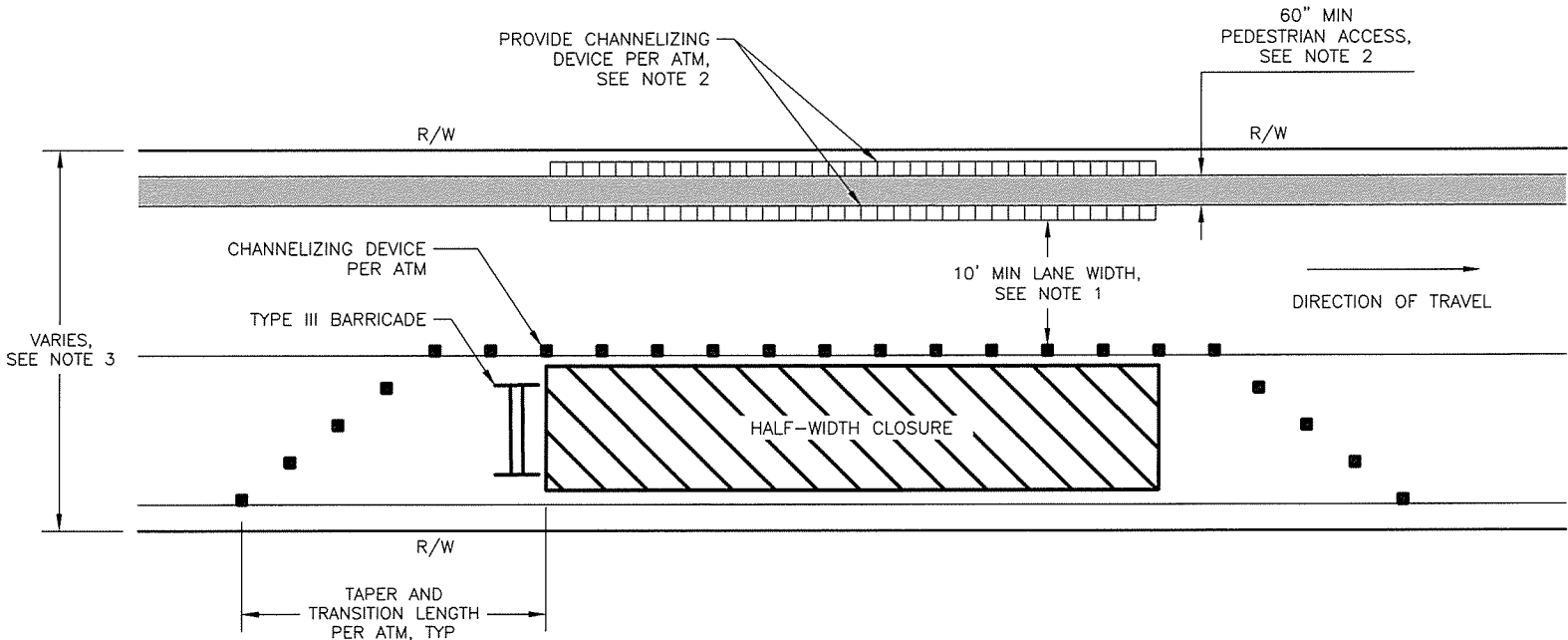
12/2/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_04 rich intersections\DWGS\0158\_TrafficControl-T1 Wed, Dec/08/21 10:40am

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	T1	T3

GENERAL TRAFFIC CONTROL PLAN NOTES

- THIS IS A GENERALIZED TRAFFIC COTRNOL PLAN (TCP) TO SHOW ALLOWABLE LANE CLOSURES, ROAD CLOSURES, AND DETOUR ROUTES, AND LOCATIONS FOR PORTABLE CHANGEABLE MESSAGE BOARD SIGNS (CMS). THE CONTRACTOR SHALL DEVELOP AN APPROVED TCP AND AN APPROVED CONSTRUCTION PHASING PLAN IN ACCORDANCE WITH THIS PLAN AND SECTION 643 OF THE PROJECT SPECIFICATIONS.
- DRIVEWAYS ADJACENT TO AN EXCAVATION SHALL BE RAMPED TO PROVIDE ACCESS.
- TCPs THAT REQUEST CLOSURE OF ANY RESIDENTIAL OR COMMERCIAL ACCESS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH SECTION 643. ANY ACCESS CLOSURE SHALL NOT OCCUR WITHOUT WRITTEN APPROVAL OF THE ENGINEER. COORDINATE CLOSURE PLANS WITH THE AFFECTED PROPERTY OCCUPANT AND/OR OWNER. THE CONTRACTOR SHALL NOTIFY THE AFFECTED PROPERTY A MINIMUM OF 48 HOURS PRIOR TO IMPLEMENATION OF AN APPROVED ACCESS CLOSURE.
- PROVIDE ACCESS THROUGH THE PROJECT FOR EMERGENCY VEHICLES.
- PROVIDE PUBLIC NOTICE OF DETOURS AND CLOSURES IN ACCORDANCE WITH SECTION 643.
- BEFORE BEGINNING WORK WITHIN THE PROJECT LIMITS, ERECT TRAFFIC CONTROL DEVICES REQUIRED BY THE APPROVED TCP.
- PROVIDE TRAFFIC CONTROL DEVICES MEETING THE REQUIREMENTS OF SECTION 643.
- EXISTING SIGNS THAT CONFLICT WITH CONSTRUCTION SIGNS SHALL BE COVERED. COORDINATE REMOVAL WITH CITY OF FAIRBANKS PUBLIC WORKS.
- CONSTRUCTION SIGNS MAY NOT BE PLACED ON PORTABLE SIGN SUPPORTS FOR MORE THAN THREE CONSECUTIVE CALENDAR DAYS. SIGNS REQUIRED LONGER THAN THIS PERIOD SHALL BE MOUNTED ON A PERMANENT SIGN POST WITH THE EXCEPTION OF PEDESTRIAN TRAFFIC CONTROL SIGNS AND SIGNS MOUNTED ON A TYPE III BARRICADE WHICH MAY BE INSTALLED ON PORTABLE SIGN SUPPORTS FOR THE DURATION OF THEIR INSTALLATION.
- SPECIAL CONSTRUCTION SIGNS SHALL BE FABRICATED OF MATERIALS CONFORMING TO SECTION 615 OF THE SPECIFICATIONS AND SHALL HAVE A BLACK LEGEND ON ORANGE BACKGROUND.
- ALL SIGNS SHALL BE SUPPLEMENTED WITH HIGH LEVEL WARNING DEVICES.
- ALL BARRICADES SHALL HAVE ONE OPERABLE FLASHING LIGHT FOR EACH 10 FEET OF BARRICADE, WITH A MINIMUM OF TWO LIGHTS PER TYPE III BARRICADE EXCEPT IN A TAPER WHERE ONLY THE FIRST TWO LIGHTS SHALL FLASH (TYPE "A") AND THE REMAINDER SHALL BE STEADY BURN (TYPE "C").
- TYPE "A" FLASHING WARNING LIGHTS SHALL BE USED TO MARK THE TYPE III BARRICADES, ROAD CLOSURES, AND ADVANCE DETOUR SIGNING AT NIGHT.
- DEVICE SPACING ON TAPERS AND TANGENTS SHALL BE ONE (1) X THE POSTED SPEED LIMIT (IN FEET). SPEED LIMIT:
- TWO (2) PORTABLE CHANGEABLE MESSAGE BOARD SIGNS WILL BE SUBSIDIARY TO 643(2) TRAFFIC MAINTENANCE. ANY ADDITIONAL PORTABLE CHANGEABLE MESSAGE BOARD SIGNS WILL BE PAID FOR UNDER 643(24) AT THE TRAFFIC CONTROL RATE SCHEDULE.
- TEMPORARY STRIPING SHALL BE EITHER TEMPORARY RAISED PAVEMENT MARKERS OR PREFORMED PAVEMENT MARKING TAPE.
- TRAFFIC CONTROL ZONES PROVIDING TWO-WAY TRAFFIC ON A ROAD REDUCED TO A SINGLE LANE REQUIRE A FLAGGER LOCATED AT EACH END.
- NO WORK OR IMPLEMENTATION OF TRAFFIC CONTROL SHALL OCCUR ON 8TH AVENUE ON DAYS SCHOOL IS IN SESSION AT EITHER NORTH POLE HIGH SCHOOL OR NORTH POLE MIDDLE SCHOOL. SEE FNSB SCHOOL DISTRICT CALENDAR FOR MORE INFORMATION.



HALF-WIDTH CLOSURE DETAIL

HALF-WIDTH CLOSURE NOTES:

- PROVIDE MINIMUM 10' LANE WIDTH AS MEASURED FROM NEAR FACE OF CHANNELIZING DEVICE TO NEAR FACE OF CHANNELIZING DEVICE OR CURB FACE.
- WHEN POSSIBLE, ROUTE PEDESTRIANS ON EXISTING OR NEWLY CONSTRUCTED SIDEWALK. OTHERWISE, DELINEATE TEMPORARY PEDESTRIAN ACCESS USING CHANNELIZING DEVICES PER MUTCD. TEMPORARY PEDESTRIAN ACCESS SHALL BE A MINIMUM 60" WIDTH AS MEASURED FROM NEAR FACE OF CHANNELIZING DEVICE TO NEAR FACE OF CHANNELIZING DEVICE WITH AN ADA-COMPLIANT SMOOTH SURFACE. IF A 60" PATH CANNOT BE CREATED OVER THE ENTIRE LENGTH, A 48" WALKWAY WITH A 60-BY-60" PAD EVERY 200 FEET SHOULD BE PROVIDED. PROVIDE ADA COMPLIANT TEMPORARY CURB RAMPS AT LOCATIONS WHERE PEDESTRIANS ARE ROUTED FROM THE SIDEWALK INTO THE STREET.
- SEE G SHEETS FOR RIGHT-OF-WAY LIMITS. LOCATE TEMPORARY TRAFFIC CONTROL WITHIN LIMITS OF RIGHT-OF-WAY.

TRAFFIC CONTROL PLAN


12/8/2021

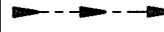



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01\_rich\_intersections\DWG\00158\_TrafficControl-T2 Thu, Dec/02/21 02:45pm

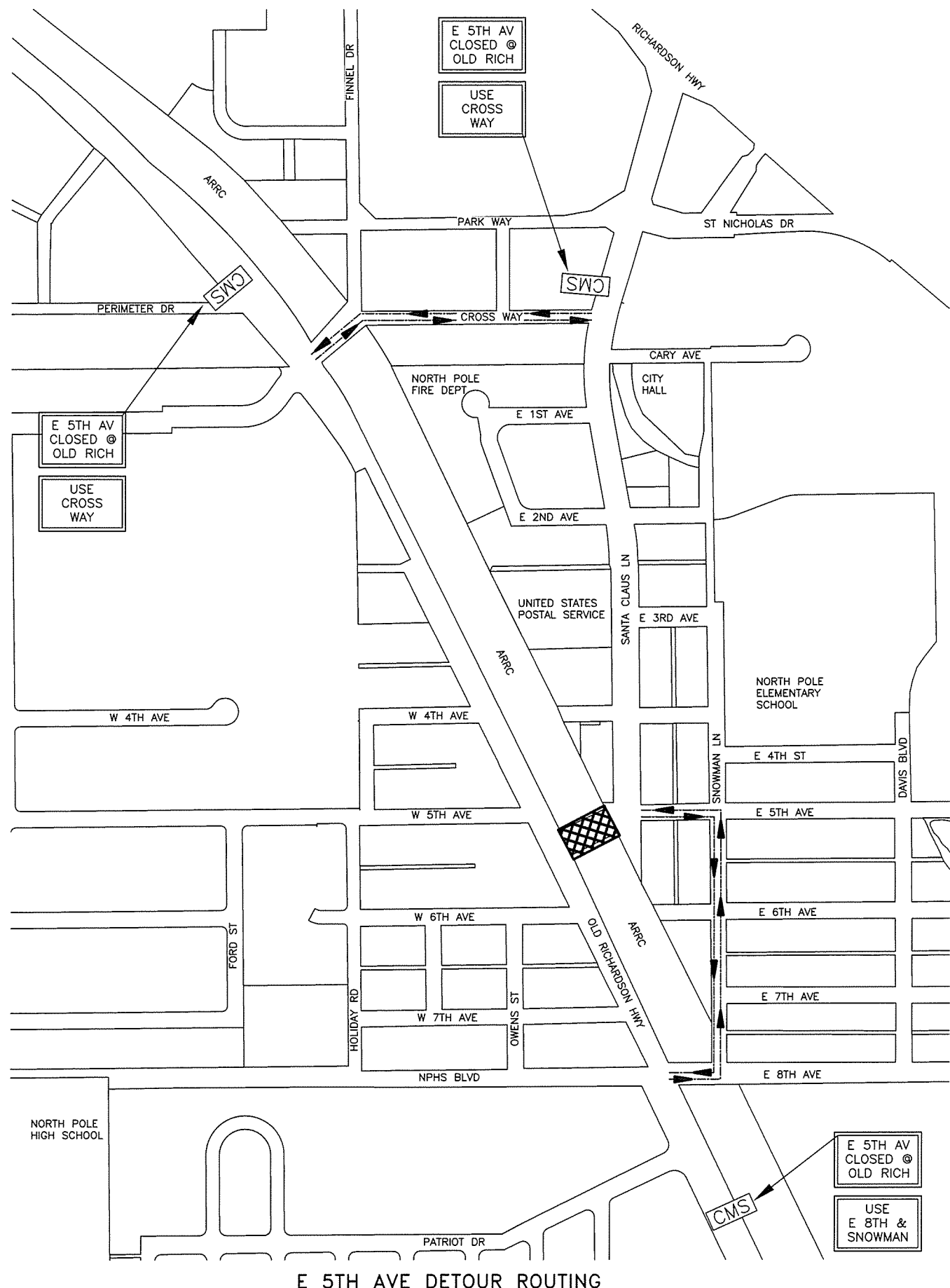
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	T2	T3

TRAFFIC CONTROL PLAN LEGEND

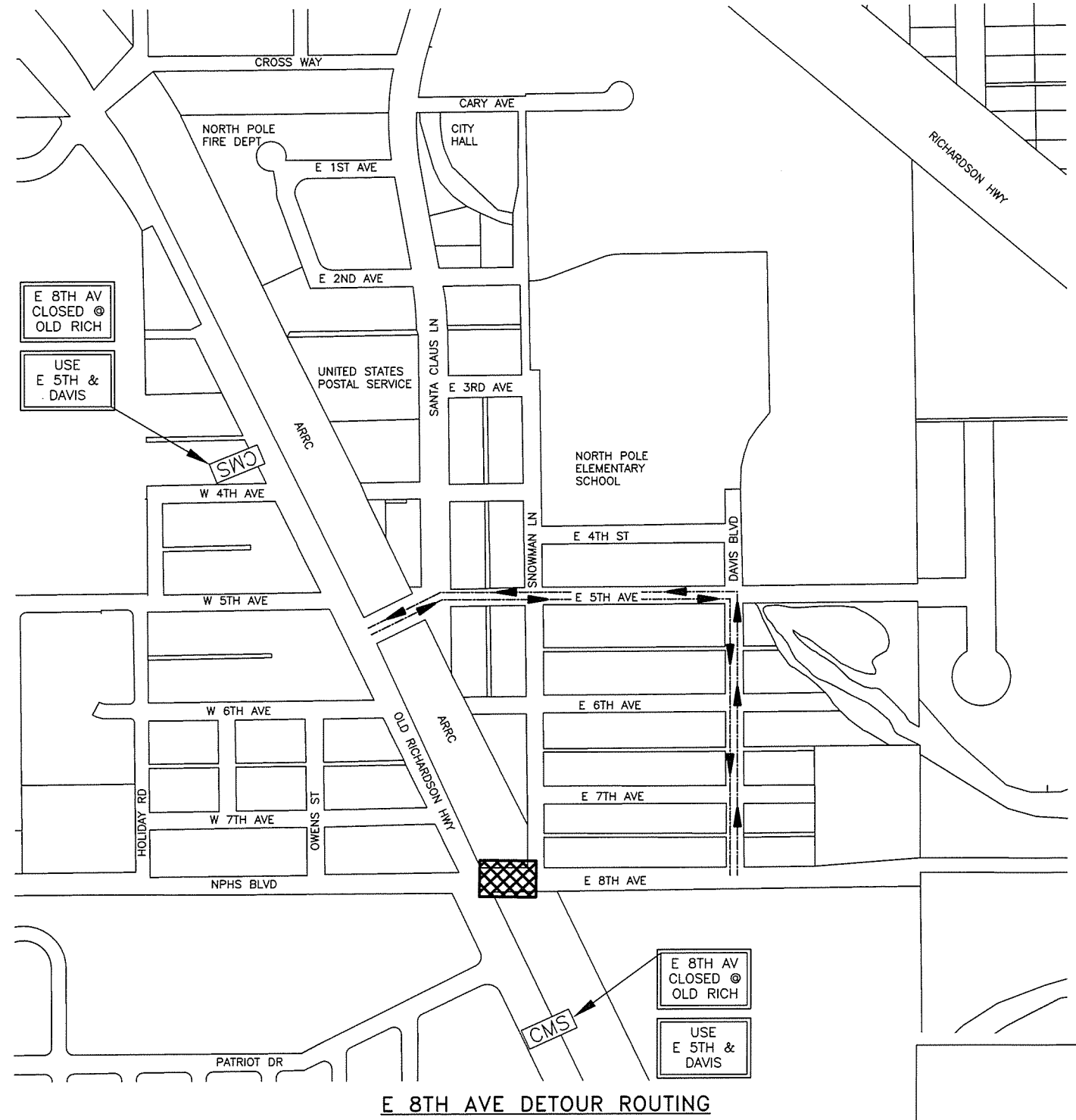
 FULL CLOSURE

 DETOUR ROUTE

 PORTABLE CHANGEABLE MESSAGE BOARD SIGN



E 5th AVE DETOUR ROUTING



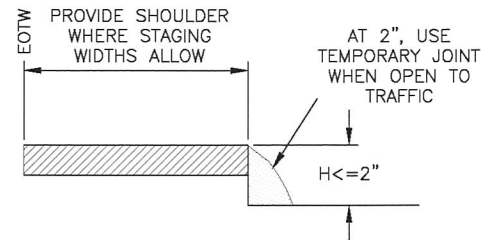
E 8th AVE DETOUR ROUTING

TRAFFIC CONTROL PLAN

DETOUR ROUTES

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_aid rich intersections\DWG\00158\_I\_TrafficControl-T3 Thu, Dec/02/21 02:45pm

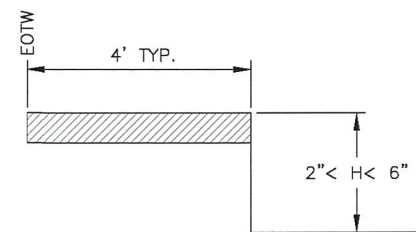
## VERTICAL DROP-OFFS



CASE A

DROP-OFFS  $\leq 2$  INCHES  
(PAVED SURFACES ONLY)

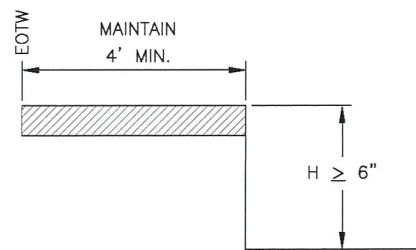
1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
2. LEAVE NO DROP-OFFS  $> 1.5$ " IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

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

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



CASE C

DROP-OFFS  $\geq 6$ "  
(ALL ROADWAY SURFACES  
AND ROADSIDE SLOPES)

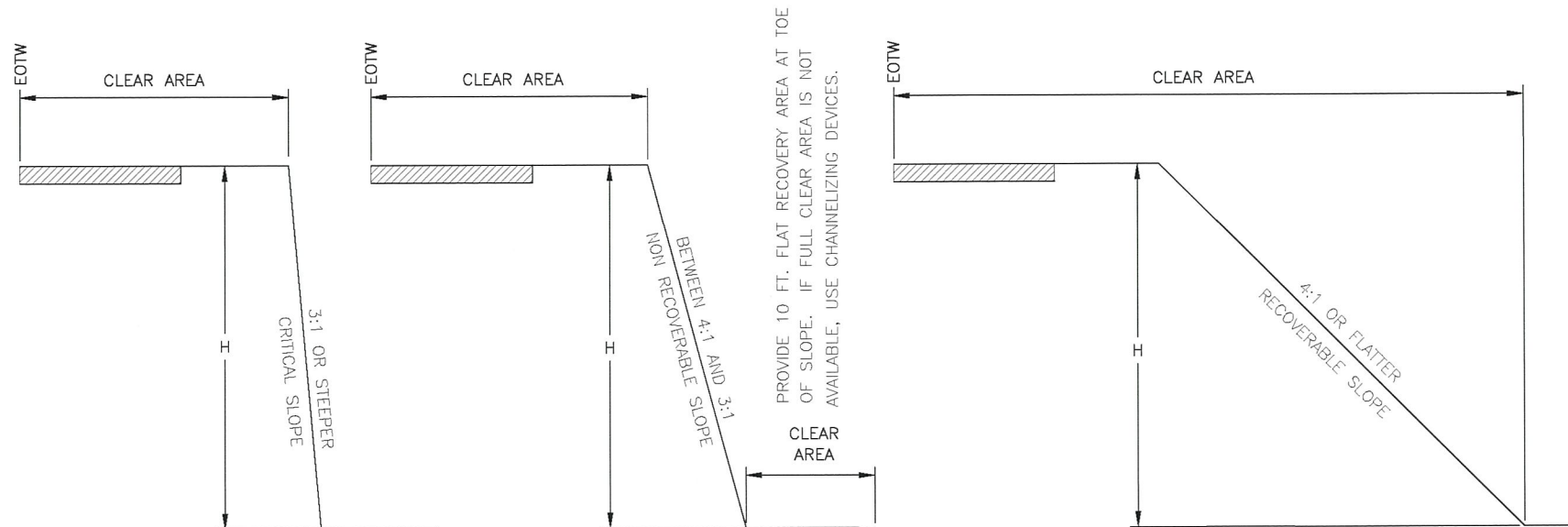
1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS  $\leq 24$ " WITHIN THE CLEAR AREA.
2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS  $> 24$ " WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

## FILL SLOPES

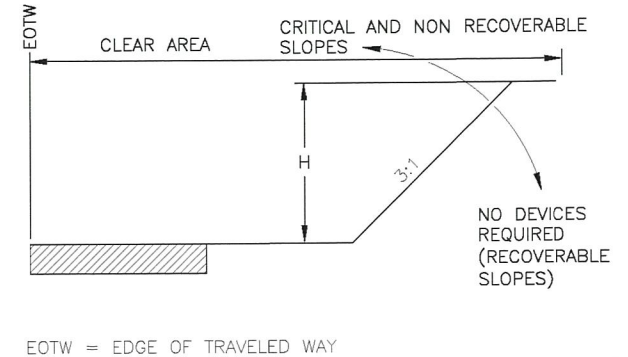
STEEPER THAN OR EQUAL TO 3:1

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 $\geq 50$ 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 THREE 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.

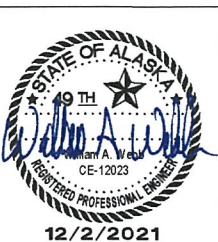
## EQUIPMENT NOTES:

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 PLAN  
DROP OFF DETAILS





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWGS\00158\_V-C-4.12-V1 Thu, Dec/02/21 02:45pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V1	V9

C-04.12

SHEET  
| of |

GENERAL NOTES

1. Signs are shown for one direction only (with one exception). Signs for the other direction mirror those shown.

2. Double fine signs shall be used only where one or more of the following conditions exist:

a. Active work areas (where road workers and/or machines are presently working on or adjacent to a road)

b. Detours on new temporary roads built for that purpose (this does not include detours on existing streets)

c. Sections of paved roads where pavement has been removed.

d. Roads being paved where unmatched asphalt lifts result in a vertical lip between lanes.

3. Double fine signs shall be confined to the areas where the above conditions exist, with the following exceptions:

a. If the project is 2 miles or shorter in length, the entire project may be posted for double fines when the above conditions exist on any part of the project.

b. When the above conditions exist at multiple locations separated by less than 2 miles, the locations and the intervening segments may be posted as a single double fine zone.

4. Double fine signs shall be removed or covered when work activity ceases for more than two days and conditions b, c, or d of note 2 are not met.

5. The R16-100 "BEGIN" sign may be used in place of the first advance warning sign. However, when this is done, the appropriate advance warning sign must be reinstalled when the double fine sign is taken down or covered.

6. When a double fine zone is longer than 2 miles, work zone speed limit signs shall be posted at spacings not greater than 2 miles within the double fine zone.

7. "Work zone speed limit signs", as used here, refer either to 1) R2-100 signs or 2) standard R2-1 regulatory speed limit signs with CW20-102 "DOUBLE FINES" plates mounted below.

8. The limit shown on work zone speed limit signs shall be either the existing limit before construction or, if a work zone speed limit order has been approved in accordance with ADOT&PF Procedure 05.05.020 PDR, a reduced limit.

9. All existing regulatory speed limit signs within double fine zones shall either be replaced with R2-100 signs or supplemented with CW20-102 plates.

10. Signs shall be installed at major intersections within the double fine zone to warn entering drivers of double fines. This may be done with a R16-100 sign with a CWI-7 arrow panel on the side street or with two work zone speed limit signs on the main street on either side of the intersection. Use of R16-100 signs on side streets eliminates the need for "Road Work Ahead" signs on those streets. If the speed limit has been reduced, the two work zone speed limit signs are mandatory.

11. At the end of each double fine zone, install an R2-1 sign showing the speed limit for the road beyond the double fine zone.

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

LOCATION OF  
DOUBLE TRAFFIC  
FINE SIGNS

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

Adoption Date: 02/08/2019

Last Code and Stds. Review  
By:                      Date:

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

C-04.12

STANDARD PLAN C-04.12

12/2/2021

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_04d rich intersections\DWGS\00158\_V-F-1.03-V1 Thu, Dec/02/21 02:46pm

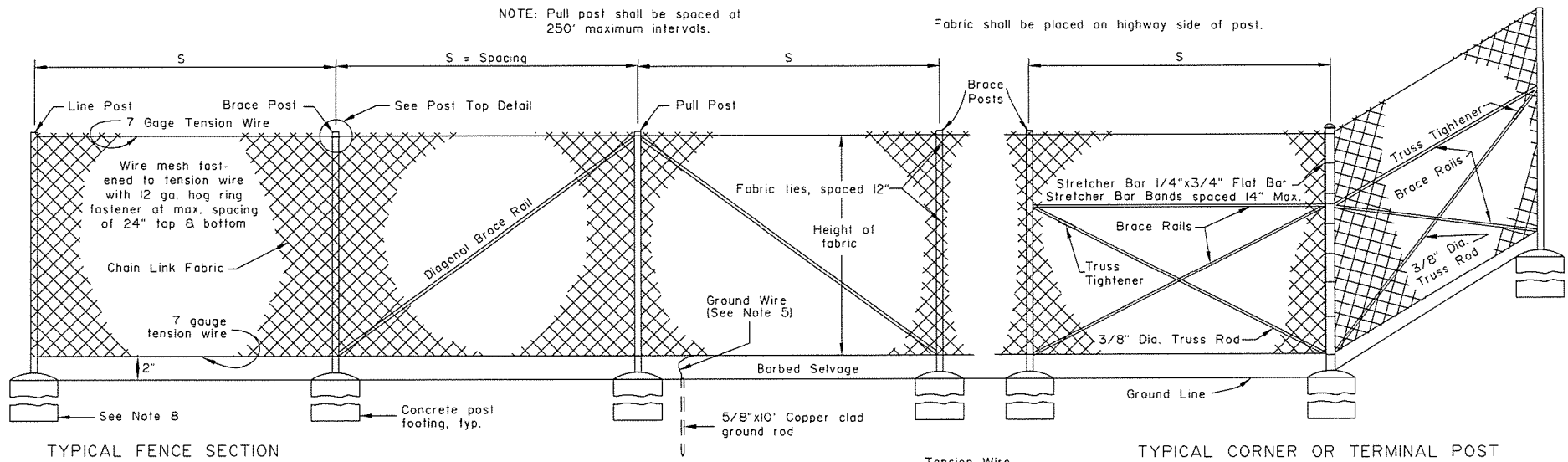
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V2	V9

F-01.04

SHEET  
1 of 1

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.

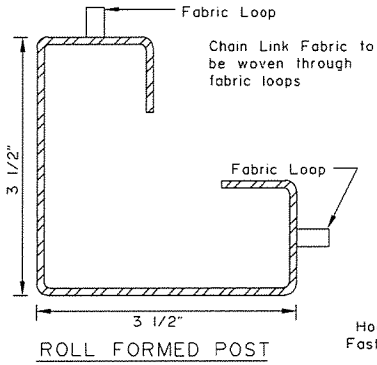


TYPICAL FENCE SECTION

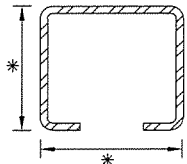
TYPICAL CORNER OR TERMINAL POST

TYPICAL PULL POST

LINE POST TOPS

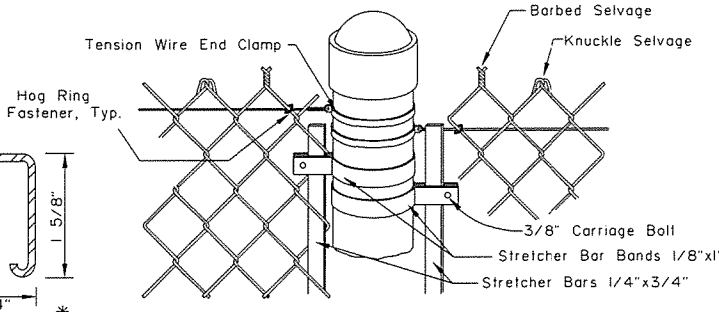


ROLL FORMED POST

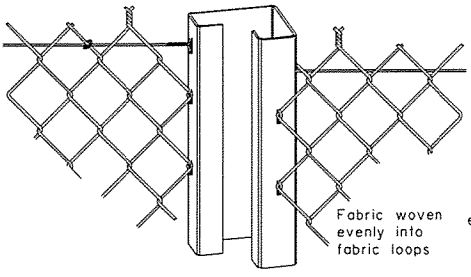


C POST

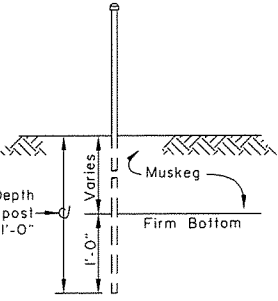
ROLL FORMED  
BRACE



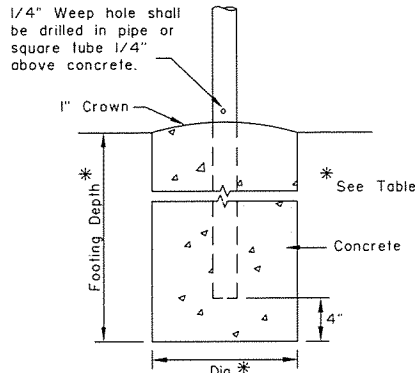
PIPE STYLE POST TOP



ROLL FORMED POST TOP

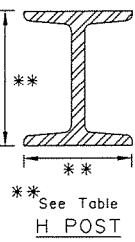


POST SETTING IN MUSKEG AREAS



CONCRETE POST FOOTING

FABRIC HEIGHT	POST												TOP OR BRACE RAIL								ALTERNATE POST	
	END-CORNER-PULL						LINE-BRACE						PIPE				ROLL FORMED				H POST	
	PIPE		SQUARE TUBE		ROLL FORMED		PIPE		C POST		FOOTING		PIPE		ROLL FORMED		H POST		H POST		H POST	
	SIZE	WT./FT.	SIZE	WT./FT.	SIZE	WT./FT.	SIZE	WT./FT.	SIZE	WT./FT.	DEPTH	DIA.	SIZE	WT./FT.	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

STANDARD PLAN F-01.04

12/2/2021

F-01.04



PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_old rich intersections\DWGS\00158\_V-S-00.11-V3 Thu, Dec/02/21 02:46pm

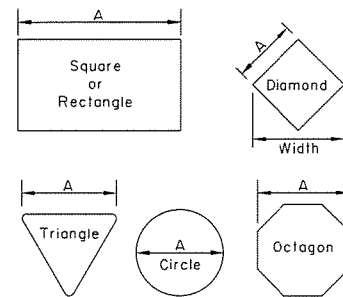
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V3	V9

S-00.12

SHEET  
1 of 1

GENERAL NOTES

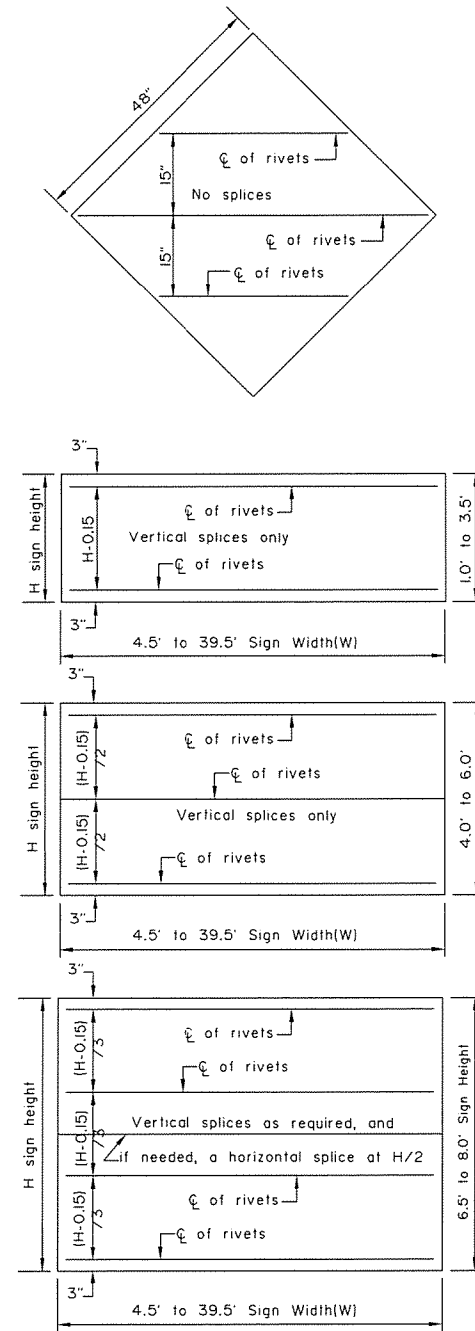
- See the standard specifications for the aluminum alloys that you may use for sign sheeting and wind framing members.
- Fabricate all signs from 0.125" thick aluminum sheeting.
- Sign fabricators may use alternates to the zee shaped framing member with approval of the engineer, if the frame manufacturer certifies their design equals or exceeds the strength of the zee shaped design.
- 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.
- 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.
- Use 3/16" diameter rivets conforming to aluminum alloy 6061-T6 for cold driven rivets, or aluminum alloy 6061-T43 for hot driven rivets.
- Sign fabricators may use sign panels extruded with integral framing with approval of the engineer, if the manufacturer certifies their design equals or exceeds the strength of the 0.125" thick panel with framing attached to it.
- 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.
- Do not use round pipes for sign supports.



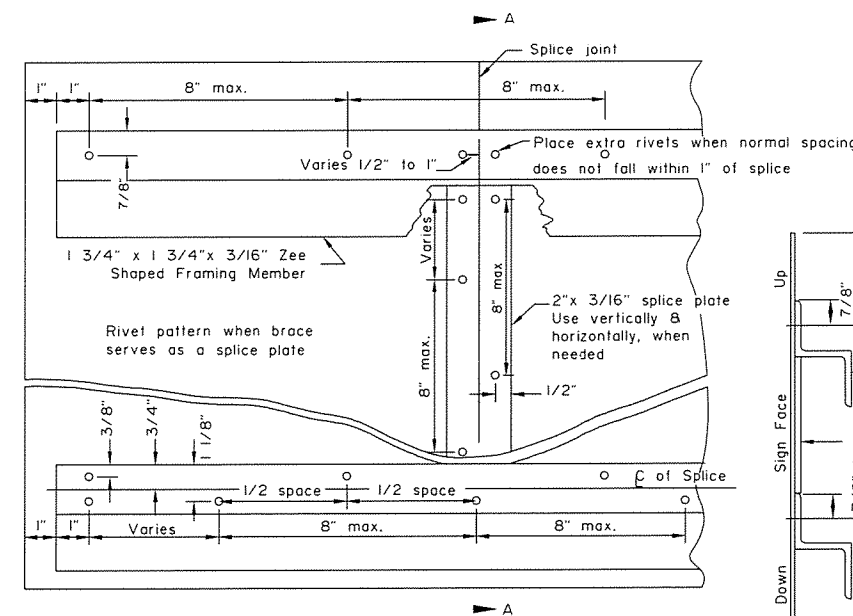
Maximum size unframed signs using 0.125" thick aluminum sheeting.	
Sign Shape	A
Squares, Shields, and Route Markers	48"
Rectangles	48"
Diamonds	48"
Triangles	48"
Rounds and Octagons	48"

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

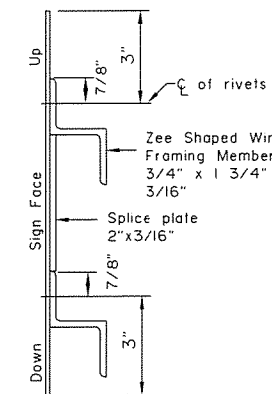
LIGHT SIGNS



WIND FRAMING LOCATIONS



RIVET DETAIL FOR ZEE SHAPED WIND FRAMING & SPLICE PLATE



SECTION A-A

State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
SIGN FRAMING

Adopted as an Alaska Standard Plan by: *Carolyn Morehouse*

Carolyn Morehouse, P.E.  
Chief Engineer

Adoption Date: 7/17/2020

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

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

S-00.12

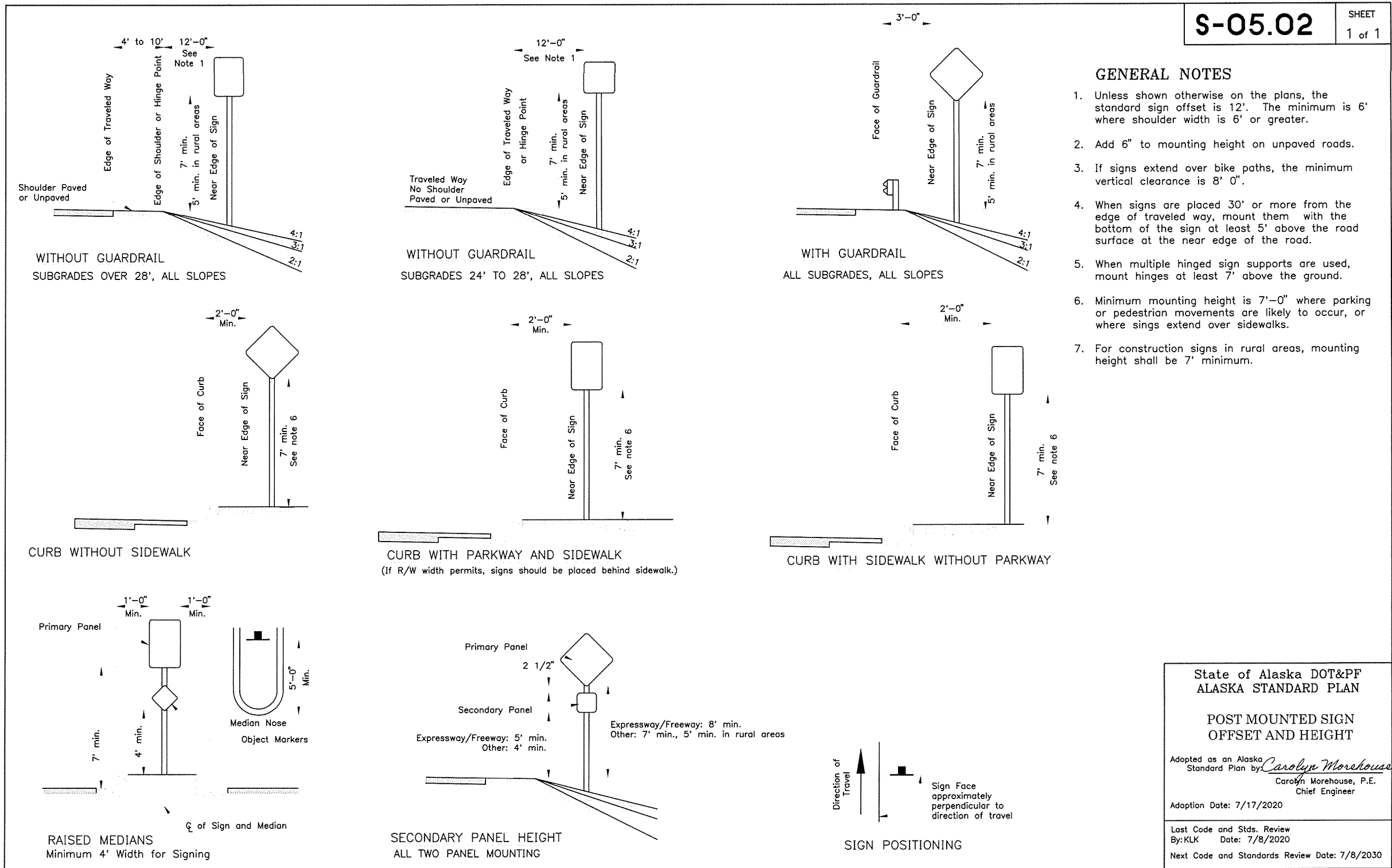
STANDARD PLAN S-00.12

12/2/2021

Note: Drawing not to scale

PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3908 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWG\S\05-01-V4 Thu, Dec/02/21 02:46pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V4	V9



2'-0"

Min.

Face of Curb

Near Edge of Sign

7' min. See note 6

CURB WITHOUT SIDEWALK

2'-0"

Min.

Face of Curb

Near Edge of Sign

7' min. See note 6

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

2'-0"

Min.

Face of Curb

Near Edge of Sign

7' min. See note 6

CURB WITH SIDEWALK WITHOUT PARKWAY

1'-0"

Min.

Primary Panel

7' min.

4' min.

Median Nose

Object Markers

5'-0"

Min.

RAISED MEDIANS  
Minimum 4' Width for Signing

2 1/2"

Primary Panel

Secondary Panel

Expressway/Freeway: 5' min.  
Other: 4' min.

Expressway/Freeway: 8' min.  
Other: 7' min., 5' min. in rural areas

SECONDARY PANEL HEIGHT  
ALL TWO PANEL MOUNTING

Direction of Travel

Sign Face approximately perpendicular to direction of travel

SIGN POSITIONING

GENERAL NOTES

1. Unless shown otherwise on the plans, the standard sign offset is 12'. The minimum is 6' where shoulder width is 6' or greater.

2. Add 6" to mounting height on unpaved roads.

3. If signs extend over bike paths, the minimum vertical clearance is 8' 0".

4. When signs are placed 30' or more from the edge of traveled way, mount them with the bottom of the sign at least 5' above the road surface at the near edge of the road.

5. When multiple hinged sign supports are used, mount hinges at least 7' above the ground.

6. Minimum mounting height is 7'-0" where parking or pedestrian movements are likely to occur, or where signs extend over sidewalks.

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

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

POST MOUNTED SIGN  
OFFSET AND HEIGHT

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

Adoption Date: 7/17/2020

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

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

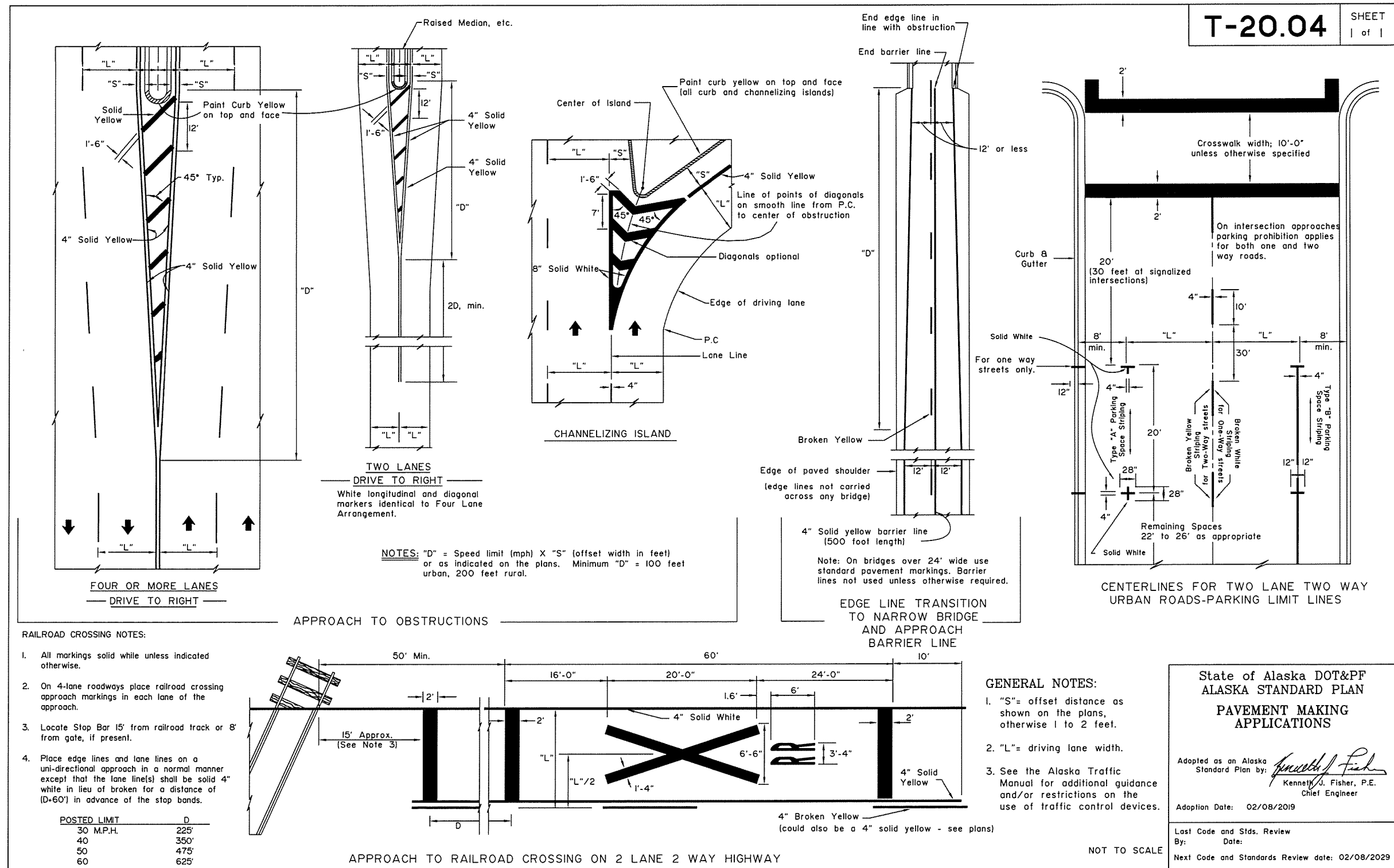
S-05.02





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections\DWG\T-20.04-V6 Thu, Dec/02/21 02:46pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V6	V9



STANDARD PLAN T-20.04

12/2/2021





PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd, Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477-old rich intersections DWGS\00158\_V\_T-22.04-V7 Thu, Dec/02/21 02:46pm

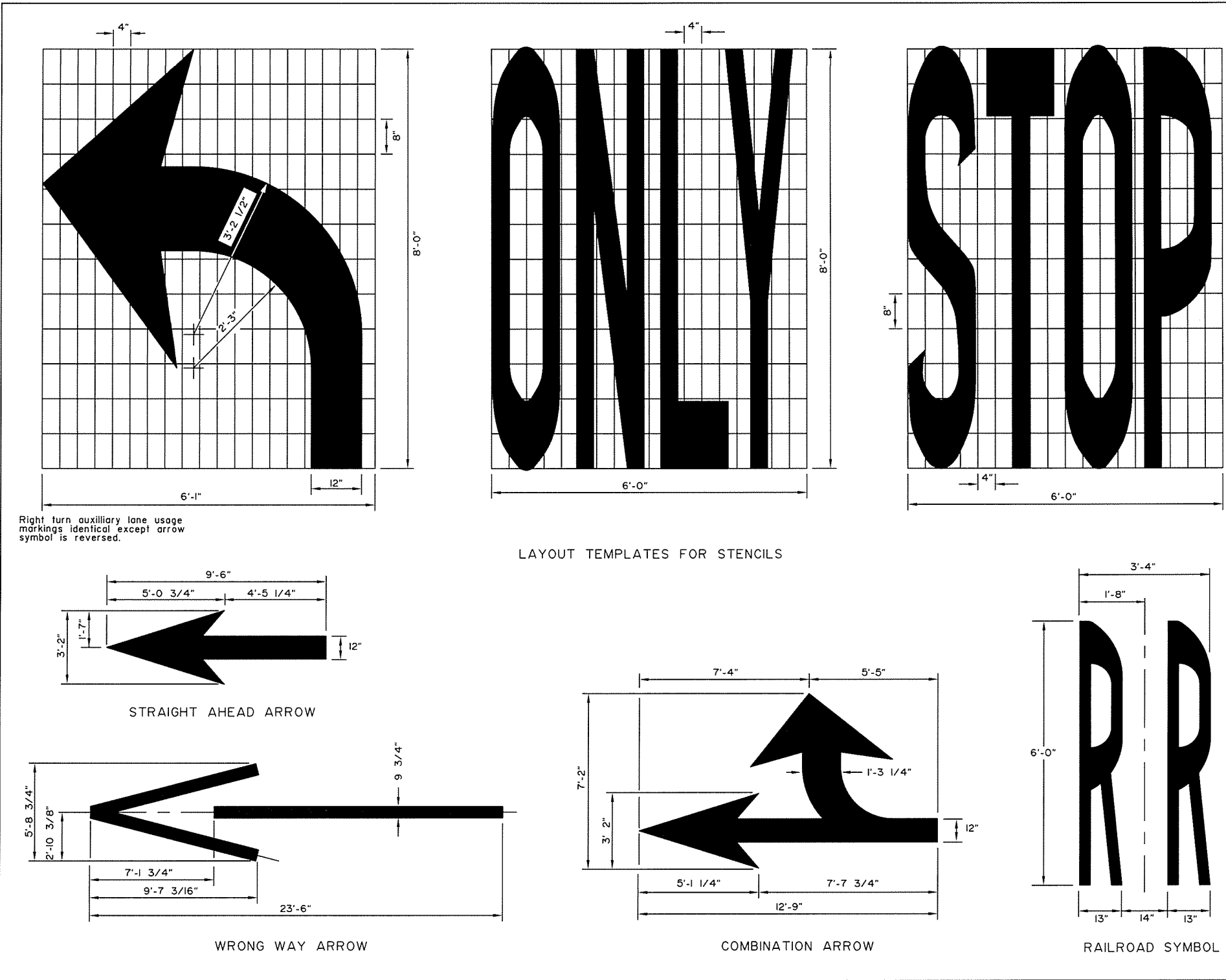
NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V8	V9

T-22.04

SHEET  
1 of 1

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.



State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
PAVEMENT MARKING  
SYMBOL DIMENSIONS

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

Adoption Date: 02/08/2019

Last Code and Sids. Review  
By: \_\_\_\_\_  
Date: \_\_\_\_\_

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

T-22.04

STANDARD PLAN T-22.04

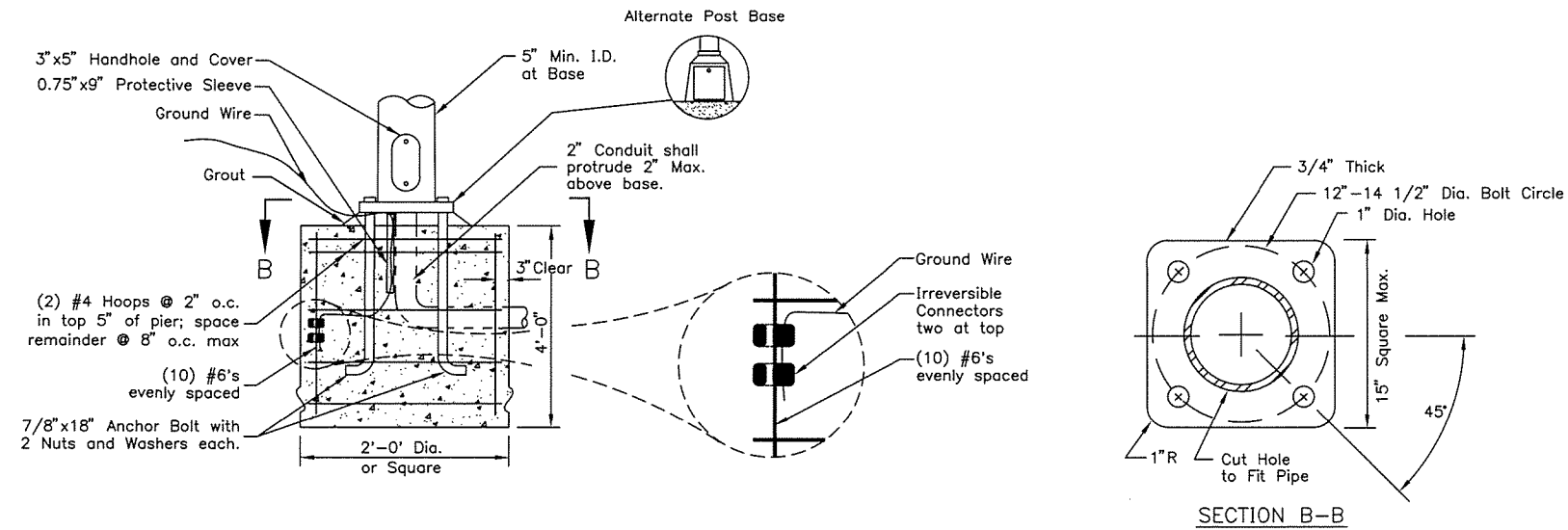


PLANS DEVELOPED BY: KINNEY ENGINEERING, LLC 3909 Arctic Blvd. Suite 400 Anchorage, Alaska 99503 (907) 346-2373 CERT. OF AUTH. NO. 1102  
Z:\PROJECTS\00477\_01\Rich Intersections\DWGS\00158\_V-T-31.00-VB Thu, Dec/02/21 02:46pm

NO.	DATE	REVISION	STATE	PROJECT DESIGNATION	YEAR	SHEET NO.	TOTAL SHEETS
			ALASKA	0620010/NFHWY00158	2021	V9	V9

T-31.01

SHEET  
1 of 1



SIGNAL BASE POST TYPE "A"

GENERAL NOTES:

1. Install ground rod when continuous electrically secure system is not provided between controller and service ground.
2. Anchor bolts, nuts and washers shall be high strength steel and shall conform to A.S.T.M. A-325. Galvanizing of same shall conform to A.S.T.M. A-153.
3. Anchor bolts may be field cut and bent.
4. Damage to galvanized surfaces as a result of field drilling and or cutting shall be repaired in accordance with Federal Specifications TT-P-641.
5. Use Class A, B, or W concrete.
6. Reinforcing steel to conform to A.S.T.M. A-615 grade 60 (Fy=60 ksi).

State of Alaska DOT&PF  
ALASKA STANDARD PLAN

TRAFFIC SIGNAL &  
ACCESSORIES 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: KLM Date: 7/8/2020

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

T-31.01

STANDARD PLAN T-31.01

12/2/2021